

Squander

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Contents

1 Squander	1
2 Module Index	3
2.1 Modules	3
3 Namespace Index	5
3.1 Package List	5
4 Class Index	7
4.1 Class Hierarchy	7
5 Class Index	11
5.1 Class List	11
6 File Index	15
6.1 File List	15
7 Module Documentation	19
7.1 Abstract State	19
7.1.1 Detailed Description	19
7.2 Annotations	20
7.2.1 Detailed Description	20
7.3 Engine	21
7.3.1 Detailed Description	21
7.4 Logging	22
7.4.1 Detailed Description	22
7.5 Configuration	23
7.5.1 Detailed Description	23
7.6 JFSL Parser	24
7.6.1 Detailed Description	24

7.7	Serialization	25
7.7.1	Detailed Description	25
7.8	Specification	26
7.8.1	Detailed Description	27
7.8.2	Enumeration Type Documentation	27
7.8.2.1	ConstRel	27
7.9	API	28
7.9.1	Detailed Description	28
7.10	Utils	29
7.10.1	Detailed Description	29
7.11	Examples	30
7.11.1	Detailed Description	31
7.12	Tests	32
7.12.1	Detailed Description	33
8	Namespace Documentation	35
8.1	Package edu	35
8.2	Package edu.mit	36
8.3	Package edu.mit.csail	37
8.4	Package edu.mit.csail.sdg	38
8.5	Package edu.mit.csail.sdg.annotations	39
8.6	Package edu.mit.csail.sdg.squander	40
8.7	Package edu.mit.csail.sdg.squander.absstate	41
8.8	Package edu.mit.csail.sdg.squander.annotations	42
8.9	Package edu.mit.csail.sdg.squander.engine	43
8.10	Package edu.mit.csail.sdg.squander.engine.kk	44
8.11	Package edu.mit.csail.sdg.squander.examples	45
8.12	Package edu.mit.csail.sdg.squander.examples.bst	46
8.13	Package edu.mit.csail.sdg.squander.examples.chess	47
8.14	Package edu.mit.csail.sdg.squander.examples.equiv	48
8.15	Package edu.mit.csail.sdg.squander.examples.func	49
8.16	Package edu.mit.csail.sdg.squander.examples.graph	50
8.17	Package edu.mit.csail.sdg.squander.examples.graph2	51
8.18	Package edu.mit.csail.sdg.squander.examples.javacol	52
8.19	Package edu.mit.csail.sdg.squander.examples.list	53
8.20	Package edu.mit.csail.sdg.squander.examples.list.func	54
8.21	Package edu.mit.csail.sdg.squander.examples.list.func2	55

8.22	Package edu.mit.csail.sdg.squander.examples.mock	56
8.23	Package edu.mit.csail.sdg.squander.examples.numbers	57
8.24	Package edu.mit.csail.sdg.squander.examples.partitioning	58
8.25	Package edu.mit.csail.sdg.squander.examples.rbt	59
8.26	Package edu.mit.csail.sdg.squander.examples.setpoly	60
8.27	Package edu.mit.csail.sdg.squander.examples.sort	61
8.28	Package edu.mit.csail.sdg.squander.examples.sudoku	62
8.29	Package edu.mit.csail.sdg.squander.forge_examples	63
8.30	Package edu.mit.csail.sdg.squander.log	64
8.31	Package edu.mit.csail.sdg.squander.options	65
8.32	Package edu.mit.csail.sdg.squander.parser	66
8.33	Package edu.mit.csail.sdg.squander.regressions	67
8.34	Package edu.mit.csail.sdg.squander.serializer	68
8.35	Package edu.mit.csail.sdg.squander.serializer.special	69
8.36	Package edu.mit.csail.sdg.squander.spec	70
8.37	Package edu.mit.csail.sdg.squander.spec.constant	71
8.38	Package edu.mit.csail.sdg.squander.specfile	72
8.39	Package edu.mit.csail.sdg.squander.specfile.parser	73
8.40	Package edu.mit.csail.sdg.squander.util	74
8.41	Package edu.mit.csail.sdg.squander.util.test	75
8.42	Package edu.mit.csail.sdg.squander.utils	76
9	Class Documentation	77
9.1	edu.mit.csail.sdg.annotations.FuncField Interface Reference	77
9.1.1	Detailed Description	77
9.1.2	Member Function Documentation	77
9.1.2.1	value	77
9.2	edu.mit.csail.sdg.squander.absstate.AbstractState Class Reference	78
9.2.1	Detailed Description	78
9.2.2	Member Function Documentation	78
9.2.2.1	clear	78
9.2.2.2	getAllObjects	79
9.2.2.3	getAllObjStates	79
9.2.2.4	getEntries	79
9.2.2.5	getObjState	79
9.2.2.6	getOrAddObjState	79
9.2.2.7	setObjState	79

9.2.2.8	toString	79
9.2.3	Member Data Documentation	80
9.2.3.1	obj2AbsState	80
9.3	edu.mit.csail.sdg.squander.absstate.FieldValue Class Reference	81
9.3.1	Detailed Description	81
9.3.2	Constructor & Destructor Documentation	81
9.3.2.1	FieldValue	81
9.3.3	Member Function Documentation	82
9.3.3.1	addAllTuples	82
9.3.3.2	addTuple	82
9.3.3.3	jfield	82
9.3.3.4	toString	82
9.3.3.5	tupleSet	82
9.3.4	Member Data Documentation	82
9.3.4.1	jfield	82
9.3.4.2	tupleSet	83
9.4	edu.mit.csail.sdg.squander.absstate.ObjAbsState Class Reference	84
9.4.1	Detailed Description	84
9.4.2	Constructor & Destructor Documentation	84
9.4.2.1	ObjAbsState	84
9.4.3	Member Function Documentation	85
9.4.3.1	add	85
9.4.3.2	getObj	85
9.4.3.3	getOrAddSpecField	85
9.4.3.4	getSpecField	85
9.4.3.5	iterator	85
9.4.3.6	toString	85
9.4.4	Member Data Documentation	85
9.4.4.1	obj	85
9.4.4.2	specFields	86
9.5	edu.mit.csail.sdg.squander.absstate.ObjTuple Class Reference	87
9.5.1	Detailed Description	87
9.5.2	Constructor & Destructor Documentation	87
9.5.2.1	ObjTuple	87
9.5.2.2	ObjTuple	88
9.5.3	Member Function Documentation	88

9.5.3.1	arity	88
9.5.3.2	arrayEquals	88
9.5.3.3	atoms	88
9.5.3.4	equals	88
9.5.3.5	get	88
9.5.3.6	hashCode	88
9.5.3.7	iterator	88
9.5.3.8	objLiteralsEquals	89
9.5.3.9	product	89
9.5.3.10	product	89
9.5.3.11	product	89
9.5.3.12	projection	89
9.5.3.13	toString	89
9.5.3.14	tuple	89
9.5.4	Member Data Documentation	90
9.5.4.1	arity	90
9.5.4.2	tuple	90
9.6	edu.mit.csail.sdg.squander.absstate.ObjTupleSet Class Reference	91
9.6.1	Detailed Description	92
9.6.2	Constructor & Destructor Documentation	92
9.6.2.1	ObjTupleSet	92
9.6.2.2	ObjTupleSet	92
9.6.3	Member Function Documentation	92
9.6.3.1	add	92
9.6.3.2	arity	93
9.6.3.3	contains	93
9.6.3.4	convertFrom	93
9.6.3.5	convertToObjTuple	93
9.6.3.6	diff	93
9.6.3.7	diff	93
9.6.3.8	equals	94
9.6.3.9	filter	94
9.6.3.10	hashCode	94
9.6.3.11	intersection	94
9.6.3.12	intersection	94
9.6.3.13	isEmpty	95

9.6.3.14	isTuple	95
9.6.3.15	isUnary	95
9.6.3.16	iterator	95
9.6.3.17	join	95
9.6.3.18	join	95
9.6.3.19	product	96
9.6.3.20	product	96
9.6.3.21	remove	96
9.6.3.22	singleTuple	96
9.6.3.23	size	96
9.6.3.24	subsetOf	96
9.6.3.25	toString	97
9.6.3.26	tuples	97
9.6.3.27	union	97
9.6.3.28	union	97
9.6.3.29	union	97
9.6.4	Member Data Documentation	97
9.6.4.1	arity	97
9.6.4.2	tuples	98
9.7	edu.mit.csail.sdg.squander.annotations.Fresh Interface Reference	99
9.7.1	Detailed Description	99
9.7.2	Member Function Documentation	99
9.7.2.1	value	99
9.8	edu.mit.csail.sdg.squander.annotations.FreshObjects Interface Reference	100
9.8.1	Detailed Description	100
9.8.2	Member Function Documentation	100
9.8.2.1	cls	100
9.8.2.2	num	100
9.8.2.3	typeParams	100
9.9	edu.mit.csail.sdg.squander.annotations.Options Interface Reference	101
9.9.1	Detailed Description	101
9.9.2	Member Function Documentation	101
9.9.2.1	bitwidth	101
9.9.2.2	ensureAllInts	101
9.9.2.3	solveAll	101
9.10	edu.mit.csail.sdg.squander.engine.ForgeConverter Class Reference	102

9.10.1 Detailed Description	103
9.10.2 Constructor & Destructor Documentation	104
9.10.2.1 ForgeConverter	104
9.10.3 Member Function Documentation	104
9.10.3.1 allInts	104
9.10.3.2 atom2obj	104
9.10.3.3 boundOtherStuff	104
9.10.3.4 boundSpecFields	104
9.10.3.5 conv2fc	105
9.10.3.6 createFreshObjects	105
9.10.3.7 extent	105
9.10.3.8 findInstLiteralsForType	105
9.10.3.9 findLiteralsForType	106
9.10.3.10 finish	106
9.10.3.11 forgeBounds	106
9.10.3.12 forgeOptions	107
9.10.3.13 forgeScene	107
9.10.3.14 getMaxAtomsForType	107
9.10.3.15 getSpec	107
9.10.3.16 heap2Lit	107
9.10.3.17 initJavaScene	108
9.10.3.18 javaScene	108
9.10.3.19 lit2obj	108
9.10.3.20 makeForgeBounds	108
9.10.3.21 mapToBoolean	108
9.10.3.22 mapToInt	109
9.10.3.23 maxInt	109
9.10.3.24 maxSize	109
9.10.3.25 minInt	109
9.10.3.26 obj2atom	109
9.10.3.27 printBounds	110
9.10.3.28 printObjSet	110
9.10.3.29 printUniverseStats	110
9.10.3.30 proc	110
9.10.3.31 setCallContext	110
9.10.4 Member Data Documentation	111

9.10.4.1	allInts	111
9.10.4.2	finished	111
9.10.4.3	forgeBounds	111
9.10.4.4	forgeScene	111
9.10.4.5	heap	111
9.10.4.6	heap2lit	112
9.10.4.7	instLitsCache	112
9.10.4.8	javaScene	112
9.10.4.9	litsCache	112
9.10.4.10	maxAtomsCache	112
9.10.4.11	obj2typeparams	112
9.10.4.12	reporter	113
9.11	edu.mit.csail.sdg.squander.engine.ForgeEval Class Reference	114
9.11.1	Detailed Description	114
9.11.2	Constructor & Destructor Documentation	115
9.11.2.1	ForgeEval	115
9.11.3	Member Function Documentation	115
9.11.3.1	evaluate	115
9.11.3.2	evaluateExpr	115
9.11.3.3	hasSolution	115
9.11.3.4	nextSolution	115
9.11.3.5	stats	115
9.11.3.6	trace	115
9.11.3.7	unsatCore	115
9.11.4	Member Data Documentation	116
9.11.4.1	fconv	116
9.11.4.2	solution	116
9.11.4.3	solutions	116
9.12	edu.mit.csail.sdg.squander.engine.Heap Class Reference	117
9.12.1	Detailed Description	117
9.12.2	Constructor & Destructor Documentation	117
9.12.2.1	Heap	117
9.12.3	Member Function Documentation	117
9.12.3.1	addObject	117
9.12.3.2	addObjects	118
9.12.3.3	getHeapObjects	118

9.12.4	Member Data Documentation	118
9.12.4.1	heapObjects	118
9.13	edu.mit.csail.sdg.squander.engine.Heap2Bounds Class Reference	119
9.13.1	Detailed Description	120
9.13.2	Constructor & Destructor Documentation	120
9.13.2.1	Heap2Bounds	120
9.13.3	Member Function Documentation	120
9.13.3.1	addBound	120
9.13.3.2	addBound	120
9.13.3.3	bounds	120
9.13.3.4	ensureAdequateBitWidth	121
9.13.3.5	ensureAdequateIntBitWidth	121
9.13.3.6	getBound	121
9.13.3.7	minBW	121
9.13.3.8	newObject	121
9.13.3.9	reachableObjects	121
9.13.3.10	traverse	122
9.13.3.11	visitPrimitive	122
9.13.4	Member Data Documentation	122
9.13.4.1	javaScene	122
9.13.4.2	rbw	122
9.13.4.3	varName2Const	122
9.13.4.4	visited	123
9.14	edu.mit.csail.sdg.squander.engine.ISquander Interface Reference	124
9.14.1	Detailed Description	124
9.14.2	Member Function Documentation	124
9.14.2.1	getLastResult	124
9.14.2.2	magic	124
9.14.2.3	magic	125
9.14.2.4	magic	125
9.15	edu.mit.csail.sdg.squander.engine.ISquanderResult Interface Reference	126
9.15.1	Detailed Description	126
9.15.2	Member Function Documentation	126
9.15.2.1	findNext	126
9.15.2.2	getReturnValue	126
9.15.2.3	getSpecField	127

9.15.2.4	getStats	127
9.15.2.5	getTrace	127
9.15.2.6	hasSolution	127
9.15.2.7	restoreJavaHeap	127
9.15.2.8	unsatCore	127
9.16	edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl Class Reference	128
9.16.1	Detailed Description	129
9.16.2	Constructor & Destructor Documentation	129
9.16.2.1	SquanderKodkod2Impl	129
9.16.3	Member Function Documentation	129
9.16.3.1	addFldRel	129
9.16.3.2	addRelForVar	130
9.16.3.3	addRelForVar	130
9.16.3.4	arrElemsConstr	130
9.16.3.5	arrLenConstr	130
9.16.3.6	boundLocalVar	130
9.16.3.7	convertSpec	130
9.16.3.8	createBounds	131
9.16.3.9	createRelations	131
9.16.3.10	findFldRelsForVar	131
9.16.3.11	getBounds	132
9.16.3.12	getEval	132
9.16.3.13	getExtent	132
9.16.3.14	getModLits	132
9.16.3.15	getModsForPostState	132
9.16.3.16	getPostSpec	133
9.16.3.17	getPreSpec	133
9.16.3.18	init	133
9.16.3.19	intsExpr	133
9.16.3.20	one	133
9.16.3.21	wellformed	133
9.16.4	Member Data Documentation	134
9.16.4.1	fldRels	134
9.17	edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl Class Reference	135
9.17.1	Detailed Description	137
9.17.2	Constructor & Destructor Documentation	137

9.17.2.1	SquanderKodkodImpl	137
9.17.3	Member Function Documentation	137
9.17.3.1	addRelForVar	137
9.17.3.2	boundLocalVar	137
9.17.3.3	conv2tuples	137
9.17.3.4	conv2tuples	138
9.17.3.5	convAtom	138
9.17.3.6	convertSpec	138
9.17.3.7	createBounds	138
9.17.3.8	createRelations	139
9.17.3.9	createUniverse	139
9.17.3.10	exeSpec	139
9.17.3.11	findMaxArrayLength	140
9.17.3.12	form2expr	140
9.17.3.13	getEval	140
9.17.3.14	getExtent	140
9.17.3.15	getModsForPostState	141
9.17.3.16	getPostLower	141
9.17.3.17	getPostSpec	141
9.17.3.18	getPostUpper	141
9.17.3.19	getPreSpec	142
9.17.3.20	init	142
9.17.3.21	lit2atom	142
9.17.3.22	node2expr	142
9.17.3.23	node2form	142
9.17.3.24	node2int	143
9.17.3.25	nonnegs	143
9.17.3.26	nonnegs	143
9.17.3.27	printBoundsSummary	143
9.17.3.28	relName	143
9.17.4	Member Data Documentation	144
9.17.4.1	cs	144
9.17.4.2	falseRelation	144
9.17.4.3	fconv	144
9.17.4.4	forgeScene	145
9.17.4.5	ints	145

9.17.4.6	lit2rel	145
9.17.4.7	lowerBounds	146
9.17.4.8	modifies	146
9.17.4.9	modVal	146
9.17.4.10	program	146
9.17.4.11	trueRelation	147
9.17.4.12	type2expr	147
9.17.4.13	upperBounds	147
9.17.4.14	var2rel	147
9.18	edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval Class Reference .	149
9.18.1	Detailed Description	149
9.18.2	Constructor & Destructor Documentation	149
9.18.2.1	KodkodEval	149
9.18.3	Member Function Documentation	150
9.18.3.1	evaluate	150
9.18.3.2	evaluateExpr	150
9.18.3.3	hasSolution	150
9.18.3.4	makeConst	150
9.18.3.5	nextSolution	150
9.18.3.6	stats	150
9.18.3.7	trace	151
9.18.3.8	unsatCore	151
9.18.4	Member Data Documentation	151
9.18.4.1	solution	151
9.18.4.2	solutions	151
9.19	edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK Class Reference	152
9.19.1	Detailed Description	152
9.19.2	Member Function Documentation	153
9.19.2.1	fix	153
9.19.2.2	getRelForVarAndCheck	153
9.19.2.3	searchStack	153
9.19.2.4	visit	153
9.19.2.5	visit	153
9.19.2.6	visit	154
9.19.2.7	visit	154
9.19.2.8	visit	154

9.19.2.9	visit	154
9.19.2.10	visit	154
9.19.2.11	visit	154
9.19.2.12	visit	154
9.19.2.13	visit2	155
9.19.2.14	visitForgeType	155
9.19.3	Member Data Documentation	155
9.19.3.1	quantStack	155
9.20	edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem Class Reference	156
9.20.1	Detailed Description	156
9.20.2	Constructor & Destructor Documentation	156
9.20.2.1	StackElem	156
9.20.3	Member Data Documentation	156
9.20.3.1	name	156
9.20.3.2	var	157
9.21	edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl Class Reference	158
9.21.1	Detailed Description	158
9.21.2	Constructor & Destructor Documentation	159
9.21.2.1	SquanderKodkodPart2Impl	159
9.21.3	Member Function Documentation	159
9.21.3.1	boundLocalVar	159
9.21.3.2	conv2tuples	159
9.21.3.3	createBounds	159
9.21.3.4	getBounds	160
9.21.3.5	getExtent	160
9.21.3.6	getLitNameForObject	160
9.21.3.7	getPostLower	160
9.21.3.8	getPostLowerUpper	161
9.21.3.9	getPostUpper	161
9.21.3.10	join	161
9.22	edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl Class Reference	162
9.22.1	Detailed Description	163
9.22.2	Constructor & Destructor Documentation	163
9.22.2.1	SquanderKodkodPartImpl	163
9.22.3	Member Function Documentation	163
9.22.3.1	convAtom	163

9.22.3.2	createBounds	163
9.22.3.3	createDependencies	164
9.22.3.4	createUniverse	164
9.22.3.5	getEval	164
9.22.3.6	nextAtomForLiteral	164
9.22.3.7	partitionDomains	165
9.22.3.8	printPartitions	165
9.22.3.9	processFirst	165
9.22.3.10	processNext	165
9.22.3.11	sort	165
9.22.4	Member Data Documentation	166
9.22.4.1	lit2atom	166
9.22.4.2	partitions	166
9.23	edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval Class Reference	167
9.23.1	Detailed Description	167
9.23.2	Constructor & Destructor Documentation	167
9.23.2.1	KodkodIntEval	167
9.23.3	Member Function Documentation	167
9.23.3.1	evaluate	167
9.23.3.2	evaluateExpr	168
9.23.3.3	makeConst	168
9.23.4	Member Data Documentation	168
9.23.4.1	var	168
9.24	edu.mit.csail.sdg.squander.engine.SquanderEval Class Reference	169
9.24.1	Detailed Description	170
9.24.2	Member Function Documentation	170
9.24.2.1	eval	170
9.24.2.2	getAssignments	171
9.24.2.3	getEvaluator	171
9.24.2.4	searchStack	171
9.24.2.5	visit	171
9.24.2.6	visit	171
9.24.2.7	visit	171
9.24.2.8	visit	172
9.24.2.9	visit	172
9.24.2.10	visit	172

9.24.2.11	visit	172
9.24.2.12	visit	172
9.24.2.13	visit	172
9.24.2.14	visitAll	172
9.24.2.15	visitAssignment	173
9.24.2.16	visitBoolBinExpr	173
9.24.2.17	visitClosure	173
9.24.2.18	visitDiff	173
9.24.2.19	visitEquals	173
9.24.2.20	visitExists	173
9.24.2.21	visitIntBinExpr	174
9.24.2.22	visitIntersection	174
9.24.2.23	visitJoin	174
9.24.2.24	visitLocalVariable	174
9.24.2.25	visitProduct	174
9.24.2.26	visitRelUnion	174
9.24.2.27	visitSubset	174
9.24.2.28	visitUnion	175
9.24.2.29	visitVariable	175
9.24.3	Member Data Documentation	175
9.24.3.1	assignments	175
9.24.3.2	bounds	175
9.24.3.3	fconv	175
9.24.3.4	hasSolution	176
9.24.3.5	quantStack	176
9.25	edu.mit.csail.sdg.squander.engine.SquanderEval2 Class Reference	177
9.25.1	Detailed Description	178
9.25.2	Member Function Documentation	179
9.25.2.1	boolAtom	179
9.25.2.2	boolValue	179
9.25.2.3	eval	179
9.25.2.4	getAssignments	179
9.25.2.5	getEvaluator	179
9.25.2.6	intAtom	180
9.25.2.7	intValue	180
9.25.2.8	objAtom	180

9.25.2.9	searchStack	180
9.25.2.10	visit	180
9.25.2.11	visit	180
9.25.2.12	visit	181
9.25.2.13	visit	181
9.25.2.14	visit	181
9.25.2.15	visit	181
9.25.2.16	visit	181
9.25.2.17	visit	181
9.25.2.18	visit	181
9.25.2.19	visitAll	182
9.25.2.20	visitAssignment	182
9.25.2.21	visitBoolBinExpr	182
9.25.2.22	visitClosure	182
9.25.2.23	visitDiff	182
9.25.2.24	visitEquals	183
9.25.2.25	visitExists	183
9.25.2.26	visitIntBinExpr	183
9.25.2.27	visitIntersection	183
9.25.2.28	visitJoin	183
9.25.2.29	visitLocalVariable	183
9.25.2.30	visitProduct	184
9.25.2.31	visitRelUnion	184
9.25.2.32	visitSubset	184
9.25.2.33	visitUnion	184
9.25.2.34	visitVariable	184
9.25.3	Member Data Documentation	185
9.25.3.1	assignments	185
9.25.3.2	fconv	185
9.25.3.3	hasSolution	185
9.25.3.4	heap2lit	185
9.25.3.5	quantStack	185
9.26	edu.mit.csail.sdg.squander.engine.SquanderImpl Class Reference	186
9.26.1	Detailed Description	187
9.26.2	Constructor & Destructor Documentation	187
9.26.2.1	SquanderImpl	187

9.26.3	Member Function Documentation	187
9.26.3.1	checkPre	187
9.26.3.2	convToJMethod	188
9.26.3.3	ensurePost	188
9.26.3.4	exeMethod	188
9.26.3.5	exeSpec	188
9.26.3.6	getLastResult	189
9.26.3.7	getModsForPostState	189
9.26.3.8	getPostSpec	189
9.26.3.9	getPreSpec	189
9.26.3.10	getSpec	190
9.26.3.11	magic	190
9.26.3.12	magic	190
9.26.3.13	magic	191
9.26.4	Member Data Documentation	191
9.26.4.1	lastResult	191
9.26.4.2	reporter	191
9.26.4.3	spec	192
9.27	edu.mit.csail.sdg.squander.engine.SquanderReporter Class Reference	193
9.27.1	Detailed Description	195
9.27.2	Constructor & Destructor Documentation	195
9.27.2.1	SquanderReporter	195
9.27.3	Member Function Documentation	195
9.27.3.1	buildingAnalysis	195
9.27.3.2	convertingMethod	195
9.27.3.3	creatingBounds	195
9.27.3.4	creatingFreshObjects	195
9.27.3.5	creatingKodkodBounds	196
9.27.3.6	creatingKodkodUniverse	196
9.27.3.7	detectedSymmetries	196
9.27.3.8	detectingSymmetries	196
9.27.3.9	end	196
9.27.3.10	finishedAnalysis	197
9.27.3.11	flattening	197
9.27.3.12	generatingSBP	197
9.27.3.13	getTaskTime	197

9.27.3.14	kkReporter	197
9.27.3.15	loadingJavaScene	198
9.27.3.16	optimizingBoundsAndFormula	198
9.27.3.17	packagingAnalysis	198
9.27.3.18	restoringJavaHeap	198
9.27.3.19	restoringSpecFields	198
9.27.3.20	skolemizing	198
9.27.3.21	solvingAnalysis	198
9.27.3.22	solvingCNF	199
9.27.3.23	start	199
9.27.3.24	startedAnalysis	199
9.27.3.25	toString	199
9.27.3.26	transformingProcedure	200
9.27.3.27	translatingForge	200
9.27.3.28	translatingSpecs	200
9.27.3.29	translatingToBoolean	200
9.27.3.30	translatingToCNF	200
9.27.3.31	translatingToKodkod	200
9.27.3.32	traversingHeap	200
9.27.4	Member Data Documentation	201
9.27.4.1	ANALYSIS	201
9.27.4.2	BUILDING_ANALYSIS	201
9.27.4.3	busy	201
9.27.4.4	CONVERTING_METHOD	201
9.27.4.5	CREATING_BOUNDS	201
9.27.4.6	CREATING_FRESH_OBJECTS	201
9.27.4.7	CREATING_KK_BOUNDS	201
9.27.4.8	CREATING_KK_UNIV	202
9.27.4.9	DETECTED_SYMMETRIES	202
9.27.4.10	DETECTING_SYMMETRIES	202
9.27.4.11	FLATTENING	202
9.27.4.12	GENERATING_SBP	202
9.27.4.13	INSTANCE	202
9.27.4.14	kkRep	202
9.27.4.15	LOADING_JAVA_SCENE	203
9.27.4.16	LOADING_JIMPLE	203

9.27.4.17	OPTIMIZING_BOUNDS_AND_FORMULA	203
9.27.4.18	PACKAGIN_ANALYSIS	203
9.27.4.19	RESTORING_HEAP	203
9.27.4.20	RESTORING_SF	203
9.27.4.21	SCOLEMIZING	203
9.27.4.22	SOLVING_ANALYSIS	203
9.27.4.23	SOLVING_CNF	204
9.27.4.24	sTime	204
9.27.4.25	task	204
9.27.4.26	times	204
9.27.4.27	TRANSLATING_FORGE	204
9.27.4.28	TRANSLATING_SPECS	204
9.27.4.29	TRANSLATING_TO_BOOLEAN	204
9.27.4.30	TRANSLATING_TO_CNF	205
9.27.4.31	TRANSLATING_TO_KODKOD	205
9.27.4.32	TRANSOFMING_PROCEDURE	205
9.27.4.33	TRAVERSING_HEAP	205
9.28	edu.mit.csail.sdg.squander.engine.SquanderResult Class Reference	206
9.28.1	Detailed Description	207
9.28.2	Constructor & Destructor Documentation	207
9.28.2.1	SquanderResult	207
9.28.3	Member Function Documentation	207
9.28.3.1	convertForgeSetToJavaArray	207
9.28.3.2	findNext	207
9.28.3.3	getJFieldForVar	207
9.28.3.4	getReturnValue	208
9.28.3.5	getSpecField	208
9.28.3.6	getStats	208
9.28.3.7	getTrace	208
9.28.3.8	hasSolution	209
9.28.3.9	program	209
9.28.3.10	restoreEmpty	209
9.28.3.11	restoreJavaHeap	209
9.28.3.12	returnVar	209
9.28.3.13	self	210
9.28.3.14	unsatCore	210

9.28.4	Member Data Documentation	210
9.28.4.1	eval	210
9.28.4.2	fconv	210
9.28.4.3	modifiable	210
9.29	edu.mit.csail.sdg.squander.examples.bst.BalancedBST Class Reference	211
9.29.1	Detailed Description	211
9.29.2	Member Function Documentation	212
9.29.2.1	check	212
9.29.2.2	insertKey_squander	212
9.29.2.3	insertNode_slow_squander	212
9.29.2.4	main	212
9.29.2.5	removeNode_squander	212
9.29.2.6	repOk	212
9.29.3	Member Data Documentation	213
9.29.3.1	diff	213
9.30	edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree Class Reference	214
9.30.1	Detailed Description	215
9.30.2	Constructor & Destructor Documentation	215
9.30.2.1	BinarySearchTree	215
9.30.3	Member Function Documentation	215
9.30.3.1	findNode	215
9.30.3.2	findNode_squander	215
9.30.3.3	genBST	216
9.30.3.4	getAllNodes_squander	216
9.30.3.5	getRoot	216
9.30.3.6	insert	216
9.30.3.7	insertKey_squander	216
9.30.3.8	insertNode_squander	216
9.30.3.9	main	216
9.30.3.10	max	216
9.30.3.11	max_squander	217
9.30.3.12	min	217
9.30.3.13	min_squander	217
9.30.3.14	printNode	217
9.30.3.15	removeNode_squander	217
9.30.3.16	repOk	217

9.30.3.17	setRoot	217
9.30.3.18	size	217
9.30.3.19	toString	218
9.30.4	Member Data Documentation	218
9.30.4.1	NUM_NODES	218
9.30.4.2	root	218
9.31	edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest Class Reference	219
9.31.1	Detailed Description	219
9.31.2	Member Function Documentation	219
9.31.2.1	before	219
9.31.2.2	initBinarySearchTree	220
9.31.2.3	main	220
9.31.2.4	testFindNode_squander	220
9.31.2.5	testGetAllNodes_squander	220
9.31.2.6	testInsertKey_squander	220
9.31.2.7	testInsertMix	220
9.31.2.8	testInsertNode_squander	221
9.31.2.9	testMax_squander	221
9.31.2.10	testMin_squander	221
9.31.2.11	testRemoveNode_squander	221
9.31.3	Member Data Documentation	221
9.31.3.1	bst	221
9.31.3.2	keys	222
9.31.3.3	nodes	222
9.32	edu.mit.csail.sdg.squander.examples.bst.BST_noParent Class Reference	223
9.32.1	Detailed Description	224
9.32.2	Constructor & Destructor Documentation	224
9.32.2.1	BST_noParent	224
9.32.3	Member Function Documentation	224
9.32.3.1	findNode	224
9.32.3.2	findNode	224
9.32.3.3	findNode_squander	224
9.32.3.4	genBST	225
9.32.3.5	getAllNodes_squander	225
9.32.3.6	getRoot	225
9.32.3.7	insertKey_squander	225

9.32.3.8	insertNode	225
9.32.3.9	insertNode_slow_squander	225
9.32.3.10	insertNode_squander	225
9.32.3.11	main	226
9.32.3.12	max	226
9.32.3.13	max_squander	226
9.32.3.14	min	226
9.32.3.15	min_squander	226
9.32.3.16	printNode	226
9.32.3.17	removeNode_squander	226
9.32.3.18	repOk	226
9.32.3.19	setRoot	227
9.32.3.20	size	227
9.32.3.21	toString	227
9.32.4	Member Data Documentation	227
9.32.4.1	NUM_NODES	227
9.32.4.2	root	227
9.33	edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest Class Reference	228
9.33.1	Detailed Description	228
9.33.2	Member Function Documentation	228
9.33.2.1	before	228
9.33.2.2	initBinarySearchTree	229
9.33.2.3	main	229
9.33.2.4	testFindNode_squander	229
9.33.2.5	testGetAllNodes_squander	229
9.33.2.6	testInsertKey_squander	229
9.33.2.7	testInsertMix	229
9.33.2.8	testInsertNode_squander	230
9.33.2.9	testMax_squander	230
9.33.2.10	testMin_squander	230
9.33.2.11	testRemoveNode_squander	230
9.33.3	Member Data Documentation	230
9.33.3.1	bst	230
9.33.3.2	keys	231
9.33.3.3	nodes	231
9.34	edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld Class Reference	232

9.34.1	Detailed Description	233
9.34.2	Constructor & Destructor Documentation	233
9.34.2.1	BST_noSpecFld	233
9.34.3	Member Function Documentation	233
9.34.3.1	findNode	233
9.34.3.2	findNode	233
9.34.3.3	findNode_squander	234
9.34.3.4	genBST	234
9.34.3.5	getAllNodes_squander	234
9.34.3.6	getRoot	234
9.34.3.7	insertKey_squander	234
9.34.3.8	insertNode	234
9.34.3.9	insertNode_squander	234
9.34.3.10	main	235
9.34.3.11	max	235
9.34.3.12	max_squander	235
9.34.3.13	min	235
9.34.3.14	min_squander	235
9.34.3.15	printNode	235
9.34.3.16	removeNode_squander	235
9.34.3.17	repOk	235
9.34.3.18	setRoot	236
9.34.3.19	size	236
9.34.3.20	toString	236
9.34.4	Member Data Documentation	236
9.34.4.1	NUM_NODES	236
9.34.4.2	root	236
9.35	edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest Class Reference	238
9.35.1	Detailed Description	238
9.35.2	Member Function Documentation	239
9.35.2.1	before	239
9.35.2.2	initBinarySearchTree	239
9.35.2.3	main	239
9.35.2.4	testFindNode_squander	239
9.35.2.5	testGetAllNodes_squander	239
9.35.2.6	testInsertKey_squander	239

9.35.2.7	testInsertMix	240
9.35.2.8	testInsertNode_squander	240
9.35.2.9	testMax_squander	240
9.35.2.10	testMin_squander	240
9.35.2.11	testRemoveNode_squander	240
9.35.3	Member Data Documentation	241
9.35.3.1	bst	241
9.35.3.2	keys	241
9.35.3.3	nodes	241
9.36	edu.mit.csail.sdg.squander.examples.chess.ChessBoard Class Reference	242
9.36.1	Detailed Description	242
9.36.2	Member Function Documentation	242
9.36.2.1	knightsTour	242
9.36.2.2	knightsTour	242
9.36.2.3	knightsTour2	243
9.36.2.4	knightsTour2	243
9.36.2.5	main	243
9.36.2.6	nqueens	243
9.36.2.7	nqueens2	243
9.36.2.8	nqueens_int	243
9.36.2.9	nqueens_rel	243
9.36.2.10	printNQueens	244
9.37	edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan Class Reference	245
9.37.1	Detailed Description	245
9.37.2	Member Function Documentation	245
9.37.2.1	knightsTourMan	245
9.37.2.2	main	246
9.37.2.3	nqueens	246
9.37.2.4	print	246
9.37.2.5	search	246
9.37.2.6	solveNQueens	246
9.37.3	Member Data Documentation	246
9.37.3.1	dx	246
9.37.3.2	dy	247
9.37.3.3	t1	247
9.37.3.4	t2	247

9.38	edu.mit.csail.sdg.squander.examples.equiv.Node Class Reference	248
9.38.1	Detailed Description	248
9.38.2	Constructor & Destructor Documentation	248
9.38.2.1	Node	248
9.38.3	Member Function Documentation	248
9.38.3.1	getEquiv	248
9.38.3.2	main	249
9.38.3.3	toString	249
9.38.4	Member Data Documentation	249
9.38.4.1	left	249
9.38.4.2	right	249
9.38.4.3	value	249
9.39	edu.mit.csail.sdg.squander.examples.func.Utils Class Reference	250
9.39.1	Detailed Description	250
9.39.2	Member Function Documentation	250
9.39.2.1	fold	250
9.39.2.2	fold	250
9.40	edu.mit.csail.sdg.squander.examples.graph2.Graph Class Reference	251
9.40.1	Detailed Description	251
9.40.2	Constructor & Destructor Documentation	251
9.40.2.1	Graph	251
9.40.3	Member Function Documentation	251
9.40.3.1	addNode	251
9.40.3.2	hamiltonian	251
9.40.3.3	maxClique	252
9.40.3.4	newEdge	252
9.40.3.5	newNode	252
9.40.3.6	nodes	252
9.40.3.7	numEdges	252
9.40.3.8	numNodes	252
9.40.3.9	size	252
9.40.3.10	topsort	252
9.41	edu.mit.csail.sdg.squander.examples.graph2.GraphTest Class Reference	253
9.41.1	Detailed Description	253
9.41.2	Member Function Documentation	253
9.41.2.1	testGraph1	253

9.41.2.2	testGraph2	253
9.42	edu.mit.csail.sdg.squander.examples.graph.Graph Class Reference	254
9.42.1	Detailed Description	255
9.42.2	Constructor & Destructor Documentation	255
9.42.2.1	Graph	255
9.42.3	Member Function Documentation	255
9.42.3.1	addEdge	255
9.42.3.2	addNode	255
9.42.3.3	checkTSP	256
9.42.3.4	color	256
9.42.3.5	containsEdge	256
9.42.3.6	edges	256
9.42.3.7	findNode	256
9.42.3.8	getAuxInt	256
9.42.3.9	getAuxNode	256
9.42.3.10	getNeighbors	256
9.42.3.11	hamiltonian	257
9.42.3.12	hamiltonian2	257
9.42.3.13	maxClique	257
9.42.3.14	newEdge	257
9.42.3.15	newEdge	257
9.42.3.16	newNode	257
9.42.3.17	newUndirectedEdge	258
9.42.3.18	newUndirectedEdge	258
9.42.3.19	nodes	258
9.42.3.20	numEdges	258
9.42.3.21	numNodes	258
9.42.3.22	removeAllIncomingEdges	258
9.42.3.23	removeAllOutgoingEdges	258
9.42.3.24	setAuxInt	259
9.42.3.25	setAuxNode	259
9.42.3.26	size	259
9.42.3.27	topsort	259
9.42.3.28	toString	259
9.42.3.29	tsp	259
9.42.4	Member Data Documentation	259

9.42.4.1	auxInt	259
9.42.4.2	auxNode	259
9.42.4.3	edges	260
9.42.4.4	nodes	260
9.42.4.5	serialVersionUID	260
9.43	edu.mit.csail.sdg.squander.examples.graph.Graph__2 Class Reference	261
9.43.1	Detailed Description	262
9.43.2	Constructor & Destructor Documentation	262
9.43.2.1	Graph__2	262
9.43.3	Member Function Documentation	262
9.43.3.1	addEdge	262
9.43.3.2	addNode	262
9.43.3.3	containsEdge	262
9.43.3.4	edges	262
9.43.3.5	hamiltonian	262
9.43.3.6	maxClique	262
9.43.3.7	newEdge	263
9.43.3.8	newNode	263
9.43.3.9	nodes	263
9.43.3.10	numEdges	263
9.43.3.11	numNodes	263
9.43.3.12	removeAllIncomingEdges	263
9.43.3.13	removeAllOutgoingEdges	263
9.43.3.14	size	263
9.43.3.15	topsort	263
9.43.3.16	toString	263
9.43.4	Member Data Documentation	264
9.43.4.1	edges	264
9.43.4.2	nodes	264
9.43.4.3	serialVersionUID	264
9.44	edu.mit.csail.sdg.squander.examples.graph.GraphTest Class Reference	265
9.44.1	Detailed Description	265
9.44.2	Member Function Documentation	265
9.44.2.1	checkColorsOk	265
9.44.2.2	testColor	265
9.44.2.3	testGraph1	265

9.44.2.4	testGraph2	266
9.44.2.5	testTSP	266
9.45	edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan Class Reference	267
9.45.1	Detailed Description	267
9.45.2	Member Function Documentation	267
9.45.2.1	hp	267
9.45.2.2	hp	268
9.45.2.3	hp	268
9.45.2.4	main	268
9.45.2.5	printSolution	268
9.45.3	Member Data Documentation	268
9.45.3.1	solution	268
9.46	edu.mit.csail.sdg.squander.examples.javacol.Collections Class Reference	269
9.46.1	Detailed Description	269
9.46.2	Member Function Documentation	269
9.46.2.1	add	269
9.46.2.2	add	269
9.46.2.3	contains	269
9.46.2.4	f	270
9.46.2.5	get	270
9.46.2.6	get	270
9.46.2.7	main	270
9.46.2.8	next	270
9.46.2.9	prev	270
9.46.2.10	put	270
9.46.2.11	remove	270
9.46.2.12	remove	270
9.46.2.13	removeKey	271
9.46.2.14	set	271
9.47	edu.mit.csail.sdg.squander.examples.javacol.ListTest Class Reference	272
9.47.1	Detailed Description	272
9.47.2	Member Function Documentation	272
9.47.2.1	setUp	272
9.47.2.2	testAdd	273
9.47.2.3	testGet	273
9.47.2.4	testPrevNext	273

9.47.2.5	testRemove	273
9.47.2.6	testSet	273
9.47.3	Member Data Documentation	273
9.47.3.1	elems	273
9.47.3.2	lst	273
9.47.3.3	sqLst	274
9.48	edu.mit.csail.sdg.squander.examples.javacol.MapTest Class Reference	275
9.48.1	Detailed Description	275
9.48.2	Member Function Documentation	275
9.48.2.1	setUp	275
9.48.2.2	testGet	276
9.48.2.3	testPut	276
9.48.2.4	testRemove	276
9.48.3	Member Data Documentation	276
9.48.3.1	keys	276
9.48.3.2	map	276
9.48.3.3	sqMap	276
9.48.3.4	vals	277
9.49	edu.mit.csail.sdg.squander.examples.javacol.SetTest Class Reference	278
9.49.1	Detailed Description	278
9.49.2	Member Function Documentation	278
9.49.2.1	setUp	278
9.49.2.2	testAdd	279
9.49.2.3	testContains	279
9.49.2.4	testRemove	279
9.49.3	Member Data Documentation	279
9.49.3.1	keys	279
9.49.3.2	set	279
9.49.3.3	sqSet	279
9.50	edu.mit.csail.sdg.squander.examples.javacol.Str Class Reference	280
9.50.1	Detailed Description	280
9.50.2	Constructor & Destructor Documentation	280
9.50.2.1	Str	280
9.50.3	Member Data Documentation	280
9.50.3.1	msg	280
9.51	edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx Class Reference	281

9.51.1	Detailed Description	281
9.51.2	Constructor & Destructor Documentation	282
9.51.2.1	TypeParamsEx	282
9.51.3	Member Function Documentation	282
9.51.3.1	common	282
9.51.3.2	common2	282
9.51.3.3	findInt	282
9.51.3.4	get	282
9.51.3.5	init	282
9.51.3.6	main	282
9.51.3.7	main1	282
9.51.3.8	main3	283
9.51.3.9	main4	283
9.51.4	Member Data Documentation	283
9.51.4.1	list	283
9.51.4.2	map	283
9.51.4.3	ms	283
9.51.4.4	sss	283
9.52	edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest Class Reference	284
9.52.1	Detailed Description	284
9.52.2	Member Function Documentation	284
9.52.2.1	test1	284
9.53	edu.mit.csail.sdg.squander.examples.list.func2.Cons Class Reference	285
9.53.1	Detailed Description	285
9.53.2	Constructor & Destructor Documentation	285
9.53.2.1	Cons	285
9.53.3	Member Function Documentation	285
9.53.3.1	getKey	285
9.53.3.2	getRest	285
9.53.3.3	toString	286
9.53.4	Member Data Documentation	286
9.53.4.1	key	286
9.53.4.2	rest	286
9.54	edu.mit.csail.sdg.squander.examples.list.func2.IntList Class Reference	287
9.54.1	Detailed Description	287
9.54.2	Member Function Documentation	287

9.54.2.1	get	287
9.54.2.2	main	287
9.54.2.3	size	287
9.54.2.4	sublist	288
9.55	edu.mit.csail.sdg.squander.examples.list.func2.ListTest Class Reference	289
9.55.1	Detailed Description	289
9.55.2	Member Function Documentation	289
9.55.2.1	setUp	289
9.55.2.2	testSize	289
9.55.2.3	testSublist	290
9.55.3	Member Data Documentation	290
9.55.3.1	elems	290
9.55.3.2	lst	290
9.56	edu.mit.csail.sdg.squander.examples.list.func2.Nil Class Reference	291
9.56.1	Detailed Description	291
9.56.2	Member Function Documentation	291
9.56.2.1	toString	291
9.57	edu.mit.csail.sdg.squander.examples.list.func.Cons Class Reference	292
9.57.1	Detailed Description	292
9.57.2	Constructor & Destructor Documentation	292
9.57.2.1	Cons	292
9.57.3	Member Function Documentation	292
9.57.3.1	key	292
9.57.4	Member Data Documentation	293
9.57.4.1	key	293
9.57.4.2	rest	293
9.58	edu.mit.csail.sdg.squander.examples.list.func.IntList Class Reference	294
9.58.1	Detailed Description	294
9.58.2	Member Function Documentation	294
9.58.2.1	main	294
9.58.2.2	next	294
9.58.2.3	size	294
9.59	edu.mit.csail.sdg.squander.examples.list.LinkedList Class Reference	295
9.59.1	Detailed Description	295
9.59.2	Member Function Documentation	296
9.59.2.1	add	296

9.59.2.2	add_man	296
9.59.2.3	findNode	296
9.59.2.4	header	296
9.59.2.5	iterator	296
9.59.2.6	main	296
9.59.2.7	nodes	296
9.59.2.8	remove	296
9.59.2.9	repOk	296
9.59.2.10	size	297
9.59.2.11	toString	297
9.59.3	Member Data Documentation	297
9.59.3.1	header	297
9.60	edu.mit.csail.sdg.squander.examples.list.LinkedList_ind Class Reference	298
9.60.1	Detailed Description	298
9.60.2	Member Function Documentation	299
9.60.2.1	addNode	299
9.60.2.2	header	299
9.60.2.3	main	299
9.60.2.4	nodes	299
9.60.2.5	toString	299
9.60.3	Member Data Documentation	299
9.60.3.1	header	299
9.61	edu.mit.csail.sdg.squander.examples.list.LinkedListTest Class Reference	300
9.61.1	Detailed Description	300
9.61.2	Member Function Documentation	300
9.61.2.1	setUp	300
9.61.2.2	testFold	300
9.61.3	Member Data Documentation	301
9.61.3.1	lst	301
9.62	edu.mit.csail.sdg.squander.examples.mock.AddressBook Interface Reference	302
9.62.1	Detailed Description	302
9.62.2	Member Function Documentation	302
9.62.2.1	contains	302
9.62.2.2	getEmailAddress	302
9.62.2.3	setEmailAddress	302
9.63	edu.mit.csail.sdg.squander.examples.mock.EmailMessage Class Reference	303

9.63.1	Detailed Description	303
9.63.2	Constructor & Destructor Documentation	303
9.63.2.1	EmailMessage	303
9.63.3	Member Function Documentation	303
9.63.3.1	bind	303
9.63.4	Member Data Documentation	303
9.63.4.1	emailAddress	303
9.63.4.2	recipientName	304
9.64	edu.mit.csail.sdg.squander.examples.mock.MockAddressBook Class Reference	305
9.64.1	Detailed Description	305
9.64.2	Constructor & Destructor Documentation	305
9.64.2.1	MockAddressBook	305
9.64.3	Member Function Documentation	306
9.64.3.1	contains	306
9.64.3.2	getEmailAddress	306
9.64.3.3	init	306
9.64.3.4	setEmailAddress	306
9.65	edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest Class Reference	307
9.65.1	Detailed Description	307
9.65.2	Member Function Documentation	307
9.65.2.1	setUp	307
9.66	edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook Class Reference	308
9.66.1	Detailed Description	308
9.66.2	Member Function Documentation	308
9.66.2.1	contains	308
9.66.2.2	getEmailAddress	309
9.66.2.3	setEmailAddress	309
9.66.2.4	toString	309
9.66.3	Member Data Documentation	309
9.66.3.1	entries	309
9.67	edu.mit.csail.sdg.squander.examples.mock.TestAddressBook Class Reference	310
9.67.1	Detailed Description	310
9.67.2	Member Function Documentation	310
9.67.2.1	setUp	310
9.67.2.2	testBindIfAbsent	310
9.67.2.3	testBindIfPresent	311

9.67.3	Member Data Documentation	311
9.67.3.1	addressBook	311
9.68	edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook Class Reference	312
9.68.1	Detailed Description	312
9.68.2	Member Function Documentation	312
9.68.2.1	setUp	312
9.69	edu.mit.csail.sdg.squander.examples.numbers.Arithmetic Class Reference	313
9.69.1	Detailed Description	313
9.69.2	Member Function Documentation	313
9.69.2.1	_findQ	313
9.69.2.2	_findR	313
9.69.2.3	_square_root_mixed	314
9.69.2.4	findP	314
9.69.2.5	findQ	314
9.69.2.6	findR	314
9.69.2.7	gcd	314
9.69.2.8	gcd_impl	314
9.69.2.9	main	314
9.69.2.10	sort	315
9.69.2.11	square_root	315
9.69.2.12	square_root_finite	315
9.69.2.13	square_root_mixed	315
9.70	edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest Class Reference	316
9.70.1	Detailed Description	316
9.70.2	Member Function Documentation	316
9.70.2.1	test1	316
9.70.2.2	test2	316
9.70.2.3	test3	316
9.70.2.4	test4	316
9.71	edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot Class Reference	317
9.71.1	Detailed Description	317
9.71.2	Constructor & Destructor Documentation	318
9.71.2.1	DeclarativeSqRoot	318
9.71.2.2	DeclarativeSqRoot	318
9.71.3	Member Function Documentation	318
9.71.3.1	getQ	318

9.71.3.2	getR	318
9.71.3.3	getS	318
9.71.3.4	init	318
9.71.3.5	setQ	319
9.71.3.6	setR	319
9.71.3.7	sqRoot	319
9.72	edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot Class Reference	320
9.72.1	Detailed Description	321
9.72.2	Constructor & Destructor Documentation	321
9.72.2.1	ImperativeSqRoot	321
9.72.3	Member Function Documentation	321
9.72.3.1	findP	321
9.72.3.2	findQ	321
9.72.3.3	findR	321
9.72.3.4	getQ	321
9.72.3.5	getR	321
9.72.3.6	getS	321
9.72.3.7	setQ	322
9.72.3.8	setR	322
9.72.4	Member Data Documentation	322
9.72.4.1	q1	322
9.72.4.2	r1	322
9.72.4.3	s1	322
9.73	edu.mit.csail.sdg.squander.examples.numbers.ISqRoot Interface Reference	323
9.73.1	Detailed Description	323
9.73.2	Member Function Documentation	323
9.73.2.1	getQ	323
9.73.2.2	getR	323
9.73.2.3	getS	323
9.73.2.4	sqRoot	323
9.74	edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot Class Reference	324
9.74.1	Detailed Description	324
9.74.2	Constructor & Destructor Documentation	324
9.74.2.1	MixedSqRoot	324
9.74.2.2	MixedSqRoot	325
9.74.3	Member Function Documentation	325

9.74.3.1	findP	325
9.74.3.2	findQ	325
9.74.3.3	findR	325
9.74.3.4	sqRoot	325
9.75	edu.mit.csail.sdg.squander.examples.numbers.SqRootTest Class Reference	326
9.75.1	Detailed Description	326
9.75.2	Member Function Documentation	326
9.75.2.1	test1	326
9.75.2.2	test2	326
9.75.2.3	test3	326
9.76	edu.mit.csail.sdg.squander.examples.partitioning.Domain Class Reference	327
9.76.1	Detailed Description	327
9.76.2	Member Function Documentation	327
9.76.2.1	equals	327
9.76.2.2	getIdx	327
9.76.2.3	getInsts	328
9.76.2.4	hashCode	328
9.76.2.5	toString	328
9.76.3	Member Data Documentation	328
9.76.3.1	cnt	328
9.76.3.2	idx	328
9.76.3.3	insts	328
9.77	edu.mit.csail.sdg.squander.examples.partitioning.Graph Class Reference	329
9.77.1	Detailed Description	329
9.77.2	Member Function Documentation	329
9.77.2.1	gen	329
9.77.2.2	main	330
9.77.2.3	toString	330
9.77.3	Member Data Documentation	330
9.77.3.1	doms	330
9.77.3.2	lits	330
9.77.3.3	n	330
9.77.3.4	parts	330
9.78	edu.mit.csail.sdg.squander.examples.partitioning.Literal Class Reference	331
9.78.1	Detailed Description	331
9.78.2	Member Function Documentation	331

9.78.2.1	equals	331
9.78.2.2	getIdx	331
9.78.2.3	hashCode	331
9.78.2.4	toString	331
9.78.3	Member Data Documentation	332
9.78.3.1	cnt	332
9.78.3.2	idx	332
9.79	edu.mit.csail.sdg.squander.examples.partitioning.Partition Class Reference	333
9.79.1	Detailed Description	333
9.79.2	Member Function Documentation	333
9.79.2.1	equals	333
9.79.2.2	getDoms	333
9.79.2.3	getIdx	334
9.79.2.4	hashCode	334
9.79.2.5	toString	334
9.79.3	Member Data Documentation	334
9.79.3.1	cnt	334
9.79.3.2	doms	334
9.79.3.3	idx	334
9.80	edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree Class Reference	335
9.80.1	Detailed Description	336
9.80.2	Constructor & Destructor Documentation	336
9.80.2.1	RedBlackTree	336
9.80.3	Member Function Documentation	336
9.80.3.1	clear	336
9.80.3.2	delete	336
9.80.3.3	insert	336
9.80.3.4	maxAll	336
9.80.3.5	minAll	336
9.80.3.6	predecessor	337
9.80.3.7	replace	337
9.80.3.8	search	337
9.80.3.9	searchGTE	337
9.80.3.10	searchLTE	337
9.80.3.11	successor	337
9.80.4	Member Data Documentation	337

9.80.4.1	BLACK	337
9.80.4.2	RED	338
9.80.4.3	root	338
9.81	edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet Class Reference	339
9.81.1	Detailed Description	339
9.81.2	Member Function Documentation	339
9.81.2.1	add	339
9.81.2.2	printNode	339
9.81.2.3	toString	340
9.81.3	Member Data Documentation	340
9.81.3.1	root	340
9.82	edu.mit.csail.sdg.squander.examples.setpoly.IntSet Class Reference	341
9.82.1	Detailed Description	341
9.82.2	Constructor & Destructor Documentation	341
9.82.2.1	IntSet	341
9.82.3	Member Function Documentation	341
9.82.3.1	add	341
9.82.3.2	contains	341
9.82.3.3	containsAll	342
9.82.3.4	init	342
9.82.3.5	main	342
9.82.3.6	main2	342
9.82.3.7	nodes	342
9.82.3.8	remove	342
9.83	edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet Class Reference	343
9.83.1	Detailed Description	343
9.83.2	Member Function Documentation	343
9.83.2.1	nodes	343
9.83.2.2	toString	343
9.83.3	Member Data Documentation	343
9.83.3.1	mySet	343
9.84	edu.mit.csail.sdg.squander.examples.sort.Sort Class Reference	345
9.84.1	Detailed Description	345
9.84.2	Constructor & Destructor Documentation	345
9.84.2.1	Sort	345
9.84.3	Member Function Documentation	345

9.84.3.1	getA	345
9.84.3.2	main	345
9.84.3.3	sort	346
9.84.3.4	toString	346
9.84.4	Member Data Documentation	346
9.84.4.1	a	346
9.85	edu.mit.csail.sdg.squander.examples.sort.SortTest Class Reference	347
9.85.1	Detailed Description	347
9.85.2	Member Function Documentation	347
9.85.2.1	test1	347
9.85.2.2	test2	347
9.85.2.3	test3	347
9.86	edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1 Class Reference	348
9.86.1	Detailed Description	349
9.86.2	Constructor & Destructor Documentation	349
9.86.2.1	Sudoku1	349
9.86.3	Member Function Documentation	349
9.86.3.1	getCellValue	349
9.86.3.2	init	349
9.86.3.3	main	349
9.86.3.4	parse	349
9.86.3.5	printHLine	349
9.86.3.6	printSimple	350
9.86.3.7	setCellValue	350
9.86.3.8	solve	350
9.86.3.9	toString	350
9.86.4	Member Data Documentation	350
9.86.4.1	cols	350
9.86.4.2	grids	350
9.86.4.3	n	350
9.86.4.4	rows	350
9.87	edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test Class Reference	351
9.87.1	Detailed Description	351
9.87.2	Member Function Documentation	351
9.87.2.1	testSudoku1Small	351
9.87.2.2	testSudoku2Small	351

9.87.2.3	testSudoku3Small	351
9.87.2.4	testSudoku5Small	351
9.88	edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2 Class Reference	352
9.88.1	Detailed Description	353
9.88.2	Constructor & Destructor Documentation	353
9.88.2.1	Sudoku2	353
9.88.3	Member Function Documentation	353
9.88.3.1	getCellValue	353
9.88.3.2	init	353
9.88.3.3	main	353
9.88.3.4	parse	353
9.88.3.5	printHLine	353
9.88.3.6	printSimple	353
9.88.3.7	repOK	354
9.88.3.8	setCellValue	354
9.88.3.9	solve	354
9.88.3.10	toString	354
9.88.4	Member Data Documentation	354
9.88.4.1	cols	354
9.88.4.2	grids	354
9.88.4.3	m	354
9.88.4.4	n	354
9.88.4.5	rows	354
9.89	edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3 Class Reference	355
9.89.1	Detailed Description	355
9.89.2	Constructor & Destructor Documentation	355
9.89.2.1	Sudoku3	355
9.89.3	Member Function Documentation	355
9.89.3.1	getCellValue	355
9.89.3.2	initGrid	356
9.89.3.3	main	356
9.89.3.4	parse	356
9.89.3.5	printHLine	356
9.89.3.6	printSimple	356
9.89.3.7	setCellValue	356
9.89.3.8	solve	356

9.89.3.9	toString	356
9.89.4	Member Data Documentation	357
9.89.4.1	m	357
9.89.4.2	n	357
9.89.4.3	nums	357
9.90	edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4 Class Reference	358
9.90.1	Detailed Description	359
9.90.2	Constructor & Destructor Documentation	359
9.90.2.1	Sudoku4	359
9.90.3	Member Function Documentation	359
9.90.3.1	getCellValue	359
9.90.3.2	initGrid	359
9.90.3.3	main	359
9.90.3.4	parse	359
9.90.3.5	printHLine	359
9.90.3.6	printSimple	359
9.90.3.7	setCellValue	360
9.90.3.8	solve	360
9.90.3.9	toString	360
9.90.4	Member Data Documentation	360
9.90.4.1	m	360
9.90.4.2	n	360
9.90.4.3	nums	360
9.91	edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num Class Reference	361
9.91.1	Detailed Description	361
9.91.2	Constructor & Destructor Documentation	361
9.91.2.1	Num	361
9.91.3	Member Data Documentation	361
9.91.3.1	val	361
9.92	edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5 Class Reference	362
9.92.1	Detailed Description	362
9.92.2	Constructor & Destructor Documentation	362
9.92.2.1	Sudoku5	362
9.92.3	Member Function Documentation	362
9.92.3.1	getCellValue	362
9.92.3.2	main	363

9.92.3.3	parse	363
9.92.3.4	printHLine	363
9.92.3.5	printSimple	363
9.92.3.6	setCellValue	363
9.92.3.7	solve	363
9.92.3.8	toString	363
9.92.4	Member Data Documentation	363
9.92.4.1	grid	363
9.92.4.2	m	364
9.92.4.3	n	364
9.92.4.4	nums	364
9.93	edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree Class Reference	365
9.93.1	Detailed Description	366
9.93.2	Constructor & Destructor Documentation	366
9.93.2.1	BinarySearchTree	366
9.93.3	Member Function Documentation	366
9.93.3.1	bounds	366
9.93.3.2	cfgMin	367
9.93.3.3	main	367
9.93.3.4	options	367
9.93.3.5	runMin	367
9.93.4	Member Data Documentation	368
9.93.4.1	bst	368
9.93.4.2	bstInst	368
9.93.4.3	key	368
9.93.4.4	left	368
9.93.4.5	minProc	368
9.93.4.6	minRet	368
9.93.4.7	node	369
9.93.4.8	nodeInsts	369
9.93.4.9	parent	369
9.93.4.10	program	369
9.93.4.11	right	369
9.93.4.12	root	369
9.94	edu.mit.csail.sdg.squander.forge_examples.TopologicalSort Class Reference	370
9.94.1	Detailed Description	371

9.94.2	Constructor & Destructor Documentation	371
9.94.2.1	TopologicalSort	371
9.94.3	Member Function Documentation	371
9.94.3.1	bounds	371
9.94.3.2	cfg	371
9.94.3.3	condition	372
9.94.3.4	main	372
9.94.3.5	run	372
9.94.4	Member Data Documentation	372
9.94.4.1	elems	372
9.94.4.2	list	372
9.94.4.3	next	373
9.94.4.4	node	373
9.94.4.5	nodes	373
9.94.4.6	num	373
9.94.4.7	out	373
9.94.4.8	proc	373
9.94.4.9	program	374
9.94.4.10	value	374
9.94.4.11	width	374
9.95	edu.mit.csail.sdg.squander.log.Log Class Reference	375
9.95.1	Detailed Description	375
9.95.2	Member Enumeration Documentation	376
9.95.2.1	Level	376
9.95.3	Member Function Documentation	376
9.95.3.1	debug	376
9.95.3.2	debug	376
9.95.3.3	error	376
9.95.3.4	log	376
9.95.3.5	log	376
9.95.3.6	myLog	377
9.95.3.7	trace	377
9.95.3.8	trace	377
9.95.3.9	warn	377
9.95.3.10	warn	377
9.95.4	Member Data Documentation	377

9.95.4.1	out	377
9.96	edu.mit.csail.sdg.squander.options.ConfigLoader Class Reference	378
9.96.1	Detailed Description	378
9.96.2	Member Function Documentation	378
9.96.2.1	error	378
9.96.2.2	getField	378
9.96.2.3	loadOptions	378
9.96.2.4	setBoolean	379
9.96.2.5	setClass	379
9.96.2.6	setEnum	379
9.96.2.7	setInt	379
9.96.2.8	setString	379
9.97	edu.mit.csail.sdg.squander.options.GlobalOptions Class Reference	380
9.97.1	Detailed Description	380
9.97.2	Member Enumeration Documentation	381
9.97.2.1	Engine	381
9.97.3	Member Function Documentation	381
9.97.3.1	getSquanderImpl	381
9.97.4	Member Data Documentation	381
9.97.4.1	desugar_quants	381
9.97.4.2	engine	381
9.97.4.3	INSTANCE	381
9.97.4.4	log_level	381
9.97.4.5	min_bitwidth	382
9.97.4.6	reporter	382
9.97.4.7	sat_solver	382
9.97.4.8	unsat_core	382
9.98	edu.mit.csail.sdg.squander.parser.JFSLLexer Class Reference	383
9.98.1	Detailed Description	390
9.98.2	Constructor & Destructor Documentation	390
9.98.2.1	JFSLLexer	390
9.98.2.2	JFSLLexer	390
9.98.2.3	JFSLLexer	390
9.98.3	Member Function Documentation	390
9.98.3.1	[static initializer]	390
9.98.3.2	[static initializer]	390

9.98.3.3	getGrammarFileName	390
9.98.3.4	mCharacterLiteral	390
9.98.3.5	mDecimalLiteral	390
9.98.3.6	mEscapeSequence	391
9.98.3.7	mExponent	391
9.98.3.8	mFloatingPointLiteral	391
9.98.3.9	mFloatTypeSuffix	391
9.98.3.10	mHexDigit	391
9.98.3.11	mHexLiteral	391
9.98.3.12	mIdentifier	391
9.98.3.13	mIntegerTypeSuffix	391
9.98.3.14	mJavaIDDigit	391
9.98.3.15	mLetter	392
9.98.3.16	mOctalEscape	392
9.98.3.17	mOctalLiteral	392
9.98.3.18	mStringLiteral	392
9.98.3.19	mT__127	392
9.98.3.20	mT__128	392
9.98.3.21	mT__129	392
9.98.3.22	mT__130	392
9.98.3.23	mT__131	392
9.98.3.24	mT__132	393
9.98.3.25	mT__133	393
9.98.3.26	mT__134	393
9.98.3.27	mT__135	393
9.98.3.28	mT__136	393
9.98.3.29	mT__137	393
9.98.3.30	mT__138	393
9.98.3.31	mT__139	393
9.98.3.32	mT__140	393
9.98.3.33	mT__141	394
9.98.3.34	mT__142	394
9.98.3.35	mT__143	394
9.98.3.36	mT__144	394
9.98.3.37	mT__145	394
9.98.3.38	mT__146	394

9.98.3.39 mT__147	394
9.98.3.40 mT__148	394
9.98.3.41 mT__149	394
9.98.3.42 mT__150	395
9.98.3.43 mT__151	395
9.98.3.44 mT__152	395
9.98.3.45 mT__153	395
9.98.3.46 mT__154	395
9.98.3.47 mT__155	395
9.98.3.48 mT__156	395
9.98.3.49 mT__157	395
9.98.3.50 mT__158	395
9.98.3.51 mT__159	396
9.98.3.52 mT__160	396
9.98.3.53 mT__161	396
9.98.3.54 mT__162	396
9.98.3.55 mT__163	396
9.98.3.56 mT__164	396
9.98.3.57 mT__165	396
9.98.3.58 mT__166	396
9.98.3.59 mT__167	396
9.98.3.60 mT__168	397
9.98.3.61 mT__169	397
9.98.3.62 mT__170	397
9.98.3.63 mT__171	397
9.98.3.64 mT__172	397
9.98.3.65 mT__173	397
9.98.3.66 mT__174	397
9.98.3.67 mT__175	397
9.98.3.68 mT__176	397
9.98.3.69 mT__177	398
9.98.3.70 mT__178	398
9.98.3.71 mT__179	398
9.98.3.72 mT__180	398
9.98.3.73 mT__181	398
9.98.3.74 mT__182	398

9.98.3.75 mT__183	398
9.98.3.76 mT__184	398
9.98.3.77 mT__185	398
9.98.3.78 mT__186	399
9.98.3.79 mT__187	399
9.98.3.80 mT__188	399
9.98.3.81 mT__189	399
9.98.3.82 mT__190	399
9.98.3.83 mT__191	399
9.98.3.84 mT__192	399
9.98.3.85 mT__193	399
9.98.3.86 mT__194	399
9.98.3.87 mT__195	400
9.98.3.88 mT__196	400
9.98.3.89 mT__197	400
9.98.3.90 mT__198	400
9.98.3.91 mT__199	400
9.98.3.92 mTokens	400
9.98.3.93 mUnicodeEscape	400
9.98.3.94 mWS	400
9.98.4 Member Data Documentation	400
9.98.4.1 AMBIGUOUS	400
9.98.4.2 ARGUMENT	401
9.98.4.3 ARGUMENTS	401
9.98.4.4 BINARY	401
9.98.4.5 BRACKET	401
9.98.4.6 CALL	401
9.98.4.7 CAST	401
9.98.4.8 CHAIN	401
9.98.4.9 CharacterLiteral	401
9.98.4.10 CLASS_DESIGNATOR	401
9.98.4.11 CONDITIONAL	401
9.98.4.12 DecimalLiteral	401
9.98.4.13 DECL_NONE	402
9.98.4.14 DECL_SEQ	402
9.98.4.15 DECL_SET	402

9.98.4.16 DECLARATION	402
9.98.4.17 DECLS	402
9.98.4.18 dfa18	402
9.98.4.19 DFA18_accept	402
9.98.4.20 DFA18_acceptS	402
9.98.4.21 DFA18_eof	402
9.98.4.22 DFA18_eofS	403
9.98.4.23 DFA18_eot	403
9.98.4.24 DFA18_eotS	403
9.98.4.25 DFA18_max	403
9.98.4.26 DFA18_maxS	403
9.98.4.27 DFA18_min	403
9.98.4.28 DFA18_minS	403
9.98.4.29 DFA18_special	404
9.98.4.30 DFA18_specialS	404
9.98.4.31 DFA18_transition	404
9.98.4.32 DFA18_transitionS	404
9.98.4.33 dfa26	404
9.98.4.34 DFA26_accept	404
9.98.4.35 DFA26_acceptS	404
9.98.4.36 DFA26_eof	405
9.98.4.37 DFA26_eofS	405
9.98.4.38 DFA26_eot	405
9.98.4.39 DFA26_eotS	405
9.98.4.40 DFA26_max	406
9.98.4.41 DFA26_maxS	406
9.98.4.42 DFA26_min	406
9.98.4.43 DFA26_minS	406
9.98.4.44 DFA26_special	407
9.98.4.45 DFA26_specialS	407
9.98.4.46 DFA26_transition	407
9.98.4.47 DFA26_transitionS	407
9.98.4.48 ENSURES	407
9.98.4.49 EOF	407
9.98.4.50 EscapeSequence	407
9.98.4.51 Exponent	407

9.98.4.52 FIELD	407
9.98.4.53 FILE	408
9.98.4.54 FloatingPointLiteral	408
9.98.4.55 FloatTypeSuffix	408
9.98.4.56 FRAME	408
9.98.4.57 FRAME_ALL	408
9.98.4.58 FRAME_LOCATION	408
9.98.4.59 HELPER	408
9.98.4.60 HexDigit	408
9.98.4.61 HexLiteral	408
9.98.4.62 IDENTIFIER	408
9.98.4.63 Identifier	408
9.98.4.64 IMPORT	409
9.98.4.65 IntegerTypeSuffix	409
9.98.4.66 INVARIANT	409
9.98.4.67 JavaIDDigit	409
9.98.4.68 JOIN	409
9.98.4.69 JOIN_REFLEXIVE	409
9.98.4.70 Letter	409
9.98.4.71 LIT_FALSE	409
9.98.4.72 LIT_NULL	409
9.98.4.73 LIT_TRUE	409
9.98.4.74 METHOD	409
9.98.4.75 METHOD_PARAMETERS	410
9.98.4.76 MODIFIES	410
9.98.4.77 NULL	410
9.98.4.78 OctalEscape	410
9.98.4.79 OctalLiteral	410
9.98.4.80 OLD	410
9.98.4.81 OP_AND	410
9.98.4.82 OP_BIT_AND_OR_INTERSECTION	410
9.98.4.83 OP_BIT_NOT_OR_TRANSPOSE	410
9.98.4.84 OP_BIT_OR	410
9.98.4.85 OP_BIT_XOR	410
9.98.4.86 OP_CLOSURE	411
9.98.4.87 OP_DIFFERENCE	411

9.98.4.88	OP_DIVIDE	411
9.98.4.89	OP_EQ	411
9.98.4.90	OP_EQUIV	411
9.98.4.91	OP_GEQ	411
9.98.4.92	OP_GT	411
9.98.4.93	OP_IMPLIES	411
9.98.4.94	OP_INSTANCEOF	411
9.98.4.95	OP_INTERSECTION	411
9.98.4.96	OP_LEQ	411
9.98.4.97	OP_LT	412
9.98.4.98	OP_MINUS	412
9.98.4.99	OP_MINUS_OR_DIFFERENCE	412
9.98.4.100	OP_MOD	412
9.98.4.101	OP_NEQ	412
9.98.4.102	OP_NEQUIV	412
9.98.4.103	OP_NOT	412
9.98.4.104	OP_NSET_SUBSET	412
9.98.4.105	OP_OR	412
9.98.4.106	OP_PLUS	412
9.98.4.107	OP_PLUS_OR_UNION	412
9.98.4.108	OP_RELATIONAL_COMPOSE	413
9.98.4.109	OP_RELATIONAL_OVERRIDE	413
9.98.4.110	OP_SET_ALL	413
9.98.4.111	OP_SET_COMPREHENSION	413
9.98.4.112	OP_SET_EXISTS	413
9.98.4.113	OP_SET_LONE	413
9.98.4.114	OP_SET_NO	413
9.98.4.115	OP_SET_NUM	413
9.98.4.116	OP_SET_ONE	413
9.98.4.117	OP_SET_SOME	413
9.98.4.118	OP_SET_SUBSET	414
9.98.4.119	OP_SET_SUM	414
9.98.4.120	OP_SHL	414
9.98.4.121	OP_SHR	414
9.98.4.122	OP_TIMES	414
9.98.4.123	OP_TRANSPOSE	414

9.98.4.124OP_UNION	414
9.98.4.125OP_USHR	414
9.98.4.126PACKAGE	414
9.98.4.127PURE	414
9.98.4.128QUANTIFY	414
9.98.4.129REQUIRES	415
9.98.4.130RETURN_VAR	415
9.98.4.131SPECCASE	415
9.98.4.132SPECFIELD	415
9.98.4.133SPECIFICATION	415
9.98.4.134StringLiteral	415
9.98.4.135SUPER_VAR	415
9.98.4.136T__127	415
9.98.4.137T__128	415
9.98.4.138T__129	415
9.98.4.139T__130	415
9.98.4.140T__131	416
9.98.4.141T__132	416
9.98.4.142T__133	416
9.98.4.143T__134	416
9.98.4.144T__135	416
9.98.4.145T__136	416
9.98.4.146T__137	416
9.98.4.147T__138	416
9.98.4.148T__139	416
9.98.4.149T__140	416
9.98.4.150T__141	416
9.98.4.151T__142	417
9.98.4.152T__143	417
9.98.4.153T__144	417
9.98.4.154T__145	417
9.98.4.155T__146	417
9.98.4.156T__147	417
9.98.4.157T__148	417
9.98.4.158T__149	417
9.98.4.159T__150	417

9.98.4.160T__151	417
9.98.4.161T__152	417
9.98.4.162T__153	418
9.98.4.163T__154	418
9.98.4.164T__155	418
9.98.4.165T__156	418
9.98.4.166T__157	418
9.98.4.167T__158	418
9.98.4.168T__159	418
9.98.4.169T__160	418
9.98.4.170T__161	418
9.98.4.171T__162	418
9.98.4.172T__163	418
9.98.4.173T__164	419
9.98.4.174T__165	419
9.98.4.175T__166	419
9.98.4.176T__167	419
9.98.4.177T__168	419
9.98.4.178T__169	419
9.98.4.179T__170	419
9.98.4.180T__171	419
9.98.4.181T__172	419
9.98.4.182T__173	419
9.98.4.183T__174	419
9.98.4.184T__175	420
9.98.4.185T__176	420
9.98.4.186T__177	420
9.98.4.187T__178	420
9.98.4.188T__179	420
9.98.4.189T__180	420
9.98.4.190T__181	420
9.98.4.191T__182	420
9.98.4.192T__183	420
9.98.4.193T__184	420
9.98.4.194T__185	420
9.98.4.195T__186	421

9.98.4.196T__187	421
9.98.4.197T__188	421
9.98.4.198T__189	421
9.98.4.199T__190	421
9.98.4.200T__191	421
9.98.4.201T__192	421
9.98.4.202T__193	421
9.98.4.203T__194	421
9.98.4.204T__195	421
9.98.4.205T__196	421
9.98.4.206T__197	422
9.98.4.207T__198	422
9.98.4.208T__199	422
9.98.4.209THIS_VAR	422
9.98.4.210THROW_VAR	422
9.98.4.211THROWS	422
9.98.4.212TYPE_ARRAY	422
9.98.4.213TYPE_BOOLEAN	422
9.98.4.214TYPE_BYTE	422
9.98.4.215TYPE_CHAR	422
9.98.4.216TYPE_DECLARATION	422
9.98.4.217TYPE_DOUBLE	423
9.98.4.218TYPE_FLOAT	423
9.98.4.219TYPE_INT	423
9.98.4.220TYPE_LONG	423
9.98.4.221TYPE_PARAMETERS	423
9.98.4.222TYPE_REF	423
9.98.4.223TYPE_SHORT	423
9.98.4.224UNARY	423
9.98.4.225UnicodeEscape	423
9.98.4.226VOID	423
9.98.4.227WS	424
9.99 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18 Class Reference	425
9.99.1 Detailed Description	425
9.99.2 Constructor & Destructor Documentation	425
9.99.2.1 DFA18	425

9.99.3	Member Function Documentation	425
9.99.3.1	getDescription	425
9.100	edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26 Class Reference	426
9.100.1	Detailed Description	426
9.100.2	Constructor & Destructor Documentation	426
9.100.2.1	DFA26	426
9.100.3	Member Function Documentation	426
9.100.3.1	getDescription	426
9.101	edu.mit.csail.sdg.squander.parser.JFSLParser Class Reference	427
9.101.1	Detailed Description	452
9.101.2	Member Enumeration Documentation	454
9.101.2.1	Decision	454
9.101.3	Constructor & Destructor Documentation	454
9.101.3.1	JFSLParser	454
9.101.3.2	JFSLParser	454
9.101.4	Member Function Documentation	455
9.101.4.1	[static initializer]	455
9.101.4.2	[static initializer]	455
9.101.4.3	[static initializer]	455
9.101.4.4	[static initializer]	455
9.101.4.5	[static initializer]	455
9.101.4.6	[static initializer]	455
9.101.4.7	additiveExpression	455
9.101.4.8	additiveOp	455
9.101.4.9	andExpression	455
9.101.4.10	arguments	455
9.101.4.11	lbitAndOp	455
9.101.4.12	castExpression	456
9.101.4.13	clause	456
9.101.4.14	common	456
9.101.4.15	compilationUnit	456
9.101.4.16	composeExpression	456
9.101.4.17	conditionalAndExpression	456
9.101.4.18	conditionalExpression	456
9.101.4.19	conditionalOrExpression	456
9.101.4.20	declaration	457

9.101.4.21	declarationMult	457
9.101.4.22	decls	457
9.101.4.23	displayRecognitionError	457
9.101.4.24	equalityExpression	457
9.101.4.25	equalityOp	457
9.101.4.26	exclusiveOrExpression	457
9.101.4.27	expression	457
9.101.4.28	expressionList	458
9.101.4.29	frame	458
9.101.4.30	getGrammarFileName	458
9.101.4.31	getTokenNames	458
9.101.4.32	getTreeAdaptor	458
9.101.4.33	importDeclaration	458
9.101.4.34	inclusiveOrExpression	458
9.101.4.35	inOp	458
9.101.4.36	instanceOfExpression	458
9.101.4.37	integerLiteral	459
9.101.4.38	intersectionExpression	459
9.101.4.39	joinExpression	459
9.101.4.40	keywordLiteral	459
9.101.4.41	literal	459
9.101.4.42	logicalExpression	459
9.101.4.43	logicalOp	459
9.101.4.44	methodParameters	459
9.101.4.45	modifies	460
9.101.4.46	multiplicativeExpression	460
9.101.4.47	multOp	460
9.101.4.48	overrideExpression	460
9.101.4.49	packageName	460
9.101.4.50	parExpression	460
9.101.4.51	primary	460
9.101.4.52	primitiveType	460
9.101.4.53	quantifiedExpression	461
9.101.4.54	relationalExpression	461
9.101.4.55	relationalOp	461
9.101.4.56	relationalUnaryExpression	461

9.101.4.57selector	461
9.101.4.58setAdditiveExpression	461
9.101.4.59setAdditiveOp	461
9.101.4.60setDeclOp	461
9.101.4.61setQuantOp	462
9.101.4.62setTreeAdaptor	462
9.101.4.63setUnaryExpression	462
9.101.4.64setUnaryOp	462
9.101.4.65shiftExpression	462
9.101.4.66shiftOp	462
9.101.4.67sizeExpression	462
9.101.4.68specCase	462
9.101.4.69specField	463
9.101.4.70specUnaryOp	463
9.101.4.71storePrimary	463
9.101.4.72storeRef	463
9.101.4.73storeSelectors	463
9.101.4.74storeWildCard	463
9.101.4.75synpred101_JFSL	463
9.101.4.76synpred101_JFSL_fragment	463
9.101.4.77synpred117_JFSL	464
9.101.4.78synpred117_JFSL_fragment	464
9.101.4.79synpred118_JFSL	464
9.101.4.80synpred118_JFSL_fragment	464
9.101.4.81synpred119_JFSL	464
9.101.4.82synpred119_JFSL_fragment	464
9.101.4.83synpred120_JFSL	464
9.101.4.84synpred120_JFSL_fragment	464
9.101.4.85synpred13_JFSL	464
9.101.4.86synpred13_JFSL_fragment	464
9.101.4.87synpred26_JFSL	465
9.101.4.88synpred26_JFSL_fragment	465
9.101.4.89synpred37_JFSL	465
9.101.4.90synpred37_JFSL_fragment	465
9.101.4.91synpred56_JFSL	465
9.101.4.92synpred56_JFSL_fragment	465

9.101.4.93	synpred58_JFSL	465
9.101.4.94	synpred58_JFSL_fragment	465
9.101.4.95	synpred62_JFSL	465
9.101.4.96	synpred62_JFSL_fragment	465
9.101.4.97	synpred63_JFSL	466
9.101.4.98	synpred63_JFSL_fragment	466
9.101.4.99	synpred99_JFSL	466
9.101.4.100	synpred99_JFSL_fragment	466
9.101.4.101	type	466
9.101.4.102	typeBodyDeclaration	466
9.101.4.103	typeDeclaration	466
9.101.4.104	typeDisambiguous	466
9.101.4.105	typeName	466
9.101.4.106	typeParameters	467
9.101.4.107	typeParameters2	467
9.101.4.108	binaryExpression	467
9.101.4.109	binaryExpressionNotPlusMinus	467
9.101.5	Member Data Documentation	467
9.101.5.1	adaptor	467
9.101.5.2	AMBIGUOUS	467
9.101.5.3	ARGUMENT	467
9.101.5.4	ARGUMENTS	467
9.101.5.5	BINARY	467
9.101.5.6	BRACKET	468
9.101.5.7	CALL	468
9.101.5.8	CAST	468
9.101.5.9	CHAIN	468
9.101.5.10	CharacterLiteral	468
9.101.5.11	CLASS_DESIGNATOR	468
9.101.5.12	CONDITIONAL	468
9.101.5.13	DecimalLiteral	468
9.101.5.14	DECL_NONE	468
9.101.5.15	DECL_SEQ	468
9.101.5.16	DECL_SET	468
9.101.5.17	DECLARATION	469
9.101.5.18	DECLS	469

9.101.5.19dfa38	469
9.101.5.20DFA38_accept	469
9.101.5.21DFA38_acceptS	469
9.101.5.22DFA38_eof	469
9.101.5.23DFA38_eofS	469
9.101.5.24DFA38_eot	469
9.101.5.25DFA38_eotS	470
9.101.5.26DFA38_max	470
9.101.5.27DFA38_maxS	470
9.101.5.28DFA38_min	470
9.101.5.29DFA38_minS	470
9.101.5.30DFA38_special	470
9.101.5.31DFA38_specialS	470
9.101.5.32DFA38_transition	471
9.101.5.33DFA38_transitionS	471
9.101.5.34dfa42	471
9.101.5.35DFA42_accept	471
9.101.5.36DFA42_acceptS	471
9.101.5.37DFA42_eof	472
9.101.5.38DFA42_eofS	472
9.101.5.39DFA42_eot	472
9.101.5.40DFA42_eotS	472
9.101.5.41DFA42_max	472
9.101.5.42DFA42_maxS	472
9.101.5.43DFA42_min	472
9.101.5.44DFA42_minS	473
9.101.5.45DFA42_special	473
9.101.5.46DFA42_specialS	473
9.101.5.47DFA42_transition	473
9.101.5.48DFA42_transitionS	473
9.101.5.49dfa69	473
9.101.5.50DFA69_accept	473
9.101.5.51DFA69_acceptS	473
9.101.5.52DFA69_eof	474
9.101.5.53DFA69_eofS	474
9.101.5.54DFA69_eot	474

9.101.5.55DFA69_eotS	474
9.101.5.56DFA69_max	474
9.101.5.57DFA69_maxS	474
9.101.5.58DFA69_min	475
9.101.5.59DFA69_minS	475
9.101.5.60DFA69_special	475
9.101.5.61DFA69_specialS	475
9.101.5.62DFA69_transition	475
9.101.5.63DFA69_transitionS	475
9.101.5.64dfa77	475
9.101.5.65DFA77_accept	475
9.101.5.66DFA77_acceptS	476
9.101.5.67DFA77_eof	476
9.101.5.68DFA77_eofS	476
9.101.5.69DFA77_eot	476
9.101.5.70DFA77_eotS	476
9.101.5.71DFA77_max	476
9.101.5.72DFA77_maxS	476
9.101.5.73DFA77_min	477
9.101.5.74DFA77_minS	477
9.101.5.75DFA77_special	477
9.101.5.76DFA77_specialS	477
9.101.5.77DFA77_transition	477
9.101.5.78DFA77_transitionS	477
9.101.5.79dfa78	477
9.101.5.80DFA78_accept	477
9.101.5.81DFA78_acceptS	478
9.101.5.82DFA78_eof	478
9.101.5.83DFA78_eofS	478
9.101.5.84DFA78_eot	478
9.101.5.85DFA78_eotS	478
9.101.5.86DFA78_max	478
9.101.5.87DFA78_maxS	478
9.101.5.88DFA78_min	479
9.101.5.89DFA78_minS	479
9.101.5.90DFA78_special	479

9.101.5.91DFA78_specialS	479
9.101.5.92DFA78_transition	479
9.101.5.93DFA78_transitionS	479
9.101.5.94dfa79	479
9.101.5.95DFA79_accept	480
9.101.5.96DFA79_acceptS	480
9.101.5.97DFA79_eof	480
9.101.5.98DFA79_eofS	480
9.101.5.99DFA79_eot	480
9.101.5.100DFA79_eotS	480
9.101.5.101DFA79_max	480
9.101.5.102DFA79_maxS	481
9.101.5.103DFA79_min	481
9.101.5.104DFA79_minS	481
9.101.5.105DFA79_special	481
9.101.5.106DFA79_specialS	481
9.101.5.107DFA79_transition	481
9.101.5.108DFA79_transitionS	481
9.101.5.109NSURES	482
9.101.5.110BOF	482
9.101.5.111EscapeSequence	482
9.101.5.112Exponent	482
9.101.5.113BIELD	482
9.101.5.114FILE	482
9.101.5.115floatingPointLiteral	482
9.101.5.116floatTypeSuffix	483
9.101.5.117FOLLOW_127_in_compilationUnit760	483
9.101.5.118BOLLOW_128_in_compilationUnit764	483
9.101.5.119BOLLOW_128_in_compilationUnit778	483
9.101.5.120BOLLOW_128_in_importDeclaration847	483
9.101.5.121HOLLOW_128_in_synpred13_JFSL1055	483
9.101.5.122BOLLOW_128_in_typeBodyDeclaration1055	483
9.101.5.123BOLLOW_128_in_typeBodyDeclaration1062	484
9.101.5.124HOLLOW_128_in_typeBodyDeclaration988	484
9.101.5.125BOLLOW_129_in_packageName813	484
9.101.5.126BOLLOW_129_in_primary4005	484

9.101.5.127	FOLLOW_129_in_selector4090	484
9.101.5.128	FOLLOW_129_in_selector4110	484
9.101.5.129	FOLLOW_129_in_selector4130	484
9.101.5.130	FOLLOW_129_in_selector4146	485
9.101.5.131	FOLLOW_129_in_selector4162	485
9.101.5.132	FOLLOW_129_in_selector4184	485
9.101.5.133	FOLLOW_129_in_storeWildCard1593	485
9.101.5.134	FOLLOW_129_in_synpred118_JFSL4005	485
9.101.5.135	FOLLOW_129_in_synpred120_JFSL4005	485
9.101.5.136	FOLLOW_129_in_typeName1835	485
9.101.5.137	FOLLOW_130_in_importDeclaration843	486
9.101.5.138	FOLLOW_131_in_typeDeclaration874	486
9.101.5.139	FOLLOW_132_in_typeDeclaration878	486
9.101.5.140	FOLLOW_133_in_common3951	486
9.101.5.141	FOLLOW_133_in_typeBodyDeclaration1050	486
9.101.5.142	FOLLOW_133_in_typeDeclaration890	486
9.101.5.143	FOLLOW_134_in_common3959	486
9.101.5.144	FOLLOW_134_in_typeBodyDeclaration1066	487
9.101.5.145	FOLLOW_134_in_typeDeclaration895	487
9.101.5.146	FOLLOW_135_in_logicalOp2239	487
9.101.5.147	FOLLOW_135_in_logicalOp2251	487
9.101.5.148	FOLLOW_135_in_relationalOp2835	487
9.101.5.149	FOLLOW_135_in_relationalOp2855	487
9.101.5.150	FOLLOW_135_in_shiftOp2990	487
9.101.5.151	FOLLOW_135_in_shiftOp2992	488
9.101.5.152	FOLLOW_135_in_typeParameters2959	488
9.101.5.153	FOLLOW_135_in_typeParameters926	488
9.101.5.154	FOLLOW_136_in_decls3719	488
9.101.5.155	FOLLOW_136_in_expressionList2022	488
9.101.5.156	FOLLOW_136_in_frame1470	488
9.101.5.157	FOLLOW_136_in_methodParameters1109	488
9.101.5.158	FOLLOW_136_in_typeParameters2964	489
9.101.5.159	FOLLOW_136_in_typeParameters931	489
9.101.5.160	FOLLOW_137_in_logicalOp2243	489
9.101.5.161	FOLLOW_137_in_logicalOp2255	489
9.101.5.162	FOLLOW_137_in_logicalOp2265	489

9.101.5.163	BOLLOW_137_in_relationalOp2845	489
9.101.5.164	BOLLOW_137_in_relationalOp2863	489
9.101.5.165	BOLLOW_137_in_shiftOp3000	490
9.101.5.166	BOLLOW_137_in_shiftOp3002	490
9.101.5.167	BOLLOW_137_in_shiftOp3004	490
9.101.5.168	BOLLOW_137_in_shiftOp3012	490
9.101.5.169	BOLLOW_137_in_shiftOp3014	490
9.101.5.170	BOLLOW_137_in_typeParameters2970	490
9.101.5.171	BOLLOW_137_in_typeParameters937	490
9.101.5.172	BOLLOW_138_in_typeBodyDeclaration1002	491
9.101.5.173	BOLLOW_139_in_arguments2046	491
9.101.5.174	BOLLOW_139_in_castExpression3671	491
9.101.5.175	BOLLOW_139_in_common3907	491
9.101.5.176	BOLLOW_139_in_common3927	491
9.101.5.177	BOLLOW_139_in_parExpression1984	491
9.101.5.178	BOLLOW_139_in_specCase1151	491
9.101.5.179	BOLLOW_139_in_specCase1172	492
9.101.5.180	BOLLOW_139_in_specCase1187	492
9.101.5.181	BOLLOW_139_in_specCase1208	492
9.101.5.182	BOLLOW_139_in_typeBodyDeclaration1004	492
9.101.5.183	BOLLOW_139_in_typeBodyDeclaration1024	492
9.101.5.184	BOLLOW_139_in_typeBodyDeclaration1044	492
9.101.5.185	BOLLOW_140_in_arguments2051	492
9.101.5.186	BOLLOW_140_in_castExpression3675	493
9.101.5.187	BOLLOW_140_in_common3911	493
9.101.5.188	BOLLOW_140_in_common3931	493
9.101.5.189	BOLLOW_140_in_parExpression1989	493
9.101.5.190	BOLLOW_140_in_specCase1159	493
9.101.5.191	BOLLOW_140_in_specCase1180	493
9.101.5.192	BOLLOW_140_in_specCase1195	493
9.101.5.193	BOLLOW_140_in_specCase1216	494
9.101.5.194	BOLLOW_140_in_typeBodyDeclaration1008	494
9.101.5.195	BOLLOW_140_in_typeBodyDeclaration1028	494
9.101.5.196	BOLLOW_140_in_typeBodyDeclaration1048	494
9.101.5.197	BOLLOW_141_in_typeBodyDeclaration1022	494
9.101.5.198	BOLLOW_142_in_specCase1149	494

9.101.5.19	BOLLOW_143_in_specCase1170	494
9.101.5.20	BOLLOW_144_in_specCase1185	495
9.101.5.20	BOLLOW_145_in_specCase1206	495
9.101.5.20	BOLLOW_146_in_specCase1267	495
9.101.5.20	BOLLOW_147_in_specCase1282	495
9.101.5.20	BOLLOW_148_in_declaration1306	495
9.101.5.20	BOLLOW_148_in_declaration1361	495
9.101.5.20	BOLLOW_149_in_declaration1310	495
9.101.5.20	BOLLOW_149_in_declaration1365	496
9.101.5.20	BOLLOW_150_in_conditionalExpression2109	496
9.101.5.20	BOLLOW_150_in_declaration1316	496
9.101.5.21	BOLLOW_150_in_declaration1371	496
9.101.5.21	BOLLOW_150_in_decls3710	496
9.101.5.21	BOLLOW_150_in_decls3729	496
9.101.5.21	BOLLOW_150_in_synpred26_JFSL1316	496
9.101.5.21	BOLLOW_150_in_synpred62_JFSL2109	497
9.101.5.21	BOLLOW_151_in_declaration1322	497
9.101.5.21	BOLLOW_151_in_synpred26_JFSL1322	497
9.101.5.21	BOLLOW_152_in_common3955	497
9.101.5.21	BOLLOW_152_in_declaration1327	497
9.101.5.21	BOLLOW_152_in_declaration1378	497
9.101.5.22	BOLLOW_152_in_inclusiveOrExpression2417	497
9.101.5.22	BOLLOW_152_in_quantifiedExpression2151	498
9.101.5.22	BOLLOW_152_in_synpred26_JFSL1327	498
9.101.5.22	BOLLOW_152_in_synpred63_JFSL2151	498
9.101.5.22	BOLLOW_153_in_declarationMult1426	498
9.101.5.22	BOLLOW_154_in_declarationMult1436	498
9.101.5.22	BOLLOW_155_in_multOp3217	498
9.101.5.22	BOLLOW_155_in_selector4164	498
9.101.5.22	BOLLOW_155_in_selector4186	499
9.101.5.22	BOLLOW_155_in_storeWildCard1595	499
9.101.5.23	BOLLOW_156_in_keywordLiteral1616	499
9.101.5.23	BOLLOW_157_in_keywordLiteral1628	499
9.101.5.23	BOLLOW_158_in_keywordLiteral1639	499
9.101.5.23	BOLLOW_159_in_primitiveType1741	499
9.101.5.23	BOLLOW_160_in_primitiveType1750	499

9.101.5.235 FOLLOW_161_in_primitiveType1760	499
9.101.5.236 FOLLOW_162_in_primitiveType1772	500
9.101.5.237 FOLLOW_163_in_primitiveType1783	500
9.101.5.238 FOLLOW_164_in_primitiveType1794	500
9.101.5.239 FOLLOW_165_in_primitiveType1804	500
9.101.5.240 FOLLOW_166_in_primitiveType1815	500
9.101.5.241 FOLLOW_167_in_selector4202	500
9.101.5.242 FOLLOW_167_in_selector4221	500
9.101.5.243 FOLLOW_167_in_synpred56_JFSL1887	501
9.101.5.244 FOLLOW_167_in_synpred58_JFSL1917	501
9.101.5.245 FOLLOW_167_in_typeDisambiguous1887	501
9.101.5.246 FOLLOW_167_in_typeDisambiguous1917	501
9.101.5.247 FOLLOW_168_in_selector4205	501
9.101.5.248 FOLLOW_168_in_selector4223	501
9.101.5.249 FOLLOW_168_in_synpred56_JFSL1889	501
9.101.5.250 FOLLOW_168_in_synpred58_JFSL1919	502
9.101.5.251 FOLLOW_168_in_typeDisambiguous1889	502
9.101.5.252 FOLLOW_168_in_typeDisambiguous1919	502
9.101.5.253 FOLLOW_169_in_conditionalExpression2105	502
9.101.5.254 FOLLOW_169_in_synpred62_JFSL2105	502
9.101.5.255 FOLLOW_170_in_equalityOp2656	502
9.101.5.256 FOLLOW_170_in_equalityOp2658	502
9.101.5.257 FOLLOW_170_in_equalityOp2668	503
9.101.5.258 FOLLOW_170_in_equalityOp2676	503
9.101.5.259 FOLLOW_170_in_logicalOp2241	503
9.101.5.260 FOLLOW_170_in_logicalOp2263	503
9.101.5.261 FOLLOW_170_in_relationalOp2837	503
9.101.5.262 FOLLOW_170_in_relationalOp2847	503
9.101.5.263 FOLLOW_171_in_equalityOp2666	503
9.101.5.264 FOLLOW_171_in_logicalOp2253	504
9.101.5.265 FOLLOW_171_in_relationalOp2875	504
9.101.5.266 FOLLOW_171_in_unaryExpressionNotPlusMinus3623	504
9.101.5.267 FOLLOW_172_in_conditionalOrExpression2300	504
9.101.5.268 FOLLOW_173_in_conditionalAndExpression2356	504
9.101.5.269 FOLLOW_174_in_exclusiveOrExpression2473	504
9.101.5.270 FOLLOW_174_in_specUnaryOp4247	504

9.101.5.27	FOLLOW_174_in_specUnaryOp4251	505
9.101.5.27	FOLLOW_175_in_bitAndOp2572	505
9.101.5.27	FOLLOW_175_in_intersectionExpression3450	505
9.101.5.27	FOLLOW_176_in_instanceOfExpression2713	505
9.101.5.27	FOLLOW_177_in_inOp2816	505
9.101.5.27	FOLLOW_177_in_relationalOp2877	505
9.101.5.27	FOLLOW_178_in_additiveOp3097	505
9.101.5.27	FOLLOW_178_in_setAdditiveOp3334	505
9.101.5.27	FOLLOW_178_in_unaryExpression3556	506
9.101.5.28	FOLLOW_179_in_additiveOp3110	506
9.101.5.28	FOLLOW_179_in_setAdditiveOp3347	506
9.101.5.28	FOLLOW_179_in_unaryExpression3574	506
9.101.5.28	FOLLOW_180_in_setQuantOp4386	506
9.101.5.28	FOLLOW_180_in_sizeExpression3130	506
9.101.5.28	FOLLOW_181_in_multOp3230	506
9.101.5.28	FOLLOW_182_in_multOp3243	507
9.101.5.28	FOLLOW_183_in_intersectionExpression3448	507
9.101.5.28	FOLLOW_183_in_primary4040	507
9.101.5.28	FOLLOW_183_in_setAdditiveOp3332	507
9.101.5.29	FOLLOW_183_in_setAdditiveOp3345	507
9.101.5.29	FOLLOW_183_in_specUnaryOp4245	507
9.101.5.29	FOLLOW_183_in_specUnaryOp4263	507
9.101.5.29	FOLLOW_184_in_overrideExpression3385	508
9.101.5.29	FOLLOW_185_in_composeExpression3509	508
9.101.5.29	FOLLOW_186_in_specUnaryOp4265	508
9.101.5.29	FOLLOW_186_in_specUnaryOp4269	508
9.101.5.29	FOLLOW_186_in_synpred99_JFSL3605	508
9.101.5.29	FOLLOW_186_in_unaryExpressionNotPlusMinus3605	508
9.101.5.29	FOLLOW_187_in_common3864	508
9.101.5.30	FOLLOW_188_in_common3874	509
9.101.5.30	FOLLOW_189_in_common3884	509
9.101.5.30	FOLLOW_190_in_common3895	509
9.101.5.30	FOLLOW_191_in_common3905	509
9.101.5.30	FOLLOW_192_in_common3925	509
9.101.5.30	FOLLOW_193_in_setDeclOp4294	509
9.101.5.30	FOLLOW_194_in_setDeclOp4306	509

9.101.5.30 FOLLOW_195_in_setDeclOp4318 509

9.101.5.30 FOLLOW_196_in_setUnaryOp4347 510

9.101.5.30 FOLLOW_197_in_setUnaryOp4358 510

9.101.5.31 FOLLOW_198_in_setQuantOp4397 510

9.101.5.31 FOLLOW_199_in_setQuantOp4410 510

9.101.5.31 FOLLOW_additiveExpression_in_declaration1320 510

9.101.5.31 FOLLOW_additiveExpression_in_declaration1375 510

9.101.5.31 FOLLOW_additiveExpression_in_decls3715 510

9.101.5.31 FOLLOW_additiveExpression_in_decls3732 511

9.101.5.31 FOLLOW_additiveExpression_in_shiftExpression2932 511

9.101.5.31 FOLLOW_additiveExpression_in_shiftExpression2953 511

9.101.5.31 FOLLOW_additiveExpression_in_synpred26_JFSL1320 511

9.101.5.31 FOLLOW_additiveOp_in_additiveExpression3052 511

9.101.5.32 FOLLOW_andExpression_in_exclusiveOrExpression2458 511

9.101.5.32 FOLLOW_andExpression_in_exclusiveOrExpression2477 511

9.101.5.32 FOLLOW_arguments_in_primary4064 512

9.101.5.32 FOLLOW_arguments_in_selector4094 512

9.101.5.32 FOLLOW_bitAndOp_in_andExpression2531 512

9.101.5.32 FOLLOW_castExpression_in_synpred101_JFSL3645 512

9.101.5.32 FOLLOW_castExpression_in_unaryExpressionNotPlusMinus3645 512

9.101.5.32 FOLLOW_CharacterLiteral_in_literal1675 512

9.101.5.32 FOLLOW_common_in_primary3984 512

9.101.5.32 FOLLOW_common_in_selector4148 512

9.101.5.33 FOLLOW_common_in_selector4188 513

9.101.5.33 FOLLOW_common_in_storePrimary1547 513

9.101.5.33 FOLLOW_composeExpression_in_intersectionExpression3433 513

9.101.5.33 FOLLOW_composeExpression_in_intersectionExpression3454 513

9.101.5.33 FOLLOW_conditionalAndExpression_in_conditionalOrExpression2285 513

9.101.5.33 FOLLOW_conditionalAndExpression_in_conditionalOrExpression2304 513

9.101.5.33 FOLLOW_conditionalExpression_in_expression2075 513

9.101.5.33 FOLLOW_conditionalOrExpression_in_logicalExpression2187 514

9.101.5.33 FOLLOW_conditionalOrExpression_in_logicalExpression2202 514

9.101.5.33 FOLLOW_declaration_in_specField729 514

9.101.5.34 FOLLOW_declaration_in_typeBodyDeclaration1026 514

9.101.5.34 FOLLOW_declarationMult_in_declaration1318 514

9.101.5.34 FOLLOW_declarationMult_in_declaration1373 514

9.101.5.34	BOLLOW_declarationMult_in_decls3713	514
9.101.5.34	BOLLOW_declarationMult_in_synpred26_JFSL1318	515
9.101.5.34	BOLLOW_decls_in_common3953	515
9.101.5.34	BOLLOW_decls_in_quantifiedExpression2149	515
9.101.5.34	BOLLOW_decls_in_synpred63_JFSL2149	515
9.101.5.34	BOLLOW_EOF_in_clause722	515
9.101.5.34	BOLLOW_EOF_in_compilationUnit785	515
9.101.5.35	BOLLOW_EOF_in_modifies740	515
9.101.5.35	BOLLOW_EOF_in_specField731	516
9.101.5.35	BOLLOW_equalityExpression_in_andExpression2516	516
9.101.5.35	BOLLOW_equalityExpression_in_andExpression2535	516
9.101.5.35	BOLLOW_equalityOp_in_equalityExpression2611	516
9.101.5.35	BOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2402	516
9.101.5.35	BOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2421	516
9.101.5.35	BOLLOW_expression_in_clause720	516
9.101.5.35	BOLLOW_expression_in_common3909	517
9.101.5.35	BOLLOW_expression_in_common3957	517
9.101.5.36	BOLLOW_expression_in_conditionalExpression2107	517
9.101.5.36	BOLLOW_expression_in_conditionalExpression2111	517
9.101.5.36	BOLLOW_expression_in_declaration1329	517
9.101.5.36	BOLLOW_expression_in_declaration1380	517
9.101.5.36	BOLLOW_expression_in_expressionList2019	517
9.101.5.36	BOLLOW_expression_in_expressionList2025	518
9.101.5.36	BOLLOW_expression_in_parExpression1987	518
9.101.5.36	BOLLOW_expression_in_quantifiedExpression2153	518
9.101.5.36	BOLLOW_expression_in_selector4203	518
9.101.5.36	BOLLOW_expression_in_specCase1157	518
9.101.5.37	BOLLOW_expression_in_specCase1178	518
9.101.5.37	BOLLOW_expression_in_specCase1193	518
9.101.5.37	BOLLOW_expression_in_synpred26_JFSL1329	519
9.101.5.37	BOLLOW_expression_in_synpred62_JFSL2107	519
9.101.5.37	BOLLOW_expression_in_synpred62_JFSL2111	519
9.101.5.37	BOLLOW_expression_in_synpred63_JFSL2153	519
9.101.5.37	BOLLOW_expression_in_typeBodyDeclaration1006	519
9.101.5.37	BOLLOW_expressionList_in_arguments2048	519
9.101.5.37	BOLLOW_FloatingPointLiteral_in_literal1669	519

9.101.5.37	BOLLOW_frame_in_declaration1324	520
9.101.5.38	BOLLOW_frame_in_modifies738	520
9.101.5.38	BOLLOW_frame_in_specCase1214	520
9.101.5.38	BOLLOW_frame_in_synpred26_JFSL1324	520
9.101.5.38	BOLLOW_Identifier_in_declaration1314	520
9.101.5.38	BOLLOW_Identifier_in_declaration1369	520
9.101.5.38	BOLLOW_Identifier_in_decls3703	520
9.101.5.38	BOLLOW_Identifier_in_decls3722	521
9.101.5.38	BOLLOW_Identifier_in_methodParameters1106	521
9.101.5.38	BOLLOW_Identifier_in_methodParameters1113	521
9.101.5.38	BOLLOW_Identifier_in_packageName810	521
9.101.5.39	BOLLOW_Identifier_in_packageName815	521
9.101.5.39	BOLLOW_Identifier_in_primary4002	521
9.101.5.39	BOLLOW_Identifier_in_primary4007	521
9.101.5.39	BOLLOW_Identifier_in_primary4042	522
9.101.5.39	BOLLOW_Identifier_in_primary4062	522
9.101.5.39	BOLLOW_Identifier_in_relationalUnaryExpression3793	522
9.101.5.39	BOLLOW_Identifier_in_selector4092	522
9.101.5.39	BOLLOW_Identifier_in_selector4112	522
9.101.5.39	BOLLOW_Identifier_in_selector4166	522
9.101.5.39	BOLLOW_Identifier_in_storePrimary1532	522
9.101.5.40	BOLLOW_Identifier_in_synpred118_JFSL4007	522
9.101.5.40	BOLLOW_Identifier_in_synpred120_JFSL4002	523
9.101.5.40	BOLLOW_Identifier_in_synpred120_JFSL4007	523
9.101.5.40	BOLLOW_Identifier_in_synpred26_JFSL1314	523
9.101.5.40	BOLLOW_Identifier_in_typeBodyDeclaration1042	523
9.101.5.40	BOLLOW_Identifier_in_typeDeclaration881	523
9.101.5.40	BOLLOW_Identifier_in_typeName1832	523
9.101.5.40	BOLLOW_Identifier_in_typeName1837	523
9.101.5.40	BOLLOW_Identifier_in_typeParameters928	524
9.101.5.40	BOLLOW_Identifier_in_typeParameters933	524
9.101.5.41	BOLLOW_importDeclaration_in_compilationUnit770	524
9.101.5.41	BOLLOW_inclusiveOrExpression_in_conditionalAndExpression2341	524
9.101.5.41	BOLLOW_inclusiveOrExpression_in_conditionalAndExpression2360	524
9.101.5.41	BOLLOW_inOp_in_decls3706	524
9.101.5.41	BOLLOW_inOp_in_decls3725	524

9.101.5.41	FOLLOW_inOp_in_relationalOp2871	525
9.101.5.41	FOLLOW_instanceOfExpression_in_equalityExpression2594	525
9.101.5.41	FOLLOW_instanceOfExpression_in_equalityExpression2615	525
9.101.5.41	FOLLOW_integerLiteral_in_common3929	525
9.101.5.41	FOLLOW_integerLiteral_in_literal1663	525
9.101.5.42	FOLLOW_intersectionExpression_in_overrideExpression3370	525
9.101.5.42	FOLLOW_intersectionExpression_in_overrideExpression3389	525
9.101.5.42	FOLLOW_joinExpression_in_setUnaryExpression2898	526
9.101.5.42	FOLLOW_joinExpression_in_sizeExpression3132	526
9.101.5.42	FOLLOW_joinExpression_in_unaryExpressionNotPlusMinus3651	526
9.101.5.42	FOLLOW_keywordLiteral_in_literal1687	526
9.101.5.42	FOLLOW_literal_in_primary3990	526
9.101.5.42	FOLLOW_logicalExpression_in_quantifiedExpression2171	526
9.101.5.42	FOLLOW_logicalOp_in_logicalExpression2200	526
9.101.5.42	FOLLOW_methodParameters_in_typeBodyDeclaration1046	526
9.101.5.43	FOLLOW_multiplicativeExpression_in_sizeExpression3148	527
9.101.5.43	FOLLOW_multOp_in_multiplicativeExpression3183	527
9.101.5.43	FOLLOW_overrideExpression_in_setAdditiveExpression3266	527
9.101.5.43	FOLLOW_overrideExpression_in_setAdditiveExpression3290	527
9.101.5.43	FOLLOW_packageName_in_compilationUnit762	527
9.101.5.43	FOLLOW_packageName_in_importDeclaration845	527
9.101.5.43	FOLLOW_parExpression_in_common3858	527
9.101.5.43	FOLLOW_parExpression_in_relationalUnaryExpression3775	528
9.101.5.43	FOLLOW_primary_in_joinExpression3826	528
9.101.5.43	FOLLOW_primary_in_typeParameters2961	528
9.101.5.44	FOLLOW_primary_in_typeParameters2966	528
9.101.5.44	FOLLOW_primitiveType_in_castExpression3673	528
9.101.5.44	FOLLOW_primitiveType_in_selector4132	528
9.101.5.44	FOLLOW_primitiveType_in_typeDisambiguous1878	528
9.101.5.44	FOLLOW_quantifiedExpression_in_conditionalExpression2092	529
9.101.5.44	FOLLOW_relationalExpression_in_instanceOfExpression2698	529
9.101.5.44	FOLLOW_relationalOp_in_relationalExpression2773	529
9.101.5.44	FOLLOW_relationalUnaryExpression_in_common3945	529
9.101.5.44	FOLLOW_selector_in_joinExpression3828	529
9.101.5.44	FOLLOW_selector_in_storeSelectors1562	529
9.101.5.45	FOLLOW_selector_in_storeSelectors1572	529

9.101.5.45	FOLLOW_selector_in_synpred37_JFSL1562	530
9.101.5.45	FOLLOW_set_in_integerLiteral0	530
9.101.5.45	FOLLOW_set_in_synpred26_JFSL1305	530
9.101.5.45	FOLLOW_setAdditiveExpression_in_multiplicativeExpression3166	530
9.101.5.45	FOLLOW_setAdditiveExpression_in_multiplicativeExpression3187	530
9.101.5.45	FOLLOW_setAdditiveOp_in_setAdditiveExpression3286	530
9.101.5.45	FOLLOW_setDeclOp_in_declarationMult1420	530
9.101.5.45	FOLLOW_setDeclOp_in_setUnaryOp4341	531
9.101.5.45	FOLLOW_setQuantOp_in_quantifiedExpression2147	531
9.101.5.46	FOLLOW_setQuantOp_in_synpred63_JFSL2147	531
9.101.5.46	FOLLOW_setUnaryExpression_in_relationalExpression2756	531
9.101.5.46	FOLLOW_setUnaryExpression_in_relationalExpression2777	531
9.101.5.46	FOLLOW_setUnaryOp_in_setQuantOp4380	531
9.101.5.46	FOLLOW_setUnaryOp_in_setUnaryExpression2896	531
9.101.5.46	FOLLOW_shiftExpression_in_setUnaryExpression2914	532
9.101.5.46	FOLLOW_shiftOp_in_shiftExpression2949	532
9.101.5.46	FOLLOW_sizeExpression_in_additiveExpression3034	532
9.101.5.46	FOLLOW_sizeExpression_in_additiveExpression3056	532
9.101.5.46	FOLLOW_specCase_in_synpred13_JFSL1057	532
9.101.5.47	FOLLOW_specCase_in_typeBodyDeclaration1052	532
9.101.5.47	FOLLOW_specCase_in_typeBodyDeclaration1057	532
9.101.5.47	FOLLOW_specUnaryOp_in_relationalUnaryExpression3773	533
9.101.5.47	FOLLOW_specUnaryOp_in_relationalUnaryExpression3791	533
9.101.5.47	FOLLOW_storePrimary_in_storeRef1497	533
9.101.5.47	FOLLOW_storeRef_in_frame1467	533
9.101.5.47	FOLLOW_storeRef_in_frame1472	533
9.101.5.47	FOLLOW_storeSelectors_in_storeRef1499	533
9.101.5.47	FOLLOW_storeWildCard_in_storeSelectors1565	533
9.101.5.47	FOLLOW_storeWildCard_in_synpred37_JFSL1565	534
9.101.5.48	FOLLOW_StringLiteral_in_literal1681	534
9.101.5.48	FOLLOW_type_in_instanceOfExpression2717	534
9.101.5.48	FOLLOW_type_in_methodParameters1104	534
9.101.5.48	FOLLOW_type_in_methodParameters1111	534
9.101.5.48	FOLLOW_typeBodyDeclaration_in_typeDeclaration892	534
9.101.5.48	FOLLOW_typeDeclaration_in_compilationUnit776	534
9.101.5.48	FOLLOW_typeDeclaration_in_typeBodyDeclaration995	535

9.101.5.487 FOLLOW_typeDisambiguous_in_primary3996	535
9.101.5.488 FOLLOW_typeDisambiguous_in_synpred117_JFSL3996	535
9.101.5.489 FOLLOW_typeDisambiguous_in_type1944	535
9.101.5.490 FOLLOW_typeName_in_primary4038	535
9.101.5.491 FOLLOW_typeName_in_type1950	535
9.101.5.492 FOLLOW_typeName_in_typeDisambiguous1908	535
9.101.5.493 FOLLOW_typeParameters2_in_primary4011	535
9.101.5.494 FOLLOW_typeParameters2_in_synpred119_JFSL4011	536
9.101.5.495 FOLLOW_typeParameters2_in_synpred120_JFSL4011	536
9.101.5.496 FOLLOW_typeParameters_in_typeDeclaration883	536
9.101.5.497 FOLLOW_typeParameters_in_typeName1841	536
9.101.5.498 FOLLOW_unaryExpression_in_castExpression3677	536
9.101.5.499 FOLLOW_unaryExpression_in_composeExpression3494	536
9.101.5.500 FOLLOW_unaryExpression_in_composeExpression3513	536
9.101.5.501 FOLLOW_unaryExpression_in_synpred99_JFSL3607	537
9.101.5.502 FOLLOW_unaryExpression_in_unaryExpression3558	537
9.101.5.503 FOLLOW_unaryExpression_in_unaryExpression3576	537
9.101.5.504 FOLLOW_unaryExpression_in_unaryExpressionNotPlusMinus3607	537
9.101.5.505 FOLLOW_unaryExpression_in_unaryExpressionNotPlusMinus3625	537
9.101.5.506 FOLLOW_unaryExpressionNotPlusMinus_in_unaryExpression3592	537
9.101.5.507 FRAME	537
9.101.5.508 FRAME_ALL	537
9.101.5.509 FRAME_LOCATION	538
9.101.5.510 HELPER	538
9.101.5.511 HexDigit	538
9.101.5.512 HexLiteral	538
9.101.5.513 IDENTIFIER	538
9.101.5.514 Identifier	538
9.101.5.515 IMPORT	538
9.101.5.516 IntegerTypeSuffix	538
9.101.5.517 INVARIANT	538
9.101.5.518 InvalidDigit	538
9.101.5.519 JOIN	538
9.101.5.520 JOIN_REFLEXIVE	539
9.101.5.521 Letter	539
9.101.5.522 NOT_FALSE	539

9.101.5.52	BIT_NULL	539
9.101.5.52	BIT_TRUE	539
9.101.5.52	METHOD	539
9.101.5.52	METHOD_PARAMETERS	539
9.101.5.52	MODIFIES	539
9.101.5.52	NULL	539
9.101.5.52	OctalEscape	539
9.101.5.53	OctalLiteral	539
9.101.5.53	OLD	540
9.101.5.53	OP_AND	540
9.101.5.53	OP_BIT_AND_OR_INTERSECTION	540
9.101.5.53	OP_BIT_NOT_OR_TRANSPOSE	540
9.101.5.53	OP_BIT_OR	540
9.101.5.53	OP_BIT_XOR	540
9.101.5.53	OP_CLOSURE	540
9.101.5.53	OP_DIFFERENCE	540
9.101.5.53	OP_DIVIDE	540
9.101.5.54	OP_EQ	540
9.101.5.54	OP_EQUIV	541
9.101.5.54	OP_GEQ	541
9.101.5.54	OP_GT	541
9.101.5.54	OP_IMPLIES	541
9.101.5.54	OP_INSTANCEOF	541
9.101.5.54	OP_INTERSECTION	541
9.101.5.54	OP_LEQ	541
9.101.5.54	OP_LT	541
9.101.5.54	OP_MINUS	541
9.101.5.55	OP_MINUS_OR_DIFFERENCE	541
9.101.5.55	OP_MOD	541
9.101.5.55	OP_NEQ	542
9.101.5.55	OP_NEQUIV	542
9.101.5.55	OP_NOT	542
9.101.5.55	OP_NSET_SUBSET	542
9.101.5.55	OP_OR	542
9.101.5.55	OP_PLUS	542
9.101.5.55	OP_PLUS_OR_UNION	542

9.101.5.55	OP_RELATIONAL_COMPOSE	542
9.101.5.56	OP_RELATIONAL_OVERRIDE	542
9.101.5.56	OP_SET_ALL	542
9.101.5.56	OP_SET_COMPREHENSION	543
9.101.5.56	OP_SET_EXISTS	543
9.101.5.56	OP_SET_LONE	543
9.101.5.56	OP_SET_NO	543
9.101.5.56	OP_SET_NUM	543
9.101.5.56	OP_SET_ONE	543
9.101.5.56	OP_SET_SOME	543
9.101.5.56	OP_SET_SUBSET	543
9.101.5.57	OP_SET_SUM	543
9.101.5.57	OP_SHL	543
9.101.5.57	OP_SHR	544
9.101.5.57	OP_TIMES	544
9.101.5.57	OP_TRANSPOSE	544
9.101.5.57	OP_UNION	544
9.101.5.57	OP_USHR	544
9.101.5.57	PACKAGE	544
9.101.5.57	BURE	544
9.101.5.57	QUANTIFY	544
9.101.5.58	REQUIRES	544
9.101.5.58	RETURN_VAR	544
9.101.5.58	SPECCASE	544
9.101.5.58	SPECFIELD	545
9.101.5.58	SPECIFICATION	545
9.101.5.58	StringLiteral	545
9.101.5.58	SUPER_VAR	545
9.101.5.58	T_127	545
9.101.5.58	B_128	545
9.101.5.58	D_129	545
9.101.5.59	T_130	545
9.101.5.59	T_131	545
9.101.5.59	E_132	545
9.101.5.59	B_133	545
9.101.5.59	F_134	546

9.101.5.59 <u>F</u> _135	546
9.101.5.59 <u>G</u> _136	546
9.101.5.59 <u>H</u> _137	546
9.101.5.59 <u>I</u> _138	546
9.101.5.59 <u>J</u> _139	546
9.101.5.60 <u>K</u> _140	546
9.101.5.60 <u>L</u> _141	546
9.101.5.60 <u>M</u> _142	546
9.101.5.60 <u>N</u> _143	546
9.101.5.60 <u>O</u> _144	546
9.101.5.60 <u>P</u> _145	547
9.101.5.60 <u>Q</u> _146	547
9.101.5.60 <u>R</u> _147	547
9.101.5.60 <u>S</u> _148	547
9.101.5.60 <u>T</u> _149	547
9.101.5.61 <u>U</u> _150	547
9.101.5.61 <u>V</u> _151	547
9.101.5.61 <u>W</u> _152	547
9.101.5.61 <u>X</u> _153	547
9.101.5.61 <u>Y</u> _154	547
9.101.5.61 <u>Z</u> _155	547
9.101.5.61 <u>A</u> _156	548
9.101.5.61 <u>B</u> _157	548
9.101.5.61 <u>C</u> _158	548
9.101.5.61 <u>D</u> _159	548
9.101.5.62 <u>E</u> _160	548
9.101.5.62 <u>F</u> _161	548
9.101.5.62 <u>G</u> _162	548
9.101.5.62 <u>H</u> _163	548
9.101.5.62 <u>I</u> _164	548
9.101.5.62 <u>J</u> _165	548
9.101.5.62 <u>K</u> _166	548
9.101.5.62 <u>L</u> _167	549
9.101.5.62 <u>M</u> _168	549
9.101.5.62 <u>N</u> _169	549
9.101.5.63 <u>O</u> _170	549

9.101.5.63T__171	549
9.101.5.63U__172	549
9.101.5.63V__173	549
9.101.5.63W__174	549
9.101.5.63X__175	549
9.101.5.63Y__176	549
9.101.5.63Z__177	549
9.101.5.64A__178	550
9.101.5.64B__179	550
9.101.5.64C__180	550
9.101.5.64D__181	550
9.101.5.64E__182	550
9.101.5.64F__183	550
9.101.5.64G__184	550
9.101.5.64H__185	550
9.101.5.64I__186	550
9.101.5.64J__187	550
9.101.5.64K__188	550
9.101.5.64L__189	551
9.101.5.65M__190	551
9.101.5.65N__191	551
9.101.5.65O__192	551
9.101.5.65P__193	551
9.101.5.65Q__194	551
9.101.5.65R__195	551
9.101.5.65S__196	551
9.101.5.65T__197	551
9.101.5.65U__198	551
9.101.5.65V__199	551
9.101.5.66THIS_VAR	552
9.101.5.66THROW_VAR	552
9.101.5.66THROWS	552
9.101.5.66TokenNames	552
9.101.5.66TYPE_ARRAY	552
9.101.5.66TYPE_BOOLEAN	553
9.101.5.66TYPE_BYTE	553

9.101.5.66	<code>TYPE_CHAR</code>	553
9.101.5.66	<code>TYPE_DECLARATION</code>	553
9.101.5.66	<code>TYPE_DOUBLE</code>	553
9.101.5.67	<code>TYPE_FLOAT</code>	553
9.101.5.67	<code>TYPE_INT</code>	553
9.101.5.67	<code>TYPE_LONG</code>	553
9.101.5.67	<code>TYPE_PARAMETERS</code>	553
9.101.5.67	<code>TYPE_REF</code>	553
9.101.5.67	<code>TYPE_SHORT</code>	554
9.101.5.67	<code>UNARY</code>	554
9.101.5.67	<code>UnicodeEscape</code>	554
9.101.5.67	<code>VOID</code>	554
9.101.5.67	<code>WS</code>	554
9.102	<code>edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38</code> Class Reference	555
9.102.1	Detailed Description	555
9.102.2	Constructor & Destructor Documentation	555
9.102.2.1	DFA38	555
9.102.3	Member Function Documentation	555
9.102.3.1	<code>getDescription</code>	555
9.103	<code>edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42</code> Class Reference	556
9.103.1	Detailed Description	556
9.103.2	Constructor & Destructor Documentation	556
9.103.2.1	DFA42	556
9.103.3	Member Function Documentation	556
9.103.3.1	<code>getDescription</code>	556
9.103.3.2	<code>specialStateTransition</code>	556
9.104	<code>edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69</code> Class Reference	557
9.104.1	Detailed Description	557
9.104.2	Constructor & Destructor Documentation	557
9.104.2.1	DFA69	557
9.104.3	Member Function Documentation	557
9.104.3.1	<code>getDescription</code>	557
9.104.3.2	<code>specialStateTransition</code>	557
9.105	<code>edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77</code> Class Reference	558
9.105.1	Detailed Description	558
9.105.2	Constructor & Destructor Documentation	558

9.105.2.1 DFA77	558
9.105.3 Member Function Documentation	558
9.105.3.1 getDescription	558
9.105.3.2 specialStateTransition	558
9.106edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78 Class Reference	559
9.106.1 Detailed Description	559
9.106.2 Constructor & Destructor Documentation	559
9.106.2.1 DFA78	559
9.106.3 Member Function Documentation	559
9.106.3.1 getDescription	559
9.106.3.2 specialStateTransition	559
9.107edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79 Class Reference	560
9.107.1 Detailed Description	560
9.107.2 Constructor & Destructor Documentation	560
9.107.2.1 DFA79	560
9.107.3 Member Function Documentation	560
9.107.3.1 getDescription	560
9.108edu.mit.csail.sdg.squander.parser.JFSLParserException Class Reference	561
9.108.1 Detailed Description	562
9.108.2 Constructor & Destructor Documentation	562
9.108.2.1 JFSLParserException	562
9.108.2.2 JFSLParserException	562
9.108.2.3 JFSLParserException	562
9.108.2.4 JFSLParserException	562
9.108.2.5 JFSLParserException	562
9.108.2.6 JFSLParserException	562
9.108.2.7 JFSLParserException	562
9.108.3 Member Function Documentation	563
9.108.3.1 column	563
9.108.3.2 layout	563
9.108.3.3 line	563
9.108.3.4 setSource	563
9.108.3.5 setToken	563
9.108.3.6 source	563
9.108.3.7 token	563
9.108.4 Member Data Documentation	563

9.108.4.1 column	563
9.108.4.2 line	564
9.108.4.3 source	564
9.108.4.4 token	564
9.109edu.mit.csail.sdg.squander.regressions.Tests Class Reference	565
9.109.1 Detailed Description	565
9.109.2 Member Function Documentation	565
9.109.2.1 make	565
9.109.2.2 testMake	565
9.110edu.mit.csail.sdg.squander.serializer.AbstractHeap Class Reference	566
9.110.1 Detailed Description	566
9.110.2 Member Function Documentation	566
9.110.2.1 getHeapObjects	566
9.110.2.2 serialize	567
9.110.2.3 serialize	567
9.111edu.mit.csail.sdg.squander.serializer.AbstractHeapListener Class Reference	568
9.111.1 Detailed Description	568
9.111.2 Member Function Documentation	568
9.111.2.1 newObject	568
9.111.2.2 visitArrayIntField	568
9.111.2.3 visitArrayLength	569
9.111.2.4 visitArrayRefField	569
9.111.2.5 visitBooleanField	569
9.111.2.6 visitIntField	569
9.111.2.7 visitPrimitive	569
9.111.2.8 visitRefField	569
9.112edu.mit.csail.sdg.squander.serializer.ConsoleHeap Class Reference	570
9.112.1 Detailed Description	570
9.112.2 Member Function Documentation	570
9.112.2.1 newObject	570
9.112.2.2 visitArrayIntField	571
9.112.2.3 visitArrayLength	571
9.112.2.4 visitArrayRefField	571
9.112.2.5 visitBooleanField	571
9.112.2.6 visitIntField	571
9.112.2.7 visitPrimitive	571

9.112.2.8 visitRefField	571
9.113 edu.mit.csail.sdg.squander.serializer.HeapListener Interface Reference	572
9.113.1 Detailed Description	572
9.113.2 Member Function Documentation	572
9.113.2.1 newObject	572
9.113.2.2 visitArrayIntField	572
9.113.2.3 visitArrayLength	573
9.113.2.4 visitArrayRefField	573
9.113.2.5 visitBooleanField	573
9.113.2.6 visitIntField	573
9.113.2.7 visitPrimitive	573
9.113.2.8 visitRefField	573
9.114 edu.mit.csail.sdg.squander.serializer.IHeap Interface Reference	574
9.114.1 Detailed Description	574
9.114.2 Member Function Documentation	574
9.114.2.1 serialize	574
9.115 edu.mit.csail.sdg.squander.serializer.Serializer Class Reference	575
9.115.1 Detailed Description	575
9.115.2 Member Enumeration Documentation	576
9.115.2.1 Phase	576
9.115.3 Member Function Documentation	576
9.115.3.1 dispose	576
9.115.3.2 mutate	576
9.115.3.3 serialize	576
9.115.3.4 serializeArray	576
9.115.3.5 serializeClass	577
9.115.3.6 serializedObjects	577
9.115.3.7 traverseIntArray	577
9.115.3.8 traverseObjArray	578
9.115.4 Member Data Documentation	578
9.115.4.1 phase	578
9.115.4.2 serializedObjects	578
9.116 edu.mit.csail.sdg.squander.serializer.special.ArraySer Class Reference	579
9.116.1 Detailed Description	579
9.116.2 Member Function Documentation	579
9.116.2.1 absFunc	579

9.116.2.2	accepts	580
9.116.2.3	concrFunc	580
9.116.2.4	newInstance	580
9.116.2.5	restoreElems	580
9.116.2.6	restoreLength	580
9.116.3	Member Data Documentation	581
9.116.3.1	ELEMS	581
9.116.3.2	LENGTH	581
9.117	edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer Class Reference	582
9.117.1	Detailed Description	582
9.117.2	Member Function Documentation	582
9.117.2.1	absFunc	582
9.117.2.2	accepts	583
9.117.2.3	concrFunc	583
9.117.2.4	newInstance	583
9.117.3	Member Data Documentation	583
9.117.3.1	abstractState	583
9.118	edu.mit.csail.sdg.squander.serializer.special.IObjSer Interface Reference	584
9.118.1	Detailed Description	584
9.118.2	Member Function Documentation	584
9.118.2.1	absFunc	584
9.118.2.2	accepts	584
9.118.2.3	concrFunc	584
9.118.2.4	newInstance	585
9.119	edu.mit.csail.sdg.squander.serializer.special.ListSer Class Reference	586
9.119.1	Detailed Description	586
9.119.2	Member Function Documentation	586
9.119.2.1	absFunc	586
9.119.2.2	accepts	587
9.119.2.3	concrFunc	587
9.119.2.4	newInstance	587
9.119.2.5	restoreElems	587
9.119.3	Member Data Documentation	587
9.119.3.1	DATA	587
9.120	edu.mit.csail.sdg.squander.serializer.special.MapSer Class Reference	588
9.120.1	Detailed Description	588

9.120.2 Member Function Documentation	588
9.120.2.1 absFunc	588
9.120.2.2 accepts	589
9.120.2.3 concrFunc	589
9.120.2.4 newInstance	589
9.120.2.5 restoreElems	589
9.120.3 Member Data Documentation	589
9.120.3.1 DATA	589
9.120.3.2 LENGTH	590
9.121 edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory Class Reference	591
9.121.1 Detailed Description	591
9.121.2 Constructor & Destructor Documentation	592
9.121.2.1 ObjSerFactory	592
9.121.3 Member Function Documentation	592
9.121.3.1 getSerForCls	592
9.121.3.2 getSerForObj	592
9.121.4 Member Data Documentation	592
9.121.4.1 cache	592
9.121.4.2 factory	592
9.121.4.3 serializers	592
9.122 edu.mit.csail.sdg.squander.serializer.special.SetSer Class Reference	594
9.122.1 Detailed Description	594
9.122.2 Member Function Documentation	594
9.122.2.1 absFunc	594
9.122.2.2 accepts	595
9.122.2.3 concrFunc	595
9.122.2.4 newInstance	595
9.122.2.5 restoreElems	595
9.122.2.6 restoreLength	595
9.122.3 Member Data Documentation	596
9.122.3.1 DATA	596
9.122.3.2 LENGTH	596
9.123 edu.mit.csail.sdg.squander.serializer.special.StringSer Class Reference	597
9.123.1 Detailed Description	597
9.123.2 Member Function Documentation	597
9.123.2.1 absFunc	597

9.123.2.2	accepts	597
9.123.2.3	concrFunc	598
9.123.2.4	newInstance	598
9.124	edu.mit.csail.sdg.squander.spec.ArityMismatchException Class Reference	599
9.124.1	Detailed Description	599
9.124.2	Constructor & Destructor Documentation	599
9.124.2.1	ArityMismatchException	599
9.124.2.2	ArityMismatchException	600
9.124.3	Member Data Documentation	600
9.124.3.1	serialVersionUID	600
9.125	edu.mit.csail.sdg.squander.spec.ClassSpec Class Reference	601
9.125.1	Detailed Description	602
9.125.2	Constructor & Destructor Documentation	602
9.125.2.1	ClassSpec	602
9.125.2.2	ClassSpec	602
9.125.3	Member Function Documentation	602
9.125.3.1	addInvariant	602
9.125.3.2	addSpecField	602
9.125.3.3	addSpecFieldSource	602
9.125.3.4	addSuper	603
9.125.3.5	addUsedField	603
9.125.3.6	clz	603
9.125.3.7	ensureField	603
9.125.3.8	ensureField	603
9.125.3.9	extractSpecFieldName	603
9.125.3.10	findField	603
9.125.3.11	hasSpecField	604
9.125.3.12	invariants	604
9.125.3.13	isEmpty	604
9.125.3.14	type	604
9.125.3.15	setSubs	604
9.125.3.16	specFields	604
9.125.3.17	subs	604
9.125.3.18	toString	604
9.125.3.19	translateSpecs	604
9.125.3.20	typecheck	605

9.125.3.2	ltypeParams	605
9.125.3.22	usedFields	605
9.125.3.23	usedFieldsAll	605
9.125.4	Member Data Documentation	605
9.125.4.1	invariants	605
9.125.4.2	invariantSources	605
9.125.4.3	javaScene	605
9.125.4.4	jtype	605
9.125.4.5	specFieldSources	606
9.125.4.6	subs	606
9.125.4.7	supers	606
9.125.4.8	usedFields	606
9.126	edu.mit.csail.sdg.squander.spec.CompositeSpecProvider Class Reference	607
9.126.1	Detailed Description	607
9.126.2	Constructor & Destructor Documentation	607
9.126.2.1	CompositeSpecProvider	607
9.126.3	Member Function Documentation	607
9.126.3.1	extractClassSpec	607
9.126.3.2	extractFieldSpec	608
9.126.3.3	extractMethodSpec	608
9.126.4	Member Data Documentation	608
9.126.4.1	providers	608
9.127	edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound Class Reference	609
9.127.1	Detailed Description	609
9.127.2	Constructor & Destructor Documentation	610
9.127.2.1	ConstRel2Bound	610
9.127.3	Member Function Documentation	610
9.127.3.1	allInts	610
9.127.3.2	visitDec	610
9.127.3.3	visitIdent	610
9.127.3.4	visitInc	610
9.127.3.5	visitNone	610
9.127.3.6	visitUniv	610
9.127.4	Member Data Documentation	611
9.127.4.1	fconv	611
9.127.4.2	ints	611

9.128	edu.mit.csail.sdg.squander.spec.constant.ConstRels Class Reference	612
9.128.1	Detailed Description	612
9.128.2	Member Function Documentation	612
9.128.2.1	[static initializer]	612
9.128.2.2	findRel	612
9.128.3	Member Data Documentation	613
9.128.3.1	enums	613
9.129	edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E > Interface Reference	614
9.129.1	Detailed Description	614
9.129.2	Member Function Documentation	614
9.129.2.1	visitDec	614
9.129.2.2	visitIdent	614
9.129.2.3	visitInc	614
9.129.2.4	visitNone	614
9.129.2.5	visitUniv	614
9.130	edu.mit.csail.sdg.squander.spec.ForgeEnv Interface Reference	615
9.130.1	Detailed Description	615
9.130.2	Member Enumeration Documentation	616
9.130.2.1	State	616
9.130.3	Member Function Documentation	616
9.130.3.1	addLocal	616
9.130.3.2	arg	616
9.130.3.3	arrayElems	616
9.130.3.4	arrayLength	616
9.130.3.5	booleanType	616
9.130.3.6	classForDomain	616
9.130.3.7	emptyDecls	616
9.130.3.8	ensureAllInts	617
9.130.3.9	ensureConst	617
9.130.3.10	ensureDomain	617
9.130.3.11	ensureGlobal	617
9.130.3.12	ensureInt	617
9.130.3.13	ensureNum	617
9.130.3.14	falseExpr	617
9.130.3.15	findLocal	617
9.130.3.16	globalVar	618

9.130.3.17integerType	618
9.130.3.18intExpr	618
9.130.3.19newLocalVar	618
9.130.3.20nullType	618
9.130.3.21returnVar	618
9.130.3.22setPreStateMode	618
9.130.3.23stringExpr	618
9.130.3.24stringType	619
9.130.3.25thisVar	619
9.130.3.26throwVar	619
9.130.3.27trueExpr	619
9.130.3.28typeForCls	619
9.131 edu.mit.csail.sdg.squander.spec.ForgeScene Class Reference	620
9.131.1 Detailed Description	622
9.131.2 Constructor & Destructor Documentation	622
9.131.2.1 ForgeScene	622
9.131.3 Member Function Documentation	622
9.131.3.1 addUsedType	622
9.131.3.2 args	622
9.131.3.3 consts	622
9.131.3.4 convertToForgeType	622
9.131.3.5 createGlobalVar	623
9.131.3.6 createLiteral	623
9.131.3.7 createLocalsForMethod	623
9.131.3.8 domains	623
9.131.3.9 ensureAllInts	623
9.131.3.10ensureConst	624
9.131.3.11ensureDomain	624
9.131.3.12ensureGlobal	624
9.131.3.13ensureInt	624
9.131.3.14fields	624
9.131.3.15findClassForDomain	624
9.131.3.16findDomain	625
9.131.3.17findVar	625
9.131.3.18forgeLitForObj	625
9.131.3.19getEnv	625

9.131.3.20	getRangeForField	625
9.131.3.21	global	625
9.131.3.22	global	626
9.131.3.23	instLitForObj	626
9.131.3.24	ints	626
9.131.3.25	isConst	626
9.131.3.26	isEnsureAllInts	626
9.131.3.27	isOneField	627
9.131.3.28	isPureAbstractSpecField	627
9.131.3.29	isSpecField	627
9.131.3.30	litForName	627
9.131.3.31	newThisVariable	627
9.131.3.32	nonAbstractSpecFields	627
9.131.3.33	nullLit	628
9.131.3.34	nullType	628
9.131.3.35	numLiteralsFor	628
9.131.3.36	numTypes	628
9.131.3.37	objForLit	628
9.131.3.38	program	628
9.131.3.39	returnVar	629
9.131.3.40	thisVar	629
9.131.3.41	throwVar	629
9.131.3.42	typeForCls	629
9.131.3.43	usedTypes	629
9.131.4	Member Data Documentation	629
9.131.4.1	args	629
9.131.4.2	cls2dom	630
9.131.4.3	consts	630
9.131.4.4	counter	630
9.131.4.5	ensureAllInts	630
9.131.4.6	globals	630
9.131.4.7	ints	630
9.131.4.8	javaScene	631
9.131.4.9	lit2obj	631
9.131.4.10	litCnt	631
9.131.4.11	locals	631

9.131.4.12	nullLit	631
9.131.4.13	nullType	631
9.131.4.14	numTypes	632
9.131.4.15	obj2lit	632
9.131.4.16	program	632
9.131.4.17	returnVar	632
9.131.4.18	str2lit	633
9.131.4.19	thisVar	633
9.131.4.20	throwVar	633
9.131.4.21	usedTypes	633
9.131.4.22	var2fld	633
9.132	edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv Class Reference	634
9.132.1	Detailed Description	635
9.132.2	Constructor & Destructor Documentation	635
9.132.2.1	MyEnv	635
9.132.2.2	MyEnv	635
9.132.3	Member Function Documentation	635
9.132.3.1	addLocal	635
9.132.3.2	arg	635
9.132.3.3	arrayElems	636
9.132.3.4	arrayLength	636
9.132.3.5	booleanType	636
9.132.3.6	classForDomain	636
9.132.3.7	emptyDecls	636
9.132.3.8	ensureAllInts	636
9.132.3.9	ensureConst	637
9.132.3.10	ensureDomain	637
9.132.3.11	ensureGlobal	637
9.132.3.12	ensureInt	637
9.132.3.13	ensureNum	637
9.132.3.14	falseExpr	637
9.132.3.15	findLocal	637
9.132.3.16	getThrowVar	638
9.132.3.17	globalVar	638
9.132.3.18	integerType	638
9.132.3.19	intExpr	638

9.132.3.20newLocalVar	638
9.132.3.21nullType	638
9.132.3.22returnVar	639
9.132.3.23setPreStateMode	639
9.132.3.24stringExpr	639
9.132.3.25stringType	639
9.132.3.26thisVar	639
9.132.3.27throwVar	639
9.132.3.28trueExpr	639
9.132.3.29typeForCls	640
9.132.4 Member Data Documentation	640
9.132.4.1 locals	640
9.132.4.2 myThisVar	640
9.132.4.3 state	640
9.133edu.mit.csail.sdg.squander.spec.Frame Class Reference	641
9.133.1 Detailed Description	642
9.133.2 Constructor & Destructor Documentation	642
9.133.2.1 Frame	642
9.133.3 Member Function Documentation	642
9.133.3.1 add	642
9.133.3.2 condition	642
9.133.3.3 instSelector	643
9.133.3.4 locations	643
9.133.3.5 lowerBound	643
9.133.3.6 lowerCond	643
9.133.3.7 modCond	643
9.133.3.8 modCond	643
9.133.3.9 modCond	643
9.133.3.10modifiable	643
9.133.3.11toString	644
9.133.3.12upperBound	644
9.133.3.13upperCond	644
9.133.4 Member Data Documentation	644
9.133.4.1 forgeScene	644
9.133.4.2 locations	644
9.133.4.3 lowerBounds	644

9.133.4.4	mods	645
9.133.4.5	selectors	645
9.133.4.6	upperBounds	645
9.134	edu.mit.csail.sdg.squander.spec.FrameInference Class Reference	646
9.134.1	Detailed Description	646
9.134.2	Member Function Documentation	646
9.134.2.1	globals	646
9.134.2.2	visit	647
9.134.2.3	visit	647
9.134.2.4	visit	647
9.134.2.5	visit	647
9.134.2.6	visit	647
9.134.2.7	visit	647
9.134.2.8	visit	647
9.134.2.9	visit	647
9.134.2.10	visit	647
9.134.3	Member Data Documentation	648
9.134.3.1	globals	648
9.135	edu.mit.csail.sdg.squander.spec.IncompatibleTypesException Class Reference	649
9.135.1	Detailed Description	649
9.135.2	Constructor & Destructor Documentation	649
9.135.2.1	IncompatibleTypesException	649
9.135.3	Member Function Documentation	649
9.135.3.1	getExpr	649
9.135.3.2	getPos	650
9.135.3.3	getT1	650
9.135.3.4	getT2	650
9.135.4	Member Data Documentation	650
9.135.4.1	expr	650
9.135.4.2	pos	650
9.135.4.3	serialVersionUID	650
9.135.4.4	t1	650
9.135.4.5	t2	650
9.136	edu.mit.csail.sdg.squander.spec.ISpecProvider Interface Reference	652
9.136.1	Detailed Description	652
9.136.2	Member Function Documentation	652

9.136.2.1	extractClassSpec	652
9.136.2.2	extractFieldSpec	652
9.136.2.3	extractMethodSpec	652
9.137	edu.mit.csail.sdg.squander.spec.JavaScene Class Reference	653
9.137.1	Detailed Description	654
9.137.2	Member Function Documentation	654
9.137.2.1	addObj2spec	654
9.137.2.2	caller	654
9.137.2.3	classes	654
9.137.2.4	classSpec	654
9.137.2.5	classSpecForObj	654
9.137.2.6	classSpecs	654
9.137.2.7	createClassSpec	654
9.137.2.8	ensureClass	655
9.137.2.9	ensureClass	655
9.137.2.10	findSpec	655
9.137.2.11	finish	655
9.137.2.12	isFinished	655
9.137.2.13	jtypeForObj	655
9.137.2.14	jtypes	655
9.137.2.15	method	655
9.137.2.16	methodArgs	656
9.137.2.17	methodSpec	656
9.137.2.18	setArgs	656
9.137.2.19	setCaller	656
9.137.2.20	setMethod	656
9.137.2.21	specFields	656
9.137.2.22	subTypes	656
9.137.2.23	subTypes	656
9.137.2.24	subTypes	657
9.137.2.25	translateSpecs	657
9.137.3	Member Data Documentation	657
9.137.3.1	caller	657
9.137.3.2	classes	657
9.137.3.3	finished	657
9.137.3.4	method	657

9.137.3.5	methodArgs	657
9.137.3.6	obj2spec	657
9.138	edu.mit.csail.sdg.squander.spec.JField Class Reference	659
9.138.1	Detailed Description	660
9.138.2	Constructor & Destructor Documentation	660
9.138.2.1	JField	660
9.138.3	Member Function Documentation	661
9.138.3.1	convertToJType	661
9.138.3.2	declaringType	661
9.138.3.3	equals	661
9.138.3.4	fullName	661
9.138.3.5	getAbsFun	661
9.138.3.6	getBound	661
9.138.3.7	getDomain	661
9.138.3.8	getFrame	662
9.138.3.9	getJavaField	662
9.138.3.10	getTypeParams	662
9.138.3.11	getTypeParams	662
9.138.3.12	hashCode	662
9.138.3.13	isFunc	662
9.138.3.14	isPureAbstract	662
9.138.3.15	isSpec	663
9.138.3.16	isStatic	663
9.138.3.17	name	663
9.138.3.18	newJavaField	663
9.138.3.19	newSpecField	663
9.138.3.20	newSpecField	663
9.138.3.21	owningType	664
9.138.3.22	setAbsFun	664
9.138.3.23	setBound	664
9.138.3.24	setDomain	664
9.138.3.25	setFrame	664
9.138.3.26	setFuncFlag	664
9.138.3.27	toString	664
9.138.3.28	type	664
9.138.4	Member Data Documentation	665

9.138.4.1	absFun	665
9.138.4.2	bound	665
9.138.4.3	cache	665
9.138.4.4	declaringType	665
9.138.4.5	domain	665
9.138.4.6	factory	665
9.138.4.7	frame	665
9.138.4.8	funcFlag	666
9.138.4.9	javaField	666
9.138.4.10	name	666
9.138.4.11	lowningType	666
9.138.4.12	type	666
9.139	edu.mit.csail.sdg.squander.spec.JMethod Class Reference	667
9.139.1	Detailed Description	667
9.139.2	Constructor & Destructor Documentation	668
9.139.2.1	JMethod	668
9.139.2.2	JMethod	668
9.139.3	Member Function Documentation	668
9.139.3.1	convertMap	668
9.139.3.2	declaringClass	668
9.139.3.3	forJavaMethod	668
9.139.3.4	isStatic	668
9.139.3.5	name	669
9.139.3.6	params	669
9.139.3.7	paramTypes	669
9.139.3.8	returnType	669
9.139.3.9	setSpec	669
9.139.3.10	spec	669
9.139.4	Member Data Documentation	669
9.139.4.1	declaringClass	669
9.139.4.2	isStatic	670
9.139.4.3	methodName	670
9.139.4.4	params	670
9.139.4.5	returnType	670
9.139.4.6	spec	670
9.140	edu.mit.csail.sdg.squander.spec.JType Interface Reference	671

9.140.1 Detailed Description	671
9.140.2 Member Function Documentation	671
9.140.2.1 arity	671
9.140.2.2 difference	672
9.140.2.3 domain	672
9.140.2.4 intersection	672
9.140.2.5 isBoolean	672
9.140.2.6 isInteger	672
9.140.2.7 isSubtypeOf	672
9.140.2.8 isUnary	672
9.140.2.9 join	672
9.140.2.10 name	672
9.140.2.11 product	673
9.140.2.12 projection	673
9.140.2.13 projection	673
9.140.2.14 projectionFrom	673
9.140.2.15 projectionFromTo	673
9.140.2.16 range	673
9.140.2.17 simpleName	673
9.140.2.18 transpose	673
9.140.2.19 tuple	673
9.140.2.20 union	674
9.141 edu.mit.csail.sdg.squander.spec.MethodSpec Class Reference	675
9.141.1 Detailed Description	676
9.141.2 Constructor & Destructor Documentation	676
9.141.2.1 MethodSpec	676
9.141.3 Member Function Documentation	676
9.141.3.1 addCase	676
9.141.3.2 addFreshObj	676
9.141.3.3 addOptions	676
9.141.3.4 cases	677
9.141.3.5 freshObjects	677
9.141.3.6 isHelper	677
9.141.3.7 isPure	677
9.141.3.8 isTrivial	677
9.141.3.9 makeHelper	677

9.141.3.10	makePure	677
9.141.3.11	mergeCasesWith	678
9.141.3.12	options	678
9.141.3.13	translateSpecs	678
9.141.3.14	typecheck	678
9.141.4	Member Data Documentation	678
9.141.4.1	cases	678
9.141.4.2	freshObj	678
9.141.4.3	helper	678
9.141.4.4	options	679
9.141.4.5	pre2cs	679
9.141.4.6	pure	679
9.142	edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource Class Reference	680
9.142.1	Detailed Description	680
9.142.2	Constructor & Destructor Documentation	681
9.142.2.1	CaseSource	681
9.142.3	Member Function Documentation	681
9.142.3.1	exceptional	681
9.142.3.2	frame	681
9.142.3.3	frameSrc	681
9.142.3.4	post	681
9.142.3.5	postSrc	681
9.142.3.6	pre	681
9.142.3.7	preSrc	681
9.142.4	Member Data Documentation	682
9.142.4.1	exceptional	682
9.142.4.2	frm	682
9.142.4.3	frmSrc	682
9.142.4.4	pre	682
9.142.4.5	preSrc	682
9.142.4.6	pst	682
9.142.4.7	pstSrc	682
9.143	edu.mit.csail.sdg.squander.spec.MyExprEvaluator Class Reference	683
9.143.1	Detailed Description	684
9.143.2	Constructor & Destructor Documentation	684
9.143.2.1	MyExprEvaluator	684

9.143.3 Member Function Documentation	684
9.143.3.1 searchStack	684
9.143.3.2 visit	684
9.143.3.3 visit	684
9.143.3.4 visit	685
9.143.3.5 visit	685
9.143.3.6 visit	685
9.143.3.7 visit	685
9.143.3.8 visitAll	685
9.143.3.9 visitBoolBinExpr	685
9.143.3.10 visitClosure	685
9.143.3.11 visitDiff	686
9.143.3.12 visitEquals	686
9.143.3.13 visitExists	686
9.143.3.14 visitGlobalVariable	686
9.143.3.15 visitIntBinExpr	686
9.143.3.16 visitJoin	686
9.143.3.17 visitLocalVariable	687
9.143.3.18 visitProduct	687
9.143.3.19 visitRelUnion	687
9.143.3.20 visitSubset	687
9.143.3.21 visitUnion	687
9.143.4 Member Data Documentation	687
9.143.4.1 bounds	687
9.143.4.2 quantStack	688
9.144 edu.mit.csail.sdg.squander.spec.Namespace Class Reference	689
9.144.1 Detailed Description	689
9.144.2 Constructor & Destructor Documentation	690
9.144.2.1 Namespace	690
9.144.3 Member Function Documentation	690
9.144.3.1 addLocal	690
9.144.3.2 addScope	690
9.144.3.3 declarer	690
9.144.3.4 findField	690
9.144.3.5 findLocal	691
9.144.3.6 forClass	691

9.144.3.7	forMethod	691
9.144.3.8	inArray	691
9.144.3.9	method	691
9.144.3.10	scope	691
9.144.4	Member Data Documentation	692
9.144.4.1	locals	692
9.144.4.2	method	692
9.144.4.3	scopes	692
9.145	edu.mit.csail.sdg.squander.spec.Null Class Reference	693
9.145.1	Detailed Description	693
9.146	edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider Class Reference	694
9.146.1	Detailed Description	694
9.146.2	Member Function Documentation	694
9.146.2.1	clause	694
9.146.2.2	convertArray	695
9.146.2.3	extractClassSpec	695
9.146.2.4	extractFieldSpec	695
9.146.2.5	extractMethodSpec	695
9.146.2.6	extractMethodSpec	695
9.146.2.7	extractMethodSpecNonRecursive	695
9.146.2.8	frame	696
9.146.3	Member Data Documentation	696
9.146.3.1	CLAUSE_DEFAULT	696
9.146.3.2	NONNULL_FORMAT	696
9.146.3.3	RETURNS_FORMAT	696
9.146.3.4	TYPE_EXCEPTIONAL	696
9.147	edu.mit.csail.sdg.squander.spec.Source Class Reference	697
9.147.1	Detailed Description	698
9.147.2	Member Enumeration Documentation	698
9.147.2.1	Rule	698
9.147.3	Constructor & Destructor Documentation	698
9.147.3.1	Source	698
9.147.3.2	Source	698
9.147.4	Member Function Documentation	698
9.147.4.1	isClause	698
9.147.4.2	isDecl	698

9.147.4.3	isFrame	699
9.147.4.4	isFuncField	699
9.147.4.5	node	699
9.147.4.6	parse	699
9.147.4.7	toString	699
9.147.4.8	translate	699
9.147.4.9	typecheck	699
9.147.5	Member Data Documentation	700
9.147.5.1	isFuncFlag	700
9.147.5.2	node	700
9.147.5.3	ns	700
9.147.5.4	rule	700
9.147.5.5	source	700
9.147.5.6	typechecked	700
9.148	edu.mit.csail.sdg.squander.spec.Spec Class Reference	701
9.148.1	Detailed Description	702
9.148.2	Constructor & Destructor Documentation	702
9.148.2.1	Spec	702
9.148.3	Member Function Documentation	702
9.148.3.1	abstractConstraint	702
9.148.3.2	addCase	702
9.148.3.3	cases	703
9.148.3.4	concreteConstraint	703
9.148.3.5	fieldConstraint	703
9.148.3.6	forgeScene	703
9.148.3.7	funcConstraint	703
9.148.3.8	invariant	704
9.148.3.9	isEmpty	704
9.148.3.10	javaScene	704
9.148.3.11	toString	704
9.148.3.12	wellformedPost	704
9.148.3.13	wellformedPre	705
9.148.4	Member Data Documentation	705
9.148.4.1	cases	705
9.148.4.2	fieldCounter	705
9.148.4.3	forgeScene	705

9.148.4.4 javaScene	705
9.149edu.mit.csail.sdg.squander.spec.Spec.SpecCase Class Reference	706
9.149.1 Detailed Description	706
9.149.2 Constructor & Destructor Documentation	707
9.149.2.1 SpecCase	707
9.149.3 Member Function Documentation	707
9.149.3.1 frame	707
9.149.3.2 post	707
9.149.3.3 postOnly	707
9.149.3.4 pre	707
9.149.3.5 preOnly	707
9.149.3.6 spec	707
9.149.3.7 toString	708
9.149.4 Member Data Documentation	708
9.149.4.1 frame	708
9.149.4.2 helper	708
9.149.4.3 post	708
9.149.4.4 pre	708
9.150edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider Class Reference	709
9.150.1 Detailed Description	709
9.150.2 Member Function Documentation	709
9.150.2.1 extractClassSpec	709
9.150.2.2 extractFieldSpec	710
9.150.2.3 extractMethodSpec	710
9.150.2.4 findSpecFile	710
9.150.2.5 parse	710
9.151edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor Class Reference	711
9.151.1 Detailed Description	711
9.151.2 Constructor & Destructor Documentation	711
9.151.2.1 MyVisitor	711
9.151.3 Member Function Documentation	712
9.151.3.1 escapeClsName	712
9.151.3.2 replaceParamTypes	712
9.151.3.3 visitFuncField	712
9.151.3.4 visitInvariant	712
9.151.3.5 visitSpecField	712

9.151.3.6 visitSpecFile	712
9.151.4 Member Data Documentation	713
9.151.4.1 jtype	713
9.151.4.2 ns	713
9.152edu.mit.csail.sdg.squander.spec.SqFunc Class Reference	714
9.152.1 Detailed Description	714
9.152.2 Member Function Documentation	714
9.152.2.1 mkFunc	714
9.152.2.2 mkFunc	714
9.153edu.mit.csail.sdg.squander.spec.Tr Class Reference	715
9.153.1 Detailed Description	716
9.153.2 Constructor & Destructor Documentation	716
9.153.2.1 Tr	716
9.153.3 Member Function Documentation	716
9.153.3.1 reverse	716
9.153.3.2 visitAmbiguous	716
9.153.3.3 visitArgument	717
9.153.3.4 visitArrayType	717
9.153.3.5 visitBinary	717
9.153.3.6 visitBooleanType	717
9.153.3.7 visitBracket	717
9.153.3.8 visitCastExpression	717
9.153.3.9 visitConditional	717
9.153.3.10visitDecimal	717
9.153.3.11visitFalse	718
9.153.3.12visitFieldDeclaration	718
9.153.3.13visitFieldRelation	718
9.153.3.14visitFrame	718
9.153.3.15visitIntegralType	718
9.153.3.16visitJoin	718
9.153.3.17visitJoinReflexive	718
9.153.3.18visitMethodCall	719
9.153.3.19visitName	719
9.153.3.20visitNull	719
9.153.3.21visitOld	719
9.153.3.22visitQuantification	719

9.153.3.23	visitRefType	719
9.153.3.24	visitReturn	719
9.153.3.25	visitString	720
9.153.3.26	visitSuper	720
9.153.3.27	visitThis	720
9.153.3.28	visitThrow	720
9.153.3.29	visitTrue	720
9.153.3.30	visitUnary	720
9.153.4	Member Data Documentation	720
9.153.4.1	absolutelyTerribleHack	720
9.154	edu.mit.csail.sdg.squander.spec.TypeChecker Class Reference	722
9.154.1	Detailed Description	723
9.154.2	Constructor & Destructor Documentation	724
9.154.2.1	TypeChecker	724
9.154.3	Member Function Documentation	724
9.154.3.1	checkArity	724
9.154.3.2	checkBoolean	724
9.154.3.3	checkInteger	724
9.154.3.4	checkJoin	725
9.154.3.5	checkSubtype	725
9.154.3.6	checkUnary	725
9.154.3.7	getClass	725
9.154.3.8	getFldOwner	725
9.154.3.9	main	725
9.154.3.10	print	725
9.154.3.11	resolveField	726
9.154.3.12	resolveType	726
9.154.3.13	setClsSpecForSpecField	726
9.154.3.14	setTypeParams	726
9.154.3.15	validate	726
9.154.3.16	visitAmbiguous	727
9.154.3.17	visitArgument	727
9.154.3.18	visitArrayType	727
9.154.3.19	visitBinary	727
9.154.3.20	visitBooleanType	728
9.154.3.21	visitBracket	728

9.154.3.22	visitCastExpression	728
9.154.3.23	visitConditional	728
9.154.3.24	visitDecimal	728
9.154.3.25	visitFalse	728
9.154.3.26	visitFieldDeclaration	728
9.154.3.27	visitFieldRelation	729
9.154.3.28	visitFrame	729
9.154.3.29	visitIntegralType	729
9.154.3.30	visitJoin	729
9.154.3.31	visitJoinReflexive	729
9.154.3.32	visitMethodCall	729
9.154.3.33	visitName	729
9.154.3.34	visitNull	730
9.154.3.35	visitOld	730
9.154.3.36	visitQuantification	730
9.154.3.37	visitRefType	730
9.154.3.38	visitReturn	730
9.154.3.39	visitString	730
9.154.3.40	visitSuper	730
9.154.3.41	visitThis	731
9.154.3.42	visitThrow	731
9.154.3.43	visitTrue	731
9.154.3.44	visitTypeParams	731
9.154.3.45	visitUnary	731
9.154.4	Member Data Documentation	731
9.154.4.1	clsSpec	731
9.154.4.2	scene	731
9.155	edu.mit.csail.sdg.squander.spec.TypeCheckException Class Reference	733
9.155.1	Detailed Description	733
9.155.2	Constructor & Destructor Documentation	734
9.155.2.1	TypeCheckException	734
9.155.2.2	TypeCheckException	734
9.155.2.3	TypeCheckException	734
9.155.3	Member Function Documentation	734
9.155.3.1	getSrc	734
9.155.4	Member Data Documentation	734

9.155.4.1 serialVersionUID	734
9.155.4.2 src	734
9.156edu.mit.csail.sdg.squander.spec.Visitor< N, M > Class Reference	735
9.156.1 Detailed Description	736
9.156.2 Member Function Documentation	736
9.156.2.1 asText	736
9.156.2.2 cast	736
9.156.2.3 child	736
9.156.2.4 children	736
9.156.2.5 parseInt	736
9.156.2.6 validate	737
9.156.2.7 visit	737
9.156.2.8 visitAmbiguous	737
9.156.2.9 visitArgument	737
9.156.2.10visitArrayType	737
9.156.2.11visitBinary	737
9.156.2.12visitBooleanType	737
9.156.2.13visitBracket	737
9.156.2.14visitCastExpression	738
9.156.2.15visitChain	738
9.156.2.16visitConditional	738
9.156.2.17visitDecimal	738
9.156.2.18visitFalse	738
9.156.2.19visitFieldDeclaration	738
9.156.2.20visitFieldRelation	738
9.156.2.21visitFrame	738
9.156.2.22visitIntegralType	738
9.156.2.23visitJoin	739
9.156.2.24visitJoinReflexive	739
9.156.2.25visitMethodCall	739
9.156.2.26visitName	739
9.156.2.27visitNull	739
9.156.2.28visitOld	739
9.156.2.29visitQuantification	739
9.156.2.30visitRefType	739
9.156.2.31visitReturn	739

9.156.2.32	visitString	740
9.156.2.33	visitSuper	740
9.156.2.34	visitThis	740
9.156.2.35	visitThrow	740
9.156.2.36	visitTrue	740
9.156.2.37	visitUnary	740
9.157	edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer Class Reference	741
9.157.1	Detailed Description	743
9.157.2	Constructor & Destructor Documentation	743
9.157.2.1	SpecFileLexer	743
9.157.2.2	SpecFileLexer	743
9.157.2.3	SpecFileLexer	743
9.157.3	Member Function Documentation	743
9.157.3.1	[static initializer]	743
9.157.3.2	getGrammarFileName	743
9.157.3.3	mEscapeSequence	744
9.157.3.4	mHexDigit	744
9.157.3.5	mIdentifier	744
9.157.3.6	mJavaIDDigit	744
9.157.3.7	mLetter	744
9.157.3.8	mOctalEscape	744
9.157.3.9	mStringLiteral	744
9.157.3.10	mT__18	744
9.157.3.11	lmT__19	744
9.157.3.12	mT__20	745
9.157.3.13	mT__21	745
9.157.3.14	mT__22	745
9.157.3.15	mT__23	745
9.157.3.16	mT__24	745
9.157.3.17	mT__25	745
9.157.3.18	mT__26	745
9.157.3.19	mT__27	745
9.157.3.20	mT__28	745
9.157.3.21	lmT__29	746
9.157.3.22	mT__30	746
9.157.3.23	mT__31	746

9.157.3.24mT__32	746
9.157.3.25mT__33	746
9.157.3.26mTokens	746
9.157.3.27mUnicodeEscape	746
9.157.3.28mWS	746
9.157.4 Member Data Documentation	746
9.157.4.1 dfa6	746
9.157.4.2 DFA6_accept	747
9.157.4.3 DFA6_acceptS	747
9.157.4.4 DFA6_eof	747
9.157.4.5 DFA6_eofS	747
9.157.4.6 DFA6_eot	747
9.157.4.7 DFA6_eotS	747
9.157.4.8 DFA6_max	747
9.157.4.9 DFA6_maxS	748
9.157.4.10DFA6_min	748
9.157.4.11DFA6_minS	748
9.157.4.12DFA6_special	748
9.157.4.13DFA6_specialS	748
9.157.4.14DFA6_transition	748
9.157.4.15DFA6_transitionS	749
9.157.4.16EOF	749
9.157.4.17EscapeSequence	749
9.157.4.18FUNCFIELD	749
9.157.4.19HexDigit	749
9.157.4.20Identifier	749
9.157.4.21INVARIANT	749
9.157.4.22JavaIDDigit	749
9.157.4.23Letter	749
9.157.4.24OctalEscape	749
9.157.4.25PARAMS	750
9.157.4.26SPECFIELD	750
9.157.4.27SPECFILE	750
9.157.4.28StringLiteral	750
9.157.4.29T__18	750
9.157.4.30T__19	750

9.157.4.31T__20	750
9.157.4.32T__21	750
9.157.4.33T__22	750
9.157.4.34T__23	751
9.157.4.35T__24	751
9.157.4.36T__25	751
9.157.4.37T__26	751
9.157.4.38T__27	751
9.157.4.39T__28	751
9.157.4.40T__29	751
9.157.4.41T__30	751
9.157.4.42T__31	751
9.157.4.43T__32	752
9.157.4.44T__33	752
9.157.4.45UnicodeEscape	752
9.157.4.46WS	752
9.158edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6 Class Reference	753
9.158.1 Detailed Description	753
9.158.2 Constructor & Destructor Documentation	753
9.158.2.1 DFA6	753
9.158.3 Member Function Documentation	753
9.158.3.1 getDescription	753
9.159edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser Class Reference	754
9.159.1 Detailed Description	757
9.159.2 Constructor & Destructor Documentation	757
9.159.2.1 SpecFileParser	757
9.159.2.2 SpecFileParser	758
9.159.3 Member Function Documentation	758
9.159.3.1 cls	758
9.159.3.2 displayRecognitionError	758
9.159.3.3 funcfield	758
9.159.3.4 getGrammarFileName	758
9.159.3.5 getTokenNames	758
9.159.3.6 getTreeAdaptor	758
9.159.3.7 invariant	758
9.159.3.8 mod	759

9.159.3.9	params	759
9.159.3.10	setTreeAdaptor	759
9.159.3.11	specfield	759
9.159.3.12	specfile	759
9.159.3.13	strings	759
9.159.3.14	type	759
9.159.4	Member Data Documentation	760
9.159.4.1	adaptor	760
9.159.4.2	EOF	760
9.159.4.3	EscapeSequence	760
9.159.4.4	FOLLOW_18_in_specfile110	760
9.159.4.5	FOLLOW_19_in_specfile114	760
9.159.4.6	FOLLOW_20_in_funcfield296	760
9.159.4.7	FOLLOW_20_in_invariant358	760
9.159.4.8	FOLLOW_20_in_specfield234	760
9.159.4.9	FOLLOW_20_in_specfile118	761
9.159.4.10	FOLLOW_21_in_funcfield300	761
9.159.4.11	FOLLOW_21_in_invariant362	761
9.159.4.12	FOLLOW_21_in_specfield238	761
9.159.4.13	FOLLOW_21_in_specfile129	761
9.159.4.14	FOLLOW_27_in_specfield202	761
9.159.4.15	FOLLOW_27_in_specfield230	761
9.159.4.16	FOLLOW_28_in_funcfield266	761
9.159.4.17	FOLLOW_28_in_funcfield294	762
9.159.4.18	FOLLOW_28_in_invariant328	762
9.159.4.19	FOLLOW_28_in_invariant356	762
9.159.4.20	FOLLOW_28_in_specfield204	762
9.159.4.21	FOLLOW_28_in_specfield232	762
9.159.4.22	FOLLOW_29_in_funcfield270	762
9.159.4.23	FOLLOW_29_in_funcfield302	762
9.159.4.24	FOLLOW_29_in_invariant332	762
9.159.4.25	FOLLOW_29_in_invariant364	763
9.159.4.26	FOLLOW_29_in_specfield208	763
9.159.4.27	FOLLOW_29_in_specfield240	763
9.159.4.28	FOLLOW_30_in_funcfield272	763
9.159.4.29	FOLLOW_30_in_funcfield304	763

9.159.4.30	FOLLOW_30_in_invariant	334	763
9.159.4.31	FOLLOW_30_in_invariant	366	763
9.159.4.32	FOLLOW_30_in_specfield	210	763
9.159.4.33	FOLLOW_30_in_specfield	242	764
9.159.4.34	FOLLOW_31_in_funcfield	264	764
9.159.4.35	FOLLOW_31_in_funcfield	292	764
9.159.4.36	FOLLOW_32_in_invariant	326	764
9.159.4.37	FOLLOW_32_in_invariant	354	764
9.159.4.38	FOLLOW_33_in_params	391	764
9.159.4.39	FOLLOW_33_in_strings	433	764
9.159.4.40	FOLLOW_cls_in_type	165	764
9.159.4.41	FOLLOW_funcfield_in_specfile	123	765
9.159.4.42	FOLLOW_Identifier_in_params	388	765
9.159.4.43	FOLLOW_Identifier_in_params	393	765
9.159.4.44	FOLLOW_Identifier_in_specfile	107	765
9.159.4.45	FOLLOW_invariant_in_specfile	126	765
9.159.4.46	FOLLOW_mod_in_type	162	765
9.159.4.47	FOLLOW_params_in_specfile	112	765
9.159.4.48	FOLLOW_set_in_cls	0	765
9.159.4.49	FOLLOW_set_in_mod	0	766
9.159.4.50	FOLLOW_specfield_in_specfile	120	766
9.159.4.51	FOLLOW_StringLiteral_in_funcfield	268	766
9.159.4.52	FOLLOW_StringLiteral_in_invariant	330	766
9.159.4.53	FOLLOW_StringLiteral_in_specfield	206	766
9.159.4.54	FOLLOW_StringLiteral_in_strings	430	766
9.159.4.55	FOLLOW_StringLiteral_in_strings	435	766
9.159.4.56	FOLLOW_strings_in_funcfield	298	766
9.159.4.57	FOLLOW_strings_in_invariant	360	767
9.159.4.58	FOLLOW_strings_in_specfield	236	767
9.159.4.59	FOLLOW_type_in_specfile	105	767
9.159.4.60	FUNCFIELD		767
9.159.4.61	HexDigit		767
9.159.4.62	Identifier		767
9.159.4.63	INVARIANT		767
9.159.4.64	JavaDDigit		767
9.159.4.65	Letter		767

9.159.4.66	OctalEscape	768
9.159.4.67	PARAMS	768
9.159.4.68	SPECFIELD	768
9.159.4.69	SPECFILE	768
9.159.4.70	StringLiteral	768
9.159.4.71	T__18	768
9.159.4.72	T__19	768
9.159.4.73	T__20	768
9.159.4.74	T__21	768
9.159.4.75	T__22	769
9.159.4.76	T__23	769
9.159.4.77	T__24	769
9.159.4.78	T__25	769
9.159.4.79	T__26	769
9.159.4.80	T__27	769
9.159.4.81	T__28	769
9.159.4.82	T__29	769
9.159.4.83	T__30	769
9.159.4.84	T__31	770
9.159.4.85	T__32	770
9.159.4.86	T__33	770
9.159.4.87	tokenNames	770
9.159.4.88	UnicodeEscape	770
9.159.4.89	WS	770
9.160	edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException Class Reference	771
9.160.1	Detailed Description	771
9.160.2	Constructor & Destructor Documentation	772
9.160.2.1	SpecFileParserException	772
9.160.2.2	SpecFileParserException	772
9.160.2.3	SpecFileParserException	772
9.160.2.4	SpecFileParserException	772
9.160.2.5	SpecFileParserException	772
9.160.2.6	SpecFileParserException	772
9.160.2.7	SpecFileParserException	772
9.160.3	Member Function Documentation	772
9.160.3.1	column	772

9.160.3.2 layout	773
9.160.3.3 line	773
9.160.3.4 setSource	773
9.160.3.5 setToken	773
9.160.3.6 source	773
9.160.3.7 token	773
9.160.4 Member Data Documentation	773
9.160.4.1 column	773
9.160.4.2 line	773
9.160.4.3 source	774
9.160.4.4 token	774
9.161 edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N > Class Reference	775
9.161.1 Detailed Description	775
9.161.2 Member Function Documentation	775
9.161.2.1 asText	775
9.161.2.2 cast	775
9.161.2.3 child	775
9.161.2.4 trimQuotes	776
9.161.2.5 visit	776
9.161.2.6 visitFuncField	776
9.161.2.7 visitInvariant	776
9.161.2.8 visitParams	776
9.161.2.9 visitSpecField	776
9.161.2.10 visitSpecFile	776
9.162 edu.mit.csail.sdg.squander.Squander Class Reference	777
9.162.1 Detailed Description	777
9.162.2 Constructor & Destructor Documentation	778
9.162.2.1 Squander	778
9.162.3 Member Function Documentation	778
9.162.3.1 exe	778
9.162.3.2 exe	778
9.162.3.3 exe	779
9.162.3.4 exe	779
9.162.3.5 getCallerClassName	779
9.162.3.6 getCallerMethod	780
9.162.3.7 getLastResult	780

9.162.3.8	getRightStackTraceElem	780
9.162.4	Member Data Documentation	780
9.162.4.1	lastSqlImpl	780
9.163	edu.mit.csail.sdg.squander.util.test.TestUtils Class Reference	781
9.163.1	Detailed Description	781
9.163.2	Member Function Documentation	781
9.163.2.1	assertArrayContains	781
9.163.2.2	assertArrayContains	781
9.163.2.3	assertArraysEqualNoOrdering	781
9.163.2.4	assertArraysEqualNoOrdering	781
9.164	edu.mit.csail.sdg.squander.utils.Counter< T > Class Reference	782
9.164.1	Detailed Description	782
9.164.2	Constructor & Destructor Documentation	782
9.164.2.1	Counter	782
9.164.3	Member Function Documentation	782
9.164.3.1	getCount	782
9.164.3.2	incrementAndGet	782
9.164.4	Member Data Documentation	783
9.164.4.1	map	783
9.165	edu.mit.csail.sdg.squander.utils.Predicate< T > Interface Reference	784
9.165.1	Detailed Description	784
9.165.2	Member Function Documentation	784
9.165.2.1	exe	784
9.166	edu.mit.csail.sdg.squander.utils.ReflectionUtils Class Reference	785
9.166.1	Detailed Description	786
9.166.2	Member Function Documentation	786
9.166.2.1	box	786
9.166.2.2	createNewArray	786
9.166.2.3	createObjectDefaultConstructor	786
9.166.2.4	findMethod	787
9.166.2.5	getAllFields	787
9.166.2.6	getAllFieldsRecursive	787
9.166.2.7	getAllNonStaticFields	787
9.166.2.8	getAnnotatedMethod	787
9.166.2.9	getAnnotatedMethods	788
9.166.2.10	getDeclaredNonStaticFields	788

9.166.2.11	getField	788
9.166.2.12	getFieldValue	788
9.166.2.13	getFieldValue	788
9.166.2.14	getFieldWithAccess	788
9.166.2.15	getFieldWithAccess	789
9.166.2.16	getImmGenericParents	789
9.166.2.17	getImmParents	789
9.166.2.18	getMethod	789
9.166.2.19	invoke	789
9.166.2.20	invoke_ex	790
9.166.2.21	isPrimitive	790
9.166.2.22	isca	790
9.166.2.23	newInstance	790
9.166.2.24	newInstance	790
9.166.2.25	newInstance	790
9.166.2.26	newInstance	791
9.166.2.27	paramsMatch	791
9.166.2.28	printObj	791
9.166.2.29	setFieldValue	791
9.166.2.30	setFieldValue	791
9.166.2.31	sig	791
9.166.2.32	toString	791
9.166.3	Member Data Documentation	792
9.166.3.1	cache	792
9.166.3.2	tab	792
9.167	edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V > Class Reference	793
9.167.1	Detailed Description	793
9.167.2	Member Function Documentation	793
9.167.2.1	clear	793
9.167.2.2	containsKey	794
9.167.2.3	containsValue	794
9.167.2.4	entrySet	794
9.167.2.5	equals	794
9.167.2.6	get	794
9.167.2.7	getKeyForValue	794
9.167.2.8	hashCode	794

9.167.2.9	isEmpty	794
9.167.2.10	keySet	794
9.167.2.11	put	794
9.167.2.12	putAll	794
9.167.2.13	remove	795
9.167.2.14	size	795
9.167.2.15	values	795
9.167.3	Member Data Documentation	795
9.167.3.1	inv	795
9.167.3.2	map	795
9.168	edu.mit.csail.sdg.squander.utils.Utils Class Reference	796
9.168.1	Detailed Description	796
9.168.2	Member Function Documentation	796
9.168.2.1	boolValue	796
9.168.2.2	classForName	796
9.168.2.3	findDomain	796
9.168.2.4	findGlobalVar	797
9.168.2.5	findLiteral	797
9.168.2.6	getArrayDomain	797
9.168.2.7	getArrayType	797
9.168.2.8	getMethodAnnotations	797
9.168.2.9	getMethodParamName	797
9.168.2.10	intValue	797
9.168.2.11	isPrimitive	798
9.168.2.12	writeToFile	798
10	File Documentation	799
10.1	examples/edu/mit/csail/sdg/squander/examples/bst/BalancedBST.java File Reference	799
10.2	examples/edu/mit/csail/sdg/squander/examples/bst/BST_noParent.java File Reference	800
10.3	examples/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFld.java File Reference	801
10.4	examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoard.java File Reference	802
10.5	examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoardMan.java File Reference	803
10.6	examples/edu/mit/csail/sdg/squander/examples/equiv/Node.java File Reference	804
10.7	examples/edu/mit/csail/sdg/squander/examples/graph/Graph.java File Reference	805
10.8	examples/edu/mit/csail/sdg/squander/examples/graph2/Graph.java File Reference	806
10.9	examples/edu/mit/csail/sdg/squander/examples/partitioning/Graph.java File Reference	807
10.10	examples/edu/mit/csail/sdg/squander/examples/graph/Graph__2.java File Reference	808

10.11	examples/edu/mit/csail/sdg/squander/examples/graph/HamiltonianMan.java File Reference	809
10.12	examples/edu/mit/csail/sdg/squander/examples/javacol/Collections.java File Reference	810
10.13	examples/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsEx.java File Reference	811
10.14	examples/edu/mit/csail/sdg/squander/examples/list/func/Cons.java File Reference	812
10.15	examples/edu/mit/csail/sdg/squander/examples/list/func2/Cons.java File Reference	813
10.16	examples/edu/mit/csail/sdg/squander/examples/list/func/IntList.java File Reference	814
10.17	examples/edu/mit/csail/sdg/squander/examples/list/func2/IntList.java File Reference	815
10.18	examples/edu/mit/csail/sdg/squander/examples/list/func2/Nil.java File Reference	816
10.19	examples/edu/mit/csail/sdg/squander/examples/list/LinkedList.java File Reference	817
10.20	examples/edu/mit/csail/sdg/squander/examples/list/LinkedList_ind.java File Reference	818
10.21	examples/edu/mit/csail/sdg/squander/examples/mock/AddressBook.java File Reference	819
10.22	examples/edu/mit/csail/sdg/squander/examples/mock/EmailMessage.java File Reference	820
10.23	examples/edu/mit/csail/sdg/squander/examples/mock/MockAddressBook.java File Reference	821
10.24	examples/edu/mit/csail/sdg/squander/examples/mock/SquanderAddressBook.java File Reference	822
10.25	examples/edu/mit/csail/sdg/squander/examples/numbers/Arithmetic.java File Reference	823
10.26	examples/edu/mit/csail/sdg/squander/examples/numbers/DeclarativeSqRoot.java File Reference	824
10.27	examples/edu/mit/csail/sdg/squander/examples/numbers/ImperativeSqRoot.java File Reference	825
10.28	examples/edu/mit/csail/sdg/squander/examples/numbers/ISqRoot.java File Reference	826
10.29	examples/edu/mit/csail/sdg/squander/examples/numbers/MixedSqRoot.java File Reference	827
10.30	examples/edu/mit/csail/sdg/squander/examples/partitioning/Domain.java File Reference	828
10.31	examples/edu/mit/csail/sdg/squander/examples/partitioning/Literal.java File Reference	829
10.32	examples/edu/mit/csail/sdg/squander/examples/partitioning/Partition.java File Reference	830
10.33	examples/edu/mit/csail/sdg/squander/examples/rbt/RedBlackTree.java File Reference	831
10.34	examples/edu/mit/csail/sdg/squander/examples/setpoly/BstIntSet.java File Reference	832
10.35	examples/edu/mit/csail/sdg/squander/examples/setpoly/IntSet.java File Reference	833
10.36	examples/edu/mit/csail/sdg/squander/examples/setpoly/SetIntSet.java File Reference	834
10.37	examples/edu/mit/csail/sdg/squander/examples/sort/Sort.java File Reference	835
10.38	examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1.java File Reference	836
10.39	examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku2.java File Reference	837
10.40	examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku3.java File Reference	838
10.41	examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku4.java File Reference	839
10.42	examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku5.java File Reference	840
10.43	spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileLexer.java File Reference	841
10.44	spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParser.java File Reference	842

10.45	spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParserException.java File Reference	843
10.46	spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileVisitor.java File Reference	844
10.47	src/edu/mit/csail/sdg/annotations/FuncField.java File Reference	845
10.48	src/edu/mit/csail/sdg/squander/absstate/AbstractState.java File Reference	846
10.49	src/edu/mit/csail/sdg/squander/absstate/FieldValue.java File Reference	847
10.50	src/edu/mit/csail/sdg/squander/absstate/ObjAbsState.java File Reference	848
10.51	src/edu/mit/csail/sdg/squander/absstate/ObjTuple.java File Reference	849
10.52	src/edu/mit/csail/sdg/squander/absstate/ObjTupleSet.java File Reference	850
10.53	src/edu/mit/csail/sdg/squander/annotations/Fresh.java File Reference	851
10.54	src/edu/mit/csail/sdg/squander/annotations/FreshObjects.java File Reference	852
10.55	src/edu/mit/csail/sdg/squander/annotations/Options.java File Reference	853
10.56	src/edu/mit/csail/sdg/squander/engine/ForgeConverter.java File Reference	854
10.57	src/edu/mit/csail/sdg/squander/engine/ForgeEval.java File Reference	855
10.58	src/edu/mit/csail/sdg/squander/engine/Heap.java File Reference	856
10.59	src/edu/mit/csail/sdg/squander/engine/Heap2Bounds.java File Reference	857
10.60	src/edu/mit/csail/sdg/squander/engine/ISquander.java File Reference	858
10.61	src/edu/mit/csail/sdg/squander/engine/ISquanderResult.java File Reference	859
10.62	src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkod2Impl.java File Reference	860
10.63	src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java File Reference	861
10.64	src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPart2Impl.java File Reference	862
10.65	src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPartImpl.java File Reference	863
10.66	src/edu/mit/csail/sdg/squander/engine/SquanderEval.java File Reference	864
10.67	src/edu/mit/csail/sdg/squander/engine/SquanderEval2.java File Reference	865
10.68	src/edu/mit/csail/sdg/squander/engine/SquanderImpl.java File Reference	866
10.69	src/edu/mit/csail/sdg/squander/engine/SquanderReporter.java File Reference	867
10.70	src/edu/mit/csail/sdg/squander/engine/SquanderResult.java File Reference	868
10.71	src/edu/mit/csail/sdg/squander/forge_examples/BinarySearchTree.java File Reference	869
10.72	examples/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTree.java File Reference	870
10.73	src/edu/mit/csail/sdg/squander/forge_examples/TopologicalSort.java File Reference	871
10.74	src/edu/mit/csail/sdg/squander/log/Log.java File Reference	872
10.75	src/edu/mit/csail/sdg/squander/options/ConfigLoader.java File Reference	873
10.76	src/edu/mit/csail/sdg/squander/options/GlobalOptions.java File Reference	874
10.77	src/edu/mit/csail/sdg/squander/parser/JFSLLexer.java File Reference	875
10.78	src/edu/mit/csail/sdg/squander/parser/JFSLParser.java File Reference	876
10.79	src/edu/mit/csail/sdg/squander/parser/JFSLParserException.java File Reference	878
10.80	src/edu/mit/csail/sdg/squander/serializer/AbstractHeap.java File Reference	879

10.81	src/edu/mit/csail/sdg/squander/serializer/AbstractHeapListener.java File Reference	880
10.82	src/edu/mit/csail/sdg/squander/serializer/ConsoleHeap.java File Reference	881
10.83	src/edu/mit/csail/sdg/squander/serializer/HeapListener.java File Reference	882
10.84	src/edu/mit/csail/sdg/squander/serializer/IHeap.java File Reference	883
10.85	src/edu/mit/csail/sdg/squander/serializer/Serializer.java File Reference	884
10.86	src/edu/mit/csail/sdg/squander/serializer/special/ArraySer.java File Reference	885
10.87	src/edu/mit/csail/sdg/squander/serializer/special/DefaultObjSer.java File Reference	886
10.88	src/edu/mit/csail/sdg/squander/serializer/special/IObjSer.java File Reference	887
10.89	src/edu/mit/csail/sdg/squander/serializer/special/ListSer.java File Reference	888
10.90	src/edu/mit/csail/sdg/squander/serializer/special/MapSer.java File Reference	889
10.91	src/edu/mit/csail/sdg/squander/serializer/special/ObjSerFactory.java File Reference	890
10.92	src/edu/mit/csail/sdg/squander/serializer/special/SetSer.java File Reference	891
10.93	src/edu/mit/csail/sdg/squander/serializer/special/StringSer.java File Reference	892
10.94	src/edu/mit/csail/sdg/squander/spec/ArityMismatchException.java File Reference	893
10.95	src/edu/mit/csail/sdg/squander/spec/ClassSpec.java File Reference	894
10.96	src/edu/mit/csail/sdg/squander/spec/CompositeSpecProvider.java File Reference	895
10.97	src/edu/mit/csail/sdg/squander/spec/constant/ConstRel.java File Reference	896
10.98	src/edu/mit/csail/sdg/squander/spec/constant/ConstRel2Bound.java File Reference	897
10.99	src/edu/mit/csail/sdg/squander/spec/constant/ConstRels.java File Reference	898
10.100	src/edu/mit/csail/sdg/squander/spec/constant/ConstRelVisitor.java File Reference	899
10.101	src/edu/mit/csail/sdg/squander/spec/ForgeEnv.java File Reference	900
10.102	src/edu/mit/csail/sdg/squander/spec/ForgeScene.java File Reference	901
10.103	src/edu/mit/csail/sdg/squander/spec/Frame.java File Reference	902
10.104	src/edu/mit/csail/sdg/squander/spec/FrameInference.java File Reference	903
10.105	src/edu/mit/csail/sdg/squander/spec/IncompatibleTypesException.java File Reference	904
10.106	src/edu/mit/csail/sdg/squander/spec/ISpecProvider.java File Reference	905
10.107	src/edu/mit/csail/sdg/squander/spec/JavaScene.java File Reference	906
10.108	src/edu/mit/csail/sdg/squander/spec/JField.java File Reference	907
10.109	src/edu/mit/csail/sdg/squander/spec/JMethod.java File Reference	908
10.110	src/edu/mit/csail/sdg/squander/spec/JType.java File Reference	909
10.111	src/edu/mit/csail/sdg/squander/spec/MethodSpec.java File Reference	910
10.112	src/edu/mit/csail/sdg/squander/spec/MyExprEvaluator.java File Reference	911
10.113	src/edu/mit/csail/sdg/squander/spec/NameSpace.java File Reference	912
10.114	src/edu/mit/csail/sdg/squander/spec/Null.java File Reference	913
10.115	src/edu/mit/csail/sdg/squander/spec/ReflectiveSpecProvider.java File Reference	914
10.116	src/edu/mit/csail/sdg/squander/spec/Source.java File Reference	915

10.117	rc/edu/mit/csail/sdg/squander/spec/Spec.java File Reference	916
10.118	rc/edu/mit/csail/sdg/squander/spec/SpecFileSpecProvider.java File Reference	917
10.119	rc/edu/mit/csail/sdg/squander/spec/SqFunc.java File Reference	918
10.120	rc/edu/mit/csail/sdg/squander/spec/Tr.java File Reference	919
10.121	rc/edu/mit/csail/sdg/squander/spec/TypeChecker.java File Reference	920
10.122	rc/edu/mit/csail/sdg/squander/spec/TypeCheckException.java File Reference	921
10.123	rc/edu/mit/csail/sdg/squander/spec/Visitor.java File Reference	922
10.124	rc/edu/mit/csail/sdg/squander/Squander.java File Reference	923
10.125	rc/edu/mit/csail/sdg/squander/utills/Counter.java File Reference	924
10.126	rc/edu/mit/csail/sdg/squander/utills/Predicate.java File Reference	925
10.127	rc/edu/mit/csail/sdg/squander/utills/ReflectionUtils.java File Reference	926
10.128	rc/edu/mit/csail/sdg/squander/utills/TwoWayMap.java File Reference	927
10.129	rc/edu/mit/csail/sdg/squander/utills/Utils.java File Reference	928
10.130	xamples/edu/mit/csail/sdg/squander/examples/func/Utils.java File Reference	929
10.131	ests/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTreeTest.java File Reference	930
10.132	ests/edu/mit/csail/sdg/squander/examples/bst/BST_noParentTest.java File Reference	931
10.133	ests/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFldTest.java File Reference	932
10.134	ests/edu/mit/csail/sdg/squander/examples/graph/GraphTest.java File Reference	933
10.135	ests/edu/mit/csail/sdg/squander/examples/graph2/GraphTest.java File Reference	934
10.136	ests/edu/mit/csail/sdg/squander/examples/javacol/ListTest.java File Reference	935
10.137	ests/edu/mit/csail/sdg/squander/examples/list/func2/ListTest.java File Reference	936
10.138	ests/edu/mit/csail/sdg/squander/examples/javacol/MapTest.java File Reference	937
10.139	ests/edu/mit/csail/sdg/squander/examples/javacol/SetTest.java File Reference	938
10.140	ests/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsTest.java File Reference	939
10.141	ests/edu/mit/csail/sdg/squander/examples/list/LinkedListTest.java File Reference	940
10.142	ests/edu/mit/csail/sdg/squander/examples/mock/MockAddressBookTest.java File Reference	941
10.143	ests/edu/mit/csail/sdg/squander/examples/mock/TestAddressBook.java File Reference	942
10.144	ests/edu/mit/csail/sdg/squander/examples/mock/TestSquanderAddressBook.java File Reference	943
10.145	ests/edu/mit/csail/sdg/squander/examples/numbers/ArithmeticTest.java File Reference	944
10.146	ests/edu/mit/csail/sdg/squander/examples/numbers/SqRootTest.java File Reference	945
10.147	ests/edu/mit/csail/sdg/squander/examples/sort/SortTest.java File Reference	946
10.148	ests/edu/mit/csail/sdg/squander/examples/sudoku/SudokuI Test.java File Reference	947
10.149	ests/edu/mit/csail/sdg/squander/regressions/Tests.java File Reference	948
10.150	ests/edu/mit/csail/sdg/squander/util/test/TestUtils.java File Reference	949

Chapter 1

Squander

Chapter 2

Module Index

2.1 Modules

Here is a list of all modules:

Abstract State	19
Annotations	20
Engine	21
Logging	22
Configuration	23
JFSL Parser	24
Serialization	25
Specification	26
API	28
Utils	29
Examples	30
Tests	32

Chapter 3

Namespace Index

3.1 Package List

Here are the packages with brief descriptions (if available):

edu	35
edu.mit	36
edu.mit.csail	37
edu.mit.csail.sdg	38
edu.mit.csail.sdg.annotations	39
edu.mit.csail.sdg.squander	40
edu.mit.csail.sdg.squander.absstate	41
edu.mit.csail.sdg.squander.annotations	42
edu.mit.csail.sdg.squander.engine	43
edu.mit.csail.sdg.squander.engine.kk	44
edu.mit.csail.sdg.squander.examples	45
edu.mit.csail.sdg.squander.examples.bst	46
edu.mit.csail.sdg.squander.examples.chess	47
edu.mit.csail.sdg.squander.examples.equiv	48
edu.mit.csail.sdg.squander.examples.func	49
edu.mit.csail.sdg.squander.examples.graph	50
edu.mit.csail.sdg.squander.examples.graph2	51
edu.mit.csail.sdg.squander.examples.javacol	52
edu.mit.csail.sdg.squander.examples.list	53
edu.mit.csail.sdg.squander.examples.list.func	54
edu.mit.csail.sdg.squander.examples.list.func2	55
edu.mit.csail.sdg.squander.examples.mock	56
edu.mit.csail.sdg.squander.examples.numbers	57
edu.mit.csail.sdg.squander.examples.partitioning	58
edu.mit.csail.sdg.squander.examples.rbt	59
edu.mit.csail.sdg.squander.examples.setpoly	60
edu.mit.csail.sdg.squander.examples.sort	61
edu.mit.csail.sdg.squander.examples.sudoku	62
edu.mit.csail.sdg.squander.forge_examples	63
edu.mit.csail.sdg.squander.log	64
edu.mit.csail.sdg.squander.options	65
edu.mit.csail.sdg.squander.parser	66
edu.mit.csail.sdg.squander.regressions	67

edu.mit.csail.sdg.squander.serializer	68
edu.mit.csail.sdg.squander.serializer.special	69
edu.mit.csail.sdg.squander.spec	70
edu.mit.csail.sdg.squander.spec.constant	71
edu.mit.csail.sdg.squander.specfile	72
edu.mit.csail.sdg.squander.specfile.parser	73
edu.mit.csail.sdg.squander.util	74
edu.mit.csail.sdg.squander.util.test	75
edu.mit.csail.sdg.squander.utils	76

Chapter 4

Class Index

4.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

edu.mit.csail.sdg.annotations.FuncField	77
edu.mit.csail.sdg.squander.absstate.AbstractState	78
edu.mit.csail.sdg.squander.absstate.FieldValue	81
edu.mit.csail.sdg.squander.absstate.ObjAbsState	84
edu.mit.csail.sdg.squander.absstate.ObjTuple	87
edu.mit.csail.sdg.squander.absstate.ObjTupleSet	91
edu.mit.csail.sdg.squander.annotations.Fresh	99
edu.mit.csail.sdg.squander.annotations.FreshObjects	100
edu.mit.csail.sdg.squander.annotations.Options	101
edu.mit.csail.sdg.squander.engine.ForgeConverter	102
edu.mit.csail.sdg.squander.engine.ForgeEval	114
edu.mit.csail.sdg.squander.engine.Heap2Bounds	119
edu.mit.csail.sdg.squander.engine.ISquander	124
edu.mit.csail.sdg.squander.engine.SquanderImpl	186
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl	135
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl	128
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl	162
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl	158
edu.mit.csail.sdg.squander.engine.ISquanderResult	126
edu.mit.csail.sdg.squander.engine.SquanderResult	206
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval	149
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK	152
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem	156
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval	167
edu.mit.csail.sdg.squander.engine.SquanderEval	169
edu.mit.csail.sdg.squander.engine.SquanderEval2	177
edu.mit.csail.sdg.squander.engine.SquanderReporter	193
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree	214
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest	219
edu.mit.csail.sdg.squander.examples.bst.BST_noParent	223
edu.mit.csail.sdg.squander.examples.bst.BalancedBST	211
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest	228

edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld	232
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest	238
edu.mit.csail.sdg.squander.examples.chess.ChessBoard	242
edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan	245
edu.mit.csail.sdg.squander.examples.equiv.Node	248
edu.mit.csail.sdg.squander.examples.func.Utils	250
edu.mit.csail.sdg.squander.examples.graph2.Graph	251
edu.mit.csail.sdg.squander.examples.graph2.GraphTest	253
edu.mit.csail.sdg.squander.examples.graph.Graph	254
edu.mit.csail.sdg.squander.examples.graph.Graph__2	261
edu.mit.csail.sdg.squander.examples.graph.GraphTest	265
edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan	267
edu.mit.csail.sdg.squander.examples.javacol.Collections	269
edu.mit.csail.sdg.squander.examples.javacol.ListTest	272
edu.mit.csail.sdg.squander.examples.javacol.MapTest	275
edu.mit.csail.sdg.squander.examples.javacol.SetTest	278
edu.mit.csail.sdg.squander.examples.javacol.Str	280
edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx	281
edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest	284
edu.mit.csail.sdg.squander.examples.list.func2.IntList	287
edu.mit.csail.sdg.squander.examples.list.func2.Cons	285
edu.mit.csail.sdg.squander.examples.list.func2.Nil	291
edu.mit.csail.sdg.squander.examples.list.func2.ListTest	289
edu.mit.csail.sdg.squander.examples.list.func.IntList	294
edu.mit.csail.sdg.squander.examples.list.func.Cons	292
edu.mit.csail.sdg.squander.examples.list.LinkedList	295
edu.mit.csail.sdg.squander.examples.list.LinkedList_ind	298
edu.mit.csail.sdg.squander.examples.list.LinkedListTest	300
edu.mit.csail.sdg.squander.examples.mock.AddressBook	302
edu.mit.csail.sdg.squander.examples.mock.MockAddressBook	305
edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook	308
edu.mit.csail.sdg.squander.examples.mock.EmailMessage	303
edu.mit.csail.sdg.squander.examples.mock.TestAddressBook	310
edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest	307
edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook	312
edu.mit.csail.sdg.squander.examples.numbers.Arithmetic	313
edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest	316
edu.mit.csail.sdg.squander.examples.numbers.ISqRoot	323
edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot	317
edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot	324
edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot	320
edu.mit.csail.sdg.squander.examples.numbers.SqRootTest	326
edu.mit.csail.sdg.squander.examples.partitioning.Domain	327
edu.mit.csail.sdg.squander.examples.partitioning.Graph	329
edu.mit.csail.sdg.squander.examples.partitioning.Literal	331
edu.mit.csail.sdg.squander.examples.partitioning.Partition	333
edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree	335
edu.mit.csail.sdg.squander.examples.setpoly.IntSet	341
edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet	339
edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet	343
edu.mit.csail.sdg.squander.examples.sort.Sort	345
edu.mit.csail.sdg.squander.examples.sort.SortTest	347

edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1	348
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test	351
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2	352
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3	355
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4	358
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num	361
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5	362
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree	365
edu.mit.csail.sdg.squander.forge_examples.TopologicalSort	370
edu.mit.csail.sdg.squander.log.Log	375
edu.mit.csail.sdg.squander.options.ConfigLoader	378
edu.mit.csail.sdg.squander.options.GlobalOptions	380
edu.mit.csail.sdg.squander.parser.JFSLLexer	383
edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18	425
edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26	426
edu.mit.csail.sdg.squander.parser.JFSLParser	427
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38	555
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42	556
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69	557
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77	558
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78	559
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79	560
edu.mit.csail.sdg.squander.parser.JFSLParserException	561
edu.mit.csail.sdg.squander.spec.TypeCheckException	733
edu.mit.csail.sdg.squander.spec.ArityMismatchException	599
edu.mit.csail.sdg.squander.spec.IncompatibleTypesException	649
edu.mit.csail.sdg.squander.regressions.Tests	565
edu.mit.csail.sdg.squander.serializer.HeapListener	572
edu.mit.csail.sdg.squander.serializer.AbstractHeapListener	568
edu.mit.csail.sdg.squander.serializer.ConsoleHeap	570
edu.mit.csail.sdg.squander.serializer.IHeap	574
edu.mit.csail.sdg.squander.serializer.AbstractHeap	566
edu.mit.csail.sdg.squander.engine.Heap	117
edu.mit.csail.sdg.squander.serializer.Serializer	575
edu.mit.csail.sdg.squander.serializer.special.IObjSer	584
edu.mit.csail.sdg.squander.serializer.special.ArraySer	579
edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer	582
edu.mit.csail.sdg.squander.serializer.special.ListSer	586
edu.mit.csail.sdg.squander.serializer.special.MapSer	588
edu.mit.csail.sdg.squander.serializer.special.SetSer	594
edu.mit.csail.sdg.squander.serializer.special.StringSer	597
edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory	591
edu.mit.csail.sdg.squander.spec.ClassSpec	601
edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound	609
edu.mit.csail.sdg.squander.spec.constant.ConstRels	612
edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >	614
edu.mit.csail.sdg.squander.spec.ForgeEnv	615
edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv	634
edu.mit.csail.sdg.squander.spec.ForgeScene	620
edu.mit.csail.sdg.squander.spec.Frame	641
edu.mit.csail.sdg.squander.spec.FrameInference	646
edu.mit.csail.sdg.squander.spec.ISpecProvider	652

edu.mit.csail.sdg.squander.spec.CompositeSpecProvider	607
edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider	694
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider	709
edu.mit.csail.sdg.squander.spec.JavaScene	653
edu.mit.csail.sdg.squander.spec.JField	659
edu.mit.csail.sdg.squander.spec.JMethod	667
edu.mit.csail.sdg.squander.spec.JType	671
edu.mit.csail.sdg.squander.spec.MethodSpec	675
edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource	680
edu.mit.csail.sdg.squander.spec.MyExprEvaluator	683
edu.mit.csail.sdg.squander.spec.NameSpace	689
edu.mit.csail.sdg.squander.spec.Null	693
edu.mit.csail.sdg.squander.spec.Source	697
edu.mit.csail.sdg.squander.spec.Spec	701
edu.mit.csail.sdg.squander.spec.Spec.SpecCase	706
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor	711
edu.mit.csail.sdg.squander.spec.SqFunc	714
edu.mit.csail.sdg.squander.spec.Tr	715
edu.mit.csail.sdg.squander.spec.TypeChecker	722
edu.mit.csail.sdg.squander.spec.Visitor< N, M >	735
edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer	741
edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6	753
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser	754
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException	771
edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >	775
edu.mit.csail.sdg.squander.Squander	777
edu.mit.csail.sdg.squander.util.test.TestUtils	781
edu.mit.csail.sdg.squander.utils.Counter< T >	782
edu.mit.csail.sdg.squander.utils.Predicate< T >	784
edu.mit.csail.sdg.squander.utils.ReflectionUtils	785
edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >	793
edu.mit.csail.sdg.squander.utils.Utils	796

Chapter 5

Class Index

5.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

edu.mit.csail.sdg.annotations.FuncField	77
edu.mit.csail.sdg.squander.absstate.AbstractState	78
edu.mit.csail.sdg.squander.absstate.FieldValue	81
edu.mit.csail.sdg.squander.absstate.ObjAbsState	84
edu.mit.csail.sdg.squander.absstate.ObjTuple	87
edu.mit.csail.sdg.squander.absstate.ObjTupleSet	91
edu.mit.csail.sdg.squander.annotations.Fresh	99
edu.mit.csail.sdg.squander.annotations.FreshObjects	100
edu.mit.csail.sdg.squander.annotations.Options	101
edu.mit.csail.sdg.squander.engine.ForgeConverter	102
edu.mit.csail.sdg.squander.engine.ForgeEval	114
edu.mit.csail.sdg.squander.engine.Heap	117
edu.mit.csail.sdg.squander.engine.Heap2Bounds	119
edu.mit.csail.sdg.squander.engine.ISquander	124
edu.mit.csail.sdg.squander.engine.ISquanderResult	126
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl	128
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl	135
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval	149
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK	152
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem	156
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl	158
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl	162
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval	167
edu.mit.csail.sdg.squander.engine.SquanderEval	169
edu.mit.csail.sdg.squander.engine.SquanderEval2	177
edu.mit.csail.sdg.squander.engine.SquanderImpl	186
edu.mit.csail.sdg.squander.engine.SquanderReporter	193
edu.mit.csail.sdg.squander.engine.SquanderResult	206
edu.mit.csail.sdg.squander.examples.bst.BalancedBST	211
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree	214
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest	219
edu.mit.csail.sdg.squander.examples.bst.BST_noParent	223
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest	228

edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld	232
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest	238
edu.mit.csail.sdg.squander.examples.chess.ChessBoard	242
edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan	245
edu.mit.csail.sdg.squander.examples.equiv.Node	248
edu.mit.csail.sdg.squander.examples.func.Utils	250
edu.mit.csail.sdg.squander.examples.graph2.Graph	251
edu.mit.csail.sdg.squander.examples.graph2.GraphTest	253
edu.mit.csail.sdg.squander.examples.graph.Graph	254
edu.mit.csail.sdg.squander.examples.graph.Graph__2	261
edu.mit.csail.sdg.squander.examples.graph.GraphTest	265
edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan	267
edu.mit.csail.sdg.squander.examples.javacol.Collections	269
edu.mit.csail.sdg.squander.examples.javacol.ListTest	272
edu.mit.csail.sdg.squander.examples.javacol.MapTest	275
edu.mit.csail.sdg.squander.examples.javacol.SetTest	278
edu.mit.csail.sdg.squander.examples.javacol.Str	280
edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx	281
edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest	284
edu.mit.csail.sdg.squander.examples.list.func2.Cons	285
edu.mit.csail.sdg.squander.examples.list.func2.IntList	287
edu.mit.csail.sdg.squander.examples.list.func2.ListTest	289
edu.mit.csail.sdg.squander.examples.list.func2.Nil	291
edu.mit.csail.sdg.squander.examples.list.func.Cons	292
edu.mit.csail.sdg.squander.examples.list.func.IntList	294
edu.mit.csail.sdg.squander.examples.list.LinkedList	295
edu.mit.csail.sdg.squander.examples.list.LinkedList_ind	298
edu.mit.csail.sdg.squander.examples.list.LinkedListTest	300
edu.mit.csail.sdg.squander.examples.mock.AddressBook	302
edu.mit.csail.sdg.squander.examples.mock.EmailMessage	303
edu.mit.csail.sdg.squander.examples.mock.MockAddressBook	305
edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest	307
edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook	308
edu.mit.csail.sdg.squander.examples.mock.TestAddressBook	310
edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook	312
edu.mit.csail.sdg.squander.examples.numbers.Arithmetic	313
edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest	316
edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot	317
edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot	320
edu.mit.csail.sdg.squander.examples.numbers.ISqRoot	323
edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot	324
edu.mit.csail.sdg.squander.examples.numbers.SqRoofTest	326
edu.mit.csail.sdg.squander.examples.partitioning.Domain	327
edu.mit.csail.sdg.squander.examples.partitioning.Graph	329
edu.mit.csail.sdg.squander.examples.partitioning.Literal	331
edu.mit.csail.sdg.squander.examples.partitioning.Partition	333
edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree	335
edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet	339
edu.mit.csail.sdg.squander.examples.setpoly.IntSet	341
edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet	343
edu.mit.csail.sdg.squander.examples.sort.Sort	345
edu.mit.csail.sdg.squander.examples.sort.SortTest	347
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1	348
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test	351

edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2	352
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3	355
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4	358
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num	361
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5	362
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree	365
edu.mit.csail.sdg.squander.forge_examples.TopologicalSort	370
edu.mit.csail.sdg.squander.log.Log	375
edu.mit.csail.sdg.squander.options.ConfigLoader	378
edu.mit.csail.sdg.squander.options.GlobalOptions	380
edu.mit.csail.sdg.squander.parser.JFSLLexer	383
edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18	425
edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26	426
edu.mit.csail.sdg.squander.parser.JFSLParser	427
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38	555
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42	556
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69	557
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77	558
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78	559
edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79	560
edu.mit.csail.sdg.squander.parser.JFSLParserException	561
edu.mit.csail.sdg.squander.regressions.Tests	565
edu.mit.csail.sdg.squander.serializer.AbstractHeap	566
edu.mit.csail.sdg.squander.serializer.AbstractHeapListener	568
edu.mit.csail.sdg.squander.serializer.ConsoleHeap	570
edu.mit.csail.sdg.squander.serializer.HeapListener	572
edu.mit.csail.sdg.squander.serializer.IHeap	574
edu.mit.csail.sdg.squander.serializer.Serializer	575
edu.mit.csail.sdg.squander.serializer.special.ArraySer	579
edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer	582
edu.mit.csail.sdg.squander.serializer.special.IObjSer	584
edu.mit.csail.sdg.squander.serializer.special.ListSer	586
edu.mit.csail.sdg.squander.serializer.special.MapSer	588
edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory	591
edu.mit.csail.sdg.squander.serializer.special.SetSer	594
edu.mit.csail.sdg.squander.serializer.special.StringSer	597
edu.mit.csail.sdg.squander.spec.ArityMismatchException	599
edu.mit.csail.sdg.squander.spec.ClassSpec	601
edu.mit.csail.sdg.squander.spec.CompositeSpecProvider	607
edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound	609
edu.mit.csail.sdg.squander.spec.constant.ConstRels	612
edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >	614
edu.mit.csail.sdg.squander.spec.ForgeEnv	615
edu.mit.csail.sdg.squander.spec.ForgeScene	620
edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv	634
edu.mit.csail.sdg.squander.spec.Frame	641
edu.mit.csail.sdg.squander.spec.FrameInference	646
edu.mit.csail.sdg.squander.spec.IncompatibleTypesException	649
edu.mit.csail.sdg.squander.spec.ISpecProvider	652
edu.mit.csail.sdg.squander.spec.JavaScene	653
edu.mit.csail.sdg.squander.spec.JField	659
edu.mit.csail.sdg.squander.spec.JMethod	667
edu.mit.csail.sdg.squander.spec.JType	671
edu.mit.csail.sdg.squander.spec.MethodSpec	675

edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource	680
edu.mit.csail.sdg.squander.spec.MyExprEvaluator	683
edu.mit.csail.sdg.squander.spec.NameSpace	689
edu.mit.csail.sdg.squander.spec.Null	693
edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider	694
edu.mit.csail.sdg.squander.spec.Source	697
edu.mit.csail.sdg.squander.spec.Spec	701
edu.mit.csail.sdg.squander.spec.Spec.SpecCase	706
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider	709
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor	711
edu.mit.csail.sdg.squander.spec.SqFunc	714
edu.mit.csail.sdg.squander.spec.Tr	715
edu.mit.csail.sdg.squander.spec.TypeChecker	722
edu.mit.csail.sdg.squander.spec.TypeCheckException	733
edu.mit.csail.sdg.squander.spec.Visitor< N, M >	735
edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer	741
edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6	753
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser	754
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException	771
edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >	775
edu.mit.csail.sdg.squander.Squander	777
edu.mit.csail.sdg.squander.util.test.TestUtils	781
edu.mit.csail.sdg.squander.utils.Counter< T >	782
edu.mit.csail.sdg.squander.utils.Predicate< T >	784
edu.mit.csail.sdg.squander.utils.ReflectionUtils	785
edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >	793
edu.mit.csail.sdg.squander.utils.Utils	796

Chapter 6

File Index

6.1 File List

Here is a list of all files with brief descriptions:

examples/edu/mit/csail/sdg/squander/examples/bst/BalancedBST.java	799
examples/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTree.java	870
examples/edu/mit/csail/sdg/squander/examples/bst/BST_noParent.java	800
examples/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFld.java	801
examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoard.java	802
examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoardMan.java	803
examples/edu/mit/csail/sdg/squander/examples/equiv/Node.java	804
examples/edu/mit/csail/sdg/squander/examples/func/Utils.java	929
examples/edu/mit/csail/sdg/squander/examples/graph/Graph.java	805
examples/edu/mit/csail/sdg/squander/examples/graph/Graph__2.java	808
examples/edu/mit/csail/sdg/squander/examples/graph/HamiltonianMan.java	809
examples/edu/mit/csail/sdg/squander/examples/graph2/Graph.java	806
examples/edu/mit/csail/sdg/squander/examples/javacol/Collections.java	810
examples/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsEx.java	811
examples/edu/mit/csail/sdg/squander/examples/list/LinkedList.java	817
examples/edu/mit/csail/sdg/squander/examples/list/LinkedList_ind.java	818
examples/edu/mit/csail/sdg/squander/examples/list/func/Cons.java	812
examples/edu/mit/csail/sdg/squander/examples/list/func/IntList.java	814
examples/edu/mit/csail/sdg/squander/examples/list/func2/Cons.java	813
examples/edu/mit/csail/sdg/squander/examples/list/func2/IntList.java	815
examples/edu/mit/csail/sdg/squander/examples/list/func2/Nil.java	816
examples/edu/mit/csail/sdg/squander/examples/mock/AddressBook.java	819
examples/edu/mit/csail/sdg/squander/examples/mock/EmailMessage.java	820
examples/edu/mit/csail/sdg/squander/examples/mock/MockAddressBook.java	821
examples/edu/mit/csail/sdg/squander/examples/mock/SquanderAddressBook.java	822
examples/edu/mit/csail/sdg/squander/examples/numbers/Arithmetic.java	823
examples/edu/mit/csail/sdg/squander/examples/numbers/DeclarativeSqRoot.java	824
examples/edu/mit/csail/sdg/squander/examples/numbers/ImperativeSqRoot.java	825
examples/edu/mit/csail/sdg/squander/examples/numbers/ISqRoot.java	826
examples/edu/mit/csail/sdg/squander/examples/numbers/MixedSqRoot.java	827
examples/edu/mit/csail/sdg/squander/examples/partitioning/Domain.java	828
examples/edu/mit/csail/sdg/squander/examples/partitioning/Graph.java	807
examples/edu/mit/csail/sdg/squander/examples/partitioning/Literal.java	829

examples/edu/mit/csail/sdg/squander/examples/partitioning/Partition.java	830
examples/edu/mit/csail/sdg/squander/examples/rbt/RedBlackTree.java	831
examples/edu/mit/csail/sdg/squander/examples/setpoly/BstIntSet.java	832
examples/edu/mit/csail/sdg/squander/examples/setpoly/IntSet.java	833
examples/edu/mit/csail/sdg/squander/examples/setpoly/SetIntSet.java	834
examples/edu/mit/csail/sdg/squander/examples/sort/Sort.java	835
examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1.java	836
examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku2.java	837
examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku3.java	838
examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku4.java	839
examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku5.java	840
spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileLexer.java	841
spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParser.java	842
spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParserException.java	843
spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileVisitor.java	844
src/edu/mit/csail/sdg/annotations/FuncField.java	845
src/edu/mit/csail/sdg/squander/Squander.java	923
src/edu/mit/csail/sdg/squander/absstate/AbstractState.java	846
src/edu/mit/csail/sdg/squander/absstate/FieldValue.java	847
src/edu/mit/csail/sdg/squander/absstate/ObjAbsState.java	848
src/edu/mit/csail/sdg/squander/absstate/ObjTuple.java	849
src/edu/mit/csail/sdg/squander/absstate/ObjTupleSet.java	850
src/edu/mit/csail/sdg/squander/annotations/Fresh.java	851
src/edu/mit/csail/sdg/squander/annotations/FreshObjects.java	852
src/edu/mit/csail/sdg/squander/annotations/Options.java	853
src/edu/mit/csail/sdg/squander/engine/ForgeConverter.java	854
src/edu/mit/csail/sdg/squander/engine/ForgeEval.java	855
src/edu/mit/csail/sdg/squander/engine/Heap.java	856
src/edu/mit/csail/sdg/squander/engine/Heap2Bounds.java	857
src/edu/mit/csail/sdg/squander/engine/ISquander.java	858
src/edu/mit/csail/sdg/squander/engine/ISquanderResult.java	859
src/edu/mit/csail/sdg/squander/engine/SquanderEval.java	864
src/edu/mit/csail/sdg/squander/engine/SquanderEval2.java	865
src/edu/mit/csail/sdg/squander/engine/SquanderImpl.java	866
src/edu/mit/csail/sdg/squander/engine/SquanderReporter.java	867
src/edu/mit/csail/sdg/squander/engine/SquanderResult.java	868
src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkod2Impl.java	860
src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java	861
src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPart2Impl.java	862
src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPartImpl.java	863
src/edu/mit/csail/sdg/squander/forge_examples/BinarySearchTree.java	869
src/edu/mit/csail/sdg/squander/forge_examples/TopologicalSort.java	871
src/edu/mit/csail/sdg/squander/log/Log.java	872
src/edu/mit/csail/sdg/squander/options/ConfigLoader.java	873
src/edu/mit/csail/sdg/squander/options/GlobalOptions.java	874
src/edu/mit/csail/sdg/squander/parser/JFSLLexer.java	875
src/edu/mit/csail/sdg/squander/parser/JFSLParser.java	876
src/edu/mit/csail/sdg/squander/parser/JFSLParserException.java	878
src/edu/mit/csail/sdg/squander/serializer/AbstractHeap.java	879
src/edu/mit/csail/sdg/squander/serializer/AbstractHeapListener.java	880
src/edu/mit/csail/sdg/squander/serializer/ConsoleHeap.java	881
src/edu/mit/csail/sdg/squander/serializer/HeapListener.java	882
src/edu/mit/csail/sdg/squander/serializer/IHeap.java	883
src/edu/mit/csail/sdg/squander/serializer/Serializer.java	884

src/edu/mit/csail/sdg/squander/serializer/special/ArraySer.java	885
src/edu/mit/csail/sdg/squander/serializer/special/DefaultObjSer.java	886
src/edu/mit/csail/sdg/squander/serializer/special/IObjSer.java	887
src/edu/mit/csail/sdg/squander/serializer/special/ListSer.java	888
src/edu/mit/csail/sdg/squander/serializer/special/MapSer.java	889
src/edu/mit/csail/sdg/squander/serializer/special/ObjSerFactory.java	890
src/edu/mit/csail/sdg/squander/serializer/special/SetSer.java	891
src/edu/mit/csail/sdg/squander/serializer/special/StringSer.java	892
src/edu/mit/csail/sdg/squander/spec/ArityMismatchException.java	893
src/edu/mit/csail/sdg/squander/spec/ClassSpec.java	894
src/edu/mit/csail/sdg/squander/spec/CompositeSpecProvider.java	895
src/edu/mit/csail/sdg/squander/spec/ForgeEnv.java	900
src/edu/mit/csail/sdg/squander/spec/ForgeScene.java	901
src/edu/mit/csail/sdg/squander/spec/Frame.java	902
src/edu/mit/csail/sdg/squander/spec/FrameInference.java	903
src/edu/mit/csail/sdg/squander/spec/IncompatibleTypesException.java	904
src/edu/mit/csail/sdg/squander/spec/ISpecProvider.java	905
src/edu/mit/csail/sdg/squander/spec/JavaScene.java	906
src/edu/mit/csail/sdg/squander/spec/JField.java	907
src/edu/mit/csail/sdg/squander/spec/JMethod.java	908
src/edu/mit/csail/sdg/squander/spec/JType.java	909
src/edu/mit/csail/sdg/squander/spec/MethodSpec.java	910
src/edu/mit/csail/sdg/squander/spec/MyExprEvaluator.java	911
src/edu/mit/csail/sdg/squander/spec/NameSpace.java	912
src/edu/mit/csail/sdg/squander/spec/Null.java	913
src/edu/mit/csail/sdg/squander/spec/ReflectiveSpecProvider.java	914
src/edu/mit/csail/sdg/squander/spec/Source.java	915
src/edu/mit/csail/sdg/squander/spec/Spec.java	916
src/edu/mit/csail/sdg/squander/spec/SpecFileSpecProvider.java	917
src/edu/mit/csail/sdg/squander/spec/SqFunc.java	918
src/edu/mit/csail/sdg/squander/spec/Tr.java	919
src/edu/mit/csail/sdg/squander/spec/TypeChecker.java	920
src/edu/mit/csail/sdg/squander/spec/TypeCheckException.java	921
src/edu/mit/csail/sdg/squander/spec/Visitor.java	922
src/edu/mit/csail/sdg/squander/spec/constant/ConstRel.java	896
src/edu/mit/csail/sdg/squander/spec/constant/ConstRel2Bound.java	897
src/edu/mit/csail/sdg/squander/spec/constant/ConstRels.java	898
src/edu/mit/csail/sdg/squander/spec/constant/ConstRelVisitor.java	899
src/edu/mit/csail/sdg/squander/utils/Counter.java	924
src/edu/mit/csail/sdg/squander/utils/Predicate.java	925
src/edu/mit/csail/sdg/squander/utils/ReflectionUtils.java	926
src/edu/mit/csail/sdg/squander/utils/TwoWayMap.java	927
src/edu/mit/csail/sdg/squander/utils/Utils.java	928
tests/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTreeTest.java	930
tests/edu/mit/csail/sdg/squander/examples/bst/BST_noParentTest.java	931
tests/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFldTest.java	932
tests/edu/mit/csail/sdg/squander/examples/graph/GraphTest.java	933
tests/edu/mit/csail/sdg/squander/examples/graph2/GraphTest.java	934
tests/edu/mit/csail/sdg/squander/examples/javacol/ListTest.java	935
tests/edu/mit/csail/sdg/squander/examples/javacol/MapTest.java	937
tests/edu/mit/csail/sdg/squander/examples/javacol/SetTest.java	938
tests/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsTest.java	939
tests/edu/mit/csail/sdg/squander/examples/list/LinkedListTest.java	940
tests/edu/mit/csail/sdg/squander/examples/list/func2/ListTest.java	936

tests/edu/mit/csail/sdg/squander/examples/mock/MockAddressBookTest.java	941
tests/edu/mit/csail/sdg/squander/examples/mock/TestAddressBook.java	942
tests/edu/mit/csail/sdg/squander/examples/mock/TestSquanderAddressBook.java	943
tests/edu/mit/csail/sdg/squander/examples/numbers/ArithmeticTest.java	944
tests/edu/mit/csail/sdg/squander/examples/numbers/SqRootTest.java	945
tests/edu/mit/csail/sdg/squander/examples/sort/SortTest.java	946
tests/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1Test.java	947
tests/edu/mit/csail/sdg/squander/regressions/Tests.java	948
tests/edu/mit/csail/sdg/squander/util/test/TestUtils.java	949

Chapter 7

Module Documentation

7.1 Abstract State

Classes

- class [edu.mit.csail.sdg.squander.absstate.AbstractState](#)
- class [edu.mit.csail.sdg.squander.absstate.FieldValue](#)
- class [edu.mit.csail.sdg.squander.absstate.ObjAbsState](#)
- class [edu.mit.csail.sdg.squander.absstate.ObjTuple](#)
- class [edu.mit.csail.sdg.squander.absstate.ObjTupleSet](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

7.1.1 Detailed Description

This module is responsible for maintaining the abstract state of objects.

7.2 Annotations

Classes

- interface [edu.mit.csail.sdg.squander.annotations.Fresh](#)
- interface [edu.mit.csail.sdg.squander.annotations.FreshObjects](#)
- interface [edu.mit.csail.sdg.squander.annotations.Options](#)

Packages

- package [edu.mit.csail.sdg.squander.annotations](#)

7.2.1 Detailed Description

This module defines several Squander-specific specification annotations (in addition to existing JFSL annotations).

7.3 Engine

Classes

- class `edu.mit.csail.sdg.squander.engine.ForgeConverter`
- class `edu.mit.csail.sdg.squander.engine.ForgeEval`
- class `edu.mit.csail.sdg.squander.engine.Heap`
- class `edu.mit.csail.sdg.squander.engine.Heap2Bounds`
- interface `edu.mit.csail.sdg.squander.engine.ISquander`
- interface `edu.mit.csail.sdg.squander.engine.ISquanderResult`
- class `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl`
- class `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl`
- class `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl`
- class `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl`
- class `edu.mit.csail.sdg.squander.engine.SquanderEval`
- class `edu.mit.csail.sdg.squander.engine.SquanderEval2`
- class `edu.mit.csail.sdg.squander.engine.SquanderImpl`
- class `edu.mit.csail.sdg.squander.engine.SquanderReporter`
- class `edu.mit.csail.sdg.squander.engine.SquanderResult`

Packages

- package `edu.mit.csail.sdg.squander.engine`
- package `edu.mit.csail.sdg.squander.engine.kk`

7.3.1 Detailed Description

This module contains the core classes responsible for executing specifications

7.4 Logging

Classes

- class [edu.mit.csail.sdg.squander.log.Log](#)

Packages

- package [edu.mit.csail.sdg.squander.log](#)

7.4.1 Detailed Description

Logging module.

7.5 Configuration

Classes

- class [edu.mit.csail.sdg.squander.options.ConfigLoader](#)
- class [edu.mit.csail.sdg.squander.options.GlobalOptions](#)

Packages

- package [edu.mit.csail.sdg.squander.options](#)

7.5.1 Detailed Description

This module is responsible for keeping configuration parameters.

7.6 JFSL Parser

Classes

- class [edu.mit.csail.sdg.squander.parser.JFSLParserException](#)

Packages

- package [edu.mit.csail.sdg.squander.parser](#)

7.6.1 Detailed Description

This module contains classes for parsing JFSL specification and converting them to an AST.

7.7 Serialization

Classes

- class [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#)
- class [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#)
- class [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#)
- interface [edu.mit.csail.sdg.squander.serializer.HeapListener](#)
- interface [edu.mit.csail.sdg.squander.serializer.IHeap](#)
- class [edu.mit.csail.sdg.squander.serializer.Serializer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#)
- interface [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.ListSer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.MapSer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory](#)
- class [edu.mit.csail.sdg.squander.serializer.special.SetSer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.StringSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)
- package [edu.mit.csail.sdg.squander.serializer.special](#)

7.7.1 Detailed Description

This module is in charge of serializing and deserializing objects (i.e. it provides abstraction and concretization functions for several types of classes).

7.8 Specification

Classes

- class `edu.mit.csail.sdg.squander.spec.ArityMismatchException`
- class `edu.mit.csail.sdg.squander.spec.ClassSpec`
- class `edu.mit.csail.sdg.squander.spec.CompositeSpecProvider`
- class `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound`
- class `edu.mit.csail.sdg.squander.spec.constant.ConstRels`
- interface `edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >`
- interface `edu.mit.csail.sdg.squander.spec.ForgeEnv`
- class `edu.mit.csail.sdg.squander.spec.ForgeScene`
- class `edu.mit.csail.sdg.squander.spec.Frame`
- class `edu.mit.csail.sdg.squander.spec.FrameInference`
- class `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException`
- interface `edu.mit.csail.sdg.squander.spec.ISpecProvider`
- class `edu.mit.csail.sdg.squander.spec.JavaScene`
- class `edu.mit.csail.sdg.squander.spec.JField`
- class `edu.mit.csail.sdg.squander.spec.JMethod`
- interface `edu.mit.csail.sdg.squander.spec.JType`
- class `edu.mit.csail.sdg.squander.spec.MethodSpec`
- class `edu.mit.csail.sdg.squander.spec.MyExprEvaluator`
- class `edu.mit.csail.sdg.squander.spec.NameSpace`
- class `edu.mit.csail.sdg.squander.spec.Null`
- class `edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider`
- class `edu.mit.csail.sdg.squander.spec.Source`
- class `edu.mit.csail.sdg.squander.spec.Spec`
- class `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider`
- class `edu.mit.csail.sdg.squander.spec.SqFunc`
- class `edu.mit.csail.sdg.squander.spec.Tr`
- class `edu.mit.csail.sdg.squander.spec.TypeChecker`
- class `edu.mit.csail.sdg.squander.spec.TypeCheckException`
- class `edu.mit.csail.sdg.squander.spec.Visitor< N, M >`

Packages

- package `edu.mit.csail.sdg.squander.spec`
- package `edu.mit.csail.sdg.squander.spec.constant`

Enumerations

- enum `edu::mit::csail::sdg::squander::spec::constant.ConstRel` {
`edu::mit::csail::sdg::squander::spec::constant.IDEN` = (JType.Factory.instance.newJType(Object.class, Object.class)),
`edu::mit::csail::sdg::squander::spec::constant.UNIV` =
(JType.Factory.instance.newJType(Object.class)), `edu::mit::csail::sdg::squander::spec::constant.NONE`
= (JType.Factory.instance.newJType(Object.class)), `edu::mit::csail::sdg::squander::spec::constant.INC`
= (JType.Factory.instance.newJType(int.class, int.class)),
`edu::mit::csail::sdg::squander::spec::constant.DEC` = (JType.Factory.instance.newJType(int.class,
int.class)) }

7.8.1 Detailed Description

This module contains classes for reading and maintaining specifications and converting them to Forge expressions.

7.8.2 Enumeration Type Documentation

7.8.2.1 enum edu::mit::csail::sdg::squander::spec::constant::ConstRel

Enumerator:

IDEN

UNIV

NONE

INC

DEC

Definition at line 10 of file ConstRel.java.

7.9 API

Classes

- class [edu.mit.csail.sdg.squander.Squander](#)

Packages

- package [edu.mit.csail.sdg.squander](#)

7.9.1 Detailed Description

Public API.

7.10 Utils

Classes

- class [edu.mit.csail.sdg.squander.utils.Counter< T >](#)
- interface [edu.mit.csail.sdg.squander.utils.Predicate< T >](#)
- class [edu.mit.csail.sdg.squander.utils.ReflectionUtils](#)
- class [edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >](#)
- class [edu.mit.csail.sdg.squander.utils.Utils](#)

Packages

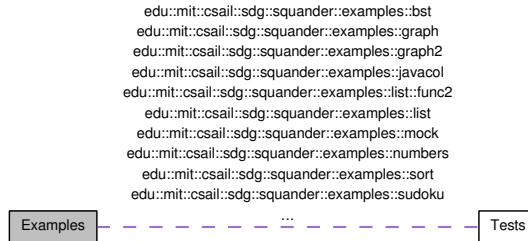
- package [edu.mit.csail.sdg.squander.utils](#)

7.10.1 Detailed Description

This module contains various utility classes.

7.11 Examples

Collaboration diagram for Examples:



Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld](#)
- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoard](#)
- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan](#)
- class [edu.mit.csail.sdg.squander.examples.equiv.Node](#)
- class [edu.mit.csail.sdg.squander.examples.func.Utils](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph__2](#)
- class [edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan](#)
- class [edu.mit.csail.sdg.squander.examples.graph2.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.Collections](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.Str](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx](#)
- class [edu.mit.csail.sdg.squander.examples.list.func.Cons](#)
- class [edu.mit.csail.sdg.squander.examples.list.func.IntList](#)
- class [edu.mit.csail.sdg.squander.examples.list.func2.Cons](#)
- class [edu.mit.csail.sdg.squander.examples.list.func2.IntList](#)
- class [edu.mit.csail.sdg.squander.examples.list.func2.Nil](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedList](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedList_ind](#)
- interface [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.mock.EmailMessage](#)
- class [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.Arithmetic](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#)
- interface [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#)
- class [edu.mit.csail.sdg.squander.examples.partitioning.Domain](#)
- class [edu.mit.csail.sdg.squander.examples.partitioning.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.partitioning.Literal](#)

- class `edu.mit.csail.sdg.squander.examples.partitioning.Partition`
- class `edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree`
- class `edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet`
- class `edu.mit.csail.sdg.squander.examples.setpoly.IntSet`
- class `edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet`
- class `edu.mit.csail.sdg.squander.examples.sort.Sort`
- class `edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1`
- class `edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2`
- class `edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3`
- class `edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4`
- class `edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5`

Packages

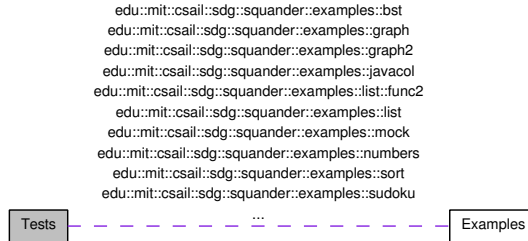
- package `edu.mit.csail.sdg.squander.examples.bst`
- package `edu.mit.csail.sdg.squander.examples.chess`
- package `edu.mit.csail.sdg.squander.examples.equiv`
- package `edu.mit.csail.sdg.squander.examples.func`
- package `edu.mit.csail.sdg.squander.examples.graph`
- package `edu.mit.csail.sdg.squander.examples.graph2`
- package `edu.mit.csail.sdg.squander.examples.javacol`
- package `edu.mit.csail.sdg.squander.examples.list.func`
- package `edu.mit.csail.sdg.squander.examples.list.func2`
- package `edu.mit.csail.sdg.squander.examples.list`
- package `edu.mit.csail.sdg.squander.examples.mock`
- package `edu.mit.csail.sdg.squander.examples.numbers`
- package `edu.mit.csail.sdg.squander.examples.partitioning`
- package `edu.mit.csail.sdg.squander.examples.rbt`
- package `edu.mit.csail.sdg.squander.examples.setpoly`
- package `edu.mit.csail.sdg.squander.examples.sort`
- package `edu.mit.csail.sdg.squander.examples.sudoku`

7.11.1 Detailed Description

This module contains many examples of usage.

7.12 Tests

Collaboration diagram for Tests:



Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest](#)
- class [edu.mit.csail.sdg.squander.examples.graph.GraphTest](#)
- class [edu.mit.csail.sdg.squander.examples.graph2.GraphTest](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.ListTest](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.MapTest](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.SetTest](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest](#)
- class [edu.mit.csail.sdg.squander.examples.list.func2.ListTest](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedListTest](#)
- class [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#)
- class [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.SqRootTest](#)
- class [edu.mit.csail.sdg.squander.examples.sort.SortTest](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test](#)
- class [edu.mit.csail.sdg.squander.regressions.Tests](#)
- class [edu.mit.csail.sdg.squander.util.test.TestUtils](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)
- package [edu.mit.csail.sdg.squander.examples.graph](#)
- package [edu.mit.csail.sdg.squander.examples.graph2](#)
- package [edu.mit.csail.sdg.squander.examples.javacol](#)
- package [edu.mit.csail.sdg.squander.examples.list.func2](#)
- package [edu.mit.csail.sdg.squander.examples.list](#)
- package [edu.mit.csail.sdg.squander.examples.mock](#)
- package [edu.mit.csail.sdg.squander.examples.numbers](#)
- package [edu.mit.csail.sdg.squander.examples.sort](#)
- package [edu.mit.csail.sdg.squander.examples.sudoku](#)
- package [edu.mit.csail.sdg.squander.regressions](#)
- package [edu.mit.csail.sdg.squander.util.test](#)

7.12.1 Detailed Description

This module contains many JUnit tests.

Chapter 8

Namespace Documentation

8.1 Package edu

Packages

- package [mit](#)

8.2 Package edu.mit

Packages

- package [csail](#)

8.3 Package edu.mit.csail

Packages

- package [sdg](#)

8.4 Package edu.mit.csail.sdg

Packages

- package [annotations](#)
- package [squander](#)

8.5 Package edu.mit.csail.sdg.annotations

Classes

- interface [FuncField](#)

8.6 Package edu.mit.csail.sdg.squander

Packages

- package [absstate](#)
- package [annotations](#)
- package [engine](#)
- package [examples](#)
- package [forge_examples](#)
- package [log](#)
- package [options](#)
- package [parser](#)
- package [regressions](#)
- package [serializer](#)
- package [spec](#)
- package [specfile](#)
- package [util](#)
- package [utils](#)

Classes

- class [Squander](#)

8.7 Package edu.mit.csail.sdg.squander.absstate

Classes

- class [AbstractState](#)
- class [FieldValue](#)
- class [ObjAbsState](#)
- class [ObjTuple](#)
- class [ObjTupleSet](#)

8.8 Package edu.mit.csail.sdg.squander.annotations

Classes

- interface [Fresh](#)
- interface [FreshObjects](#)
- interface [Options](#)

8.9 Package edu.mit.csail.sdg.squander.engine

Packages

- package [kk](#)

Classes

- class [ForgeConverter](#)
- class [ForgeEval](#)
- class [Heap](#)
- class [Heap2Bounds](#)
- interface [ISquander](#)
- interface [ISquanderResult](#)
- class [SquanderEval](#)
- class [SquanderEval2](#)
- class [SquanderImpl](#)
- class [SquanderReporter](#)
- class [SquanderResult](#)

8.10 Package edu.mit.csail.sdg.squander.engine.kk

Classes

- class [SquanderKodkod2Impl](#)
- class [SquanderKodkodImpl](#)
- class [SquanderKodkodPart2Impl](#)
- class [SquanderKodkodPartImpl](#)

8.11 Package edu.mit.csail.sdg.squander.examples

Packages

- package [bst](#)
- package [chess](#)
- package [equiv](#)
- package [func](#)
- package [graph](#)
- package [graph2](#)
- package [javacol](#)
- package [list](#)
- package [mock](#)
- package [numbers](#)
- package [partitioning](#)
- package [rbt](#)
- package [setpoly](#)
- package [sort](#)
- package [sudoku](#)

8.12 Package edu.mit.csail.sdg.squander.examples.bst

Classes

- class [BalancedBST](#)
- class [BinarySearchTree](#)
- class [BST_noParent](#)
- class [BST_noSpecFld](#)
- class [BinarySearchTreeTest](#)
- class [BST_noParentTest](#)
- class [BST_noSpecFldTest](#)

8.13 Package edu.mit.csail.sdg.squander.examples.chess

Classes

- class [ChessBoard](#)
- class [ChessBoardMan](#)

8.14 Package edu.mit.csail.sdg.squander.examples.equiv

Classes

- class [Node](#)

8.15 Package edu.mit.csail.sdg.squander.examples.func

Classes

- class [Utils](#)

8.16 Package edu.mit.csail.sdg.squander.examples.graph

Classes

- class [Graph](#)
- class [Graph__2](#)
- class [HamiltonianMan](#)
- class [GraphTest](#)

8.17 Package edu.mit.csail.sdg.squander.examples.graph2

Classes

- class [Graph](#)
- class [GraphTest](#)

8.18 Package edu.mit.csail.sdg.squander.examples.javacol

Classes

- class [Collections](#)
- class [Str](#)
- class [TypeParamsEx](#)
- class [ListTest](#)
- class [MapTest](#)
- class [SetTest](#)
- class [TypeParamsTest](#)

8.19 Package edu.mit.csail.sdg.squander.examples.list

Packages

- package [func](#)
- package [func2](#)

Classes

- class [LinkedList](#)
- class [LinkedList_ind](#)
- class [LinkedListTest](#)

8.20 Package edu.mit.csail.sdg.squander.examples.list.func

Classes

- class [Cons](#)
- class [IntList](#)

8.21 Package edu.mit.csail.sdg.squander.examples.list.func2

Classes

- class [Cons](#)
- class [IntList](#)
- class [Nil](#)
- class [ListTest](#)

8.22 Package edu.mit.csail.sdg.squander.examples.mock

Classes

- interface [AddressBook](#)
- class [EmailMessage](#)
- class [MockAddressBook](#)
- class [SquanderAddressBook](#)
- class [MockAddressBookTest](#)
- class [TestAddressBook](#)
- class [TestSquanderAddressBook](#)

8.23 Package edu.mit.csail.sdg.squander.examples.numbers

Classes

- class [Arithmetic](#)
- class [DeclarativeSqRoot](#)
- class [ImperativeSqRoot](#)
- interface [ISqRoot](#)
- class [MixedSqRoot](#)
- class [ArithmeticTest](#)
- class [SqRootTest](#)

8.24 Package edu.mit.csail.sdg.squander.examples.partitioning

Classes

- class [Domain](#)
- class [Graph](#)
- class [Literal](#)
- class [Partition](#)

8.25 Package edu.mit.csail.sdg.squander.examples.rbt

Classes

- class [RedBlackTree](#)

8.26 Package edu.mit.csail.sdg.squander.examples.setpoly

Classes

- class [BstIntSet](#)
- class [IntSet](#)
- class [SetIntSet](#)

8.27 Package edu.mit.csail.sdg.squander.examples.sort

Classes

- class [Sort](#)
- class [SortTest](#)

8.28 Package `edu.mit.csail.sdg.squander.examples.sudoku`

Classes

- class [Sudoku1](#)
- class [Sudoku2](#)
- class [Sudoku3](#)
- class [Sudoku4](#)
- class [Sudoku5](#)
- class [Sudoku1Test](#)

8.29 Package edu.mit.csail.sdg.squander.forge_examples

Classes

- class [BinarySearchTree](#)
- class [TopologicalSort](#)

8.30 Package edu.mit.csail.sdg.squander.log

Classes

- class [Log](#)

8.31 Package edu.mit.csail.sdg.squander.options

Classes

- class [ConfigLoader](#)
- class [GlobalOptions](#)

8.32 Package edu.mit.csail.sdg.squander.parser

Classes

- class [JFSLLexer](#)
- class [JFSLParser](#)
- class [JFSLParserException](#)

8.33 Package edu.mit.csail.sdg.squander.regressions

Classes

- class [Tests](#)

8.34 Package edu.mit.csail.sdg.squander.serializer

Packages

- package [special](#)

Classes

- class [AbstractHeap](#)
- class [AbstractHeapListener](#)
- class [ConsoleHeap](#)
- interface [HeapListener](#)
- interface [IHeap](#)
- class [Serializer](#)

8.35 Package edu.mit.csail.sdg.squander.serializer.special

Classes

- class [ArraySer](#)
- class [DefaultObjSer](#)
- interface [IObjSer](#)
- class [ListSer](#)
- class [MapSer](#)
- class [ObjSerFactory](#)
- class [SetSer](#)
- class [StringSer](#)

8.36 Package edu.mit.csail.sdg.squander.spec

Packages

- package [constant](#)

Classes

- class [ArityMismatchException](#)
- class [ClassSpec](#)
- class [CompositeSpecProvider](#)
- interface [ForgeEnv](#)
- class [ForgeScene](#)
- class [Frame](#)
- class [FrameInference](#)
- class [IncompatibleTypesException](#)
- interface [ISpecProvider](#)
- class [JavaScene](#)
- class [JField](#)
- class [JMethod](#)
- interface [JType](#)
- class [MethodSpec](#)
- class [MyExprEvaluator](#)
- class [NameSpace](#)
- class [Null](#)
- class [ReflectiveSpecProvider](#)
- class [Source](#)
- class [Spec](#)
- class [SpecFileSpecProvider](#)
- class [SqFunc](#)
- class [Tr](#)
- class [TypeChecker](#)
- class [TypeCheckException](#)
- class [Visitor< N, M >](#)

8.37 Package edu.mit.csail.sdg.squander.spec.constant

Classes

- class [ConstRel2Bound](#)
- class [ConstRels](#)
- interface [ConstRelVisitor< E >](#)

Enumerations

- enum [ConstRel](#) {
 [IDEN](#) = (JType.Factory.instance.newJType(Object.class, Object.class)),
 [UNIV](#) = (JType.Factory.instance.newJType(Object.class), [NONE](#) =
 (JType.Factory.instance.newJType(Object.class)), [INC](#) = (JType.Factory.instance.newJType(int.class,
 int.class)),
 [DEC](#) = (JType.Factory.instance.newJType(int.class, int.class)) }

8.38 Package edu.mit.csail.sdg.squander.specfile

Packages

- package [parser](#)

8.39 Package edu.mit.csail.sdg.squander.specfile.parser

Classes

- class [SpecFileLexer](#)
- class [SpecFileParser](#)
- class [SpecFileParserException](#)
- class [SpecFileVisitor< N >](#)

8.40 Package edu.mit.csail.sdg.squander.util

Packages

- package [test](#)

8.41 Package edu.mit.csail.sdg.squander.util.test

Classes

- class [TestUtils](#)

8.42 Package edu.mit.csail.sdg.squander.utils

Classes

- class [Counter< T >](#)
- interface [Predicate< T >](#)
- class [ReflectionUtils](#)
- class [TwoWayMap< K, V >](#)
- class [Utils](#)

Chapter 9

Class Documentation

9.1 edu.mit.csail.sdg.annotations.FuncField Interface Reference

Package Functions

- [String\[\] value \(\)](#)

9.1.1 Detailed Description

Definition at line 12 of file FuncField.java.

9.1.2 Member Function Documentation

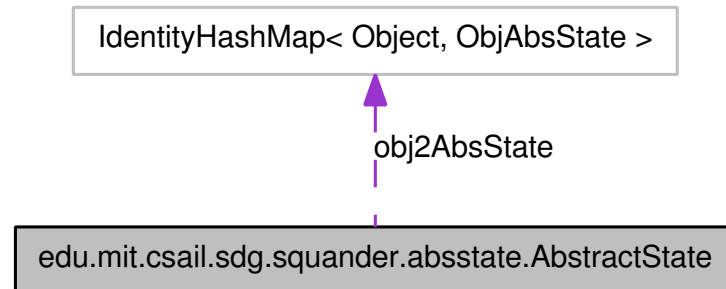
9.1.2.1 [String \[\] edu.mit.csail.sdg.annotations.FuncField.value \(\)](#) [[package](#)]

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/annotations/FuncField.java](#)

9.2 edu.mit.csail.sdg.squander.absstate.AbstractState Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.absstate.AbstractState:



Public Member Functions

- `Collection< Object > getAllObjects ()`
- `ObjAbsState getObjState (Object obj)`
- `ObjAbsState getOrAddObjState (Object obj)`
- `void setObjState (Object obj, ObjAbsState objState)`
- `void clear ()`
- `Set< Entry< Object, ObjAbsState > > getEntries ()`
- `String toString ()`
- `Collection< ObjAbsState > getAllObjStates ()`

Private Attributes

- `IdentityHashMap< Object, ObjAbsState > obj2AbsState = new IdentityHashMap<Object, ObjAbsState>()`

9.2.1 Detailed Description

Used to store the abstract state (values of spec fields) of all heap objects.

Author:

Aleksandar Milicevic

Definition at line 17 of file `AbstractState.java`.

9.2.2 Member Function Documentation

9.2.2.1 void edu.mit.csail.sdg.squander.absstate.AbstractState.clear ()

Definition at line 43 of file `AbstractState.java`.

References `edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState`.

9.2.2.2 Collection<Object> edu.mit.csail.sdg.squander.absstate.AbstractState.getAllObjects ()

Definition at line 24 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

**9.2.2.3 Collection<ObjAbsState>
edu.mit.csail.sdg.squander.absstate.AbstractState.getAllObjStates
()**

Definition at line 60 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

**9.2.2.4 Set<Entry<Object, ObjAbsState> >
edu.mit.csail.sdg.squander.absstate.AbstractState.getEntries
()**

Definition at line 47 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

9.2.2.5 ObjAbsState edu.mit.csail.sdg.squander.absstate.AbstractState.getObjState (Object *obj*)

Definition at line 26 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), and
edu.mit.csail.sdg.squander.absstate.AbstractState.getOrAddObjState().

**9.2.2.6 ObjAbsState edu.mit.csail.sdg.squander.absstate.AbstractState.getOrAddObjState (Object
obj)**

Definition at line 30 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.getObjState(), and
edu.mit.csail.sdg.squander.absstate.AbstractState.setObjState().

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc().

**9.2.2.7 void edu.mit.csail.sdg.squander.absstate.AbstractState.setObjState (Object *obj*,
ObjAbsState *objState*)**

Definition at line 39 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

Referenced by edu.mit.csail.sdg.squander.absstate.AbstractState.getOrAddObjState().

9.2.2.8 String edu.mit.csail.sdg.squander.absstate.AbstractState.toString ()

Definition at line 52 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

9.2.3 Member Data Documentation

9.2.3.1 IdentityHashMap<Object, ObjAbsState> edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState = new IdentityHashMap<Object, ObjAbsState>() [private]

Keeps abstract states of different heap objects.

Definition at line 22 of file AbstractState.java.

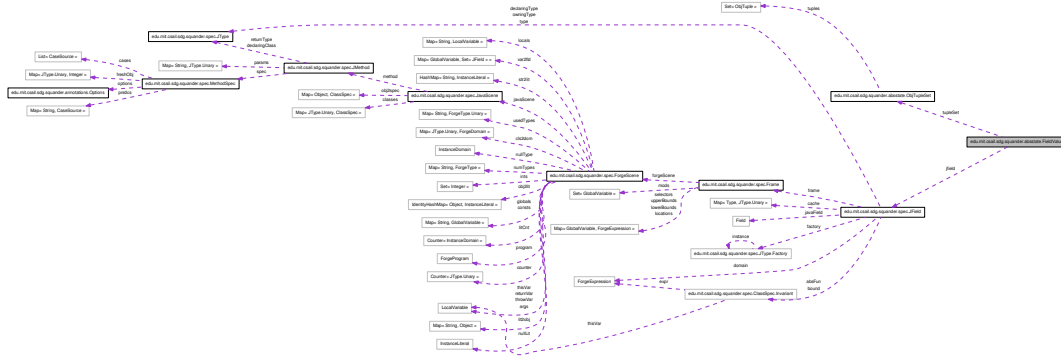
Referenced by edu.mit.csail.sdg.squander.absstate.AbstractState.clear(),
edu.mit.csail.sdg.squander.absstate.AbstractState.getAllObjects(), edu.mit.csail.sdg.squander.absstate.AbstractState.getAllObjS
edu.mit.csail.sdg.squander.absstate.AbstractState.getEntries(), edu.mit.csail.sdg.squander.absstate.AbstractState.getObjState(),
edu.mit.csail.sdg.squander.absstate.AbstractState.setObjState(), and edu.mit.csail.sdg.squander.absstate.AbstractState.toString()

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/absstate/AbstractState.java](#)

9.3 edu.mit.csail.sdg.squander.absstate.FieldValue Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.absstate.FieldValue:



Public Member Functions

- [FieldValue](#) ([JField](#) *jfield*, int *arity*)
- [JField](#) *jfield* ()
- [ObjTupleSet](#) *tupleSet* ()
- void [addTuple](#) ([ObjTuple](#) *tuple*)
- void [addAllTuples](#) ([ObjTupleSet](#) *value*)
- String [toString](#) ()

Private Attributes

- final [JField](#) *jfield*
- final [ObjTupleSet](#) *tupleSet*

9.3.1 Detailed Description

Used to represent the value of a spec field. It consists of a field definition and its value (which is a set of tuples).

Author:

Aleksandar Milicevic

Definition at line 15 of file FieldValue.java.

9.3.2 Constructor & Destructor Documentation

9.3.2.1 edu.mit.csail.sdg.squander.absstate.FieldValue.FieldValue ([JField](#) *jfield*, int *arity*)

Definition at line 22 of file FieldValue.java.

References [edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet\(\)](#).

9.3.3 Member Function Documentation

9.3.3.1 void edu.mit.csail.sdg.squander.absstate.FieldValue.addAllTuples (ObjTupleSet value)

Definition at line 38 of file FieldValue.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap().

9.3.3.2 void edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple (ObjTuple tuple)

Definition at line 34 of file FieldValue.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), and edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet().

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc(), and edu.mit.csail.sdg.squander.absstate.FieldValue.addAllTuples().

9.3.3.3 JField edu.mit.csail.sdg.squander.absstate.FieldValue.jfield ()

Definition at line 28 of file FieldValue.java.

Referenced by edu.mit.csail.sdg.squander.absstate.FieldValue.toString().

9.3.3.4 String edu.mit.csail.sdg.squander.absstate.FieldValue.toString ()

Definition at line 44 of file FieldValue.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.jfield(), edu.mit.csail.sdg.squander.spec.JField.name, and edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet().

9.3.3.5 ObjTupleSet edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet ()

Definition at line 30 of file FieldValue.java.

Referenced by edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple(), edu.mit.csail.sdg.squander.absstate.FieldValue.FieldValue(), and edu.mit.csail.sdg.squander.absstate.FieldValue.toString().

9.3.4 Member Data Documentation

9.3.4.1 final JField edu.mit.csail.sdg.squander.absstate.FieldValue.jfield [private]

Field definition

Definition at line 18 of file FieldValue.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), edu.mit.csail.sdg.squander.absstate.ObjAbsState.add(), edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc(), and edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc().

9.3.4.2 final ObjTupleSet edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet [private]

Field value (set of tuples of Java objects)

Definition at line 20 of file FieldValue.java.

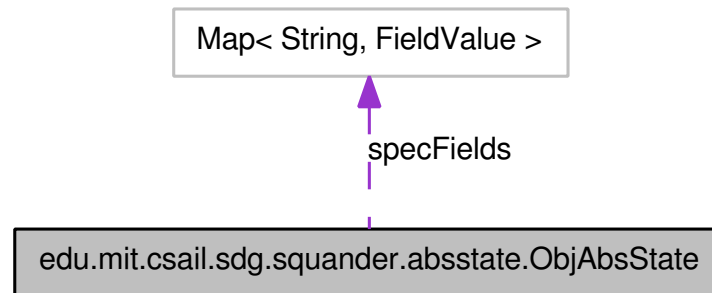
Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc(), and edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreElems().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/absstate/FieldValue.java](#)

9.4 edu.mit.csail.sdg.squander.absstate.ObjAbsState Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.absstate.ObjAbsState:



Public Member Functions

- `ObjAbsState` (Object `obj`)
- Object `getObj` ()
- Iterator< `FieldValue` > `iterator` ()
- void `add` (`FieldValue` `e`)
- `FieldValue` `getSpecField` (String `name`)
- `FieldValue` `getOrAddSpecField` (`JField` `jf`, int `arity`)
- String `toString` ()

Private Attributes

- final Object `obj`
- Map< String, `FieldValue` > `specFields` = new HashMap<String, `FieldValue`>()

9.4.1 Detailed Description

The abstract state of an object consists of `FieldValues`.

Author:

Aleksandar Milicevic

Definition at line 19 of file `ObjAbsState.java`.

9.4.2 Constructor & Destructor Documentation

9.4.2.1 edu.mit.csail.sdg.squander.absstate.ObjAbsState.ObjAbsState (Object `obj`)

Definition at line 26 of file `ObjAbsState.java`.

9.4.3 Member Function Documentation

9.4.3.1 void edu.mit.csail.sdg.squander.absstate.ObjAbsState.add (FieldValue *e*)

Definition at line 39 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.jfield, edu.mit.csail.sdg.squander.spec.JField.name, and edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc().

9.4.3.2 Object edu.mit.csail.sdg.squander.absstate.ObjAbsState.getObj ()

Definition at line 30 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.obj.

9.4.3.3 FieldValue edu.mit.csail.sdg.squander.absstate.ObjAbsState.getOrAddSpecField (JField *jf*, int *arity*)

Definition at line 47 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.getSpecField(), edu.mit.csail.sdg.squander.spec.JField.name, and edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

9.4.3.4 FieldValue edu.mit.csail.sdg.squander.absstate.ObjAbsState.getSpecField (String *name*)

Definition at line 43 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), and edu.mit.csail.sdg.squander.absstate.ObjAbsState.getOrAddSpecField().

9.4.3.5 Iterator<FieldValue> edu.mit.csail.sdg.squander.absstate.ObjAbsState.iterator ()

Definition at line 35 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

9.4.3.6 String edu.mit.csail.sdg.squander.absstate.ObjAbsState.toString ()

Definition at line 58 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.obj, and edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

9.4.4 Member Data Documentation

9.4.4.1 final Object edu.mit.csail.sdg.squander.absstate.ObjAbsState.obj [private]

Definition at line 21 of file ObjAbsState.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjAbsState.getObj(), and edu.mit.csail.sdg.squander.absstate.ObjAbsState.toString().

9.4.4.2 `Map<String, FieldValue> edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields = new HashMap<String, FieldValue>() [private]`

Values of spec fields

Definition at line 24 of file `ObjAbsState.java`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjAbsState.add()`, `edu.mit.csail.sdg.squander.absstate.ObjAbsState.getOrA`, `edu.mit.csail.sdg.squander.absstate.ObjAbsState.getSpecField()`, `edu.mit.csail.sdg.squander.absstate.ObjAbsState.iterator()`, and `edu.mit.csail.sdg.squander.absstate.ObjAbsState.toString()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/absstate/ObjAbsState.java](#)

9.5 edu.mit.csail.sdg.squander.absstate.ObjTuple Class Reference

Public Member Functions

- [ObjTuple](#) (Object...tuple)
- [ObjTuple](#) (List< Object > tuple)
- int [arity](#) ()
- Object[] [atoms](#) ()
- [ObjTuple projection](#) (int startCol, int endCol)
- Object [get](#) (int index)
- Object[] [tuple](#) ()
- Iterator< Object > [iterator](#) ()
- [ObjTuple product](#) (ObjTuple t)
- int [hashCode](#) ()
- boolean [equals](#) (Object obj)
- String [toString](#) ()

Static Public Member Functions

- static [ObjTuple product](#) (ObjTuple tuple, Object atom)
- static [ObjTuple product](#) (ObjTuple t1, ObjTuple t2)

Static Private Member Functions

- static boolean [arrayEquals](#) (Object[] a1, Object[] a2)
- static boolean [objLiteralsEquals](#) (Object o1, Object o2)

Private Attributes

- final int [arity](#)
- final Object[] [tuple](#)

9.5.1 Detailed Description

A tuple of objects. An array of objects is used as a representation.

Author:

Aleksandar Milicevic

Definition at line 18 of file ObjTuple.java.

9.5.2 Constructor & Destructor Documentation

9.5.2.1 edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple (Object... tuple)

Definition at line 23 of file ObjTuple.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTuple.arity\(\)](#), and [edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.absstate.ObjTuple.product\(\)](#), and [edu.mit.csail.sdg.squander.absstate.ObjTuple.projection\(\)](#).

9.5.2.2 `edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple (List< Object > tuple)`

Definition at line 28 of file `ObjTuple.java`.

9.5.3 Member Function Documentation

9.5.3.1 `int edu.mit.csail.sdg.squander.absstate.ObjTuple.arity ()`

Definition at line 32 of file `ObjTuple.java`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTuple.equals()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.hashCode()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple()`, and `edu.mit.csail.sdg.squander.absstate.ObjTuple.product()`.

9.5.3.2 `static boolean edu.mit.csail.sdg.squander.absstate.ObjTuple.arrayEquals (Object[] a1, Object[] a2) [static, private]`

Definition at line 98 of file `ObjTuple.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTuple.objLiteralsEquals()`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTuple.equals()`.

9.5.3.3 `Object [] edu.mit.csail.sdg.squander.absstate.ObjTuple.atoms ()`

Definition at line 33 of file `ObjTuple.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple()`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTuple.product()`.

9.5.3.4 `boolean edu.mit.csail.sdg.squander.absstate.ObjTuple.equals (Object obj)`

Definition at line 66 of file `ObjTuple.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTuple.arity()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.arrayEquals()`, and `edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple()`.

9.5.3.5 `Object edu.mit.csail.sdg.squander.absstate.ObjTuple.get (int index)`

Definition at line 41 of file `ObjTuple.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple()`.

9.5.3.6 `int edu.mit.csail.sdg.squander.absstate.ObjTuple.hashCode ()`

Definition at line 57 of file `ObjTuple.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTuple.arity()`, and `edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple()`.

9.5.3.7 `Iterator<Object> edu.mit.csail.sdg.squander.absstate.ObjTuple.iterator ()`

Definition at line 48 of file `ObjTuple.java`.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.8 static boolean edu.mit.csail.sdg.squander.absstate.ObjTuple.objLiteralsEquals (Object *o1*, Object *o2*) [**static**, **private**]

Definition at line 112 of file ObjTuple.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTuple.arrayEquals().

9.5.3.9 static ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTuple.product (ObjTuple *t1*, ObjTuple *t2*) [**static**]

Definition at line 90 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.arity(), edu.mit.csail.sdg.squander.absstate.ObjTuple.atoms(), edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple.

9.5.3.10 static ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTuple.product (ObjTuple *tuple*, Object *atom*) [**static**]

Definition at line 86 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

9.5.3.11 ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTuple.product (ObjTuple *t*)

Definition at line 52 of file ObjTuple.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

9.5.3.12 ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTuple.projection (int *startCol*, int *endCol*)

Definition at line 35 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.13 String edu.mit.csail.sdg.squander.absstate.ObjTuple.toString ()

Definition at line 82 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.14 Object [] edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple ()

Definition at line 45 of file ObjTuple.java.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTuple.atoms()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.equals()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.get()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.hashCode()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.iterator()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple()`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.projection()`, and `edu.mit.csail.sdg.squander.absstate.ObjTuple.toString()`.

9.5.4 Member Data Documentation

9.5.4.1 `final int edu.mit.csail.sdg.squander.absstate.ObjTuple.arity` [private]

Definition at line 20 of file `ObjTuple.java`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, `edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound`, `edu.mit.csail.sdg.squander.absstate.ObjTuple.equals()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.Kodkod`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet()`, and `edu.mit.csail.sdg.squander.absstate.ObjTuple.product()`.

9.5.4.2 `final Object [] edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple` [private]

Definition at line 21 of file `ObjTuple.java`.

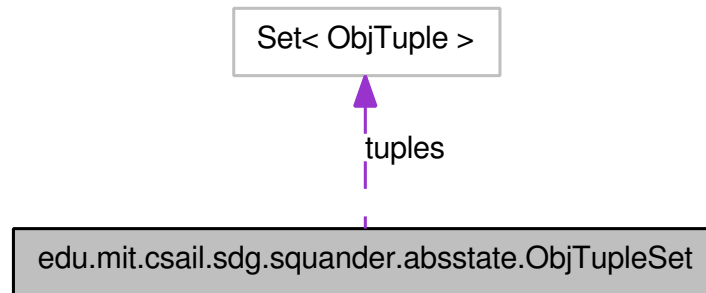
Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTuple.equals()` and `edu.mit.csail.sdg.squander.absstate.ObjTuple.product()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/absstate/ObjTuple.java](#)

9.6 edu.mit.csail.sdg.squander.absstate.ObjTupleSet Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.absstate.ObjTupleSet:



Public Member Functions

- [ObjTupleSet](#) (int arity)
- [ObjTupleSet](#) (ObjTuple val)
- int [arity](#) ()
- boolean [isEmpty](#) ()
- boolean [isTuple](#) ()
- boolean [isUnary](#) ()
- boolean [add](#) (ObjTuple e)
- boolean [contains](#) (Object o)
- boolean [remove](#) (Object o)
- int [size](#) ()
- Set< ObjTuple > [tuples](#) ()
- Iterator< ObjTuple > [iterator](#) ()
- String [toString](#) ()
- ObjTupleSet [join](#) (ObjTupleSet ots)
- ObjTupleSet [product](#) (ObjTupleSet ots)
- ObjTupleSet [union](#) (ObjTupleSet ots)
- ObjTupleSet [union](#) (ObjTuple val)
- ObjTupleSet [diff](#) (ObjTupleSet ots)
- boolean [subsetOf](#) (ObjTupleSet rhs)
- ObjTupleSet [intersection](#) (ObjTupleSet ots)
- int [hashCode](#) ()
- boolean [equals](#) (Object obj)

Static Public Member Functions

- static ObjTupleSet [singleTuple](#) (Object...tuple)
- static ObjTupleSet [filter](#) (ObjTupleSet otset, int i, Object obj)
- static ObjTupleSet [join](#) (ObjTupleSet lhs, ObjTupleSet rhs)
- static ObjTupleSet [product](#) (ObjTupleSet lhs, ObjTupleSet rhs)
- static ObjTupleSet [convertFrom](#) (ForgeConstant val, ForgeConverter fconv)
- static ObjTupleSet [union](#) (ObjTupleSet lhs, ObjTupleSet rhs)
- static ObjTupleSet [diff](#) (ObjTupleSet lhs, ObjTupleSet rhs)
- static ObjTupleSet [intersection](#) (ObjTupleSet lhs, ObjTupleSet rhs)

Static Private Member Functions

- static [ObjTuple](#) `convertToObjTuple` (Tuple t, [ForgeConverter](#) fconv)

Private Attributes

- final int `arity`
- final Set< [ObjTuple](#) > `tuples` = new HashSet<[ObjTuple](#)>()

9.6.1 Detailed Description

A set of tuples of objects ([ObjTuple](#))

Author:

Aleksandar Milicevic

Definition at line 23 of file `ObjTupleSet.java`.

9.6.2 Constructor & Destructor Documentation

9.6.2.1 `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet (int arity)`

Definition at line 28 of file `ObjTupleSet.java`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertFrom()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.filter()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.singleTuple()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union()`.

9.6.2.2 `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet (ObjTuple val)`

Definition at line 32 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTuple.arity`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples()`.

9.6.3 Member Function Documentation

9.6.3.1 `boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add (ObjTuple e)`

Definition at line 42 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTuple.arity`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples()`.

Referenced by `edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound()`, `edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertFrom()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.extent()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.filter()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExten`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.intAtom()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.Kodkod`

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.objAtom(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.singleTuple(), edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitInc()
 and edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitInc().

9.6.3.2 int edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity ()

Definition at line 37 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.hashCode(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isUnary(),
 and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product().

9.6.3.3 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.contains (Object *o*)

Definition at line 47 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

9.6.3.4 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertFrom (ForgeConstant *val*, ForgeConverter *fconv*) [static]

Converts the given Forge constant to a tuple set

Definition at line 158 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertToObjTupleSet()
 and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet().

9.6.3.5 static ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertToObjTuple (Tuple *t*, ForgeConverter *fconv*) [static, private]

Converts the given Forge tuple to [ObjTuple](#)

Definition at line 170 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj().

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertFrom().

9.6.3.6 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff (ObjTupleSet *lhs*, ObjTupleSet *rhs*) [static]

Returns the set difference of the two given tuple sets

Definition at line 193 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet(),
 and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

9.6.3.7 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff (ObjTupleSet *ots*)

Performs set difference and returns the result as a new tuple set

Definition at line 64 of file ObjTupleSet.java.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff()`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitDiff()`.

9.6.3.8 boolean `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals (Object obj)`

Definition at line 80 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitEquals()`.

9.6.3.9 static `ObjTupleSet` `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.filter (ObjTupleSet otset, int i, Object obj) [static]`

Returns a new tuple set containing the tuples from `otset` which contain object `obj` at position `i`

Definition at line 111 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet()`.

9.6.3.10 int `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.hashCode ()`

Definition at line 71 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples()`.

9.6.3.11 static `ObjTupleSet` `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection (ObjTupleSet lhs, ObjTupleSet rhs) [static]`

Returns the set intersection of the two given tuple sets

Definition at line 204 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples()`.

9.6.3.12 `ObjTupleSet` `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection (ObjTupleSet ots)`

Performs set intersection and returns the result as a new tuple set

Definition at line 68 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection()`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntersection()`.

9.6.3.13 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty ()

Definition at line 38 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.6.3.14 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isTuple ()

Definition at line 39 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.6.3.15 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isUnary ()

Definition at line 40 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity().

9.6.3.16 Iterator<ObjTuple> edu.mit.csail.sdg.squander.absstate.ObjTupleSet.iterator ()

Definition at line 52 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

9.6.3.17 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join (ObjTupleSet lhs, ObjTupleSet rhs) [static]

Performs relational join of the given two tuple sets and returns the result as a new tuple set.

Definition at line 124 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet().

9.6.3.18 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join (ObjTupleSet ots)

Performs relational join and returns the result as a new tuple set

Definition at line 56 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitJoin().

9.6.3.19 **static** `ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product (ObjTupleSet lhs, ObjTupleSet rhs) [static]`

Performs relational product of the given two tuple sets and returns the result as a new tuple set.

Definition at line 146 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

9.6.3.20 **ObjTupleSet** `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product (ObjTupleSet ots)`

Performs relational product and returns the result as a new tuple set

Definition at line 58 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product()`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.extent()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.visitProduct()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitProduct()`.

9.6.3.21 **boolean** `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.remove (Object o)`

Definition at line 48 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples()`.

9.6.3.22 **static** `ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.singleTuple (Object... tuple) [static]`

Returns a new tuple set containing only the given tuple

Definition at line 101 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples()`.

9.6.3.23 **int** `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size ()`

Definition at line 49 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderResult.convertForgeSetToJavaArray()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion()`.

9.6.3.24 **boolean** `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.subsetOf (ObjTupleSet rhs)`

Returns whether this tuple set is a subset of the given tuple set

Definition at line 66 of file `ObjTupleSet.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitSubset().

9.6.3.25 String edu.mit.csail.sdg.squander.absstate.ObjTupleSet.toString ()

Definition at line 53 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

9.6.3.26 Set<ObjTuple> edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples ()

Definition at line 50 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.contains(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.hashCode(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isTuple(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.iterator(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.remove(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.subsetOf(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.toString().

9.6.3.27 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union (ObjTupleSet lhs, ObjTupleSet rhs) [static]

Returns the set union of the two given tuple sets.

Definition at line 182 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

9.6.3.28 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union (ObjTuple val)

Returns the union of this tuple set and the given tuple

Definition at line 62 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet().

9.6.3.29 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union (ObjTupleSet ots)

Returns the union of this tuple set and the given tuple set

Definition at line 60 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitRelUnion(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitU

9.6.4 Member Data Documentation

9.6.4.1 final int edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity [private]

Definition at line 25 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound(), edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(), edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.conc

edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.filter(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection(), edu.mit.csail.sdg.squander.engine.SquanderEval2.intValue(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(),
 edu.mit.csail.sdg.squander.serializer.special.SetSer.restoreElems(), edu.mit.csail.sdg.squander.serializer.special.MapSer.restoreElems(),
 edu.mit.csail.sdg.squander.serializer.special.ListSer.restoreElems(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreElems(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion()

9.6.4.2 final Set<ObjTuple> edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples = new HashSet<ObjTuple>() [private]

Definition at line 26 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(),
 edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.convertForgeSetToJavaArray(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection(), edu.mit.csail.sdg.squander.engine.SquanderEval2.intValue(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(),
 edu.mit.csail.sdg.squander.serializer.special.ListSer.restoreElems(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreElems(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.subsetOf(),
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists(),
 and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/absstate/ObjTupleSet.java](#)

9.7 edu.mit.csail.sdg.squander.annotations.Fresh Interface Reference

Package Functions

- [FreshObjects\[\] value \(\)](#)

9.7.1 Detailed Description

Specifies creation of new objects.

Author:

Aleksandar Milicevic

Definition at line 21 of file Fresh.java.

9.7.2 Member Function Documentation

9.7.2.1 FreshObjects [] edu.mit.csail.sdg.squander.annotations.Fresh.value () [package]

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/annotations/Fresh.java](#)

9.8 edu.mit.csail.sdg.squander.annotations.FreshObjects Interface Reference

Public Member Functions

- `Class<?>[] typeParams ()` default
- `int num ()` default 1

Package Functions

- `Class<?> cls ()`

9.8.1 Detailed Description

Specifies creation of new objects of a given class.

Author:

Aleksandar Milicevic

Definition at line 18 of file FreshObjects.java.

9.8.2 Member Function Documentation

9.8.2.1 `Class<?> edu.mit.csail.sdg.squander.annotations.FreshObjects.cls ()` [package]

class of the object to be created

Referenced by `edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive()`.

9.8.2.2 `int edu.mit.csail.sdg.squander.annotations.FreshObjects.num ()`

number of instances to be created

Referenced by `edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive()`.

9.8.2.3 `Class<?> [] edu.mit.csail.sdg.squander.annotations.FreshObjects.typeParams ()`

type parameters of `cls` (if any)

Definition at line 23 of file FreshObjects.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive()`.

The documentation for this interface was generated from the following file:

- `src/edu/mit/csail/sdg/squander/annotations/FreshObjects.java`

9.9 edu.mit.csail.sdg.squander.annotations.Options Interface Reference

Public Member Functions

- boolean [ensureAllInts](#) () default false
- boolean [solveAll](#) () default false

Package Functions

- int [bitwidth](#) () default 4

9.9.1 Detailed Description

Specification specific options.

Author:

Aleksandar Milicevic

Definition at line 21 of file Options.java.

9.9.2 Member Function Documentation

9.9.2.1 int edu.mit.csail.sdg.squander.annotations.Options.bitwidth () [package]

min integer bitwidth to be used

9.9.2.2 boolean edu.mit.csail.sdg.squander.annotations.Options.ensureAllInts ()

whether an atom should be created for all ints (within the bitwidth) when translating to Kodkod
Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.9.2.3 boolean edu.mit.csail.sdg.squander.annotations.Options.solveAll ()

whether to search for all solutions (one at a time, of course)

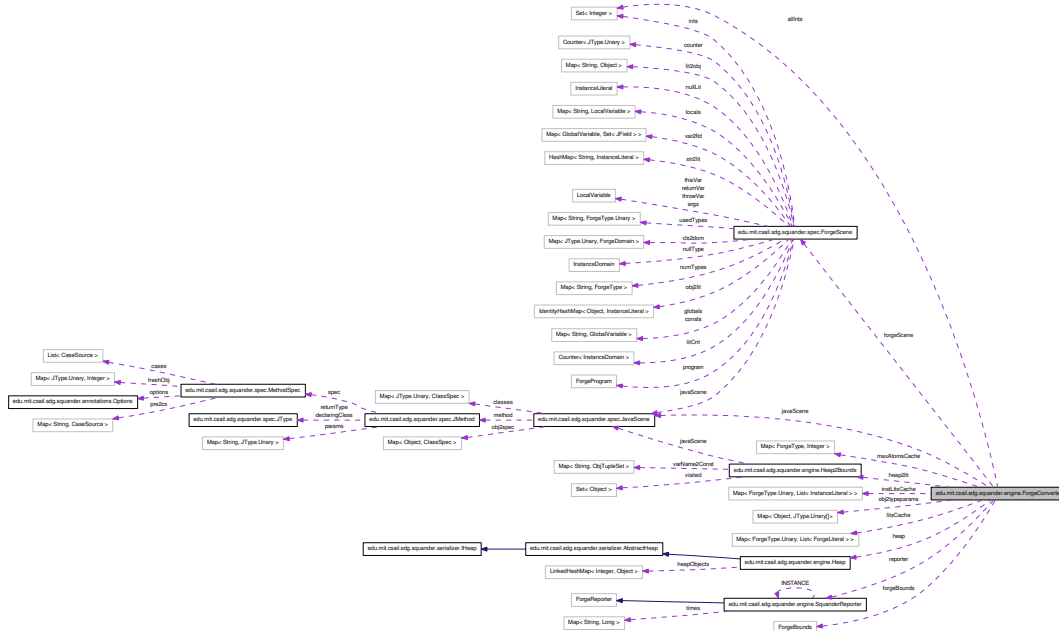
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/annotations/Options.java](#)

9.10 edu.mit.csail.sdg.squander.engine.ForgeConverter Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.engine.ForgeConverter:



Public Member Functions

- [ForgeConverter](#) ([SquanderReporter reporter](#), [Object...heapRootObjects](#))
- void [setCallContext](#) ([Object caller](#), [JMethod m](#), [Object\[\] methodArgs](#))
- void [boundSpecFields](#) ([IEvaluator eval](#))
- [JavaScene javaScene](#) ()
- [ForgeScene forgeScene](#) ()
- [Heap2Bounds heap2Lit](#) ()
- [ForgeBounds forgeBounds](#) ()
- String [printBounds](#) ()
- [ForgeProcedure proc](#) ()
- [Spec getSpec](#) ()
- [SolveOptions forgeOptions](#) ()
- [Iterable< Integer > allInts](#) ()
- [List< InstanceLiteral > findInstLiteralsForType](#) ([ForgeType.Unary colType](#))
- [List< ForgeLiteral > findLiteralsForType](#) ([ForgeType.Unary colType](#))
- [ObjTupleSet extent](#) ([ForgeType t](#))
- [Object atom2obj](#) ([ForgeAtom atom](#))
- [Object lit2obj](#) ([ForgeLiteral lit](#))
- [int minInt](#) ()
- [int maxInt](#) ()
- [ForgeConstant conv2fc](#) ([ObjTupleSet objTupleSet](#), [ForgeBounds bounds](#))
- [ForgeAtom obj2atom](#) ([Object obj](#), [ForgeBounds bounds](#))

Static Public Member Functions

- static Object [mapToBoolean](#) (final ForgeAtom atom)
- static int [mapToInt](#) (final ForgeAtom atom)

Private Member Functions

- void [finish](#) ()
- void [createFreshObjects](#) (MethodSpec ms)
- int [getMaxAtomsForType](#) (ForgeType ft)
- int [maxSize](#) (ForgeDomain d)
- String [printObjSet](#) (ObjTupleSet objSet)
- void [initJavaScene](#) ()
- void [boundOtherStuff](#) ()
- ForgeBounds [makeForgeBounds](#) (Heap2Bounds heap2lit)
- String [printUniverseStats](#) ()

Private Attributes

- final [SquanderReporter](#) reporter
- final [Heap](#) heap
- final [JavaScene](#) javaScene
- [ForgeScene](#) forgeScene
- [Heap2Bounds](#) heap2lit
- [ForgeBounds](#) forgeBounds
- boolean [finished](#) = false
- Map< Object, JType.Unary[]> [obj2typeparams](#) = new IdentityHashMap<Object, Unary[]>()
- Map< ForgeType, Integer > [maxAtomsCache](#) = new HashMap<ForgeType, Integer>()
- Set< Integer > [allInts](#) = null
- Map< ForgeType.Unary, List< InstanceLiteral > > [instLitsCache](#) = new HashMap<ForgeType.Unary, List<InstanceLiteral>>()
- Map< ForgeType.Unary, List< ForgeLiteral > > [litsCache](#) = new HashMap<ForgeType.Unary, List<ForgeLiteral>>()

9.10.1 Detailed Description

This class handles conversion of the heap ([heap](#)) and specs (embodied inside [javaScene](#)) to Forge domains, literals, and bounds (embodied inside [forgeScene](#)).

Author:

Aleksandar Milicevic

Definition at line 74 of file ForgeConverter.java.

9.10.2 Constructor & Destructor Documentation

9.10.2.1 `edu.mit.csail.sdg.squander.engine.ForgeConverter.ForgeConverter (SquanderReporter reporter, Object... heapRootObjects)`

Parameters:

heapRootObjects heap root objects

Definition at line 89 of file ForgeConverter.java.

References `edu.mit.csail.sdg.squander.engine.ForgeConverter.heap`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene()`.

9.10.3 Member Function Documentation

9.10.3.1 `Iterable<Integer> edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts ()`

Definition at line 302 of file ForgeConverter.java.

References `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.ints`, `edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt()`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType()`.

9.10.3.2 `Object edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj (ForgeAtom atom)`

Converts the given Forge atom back to Java object

Definition at line 383 of file ForgeConverter.java.

References `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.mapToBoolean()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.mapToObj()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit()`.

Referenced by `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertToObjTuple()`.

9.10.3.3 `void edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff () [private]`

Definition at line 489 of file ForgeConverter.java.

References `edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.args`, `edu.mit.csail.sdg.squander.spec.JavaScene.caller`, `edu.mit.csail.sdg.squander.spec.ForgeScene.consts`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene()`, `edu.mit.csail.sdg.squander.spec.JavaScene.methodArgs`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`.

9.10.3.4 `void edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields (IEvaluator eval)`

Call this method after executing the precondition spec and before executing the postcondition spec to bound the values of spec fields in the pre-state.

Definition at line 118 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit, edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(),
 and edu.mit.csail.sdg.squander.spec.JavaScene.specFields().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.10.3.5 ForgeConstant edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc (ObjTupleSet objTupleSet, ForgeBounds bounds)

Converts a given tuple set to Forge constant

Definition at line 434 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, and edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2at

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), and
 edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds().

9.10.3.6 void edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects (MethodSpec ms) [private]

Definition at line 190 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.Heap.addObject(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingF
 edu.mit.csail.sdg.squander.spec.MethodSpec.freshObjects(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap,
 edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2typeparams, and edu.mit.csail.sdg.squander.engine.ForgeConverter.repor

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.3.7 ObjTupleSet edu.mit.csail.sdg.squander.engine.ForgeConverter.extent (ForgeType t)

Definition at line 359 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findLitera
 edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists(),
 and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().

9.10.3.8 List<InstanceLiteral> edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType (ForgeType.Unary colType)

Definition at line 320 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.forge
 edu.mit.csail.sdg.squander.engine.ForgeConverter.instLitsCache, and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits().

9.10.3.9 List<ForgeLiteral>

edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType
(**ForgeType.Unary colType**)

Returns all Forge literals of the given unary Forge type

Definition at line 338 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.litsCache, and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExternal(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.visit(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.10.3.10 void edu.mit.csail.sdg.squander.engine.ForgeConverter.finish () [private]

Definition at line 140 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateInts(), edu.mit.csail.sdg.squander.annotations.Options.ensureAllInts(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureInt(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.Heap.getHeapObjects(), edu.mit.csail.sdg.squander.engine.ForgeConverter.getMaxAtomsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap, edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit, edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.spec.JavaScene.method, edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec(), edu.mit.csail.sdg.squander.spec.ForgeScene.numTypes, edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2typeparams, edu.mit.csail.sdg.squander.spec.MethodSpec.options, edu.mit.csail.sdg.squander.engine.ForgeConverter.printUniverseStats(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.reachable, edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter, edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingSpecs(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse, and edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.3.11 ForgeBounds edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds ()

Definition at line 133 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit, and edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields().

9.10.3.12 SolveOptions edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeOptions ()

Definition at line 292 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, and edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec().

9.10.3.13 ForgeScene edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene ()

Definition at line 131 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj(), edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findInInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findLit(), edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.maxAtomsCache(), edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2atom(), edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet(), edu.mit.csail.sdg.squander.engine.ForgeConverter.printUniverseStats(), edu.mit.csail.sdg.squander.engine.ForgeConverter.procObjSet(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.3.14 int edu.mit.csail.sdg.squander.engine.ForgeConverter.getMaxAtomsForType (ForgeType *ft*) [private]

Definition at line 207 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.maxAtomsCache, and edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.10.3.15 Spec edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec ()

Definition at line 284 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.spec.Spec.addCase(), edu.mit.csail.sdg.squander.spec.MethodSpec.cases, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.spec.MethodSpec.isHelper(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), and edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getSpec().

9.10.3.16 Heap2Bounds edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit ()

Definition at line 132 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, and edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.eval(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getSpec(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds().

9.10.3.17 void edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene () [private]

Definition at line 462 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap, edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter, and edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.3.18 JavaScene edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene ()

Definition at line 130 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(), edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.engine.ForgeConverter.ForgeConverter(), edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpecFields(), edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.3.19 Object edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj (ForgeLiteral lit)

Converts the given Forge literal back to Java object

Definition at line 398 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit(), and edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.10.3.20 ForgeBounds edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds (Heap2Bounds heap2lit) [private]

Definition at line 514 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2Heap2(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds(), edu.mit.csail.sdg.squander.spec.ForgeScene.domains(), edu.mit.csail.sdg.squander.spec.ForgeScene.findVar(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds().

9.10.3.21 static Object edu.mit.csail.sdg.squander.engine.ForgeConverter.mapToBoolean (final ForgeAtom atom) [static]

Definition at line 410 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj().

9.10.3.22 static int edu.mit.csail.sdg.squander.engine.ForgeConverter.mapToInt (final ForgeAtom atom) [static]

Definition at line 414 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj().

9.10.3.23 int edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt ()

Returns the min int within the bounds

Definition at line 425 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2obj(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW().

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.create().

9.10.3.24 int edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize (ForgeDomain d) [private]

Definition at line 225 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.ints, edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts(), and edu.mit.csail.sdg.squander.spec.ForgeScene.numLiteralsFor().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.getMaxAtomsForType().

9.10.3.25 int edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt ()

Returns the min int within the bounds

Definition at line 419 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2obj(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW().

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.create().

9.10.3.26 ForgeAtom edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2atom (Object obj, ForgeBounds bounds)

Returns the Forge atom corresponding to the given Java object

Definition at line 448 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj(), and edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc().

9.10.3.27 String edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds ()

Definition at line 239 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2 and edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre(), and edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost().

9.10.3.28 String edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet (ObjTupleSet objSet) [private]

Definition at line 247 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.forgeLitForObj(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds().

9.10.3.29 String edu.mit.csail.sdg.squander.engine.ForgeConverter.printUniverseStats () [private]

Definition at line 539 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.10.3.30 ForgeProcedure edu.mit.csail.sdg.squander.engine.ForgeConverter.proc ()

Definition at line 267 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.spec.JavaScene.method, edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec(), edu.mit.csail.sdg.squander.spec.JMethod.name(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, and edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec().

9.10.3.31 void edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext (Object caller, JMethod m, Object[] methodArgs)

Use this method to set the specification of a method to be executed

Definition at line 98 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.spec.JavaScene.finish(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene, edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2typeparams, edu.mit.csail.sdg.squander.spec.JMethod.paramTypes(), edu.mit.csail.sdg.squander.spec.JavaScene.setArgs(), edu.mit.csail.sdg.squander.spec.JavaScene.setCaller(), edu.mit.csail.sdg.squander.spec.JavaScene.setMethod(), and edu.mit.csail.sdg.squander.spec.JMethod.spec.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.10.4 Member Data Documentation

9.10.4.1 Set<Integer> edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts = null [private]

Definition at line 301 of file ForgeConverter.java.

9.10.4.2 boolean edu.mit.csail.sdg.squander.engine.ForgeConverter.finished = false [private]

Definition at line 84 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findM, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeOpti, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt(), edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt(), edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.4.3 ForgeBounds edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds [private]

Definition at line 82 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findM, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs().

9.10.4.4 ForgeScene edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene [private]

Definition at line 79 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getMo, edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ge, edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpe, edu.mit.csail.sdg.squander.engine.SquanderResult.program(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), edu.mit.csail.sdg.squander.engine.SquanderResult.return, and edu.mit.csail.sdg.squander.engine.SquanderResult.self().

9.10.4.5 final Heap edu.mit.csail.sdg.squander.engine.ForgeConverter.heap [private]

Definition at line 77 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.engine.ForgeConverter.ForgeConverter(),

and `edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene()`.

9.10.4.6 **Heap2Bounds** `edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit` [**private**]

Definition at line 81 of file `ForgeConverter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds()`.

9.10.4.7 **Map<ForgeType.Unary, List<InstanceLiteral> >** **edu.mit.csail.sdg.squander.engine.ForgeConverter.instLitsCache = new** **HashMap<ForgeType.Unary, List<InstanceLiteral>>()** [**private**]

Definition at line 319 of file `ForgeConverter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType()`.

9.10.4.8 **final JavaScene** `edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene` [**private**]

Definition at line 78 of file `ForgeConverter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec()`, and `edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue()`.

9.10.4.9 **Map<ForgeType.Unary, List<ForgeLiteral> >** **edu.mit.csail.sdg.squander.engine.ForgeConverter.litsCache = new** **HashMap<ForgeType.Unary, List<ForgeLiteral>>()** [**private**]

Definition at line 336 of file `ForgeConverter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType()`.

9.10.4.10 **Map<ForgeType, Integer>** **edu.mit.csail.sdg.squander.engine.ForgeConverter.maxAtomsCache =** **new HashMap<ForgeType, Integer>()** [**private**]

Definition at line 205 of file `ForgeConverter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.getMaxAtomsForType()`.

9.10.4.11 **Map<Object, JType.Unary[] >** **edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2typeparams =** **new IdentityHashMap<Object, Unary[] >()** [**private**]

Definition at line 188 of file `ForgeConverter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext()`.

9.10.4.12 final SquanderReporter edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter [private]

Definition at line 76 of file ForgeConverter.java.

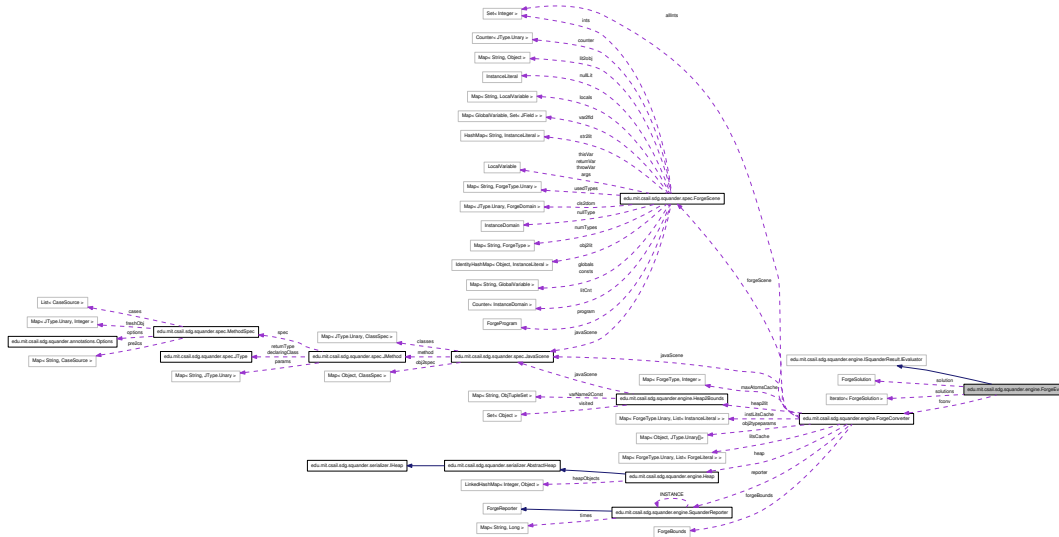
Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeOptions(), edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.make

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/ForgeConverter.java](#)

9.11 edu.mit.csail.sdg.squander.engine.ForgeEval Class Reference

Inherits `edu::mit::csail::sdg::squander::engine::ISquanderResult::IEvaluator.Collaboration` diagram for `edu.mit.csail.sdg.squander.engine.ForgeEval`:



Public Member Functions

- `ForgeEval` (`Iterator< ForgeSolution > solutions`, `ForgeConverter fconv`)
- `ObjTupleSet` `evaluate` (`ForgeVariable var`)
- `ObjTupleSet` `evaluateExpr` (`ForgeExpression expr`)
- boolean `hasSolution` ()
- `IEvaluator` `nextSolution` ()
- String `unsatCore` ()
- String `trace` ()
- String `stats` ()

Private Attributes

- `Iterator< ForgeSolution > solutions`
- `ForgeSolution solution`
- `ForgeConverter fconv`

9.11.1 Detailed Description

Evaluator based on the `ForgeSolution` class.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 21 of file `ForgeEval.java`.

9.11.2 Constructor & Destructor Documentation

9.11.2.1 edu.mit.csail.sdg.squander.engine.ForgeEval.ForgeEval (Iterator< ForgeSolution > solutions, ForgeConverter fconv)

Definition at line 26 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.solution.

9.11.3 Member Function Documentation

9.11.3.1 ObjTupleSet edu.mit.csail.sdg.squander.engine.ForgeEval.evaluate (ForgeVariable var)

Definition at line 33 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.evaluateExpr().

9.11.3.2 ObjTupleSet edu.mit.csail.sdg.squander.engine.ForgeEval.evaluateExpr (ForgeExpression expr)

Definition at line 37 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.fconv, and edu.mit.csail.sdg.squander.engine.ForgeEval.solution.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeEval.evaluate().

9.11.3.3 boolean edu.mit.csail.sdg.squander.engine.ForgeEval.hasSolution ()

Definition at line 43 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.solution.

9.11.3.4 IEvaluator edu.mit.csail.sdg.squander.engine.ForgeEval.nextSolution ()

Definition at line 48 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.solution, and edu.mit.csail.sdg.squander.engine.ForgeEval.solutions.

9.11.3.5 String edu.mit.csail.sdg.squander.engine.ForgeEval.stats ()

Definition at line 67 of file ForgeEval.java.

9.11.3.6 String edu.mit.csail.sdg.squander.engine.ForgeEval.trace ()

Definition at line 62 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.solution.

9.11.3.7 String edu.mit.csail.sdg.squander.engine.ForgeEval.unsatCore ()

Definition at line 57 of file ForgeEval.java.

9.11.4 Member Data Documentation

9.11.4.1 ForgeConverter `edu.mit.csail.sdg.squander.engine.ForgeEval.fconv` **[private]**

Definition at line 24 of file `ForgeEval.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeEval.evaluateExpr()`.

9.11.4.2 ForgeSolution `edu.mit.csail.sdg.squander.engine.ForgeEval.solution` **[private]**

Definition at line 23 of file `ForgeEval.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeEval.evaluateExpr()`, `edu.mit.csail.sdg.squander.engine.ForgeEval.ForgeEval()`, `edu.mit.csail.sdg.squander.engine.ForgeEval.hasSolution()`, `edu.mit.csail.sdg.squander.engine.ForgeEval.nextSolution()`, and `edu.mit.csail.sdg.squander.engine.ForgeEval.trace()`.

9.11.4.3 Iterator<ForgeSolution> `edu.mit.csail.sdg.squander.engine.ForgeEval.solutions` **[private]**

Definition at line 22 of file `ForgeEval.java`.

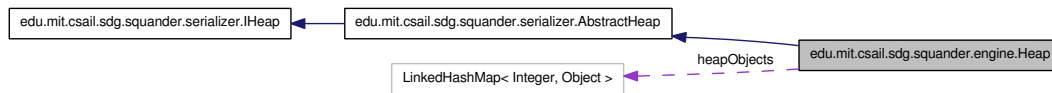
Referenced by `edu.mit.csail.sdg.squander.engine.ForgeEval.nextSolution()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/engine/ForgeEval.java`

9.12 edu.mit.csail.sdg.squander.engine.Heap Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::AbstractHeap](#). Collaboration diagram for edu.mit.csail.sdg.squander.engine.Heap:



Public Member Functions

- [Heap](#) (Object[] objects)
- void [addObjects](#) (Iterable< Object > objects)
- void [addObject](#) (Object obj)

Protected Member Functions

- List< Object > [getHeapObjects](#) ()

Private Attributes

- final LinkedHashMap< Integer, Object > [heapObjects](#)

9.12.1 Detailed Description

Concrete representation of the heap. The heap in this case consists of the caller object (`callerObj`) and method arguments (`methodArgs`).

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 22 of file Heap.java.

9.12.2 Constructor & Destructor Documentation

9.12.2.1 edu.mit.csail.sdg.squander.engine.Heap.Heap (Object[] objects)

Definition at line 31 of file Heap.java.

References [edu.mit.csail.sdg.squander.engine.Heap.addObject\(\)](#), and [edu.mit.csail.sdg.squander.engine.Heap.heapObjects](#).

9.12.3 Member Function Documentation

9.12.3.1 void edu.mit.csail.sdg.squander.engine.Heap.addObject (Object obj)

Definition at line 44 of file Heap.java.

References `edu.mit.csail.sdg.squander.engine.Heap.heapObjects`.

Referenced by `edu.mit.csail.sdg.squander.engine.Heap.addObjects()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.createF` and `edu.mit.csail.sdg.squander.engine.Heap.Heap()`.

9.12.3.2 `void edu.mit.csail.sdg.squander.engine.Heap.addObjects (Iterable< Object > objects)`

Definition at line 38 of file `Heap.java`.

References `edu.mit.csail.sdg.squander.engine.Heap.addObject()`.

9.12.3.3 `List<Object> edu.mit.csail.sdg.squander.engine.Heap.getHeapObjects ()` `[protected, virtual]`

Returns all object on this heap.

Implements `edu.mit.csail.sdg.squander.serializer.AbstractHeap`.

Definition at line 54 of file `Heap.java`.

References `edu.mit.csail.sdg.squander.engine.Heap.heapObjects`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`.

9.12.4 Member Data Documentation

9.12.4.1 `final LinkedHashMap<Integer, Object>` `edu.mit.csail.sdg.squander.engine.Heap.heapObjects [private]`

Maps `obj.hashCode -> obj`. For all objects except for strings, `System.identityHashCode` is used, whereas for strings `String.hashCode` is used.

Definition at line 29 of file `Heap.java`.

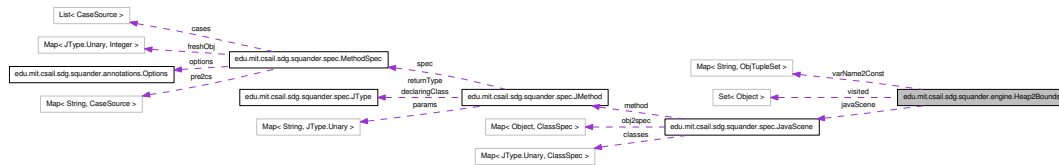
Referenced by `edu.mit.csail.sdg.squander.engine.Heap.addObject()`, `edu.mit.csail.sdg.squander.engine.Heap.getHeapObjects()`, and `edu.mit.csail.sdg.squander.engine.Heap.Heap()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/engine/Heap.java`

9.13 edu.mit.csail.sdg.squander.engine.Heap2Bounds Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.engine.Heap2Bounds:



Classes

- class **Pair**

Public Member Functions

- **Heap2Bounds** (JavaScene javaScene)
- int **minBW** ()
- Map< String, ObjTupleSet > **bounds** ()
- ObjTupleSet **getBound** (ForgeVariable var)
- Set< Object > **reachableObjects** ()
- void **ensureAdequateIntBitWidth** (int x)
- void **traverse** (List< Pair > rootObjects)

Package Functions

- void **addBound** (String varName, ObjTuple value)
- void **addBound** (String varName, ObjTupleSet value)

Private Member Functions

- void **newObject** (Object object, Unary[] actualTypeParams)
- void **visitPrimitive** (Object obj)
- void **ensureAdequateBitWidth** (final Object obj)

Private Attributes

- final JavaScene **javaScene**
- final Set< Object > **visited** = new IdentityHashSet<Object>()
- Map< String, ObjTupleSet > **varName2Const** = new HashMap<String, ObjTupleSet>()
- int **rbw** = GlobalOptions.INSTANCE.min_bitwidth

9.13.1 Detailed Description

Used to convert the heap to bounds for fields, that are going to be used later for solving.

Author:

Aleksandar Milicevic

Definition at line 39 of file Heap2Bounds.java.

9.13.2 Constructor & Destructor Documentation

9.13.2.1 edu.mit.csail.sdg.squander.engine.Heap2Bounds.Heap2Bounds (JavaScene javaScene)

Definition at line 84 of file Heap2Bounds.java.

9.13.3 Member Function Documentation

9.13.3.1 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound (String varName, ObjTupleSet value) [package]

Definition at line 142 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, and edu.mit.csail.sdg.squander.engine.Heap2Bounds.varName2Const.

9.13.3.2 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound (String varName, ObjTuple value) [package]

Definition at line 136 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.arity.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(), edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse().

9.13.3.3 Map<String, ObjTupleSet> edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds ()

Returns the exact bounds for all fields (field names, that is)

Definition at line 91 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.varName2Const.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds().

9.13.3.4 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateBitWidth (final Object *obj*) [private]

Definition at line 174 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth().

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject().

9.13.3.5 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth (int *x*)

Makes sure that the bitwidth is big enough to represent the given integer value

Definition at line 98 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.rbw.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateBitWidth(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.visitPrimitive().

9.13.3.6 ObjTupleSet edu.mit.csail.sdg.squander.engine.Heap2Bounds.getBound (ForgeVariable *var*)

Returns the exact bounds for the field represented with the given Forge variable

Definition at line 93 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.varName2Const.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable().

9.13.3.7 int edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW ()

Returns min required bit width, based on the content of the heap

Definition at line 89 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.rbw.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt().

9.13.3.8 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject (Object *object*, Unary[] *actualTypeParams*) [private]

Definition at line 156 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.addObj2spec(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth(), edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.javaScene, and edu.mit.csail.sdg.squander.engine.Heap2Bounds.visitPrimitive().

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse().

9.13.3.9 Set<Object> edu.mit.csail.sdg.squander.engine.Heap2Bounds.reachableObjects ()

Returns all reachable objects found on the heap

Definition at line 95 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.visited.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.13.3.10 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse (List< Pair > rootObjects)

Traverses the heap starting from the given root objects (`rootObjects`). It uses [IObjSer](#) to serialize objects (i.e. break the apart). During the traversal it collects the bounds for fields.

Definition at line 108 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.serializer.special.IObjSer.absFunc(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound(), edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSer(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.javaScene, edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.visited.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.13.3.11 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.visitPrimitive (Object obj) [private]

Definition at line 167 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth().

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject().

9.13.4 Member Data Documentation

9.13.4.1 final JavaScene edu.mit.csail.sdg.squander.engine.Heap2Bounds.javaScene [private]

Definition at line 78 of file Heap2Bounds.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse().

9.13.4.2 int edu.mit.csail.sdg.squander.engine.Heap2Bounds.rbw = GlobalOptions.INSTANCE.min_bitwidth [private]

Definition at line 82 of file Heap2Bounds.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW().

9.13.4.3 Map<String, ObjTupleSet> edu.mit.csail.sdg.squander.engine.Heap2Bounds.varName2Const = new HashMap<String, ObjTupleSet>() [private]

Definition at line 81 of file Heap2Bounds.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.getBound().

9.13.4.4 final Set<Object> edu.mit.csail.sdg.squander.engine.Heap2Bounds.visited = new IdentityHashSet<Object>() [private]

Definition at line 79 of file Heap2Bounds.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.reachableObjects(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/Heap2Bounds.java](#)

9.14 edu.mit.csail.sdg.squander.engine.ISquander Interface Reference

Inherited by [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Public Member Functions

- `< R > R magic` (Object caller, Method method, Object[] methodArgs)
- `< R > R magic` (Object caller, JMethod method, Object[] methodArgs)
- `ISquanderResult getLastResult ()`

Package Functions

- `< R > R magic` (Object caller, String className, String methodName, Class<?>[] methodParamTypes, Object[] methodArgs)

9.14.1 Detailed Description

Interface to the most essential [Squander](#) functions.

Author:

Aleksandar Milicevic

Definition at line 16 of file ISquander.java.

9.14.2 Member Function Documentation

9.14.2.1 ISquanderResult edu.mit.csail.sdg.squander.engine.ISquander.getLastResult ()

Returns the result of the last execution.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Referenced by `edu.mit.csail.sdg.squander.Squander.getLastResult()`.

9.14.2.2 `<R> R edu.mit.csail.sdg.squander.engine.ISquander.magic (Object caller, JMethod method, Object[] methodArgs)`

Executes the specification of the given JMethod

Parameters:

`<R>` - the return type

caller - the caller instance (null if the method is static)

method - Squander's internal representation of a method (which includes method's spec). This can be used to execute specs that are not necessarily given as annotations on a Java method

methodArgs - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

9.14.2.3 <R> R edu.mit.csail.sdg.squander.engine.ISquander.magic (Object *caller*, Method *method*, Object[] *methodArgs*)

Executes the specification of the given Java method

Parameters:

<R> - the return type

caller - the caller instance (`null` if the method is static)

method - Java method

methodArgs - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

9.14.2.4 <R> R edu.mit.csail.sdg.squander.engine.ISquander.magic (Object *caller*, String *clsName*, String *methodName*, Class<?>[] *methodParamTypes*, Object[] *methodArgs*) [package]

Executes the specification for the given method.

Parameters:

<R> - the return type

caller - the caller instance (`null` if the method is static)

clsName - name of the declaring class

methodName - method name

methodParamTypes - method parameter types

methodArgs - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Referenced by `edu.mit.csail.sdg.squander.Squander.exe()`.

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/ISquander.java](#)

9.15 edu.mit.csail.sdg.squander.engine.ISquanderResult Interface Reference

Inherited by [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Classes

- interface **IEvaluator**

Public Member Functions

- boolean [hasSolution](#) ()
- String [getTrace](#) ()
- String [getStats](#) ()
- public< R > R [getReturnValue](#) ()
- void [restoreJavaHeap](#) ()
- String [unsatCore](#) ()
- boolean [findNext](#) ()
- Iterator< Object > [getSpecField](#) (String specFieldName)

9.15.1 Detailed Description

Represents the result of executing a specification. The result must also know how to update the Java heap to reflect the solution represented by that result.

Author:

Aleksandar Milicevic

Definition at line 19 of file [ISquanderResult.java](#).

9.15.2 Member Function Documentation

9.15.2.1 boolean edu.mit.csail.sdg.squander.engine.ISquanderResult.findNext ()

Finds a different solution and updates the heap if the solution is found. Returns whether a solution was found or not.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by [edu.mit.csail.sdg.squander.examples.partitioning.Graph.main\(\)](#).

9.15.2.2 public<R> R edu.mit.csail.sdg.squander.engine.ISquanderResult.getReturnValue ()

Returns the Java object that is the return value of the method under [Squander](#) analysis. If the method under [Squander](#) analysis has void return type, `null` is returned.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.15.2.3 `Iterator<Object> edu.mit.csail.sdg.squander.engine.ISquanderResult.getSpecField (String specFieldName)`

Returns the value of the spec field with the given name as a sequence of objects. This works only for unary spec fields, so it shouldn't be used.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

9.15.2.4 `String edu.mit.csail.sdg.squander.engine.ISquanderResult.getStats ()`

Optional statistics about the solving

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

9.15.2.5 `String edu.mit.csail.sdg.squander.engine.ISquanderResult.getTrace ()`

Optional string representation of the solution. Used for debugging purposes

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.magic()`.

9.15.2.6 `boolean edu.mit.csail.sdg.squander.engine.ISquanderResult.hasSolution ()`

Whether or not a solution was found

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.magic()`, `edu.mit.csail.sdg.squander.examples.partitioning.Graph.main()` and

9.15.2.7 `void edu.mit.csail.sdg.squander.engine.ISquanderResult.restoreJavaHeap ()`

Restores the Java heap space from the given `Results` that must contain valid solution. If the solution for this problem wasn't found, a runtime exception is thrown.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.magic()`.

9.15.2.8 `String edu.mit.csail.sdg.squander.engine.ISquanderResult.unsatCore ()`

Returns a string representation of the unsat core if a solution wasn't found (if known)

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.magic()`.

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/ISquanderResult.java](#)

Private Member Functions

- Formula [wellformed](#) ()
- Formula [one](#) (Expression rel)
- Formula [arrLenConstr](#) (FldRelElem fre)
- Formula [arrElemsConstr](#) (FldRelElem fre)
- Expression [intsExpr](#) ()
- List< InstanceLiteral > [getModLits](#) (GlobalVariable g, ForgeExpression expr)
- void [addRelForVar](#) (String name, Expression expr)
- void [addFldRel](#) (InstanceLiteral l, GlobalVariable g, List< InstanceLiteral > modLits)
- List< FldRelElem > [findFldRelsForVar](#) (GlobalVariable var)
- [ObjTupleSet](#)[] [getBounds](#) (ForgeVariable var)
- [ObjTupleSet](#) [getExtent](#) (ForgeVariable var)

Private Attributes

- [HashMap](#)< String, FldRelElem > [fldRels](#)

9.16.1 Detailed Description

An alternative implementation of the [ISquander](#) interface that uses a different translation to Kodkod.

Author:

Aleksandar Milicevic

Definition at line 49 of file SquanderKodkod2Impl.java.

9.16.2 Constructor & Destructor Documentation

9.16.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.SquanderKodkod2Impl ()

Definition at line 74 of file SquanderKodkod2Impl.java.

9.16.3 Member Function Documentation

9.16.3.1 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel (InstanceLiteral l, GlobalVariable g, List< InstanceLiteral > modLits) [**private**]

Definition at line 254 of file SquanderKodkod2Impl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.modifies](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.relName\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations\(\)](#).

9.16.3.2 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar (String *name*, Expression *expr*) [private]

Definition at line 245 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

9.16.3.3 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar (ForgeVariable *var*, String *name*) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 241 of file SquanderKodkod2Impl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations().

9.16.3.4 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr (FldRelElem *fre*) [private]

Definition at line 143 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.intsExpr(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.one().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.16.3.5 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrLenConstr (FldRelElem *fre*) [private]

Definition at line 138 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.one().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.16.3.6 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar (LocalVariable *var*, TupleFactory *f*, Bounds *b*) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 325 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds().

9.16.3.7 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.convertSpec (ForgeExpression *spec*) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 96 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.16.3.8 Bounds edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds () [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 278 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.bound, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fconv, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), edu.mit.csail.sdg.squander.spec.ForgeScene.isConst(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join(), edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

9.16.3.9 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations () [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 161 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.spec.ForgeScene.consts, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.cs, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLit, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits(), edu.mit.csail.sdg.squander.spec.ForgeScene.isConst(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName(), edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr.

9.16.3.10 List<FldRelElem> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.findFldRelsForVar (GlobalVariable var) [private]

Definition at line 268 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds().

9.16.3.11 `ObjTupleSet [] edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds` (`ForgeVariable var`) [`private`]

Definition at line 335 of file `SquanderKodkod2Impl.java`.

References `edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit()`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds()`.

9.16.3.12 `IEvaluator edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getEval` (`Iterator< Solution > solutions`) [`protected`]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 103 of file `SquanderKodkod2Impl.java`.

9.16.3.13 `ObjTupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent` (`ForgeVariable var`) [`private`]

Definition at line 352 of file `SquanderKodkod2Impl.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2Lit()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product()`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds()`.

9.16.3.14 `List<InstanceLiteral> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits` (`GlobalVariable g`, `ForgeExpression expr`) [`private`]

Definition at line 218 of file `SquanderKodkod2Impl.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.eval()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getModLits()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene`, `edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForType()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations()`.

9.16.3.15 `Set<GlobalVariable> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModsForPostState` (`ForgeConverter fconv`, `SpecCase sc`) [`protected`]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 77 of file `SquanderKodkod2Impl.java`.

References `edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame`.

9.16.3.16 ForgeExpression

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec (SpecCase *cs*, ForgeConverter *fconv*) [**protected**]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 88 of file SquanderKodkod2Impl.java.

References [edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint\(\)](#), [edu.mit.csail.sdg.squander.spec.Spec.funcConstraint\(\)](#), [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post](#), and [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec\(\)](#).

9.16.3.17 ForgeExpression

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPreSpec (SpecCase *cs*) [**protected**]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 82 of file SquanderKodkod2Impl.java.

References [edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint\(\)](#), [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre](#), and [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec\(\)](#).

9.16.3.18 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.init () [**protected**]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 108 of file SquanderKodkod2Impl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels](#).

9.16.3.19 Expression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.intsExpr () [**private**]

Definition at line 156 of file SquanderKodkod2Impl.java.

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr\(\)](#).

9.16.3.20 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.one (Expression *rel*) [**private**]

Definition at line 134 of file SquanderKodkod2Impl.java.

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrLenConstr\(\)](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed\(\)](#).

9.16.3.21 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed () [**private**]

Definition at line 113 of file SquanderKodkod2Impl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrLenConstr\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifie
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.one(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImp
edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.convertSpec().

9.16.4 Member Data Documentation

9.16.4.1 HashMap<String, FldRelElem>

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels
[private]

Definition at line 72 of file SquanderKodkod2Impl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.findFldRelsForVar(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.init(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.var2rel().

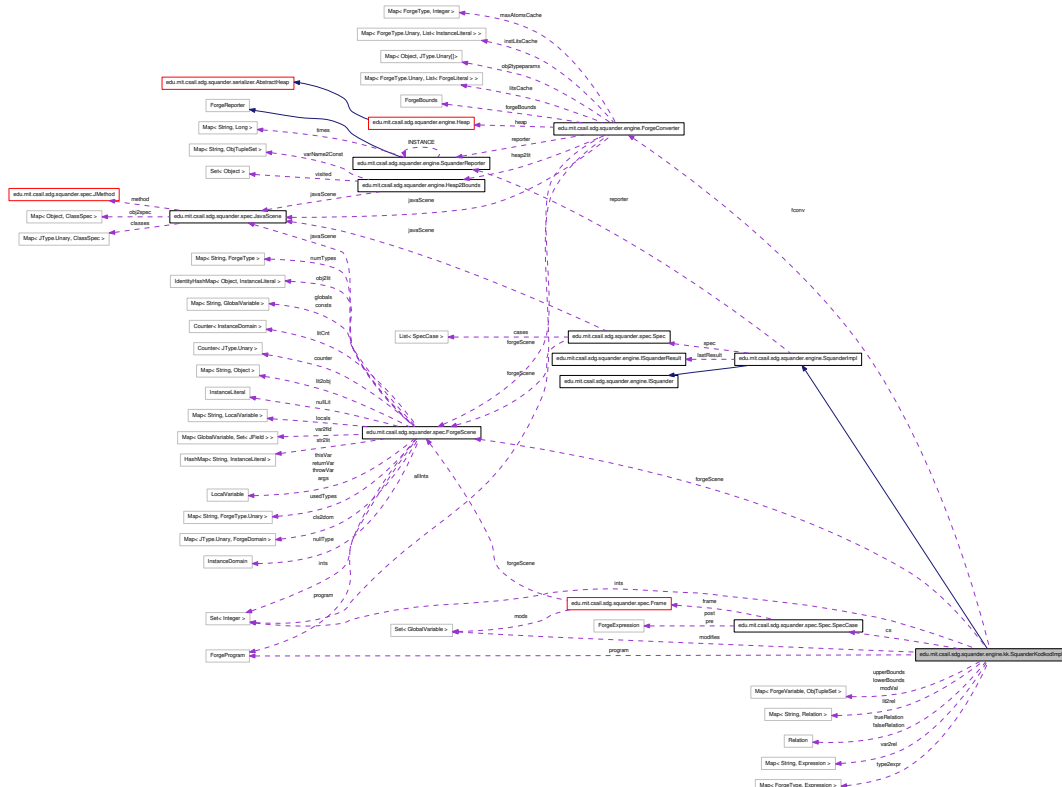
The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkod2Impl.java](#)

9.17 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::SquanderImpl](#).

Inherited by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#) and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#). Collaboration diagram for [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#):



Classes

- class [DiscoverHigherOrderQuant](#)
- class [KodkodEval](#)
- class [Tr2KK](#)

Public Member Functions

- [SquanderKodkodImpl\(\)](#)

Protected Member Functions

- [Set< GlobalVariable > getModsForPostState](#) ([ForgeConverter fconv](#), [SpecCase sc](#))
- [ForgeExpression getPreSpec](#) ([SpecCase cs](#))
- [ForgeExpression getPostSpec](#) ([SpecCase cs](#), [ForgeConverter fconv](#))

- IEvaluator [exeSpec](#) (ForgeExpression [spec](#), Set< GlobalVariable > [modifies](#), ForgeConverter [fconv](#))
- IEvaluator [getEval](#) (Iterator< Solution > solution)
- void [init](#) ()
- Formula [convertSpec](#) (ForgeExpression [spec](#))
- void [createRelations](#) ()
- Bounds [createBounds](#) ()
- ForgeConstant [getPostLower](#) (GlobalVariable g, ForgeConstant initialBound)
- ForgeConstant [getPostUpper](#) (GlobalVariable var, ForgeConstant postLower)
- Universe [createUniverse](#) ()
- Formula [node2form](#) (Node node)
- IntExpression [node2int](#) (Node node)
- Expression [node2expr](#) (Node node)
- Expression [form2expr](#) (Formula form)
- ForgeConstant [getExtent](#) (GlobalVariable var, ForgeConstant lower)
- int [findMaxArrayLength](#) (GlobalVariable var)
- ForgeConstant.Unary [nonnegs](#) ()
- ForgeConstant.Unary [nonnegs](#) (int upperBound)
- void [boundLocalVar](#) (LocalVariable var, TupleFactory f, Bounds b)
- void [addRelForVar](#) (ForgeVariable var, String name)
- String [relName](#) (ForgeVariable var)
- TupleSet [conv2tuples](#) (ForgeConstant fc, TupleFactory f)
- Object [convAtom](#) (ForgeAtom a)
- TupleSet [conv2tuples](#) (ObjTupleSet fc, TupleFactory f)

Protected Attributes

- Set< GlobalVariable > [modifies](#)
- ForgeConverter [fconv](#)
- ForgeScene [forgeScene](#)
- ForgeProgram [program](#)
- Map< String, Relation > [lit2rel](#)
- Map< ForgeType, Expression > [type2expr](#)
- Map< String, Expression > [var2rel](#)
- Map< ForgeVariable, ObjTupleSet > [modVal](#)
- Map< ForgeVariable, ObjTupleSet > [lowerBounds](#)
- Map< ForgeVariable, ObjTupleSet > [upperBounds](#)
- Set< Integer > [ints](#)
- Relation [trueRelation](#)
- Relation [falseRelation](#)
- SpecCase [cs](#)

Private Member Functions

- String [printBoundsSummary](#) (Bounds bounds)
- ForgeAtom [lit2atom](#) (ForgeLiteral lit, ForgeBounds forgeBounds)

9.17.1 Detailed Description

An implementation of the [ISquander](#) interface that uses Kodkod as the back-end.

Author:

Aleksandar Milicevic

Definition at line 94 of file SquanderKodkodImpl.java.

9.17.2 Constructor & Destructor Documentation

9.17.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.SquanderKodkodImpl ()

Definition at line 688 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lowerBounds](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modVal](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds](#).

9.17.3 Member Function Documentation

9.17.3.1 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.addRelForVar (ForgeVariable var, String name) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 1150 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations\(\)](#).

9.17.3.2 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar (LocalVariable var, TupleFactory f, Bounds b) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#).

Definition at line 1139 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBou](#)
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds\(\)](#).

9.17.3.3 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples (ObjTupleSet fc, TupleFactory f) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#).

Definition at line 1192 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.forgeLitForObj\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene](#), and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#).

9.17.3.4 TupleSet [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples](#) (ForgeConstant *fc*, TupleFactory *f*) [**protected**]

Definition at line 1162 of file [SquanderKodkodImpl.java](#).

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convAtom\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.bindLocalVar\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.bindLocalVar\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds\(\)](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds\(\)](#).

9.17.3.5 Object [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convAtom](#) (ForgeAtom *a*) [**protected**]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#).

Definition at line 1182 of file [SquanderKodkodImpl.java](#).

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples\(\)](#).

9.17.3.6 Formula [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convertSpec](#) (ForgeExpression *spec*) [**protected**]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 839 of file [SquanderKodkodImpl.java](#).

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec\(\)](#).

9.17.3.7 Bounds [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds](#) () [**protected**]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart3Impl](#).

Definition at line 885 of file [SquanderKodkodImpl.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.args](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.bounds](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.findLitera](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeLitForObj\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower\(\)](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper\(\)](#).

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.reporter, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.8 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations () [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 844 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.addRelForVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.falseRelation, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName(), edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.9 Universe edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse () [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#).

Definition at line 995 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.ForgeScene.ints, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt(), edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds().

9.17.3.10 IEvaluator edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec (ForgeExpression spec, Set< GlobalVariable > modifies, ForgeConverter fconv) [protected]

Executes the given forge expression.

Reimplemented from [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Definition at line 757 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convertSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getEval(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene, edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW(), edu.mit.csail.sdg.squander.spec.MethodSpec.options, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.printBounds, edu.mit.csail.sdg.squander.spec.ForgeScene.program, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, and edu.mit.csail.sdg.squander.annotations.Options.solveAll().

9.17.3.11 **int** edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArrayLength (GlobalVariable *var*) [protected]

Definition at line 1108 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.ForgeScene.global(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent().

9.17.3.12 **Expression** edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.form2expr (Formula *form*) [protected]

converts a Kodkod formula to a Kodkod expressoin

Definition at line 1069 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.falseRelation, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation, and

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr().

9.17.3.13 **IEvaluator** edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getEval (Iterator< Solution > *solution*) [protected]

Reimplemented in edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl, and

Definition at line 826 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.14 **ForgeConstant** edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent (GlobalVariable *var*, ForgeConstant *lower*) [protected]

Definition at line 1075 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArrayLength(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonEmpty.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper().

9.17.3.15 Set<GlobalVariable>

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getModsForPostState
(ForgeConverter *fconv*, SpecCase *sc*) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 695 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame](#).

9.17.3.16 ForgeConstant

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower
(GlobalVariable *g*, ForgeConstant *initialBound*) [protected]

Definition at line 949 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType\(\)](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene](#),
[edu.mit.csail.sdg.squander.spec.ForgeScene.instLitFor](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2atom\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lowerBound](#)
and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds\(\)](#),
and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds\(\)](#).

9.17.3.17 ForgeExpression

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec (SpecCase *cs*,
ForgeConverter *fconv*) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 707 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint\(\)](#),
[edu.mit.csail.sdg.squander.engine.SquanderEval2.eval\(\)](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene](#),
[edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame](#),
[edu.mit.csail.sdg.squander.spec.Spec.funcConstraint\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lowerBound](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modVal](#),
[edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post](#),
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product\(\)](#),
[edu.mit.csail.sdg.squander.spec.ForgeScene.program](#),
[edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBound](#)
and [edu.mit.csail.sdg.squander.spec.Spec.wellformedPost\(\)](#).

9.17.3.18 ForgeConstant

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper
(GlobalVariable *var*, ForgeConstant *postLower*) [protected]

Definition at line 983 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBound](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lowerBound](#)
and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds](#).

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds()`.

9.17.3.19 ForgeExpression

`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPreSpec`
(SpecCase *cs*) [**protected**]

Reimplemented from `edu.mit.csail.sdg.squander.engine.SquanderImpl`.

Reimplemented in `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl`.

Definition at line 700 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint()`, `edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre`, and `edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec()`.

9.17.3.20 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init () [**protected**]

Reimplemented in `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl`.

Definition at line 831 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec()`.

9.17.3.21 ForgeAtom edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2atom

(ForgeLiteral *lit*, ForgeBounds *forgeBounds*) [**private**]

Definition at line 972 of file `SquanderKodkodImpl.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower()`.

9.17.3.22 Expression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr

(Node *node*) [**protected**]

converts a Kodkod node to a Kodkod expression.

Definition at line 1056 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.form2expr()`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`.

9.17.3.23 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form (Node

node) [**protected**]

converts a Kodkod node to a Kodkod formula.

Definition at line 1027 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.falseRelation`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation`.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convertSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2().

9.17.3.24 IntExpression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2int (Node *node*) [protected]

converts a Kodkod expression to a Kodkod integer.

Definition at line 1045 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2().

9.17.3.25 ForgeConstant.Unary edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs (int *upperBound*) [protected]

Definition at line 1128 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl

9.17.3.26 ForgeConstant.Unary edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs () [protected]

Definition at line 1124 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, and
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs().

9.17.3.27 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.printBoundsSummary (Bounds *bounds*) [private]

Definition at line 806 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.28 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName (ForgeVariable *var*) [protected]

Definition at line 1155 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.17.4 Member Data Documentation

9.17.4.1 SpecCase edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.cs [protected]

Definition at line 686 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations().

9.17.4.2 Relation edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.falseRelation [protected]

Definition at line 685 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.form2expr(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form().

9.17.4.3 ForgeConverter edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv [protected]

Definition at line 672 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.bindLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArrayLength(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getModLits(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.processFirst(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.sort(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.17.4.4 ForgeScene edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene [protected]

Definition at line 673 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getModLits(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.17.4.5 Set<Integer> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints [protected]

Definition at line 683 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convAtom(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.

9.17.4.6 Map<String, Relation> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel [protected]

Definition at line 676 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.

9.17.4.7 Map<ForgeVariable, ObjTupleSet>
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lowerBounds
[protected]

Definition at line 680 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.SquanderKodkodImpl().

9.17.4.8 Set<GlobalVariable>
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies
[protected]

Definition at line 671 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArrayLength(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.17.4.9 Map<ForgeVariable, ObjTupleSet>
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modVal
[protected]

Definition at line 679 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.SquanderKodkodImpl().

9.17.4.10 ForgeProgram edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program
[protected]

Definition at line 674 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.17.4.11 Relation edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation [protected]

Definition at line 684 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.form2expr(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit() and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.17.4.12 Map<ForgeType, Expression> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr [protected]

Definition at line 677 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visitForgeType() and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visitForgeType().

9.17.4.13 Map<ForgeVariable, ObjTupleSet> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds [protected]

Definition at line 681 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.SquanderKodkodImpl().

9.17.4.14 Map<String, Expression> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel [protected]

Definition at line 678 of file SquanderKodkodImpl.java.

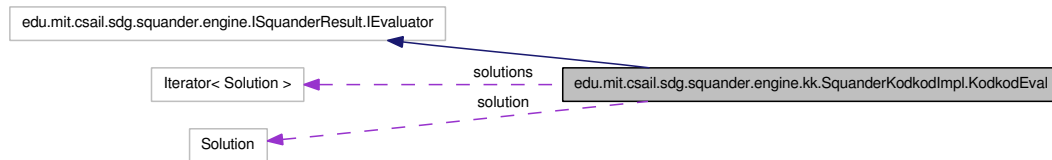
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.addRelForVar(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.boundLocalVar(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit() and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java](#)

9.18 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval Class Reference

Inherits edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval from edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.



Public Member Functions

- [KodkodEval](#) (Iterator< Solution > [solutions](#))
- String [unsatCore](#) ()
- [ObjTupleSet](#) [evaluate](#) (ForgeVariable var)
- [ObjTupleSet](#) [evaluateExpr](#) (ForgeExpression expr)
- boolean [hasSolution](#) ()
- [IEvaluator](#) [nextSolution](#) ()
- String [trace](#) ()
- String [stats](#) ()

Protected Member Functions

- [ObjTupleSet](#) [makeConst](#) (TupleSet ts)

Protected Attributes

- final Iterator< Solution > [solutions](#)
- Solution [solution](#)

9.18.1 Detailed Description

An implementation of the [IEvaluator](#) interface that wraps a Kodkod solution.

Definition at line 132 of file SquanderKodkodImpl.java.

9.18.2 Constructor & Destructor Documentation

9.18.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.KodkodEval (Iterator< Solution > *solutions*)

Definition at line 137 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution](#).

9.18.3 Member Function Documentation

9.18.3.1 ObjTupleSet

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluate
(ForgeVariable *var*)

Definition at line 159 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluateExpr().

9.18.3.2 ObjTupleSet

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluateExpr
(ForgeExpression *expr*)

Definition at line 163 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluate().

9.18.3.3 boolean

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.hasSolution ()

Definition at line 206 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

9.18.3.4 ObjTupleSet

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst
(TupleSet *ts*) [**protected**]

Definition at line 180 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTuple.arity, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit and edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluateExpr().

9.18.3.5 IEvaluator

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.nextSolution ()

Definition at line 211 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solutions.

9.18.3.6 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.stats ()

Definition at line 226 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

9.18.3.7 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.trace ()

Definition at line 221 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

9.18.3.8 String

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.unsatCore ()

Definition at line 143 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

9.18.4 Member Data Documentation

9.18.4.1 Solution

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution
[protected]

Definition at line 135 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluateExpr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.hasSolution(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.KodkodEval(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.nextSolution(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.stats(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.trace(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.unsatCore().

9.18.4.2 final Iterator<Solution>

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solutions
[protected]

Definition at line 134 of file SquanderKodkodImpl.java.

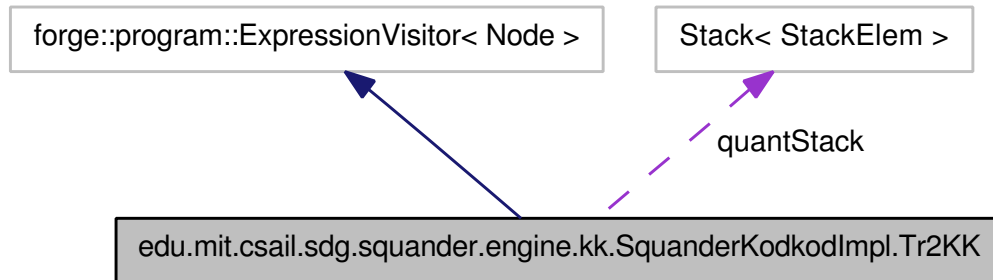
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.nextSolution().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java](#)

9.19 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK Class Reference

Inherits forge::program::ExpressionVisitor< Node >.Collaboration diagram for edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK:



Classes

- class [StackElem](#)

Protected Member Functions

- Expression [visit](#) (ForgeType ftype)
- Node [visit](#) (ForgeLiteral lit)
- Expression [visit](#) (ForgeVariable var)
- Node [visit](#) (UnaryExpression expr)
- Node [visit](#) (BinaryExpression expr)
- Node [visit](#) (ConditionalExpression expr)
- Node [visit](#) (ProjectionExpression expr)
- Node [visit](#) (QuantifyExpression expr)
- Node [visit2](#) (QuantifyExpression expr)
- Expression [visit](#) (OldExpression expr)

Private Member Functions

- Expression [visitForgeType](#) (ForgeType ftype)
- Node [fix](#) (Formula quantFormula)
- Expression [getRelForVarAndCheck](#) (ForgeVariable var)
- [StackElem](#) [searchStack](#) (String varName)

Private Attributes

- final Stack< [StackElem](#) > [quantStack](#) = new Stack<[StackElem](#)>()

9.19.1 Detailed Description

Translates Forge expressions to Kodkod expressions/formulas

Definition at line 239 of file SquanderKodkodImpl.java.

9.19.2 Member Function Documentation

9.19.2.1 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.fix` (Formula *quantFormula*) [`private`]

Definition at line 615 of file `SquanderKodkodImpl.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2()`.

9.19.2.2 Expression `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck` (ForgeVariable *var*) [`private`]

Definition at line 652 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel`, and

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`.

9.19.2.3 StackElem `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.searchStack` (String *varName*) [`private`]

Definition at line 658 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.name`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.quantStack`, and

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`.

9.19.2.4 Expression `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit` (OldExpression *expr*) [`protected`]

Definition at line 643 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel`, and

9.19.2.5 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit` (QuantifyExpression *expr*) [`protected`]

Definition at line 482 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2()`, and

9.19.2.6 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(ProjectionExpression expr)` [`protected`]

Definition at line 471 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr()`.

9.19.2.7 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(ConditionalExpression expr)` [`protected`]

Definition at line 463 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form()`.

9.19.2.8 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(BinaryExpression expr)` [`protected`]

Definition at line 360 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2int()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2int()`.

9.19.2.9 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(UnaryExpression expr)` [`protected`]

Definition at line 309 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2int()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2int()`.

9.19.2.10 Expression `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(ForgeVariable var)` [`protected`]

Definition at line 294 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.searchStack()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.var`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.var`.

9.19.2.11 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(ForgeLiteral lit)` [`protected`]

Definition at line 285 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel`.

9.19.2.12 Expression `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(ForgeType ftype)` [`protected`]

Definition at line 254 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visitForgeType()`, and

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2()`.

9.19.2.13 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2(QuantifyExpression expr)` [protected]

Definition at line 556 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.fix()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.quantStack`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`, and

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`.

9.19.2.14 Expression `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visitForgeType(ForgeType ftype)` [private]

Definition at line 263 of file `SquanderKodkodImpl.java`.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`.

9.19.3 Member Data Documentation

9.19.3.1 final `Stack<StackElem>` `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.quantStack = new Stack<StackElem>()` [private]

Definition at line 251 of file `SquanderKodkodImpl.java`.

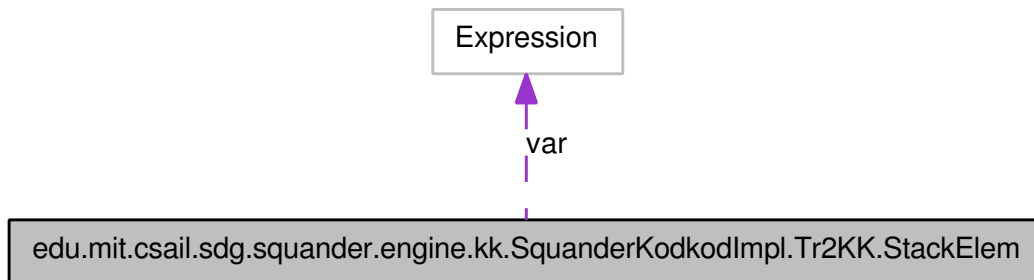
Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.searchStack()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java](#)

9.20 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem:



Package Functions

- [StackElem](#) (String *name*, Expression *var*)

Package Attributes

- final String *name*
- final Expression *var*

9.20.1 Detailed Description

Definition at line 241 of file SquanderKodkodImpl.java.

9.20.2 Constructor & Destructor Documentation

9.20.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.StackElem (String *name*, Expression *var*) [package]

Definition at line 245 of file SquanderKodkodImpl.java.

9.20.3 Member Data Documentation

9.20.3.1 final String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.name [package]

Definition at line 242 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.searchStack().

9.20.3.2 final Expression

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.var
[package]

Definition at line 243 of file SquanderKodkodImpl.java.

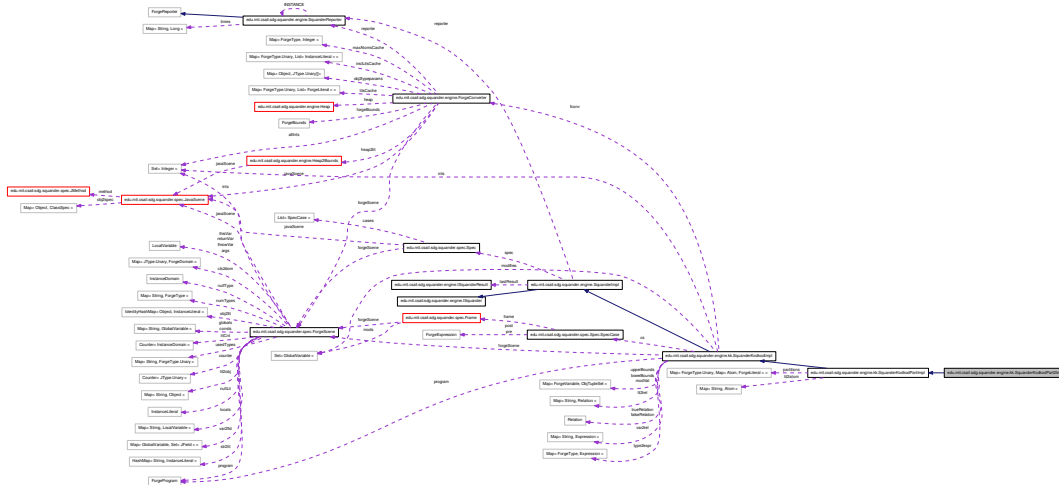
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java](#)

9.21 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl](#). Collaboration diagram for [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#):



Public Member Functions

- [SquanderKodkodPart2Impl \(\)](#)

Protected Member Functions

- Bounds [createBounds \(\)](#)
- TupleSet [getPostLower](#) (GlobalVariable g, TupleSet initialBound, TupleFactory f)
- TupleSet [getPostUpper](#) (GlobalVariable var, TupleSet postLower, TupleFactory f)
- void [boundLocalVar](#) (LocalVariable var, TupleFactory f, Bounds b)
- TupleSet [conv2tuples](#) (ObjTupleSet fc, TupleFactory f)

Private Member Functions

- TupleSet[] [getPostLowerUpper](#) (GlobalVariable var, TupleSet lowerInitial, TupleFactory f)
- TupleSet [join](#) (TupleSet ts1, TupleSet ts2, TupleFactory f)
- TupleSet[] [getBounds](#) (ForgeVariable var, TupleFactory f)
- TupleSet [getExtent](#) (ForgeVariable var, TupleFactory f)
- String [getLitNameForObject](#) (Object obj)

9.21.1 Detailed Description

An implementation of the [ISquander](#) interface that uses *KodkodPart* translation to Kodkod that doesn't use [ForgeBounds](#).

Author:

Aleksandar Milicevic

Definition at line 37 of file SquanderKodkodPart2Impl.java.

9.21.2 Constructor & Destructor Documentation**9.21.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.SquanderKodkodPart2Impl()**

Definition at line 39 of file SquanderKodkodPart2Impl.java.

9.21.3 Member Function Documentation**9.21.3.1 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.boundLocalVar (LocalVariable *var*, TupleFactory *f*, Bounds *b*) [protected]**Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 162 of file SquanderKodkodPart2Impl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel](#).Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds\(\)](#).**9.21.3.2 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples (ObjTupleSet *fc*, TupleFactory *f*) [protected]**Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 209 of file SquanderKodkodPart2Impl.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom](#), and
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#).Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper\(\)](#).**9.21.3.3 Bounds edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds () [protected]**Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#).

Definition at line 42 of file SquanderKodkodPart2Impl.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.args](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse\(\)](#),
[edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds\(\)](#),
[edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiterals](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLowerUpper(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, edu.mit.csail.sdg.squander.engine.SquanderImpl.reporter
 edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr, and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

9.21.3.4 TupleSet [] edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds (ForgeVariable var, TupleFactory f) [private]

Definition at line 170 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.
 and edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.boundLocalVar(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds().

9.21.3.5 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getExtent (ForgeVariable var, TupleFactory f) [private]

Definition at line 187 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper().

9.21.3.6 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getLitNameForObject (Object obj) [private]

Definition at line 229 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, and
 edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples().

9.21.3.7 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower (GlobalVariable g, TupleSet initialBound, TupleFactory f) [protected]

Definition at line 110 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.
 edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.j
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.
 and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLowerUpper().

9.21.3.8 TupleSet [] edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLowerUpper (GlobalVariable *var*, TupleSet *lowerInitial*, TupleFactory *f*) [private]

Definition at line 104 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds().

9.21.3.9 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper (GlobalVariable *var*, TupleSet *postLower*, TupleFactory *f*) [protected]

Definition at line 133 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.join(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLowerUpper().

9.21.3.10 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.join (TupleSet *ts1*, TupleSet *ts2*, TupleFactory *f*) [private]

Definition at line 147 of file SquanderKodkodPart2Impl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper().

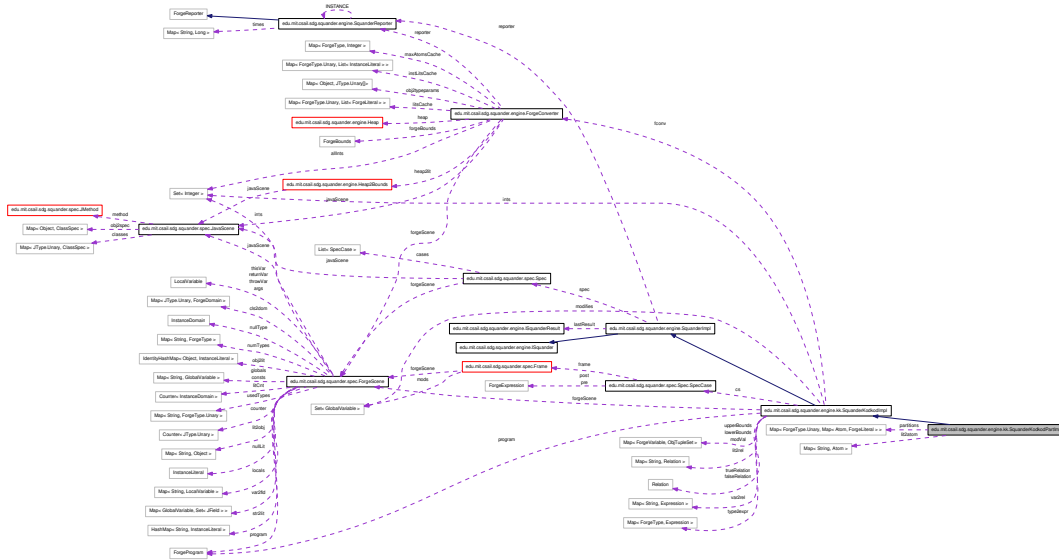
The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPart2Impl.java](#)

9.22 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl](#).

Inherited by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#). Collaboration diagram for [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#):



Classes

- class [Atom](#)
- class [KodkodIntEval](#)

Public Member Functions

- [SquanderKodkodPartImpl \(\)](#)

Protected Member Functions

- void [partitionDomains \(\)](#)
- [Atom nextAtomForLiteral](#) (Unary partition, ForgeDomain litType, Map< ForgeDomain, Set< ForgeDomain >> deps, Set< Atom > availAtoms)
- Universe [createUniverse \(\)](#)
- Bounds [createBounds \(\)](#)
- IEvaluator [getEval](#) (Iterator< Solution > solutions)
- Object [convAtom](#) (ForgeAtom a)

Protected Attributes

- Map< ForgeType.Unary, Map< Atom, ForgeLiteral > > [partitions](#)
- Map< String, Atom > [lit2atom](#)

Private Member Functions

- void [sort](#) (List< ForgeType.Unary > types)
- void [processNext](#) (ForgeType.Unary t, Map< ForgeDomain, Set< ForgeDomain >> deps, Set< Atom > allAtoms)
- Set< Atom > [processFirst](#) (ForgeType.Unary t)
- Map< ForgeDomain, Set< ForgeDomain > > [createDependencies](#) (List< ForgeType.Unary > types)
- String [printPartitions](#) ()

9.22.1 Detailed Description

An implementation of the [ISquander](#) interface that uses *KodkodPart* translation to Kodkod in order to minimize the number of atoms in the universe.

Author:

Aleksandar Milicevic

Definition at line 53 of file SquanderKodkodPartImpl.java.

9.22.2 Constructor & Destructor Documentation

9.22.2.1 [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.SquanderKodkodPartImpl](#) ()

Definition at line 146 of file SquanderKodkodPartImpl.java.

9.22.3 Member Function Documentation

9.22.3.1 Object [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.convAtom](#) (ForgeAtom *a*) [**protected**]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 482 of file SquanderKodkodPartImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom](#).

9.22.3.2 Bounds [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds](#) () [**protected**]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#).

Definition at line 410 of file SquanderKodkodPartImpl.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.args](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.bound](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse\(\)](#),

edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.for, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.reporter, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

9.22.3.3 Map<ForgeDomain, Set<ForgeDomain> >
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createDependencies
 (List< ForgeType.Unary > types) [private]

Definition at line 225 of file SquanderKodkodPartImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.22.3.4 Universe edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse
 () [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 366 of file SquanderKodkodPartImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.printPartitions\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds\(\)](#).

9.22.3.5 IEvaluator edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.getEval
 (Iterator< Solution > solutions) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 477 of file SquanderKodkodPartImpl.java.

9.22.3.6 Atom
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral
 (Unary partition, ForgeDomain litType, Map< ForgeDomain, Set< ForgeDomain >>
 deps, Set< Atom > availAtoms) [protected]

Definition at line 241 of file SquanderKodkodPartImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext\(\)](#).

9.22.3.7 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains () [protected]

Definition at line 159 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createDependencies(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions and edu.mit.csail.sdg.squander.spec.ForgeScene.usedTypes.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse().

9.22.3.8 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.printPartitions () [private]

Definition at line 378 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse().

9.22.3.9 Set<Atom> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst (ForgeType.Unary t) [private]

Definition at line 211 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.22.3.10 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext (ForgeType.Unary t, Map< ForgeDomain, Set< ForgeDomain >> deps, Set< Atom > allAtoms) [private]

Definition at line 180 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.22.3.11 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.sort (List< ForgeType.Unary > types) [private]

Definition at line 148 of file SquanderKodkodPartImpl.java.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,` and
`edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType().`

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().`

9.22.4 Member Data Documentation

9.22.4.1 Map<String, Atom>

`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom`
[protected]

Definition at line 144 of file `SquanderKodkodPartImpl.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.convAtom(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst(),` and
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext().`

9.22.4.2 Map<ForgeType.Unary, Map<Atom, ForgeLiteral> >

`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions`
[protected]

Definition at line 143 of file `SquanderKodkodPartImpl.java`.

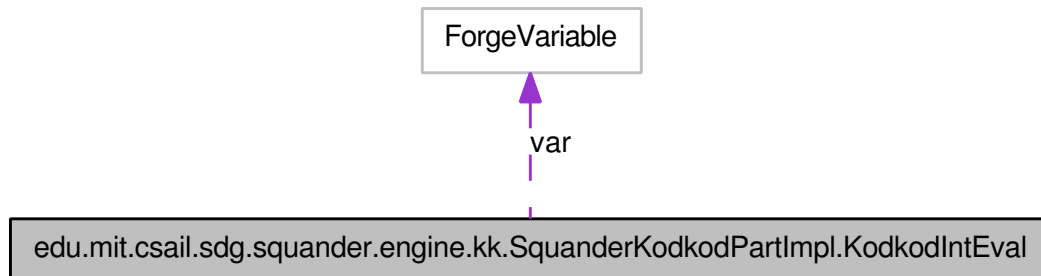
Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getExtent(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.printPartitions(),`
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst(),` and
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext().`

The documentation for this class was generated from the following file:

- <src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPartImpl.java>

9.23 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval:



Public Member Functions

- [KodkodIntEval](#) (Iterator< Solution > solutions)
- [ObjTupleSet evaluate](#) (ForgeVariable var)
- [ObjTupleSet evaluateExpr](#) (ForgeExpression expr)

Protected Member Functions

- [ObjTupleSet makeConst](#) (TupleSet ts)

Private Attributes

- ForgeVariable [var](#)

9.23.1 Detailed Description

Definition at line 59 of file SquanderKodkodPartImpl.java.

9.23.2 Constructor & Destructor Documentation

9.23.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.KodkodIntEval (Iterator< Solution > solutions)

Definition at line 63 of file SquanderKodkodPartImpl.java.

9.23.3 Member Function Documentation

9.23.3.1 ObjTupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.evaluate (ForgeVariable var)

Definition at line 68 of file SquanderKodkodPartImpl.java.

9.23.3.2 ObjTupleSet

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.evaluateExpr
(ForgeExpression *expr*)

Definition at line 74 of file SquanderKodkodPartImpl.java.

9.23.3.3 ObjTupleSet

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst
(TupleSet *ts*) [**protected**]

Definition at line 79 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTuple.arity, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions, edu.mit.csail.sdg.squander.absstate.ObjTuple.product(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.evaluateExpr.

9.23.4 Member Data Documentation

9.23.4.1 ForgeVariable

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.var
[**private**]

Definition at line 61 of file SquanderKodkodPartImpl.java.

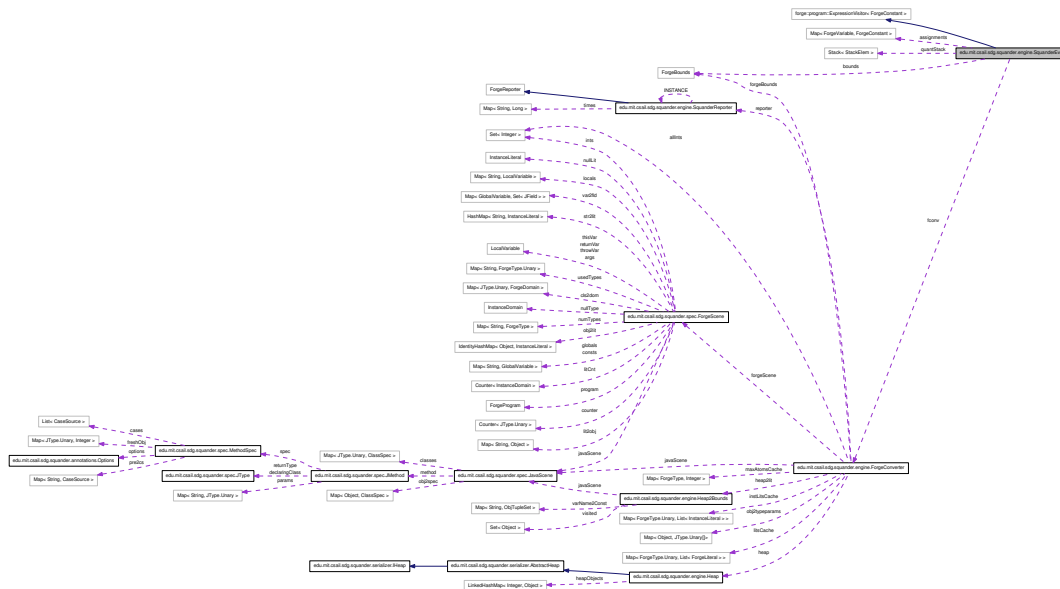
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPartImpl.java](#)

9.24 edu.mit.csail.sdg.squander.engine.SquanderEval Class Reference

Inherits `forge::program::ExpressionVisitor< ForgeConstant >`. Collaboration diagram for `edu.mit.csail.sdg.squander.engine.SquanderEval`:



Classes

- interface `BinFunc< R, T >`
- class `StackElem`

Public Member Functions

- `Map< ForgeVariable, ForgeConstant >` [getAssignments](#) ()
- `ISquanderResult.IEvaluator` [getEvaluator](#) ()
- `ForgeConstant` [eval](#) (`ForgeExpression` `expr`, `ForgeBounds` `bounds`, `ForgeConverter` `fconv`)

Protected Member Functions

- `ForgeConstant` [visit](#) (`BinaryExpression` `expr`)
- `ForgeConstant` [visit](#) (`ConditionalExpression` `expr`)
- `ForgeConstant` [visit](#) (`ForgeLiteral` `expr`)
- `ForgeConstant` [visit](#) (`ForgeType` `expr`)
- `ForgeConstant` [visit](#) (`ForgeVariable` `expr`)
- `ForgeConstant` [visit](#) (`OldExpression` `expr`)
- `ForgeConstant` [visit](#) (`ProjectionExpression` `expr`)
- `ForgeConstant` [visit](#) (`QuantifyExpression` `expr`)
- `ForgeConstant` [visit](#) (`UnaryExpression` `expr`)

Package Functions

- private< R > ForgeConstant [visitIntBinExpr](#) (BinaryExpression expr, BinFunc< R, Integer > f)

Private Member Functions

- ForgeConstant [visitVariable](#) (ForgeVariable var)
- ForgeConstant [visitLocalVariable](#) (LocalVariable var)
- StackElem [searchStack](#) (LocalVariable var)
- ForgeConstant [visitAssignment](#) (BinaryExpression expr)
- ForgeConstant [visitEquals](#) (BinaryExpression expr)
- ForgeConstant [visitJoin](#) (BinaryExpression expr)
- ForgeConstant [visitProduct](#) (BinaryExpression expr)
- ForgeConstant [visitRelUnion](#) (BinaryExpression expr)
- ForgeConstant [visitDiff](#) (BinaryExpression expr)
- ForgeConstant [visitSubset](#) (BinaryExpression expr)
- ForgeConstant [visitIntersection](#) (BinaryExpression expr)
- ForgeConstant [visitClosure](#) (ForgeConstant res)
- ForgeConstant [visitBoolBinExpr](#) (BinaryExpression expr, BinFunc< Boolean, Boolean > f)
- ForgeConstant [visitUnion](#) (QuantifyExpression expr)
- ForgeConstant [visitAll](#) (QuantifyExpression expr)
- ForgeConstant [visitExists](#) (QuantifyExpression expr)

Private Attributes

- ForgeBounds [bounds](#)
- ForgeConverter [fconv](#)
- boolean [hasSolution](#) = false
- Stack< StackElem > [quantStack](#) = new Stack<StackElem>()
- Map< ForgeVariable, ForgeConstant > [assignments](#) = new HashMap<ForgeVariable, ForgeConstant>()

9.24.1 Detailed Description

Used to evaluate relational Forge expressions against the heap.

Author:

Aleksandar Milicevic

Definition at line 42 of file SquanderEval.java.

9.24.2 Member Function Documentation

9.24.2.1 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.eval (ForgeExpression expr, ForgeBounds bounds, ForgeConverter fconv)

Evaluates the given Forge expression against the given bounds (which represent the heap) and returns a Forge constant as the result of the evaluation.

Definition at line 115 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.hasSolution, and
edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

9.24.2.2 Map<ForgeVariable, ForgeConstant> edu.mit.csail.sdg.squander.engine.SquanderEval.getAssignments ()

Definition at line 71 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.assignments.

9.24.2.3 ISquanderResult.IEvaluator edu.mit.csail.sdg.squander.engine.SquanderEval.getEvaluator ()

Definition at line 75 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.assignments,
edu.mit.csail.sdg.squander.engine.SquanderEval.fconv, and edu.mit.csail.sdg.squander.engine.SquanderEval.hasSolution.

9.24.2.4 StackElem edu.mit.csail.sdg.squander.engine.SquanderEval.searchStack (LocalVariable var) [private]

Definition at line 283 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visitLocalVariable().

9.24.2.5 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (UnaryExpression expr) [protected]

Definition at line 232 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds, and
edu.mit.csail.sdg.squander.engine.SquanderEval.visitClosure().

9.24.2.6 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (QuantifyExpression expr) [protected]

Definition at line 218 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitEx
and edu.mit.csail.sdg.squander.engine.SquanderEval.visitUnion().

9.24.2.7 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ProjectionExpression expr) [protected]

Definition at line 212 of file SquanderEval.java.

9.24.2.8 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (OldExpression *expr*) [protected]

Definition at line 207 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.9 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ForgeVariable *expr*) [protected]

Definition at line 199 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.visitLocalVariable(), and edu.mit.csail.sdg.squander.engine.SquanderEval.visitVariable().

9.24.2.10 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ForgeType *expr*) [protected]

Definition at line 194 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

9.24.2.11 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ForgeLiteral *expr*) [protected]

Definition at line 185 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

9.24.2.12 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ConditionalExpression *expr*) [protected]

Definition at line 175 of file SquanderEval.java.

9.24.2.13 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (BinaryExpression *expr*) [protected]

Definition at line 125 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.visitBoolBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitDiff(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitEquals(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntersect(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitJoin(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitProduct(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitRelUnion(), and edu.mit.csail.sdg.squander.engine.SquanderEval.visitSubst().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.14 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitAll (QuantifyExpression *expr*) [private]

Definition at line 413 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds, and
edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.15 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitAssignment (BinaryExpression *expr*) [private]

Definition at line 293 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.assignments, and
edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

9.24.2.16 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitBoolBinExpr (BinaryExpression *expr*, BinFunc< Boolean, Boolean > *f*) [private]

Definition at line 359 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.17 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitClosure (ForgeConstant *res*) [private]

Definition at line 345 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.18 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitDiff (BinaryExpression *expr*) [private]

Definition at line 326 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.19 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitEquals (BinaryExpression *expr*) [private]

Definition at line 301 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.20 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitExists (QuantifyExpression *expr*) [private]

Definition at line 428 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds, and
edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.21 `private<R> ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntBinExpr (BinaryExpression expr, BinFunc< R, Integer > f) [package]`

Definition at line 370 of file SquanderEval.java.

References `edu.mit.csail.sdg.squander.engine.SquanderEval.bounds`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval.visit()`.

9.24.2.22 `ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntersection (BinaryExpression expr) [private]`

Definition at line 339 of file SquanderEval.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval.visit()`.

9.24.2.23 `ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitJoin (BinaryExpression expr) [private]`

Definition at line 308 of file SquanderEval.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval.visit()`.

9.24.2.24 `ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitLocalVariable (LocalVariable var) [private]`

Definition at line 275 of file SquanderEval.java.

References `edu.mit.csail.sdg.squander.engine.SquanderEval.searchStack()`, `edu.mit.csail.sdg.squander.engine.SquanderEval.visitVariable()` and

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval.visit()`.

9.24.2.25 `ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitProduct (BinaryExpression expr) [private]`

Definition at line 314 of file SquanderEval.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval.visit()`.

9.24.2.26 `ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitRelUnion (BinaryExpression expr) [private]`

Definition at line 320 of file SquanderEval.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval.visit()`.

9.24.2.27 `ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitSubset (BinaryExpression expr) [private]`

Definition at line 333 of file SquanderEval.java.

References `edu.mit.csail.sdg.squander.engine.SquanderEval.bounds`.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.28 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitUnion (QuantifyExpression *expr*) [**private**]

Definition at line 396 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds, and
edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.29 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitVariable (ForgeVariable *var*) [**private**]

Definition at line 268 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit(), and
edu.mit.csail.sdg.squander.engine.SquanderEval.visitLocalVariable().

9.24.3 Member Data Documentation

9.24.3.1 Map<ForgeVariable, ForgeConstant> edu.mit.csail.sdg.squander.engine.SquanderEval.assignments = new HashMap<ForgeVariable, ForgeConstant>() [**private**]

Definition at line 69 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.getAssignments(),
edu.mit.csail.sdg.squander.engine.SquanderEval.getEvaluator(), and edu.mit.csail.sdg.squander.engine.SquanderEval.visitAssignment().

9.24.3.2 ForgeBounds edu.mit.csail.sdg.squander.engine.SquanderEval.bounds [**private**]

Definition at line 65 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitAssignment(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitBoolBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitEquation(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitExists(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntBinExpr(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitSubset(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitUnion(),
and edu.mit.csail.sdg.squander.engine.SquanderEval.visitVariable().

9.24.3.3 ForgeConverter edu.mit.csail.sdg.squander.engine.SquanderEval.fconv [**private**]

Definition at line 66 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.getEvaluator().

9.24.3.4 **boolean edu.mit.csail.sdg.squander.engine.SquanderEval.hasSolution = false** **[private]**

Definition at line 67 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.eval(), and edu.mit.csail.sdg.squander.engine.SquanderEval.getEvaluator().

9.24.3.5 **Stack<StackElem> edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack = new Stack<StackElem>() [private]**

Definition at line 68 of file SquanderEval.java.

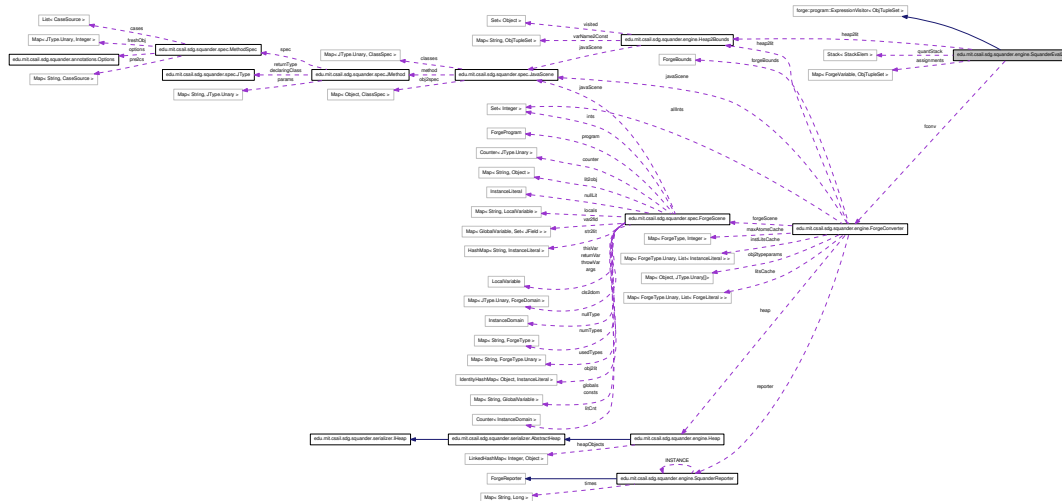
Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.eval(), edu.mit.csail.sdg.squander.engine.SquanderEval.searchStack(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitExists(), and edu.mit.csail.sdg.squander.engine.SquanderEval.visitUnion().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/SquanderEval.java](#)

9.25 edu.mit.csail.sdg.squander.engine.SquanderEval2 Class Reference

Inherits forge::program::ExpressionVisitor< ObjTupleSet >. Collaboration diagram for edu.mit.csail.sdg.squander.engine.SquanderEval2:



Classes

- interface **BinFunc**< R, T >
- class **StackElem**

Public Member Functions

- Map< ForgeVariable, [ObjTupleSet](#) > [getAssignments](#) ()
- ISquanderResult.IEvaluator [getEvaluator](#) ()
- [ObjTupleSet](#) [eval](#) (ForgeExpression expr, [ForgeConverter](#) fconv)

Protected Member Functions

- [ObjTupleSet](#) [visit](#) (BinaryExpression expr)
- [ObjTupleSet](#) [visit](#) (ConditionalExpression expr)
- [ObjTupleSet](#) [visit](#) (ForgeLiteral expr)
- [ObjTupleSet](#) [visit](#) (ForgeType expr)
- [ObjTupleSet](#) [visit](#) (ForgeVariable expr)
- [ObjTupleSet](#) [visit](#) (OldExpression expr)
- [ObjTupleSet](#) [visit](#) (ProjectionExpression expr)
- [ObjTupleSet](#) [visit](#) (QuantifyExpression expr)
- [ObjTupleSet](#) [visit](#) (UnaryExpression expr)

Package Functions

- private< R > [ObjTupleSet](#) [visitIntBinExpr](#) (BinaryExpression expr, BinFunc< R, Integer > f)

Private Member Functions

- [ObjTupleSet visitVariable](#) (ForgeVariable var)
- [ObjTupleSet visitLocalVariable](#) (LocalVariable var)
- StackElem [searchStack](#) (LocalVariable var)
- [ObjTupleSet visitAssignment](#) (BinaryExpression expr)
- [ObjTupleSet visitEquals](#) (BinaryExpression expr)
- [ObjTupleSet visitJoin](#) (BinaryExpression expr)
- [ObjTupleSet visitProduct](#) (BinaryExpression expr)
- [ObjTupleSet visitRelUnion](#) (BinaryExpression expr)
- [ObjTupleSet visitDiff](#) (BinaryExpression expr)
- [ObjTupleSet visitSubset](#) (BinaryExpression expr)
- [ObjTupleSet visitIntersection](#) (BinaryExpression expr)
- [ObjTupleSet visitClosure](#) (ObjTupleSet res)
- [ObjTupleSet visitBoolBinExpr](#) (BinaryExpression expr, BinFunc< Boolean, Boolean > f)
- [ObjTupleSet visitUnion](#) (QuantifyExpression expr)
- [ObjTupleSet visitAll](#) (QuantifyExpression expr)
- [ObjTupleSet visitExists](#) (QuantifyExpression expr)

Static Private Member Functions

- static [ObjTupleSet boolAtom](#) (boolean val)
- static [ObjTupleSet intAtom](#) (int val)
- static [ObjTupleSet objAtom](#) (Object obj)
- static boolean [boolValue](#) (ObjTupleSet condEval)
- static int [intValue](#) (ObjTupleSet condEval)

Private Attributes

- [ForgeConverter fconv](#)
- [Heap2Bounds heap2lit](#)
- boolean [hasSolution](#) = false
- Stack< StackElem > [quantStack](#) = new Stack<StackElem>()
- Map< ForgeVariable, [ObjTupleSet](#) > [assignments](#) = new HashMap<ForgeVariable, [ObjTupleSet](#)>()

9.25.1 Detailed Description

Used to evaluate relational Forge expressions against the heap. It uses [ObjTupleSet](#) instead of [ForgeBounds](#).

Definition at line 35 of file SquanderEval2.java.

9.25.2 Member Function Documentation

9.25.2.1 static `ObjTupleSet` `edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom` (boolean *val*) [`static`, `private`]

Definition at line 431 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAssignment()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitBoolBinExpr()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitSubset()`.

9.25.2.2 static boolean `edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue` (`ObjTupleSet condEval) [static, private]`

Definition at line 449 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitBoolBinExpr()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion()`.

9.25.2.3 `ObjTupleSet` `edu.mit.csail.sdg.squander.engine.SquanderEval2.eval` (`ForgeExpression expr`, `ForgeConverter fconv`)

Evaluates the given Forge expression against the given bounds (which represent the heap) and returns an `ObjTupleSet` as the result of the evaluation.

Definition at line 108 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.hasSolution`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.heap2Lit`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec()`.

9.25.2.4 `Map<ForgeVariable, ObjTupleSet>` `edu.mit.csail.sdg.squander.engine.SquanderEval2.getAssignments` ()

Definition at line 65 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.assignments`.

9.25.2.5 `ISquanderResult.IEvaluator` `edu.mit.csail.sdg.squander.engine.SquanderEval2.getEvaluator` ()

Definition at line 69 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.assignments,` and
`edu.mit.csail.sdg.squander.engine.SquanderEval2.hasSolution.`

9.25.2.6 `static ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.intAtom (int val)` `[static, private]`

Definition at line 437 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr()`.

9.25.2.7 `static int edu.mit.csail.sdg.squander.engine.SquanderEval2.intValue (ObjTupleSet condEval)` `[static, private]`

Definition at line 457 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity,` and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.`

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr()`.

9.25.2.8 `static ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.objAtom (Object obj)` `[static, private]`

Definition at line 443 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.9 `StackElem edu.mit.csail.sdg.squander.engine.SquanderEval2.searchStack (LocalVariable var)` `[private]`

Definition at line 271 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack.`

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitLocalVariable()`.

9.25.2.10 `ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (UnaryExpression expr)` `[protected]`

Definition at line 221 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(),`
`edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(),` `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty(),`
`edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isTuple(),` and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure()`

9.25.2.11 `ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (QuantifyExpression expr)` `[protected]`

Definition at line 207 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(),` `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`
and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().`

9.25.2.12 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (ProjectionExpression *expr*) [protected]

Definition at line 201 of file SquanderEval2.java.

9.25.2.13 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (OldExpression *expr*) [protected]

Definition at line 196 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.14 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (ForgeVariable *expr*) [protected]

Definition at line 188 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.visitLocalVariable(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable().

9.25.2.15 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (ForgeType *expr*) [protected]

Definition at line 183 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv.

9.25.2.16 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (ForgeLiteral *expr*) [protected]

Definition at line 178 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.objAtom().

9.25.2.17 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (ConditionalExpression *expr*) [protected]

Definition at line 168 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue().

9.25.2.18 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (BinaryExpression *expr*) [protected]

Definition at line 118 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.visitBoolBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitDiff(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitEquals(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitInte, edu.mit.csail.sdg.squander.engine.SquanderEval2.visitJoin(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitProduct(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitRelUnion(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitS

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.19 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll` (**QuantifyExpression** *expr*) [**private**]

Definition at line 401 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom()`,
`edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.extent()`,
`edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack`,
`edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.20 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAssignment` (**BinaryExpression** *expr*) [**private**]

Definition at line 281 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.assignments`, and
`edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom()`.

9.25.2.21 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitBoolBinExpr` (**BinaryExpression** *expr*, **BinFunc**< **Boolean**, **Boolean** > *f*) [**private**]

Definition at line 347 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom()`, and
`edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.22 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure` (**ObjTupleSet** *res*) [**private**]

Definition at line 333 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`,
and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.23 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitDiff` (**BinaryExpression** *expr*) [**private**]

Definition at line 314 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.24 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitEquals
(BinaryExpression *expr*) [**private**]

Definition at line 289 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(), and
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.25 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists
(QuantifyExpression *expr*) [**private**]

Definition at line 416 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(), edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv, edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack,
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.26 private<R> ObjTupleSet
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr
(BinaryExpression *expr*, BinFunc< R, Integer > *f*) [**package**]

Definition at line 358 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.intAtom(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.intValue().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.27 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntersection
(BinaryExpression *expr*) [**private**]

Definition at line 327 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.28 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitJoin
(BinaryExpression *expr*) [**private**]

Definition at line 296 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.29 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitLocalVariable
(LocalVariable *var*) [**private**]

Definition at line 263 of file SquanderEval2.java.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.searchStack()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable()`, and

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.30 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitProduct` (**BinaryExpression** *expr*) [**private**]

Definition at line 302 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.31 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitRelUnion` (**BinaryExpression** *expr*) [**private**]

Definition at line 308 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.32 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitSubset` (**BinaryExpression** *expr*) [**private**]

Definition at line 321 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.subsetOf()`, and

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.33 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion` (**QuantifyExpression** *expr*) [**private**]

Definition at line 384 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.extent()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size()`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`.

9.25.2.34 **ObjTupleSet** `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable` (**ForgeVariable** *var*) [**private**]

Definition at line 257 of file `SquanderEval2.java`.

References `edu.mit.csail.sdg.squander.engine.Heap2Bounds.getBound()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.heap2lit`, and

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitLocalVariable()`, and

9.25.3 Member Data Documentation

9.25.3.1 `Map<ForgeVariable, ObjTupleSet>` `edu.mit.csail.sdg.squander.engine.SquanderEval2.assignments = new HashMap<ForgeVariable, ObjTupleSet>() [private]`

Definition at line 63 of file SquanderEval2.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.getAssignments()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.getEvaluator()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAs`

9.25.3.2 `ForgeConverter` `edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv [private]`

Definition at line 58 of file SquanderEval2.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion()`.

9.25.3.3 `boolean` `edu.mit.csail.sdg.squander.engine.SquanderEval2.hasSolution = false [private]`

Definition at line 61 of file SquanderEval2.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.eval()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.getEvaluator()`.

9.25.3.4 `Heap2Bounds` `edu.mit.csail.sdg.squander.engine.SquanderEval2.heap2lit [private]`

Definition at line 59 of file SquanderEval2.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.eval()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable()`.

9.25.3.5 `Stack<StackElem>` `edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack = new Stack<StackElem>() [private]`

Definition at line 62 of file SquanderEval2.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderEval2.eval()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.searchStack()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll()`, `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists()`, and `edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion`

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/engine/SquanderEval2.java`

Package Functions

- public< R > R [magic](#) (Object caller, String clsName, String methodName, Class<?>[] methodParams, Object[] methodArgs)
- public< R > R [magic](#) (Object caller, Method method, Object[] methodArgs)
- public< R > R [magic](#) (Object caller, [JMethod](#) method, Object[] methodArgs)

Private Attributes

- [ISquanderResult](#) lastResult
- [Spec](#) spec

9.26.1 Detailed Description

An implementation of the [ISquander](#) interface that uses Forge as the back-end.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 33 of file SquanderImpl.java.

9.26.2 Constructor & Destructor Documentation

9.26.2.1 edu.mit.csail.sdg.squander.engine.SquanderImpl.SquanderImpl ()

Definition at line 40 of file SquanderImpl.java.

9.26.3 Member Function Documentation

9.26.3.1 final IEvaluator edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre (SpecCase *cs*, ForgeConverter *fconv*) [protected]

Check pre-conditions in the specification case.

all values of concrete fields are in bounds all values of spec fields are in bounds

Parameters:

cs
options

Returns:

non-null if the pre-condition is satisfied

Definition at line 192 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderImpl.getPre](#) and [edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod\(\)](#).

9.26.3.2 **JMethod edu.mit.csail.sdg.squander.engine.SquanderImpl.convToJMethod (Object caller, String clsName, String methodName, Class<?>[] methodParams) [protected]**

Definition at line 126 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.26.3.3 **final Iterator<? extends ISquanderResult> edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost (SpecCase cs, ForgeConverter fconv) [protected]**

Modifies the heap to ensure the post-condition of the specification case.

that only relations in modifies clause can be changed that new instances should have their relations mentioned in frame that specification fields are bounded to literals according to their abstraction function

Parameters:

cs
options

Returns:

Definition at line 219 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame, edu.mit.csail.sdg.squander.engine.SquanderImpl.getModsForPostState(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getP and edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.26.3.4 **Iterator<? extends ISquanderResult> edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod (SquanderReporter reporter, Object caller, JMethod m, Object[] methodArgs) [protected]**

reporter != null; classPath != null; className != null; methodName != null;

Definition at line 148 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), edu.mit.csail.sdg.squander.spec.Spec.cases, edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre(), edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getSpec(), edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields(), edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext(), and edu.mit.csail.sdg.squander.engine.SquanderImpl.spec.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.26.3.5 **IEvaluator edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec (ForgeExpression spec, Set< GlobalVariable > modifies, ForgeConverter fconv) [protected]**

Executes the given forge expression.

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 274 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeOptions\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene](#),
[edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec\(\)](#), [edu.mit.csail.sdg.squander.spec.MethodSpec.options](#),
and [edu.mit.csail.sdg.squander.engine.ForgeConverter.proc\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre\(\)](#), and
[edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost\(\)](#).

9.26.3.6 ISquanderResult [edu.mit.csail.sdg.squander.engine.SquanderImpl.getLastResult \(\)](#)

Returns the result of the last execution.

Implements [edu.mit.csail.sdg.squander.engine.ISquander](#).

Definition at line 118 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.SquanderImpl.lastResult](#).

9.26.3.7 Set<GlobalVariable>

[edu.mit.csail.sdg.squander.engine.SquanderImpl.getModsForPostState](#)
([ForgeConverter fconv](#), [SpecCase sc](#)) [**protected**]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 241 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene](#), and
[edu.mit.csail.sdg.squander.spec.ForgeScene.program](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost\(\)](#).

9.26.3.8 ForgeExpression [edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec \(SpecCase cs, ForgeConverter fconv\)](#) [**protected**]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 253 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeS](#),
[edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame](#), [edu.mit.csail.sdg.squander.spec.Spec.funcConstraint\(\)](#),
[edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.program](#),
[edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec\(\)](#), and [edu.mit.csail.sdg.squander.spec.Spec.wellformedPost\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost\(\)](#).

9.26.3.9 ForgeExpression [edu.mit.csail.sdg.squander.engine.SquanderImpl.getPreSpec \(SpecCase cs\)](#) [**protected**]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 249 of file SquanderImpl.java.

References `edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint()`, `edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre`, and `edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre()`.

9.26.3.10 `Spec edu.mit.csail.sdg.squander.engine.SquanderImpl.getSpec (ForgeConverter fconv) [protected]`

Definition at line 264 of file `SquanderImpl.java`.

References `edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec()`, `edu.mit.csail.sdg.squander.engine.SquanderImpl.spec()`, and `edu.mit.csail.sdg.squander.engine.SquanderImpl.spec()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod()`.

9.26.3.11 `public<R> R edu.mit.csail.sdg.squander.engine.SquanderImpl.magic (Object caller, JMethod method, Object[] methodArgs) [package]`

Executes the specification of the given `JMethod`

Parameters:

`<R>` - the return type

`caller` - the caller instance (`null` if the method is static)

`method` - Squander's internal representation of a method (which includes method's spec). This can be used to execute specs that are not necessarily given as annotations on a Java method

`methodArgs` - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implements [edu.mit.csail.sdg.squander.engine.ISquander](#).

Definition at line 78 of file `SquanderImpl.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod()`, `edu.mit.csail.sdg.squander.engine.SquanderReporter.finishedAnalysis()`, `edu.mit.csail.sdg.squander.engine.ISquanderResult.getTrace()`, `edu.mit.csail.sdg.squander.engine.ISquanderResult.hasSolution()`, `edu.mit.csail.sdg.squander.engine.SquanderReporter.INSTANCE`, `edu.mit.csail.sdg.squander.engine.SquanderImpl.lastResult`, `edu.mit.csail.sdg.squander.engine.SquanderImpl.reporter`, `edu.mit.csail.sdg.squander.engine.ISquanderResult.restoreJavaHeap()`, `edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap()`, and `edu.mit.csail.sdg.squander.engine.ISquanderResult.unsatCore()`.

9.26.3.12 `public<R> R edu.mit.csail.sdg.squander.engine.SquanderImpl.magic (Object caller, Method method, Object[] methodArgs) [package]`

Executes the specification of the given Java method

Parameters:

`<R>` - the return type

`caller` - the caller instance (`null` if the method is static)

`method` - Java method

methodArgs - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implements [edu.mit.csail.sdg.squander.engine.ISquander](#).

Definition at line 72 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.26.3.13 `public<R> R edu.mit.csail.sdg.squander.engine.SquanderImpl.magic (Object caller, String clsName, String methodName, Class<?>[] methodParams, Object[] methodArgs) [package]`

Most general form

Parameters:

- `<R>` • return type
- `caller` • the object the method is being invoked on; null if the method is static
- `clsName` • name of the class of the method (explicitly needed if `caller` is null, otherwise must be equal to `caller.getClass().getName()`)
- `methodName` • name of the method
- `methodParams` • types of method parameters
- `methodArgs` • actual method arguments

Returns:

Implements [edu.mit.csail.sdg.squander.engine.ISquander](#).

Definition at line 67 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.SquanderImpl.convToJMethod\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.26.4 Member Data Documentation

9.26.4.1 `ISquanderResult edu.mit.csail.sdg.squander.engine.SquanderImpl.lastResult [private]`

Definition at line 35 of file SquanderImpl.java.

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.getLastResult\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.26.4.2 `SquanderReporter edu.mit.csail.sdg.squander.engine.SquanderImpl.reporter [protected]`

Definition at line 38 of file SquanderImpl.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds()`, and
`edu.mit.csail.sdg.squander.engine.SquanderImpl.magic()`.

9.26.4.3 Spec `edu.mit.csail.sdg.squander.engine.SquanderImpl.spec` [`private`]

Definition at line 36 of file `SquanderImpl.java`.

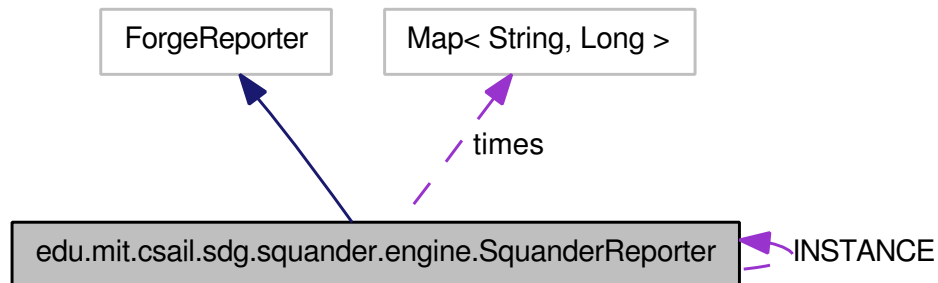
Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod()`, and
`edu.mit.csail.sdg.squander.engine.SquanderImpl.getSpec()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/engine/SquanderImpl.java`

9.27 edu.mit.csail.sdg.squander.engine.SquanderReporter Class Reference

Inherits forge::solve::ForgeReporter. Collaboration diagram for edu.mit.csail.sdg.squander.engine.SquanderReporter:



Public Member Functions

- void [end](#) ()
- kodkod.engine.config.Reporter [kkReporter](#) ()
- void [loadingJavaScene](#) ()
- void [convertingMethod](#) ()
- void [creatingFreshObjects](#) ()
- void [traversingHeap](#) ()
- void [creatingBounds](#) ()
- void [translatingSpecs](#) ()
- void [creatingKodkodUniverse](#) ()
- void [creatingKodkodBounds](#) ()
- void [restoringJavaHeap](#) ()
- void [restoringSpecFields](#) ()
- void [startedAnalysis](#) ()
- void [packagingAnalysis](#) ()
- void [translatingForge](#) ()
- void [buildingAnalysis](#) ()
- void [finishedAnalysis](#) ()
- void [detectedSymmetries](#) (Set<?> parts)
- void [detectingSymmetries](#) (Object bounds)
- void [flattening](#) (Object circuit)
- void [generatingSBP](#) ()
- void [optimizingBoundsAndFormula](#) ()
- void [skolemizing](#) (Object decl, Object skolem, List<?> context)
- void [solvingAnalysis](#) ()
- void [solvingCNF](#) (int primaryVars, int vars, int clauses)
- void [transformingProcedure](#) ()
- void [translatingToBoolean](#) (Object formula, Object bounds)
- void [translatingToCNF](#) (Object circuit)
- void [translatingToKodkod](#) ()
- long [getTaskTime](#) (String task)
- String [toString](#) ()

Static Public Attributes

- static final String [BUILDING_ANALYSIS](#) = "buildingAnalysis"
- static final String [TRANSLATING_FORGE](#) = "translatingForge"
- static final String [PACKAGIN_ANALYSIS](#) = "packaginAnalysis"
- static final String [LOADING_JIMPLE](#) = "loadingJimple"
- static final String [ANALYSIS](#) = "analysis"
- static final String [TRANSLATING_SPECS](#) = "translatingSpecs"
- static final String [CREATING_BOUNDS](#) = "creatingBounds"
- static final String [CREATING_KK_BOUNDS](#) = "creatingKKBounds"
- static final String [RESTORING_HEAP](#) = "restoringHeap"
- static final String [RESTORING_SF](#) = "restoringSpecFields"
- static final String [TRAVERSING_HEAP](#) = "traversingHeap"
- static final String [CREATING_KK_UNIV](#) = "creatingKKUniverse"
- static final String [CREATING_FRESH_OBJECTS](#) = "creatingFreshObjects"
- static final String [CONVERTING_METHOD](#) = "convertingMethod"
- static final String [LOADING_JAVA_SCENE](#) = "loadingJavaScene"
- static final String [TRANSLATING_TO_KODKOD](#) = "translatingToKodkod"
- static final String [TRANSLATING_TO_CNF](#) = "translatingToCNF"
- static final String [TRANSLATING_TO_BOOLEAN](#) = "translatingToBoolean"
- static final String [TRANSOFMING_PROCEDURE](#) = "transofmingProcedure"
- static final String [SOLVING_CNF](#) = "solvingCNF"
- static final String [SOLVING_ANALYSIS](#) = "solvingAnalysis"
- static final String [SCOLEMIZING](#) = "scolemizing"
- static final String [OPTIMIZING_BOUNDS_AND_FORMULA](#) = "optimizingBoundsAndFormula"
- static final String [GENERATING_SBP](#) = "generatingSBP"
- static final String [FLATTENING](#) = "flattening"
- static final String [DETECTING_SYMMETRIES](#) = "detectingSymmetries"
- static final String [DETECTED_SYMMETRIES](#) = "detectedSymmetries"
- static final [SquanderReporter](#) [INSTANCE](#) = new [SquanderReporter](#)()

Private Member Functions

- void [start](#) (String [task](#))
- [SquanderReporter](#) ()

Private Attributes

- Map< String, Long > [times](#) = new LinkedHashMap<String, Long>()
- long [sTime](#)
- String [task](#)
- boolean [busy](#)
- kodkod.engine.config.Reporter [kkRep](#)

9.27.1 Detailed Description

Provides various callback methods for the [Squander](#) engine to invoke at certain points. It is primarily used for logging and timing purposes.

Author:

Aleksandar Milicevic

Definition at line 23 of file SquanderReporter.java.

9.27.2 Constructor & Destructor Documentation

9.27.2.1 edu.mit.csail.sdg.squander.engine.SquanderReporter.SquanderReporter () [private]

Definition at line 189 of file SquanderReporter.java.

9.27.3 Member Function Documentation

9.27.3.1 void edu.mit.csail.sdg.squander.engine.SquanderReporter.buildingAnalysis ()

Definition at line 99 of file SquanderReporter.java.

References [edu.mit.csail.sdg.squander.engine.SquanderReporter.BUILDING_ANALYSIS](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.end\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderReporter.start\(\)](#).

9.27.3.2 void edu.mit.csail.sdg.squander.engine.SquanderReporter.convertingMethod ()

Definition at line 87 of file SquanderReporter.java.

References [edu.mit.csail.sdg.squander.engine.SquanderReporter.CONVERTING_METHOD](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.end\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderReporter.start\(\)](#).

9.27.3.3 void edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds ()

Definition at line 90 of file SquanderReporter.java.

References [edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_BOUNDS](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.end\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderReporter.start\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds\(\)](#).

9.27.3.4 void edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingFreshObjects ()

Definition at line 88 of file SquanderReporter.java.

References [edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_FRESH_OBJECTS](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.end\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderReporter.start\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects\(\)](#).

9.27.3.5 void edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds ()

Definition at line 93 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_KK_BOUNDS, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds().

9.27.3.6 void edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse ()

Definition at line 92 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_KK_UNIV, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds().

9.27.3.7 void edu.mit.csail.sdg.squander.engine.SquanderReporter.detectedSymmetries (Set<?> parts)

Definition at line 103 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.DETECTED_SYMMETRIES, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.8 void edu.mit.csail.sdg.squander.engine.SquanderReporter.detectingSymmetries (Object bounds)

Definition at line 109 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.DETECTING_SYMMETRIES, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.9 void edu.mit.csail.sdg.squander.engine.SquanderReporter.end ()

Definition at line 69 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.busy, edu.mit.csail.sdg.squander.engine.SquanderReporter.startTime, edu.mit.csail.sdg.squander.engine.SquanderReporter.task, and edu.mit.csail.sdg.squander.engine.SquanderReporter.times.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.buildingAnalysis(), edu.mit.csail.sdg.squander.engine.SquanderReporter.convertingMethod(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse(),

edu.mit.csail.sdg.squander.engine.SquanderReporter.detectedSymmetries(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.detectingSymmetries(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.engine.SquanderReporter.finishedAnalysis(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.flattening(), edu.mit.csail.sdg.squander.engine.SquanderReporter.generatingSBP(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene(), edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaHeap(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.packagingAnalysis(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.skolemizing(), edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF(), edu.mit.csail.sdg.squander.engine.SquanderReporter.starting(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.transformingProcedure(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingForge(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToBoolean(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF(),
 and edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap().

9.27.3.10 void edu.mit.csail.sdg.squander.engine.SquanderReporter.finishedAnalysis ()

Definition at line 100 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.27.3.11 void edu.mit.csail.sdg.squander.engine.SquanderReporter.flattening (Object circuit)

Definition at line 115 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.flatten(),
 and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.12 void edu.mit.csail.sdg.squander.engine.SquanderReporter.generatingSBP ()

Definition at line 121 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.flatten(),
 SBP, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.13 long edu.mit.csail.sdg.squander.engine.SquanderReporter.getTaskTime (String task)

Definition at line 174 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.times.

9.27.3.14 kodkod.engine.config.Reporter edu.mit.csail.sdg.squander.engine.SquanderReporter.kkReporter ()

Definition at line 78 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.kkRep.

9.27.3.15 void edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene ()

Definition at line 86 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.LOADING_JAVA_SCENE, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene().

9.27.3.16 void edu.mit.csail.sdg.squander.engine.SquanderReporter.optimizingBoundsAndFormula ()

Definition at line 127 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.OPTIMIZING_BOUNDS_AND_FORMULA, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.17 void edu.mit.csail.sdg.squander.engine.SquanderReporter.packagingAnalysis ()

Definition at line 97 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.PACKAGING_ANALYSIS, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.18 void edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap ()

Definition at line 94 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.RESTORING_HEAP, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.27.3.19 void edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields ()

Definition at line 95 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.RESTORING_SF, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.27.3.20 void edu.mit.csail.sdg.squander.engine.SquanderReporter.skolemizing (Object decl, Object skolem, List<?> context)

Definition at line 133 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.SKOLEMIZING, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.21 void edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingAnalysis ()

Definition at line 139 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.SOLVE, edu.mit.csail.sdg.squander.engine.SquanderReporter.ANALYSIS, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.22 void edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF (int primaryVars, int vars, int clauses)

Definition at line 145 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.SOLVE, edu.mit.csail.sdg.squander.engine.SquanderReporter.CNF, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.23 void edu.mit.csail.sdg.squander.engine.SquanderReporter.start (String task) [private]

Definition at line 62 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.busy, edu.mit.csail.sdg.squander.engine.SquanderReporter.sTime, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.buildingAnalysis(), edu.mit.csail.sdg.squander.engine.SquanderReporter.convertingMethod(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse(), edu.mit.csail.sdg.squander.engine.SquanderReporter.detectedSymmetries(), edu.mit.csail.sdg.squander.engine.SquanderReporter.detectingSymmetries(), edu.mit.csail.sdg.squander.engine.SquanderReporter.flatten(), edu.mit.csail.sdg.squander.engine.SquanderReporter.generating(), edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene(), edu.mit.csail.sdg.squander.engine.SquanderReporter.packagingAnalysis(), edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap(), edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields(), edu.mit.csail.sdg.squander.engine.SquanderReporter.skolemizing(), edu.mit.csail.sdg.squander.engine.SquanderReporter.solving(), edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF(), edu.mit.csail.sdg.squander.engine.SquanderReporter.starting(), edu.mit.csail.sdg.squander.engine.SquanderReporter.transformingProcedure(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingForge(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToBoolean(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF(), edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap().

9.27.3.24 void edu.mit.csail.sdg.squander.engine.SquanderReporter.startedAnalysis ()

Definition at line 96 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.ANALYSIS, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.25 String edu.mit.csail.sdg.squander.engine.SquanderReporter.toString ()

Definition at line 179 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.task, edu.mit.csail.sdg.squander.engine.SquanderReporter.times, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.26 void edu.mit.csail.sdg.squander.engine.SquanderReporter.transformingProcedure ()

Definition at line 151 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.sta and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSOFMING_PROCEDURE.

9.27.3.27 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingForge ()

Definition at line 98 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.sta and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_FORGE.

9.27.3.28 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingSpecs ()

Definition at line 91 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.sta and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_SPECS.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.27.3.29 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToBoolean (Object *formula*, Object *bounds*)

Definition at line 157 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.sta and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_BOOLEAN.

9.27.3.30 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF (Object *circuit*)

Definition at line 163 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.sta and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_CNF.

9.27.3.31 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToKodkod ()

Definition at line 169 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.sta and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_KODKOD.

9.27.3.32 void edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap ()

Definition at line 89 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.sta and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRAVERSING_HEAP.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.27.4 Member Data Documentation

9.27.4.1 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.ANALYSIS = "analysis"`
[static]

Definition at line 29 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.startedAnalysis().

9.27.4.2 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.BUILDING_ANALYSIS = "buildingAnalysis"` [static]

Definition at line 25 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.buildingAnalysis().

9.27.4.3 `boolean edu.mit.csail.sdg.squander.engine.SquanderReporter.busy` [private]

Definition at line 60 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.4.4 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CONVERTING_METHOD = "convertingMethod"` [static]

Definition at line 38 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.convertingMethod().

9.27.4.5 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_BOUNDS = "creatingBounds"` [static]

Definition at line 31 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds().

9.27.4.6 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_FRESH_OBJECTS = "creatingFreshObjects"` [static]

Definition at line 37 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingFreshObjects().

9.27.4.7 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_KK_BOUNDS = "creatingKKBounds"` [static]

Definition at line 32 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds().

9.27.4.8 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_KK_UNIV = "creatingKKUniverse" [static]`

Definition at line 36 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse().

9.27.4.9 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.DETECTED_SYMMETRIES = "detectedSymmetries" [static]`

Definition at line 52 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.detectedSymmetries().

9.27.4.10 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.DETECTING_SYMMETRIES = "detectingSymmetries" [static]`

Definition at line 51 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.detectingSymmetries().

9.27.4.11 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.FLATTENING = "flattening" [static]`

Definition at line 50 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.flattening().

9.27.4.12 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.GENERATING_SBP = "generatingSBP" [static]`

Definition at line 49 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.generatingSBP().

9.27.4.13 `final SquanderReporter edu.mit.csail.sdg.squander.engine.SquanderReporter.INSTANCE = new SquanderReporter() [static]`

Definition at line 54 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.27.4.14 `kodkod.engine.config.Reporter edu.mit.csail.sdg.squander.engine.SquanderReporter.kkRep [private]`

Definition at line 77 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.kkReporter().

9.27.4.15 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.LOADING_JAVA_SCENE = "loadingJavaScene" [static]`

Definition at line 39 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene().

9.27.4.16 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.LOADING_JIMPLE = "loadingJimple" [static]`

Definition at line 28 of file SquanderReporter.java.

9.27.4.17 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.OPTIMIZING_BOUNDS_AND_FORMULA = "optimizingBoundsAndFormula" [static]`

Definition at line 48 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.optimizingBoundsAndFormula().

9.27.4.18 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.PACKAGIN_ANALYSIS = "packaginAnalysis" [static]`

Definition at line 27 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.packagingAnalysis().

9.27.4.19 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.RESTORING_HEAP = "restoringHeap" [static]`

Definition at line 33 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap().

9.27.4.20 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.RESTORING_SF = "restoringSpecFields" [static]`

Definition at line 34 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields().

9.27.4.21 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.SCOLEMIZING = "scolemizing" [static]`

Definition at line 47 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.skolemizing().

9.27.4.22 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.SOLVING_ANALYSIS = "solvingAnalysis" [static]`

Definition at line 46 of file SquanderReporter.java.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingAnalysis()`.

9.27.4.23 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.SOLVING_CNF = "solvingCNF" [static]`

Definition at line 45 of file `SquanderReporter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF()`.

9.27.4.24 `long edu.mit.csail.sdg.squander.engine.SquanderReporter.sTime [private]`

Definition at line 58 of file `SquanderReporter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderReporter.end()`, and `edu.mit.csail.sdg.squander.engine.SquanderReporter.start()`.

9.27.4.25 `String edu.mit.csail.sdg.squander.engine.SquanderReporter.task [private]`

Definition at line 59 of file `SquanderReporter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderReporter.end()`, and `edu.mit.csail.sdg.squander.engine.SquanderReporter.toString()`.

9.27.4.26 `Map<String, Long> edu.mit.csail.sdg.squander.engine.SquanderReporter.times = new LinkedHashMap<String, Long>() [private]`

Definition at line 56 of file `SquanderReporter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderReporter.end()`, `edu.mit.csail.sdg.squander.engine.SquanderReporter.getTaskTime()`, and `edu.mit.csail.sdg.squander.engine.SquanderReporter.toString()`.

9.27.4.27 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_FORGE = "translatingForge" [static]`

Definition at line 26 of file `SquanderReporter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingForge()`.

9.27.4.28 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_SPECS = "translatingSpecs" [static]`

Definition at line 30 of file `SquanderReporter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingSpecs()`.

9.27.4.29 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_BOOLEAN = "translatingToBoolean" [static]`

Definition at line 43 of file `SquanderReporter.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToBoolean()`.

9.27.4.30 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_CNF = "translatingToCNF" [static]`

Definition at line 42 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF().

9.27.4.31 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_KODKOD = "translatingToKodkod" [static]`

Definition at line 41 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToKodkod().

9.27.4.32 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSFORMING_PROCEDURE = "transformingProcedure" [static]`

Definition at line 44 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.transformingProcedure().

9.27.4.33 `final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRAVERSING_HEAP = "traversingHeap" [static]`

Definition at line 35 of file SquanderReporter.java.

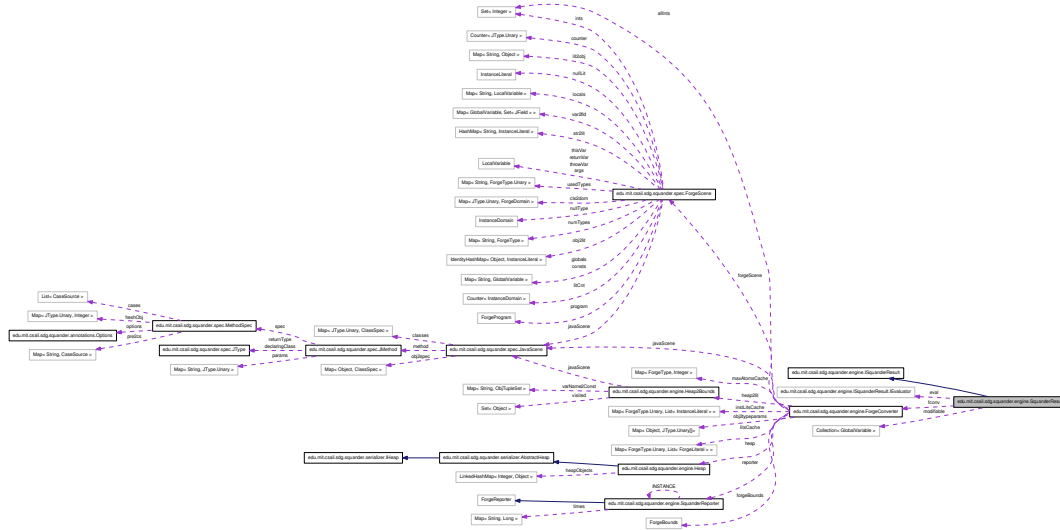
Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/SquanderReporter.java](#)

9.28 edu.mit.csail.sdg.squander.engine.SquanderResult Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::ISquanderResult](#). Collaboration diagram for [edu.mit.csail.sdg.squander.engine.SquanderResult](#):



Public Member Functions

- [SquanderResult](#) (IEvaluator *eval*, ForgeConverter *fconv*, Collection< GlobalVariable > *mod*)
- ForgeProgram [program](#) ()
- LocalVariable [self](#) ()
- LocalVariable [returnVar](#) ()
- boolean [hasSolution](#) ()
- String [getTrace](#) ()
- String [getStats](#) ()
- String [unsatCore](#) ()
- boolean [findNext](#) ()
- void [restoreJavaHeap](#) ()
- Iterator< Object > [getSpecField](#) (String *specFieldName*)

Package Functions

- public< R > R [getReturnValue](#) ()

Private Member Functions

- JField [getFieldForVar](#) (ForgeScene *forgeScene*, GlobalVariable *mod*)
- void [restoreEmpty](#) (GlobalVariable *mod*)
- Object [convertForgeSetToJavaArray](#) (ObjTupleSet *ots*, Class<?> *arrCls*)

Private Attributes

- final [ForgeConverter](#) *fconv*
- final [Collection](#)< [GlobalVariable](#) > *modifiable*
- [IEvaluator](#) *eval*

9.28.1 Detailed Description

Represents the result of an analysis

Author:

Aleksandar Milicevic

Definition at line 36 of file SquanderResult.java.

9.28.2 Constructor & Destructor Documentation

9.28.2.1 [edu.mit.csail.sdg.squander.engine.SquanderResult.SquanderResult](#) ([IEvaluator](#) *eval*, [ForgeConverter](#) *fconv*, [Collection](#)< [GlobalVariable](#) > *mod*)

Definition at line 42 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.engine.SquanderResult.modifiable](#).

9.28.3 Member Function Documentation

9.28.3.1 [Object](#) [edu.mit.csail.sdg.squander.engine.SquanderResult.convertForgeSetToJavaArray](#) ([ObjTupleSet](#) *ots*, [Class](#)<?> *arrCls*) [**private**]

Definition at line 179 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#), and

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue\(\)](#).

9.28.3.2 [boolean](#) [edu.mit.csail.sdg.squander.engine.SquanderResult.findNext](#) ()

Finds a different solution and updates the heap if the solution is found. Returns whether a solution was found or not.

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 58 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.engine.SquanderResult.eval](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap\(\)](#), and

9.28.3.3 [JField](#) [edu.mit.csail.sdg.squander.engine.SquanderResult.getJFieldForVar](#) ([ForgeScene](#) *forgeScene*, [GlobalVariable](#) *mod*) [**private**]

Definition at line 165 of file SquanderResult.java.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.fields()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty()`, and `edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap()`.

9.28.3.4 `public<R> R edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue ()` [`package`]

Returns the Java object that is the return value of the method under [Squander](#) analysis. If the method under [Squander](#) analysis has void return type, `null` is returned.

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 69 of file `SquanderResult.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderResult.convertForgeSetToJavaArray()`, `edu.mit.csail.sdg.squander.engine.SquanderResult.eval`, `edu.mit.csail.sdg.squander.engine.SquanderResult.fconv`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene`, `edu.mit.csail.sdg.squander.spec.ForgeScene.global()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join()`, `edu.mit.csail.sdg.squander.spec.JavaScene.method`, `edu.mit.csail.sdg.squander.spec.JMethod.returnType`, `edu.mit.csail.sdg.squander.engine.SquanderResult.returnVar()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

9.28.3.5 `Iterator<Object> edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField` (`String specFieldName`)

Returns the value of the spec field with the given name as a sequence of objects. This works only for unary spec fields, so it shouldn't be used.

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 112 of file `SquanderResult.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity`, `edu.mit.csail.sdg.squander.engine.SquanderResult.eval`, `edu.mit.csail.sdg.squander.engine.SquanderResult.fconv`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene`, `edu.mit.csail.sdg.squander.spec.ForgeScene.global()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

9.28.3.6 `String edu.mit.csail.sdg.squander.engine.SquanderResult.getStats ()`

Optional statistics about the solving

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 54 of file `SquanderResult.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderResult.eval`.

9.28.3.7 `String edu.mit.csail.sdg.squander.engine.SquanderResult.getTrace ()`

Optional string representation of the solution. Used for debugging purposes

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 53 of file `SquanderResult.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderResult.eval`.

9.28.3.8 boolean edu.mit.csail.sdg.squander.engine.SquanderResult.hasSolution ()

Whether or not a solution was found

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 52 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.engine.SquanderResult.eval](#).

9.28.3.9 ForgeProgram edu.mit.csail.sdg.squander.engine.SquanderResult.program ()

Definition at line 48 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.engine.SquanderResult.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeSc](#) and [edu.mit.csail.sdg.squander.spec.ForgeScene.program](#).

9.28.3.10 void edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty (GlobalVariable mod) [private]

Definition at line 169 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.spec.JField.factory](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.for](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.getJFieldForVar\(\)](#), and [edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap\(\)](#).

9.28.3.11 void edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap ()

Restores the Java heap space from the given Results that must contain valid solution. If the solution for this problem wasn't found, a runtime exception is thrown.

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 87 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.absstate.FieldValue.addAllTuples\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.eval](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.getJFieldFor](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.modifiable](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty\(\)](#), and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderResult.findNext\(\)](#).

9.28.3.12 LocalVariable edu.mit.csail.sdg.squander.engine.SquanderResult.returnVar ()

Definition at line 50 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.engine.SquanderResult.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeSc](#) and [edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue\(\)](#).

9.28.3.13 LocalVariable edu.mit.csail.sdg.squander.engine.SquanderResult.self ()

Definition at line 49 of file SquanderResult.java.

References edu.mit.csail.sdg.squander.engine.SquanderResult.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeS and edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar.

9.28.3.14 String edu.mit.csail.sdg.squander.engine.SquanderResult.unsatCore ()

Returns a string representation of the unsat core if a solution wasn't found (if known)

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 56 of file SquanderResult.java.

References edu.mit.csail.sdg.squander.engine.SquanderResult.eval.

9.28.4 Member Data Documentation

9.28.4.1 IEvaluator edu.mit.csail.sdg.squander.engine.SquanderResult.eval [private]

Definition at line 40 of file SquanderResult.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.findNext(), edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField(), edu.mit.csail.sdg.squander.engine.SquanderResult.getStats(), edu.mit.csail.sdg.squander.engine.SquanderResult.getTrace(), edu.mit.csail.sdg.squander.engine.SquanderResult.hasSolution(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), and edu.mit.csail.sdg.squander.engine.SquanderResult.unsatCore().

9.28.4.2 final ForgeConverter edu.mit.csail.sdg.squander.engine.SquanderResult.fconv [private]

Definition at line 38 of file SquanderResult.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField(), edu.mit.csail.sdg.squander.engine.SquanderResult.program(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), edu.mit.csail.sdg.squander.engine.SquanderResult.returnVar(), and edu.mit.csail.sdg.squander.engine.SquanderResult.self().

9.28.4.3 final Collection<GlobalVariable> edu.mit.csail.sdg.squander.engine.SquanderResult.modifiable [private]

Definition at line 39 of file SquanderResult.java.

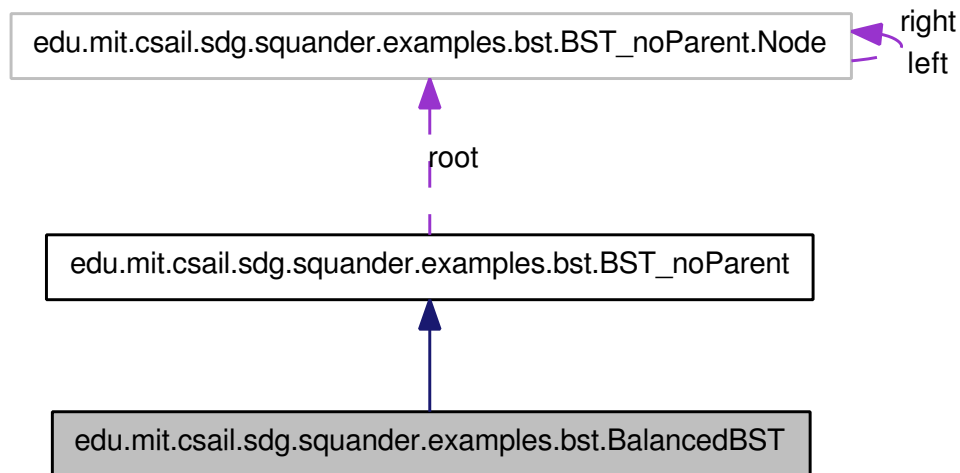
Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), and edu.mit.csail.sdg.squander.engine.SquanderResult.SquanderResult().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/SquanderResult.java](#)

9.29 edu.mit.csail.sdg.squander.examples.bst.BalancedBST Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::bst::BST_noParent](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#):



Public Member Functions

- boolean [repOk](#) ()
- void [insertKey_squander](#) (int k)
- void [insertNode_slow_squander](#) (Node z)
- void [removeNode_squander](#) (Node nodeToRemove)

Static Public Member Functions

- static void [main](#) (String[] args)

Private Member Functions

- boolean [check](#) (Node n)

Private Attributes

- final int[] [diff](#) = new int[] { -1, 0, 1 }

9.29.1 Detailed Description

Balanced binary search tree.

Adds an additional invariant to ensure that for every tree node *n*, the sizes of its left and right subtrees don't differ by more than 1.

Author:

Aleksandar Milicevic

Definition at line 22 of file `BalancedBST.java`.

9.29.2 Member Function Documentation

9.29.2.1 `boolean edu.mit.csail.sdg.squander.examples.bst.BalancedBST.check (Node n)` [private]

Definition at line 34 of file `BalancedBST.java`.

9.29.2.2 `void edu.mit.csail.sdg.squander.examples.bst.BalancedBST.insertKey_squander (int k)`

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 54 of file `BalancedBST.java`.

9.29.2.3 `void edu.mit.csail.sdg.squander.examples.bst.BalancedBST.insertNode_slow_squander (Node z)`

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 60 of file `BalancedBST.java`.

9.29.2.4 `static void edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main (String[] args)` [static]

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 70 of file `BalancedBST.java`.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertKey_squander\(\)](#),
[edu.mit.csail.sdg.squander.examples.bst.BST_noParent.removeNode_squander\(\)](#), and
[edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk\(\)](#).

9.29.2.5 `void edu.mit.csail.sdg.squander.examples.bst.BalancedBST.removeNode_squander (Node nodeToRemove)`

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 66 of file `BalancedBST.java`.

9.29.2.6 `boolean edu.mit.csail.sdg.squander.examples.bst.BalancedBST.repOk ()`

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 28 of file `BalancedBST.java`.

9.29.3 Member Data Documentation

9.29.3.1 `final int [] edu.mit.csail.sdg.squander.examples.bst.BalancedBST.diff = new int[] {-1, 0, 1}` `[private]`

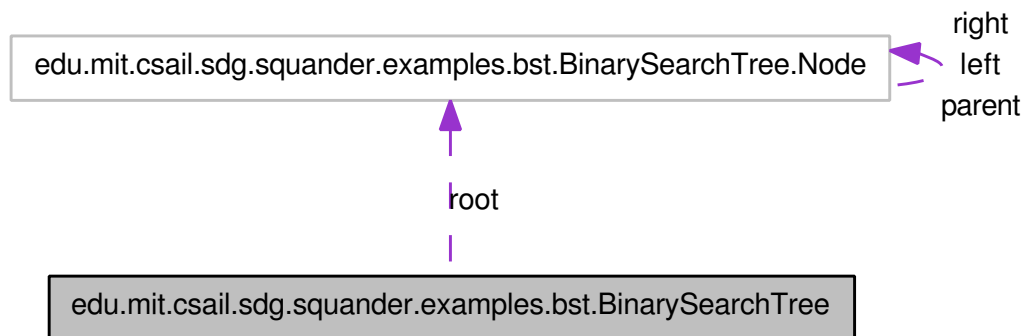
Definition at line 25 of file `BalancedBST.java`.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/bst/BalancedBST.java](#)

9.30 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree:



Classes

- class **Node**

Public Member Functions

- [BinarySearchTree](#) ()
- Node [getRoot](#) ()
- void [setRoot](#) (Node root)
- int [size](#) ()
- boolean [repOk](#) ()
- [BinarySearchTree](#) [insert](#) (Node z)
- Node [findNode](#) (int keyToFind)
- int [min](#) ()
- int [max](#) ()
- int [max_squander](#) ()
- int [min_squander](#) ()
- Node [findNode_squander](#) (int keyToFind)
- void [removeNode_squander](#) (Node nodeToRemove)
- void [insertNode_squander](#) (Node z)
- void [insertKey_squander](#) (int k)
- Node[] [getAllNodes_squander](#) ()
- String [toString](#) ()
- void [genBST](#) ()

Static Public Member Functions

- static void [main](#) (String[] args)

Private Member Functions

- String `printNode` (Node node)

Private Attributes

- Node `root`

Static Private Attributes

- static final int `NUM_NODES` = 20

9.30.1 Detailed Description

An implementation of the Binary Search Tree data structure with full specs. Manual implementation of the provided methods can be verified against the specs using JForge. The idea is to be able to run all those methods without having the actual implementation, but purely based on specs.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 36 of file BinarySearchTree.java.

9.30.2 Constructor & Destructor Documentation

9.30.2.1 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.BinarySearchTree ()

Definition at line 91 of file BinarySearchTree.java.

9.30.3 Member Function Documentation

9.30.3.1 Node edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode (int *keyToFind*)

Definition at line 146 of file BinarySearchTree.java.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander()`, `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix()`, `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander()`, and `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander()`.

9.30.3.2 Node edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode_squander (int *keyToFind*)

Definition at line 192 of file BinarySearchTree.java.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander()`.

9.30.3.3 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.genBST ()

Definition at line 257 of file BinarySearchTree.java.

9.30.3.4 Node [] edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.getAllNodes_ squander ()

Definition at line 229 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_
squander().

9.30.3.5 Node edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.getRoot ()

Definition at line 95 of file BinarySearchTree.java.

9.30.3.6 BinarySearchTree edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insert (Node z)

Definition at line 115 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.main(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchT

9.30.3.7 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insertKey_ squander (int k)

Definition at line 222 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_
squander().

9.30.3.8 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insertNode_ squander (Node z)

Definition at line 214 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.main(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(), and
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_
squander().

9.30.3.9 static void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.main (String[] args) [static]

Definition at line 261 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insert(), and
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insertNode_
squander().

9.30.3.10 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.max ()

Definition at line 172 of file BinarySearchTree.java.

9.30.3.11 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.max_squander ()

Definition at line 182 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMax_squander().

9.30.3.12 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.min ()

Definition at line 161 of file BinarySearchTree.java.

9.30.3.13 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.min_squander ()

Definition at line 187 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMin_squander().

9.30.3.14 String edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.printNode (Node node) [private]

Definition at line 241 of file BinarySearchTree.java.

9.30.3.15 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.removeNode_squander (Node nodeToRemove)

Definition at line 199 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander().

9.30.3.16 boolean edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk ()

Definition at line 104 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMax_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMin_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander().

9.30.3.17 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.setRoot (Node root)

Definition at line 96 of file BinarySearchTree.java.

9.30.3.18 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size ()

Definition at line 98 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(),

edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander().

9.30.3.19 String edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.toString ()

Definition at line 235 of file BinarySearchTree.java.

9.30.4 Member Data Documentation

9.30.4.1 final int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.NUM_NODES = 20 [static, private]

Definition at line 248 of file BinarySearchTree.java.

9.30.4.2 Node edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.root [private]

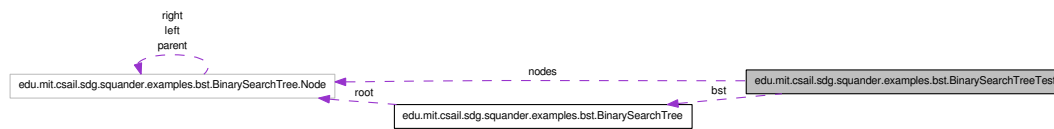
Definition at line 88 of file BinarySearchTree.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTree.java](#)

9.31 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest:



Public Member Functions

- void [before](#) ()
- void [testMin_squander](#) ()
- void [testMax_squander](#) ()
- void [testFindNode_squander](#) ()
- void [testRemoveNode_squander](#) ()
- void [testInsertNode_squander](#) ()
- void [testInsertKey_squander](#) ()
- void [testGetAllNodes_squander](#) ()
- void [testInsertMix](#) ()

Static Public Member Functions

- static void [main](#) (String[] args)

Private Member Functions

- void [initBinarySearchTree](#) ()

Private Attributes

- [BinarySearchTree](#) `bst`
- int[] `keys`
- Node[] `nodes`

9.31.1 Detailed Description

Definition at line 19 of file BinarySearchTreeTest.java.

9.31.2 Member Function Documentation

9.31.2.1 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.before ()

Definition at line 26 of file BinarySearchTreeTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree\(\)](#), and [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys](#).

9.31.2.2 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree () [private]

Definition at line 31 of file BinarySearchTreeTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insert\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree](#) and [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.nodes](#).

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.before\(\)](#).

9.31.2.3 static void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.main (String[] args) [static]

Definition at line 129 of file BinarySearchTreeTest.java.

9.31.2.4 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander ()

Definition at line 59 of file BinarySearchTreeTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode_squander\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.nodes](#), and [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk\(\)](#).

9.31.2.5 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_squander ()

Definition at line 103 of file BinarySearchTreeTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.getAllNodes_squander\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys](#), and [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.nodes](#).

9.31.2.6 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander ()

Definition at line 92 of file BinarySearchTreeTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk\(\)](#), and [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size\(\)](#).

9.31.2.7 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix ()

Definition at line 115 of file BinarySearchTreeTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree](#)

edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insertNode_squander(),
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.
 and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size().

9.31.2.8 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander ()

Definition at line 80 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst,
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys,
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk(), and
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size().

9.31.2.9 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMax_squander ()

Definition at line 50 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst,
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.max_squander(), and
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk().

9.31.2.10 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMin_squander ()

Definition at line 41 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst,
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.min_squander(), and
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk().

9.31.2.11 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander ()

Definition at line 69 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst,
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.removeNode_squander(),
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk(), and
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size().

9.31.3 Member Data Documentation

9.31.3.1 BinarySearchTree edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst [private]

Definition at line 21 of file BinarySearchTreeTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree(),
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander(),

edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(),
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMax_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMin_
 squander(), and
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_
 squander().

9.31.3.2 int [] edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys [private]

Definition at line 22 of file BinarySearchTreeTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.before(),
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree(),
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(),
 and
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_
 squander().

9.31.3.3 Node [] edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.nodes [private]

Definition at line 23 of file BinarySearchTreeTest.java.

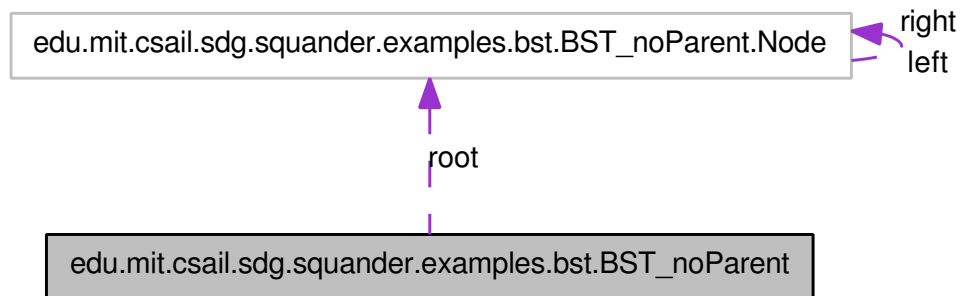
Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree(),
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_
 squander(), and
 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_
 squander().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/bst/[BinarySearchTreeTest.java](#)

9.32 edu.mit.csail.sdg.squander.examples.bst.BST_noParent Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#):



Classes

- class **Node**

Public Member Functions

- [BST_noParent](#) ()
- [Node](#) [getRoot](#) ()
- void [setRoot](#) (Node [root](#))
- int [size](#) ()
- boolean [repOk](#) ()
- [BST_noParent](#) [insertNode](#) (Node [z](#))
- [Node](#) [findNode](#) (int [keyToFind](#))
- boolean [findNode](#) (Node [n](#))
- int [min](#) ()
- int [max](#) ()
- int [max_squander](#) ()
- int [min_squander](#) ()
- [Node](#) [findNode_squander](#) (int [keyToFind](#))
- void [removeNode_squander](#) (Node [nodeToRemove](#))
- void [insertNode_squander](#) (Node [z](#))
- void [insertNode_slow_squander](#) (Node [z](#))
- void [insertKey_squander](#) (int [k](#))
- [Node](#)[] [getAllNodes_squander](#) ()
- String [toString](#) ()
- void [genBST](#) ()

Static Public Member Functions

- static void [main](#) (String[] [args](#))

Protected Attributes

- Node [root](#)

Private Member Functions

- String [printNode](#) (Node node)

Static Private Attributes

- static final int [NUM_NODES](#) = 20

9.32.1 Detailed Description

Binary search tree, whose nodes don't have the "parent" pointer, like in [BinarySearchTree](#).

Author:

Aleksandar Milicevic

Definition at line 33 of file `BST_noParent.java`.

9.32.2 Constructor & Destructor Documentation

9.32.2.1 `edu.mit.csail.sdg.squander.examples.bst.BST_noParent.BST_noParent ()`

Definition at line 80 of file `BST_noParent.java`.

9.32.3 Member Function Documentation

9.32.3.1 `boolean edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode (Node n)`

Definition at line 147 of file `BST_noParent.java`.

9.32.3.2 `Node edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode (int keyToFind)`

Definition at line 134 of file `BST_noParent.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main()`, `edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander()`, and `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander()`.

9.32.3.3 `Node edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode_squander (int keyToFind)`

Definition at line 195 of file `BST_noParent.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander()`.

9.32.3.4 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.genBST ()

Definition at line 276 of file BST_noParent.java.

9.32.3.5 Node [] edu.mit.csail.sdg.squander.examples.bst.BST_noParent.getAllNodes_squander ()

Definition at line 248 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_squander().

9.32.3.6 Node edu.mit.csail.sdg.squander.examples.bst.BST_noParent.getRoot ()

Definition at line 84 of file BST_noParent.java.

9.32.3.7 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertKey_squander (int *k*)

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 241 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander().

9.32.3.8 BST_noParent edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode (Node *z*)

Definition at line 104 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.main(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander().

9.32.3.9 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_slow_squander (Node *z*)

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 232 of file BST_noParent.java.

9.32.3.10 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_squander (Node *z*)

Definition at line 226 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.main(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander().

9.32.3.11 `static void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main (String[] args)`
`[static]`

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 281 of file `BST_noParent.java`.

References `edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode()`,
`edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_squander()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk()`, and
`edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size()`.

9.32.3.12 `int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.max ()`

Definition at line 175 of file `BST_noParent.java`.

9.32.3.13 `int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.max_squander ()`

Definition at line 185 of file `BST_noParent.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander()`.

9.32.3.14 `int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.min ()`

Definition at line 164 of file `BST_noParent.java`.

9.32.3.15 `int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.min_squander ()`

Definition at line 190 of file `BST_noParent.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander()`.

9.32.3.16 `String edu.mit.csail.sdg.squander.examples.bst.BST_noParent.printNode (Node node)`
`[private]`

Definition at line 260 of file `BST_noParent.java`.

9.32.3.17 `void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.removeNode_squander (Node nodeToRemove)`

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 209 of file `BST_noParent.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main()`, and
`edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander()`.

9.32.3.18 `boolean edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk ()`

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 93 of file `BST_noParent.java`.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main(), edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander().

9.32.3.19 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.setRoot (Node root)

Definition at line 85 of file BST_noParent.java.

9.32.3.20 int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size ()

Definition at line 87 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander().

9.32.3.21 String edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString ()

Definition at line 254 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander().

9.32.4 Member Data Documentation

9.32.4.1 final int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.NUM_NODES = 20 [static, private]

Definition at line 267 of file BST_noParent.java.

9.32.4.2 Node edu.mit.csail.sdg.squander.examples.bst.BST_noParent.root [protected]

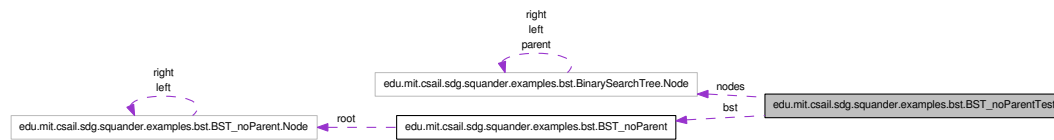
Definition at line 77 of file BST_noParent.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/bst/BST_noParent.java](#)

9.33 edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest:



Public Member Functions

- void [before](#) ()
- void [testMin_squander](#) ()
- void [testMax_squander](#) ()
- void [testFindNode_squander](#) ()
- void [testRemoveNode_squander](#) ()
- void [testInsertNode_squander](#) ()
- void [testInsertKey_squander](#) ()
- void [testGetAllNodes_squander](#) ()
- void [testInsertMix](#) ()

Static Public Member Functions

- static void [main](#) (String[] args)

Private Member Functions

- void [initBinarySearchTree](#) ()

Private Attributes

- [BST_noParent](#) [bst](#)
- [int\[\]](#) [keys](#)
- [Node\[\]](#) [nodes](#)

9.33.1 Detailed Description

Definition at line 20 of file `BST_noParentTest.java`.

9.33.2 Member Function Documentation

9.33.2.1 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.before ()

Definition at line 27 of file `BST_noParentTest.java`.

References `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys`, and `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes`.

9.33.2.2 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree ()
[private]

Definition at line 32 of file BST_noParentTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys](#), and [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes](#).

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.before\(\)](#).

9.33.2.3 static void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.main (String[] args) [static]

Definition at line 144 of file BST_noParentTest.java.

9.33.2.4 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander ()

Definition at line 66 of file BST_noParentTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode_squander\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk\(\)](#), and [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString\(\)](#).

9.33.2.5 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_squander ()

Definition at line 118 of file BST_noParentTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.getAllNodes_squander\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys](#), and [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes](#).

9.33.2.6 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander ()

Definition at line 107 of file BST_noParentTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertKey_squander\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk\(\)](#), and [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size\(\)](#).

9.33.2.7 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix ()

Definition at line 130 of file BST_noParentTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_](#)

noParent.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys,
 edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_
 noParent.size().

9.33.2.8 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_ squander ()

Definition at line 92 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst,
 edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_
 noParent.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys,
 edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), edu.mit.csail.sdg.squander.examples.bst.BST_
 noParent.size(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString().

9.33.2.9 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander ()

Definition at line 54 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst,
 edu.mit.csail.sdg.squander.examples.bst.BST_noParent.max_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_
 noParent.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString().

9.33.2.10 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander ()

Definition at line 42 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst,
 edu.mit.csail.sdg.squander.examples.bst.BST_noParent.min_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_
 noParent.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString().

9.33.2.11 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_ squander ()

Definition at line 81 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst,
 edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_
 noParentTest.nodes, edu.mit.csail.sdg.squander.examples.bst.BST_noParent.removeNode_
 squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), and
 edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size().

9.33.3 Member Data Documentation

9.33.3.1 BST_noParent edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst [private]

Definition at line 22 of file BST_noParentTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree(),
 edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander(),

edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_
squander(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_
squander().

9.33.3.2 int [] edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys [private]

Definition at line 23 of file BST_noParentTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.before(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_
squander().

9.33.3.3 Node [] edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes [private]

Definition at line 24 of file BST_noParentTest.java.

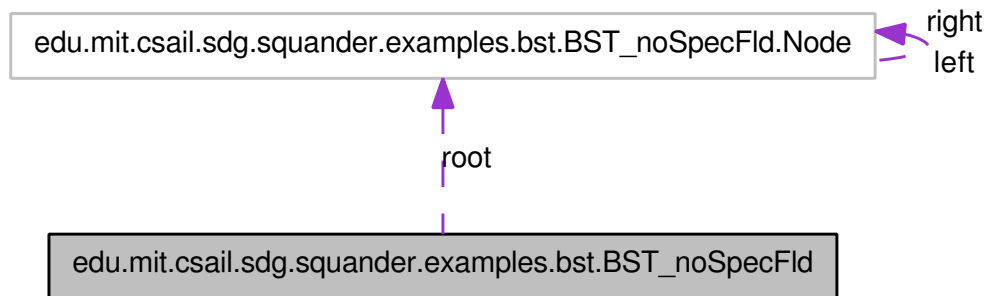
Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_
squander(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_
squander().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/bst/[BST_noParentTest.java](#)

9.34 edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld:



Classes

- class **Node**

Public Member Functions

- [BST_noSpecFld](#) ()
- [Node](#) [getRoot](#) ()
- void [setRoot](#) (Node [root](#))
- int [size](#) ()
- boolean [repOk](#) ()
- [BST_noSpecFld](#) [insertNode](#) (Node [z](#))
- [Node](#) [findNode](#) (int [keyToFind](#))
- boolean [findNode](#) (Node [n](#))
- int [min](#) ()
- int [max](#) ()
- int [max_squander](#) ()
- int [min_squander](#) ()
- [Node](#) [findNode_squander](#) (int [keyToFind](#))
- void [removeNode_squander](#) (Node [nodeToRemove](#))
- void [insertNode_squander](#) (Node [z](#))
- void [insertKey_squander](#) (int [k](#))
- [Node](#)[] [getAllNodes_squander](#) ()
- String [toString](#) ()
- void [genBST](#) ()

Static Public Member Functions

- static void [main](#) (String[] [args](#))

Private Member Functions

- String `printNode` (Node node)

Private Attributes

- Node `root`

Static Private Attributes

- static final int `NUM_NODES` = 20

9.34.1 Detailed Description

Binary search tree that doesn't make use of the spec field.

Author:

Aleksandar Milicevic

Definition at line 29 of file `BST_noSpecFld.java`.

9.34.2 Constructor & Destructor Documentation

9.34.2.1 `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.BST_noSpecFld ()`

Definition at line 75 of file `BST_noSpecFld.java`.

References `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root`.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.main()`.

9.34.3 Member Function Documentation

9.34.3.1 `boolean edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode (Node n)`

Definition at line 135 of file `BST_noSpecFld.java`.

References `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root`.

9.34.3.2 `Node edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode (int keyToFind)`

Definition at line 122 of file `BST_noSpecFld.java`.

References `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root`.

Referenced by `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander()`, and `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander()`.

9.34.3.3 Node edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode_squander (int *keyToFind*)

Definition at line 179 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander().

9.34.3.4 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.genBST ()

Definition at line 250 of file BST_noSpecFld.java.

9.34.3.5 Node [] edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.getAllNodes_squander ()

Definition at line 222 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_squander().

9.34.3.6 Node edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.getRoot ()

Definition at line 79 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

9.34.3.7 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertKey_squander (int *k*)

Definition at line 215 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander().

9.34.3.8 BST_noSpecFld edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode (Node *z*)

Definition at line 94 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.main(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander().

9.34.3.9 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode_squander (Node *z*)

Definition at line 207 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.main(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander().

9.34.3.10 static void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.main (String[] args) [static]

Definition at line 255 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.BST_noSpecFld(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode_squander().

9.34.3.11 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.max ()

Definition at line 159 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

9.34.3.12 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.max_squander ()

Definition at line 169 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander().

9.34.3.13 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.min ()

Definition at line 150 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

9.34.3.14 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.min_squander ()

Definition at line 174 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMin_squander().

9.34.3.15 String edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.printNode (Node node) [private]

Definition at line 234 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

9.34.3.16 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.removeNode_squander (Node nodeToRemove)

Definition at line 191 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.34.3.17 boolean edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk ()

Definition at line 88 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMin_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.34.3.18 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.setRoot (Node root)

Definition at line 80 of file BST_noSpecFld.java.

9.34.3.19 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size ()

Definition at line 82 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.34.3.20 String edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString ()

Definition at line 228 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.printNode(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander().

9.34.4 Member Data Documentation

9.34.4.1 final int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.NUM_NODES = 20 [static, private]

Definition at line 241 of file BST_noSpecFld.java.

9.34.4.2 Node edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root [private]

Definition at line 73 of file BST_noSpecFld.java.

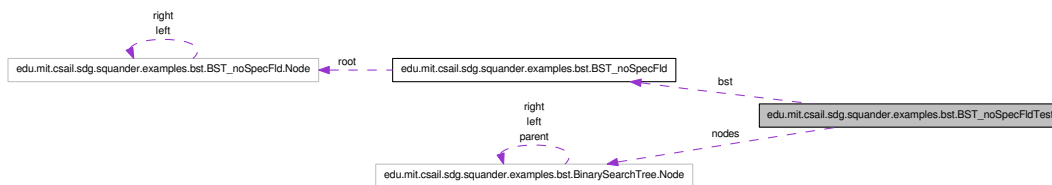
Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.BST_noSpecFld(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.getRoot(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.max(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.min(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFld.java](#)

9.35 edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest:



Public Member Functions

- void `before` ()
- void `testMin_squander` ()
- void `testMax_squander` ()
- void `testFindNode_squander` ()
- void `testRemoveNode_squander` ()
- void `testInsertNode_squander` ()
- void `testInsertKey_squander` ()
- void `testGetAllNodes_squander` ()
- void `testInsertMix` ()

Static Public Member Functions

- static void `main` (String[] args)

Private Member Functions

- void `initBinarySearchTree` ()

Private Attributes

- BST_noSpecFld `bst`
- int[] `keys`
- Node[] `nodes`

9.35.1 Detailed Description

Definition at line 20 of file `BST_noSpecFldTest.java`.

9.35.2 Member Function Documentation

9.35.2.1 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.before ()

Definition at line 27 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys.

9.35.2.2 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree () [private]

Definition at line 32 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys, and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.before().

9.35.2.3 static void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.main (String[] args) [static]

Definition at line 144 of file BST_noSpecFldTest.java.

9.35.2.4 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander ()

Definition at line 66 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

9.35.2.5 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_squander ()

Definition at line 118 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.getAllNodes_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys, and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes.

9.35.2.6 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander ()

Definition at line 107 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertKey_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes.

noSpecFldTest.keys(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size().

9.35.2.7 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix ()

Definition at line 130 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size().

9.35.2.8 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander ()

Definition at line 92 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

9.35.2.9 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander ()

Definition at line 54 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.max_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

9.35.2.10 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMin_squander ()

Definition at line 42 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.min_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk().

9.35.2.11 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander ()

Definition at line 81 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.removeNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size().

9.35.3 Member Data Documentation

9.35.3.1 BST_noSpecFld edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst [private]

Definition at line 22 of file BST_noSpecFldTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.35.3.2 int [] edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys [private]

Definition at line 23 of file BST_noSpecFldTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.before(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander().

9.35.3.3 Node [] edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes [private]

Definition at line 24 of file BST_noSpecFldTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFldTest.java

9.36 edu.mit.csail.sdg.squander.examples.chess.ChessBoard Class Reference

Classes

- class `Cell`

Static Public Member Functions

- static `Set< Cell > nqueens_int` (int *n*)
- static `Set< Cell > nqueens_rel` (int *n*)
- static void `knightsTour` (int *n*, int *m*, `Cell[]` result)
- static void `knightsTour2` (int *n*, int *m*, `Cell[]` result, `Set< Cell >[]` next)
- static `Cell[] knightsTour` (int *n*, int *m*)
- static `Cell[] knightsTour2` (int *n*, int *m*)
- static void `printNQueens` (`Collection< Cell >` queens)
- static void `main` (`String[]` args)

Static Private Member Functions

- static void `nqueens2` (int *n*, `Set< Cell >` result)
- static void `nqueens` (int *n*, `Set< Cell >` result)

9.36.1 Detailed Description

Implements several chess problems/puzzles.

Author:

Aleksandar Milicevic

Definition at line 24 of file `ChessBoard.java`.

9.36.2 Member Function Documentation

9.36.2.1 static `Cell[]` edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour (int *n*, int *m*) [`static`]

Definition at line 136 of file `ChessBoard.java`.

References `edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour()`.

9.36.2.2 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour (int *n*, int *m*, `Cell[]` result) [`static`]

Solves the Knight's Tour problem.

Definition at line 117 of file `ChessBoard.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour()`, and `edu.mit.csail.sdg.squander.examples.chess.ChessBoard.main()`.

9.36.2.3 static Cell [] edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour2 (int *n*, int *m*) [static]

Definition at line 146 of file ChessBoard.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour2().

9.36.2.4 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour2 (int *n*, int *m*, Cell[] *result*, Set< Cell >[] *next*) [static]

A different (potentially more efficient) encoding for the Knight's Tour problem.

Definition at line 132 of file ChessBoard.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour2().

9.36.2.5 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.main (String[] *args*) [static]

Definition at line 186 of file ChessBoard.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour().

9.36.2.6 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens (int *n*, Set< Cell > *result*) [static, private]

A different encoding for the N-Queens problem.

Definition at line 88 of file ChessBoard.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens_rel().

9.36.2.7 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens2 (int *n*, Set< Cell > *result*) [static, private]

Solves the N-Queens problem.

Definition at line 60 of file ChessBoard.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens_int().

9.36.2.8 static Set<Cell> edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens_int (int *n*) [static]

Definition at line 64 of file ChessBoard.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens2().

9.36.2.9 static Set<Cell> edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens_rel (int *n*) [static]

Definition at line 92 of file ChessBoard.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens().

9.36.2.10 `static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.printNQueens`
`(Collection< Cell > queens) [static]`

Definition at line 169 of file ChessBoard.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoard.java](#)

9.37 edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan Class Reference

Static Public Member Functions

- static Cell[] [knightsTourMan](#) (int n, int m)
- static void [main](#) (String[] args)
- static Set< Cell > [nqueens](#) (int n)

Static Public Attributes

- static int[] [dx](#) = new int[] { 2, 1, -1, -2, -2, -1, 1, 2 }
- static int[] [dy](#) = new int[] { 1, 2, 2, 1, -1, -2, -2, -1 }

Static Private Member Functions

- static void [search](#) (int[][] pot, int n, int m, int currI, int currJ, int cnt)
- static void [print](#) (int[][] pot)
- static boolean [solveNQueens](#) (int n, int col, int[] colAssignments, boolean[] rowTaken, boolean[] d45Taken, boolean[] d135Taken)

Static Private Attributes

- static long [t1](#)
- static long [t2](#)

9.37.1 Detailed Description

Manual (imperative) implementations of several chess problems/puzzles

Author:

Aleksandar Milicevic

Definition at line 18 of file ChessBoardMan.java.

9.37.2 Member Function Documentation

9.37.2.1 static Cell[] edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan (int n, int m) [static]

An imperative implementation of the Knight's Tour problem

Definition at line 32 of file ChessBoardMan.java.

References [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search\(\)](#), [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t1](#), and [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan](#)

Referenced by [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.main\(\)](#).

9.37.2.2 `static void edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.main (String[] args) [static]`

Definition at line 73 of file ChessBoardMan.java.

References `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan()`.

9.37.2.3 `static Set<Cell> edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.nqueens (int n) [static]`

An imperative implementation of the N-Queens problem

Definition at line 84 of file ChessBoardMan.java.

References `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.solveNQueens()`.

9.37.2.4 `static void edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.print (int pot[][]) [static, private]`

Definition at line 67 of file ChessBoardMan.java.

Referenced by `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search()`.

9.37.2.5 `static void edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search (int pot[][], int n, int m, int currI, int currJ, int cnt) [static, private]`

Definition at line 46 of file ChessBoardMan.java.

References `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.dx`, `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.dy`, `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.print`, `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t1`, and `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t2`.

Referenced by `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan()`.

9.37.2.6 `static boolean edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.solveNQueens (int n, int col, int[] colAssignments, boolean[] rowTaken, boolean[] d45Taken, boolean[] d135Taken) [static, private]`

Definition at line 99 of file ChessBoardMan.java.

Referenced by `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.nqueens()`.

9.37.3 Member Data Documentation

9.37.3.1 `int[] edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.dx = new int[] {2, 1, -1, -2, -2, -1, 1, 2} [static]`

Definition at line 24 of file ChessBoardMan.java.

Referenced by `edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search()`.

9.37.3.2 `int [] edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.dy = new int[] {1, 2, 2, 1, -1, -2, -2, -1}` [**static**]

Definition at line 25 of file ChessBoardMan.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search().

9.37.3.3 `long edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t1` [**static, private**]

Definition at line 27 of file ChessBoardMan.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan(), and edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search().

9.37.3.4 `long edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t2` [**static, private**]

Definition at line 27 of file ChessBoardMan.java.

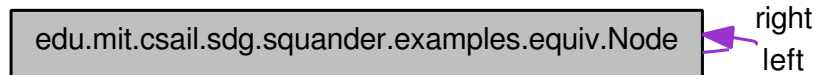
Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan(), and edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search().

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoardMan.java](#)

9.38 edu.mit.csail.sdg.squander.examples.equiv.Node Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.equiv.Node:



Public Member Functions

- [Node](#) (int *value*)
- [Node](#)[] [getEquiv](#) ([Node](#) n1, [Node](#) n2)
- String [toString](#) ()

Static Public Member Functions

- static void [main](#) (String[] args)

Package Attributes

- int [value](#)
- [Node](#) [left](#)
- [Node](#) [right](#)

9.38.1 Detailed Description

One way to define the equivalency of objects.

Author:

Aleksandar Milicevic

Definition at line 25 of file Node.java.

9.38.2 Constructor & Destructor Documentation

9.38.2.1 edu.mit.csail.sdg.squander.examples.equiv.Node.Node (int *value*)

Definition at line 31 of file Node.java.

9.38.3 Member Function Documentation

9.38.3.1 Node [] edu.mit.csail.sdg.squander.examples.equiv.Node.getEquiv ([Node](#) n1, [Node](#) n2)

Definition at line 37 of file Node.java.

Referenced by edu.mit.csail.sdg.squander.examples.equiv.Node.main().

9.38.3.2 `static void edu.mit.csail.sdg.squander.examples.equiv.Node.main (String[] args)` `[static]`

Definition at line 47 of file Node.java.

References `edu.mit.csail.sdg.squander.examples.equiv.Node.getEquiv()`,
`edu.mit.csail.sdg.squander.examples.equiv.Node.left`, and `edu.mit.csail.sdg.squander.examples.equiv.Node.right`.

9.38.3.3 `String edu.mit.csail.sdg.squander.examples.equiv.Node.toString ()`

Definition at line 42 of file Node.java.

9.38.4 Member Data Documentation

9.38.4.1 `Node edu.mit.csail.sdg.squander.examples.equiv.Node.left` `[package]`

Definition at line 28 of file Node.java.

Referenced by `edu.mit.csail.sdg.squander.examples.equiv.Node.main()`.

9.38.4.2 `Node edu.mit.csail.sdg.squander.examples.equiv.Node.right` `[package]`

Definition at line 29 of file Node.java.

Referenced by `edu.mit.csail.sdg.squander.examples.equiv.Node.main()`.

9.38.4.3 `int edu.mit.csail.sdg.squander.examples.equiv.Node.value` `[package]`

Definition at line 27 of file Node.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/equiv/Node.java](#)

9.39 edu.mit.csail.sdg.squander.examples.func.Utils Class Reference

Static Public Member Functions

- static < R, E > R [fold](#) (Iterable< E > lst, R start, SqFunc.Binary< R, R, E > f)
- static < R, E > R [fold](#) (Iterable< E > lst, R start, Func f)

9.39.1 Detailed Description

Definition at line 10 of file Utils.java.

9.39.2 Member Function Documentation

9.39.2.1 static <R,E> R edu.mit.csail.sdg.squander.examples.func.Utils.fold (Iterable< E > lst, R start, Func f) [static]

Definition at line 21 of file Utils.java.

9.39.2.2 static <R,E> R edu.mit.csail.sdg.squander.examples.func.Utils.fold (Iterable< E > lst, R start, SqFunc.Binary< R, R, E > f) [static]

Definition at line 12 of file Utils.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/func/Utils.java](#)

9.40 edu.mit.csail.sdg.squander.examples.graph2.Graph Class Reference

Classes

- class `Node`

Public Member Functions

- `Graph ()`
- Node `newNode (int key)`
- void `addNode (Node n)`
- void `newEdge (Node a, Node b)`
- Node[] `nodes ()`
- int `numEdges ()`
- int `numNodes ()`
- int `size ()`
- Node[] `hamiltonian ()`
- Node[] `topsort ()`
- Node[] `maxClique (int k)`

9.40.1 Detailed Description

Abstract (mock) graph.

Author:

kuat

Definition at line 23 of file Graph.java.

9.40.2 Constructor & Destructor Documentation

9.40.2.1 edu.mit.csail.sdg.squander.examples.graph2.Graph.Graph ()

Definition at line 38 of file Graph.java.

9.40.3 Member Function Documentation

9.40.3.1 void edu.mit.csail.sdg.squander.examples.graph2.Graph.addNode (Node n)

Definition at line 51 of file Graph.java.

Referenced by `edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1()`, and `edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2()`.

9.40.3.2 Node [] edu.mit.csail.sdg.squander.examples.graph2.Graph.hamiltonian ()

Definition at line 80 of file Graph.java.

Referenced by `edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1()`.

9.40.3.3 Node [] edu.mit.csail.sdg.squander.examples.graph2.Graph.maxClique (int *k*)

Definition at line 102 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2().

9.40.3.4 void edu.mit.csail.sdg.squander.examples.graph2.Graph.newEdge (Node *a*, Node *b*)

Definition at line 58 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1(), and edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2().

9.40.3.5 Node edu.mit.csail.sdg.squander.examples.graph2.Graph.newNode (int *key*)

Definition at line 45 of file Graph.java.

9.40.3.6 Node [] edu.mit.csail.sdg.squander.examples.graph2.Graph.nodes ()

Definition at line 65 of file Graph.java.

9.40.3.7 int edu.mit.csail.sdg.squander.examples.graph2.Graph.numEdges ()

Definition at line 69 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1(), and edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2().

9.40.3.8 int edu.mit.csail.sdg.squander.examples.graph2.Graph.numNodes ()

Definition at line 70 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1().

9.40.3.9 int edu.mit.csail.sdg.squander.examples.graph2.Graph.size ()

Definition at line 71 of file Graph.java.

9.40.3.10 Node [] edu.mit.csail.sdg.squander.examples.graph2.Graph.topsort ()

Definition at line 91 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1().

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/graph2/Graph.java](#)

9.41 edu.mit.csail.sdg.squander.examples.graph2.GraphTest Class Reference

Public Member Functions

- void [testGraph1](#) ()
- void [testGraph2](#) ()

9.41.1 Detailed Description

Testing various graph algorithms.

Author:

kuat

Definition at line 24 of file GraphTest.java.

9.41.2 Member Function Documentation

9.41.2.1 void edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1 ()

Definition at line 27 of file GraphTest.java.

References [edu.mit.csail.sdg.squander.examples.graph2.Graph.addNode\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.hamiltonian\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.newEdge\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.numEdges\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.numNodes\(\)](#) and [edu.mit.csail.sdg.squander.examples.graph2.Graph.topsort\(\)](#).

9.41.2.2 void edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2 ()

Definition at line 65 of file GraphTest.java.

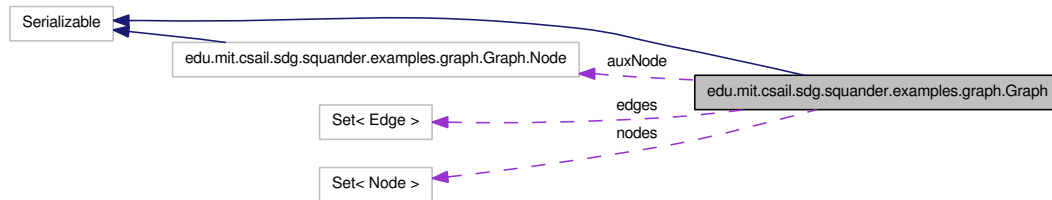
References [edu.mit.csail.sdg.squander.examples.graph2.Graph.addNode\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.maxClique\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.newEdge\(\)](#) and [edu.mit.csail.sdg.squander.examples.graph2.Graph.numEdges\(\)](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/graph2/GraphTest.java](#)

9.42 edu.mit.csail.sdg.squander.examples.graph.Graph Class Reference

Inherits java:io::Serializable. Collaboration diagram for edu.mit.csail.sdg.squander.examples.graph.Graph:



Classes

- class **Edge**
- class **Node**

Public Member Functions

- Node [getAuxNode](#) ()
- void [setAuxNode](#) (Node aux)
- int [getAuxInt](#) ()
- void [setAuxInt](#) (int auxInt)
- [Graph](#) ()
- Node [newNode](#) (int key)
- void [addNode](#) (Node n)
- void [addEdge](#) (Edge e)
- void [newUndirectedEdge](#) (Node a, Node b)
- void [newUndirectedEdge](#) (Node a, Node b, int cost)
- Edge [newEdge](#) (Node a, Node b)
- Edge [newEdge](#) (Node a, Node b, int cost)
- boolean [containsEdge](#) (Node n1, Node n2)
- Node [findNode](#) (int label)
- Node[] [nodes](#) ()
- Edge[] [edges](#) ()
- int [numEdges](#) ()
- int [numNodes](#) ()
- int [size](#) ()
- Set< Node > [getNeighbors](#) (Node src)
- void [removeAllIncomingEdges](#) (Node n)
- void [removeAllOutgoingEdges](#) (Node n)
- Node[] [hamiltonian](#) ()
- Edge[] [hamiltonian2](#) ()
- Edge[] [tsp](#) (Node startNode, int maxCost)
- Node[] [topsort](#) ()
- Node[] [maxClique](#) (int k)
- Map< Node, Integer > [color](#) (int k)
- String [toString](#) ()

Static Public Member Functions

- static boolean [checkTSP](#) ([Graph](#) g, [Edge](#)[] hamcycle, int maxCost)

Private Attributes

- Set< [Node](#) > [nodes](#) = new [LinkedHashSet](#)<[Node](#)>()
- Set< [Edge](#) > [edges](#) = new [LinkedHashSet](#)<[Edge](#)>()
- [Node](#) [auxNode](#)
- int [auxInt](#)

Static Private Attributes

- static final long [serialVersionUID](#) = -6332798241722968023L

9.42.1 Detailed Description

An implementation of the [Graph](#) data structure, along with several graph algorithms.

Author:

Aleksandar Milicevic

Definition at line 28 of file [Graph.java](#).

9.42.2 Constructor & Destructor Documentation

9.42.2.1 [edu.mit.csail.sdg.squander.examples.graph.Graph](#) ([Graph](#))

Definition at line 145 of file [Graph.java](#).

9.42.3 Member Function Documentation

9.42.3.1 void [edu.mit.csail.sdg.squander.examples.graph.Graph.addEdge](#) ([Edge](#) e)

Definition at line 154 of file [Graph.java](#).

References [edu.mit.csail.sdg.squander.examples.graph.Graph.edges\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge\(\)](#).

9.42.3.2 void [edu.mit.csail.sdg.squander.examples.graph.Graph.addNode](#) ([Node](#) n)

Definition at line 153 of file [Graph.java](#).

References [edu.mit.csail.sdg.squander.examples.graph.Graph.nodes\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.examples.graph.Graph.newNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1\(\)](#), and
[edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2\(\)](#).

9.42.3.3 `static boolean edu.mit.csail.sdg.squander.examples.graph.Graph.checkTSP (Graph g, Edge[] hamcycle, int maxCost) [static]`

Definition at line 318 of file Graph.java.

References `edu.mit.csail.sdg.squander.examples.graph.Graph.nodes`.

9.42.3.4 `Map<Node, Integer> edu.mit.csail.sdg.squander.examples.graph.Graph.color (int k)`

[Graph](#) k-Coloring problem

Definition at line 303 of file Graph.java.

Referenced by `edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor()`.

9.42.3.5 `boolean edu.mit.csail.sdg.squander.examples.graph.Graph.containsEdge (Node n1, Node n2)`

Definition at line 178 of file Graph.java.

References `edu.mit.csail.sdg.squander.examples.graph.Graph.edges()`.

9.42.3.6 `Edge [] edu.mit.csail.sdg.squander.examples.graph.Graph.edges ()`

Definition at line 187 of file Graph.java.

Referenced by `edu.mit.csail.sdg.squander.examples.graph.Graph.addEdge()`, `edu.mit.csail.sdg.squander.examples.graph.Graph.containsEdge()`, `edu.mit.csail.sdg.squander.examples.graph.Graph.getNeighbors()`, `edu.mit.csail.sdg.squander.examples.graph.Graph.numEdges()`, `edu.mit.csail.sdg.squander.examples.graph.Graph.removeAllIncomingEdges()` and `edu.mit.csail.sdg.squander.examples.graph.Graph.removeAllOutgoingEdges()`.

9.42.3.7 `Node edu.mit.csail.sdg.squander.examples.graph.Graph.findNode (int label)`

Definition at line 179 of file Graph.java.

References `edu.mit.csail.sdg.squander.examples.graph.Graph.nodes()`.

9.42.3.8 `int edu.mit.csail.sdg.squander.examples.graph.Graph.getAuxInt ()`

Definition at line 142 of file Graph.java.

References `edu.mit.csail.sdg.squander.examples.graph.Graph.auxInt`.

9.42.3.9 `Node edu.mit.csail.sdg.squander.examples.graph.Graph.getAuxNode ()`

Definition at line 138 of file Graph.java.

References `edu.mit.csail.sdg.squander.examples.graph.Graph.auxNode`.

9.42.3.10 `Set<Node> edu.mit.csail.sdg.squander.examples.graph.Graph.getNeighbors (Node src)`

Definition at line 193 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.checkColorsOk().

9.42.3.11 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph.hamiltonian ()

Spec for the Hamiltonian path problem

Definition at line 226 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1().

9.42.3.12 Edge [] edu.mit.csail.sdg.squander.examples.graph.Graph.hamiltonian2 ()

A different spec for the Hamiltonian path problem

Definition at line 242 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1().

9.42.3.13 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph.maxClique (int *k*)

Max Clique

Definition at line 288 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2().

9.42.3.14 Edge edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge (Node *a*, Node *b*, int *cost*)

Definition at line 172 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.addEdge().

9.42.3.15 Edge edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge (Node *a*, Node *b*)

Definition at line 166 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.addEdge().

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.newUndirectedEdge(), edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor(), edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGr and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2().

9.42.3.16 Node edu.mit.csail.sdg.squander.examples.graph.Graph.newNode (int *key*)

Definition at line 147 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.addNode().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor(), and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testTSP().

9.42.3.17 void edu.mit.csail.sdg.squander.examples.graph.Graph.newUndirectedEdge (Node *a*, Node *b*, int *cost*)

Definition at line 161 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge().

9.42.3.18 void edu.mit.csail.sdg.squander.examples.graph.Graph.newUndirectedEdge (Node *a*, Node *b*)

Definition at line 156 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor(), and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testTSP().

9.42.3.19 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph.nodes ()

Definition at line 186 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.addNode(), edu.mit.csail.sdg.squander.examples.graph.Graph.findNode(), and edu.mit.csail.sdg.squander.examples.graph.Graph.numNodes().

9.42.3.20 int edu.mit.csail.sdg.squander.examples.graph.Graph.numEdges ()

Definition at line 189 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1(), and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2().

9.42.3.21 int edu.mit.csail.sdg.squander.examples.graph.Graph.numNodes ()

Definition at line 190 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.nodes().

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.size(), and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1().

9.42.3.22 void edu.mit.csail.sdg.squander.examples.graph.Graph.removeAllIncomingEdges (Node *n*)

Definition at line 201 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

9.42.3.23 void edu.mit.csail.sdg.squander.examples.graph.Graph.removeAllOutgoingEdges (Node *n*)

Definition at line 208 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

9.42.3.24 void edu.mit.csail.sdg.squander.examples.graph.Graph.setAuxInt (int *auxInt*)

Definition at line 143 of file Graph.java.

9.42.3.25 void edu.mit.csail.sdg.squander.examples.graph.Graph.setAuxNode (Node *aux*)

Definition at line 139 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.auxNode.

9.42.3.26 int edu.mit.csail.sdg.squander.examples.graph.Graph.size ()

Definition at line 191 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.numNodes().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.checkColorsOk(), and edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp().

9.42.3.27 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph.topsort ()

Topological sort

Definition at line 274 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1().

9.42.3.28 String edu.mit.csail.sdg.squander.examples.graph.Graph.toString ()

Definition at line 308 of file Graph.java.

9.42.3.29 Edge [] edu.mit.csail.sdg.squander.examples.graph.Graph.tsp (Node *startNode*, int *maxCost*)

Traveling Salesman Problem

Definition at line 260 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testTSP().

9.42.4 Member Data Documentation**9.42.4.1 int edu.mit.csail.sdg.squander.examples.graph.Graph.auxInt [private]**

Definition at line 141 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.getAuxInt().

9.42.4.2 Node edu.mit.csail.sdg.squander.examples.graph.Graph.auxNode [private]

Definition at line 137 of file Graph.java.

Referenced by `edu.mit.csail.sdg.squander.examples.graph.Graph.getAuxNode()`, and `edu.mit.csail.sdg.squander.examples.graph.Graph.setAuxNode()`.

9.42.4.3 `Set<Edge> edu.mit.csail.sdg.squander.examples.graph.Graph.edges = new HashSet<Edge>() [private]`

Definition at line 135 of file `Graph.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp()`.

9.42.4.4 `Set<Node> edu.mit.csail.sdg.squander.examples.graph.Graph.nodes = new HashSet<Node>() [private]`

Definition at line 134 of file `Graph.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.graph.Graph.checkTSP()`.

9.42.4.5 `final long edu.mit.csail.sdg.squander.examples.graph.Graph.serialVersionUID = -6332798241722968023L [static, private]`

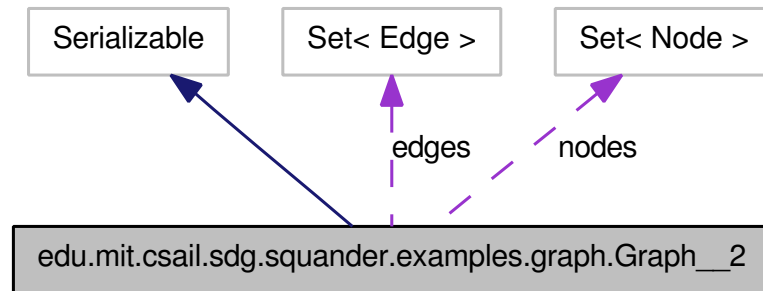
Definition at line 30 of file `Graph.java`.

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/graph/Graph.java`

9.43 edu.mit.csail.sdg.squander.examples.graph.Graph__2 Class Reference

Inherits java:io::Serializable. Collaboration diagram for edu.mit.csail.sdg.squander.examples.graph.Graph__2:



Classes

- class **Edge**
- class **Node**

Public Member Functions

- [Graph__2](#) ()
- Node [newNode](#) (int key)
- void [addNode](#) (Node n)
- void [addEdge](#) (Edge e)
- Edge [newEdge](#) (Node a, Node b)
- boolean [containsEdge](#) (Node n1, Node n2)
- Node[] [nodes](#) ()
- Edge[] [edges](#) ()
- int [numEdges](#) ()
- int [numNodes](#) ()
- int [size](#) ()
- void [removeAllIncomingEdges](#) (Node n)
- void [removeAllOutgoingEdges](#) (Node n)
- Node[] [hamiltonian](#) ()
- Node[] [topsort](#) ()
- Node[] [maxClique](#) (int k)
- String [toString](#) ()

Private Attributes

- Set< Node > [nodes](#) = new LinkedHashSet<Node>()
- Set< Edge > [edges](#) = new LinkedHashSet<Edge>()

Static Private Attributes

- static final long `serialVersionUID` = -6332798241722968023L

9.43.1 Detailed Description

The same as `Graph` but with an extra spec field.

Author:

Aleksandar Milicevic

Definition at line 28 of file `Graph__2.java`.

9.43.2 Constructor & Destructor Documentation

9.43.2.1 `edu.mit.csail.sdg.squander.examples.graph.Graph__2.Graph__2 ()`

Definition at line 120 of file `Graph__2.java`.

9.43.3 Member Function Documentation

9.43.3.1 `void edu.mit.csail.sdg.squander.examples.graph.Graph__2.addEdge (Edge e)`

Definition at line 129 of file `Graph__2.java`.

9.43.3.2 `void edu.mit.csail.sdg.squander.examples.graph.Graph__2.addNode (Node n)`

Definition at line 128 of file `Graph__2.java`.

9.43.3.3 `boolean edu.mit.csail.sdg.squander.examples.graph.Graph__2.containsEdge (Node n1, Node n2)`

Definition at line 137 of file `Graph__2.java`.

9.43.3.4 `Edge [] edu.mit.csail.sdg.squander.examples.graph.Graph__2.edges ()`

Definition at line 140 of file `Graph__2.java`.

9.43.3.5 `Node [] edu.mit.csail.sdg.squander.examples.graph.Graph__2.hamiltonian ()`

Definition at line 168 of file `Graph__2.java`.

9.43.3.6 `Node [] edu.mit.csail.sdg.squander.examples.graph.Graph__2.maxClique (int k)`

Definition at line 190 of file `Graph__2.java`.

9.43.3.7 Edge edu.mit.csail.sdg.squander.examples.graph.Graph__2.newEdge (Node *a*, Node *b*)

Definition at line 131 of file Graph__2.java.

9.43.3.8 Node edu.mit.csail.sdg.squander.examples.graph.Graph__2.newNode (int *key*)

Definition at line 122 of file Graph__2.java.

9.43.3.9 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph__2.nodes ()

Definition at line 139 of file Graph__2.java.

9.43.3.10 int edu.mit.csail.sdg.squander.examples.graph.Graph__2.numEdges ()

Definition at line 142 of file Graph__2.java.

9.43.3.11 int edu.mit.csail.sdg.squander.examples.graph.Graph__2.numNodes ()

Definition at line 143 of file Graph__2.java.

9.43.3.12 void edu.mit.csail.sdg.squander.examples.graph.Graph__2.removeAllIncomingEdges (Node *n*)

Definition at line 146 of file Graph__2.java.

9.43.3.13 void edu.mit.csail.sdg.squander.examples.graph.Graph__2.removeAllOutgoingEdges (Node *n*)

Definition at line 153 of file Graph__2.java.

9.43.3.14 int edu.mit.csail.sdg.squander.examples.graph.Graph__2.size ()

Definition at line 144 of file Graph__2.java.

9.43.3.15 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph__2.topsort ()

Definition at line 179 of file Graph__2.java.

9.43.3.16 String edu.mit.csail.sdg.squander.examples.graph.Graph__2.toString ()

Definition at line 195 of file Graph__2.java.

9.43.4 Member Data Documentation

9.43.4.1 `Set<Edge> edu.mit.csail.sdg.squander.examples.graph.Graph__2.edges = new
LinkedHashSet<Edge>() [private]`

Definition at line 118 of file Graph__2.java.

9.43.4.2 `Set<Node> edu.mit.csail.sdg.squander.examples.graph.Graph__2.nodes = new
LinkedHashSet<Node>() [private]`

Definition at line 117 of file Graph__2.java.

9.43.4.3 `final long edu.mit.csail.sdg.squander.examples.graph.Graph__2 serialVersionUID =
-6332798241722968023L [static, private]`

Definition at line 30 of file Graph__2.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/graph/Graph__2.java](#)

9.44 edu.mit.csail.sdg.squander.examples.graph.GraphTest Class Reference

Public Member Functions

- void [testGraph1](#) ()
- void [testGraph2](#) ()
- void [testColor](#) ()
- void [testTSP](#) ()

Private Member Functions

- boolean [checkColorsOk](#) ([Graph](#) g, [Map](#)< [Node](#), [Integer](#) > colors)

9.44.1 Detailed Description

Testing various graph algorithms.

Author:

kuat

Definition at line 26 of file GraphTest.java.

9.44.2 Member Function Documentation

9.44.2.1 boolean edu.mit.csail.sdg.squander.examples.graph.GraphTest.checkColorsOk ([Graph](#) g, [Map](#)< [Node](#), [Integer](#) > colors) [[private](#)]

Definition at line 176 of file GraphTest.java.

References [edu.mit.csail.sdg.squander.examples.graph.Graph.getNeighbors\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.size\(\)](#), and [edu.mit.csail.sdg.squander.examples.graph.Graph.size\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor\(\)](#).

9.44.2.2 void edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor ()

Definition at line 120 of file GraphTest.java.

References [edu.mit.csail.sdg.squander.examples.graph.GraphTest.checkColorsOk\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.color\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.newNode\(\)](#), and [edu.mit.csail.sdg.squander.examples.graph.Graph.newUndirectedEdge\(\)](#).

9.44.2.3 void edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1 ()

Definition at line 29 of file GraphTest.java.

References [edu.mit.csail.sdg.squander.examples.graph.Graph.addNode\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.hamiltonian\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.hamiltonianPath\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.numEdges\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.numNodes\(\)](#), and [edu.mit.csail.sdg.squander.examples.graph.Graph.topsort\(\)](#).

9.44.2.4 void edu.mit.csail.squander.examples.graph.GraphTest.testGraph2 ()

Definition at line 73 of file GraphTest.java.

References `edu.mit.csail.squander.examples.graph.Graph.addNode()`,
`edu.mit.csail.squander.examples.graph.Graph.maxClique()`, `edu.mit.csail.squander.examples.graph.Graph.newEdge()`,
and `edu.mit.csail.squander.examples.graph.Graph.numEdges()`.

9.44.2.5 void edu.mit.csail.squander.examples.graph.GraphTest.testTSP ()

Definition at line 147 of file GraphTest.java.

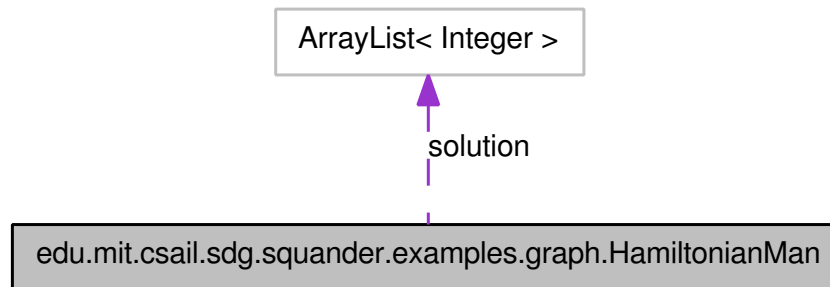
References `edu.mit.csail.squander.examples.graph.Graph.newNode()`,
`edu.mit.csail.squander.examples.graph.Graph.newUndirectedEdge()`, and
`edu.mit.csail.squander.examples.graph.Graph.tsp()`.

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/squander/examples/graph/GraphTest.java](#)

9.45 edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan:



Static Public Member Functions

- static `Node[] hp (Graph g)`
- static void `hp (int[][] adjacency)`
- static void `hp (List< Integer > pathSoFar, int[][] adjacency)`
- static void `printSolution (List< Integer > pathSoFar)`
- static void `main (String[] args)`

Static Private Attributes

- static `ArrayList< Integer > solution`

9.45.1 Detailed Description

An imperative implementation of the Hamiltonian problem taken from:

<http://moodle.cornellcollege.edu/0809/mod/resource/index.php?id=947>

Definition at line 19 of file `HamiltonianMan.java`.

9.45.2 Member Function Documentation

9.45.2.1 static void edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp (List< Integer > pathSoFar, int adjacency[][]) [static]

Definition at line 44 of file `HamiltonianMan.java`.

References `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp()`, `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.printSolution()`, and `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution`.

9.45.2.2 `static void edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp (int adjacency[][]) [static]`

Definition at line 40 of file `HamiltonianMan.java`.

References `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp()`.

9.45.2.3 `static Node [] edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp (Graph g) [static]`

Definition at line 23 of file `HamiltonianMan.java`.

References `edu.mit.csail.sdg.squander.examples.graph.Graph.edges`, `edu.mit.csail.sdg.squander.examples.graph.Graph.size()`, and `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution`.

Referenced by `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp()`, and `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.main()`.

9.45.2.4 `static void edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.main (String[] args) [static]`

Definition at line 80 of file `HamiltonianMan.java`.

References `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp()`, and `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution`.

9.45.2.5 `static void edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.printSolution (List< Integer > pathSoFar) [static]`

Definition at line 69 of file `HamiltonianMan.java`.

References `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution`.

Referenced by `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp()`.

9.45.3 Member Data Documentation

9.45.3.1 `ArrayList<Integer> edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution [static, private]`

Definition at line 21 of file `HamiltonianMan.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp()`, `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.main()`, and `edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.printSolution()`.

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/graph/HamiltonianMan.java`

9.46 edu.mit.csail.sdg.squander.examples.javacol.Collections Class Reference

Static Public Member Functions

- static< E > E **get** (List< E > list, int idx)
- static< E > void **set** (List< E > list, int idx, E value)
- static< E > void **add** (List< E > list, E elem)
- static< E > E **prev** (List< E > list, E elem)
- static< E > E **next** (List< E > list, E elem)
- static< E > E **remove** (List< E > list, int idx)
- static< K, V > V **get** (Map< K, V > map, K key)
- static< K, V > V **put** (Map< K, V > map, K key, V value)
- static< K, V > V **removeKey** (Map< K, V > map, K key)
- static< E > boolean **contains** (Set< E > s, E key)
- static< E > boolean **add** (Set< E > s, E key)
- static< E > boolean **remove** (Set< E > s, E key)
- static void **main** (String[] args)

Private Member Functions

- int **f** (Map< String, Integer > m)

9.46.1 Detailed Description

Specifies very basic operations on various Java collections.

Author:

Aleksandar Milicevic

Definition at line 26 of file Collections.java.

9.46.2 Member Function Documentation

9.46.2.1 static <E> boolean edu.mit.csail.sdg.squander.examples.javacol.Collections.add (Set< E > s, E key) [**static**]

Definition at line 118 of file Collections.java.

9.46.2.2 static <E> void edu.mit.csail.sdg.squander.examples.javacol.Collections.add (List< E > list, E elem) [**static**]

Definition at line 50 of file Collections.java.

9.46.2.3 static <E> boolean edu.mit.csail.sdg.squander.examples.javacol.Collections.contains (Set< E > s, E key) [**static**]

Definition at line 109 of file Collections.java.

9.46.2.4 `int edu.mit.csail.sdg.squander.examples.javacol.Collections.f (Map< String, Integer > m) [private]`

Definition at line 132 of file Collections.java.

9.46.2.5 `static <K,V> V edu.mit.csail.sdg.squander.examples.javacol.Collections.get (Map< K, V > map, K key) [static]`

Definition at line 82 of file Collections.java.

9.46.2.6 `static <E> E edu.mit.csail.sdg.squander.examples.javacol.Collections.get (List< E > list, int idx) [static]`

Definition at line 34 of file Collections.java.

9.46.2.7 `static void edu.mit.csail.sdg.squander.examples.javacol.Collections.main (String[] args) [static]`

Definition at line 136 of file Collections.java.

9.46.2.8 `static <E> E edu.mit.csail.sdg.squander.examples.javacol.Collections.next (List< E > list, E elem) [static]`

Definition at line 60 of file Collections.java.

9.46.2.9 `static <E> E edu.mit.csail.sdg.squander.examples.javacol.Collections.prev (List< E > list, E elem) [static]`

Definition at line 55 of file Collections.java.

9.46.2.10 `static <K,V> V edu.mit.csail.sdg.squander.examples.javacol.Collections.put (Map< K, V > map, K key, V value) [static]`

Definition at line 91 of file Collections.java.

9.46.2.11 `static <E> boolean edu.mit.csail.sdg.squander.examples.javacol.Collections.remove (Set< E > s, E key) [static]`

Definition at line 127 of file Collections.java.

9.46.2.12 `static <E> E edu.mit.csail.sdg.squander.examples.javacol.Collections.remove (List< E > list, int idx) [static]`

Definition at line 73 of file Collections.java.

9.46.2.13 `static <K,V> V edu.mit.csail.sdg.squander.examples.javacol.Collections.removeKey
(Map< K, V > map, K key) [static]`

Definition at line 100 of file Collections.java.

9.46.2.14 `static <E> void edu.mit.csail.sdg.squander.examples.javacol.Collections.set (List< E >
list, int idx, E value) [static]`

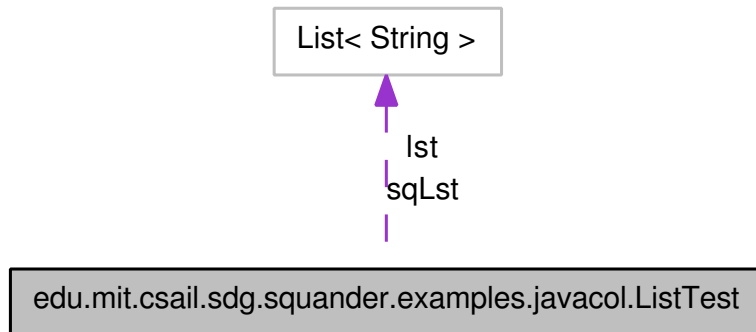
Definition at line 41 of file Collections.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/javacol/Collections.java](#)

9.47 edu.mit.csail.sdg.squander.examples.javacol.ListTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.javacol.ListTest:



Public Member Functions

- void [setUp](#) ()
- void [testGet](#) ()
- void [testSet](#) ()
- void [testAdd](#) ()
- void [testPrevNext](#) ()
- void [testRemove](#) ()

Private Attributes

- final String[] [elems](#) = new String[] { "str1", "str2", "str1", "str3", "str2" }
- List<String> [lst](#)
- List<String> [sqLst](#)

9.47.1 Detailed Description

Definition at line 17 of file ListTest.java.

9.47.2 Member Function Documentation

9.47.2.1 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.setUp ()

Definition at line 25 of file ListTest.java.

References [edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems](#), [edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst](#) and [edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqLst](#).

9.47.2.2 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testAdd ()

Definition at line 51 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems, edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst, and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqlst.

9.47.2.3 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testGet ()

Definition at line 35 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst, and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqlst.

9.47.2.4 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testPrevNext ()

Definition at line 62 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst.

9.47.2.5 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testRemove ()

Definition at line 79 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems, edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst, and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqlst.

9.47.2.6 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testSet ()

Definition at line 42 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems, edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst, and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqlst.

9.47.3 Member Data Documentation

9.47.3.1 final String [] edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems = new String [] { "str1", "str2", "str1", "str3", "str2" } [private]

Definition at line 19 of file ListTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.ListTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testAdd(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testRemove(), and edu.mit.csail.sdg.squander.examples.javacol.ListTest.testSet().

9.47.3.2 List<String> edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst [private]

Definition at line 21 of file ListTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.ListTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testAdd(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testGet(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testPrevNext(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testRemove(), and edu.mit.csail.sdg.squander.examples.javacol.ListTest.testSet().

9.47.3.3 `List<String>` `edu.mit.csail.sgd.squander.examples.javacol.ListTest.sqLst` [`private`]

Definition at line 22 of file `ListTest.java`.

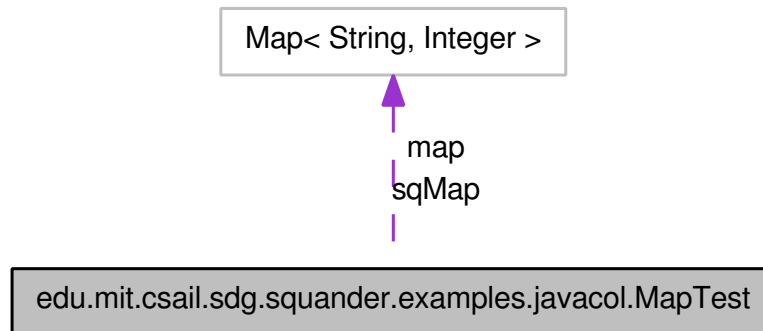
Referenced by `edu.mit.csail.sgd.squander.examples.javacol.ListTest.setUp()`, `edu.mit.csail.sgd.squander.examples.javacol.ListTest.testAdd()`, `edu.mit.csail.sgd.squander.examples.javacol.ListTest.testGet()`, `edu.mit.csail.sgd.squander.examples.javacol.ListTest.testRemove()`, and `edu.mit.csail.sgd.squander.examples.javacol.ListTest.testSet()`.

The documentation for this class was generated from the following file:

- `tests/edu/mit/csail/sgd/squander/examples/javacol/ListTest.java`

9.48 edu.mit.csail.sdg.squander.examples.javacol.MapTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.javacol.MapTest:



Public Member Functions

- void [setUp\(\)](#)
- void [testGet\(\)](#)
- void [testPut\(\)](#)
- void [testRemove\(\)](#)

Private Attributes

- `Map< String, Integer >` [map](#)
- `Map< String, Integer >` [sqMap](#)

Static Private Attributes

- static final `String[]` [keys](#) = new `String[]` { "str1", "str2", "str3" }
- static final `Integer[]` [vals](#) = new `Integer[]` { 1, 2, 3 }

9.48.1 Detailed Description

Definition at line 16 of file `MapTest.java`.

9.48.2 Member Function Documentation

9.48.2.1 void edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp()

Definition at line 25 of file `MapTest.java`.

References `edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys`, `edu.mit.csail.sdg.squander.examples.javacol.MapTest.map`, `edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap`, and `edu.mit.csail.sdg.squander.examples.javacol.MapTest.vals`.

9.48.2.2 void edu.mit.csail.sdg.squander.examples.javacol.MapTest.testGet ()

Definition at line 35 of file MapTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys, edu.mit.csail.sdg.squander.examples.javacol.MapTest.m and edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap.

9.48.2.3 void edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut ()

Definition at line 45 of file MapTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys, edu.mit.csail.sdg.squander.examples.javacol.MapTest.m edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap, and edu.mit.csail.sdg.squander.examples.javacol.MapTest.vals.

9.48.2.4 void edu.mit.csail.sdg.squander.examples.javacol.MapTest.testRemove ()

Definition at line 67 of file MapTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys, edu.mit.csail.sdg.squander.examples.javacol.MapTest.m and edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap.

9.48.3 Member Data Documentation

9.48.3.1 final String [] edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys = new String[] { "str1", "str2", "str3" } [static, private]

Definition at line 18 of file MapTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testGet(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut() and edu.mit.csail.sdg.squander.examples.javacol.MapTest.testRemove().

9.48.3.2 Map<String, Integer> edu.mit.csail.sdg.squander.examples.javacol.MapTest.map [private]

Definition at line 21 of file MapTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testGet(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut() and edu.mit.csail.sdg.squander.examples.javacol.MapTest.testRemove().

9.48.3.3 Map<String, Integer> edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap [private]

Definition at line 22 of file MapTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testGet(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut() and edu.mit.csail.sdg.squander.examples.javacol.MapTest.testRemove().

```
9.48.3.4 final Integer [] edu.mit.csail.sdg.squander.examples.javacol.MapTest.vals = new Integer[]  
        { 1, 2, 3 } [static, private]
```

Definition at line 19 of file MapTest.java.

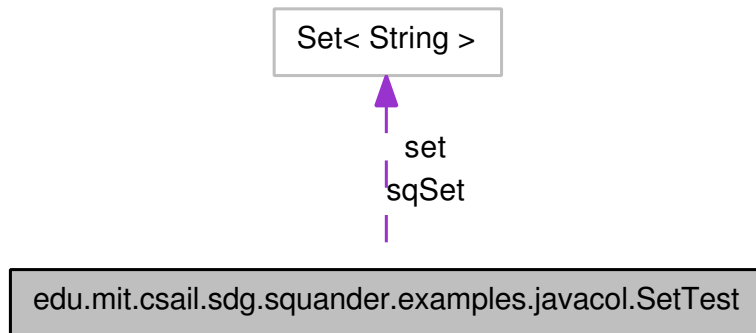
Referenced by edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp(), and
edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/javacol/[MapTest.java](#)

9.49 edu.mit.csail.sdg.squander.examples.javacol.SetTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.javacol.SetTest:



Public Member Functions

- void [setUp](#) ()
- void [testContains](#) ()
- void [testAdd](#) ()
- void [testRemove](#) ()

Private Attributes

- Set<String> [set](#)
- Set<String> [sqSet](#)

Static Private Attributes

- static final String[] [keys](#) = new String[] { "str1", "str2", "str3" }

9.49.1 Detailed Description

Definition at line 16 of file `SetTest.java`.

9.49.2 Member Function Documentation

9.49.2.1 void edu.mit.csail.sdg.squander.examples.javacol.SetTest.setUp ()

Definition at line 24 of file `SetTest.java`.

References `edu.mit.csail.sdg.squander.examples.javacol.SetTest.keys`, and `edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet`.

9.49.2.2 void edu.mit.csail.sdg.squander.examples.javacol.SetTest.testAdd ()

Definition at line 46 of file SetTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.SetTest.keys, and edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet.

9.49.2.3 void edu.mit.csail.sdg.squander.examples.javacol.SetTest.testContains ()

Definition at line 34 of file SetTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet.

9.49.2.4 void edu.mit.csail.sdg.squander.examples.javacol.SetTest.testRemove ()

Definition at line 64 of file SetTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.SetTest.keys, and edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet.

9.49.3 Member Data Documentation

9.49.3.1 final String [] edu.mit.csail.sdg.squander.examples.javacol.SetTest.keys = new String[] { "str1", "str2", "str3" } [static, private]

Definition at line 18 of file SetTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.SetTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.SetTest.testAdd(), and edu.mit.csail.sdg.squander.examples.javacol.SetTest.testRemove().

9.49.3.2 Set<String> edu.mit.csail.sdg.squander.examples.javacol.SetTest.set [private]

Definition at line 20 of file SetTest.java.

9.49.3.3 Set<String> edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet [private]

Definition at line 21 of file SetTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.SetTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.SetTest.testAdd(), edu.mit.csail.sdg.squander.examples.javacol.SetTest.testContains(), and edu.mit.csail.sdg.squander.examples.javacol.SetTest.testRemove().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/javacol/[SetTest.java](#)

9.50 edu.mit.csail.sdg.squander.examples.javacol.Str Class Reference

Public Member Functions

- [Str](#) (String *msg*)

Package Attributes

- final String *msg*

9.50.1 Detailed Description

Definition at line 19 of file TypeParamsEx.java.

9.50.2 Constructor & Destructor Documentation

9.50.2.1 edu.mit.csail.sdg.squander.examples.javacol.Str.Str (String *msg*)

Definition at line 21 of file TypeParamsEx.java.

9.50.3 Member Data Documentation

9.50.3.1 final String edu.mit.csail.sdg.squander.examples.javacol.Str.msg [package]

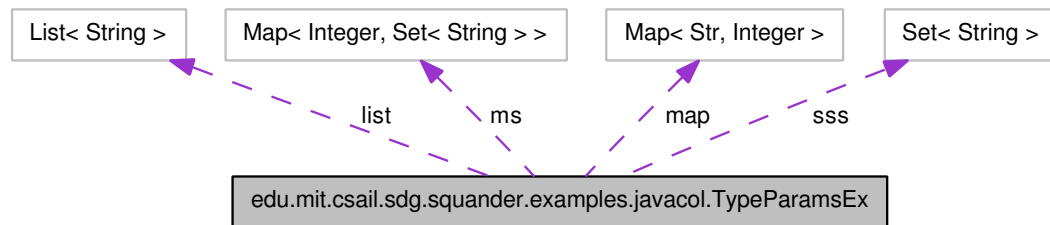
Definition at line 20 of file TypeParamsEx.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsEx.java](#)

9.51 edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx:



Public Member Functions

- [TypeParamsEx](#) ()
- int [findInt](#) (String key)
- Set<String> [common](#) ()
- void [common2](#) ()

Static Public Member Functions

- static Integer [get](#) (Map<String, Integer> m, String s)
- static void [main1](#) (String[] args)
- static void [main](#) (String[] args)
- static void [main3](#) (String[] args)
- static void [main4](#) (String[] args)

Package Attributes

- Map<Str, Integer> [map](#) = new HashMap<Str, Integer>()
- List<String> [list](#) = new LinkedList<String>()
- Set<String> [sss](#) = new HashSet<String>()
- Map<Integer, Set<String>> [ms](#) = new HashMap<Integer, Set<String>>()

Private Member Functions

- void [init](#) ()

9.51.1 Detailed Description

Definition at line 24 of file TypeParamsEx.java.

9.51.2 Constructor & Destructor Documentation

9.51.2.1 `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.TypeParamsEx ()`

Definition at line 31 of file `TypeParamsEx.java`.

References `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init()`.

9.51.3 Member Function Documentation

9.51.3.1 `Set<String> edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.common ()`

Definition at line 65 of file `TypeParamsEx.java`.

9.51.3.2 `void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.common2 ()`

Definition at line 71 of file `TypeParamsEx.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main3()`, and `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest.test1()`.

9.51.3.3 `int edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.findInt (String key)`

Definition at line 58 of file `TypeParamsEx.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest.test1()`.

9.51.3.4 `static Integer edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.get (Map<String, Integer > m, String s) [static]`

Definition at line 76 of file `TypeParamsEx.java`.

9.51.3.5 `void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init () [private]`

Definition at line 35 of file `TypeParamsEx.java`.

References `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.list`, `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.map`, and `edu.mit.csail.sdg.squander.examples.javacol.TypeParams`

Referenced by `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.TypeParamsEx()`.

9.51.3.6 `static void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main (String[] args) [static]`

Definition at line 88 of file `TypeParamsEx.java`.

9.51.3.7 `static void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main1 (String[] args) [static]`

Definition at line 80 of file `TypeParamsEx.java`.

9.51.3.8 static void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main3 (String[] args) [static]

Definition at line 93 of file TypeParamsEx.java.

References edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.common2(), and edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.sss.

9.51.3.9 static void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main4 (String[] args) [static]

Definition at line 99 of file TypeParamsEx.java.

9.51.4 Member Data Documentation**9.51.4.1 List<String> edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.list = new LinkedList<String>() [package]**

Definition at line 27 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init().

9.51.4.2 Map<Str, Integer> edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.map = new HashMap<Str, Integer>() [package]

Definition at line 26 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init().

9.51.4.3 Map<Integer, Set<String> > edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.ms = new HashMap<Integer, Set<String>>() [package]

Definition at line 29 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init().

9.51.4.4 Set<String> edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.sss = new HashSet<String>() [package]

Definition at line 28 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main3(), and edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest.test1().

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsEx.java](#)

9.52 edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest Class Reference

Public Member Functions

- void [test1](#) ()

9.52.1 Detailed Description

Definition at line 16 of file TypeParamsTest.java.

9.52.2 Member Function Documentation

9.52.2.1 void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest.test1 ()

Definition at line 19 of file TypeParamsTest.java.

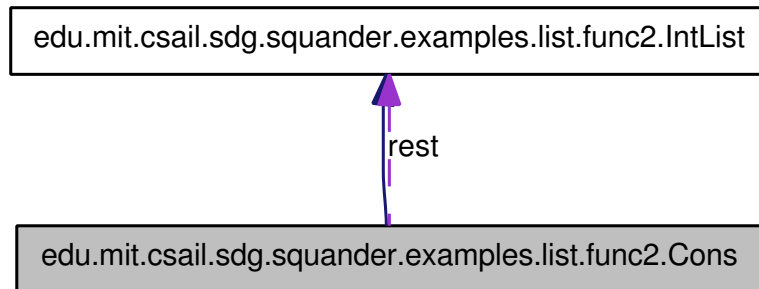
References [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.common2\(\)](#),
[edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.findInt\(\)](#), and
[edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.sss](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsTest.java](#)

9.53 edu.mit.csail.sdg.squander.examples.list.func2.Cons Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::list::func2::IntList](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.list.func2.Cons](#):



Public Member Functions

- [Cons](#) (int *key*, [IntList](#) *rest*)
- int [getKey](#) ()
- [IntList](#) [getRest](#) ()
- String [toString](#) ()

Private Attributes

- final int *key*
- final [IntList](#) *rest*

9.53.1 Detailed Description

Definition at line 15 of file [Cons.java](#).

9.53.2 Constructor & Destructor Documentation

9.53.2.1 [edu.mit.csail.sdg.squander.examples.list.func2.Cons.Cons](#) (int *key*, [IntList](#) *rest*)

Definition at line 20 of file [Cons.java](#).

9.53.3 Member Function Documentation

9.53.3.1 int [edu.mit.csail.sdg.squander.examples.list.func2.Cons.getKey](#) ()

Definition at line 25 of file [Cons.java](#).

9.53.3.2 [IntList](#) [edu.mit.csail.sdg.squander.examples.list.func2.Cons.getRest](#) ()

Definition at line 29 of file [Cons.java](#).

9.53.3.3 String edu.mit.csail.sdg.squander.examples.list.func2.Cons.toString ()

Definition at line 34 of file Cons.java.

9.53.4 Member Data Documentation

9.53.4.1 final int edu.mit.csail.sdg.squander.examples.list.func2.Cons.key [private]

Definition at line 17 of file Cons.java.

9.53.4.2 final IntList edu.mit.csail.sdg.squander.examples.list.func2.Cons.rest [private]

Definition at line 18 of file Cons.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/list/func2/Cons.java](#)

9.54 edu.mit.csail.sdg.squander.examples.list.func2.IntList Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.list.func2.Cons](#), and [edu.mit.csail.sdg.squander.examples.list.func2.Nil](#).

Public Member Functions

- final int [size](#) ()
- final int [get](#) (int idx)
- final [IntList](#) [sublist](#) (int startIdx)

Static Public Member Functions

- static void [main](#) (String[] args)

9.54.1 Detailed Description

Functional list implementation.

Author:

Aleksandar Milicevic

Definition at line 21 of file IntList.java.

9.54.2 Member Function Documentation

9.54.2.1 final int edu.mit.csail.sdg.squander.examples.list.func2.IntList.get (int *idx*)

Definition at line 27 of file IntList.java.

9.54.2.2 static void edu.mit.csail.sdg.squander.examples.list.func2.IntList.main (String[] *args*) [static]

Definition at line 32 of file IntList.java.

References [edu.mit.csail.sdg.squander.examples.list.func2.IntList.size\(\)](#).

9.54.2.3 final int edu.mit.csail.sdg.squander.examples.list.func2.IntList.size ()

Definition at line 24 of file IntList.java.

Referenced by [edu.mit.csail.sdg.squander.examples.list.func2.IntList.main\(\)](#), and [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize\(\)](#).

9.54.2.4 final `IntList` `edu.mit.csail.sdg.squander.examples.list.func2.IntList`.`sublist` (`int startIdx`)

Definition at line 30 of file `IntList.java`.

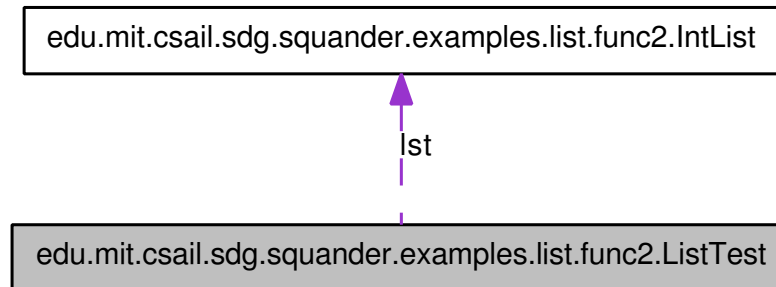
Referenced by `edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSublist()`.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/list/func2/IntList.java](#)

9.55 edu.mit.csail.sdg.squander.examples.list.func2.ListTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.list.func2.ListTest:



Public Member Functions

- void [setUp](#) ()
- void [testSize](#) ()
- void [testSublist](#) ()

Private Attributes

- [IntList](#) [lst](#)
- [int](#)[] [elems](#)

9.55.1 Detailed Description

Definition at line 16 of file ListTest.java.

9.55.2 Member Function Documentation

9.55.2.1 void edu.mit.csail.sdg.squander.examples.list.func2.ListTest.setUp ()

Definition at line 22 of file ListTest.java.

References [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.elems](#), [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.lst](#), and [edu.mit.csail.sdg.squander.examples.list.func2.IntList.size\(\)](#).

9.55.2.2 void edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize ()

Definition at line 31 of file ListTest.java.

References [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.elems](#), [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.lst](#), and [edu.mit.csail.sdg.squander.examples.list.func2.IntList.size\(\)](#).

9.55.2.3 void edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSublist ()

Definition at line 36 of file ListTest.java.

References [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.lst](#), [edu.mit.csail.sdg.squander.examples.list.func2.IntList.sublist\(\)](#), and [edu.mit.csail.sdg.squander.examples.list.func2.IntList.sublist\(\)](#).

9.55.3 Member Data Documentation

9.55.3.1 int [] edu.mit.csail.sdg.squander.examples.list.func2.ListTest.elems [private]

Definition at line 19 of file ListTest.java.

Referenced by [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.setUp\(\)](#), [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize\(\)](#), and [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize\(\)](#).

9.55.3.2 IntList edu.mit.csail.sdg.squander.examples.list.func2.ListTest.lst [private]

Definition at line 18 of file ListTest.java.

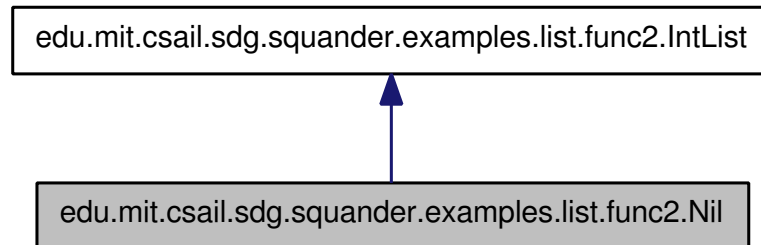
Referenced by [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.setUp\(\)](#), [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize\(\)](#), and [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize\(\)](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/list/func2/ListTest.java](#)

9.56 edu.mit.csail.sdg.squander.examples.list.func2.Nil Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::list::func2::IntList](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.list.func2.Nil](#):



Public Member Functions

- String [toString](#) ()

9.56.1 Detailed Description

Definition at line 13 of file `Nil.java`.

9.56.2 Member Function Documentation

9.56.2.1 String `edu.mit.csail.sdg.squander.examples.list.func2.Nil.toString` ()

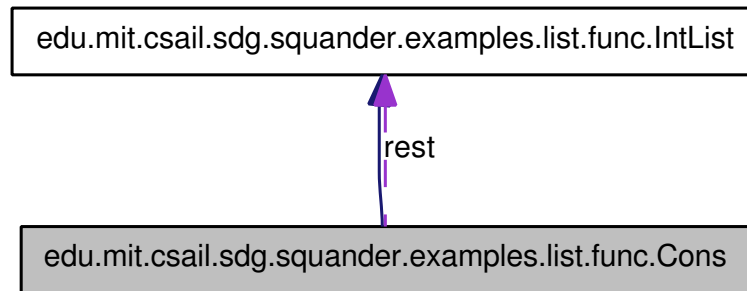
Definition at line 16 of file `Nil.java`.

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/list/func2/Nil.java`

9.57 edu.mit.csail.sdg.squander.examples.list.func.Cons Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::list::func::IntList](#). Collaboration diagram for `edu.mit.csail.sdg.squander.examples.list.func.Cons`:



Public Member Functions

- [Cons](#) (int *key*, [IntList](#) *rest*)
- int [key](#) ()

Package Attributes

- final int [key](#)
- final [IntList](#) [rest](#)

9.57.1 Detailed Description

Definition at line 13 of file `Cons.java`.

9.57.2 Constructor & Destructor Documentation

9.57.2.1 edu.mit.csail.sdg.squander.examples.list.func.Cons.Cons (int *key*, [IntList](#) *rest*)

Definition at line 18 of file `Cons.java`.

9.57.3 Member Function Documentation

9.57.3.1 int edu.mit.csail.sdg.squander.examples.list.func.Cons.key ()

Definition at line 24 of file `Cons.java`.

9.57.4 Member Data Documentation

9.57.4.1 final int edu.mit.csail.sdg.squander.examples.list.func.Cons.key [package]

Definition at line 15 of file Cons.java.

9.57.4.2 final IntList edu.mit.csail.sdg.squander.examples.list.func.Cons.rest [package]

Definition at line 16 of file Cons.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/list/func/Cons.java](#)

9.58 edu.mit.csail.sdg.squander.examples.list.func.IntList Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.list.func.Cons](#).

Public Member Functions

- [IntList next \(\)](#)
- final int [size \(\)](#)

Static Public Member Functions

- static void [main](#) (String[] args)

9.58.1 Detailed Description

Functional list implementation.

Author:

Aleksandar Milicevic

Definition at line 20 of file `IntList.java`.

9.58.2 Member Function Documentation

9.58.2.1 static void edu.mit.csail.sdg.squander.examples.list.func.IntList.main (String[] args) [static]

Definition at line 38 of file `IntList.java`.

References `edu.mit.csail.sdg.squander.examples.list.func.IntList.size()`.

9.58.2.2 IntList edu.mit.csail.sdg.squander.examples.list.func.IntList.next ()

Definition at line 23 of file `IntList.java`.

9.58.2.3 final int edu.mit.csail.sdg.squander.examples.list.func.IntList.size ()

Definition at line 26 of file `IntList.java`.

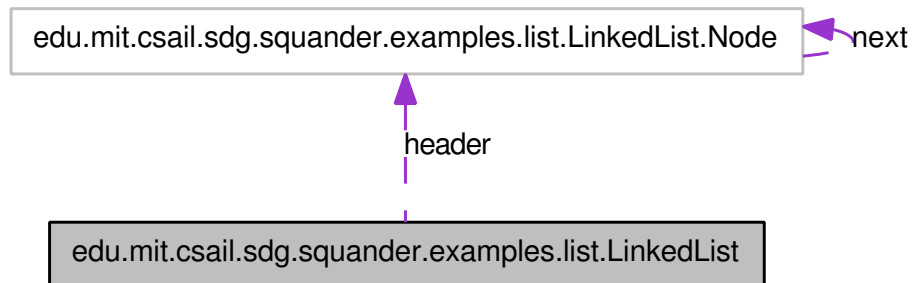
Referenced by `edu.mit.csail.sdg.squander.examples.list.func.IntList.main()`.

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/list/func/IntList.java`

9.59 edu.mit.csail.sdg.squander.examples.list.LinkedList Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.list.LinkedList:



Classes

- class `Node`

Public Member Functions

- void `add` (Node n)
- void `add_man` (Node node)
- void `remove` (Node n)
- Node[] `nodes` ()
- Node `header` ()
- Iterator< Node > `iterator` ()
- String `toString` ()
- int `size` ()
- boolean `repOk` ()
- int `findNode` (Integer key)

Static Public Member Functions

- static void `main` (String[] args)

Private Attributes

- Node `header`

9.59.1 Detailed Description

A Linked List implementation.

Author:

Aleksandar Milicevic

Definition at line 29 of file `LinkedList.java`.

9.59.2 Member Function Documentation

9.59.2.1 void edu.mit.csail.sdg.squander.examples.list.LinkedList.add (Node *n*)

Definition at line 73 of file LinkedList.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList.main(), and edu.mit.csail.sdg.squander.examples.list.LinkedListTest.setUp().

9.59.2.2 void edu.mit.csail.sdg.squander.examples.list.LinkedList.add_man (Node *node*)

Definition at line 75 of file LinkedList.java.

9.59.2.3 int edu.mit.csail.sdg.squander.examples.list.LinkedList.findNode (Integer *key*)

Definition at line 153 of file LinkedList.java.

9.59.2.4 Node edu.mit.csail.sdg.squander.examples.list.LinkedList.header ()

Definition at line 104 of file LinkedList.java.

9.59.2.5 Iterator<Node> edu.mit.csail.sdg.squander.examples.list.LinkedList.iterator ()

Definition at line 107 of file LinkedList.java.

9.59.2.6 static void edu.mit.csail.sdg.squander.examples.list.LinkedList.main (String[] *args*) [static]

Definition at line 122 of file LinkedList.java.

References edu.mit.csail.sdg.squander.examples.list.LinkedList.add(), edu.mit.csail.sdg.squander.examples.list.LinkedList.header(), and edu.mit.csail.sdg.squander.examples.list.LinkedList.remove().

9.59.2.7 Node [] edu.mit.csail.sdg.squander.examples.list.LinkedList.nodes ()

Definition at line 102 of file LinkedList.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedListTest.testFold().

9.59.2.8 void edu.mit.csail.sdg.squander.examples.list.LinkedList.remove (Node *n*)

Definition at line 94 of file LinkedList.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList.main().

9.59.2.9 boolean edu.mit.csail.sdg.squander.examples.list.LinkedList.repOk ()

Definition at line 142 of file LinkedList.java.

9.59.2.10 `int edu.mit.csail.sdg.squander.examples.list.LinkedList.size ()`

Definition at line 136 of file LinkedList.java.

9.59.2.11 `String edu.mit.csail.sdg.squander.examples.list.LinkedList.toString ()`

Definition at line 118 of file LinkedList.java.

9.59.3 Member Data Documentation**9.59.3.1** `Node edu.mit.csail.sdg.squander.examples.list.LinkedList.header` `[private]`

Definition at line 65 of file LinkedList.java.

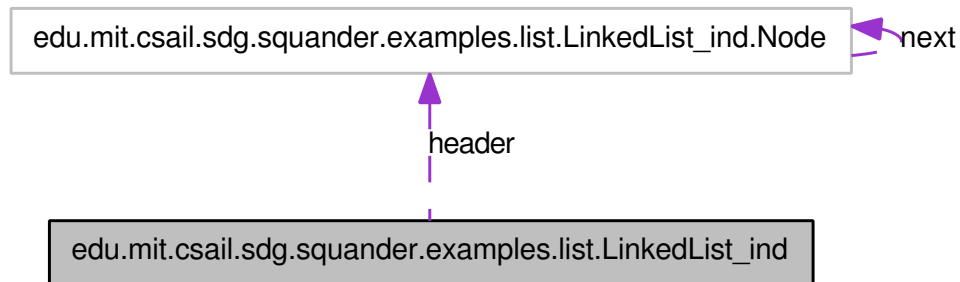
Referenced by `edu.mit.csail.sdg.squander.examples.list.LinkedList.main()`.

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/list/LinkedList.java`

9.60 edu.mit.csail.sdg.squander.examples.list.LinkedList_ind Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.list.LinkedList_ind:



Classes

- class **Node**

Public Member Functions

- void `addNode` (Node n)
- Node[] `nodes` ()
- Node `header` ()
- String `toString` ()

Static Public Member Functions

- static void `main` (String[] args)

Private Attributes

- Node `header`

9.60.1 Detailed Description

Linked list implementation with inductive definitions.

Author:

Aleksandar Milicevic

Definition at line 24 of file `LinkedList_ind.java`.

9.60.2 Member Function Documentation

9.60.2.1 void edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.addNode (Node *n*)

Definition at line 58 of file LinkedList_ind.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.main().

9.60.2.2 Node edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.header ()

Definition at line 65 of file LinkedList_ind.java.

9.60.2.3 static void edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.main (String[] *args*) [static]

Definition at line 72 of file LinkedList_ind.java.

References edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.addNode(), and
edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.header.

9.60.2.4 Node [] edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.nodes ()

Definition at line 63 of file LinkedList_ind.java.

9.60.2.5 String edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.toString ()

Definition at line 68 of file LinkedList_ind.java.

9.60.3 Member Data Documentation

9.60.3.1 Node edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.header [private]

Definition at line 53 of file LinkedList_ind.java.

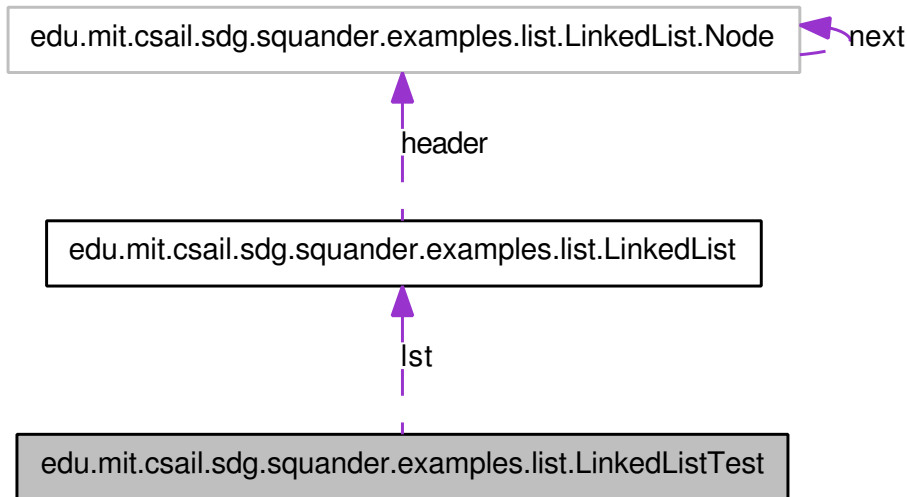
Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.main().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/list/LinkedList_ind.java

9.61 edu.mit.csail.sdg.squander.examples.list.LinkedListTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.list.LinkedListTest:



Public Member Functions

- void [setUp](#) ()
- void [testFold](#) ()

Private Attributes

- [LinkedList](#) `lst`

9.61.1 Detailed Description

Definition at line 17 of file `LinkedListTest.java`.

9.61.2 Member Function Documentation

9.61.2.1 void edu.mit.csail.sdg.squander.examples.list.LinkedListTest.setUp ()

Definition at line 22 of file `LinkedListTest.java`.

References `edu.mit.csail.sdg.squander.examples.list.LinkedList.add()`, `edu.mit.csail.sdg.squander.examples.list.LinkedListTest.lst`, and

9.61.2.2 void edu.mit.csail.sdg.squander.examples.list.LinkedListTest.testFold ()

Definition at line 32 of file `LinkedListTest.java`.

References `edu.mit.csail.sdg.squander.examples.list.LinkedListTest.lst`, and `edu.mit.csail.sdg.squander.examples.list.LinkedList.nodes()`.

9.61.3 Member Data Documentation

9.61.3.1 `LinkedList` edu.mit.csail.sdg.squander.examples.list.LinkedListTest.lst [private]

Definition at line 19 of file `LinkedListTest.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.list.LinkedListTest.setUp()`, and `edu.mit.csail.sdg.squander.examples.list.LinkedListTest.testFold()`.

The documentation for this class was generated from the following file:

- `tests/edu/mit/csail/sdg/squander/examples/list/LinkedListTest.java`

9.62 edu.mit.csail.sdg.squander.examples.mock.AddressBook Interface Reference

Inherited by [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#).

Public Member Functions

- String [getEmailAddress](#) (String name)
- boolean [contains](#) (String name)

Package Functions

- void [setEmailAddress](#) (String name, String email)

9.62.1 Detailed Description

Definition at line 18 of file `AddressBook.java`.

9.62.2 Member Function Documentation

9.62.2.1 boolean edu.mit.csail.sdg.squander.examples.mock.AddressBook.contains (String *name*)

Implemented in [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#).

Referenced by `edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind()`.

9.62.2.2 String edu.mit.csail.sdg.squander.examples.mock.AddressBook.getEmailAddress (String *name*)

Implemented in [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#).

Referenced by `edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind()`.

9.62.2.3 void edu.mit.csail.sdg.squander.examples.mock.AddressBook.setEmailAddress (String *name*, String *email*) [**package**]

Implemented in [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#).

Referenced by `edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest.setUp()`.

The documentation for this interface was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/mock/AddressBook.java`

9.63 edu.mit.csail.sdg.squander.examples.mock.EmailMessage Class Reference

Public Member Functions

- [EmailMessage](#) (String recipient)

Package Functions

- boolean [bind](#) ([AddressBook](#) abook)

Package Attributes

- String [recipientName](#)
- String [emailAddress](#)

9.63.1 Detailed Description

Definition at line 7 of file `EmailMessage.java`.

9.63.2 Constructor & Destructor Documentation

9.63.2.1 edu.mit.csail.sdg.squander.examples.mock.EmailMessage.EmailMessage (String recipient)

Definition at line 11 of file `EmailMessage.java`.

References `edu.mit.csail.sdg.squander.examples.mock.EmailMessage.recipientName`.

9.63.3 Member Function Documentation

9.63.3.1 boolean edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind (AddressBook abook) [package]

Definition at line 15 of file `EmailMessage.java`.

References `edu.mit.csail.sdg.squander.examples.mock.AddressBook.contains()`, `edu.mit.csail.sdg.squander.examples.mock.EmailMessage.emailAddress`, `edu.mit.csail.sdg.squander.examples.mock.AddressBook` and `edu.mit.csail.sdg.squander.examples.mock.EmailMessage.recipientName`.

Referenced by `edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfAbsent()`, and `edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfPresent()`.

9.63.4 Member Data Documentation

9.63.4.1 String edu.mit.csail.sdg.squander.examples.mock.EmailMessage.emailAddress [package]

Definition at line 9 of file `EmailMessage.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind()`, and
`edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfPresent()`.

9.63.4.2 String `edu.mit.csail.sdg.squander.examples.mock.EmailMessage.recipientName` [package]

Definition at line 8 of file `EmailMessage.java`.

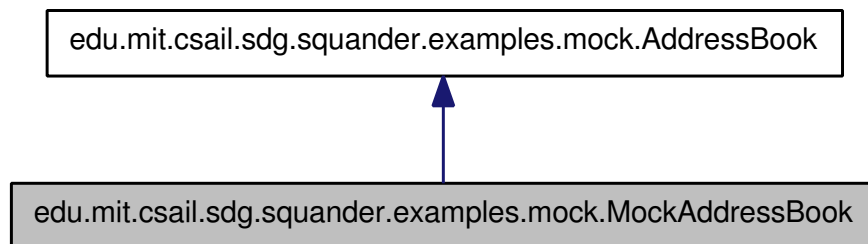
Referenced by `edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind()`, and
`edu.mit.csail.sdg.squander.examples.mock.EmailMessage.EmailMessage()`.

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/mock/EmailMessage.java`

9.64 edu.mit.csail.sdg.squander.examples.mock.MockAddressBook Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::mock::AddressBook](#). Collaboration diagram for `edu.mit.csail.sdg.squander.examples.mock.MockAddressBook`:



Public Member Functions

- [MockAddressBook](#) ()
- void [setEmailAddress](#) (String name, String email)
- String [getEmailAddress](#) (String name)
- boolean [contains](#) (String name)

Private Member Functions

- void [init](#) ()

9.64.1 Detailed Description

Completely magic interface implementation. Ideally, should be autogenerated.

Author:

kuat

Definition at line 16 of file `MockAddressBook.java`.

9.64.2 Constructor & Destructor Documentation

9.64.2.1 edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.MockAddressBook ()

Definition at line 18 of file `MockAddressBook.java`.

References `edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.init()`.

9.64.3 Member Function Documentation

9.64.3.1 boolean `edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.contains (String name)`

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 35 of file `MockAddressBook.java`.

9.64.3.2 String `edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.getEmailAddress (String name)`

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 30 of file `MockAddressBook.java`.

9.64.3.3 void `edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.init () [private]`

Definition at line 22 of file `MockAddressBook.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.MockAddressBook()`.

9.64.3.4 void `edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.setEmailAddress (String name, String email)`

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

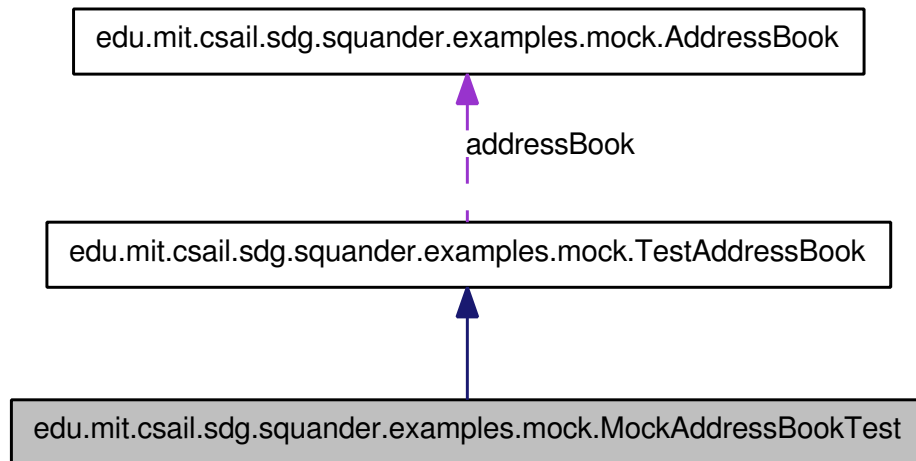
Definition at line 25 of file `MockAddressBook.java`.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/mock/MockAddressBook.java](#)

9.65 edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::mock::TestAddressBook](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#):



Public Member Functions

- void [setUp](#) ()

9.65.1 Detailed Description

Definition at line 12 of file [MockAddressBookTest.java](#).

9.65.2 Member Function Documentation

9.65.2.1 void [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest.setUp](#) () [virtual]

Implements [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#).

Definition at line 16 of file [MockAddressBookTest.java](#).

References [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.AddressBook.setEmailAddress\(\)](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/mock/MockAddressBookTest.java](#)

9.66 edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::mock::AddressBook](#). Collaboration diagram for `edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook`:



Classes

- class `Entry`

Public Member Functions

- void `setEmailAddress` (String name, String email)
- String `getEmailAddress` (String name)
- boolean `contains` (String name)
- String `toString` ()

Public Attributes

- `Entry[]` `entries`

9.66.1 Detailed Description

Concrete squander mock object. This one comes with concrete data structures.

this needs a concrete representation and a way of saying that change to the abstract state can automatically trigger changes to the concrete state that the abstract state depends on. basically the idea of a data group.

Author:

kuat

Definition at line 26 of file `SquanderAddressBook.java`.

9.66.2 Member Function Documentation

9.66.2.1 boolean `edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.contains` (String *name*)

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 54 of file `SquanderAddressBook.java`.

9.66.2.2 String

edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.getEmailAddress
(String *name*)

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 49 of file SquanderAddressBook.java.

9.66.2.3 void edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.setEmailAddress
(String *name*, String *email*)

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 44 of file SquanderAddressBook.java.

Referenced by [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook.setUp\(\)](#).

9.66.2.4 String edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.toString ()

Definition at line 59 of file SquanderAddressBook.java.

9.66.3 Member Data Documentation

9.66.3.1 Entry [] edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.entries

Definition at line 40 of file SquanderAddressBook.java.

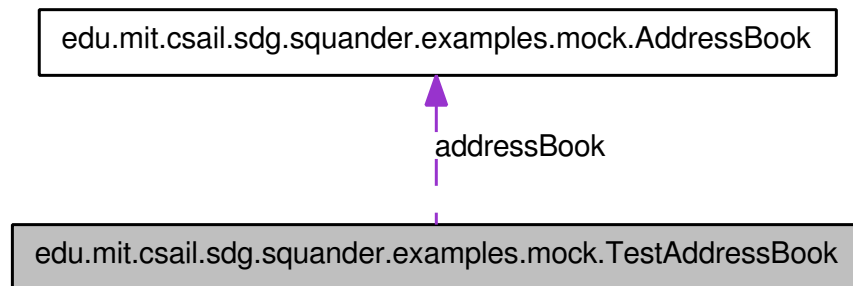
Referenced by [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook.setUp\(\)](#).

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/mock/SquanderAddressBook.java](#)

9.67 edu.mit.csail.sdg.squander.examples.mock.TestAddressBook Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#), [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#) and [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#):



Public Member Functions

- abstract void [setUp \(\)](#)
- void [testBindIfPresent \(\)](#)
- void [testBindIfAbsent \(\)](#)

Protected Attributes

- [AddressBook addressBook](#)

9.67.1 Detailed Description

Definition at line 14 of file [TestAddressBook.java](#).

9.67.2 Member Function Documentation

9.67.2.1 abstract void [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.setUp \(\)](#) [pure virtual]

Implemented in [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#), [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#) and [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#).

9.67.2.2 void [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfAbsent \(\)](#)

Definition at line 29 of file [TestAddressBook.java](#).

References [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook](#), [edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind\(\)](#) and [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#).

9.67.2.3 void edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfPresent ()

Definition at line 22 of file TestAddressBook.java.

References [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook](#),
[edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind\(\)](#), and [edu.mit.csail.sdg.squander.examples.mock.EmailMessage](#)

9.67.3 Member Data Documentation

9.67.3.1 AddressBook edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook [protected]

Definition at line 16 of file TestAddressBook.java.

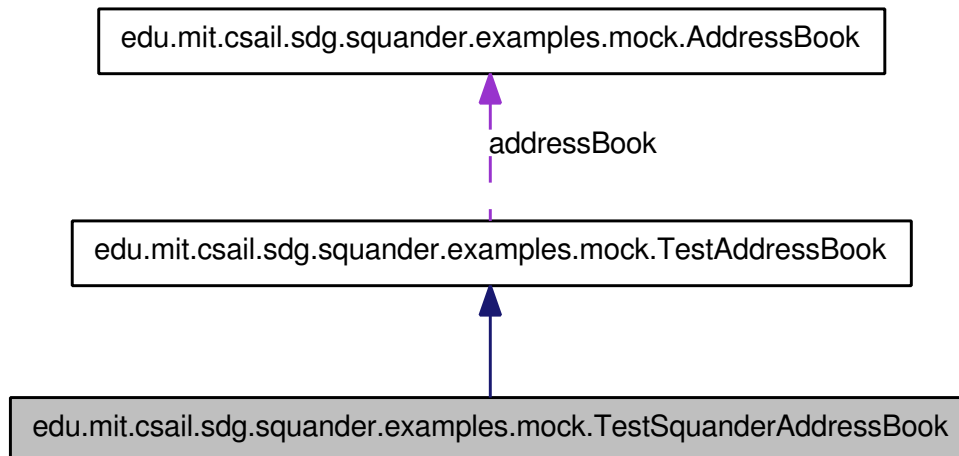
Referenced by [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook.setUp\(\)](#),
[edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest.setUp\(\)](#),
[edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfAbsent\(\)](#), and
[edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfPresent\(\)](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/mock/TestAddressBook.java](#)

9.68 edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::mock::TestAddressBook](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#):



Public Member Functions

- void [setUp](#) ()

9.68.1 Detailed Description

Definition at line 14 of file [TestSquanderAddressBook.java](#).

9.68.2 Member Function Documentation

9.68.2.1 void [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook.setUp](#) () [virtual]

Implements [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#).

Definition at line 18 of file [TestSquanderAddressBook.java](#).

References [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook](#),
[edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.entries](#), and
[edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.setEmailAddress\(\)](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/mock/TestSquanderAddressBook.java](#)

9.69 edu.mit.csail.sdg.squander.examples.numbers.Arithmetic Class Reference

Static Public Member Functions

- static int [gcd](#) (final int m, final int n)
- static int [gcd_impl](#) (int m, int n)
- static int[] [sort](#) (int[] a)
- static int [square_root](#) (int s)
- static int [square_root_finite](#) (int s)
- static int [square_root_mixed](#) (final int s)
- static int [_square_root_mixed](#) (final int s)
- static void [main](#) (String[] args)

Static Private Member Functions

- static int [findP](#) (final int r, final int q)
- static int [findQ](#) (final int p, final int q, final int r, final int s)
- static int [findR](#) (final int p, final int q, final int r, final int s)
- static int [_findQ](#) (final int p, final int q, final int r, final int s)
- static int [_findR](#) (final int p, final int q, final int r, final int s)

9.69.1 Detailed Description

Examples of arithmetic algorithms.

Author:

kuat

Definition at line 23 of file Arithmetic.java.

9.69.2 Member Function Documentation

9.69.2.1 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._findQ (final int *p*, final int *q*, final int *r*, final int *s*) [static, private]

Definition at line 146 of file Arithmetic.java.

Referenced by edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._square_root_mixed().

9.69.2.2 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._findR (final int *p*, final int *q*, final int *r*, final int *s*) [static, private]

Definition at line 153 of file Arithmetic.java.

Referenced by edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._square_root_mixed().

9.69.2.3 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._square_root_mixed (final int s) [static]`

Definition at line 130 of file Arithmetic.java.

References `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._findQ()`, `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._findR()`, and `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic`

9.69.2.4 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findP (final int r, final int q) [static, private]`

Definition at line 112 of file Arithmetic.java.

Referenced by `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._square_root_mixed()`, and `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_mixed()`.

9.69.2.5 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findQ (final int p, final int q, final int r, final int s) [static, private]`

Definition at line 118 of file Arithmetic.java.

Referenced by `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_mixed()`.

9.69.2.6 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findR (final int p, final int q, final int r, final int s) [static, private]`

Definition at line 125 of file Arithmetic.java.

Referenced by `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_mixed()`.

9.69.2.7 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.gcd (final int m, final int n) [static]`

Definition at line 30 of file Arithmetic.java.

Referenced by `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.gcd_impl()`.

9.69.2.8 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.gcd_impl (int m, int n) [static]`

Definition at line 39 of file Arithmetic.java.

References `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.gcd()`.

9.69.2.9 `static void edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.main (String[] args) [static]`

Definition at line 158 of file Arithmetic.java.

References `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.sort()`.

9.69.2.10 `static int [] edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.sort (int[] a)`
`[static]`

Definition at line 66 of file Arithmetic.java.

Referenced by edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.main().

9.69.2.11 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root (int s)`
`[static]`

Definition at line 80 of file Arithmetic.java.

9.69.2.12 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_finite`
`(int s) [static]`

Definition at line 91 of file Arithmetic.java.

9.69.2.13 `static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_mixed`
`(final int s) [static]`

Definition at line 95 of file Arithmetic.java.

References `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findP()`,
`edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findQ()`, and `edu.mit.csail.sdg.squander.examples.numbers.Arithmetic`

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/numbers/Arithmetic.java`

9.70 edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest Class Reference

Public Member Functions

- void [test1](#) ()
- void [test2](#) ()
- void [test3](#) ()
- void [test4](#) ()

9.70.1 Detailed Description

Definition at line 12 of file ArithmeticTest.java.

9.70.2 Member Function Documentation

9.70.2.1 void edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest.test1 ()

Definition at line 15 of file ArithmeticTest.java.

9.70.2.2 void edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest.test2 ()

Definition at line 24 of file ArithmeticTest.java.

9.70.2.3 void edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest.test3 ()

Definition at line 35 of file ArithmeticTest.java.

9.70.2.4 void edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest.test4 ()

Definition at line 46 of file ArithmeticTest.java.

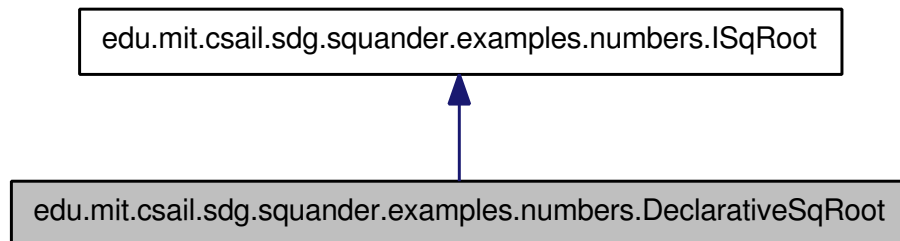
The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/numbers/[ArithmeticTest.java](#)

9.71 edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::numbers::ISqRoot](#).

Inherited by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#):



Public Member Functions

- [DeclarativeSqRoot](#) (int myS)
- int [getS](#) ()
- int [getR](#) ()
- int [getQ](#) ()
- int [sqRoot](#) ()

Protected Member Functions

- [DeclarativeSqRoot](#) ()
- void [setR](#) (int r)
- void [setQ](#) (int q)

Private Member Functions

- void [init](#) (int myS)

9.71.1 Detailed Description

Purely declarative implementation

Author:

Aleksandar Milicevic

Definition at line 17 of file `DeclarativeSqRoot.java`.

9.71.2 Constructor & Destructor Documentation

9.71.2.1 `edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.DeclarativeSqRoot ()` [protected]

Definition at line 19 of file `DeclarativeSqRoot.java`.

9.71.2.2 `edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.DeclarativeSqRoot (int myS)`

Definition at line 21 of file `DeclarativeSqRoot.java`.

References `edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.init()`.

9.71.3 Member Function Documentation

9.71.3.1 `int edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getQ ()`

Implements [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#).

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 34 of file `DeclarativeSqRoot.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot()`.

9.71.3.2 `int edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getR ()`

Implements [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#).

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 33 of file `DeclarativeSqRoot.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot()`.

9.71.3.3 `int edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getS ()`

Implements [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#).

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 32 of file `DeclarativeSqRoot.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot()`.

9.71.3.4 `void edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.init (int myS)` [private]

Definition at line 28 of file `DeclarativeSqRoot.java`.

Referenced by `edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.DeclarativeSqRoot()`.

9.71.3.5 void edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.setQ (int *q*)
[protected]

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 42 of file DeclarativeSqRoot.java.

9.71.3.6 void edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.setR (int *r*)
[protected]

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 38 of file DeclarativeSqRoot.java.

9.71.3.7 int edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.sqrt ()

Implements [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#).

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

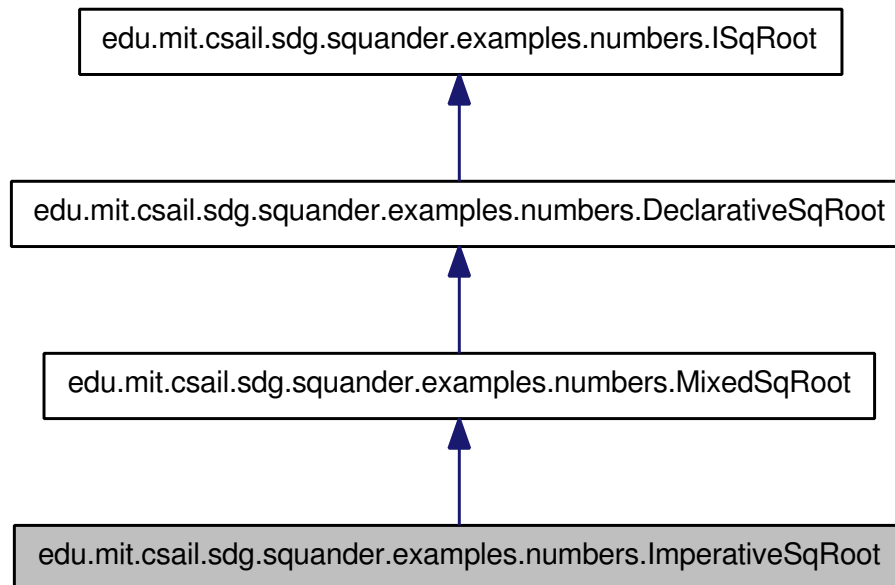
Definition at line 45 of file DeclarativeSqRoot.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/numbers/DeclarativeSqRoot.java](#)

9.72 edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::numbers::MixedSqRoot](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#):



Public Member Functions

- [ImperativeSqRoot](#) (int s)
- int [getS](#) ()
- int [getQ](#) ()
- int [getR](#) ()

Protected Member Functions

- void [setQ](#) (int q)
- void [setR](#) (int r)
- int [findP](#) ()
- int [findQ](#) (int p)
- int [findR](#) (int p)

Private Attributes

- final int [s1](#)
- int [r1](#)
- int [q1](#)

9.72.1 Detailed Description

Definition at line 15 of file ImperativeSqRoot.java.

9.72.2 Constructor & Destructor Documentation

9.72.2.1 `edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.ImperativeSqRoot (ints)`

Definition at line 25 of file ImperativeSqRoot.java.

9.72.3 Member Function Documentation

9.72.3.1 `int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.findP ()` [protected]

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

Definition at line 40 of file ImperativeSqRoot.java.

9.72.3.2 `int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.findQ (int p)` [protected]

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

Definition at line 46 of file ImperativeSqRoot.java.

9.72.3.3 `int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.findR (int p)` [protected]

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

Definition at line 52 of file ImperativeSqRoot.java.

9.72.3.4 `int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.getQ ()`

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 33 of file ImperativeSqRoot.java.

9.72.3.5 `int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.getR ()`

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 34 of file ImperativeSqRoot.java.

9.72.3.6 `int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.getS ()`

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 32 of file ImperativeSqRoot.java.

9.72.3.7 `void edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.setQ (int q)`
`[protected]`

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 36 of file ImperativeSqRoot.java.

9.72.3.8 `void edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.setR (int r)`
`[protected]`

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 37 of file ImperativeSqRoot.java.

9.72.4 Member Data Documentation

9.72.4.1 `int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.q1` `[private]`

Definition at line 23 of file ImperativeSqRoot.java.

9.72.4.2 `int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.r1` `[private]`

Definition at line 22 of file ImperativeSqRoot.java.

9.72.4.3 `final int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.s1`
`[private]`

Definition at line 21 of file ImperativeSqRoot.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/numbers/ImperativeSqRoot.java](#)

9.73 edu.mit.csail.sdg.squander.examples.numbers.ISqRoot Interface Reference

Inherited by [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Public Member Functions

- int [getS](#) ()
- int [getR](#) ()
- int [getQ](#) ()
- int [sqRoot](#) ()

9.73.1 Detailed Description

Definition at line 21 of file [ISqRoot.java](#).

9.73.2 Member Function Documentation

9.73.2.1 int edu.mit.csail.sdg.squander.examples.numbers.ISqRoot.getQ ()

Implemented in [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#), and [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

9.73.2.2 int edu.mit.csail.sdg.squander.examples.numbers.ISqRoot.getR ()

Implemented in [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#), and [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

9.73.2.3 int edu.mit.csail.sdg.squander.examples.numbers.ISqRoot.getS ()

Implemented in [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#), and [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

9.73.2.4 int edu.mit.csail.sdg.squander.examples.numbers.ISqRoot.sqRoot ()

Implemented in [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#), and [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

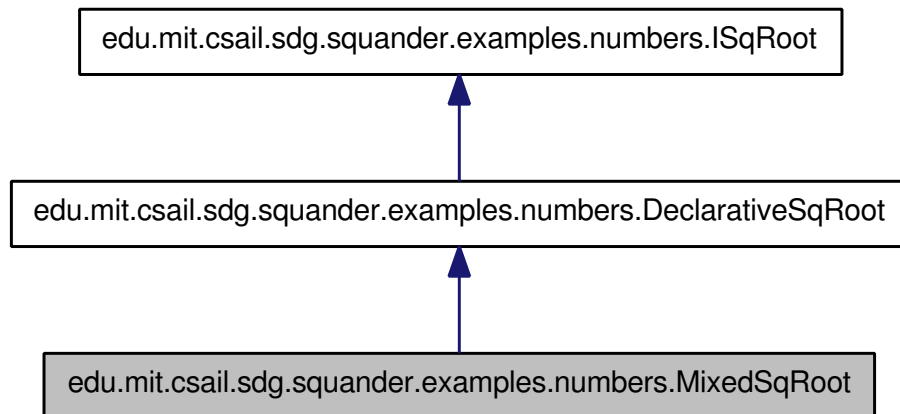
The documentation for this interface was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/numbers/ISqRoot.java](#)

9.74 edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::numbers::DeclarativeSqRoot](#).

Inherited by [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#):



Public Member Functions

- [MixedSqRoot](#) (int myS)
- int [sqRoot](#) ()

Protected Member Functions

- [MixedSqRoot](#) ()
- int [findP](#) ()
- int [findQ](#) (int p)
- int [findR](#) (int p)

9.74.1 Detailed Description

Mixed implementation that follows the approach from Carroll Morgan's book

Author:

Aleksandar Milicevic

Definition at line 18 of file `MixedSqRoot.java`.

9.74.2 Constructor & Destructor Documentation

9.74.2.1 [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.MixedSqRoot](#) () [protected]

Definition at line 20 of file `MixedSqRoot.java`.

9.74.2.2 edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.MixedSqRoot (int *myS*)

Definition at line 23 of file MixedSqRoot.java.

9.74.3 Member Function Documentation

9.74.3.1 int edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findP () [protected]

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 44 of file MixedSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.74.3.2 int edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findQ (int *p*) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 52 of file MixedSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.74.3.3 int edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findR (int *p*) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 60 of file MixedSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.74.3.4 int edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot ()

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 28 of file MixedSqRoot.java.

References [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findP\(\)](#), [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findQ\(\)](#), [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findR\(\)](#), [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getQ\(\)](#), [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getR\(\)](#), and [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getS\(\)](#).

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/numbers/MixedSqRoot.java](#)

9.75 edu.mit.csail.sdg.squander.examples.numbers.SqrtTest Class Reference

Public Member Functions

- void [test1](#) ()
- void [test2](#) ()
- void [test3](#) ()

9.75.1 Detailed Description

Unit test for our fully declarative, mixed, and fully imperative square root implementation

Author:

Aleksandar Milicevic

Definition at line 21 of file SqrtTest.java.

9.75.2 Member Function Documentation

9.75.2.1 void edu.mit.csail.sdg.squander.examples.numbers.SqrtTest.test1 ()

Definition at line 24 of file SqrtTest.java.

9.75.2.2 void edu.mit.csail.sdg.squander.examples.numbers.SqrtTest.test2 ()

Definition at line 34 of file SqrtTest.java.

9.75.2.3 void edu.mit.csail.sdg.squander.examples.numbers.SqrtTest.test3 ()

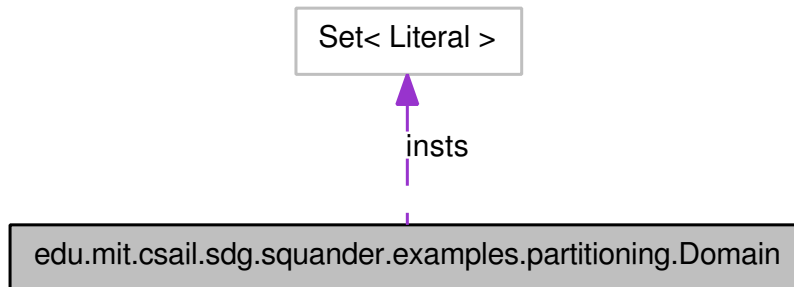
Definition at line 45 of file SqrtTest.java.

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/numbers/[SqrtTest.java](#)

9.76 edu.mit.csail.sdg.squander.examples.partitioning.Domain Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.partitioning.Domain:



Public Member Functions

- int `getIdx ()`
- Set< Literal > `getInsts ()`
- int `hashCode ()`
- boolean `equals (Object obj)`
- String `toString ()`

Private Attributes

- final int `idx = cnt++`
- final Set< Literal > `insts = new HashSet<Literal>()`

Static Private Attributes

- static int `cnt = 0`

9.76.1 Detailed Description

Definition at line 13 of file `Domain.java`.

9.76.2 Member Function Documentation

9.76.2.1 boolean edu.mit.csail.sdg.squander.examples.partitioning.Domain.equals (Object obj)

Definition at line 33 of file `Domain.java`.

References `edu.mit.csail.sdg.squander.examples.partitioning.Domain.idx`.

9.76.2.2 int edu.mit.csail.sdg.squander.examples.partitioning.Domain.getIdx ()

Definition at line 21 of file `Domain.java`.

9.76.2.3 `Set<Literal> edu.mit.csail.sdg.squander.examples.partitioning.Domain.getInsts ()`

Definition at line 22 of file Domain.java.

9.76.2.4 `int edu.mit.csail.sdg.squander.examples.partitioning.Domain.hashCode ()`

Definition at line 25 of file Domain.java.

9.76.2.5 `String edu.mit.csail.sdg.squander.examples.partitioning.Domain.toString ()`

Definition at line 47 of file Domain.java.

9.76.3 Member Data Documentation

9.76.3.1 `int edu.mit.csail.sdg.squander.examples.partitioning.Domain.cnt = 0` [`static`, `private`]

Definition at line 15 of file Domain.java.

9.76.3.2 `final int edu.mit.csail.sdg.squander.examples.partitioning.Domain.idx = cnt++` [`private`]

Definition at line 16 of file Domain.java.

Referenced by `edu.mit.csail.sdg.squander.examples.partitioning.Domain.equals()`.

9.76.3.3 `final Set<Literal> edu.mit.csail.sdg.squander.examples.partitioning.Domain.insts = new HashSet<Literal>()` [`private`]

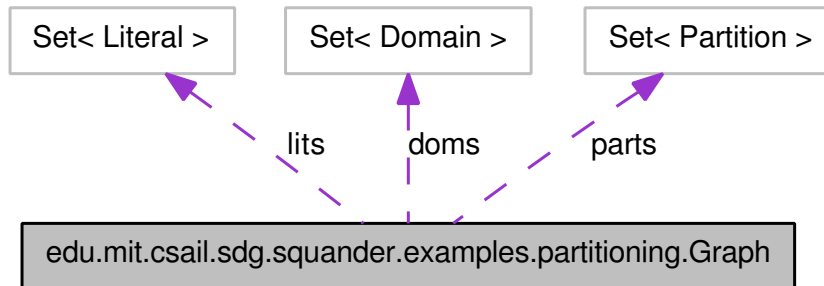
Definition at line 18 of file Domain.java.

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/partitioning/Domain.java`

9.77 edu.mit.csail.sdg.squander.examples.partitioning.Graph Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.partitioning.Graph:



Public Member Functions

- void [gen](#) ()
- String [toString](#) ()

Static Public Member Functions

- static void [main](#) (String[] args)

Private Attributes

- final Set< [Partition](#) > [parts](#) = new HashSet<[Partition](#)>()
- final Set< [Domain](#) > [doms](#) = new HashSet<[Domain](#)>()
- final Set< [Literal](#) > [lits](#) = new HashSet<[Literal](#)>()

Static Private Attributes

- static final int [n](#) = 4

9.77.1 Detailed Description

Definition at line 38 of file Graph.java.

9.77.2 Member Function Documentation

9.77.2.1 void edu.mit.csail.sdg.squander.examples.partitioning.Graph.gen ()

Definition at line 66 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.partitioning.Graph.main().

9.77.2.2 `static void edu.mit.csail.sdg.squander.examples.partitioning.Graph.main (String[] args)` `[static]`

Definition at line 89 of file Graph.java.

References `edu.mit.csail.sdg.squander.engine.ISquanderResult.findNext()`,
`edu.mit.csail.sdg.squander.examples.partitioning.Graph.gen()`, and `edu.mit.csail.sdg.squander.engine.ISquanderResult.hasSolut`

9.77.2.3 `String edu.mit.csail.sdg.squander.examples.partitioning.Graph.toString ()`

Definition at line 71 of file Graph.java.

9.77.3 Member Data Documentation

9.77.3.1 `final Set<Domain> edu.mit.csail.sdg.squander.examples.partitioning.Graph.doms = new HashSet<Domain>() [private]`

Definition at line 43 of file Graph.java.

9.77.3.2 `final Set<Literal> edu.mit.csail.sdg.squander.examples.partitioning.Graph.lits = new HashSet<Literal>() [private]`

Definition at line 44 of file Graph.java.

9.77.3.3 `final int edu.mit.csail.sdg.squander.examples.partitioning.Graph.n = 4 [static, private]`

Definition at line 40 of file Graph.java.

9.77.3.4 `final Set<Partition> edu.mit.csail.sdg.squander.examples.partitioning.Graph.parts = new HashSet<Partition>() [private]`

Definition at line 42 of file Graph.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/partitioning/Graph.java](#)

9.78 edu.mit.csail.sdg.squander.examples.partitioning.Literal Class Reference

Public Member Functions

- int [getIdx](#) ()
- int [hashCode](#) ()
- boolean [equals](#) (Object obj)
- String [toString](#) ()

Private Attributes

- final int [idx](#) = cnt++

Static Private Attributes

- static int [cnt](#) = 0

9.78.1 Detailed Description

Definition at line 7 of file Literal.java.

9.78.2 Member Function Documentation

9.78.2.1 boolean edu.mit.csail.sdg.squander.examples.partitioning.Literal.equals (Object obj)

Definition at line 24 of file Literal.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx.

9.78.2.2 int edu.mit.csail.sdg.squander.examples.partitioning.Literal.getIdx ()

Definition at line 13 of file Literal.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx.

9.78.2.3 int edu.mit.csail.sdg.squander.examples.partitioning.Literal.hashCode ()

Definition at line 16 of file Literal.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx.

9.78.2.4 String edu.mit.csail.sdg.squander.examples.partitioning.Literal.toString ()

Definition at line 38 of file Literal.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx.

9.78.3 Member Data Documentation

9.78.3.1 `int edu.mit.csail.sdg.squander.examples.partitioning.Literal.cnt = 0` [`static`,
`private`]

Definition at line 9 of file Literal.java.

9.78.3.2 `final int edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx = cnt++`
[`private`]

Definition at line 10 of file Literal.java.

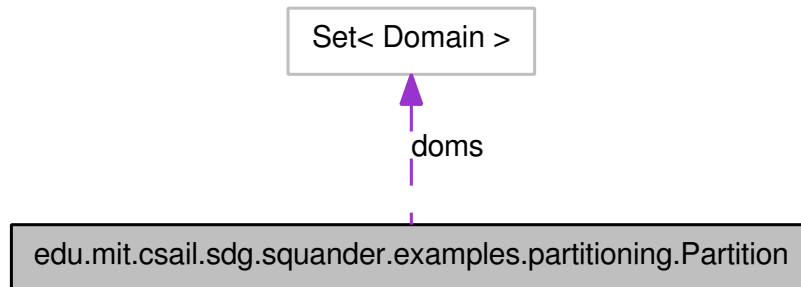
Referenced by `edu.mit.csail.sdg.squander.examples.partitioning.Literal.equals()`,
`edu.mit.csail.sdg.squander.examples.partitioning.Literal.getIdx()`, `edu.mit.csail.sdg.squander.examples.partitioning.Literal.hash`
and `edu.mit.csail.sdg.squander.examples.partitioning.Literal.toString()`.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/partitioning/Literal.java](#)

9.79 edu.mit.csail.sdg.squander.examples.partitioning.Partition Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.partitioning.Partition:



Public Member Functions

- `Set< Domain > getDoms ()`
- `int getIdx ()`
- `int hashCode ()`
- `boolean equals (Object obj)`
- `String toString ()`

Private Attributes

- `final int idx = cnt++`
- `final Set< Domain > doms = new HashSet<Domain>()`

Static Private Attributes

- `static int cnt = 0`

9.79.1 Detailed Description

Definition at line 13 of file Partition.java.

9.79.2 Member Function Documentation

9.79.2.1 `boolean edu.mit.csail.sdg.squander.examples.partitioning.Partition.equals (Object obj)`

Definition at line 32 of file Partition.java.

References `edu.mit.csail.sdg.squander.examples.partitioning.Partition.idx`.

9.79.2.2 `Set<Domain> edu.mit.csail.sdg.squander.examples.partitioning.Partition.getDoms ()`

Definition at line 20 of file Partition.java.

9.79.2.3 `int edu.mit.csail.sdg.squander.examples.partitioning.Partition.getIdx ()`

Definition at line 21 of file Partition.java.

9.79.2.4 `int edu.mit.csail.sdg.squander.examples.partitioning.Partition.hashCode ()`

Definition at line 24 of file Partition.java.

9.79.2.5 `String edu.mit.csail.sdg.squander.examples.partitioning.Partition.toString ()`

Definition at line 46 of file Partition.java.

9.79.3 Member Data Documentation**9.79.3.1** `int edu.mit.csail.sdg.squander.examples.partitioning.Partition.cnt = 0 [static, private]`

Definition at line 15 of file Partition.java.

9.79.3.2 `final Set<Domain> edu.mit.csail.sdg.squander.examples.partitioning.Partition.doms = new HashSet<Domain>() [private]`

Definition at line 18 of file Partition.java.

9.79.3.3 `final int edu.mit.csail.sdg.squander.examples.partitioning.Partition.idx = cnt++ [private]`

Definition at line 16 of file Partition.java.

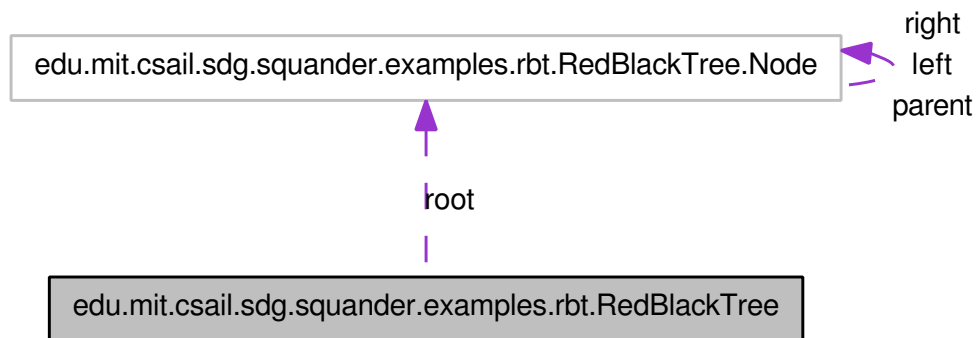
Referenced by `edu.mit.csail.sdg.squander.examples.partitioning.Partition.equals()`.

The documentation for this class was generated from the following file:

- `examples/edu/mit/csail/sdg/squander/examples/partitioning/Partition.java`

9.80 edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree:



Classes

- class **Node**

Package Functions

- [RedBlackTree](#) ()
- void [clear](#) ()
- Node [search](#) (int k)
- Node [searchGTE](#) (int k)
- Node [searchLTE](#) (int k)
- Node [predecessor](#) (Node node)
- Node [successor](#) (Node node)
- Node [minAll](#) ()
- Node [maxAll](#) ()
- void [replace](#) (Node o, Node n)
- void [insert](#) (Node z)
- void [delete](#) (Node z)

Package Attributes

- Node [root](#)

Static Package Attributes

- static final boolean [BLACK](#) = true
- static final boolean [RED](#) = false

9.80.1 Detailed Description

Case study of Red-Black trees with integer keys. Stripped down and simplified.

Author:

Kuat Yessenov A tree with integer keys.
Emina Torlak

Definition at line 35 of file RedBlackTree.java.

9.80.2 Constructor & Destructor Documentation

9.80.2.1 `edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.RedBlackTree ()` [package]

Creates an empty IntTree.

Definition at line 50 of file RedBlackTree.java.

9.80.3 Member Function Documentation

9.80.3.1 `void edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.clear ()` [package]

Discards all elements from this tree.

Definition at line 58 of file RedBlackTree.java.

9.80.3.2 `void edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.delete (Node z)` [package]

A slightly modified implementation of the CLR deletion algorithm. requires z in `this.nodes` effects `this.nodes' = this.nodes - z`

Definition at line 185 of file RedBlackTree.java.

9.80.3.3 `void edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.insert (Node z)` [package]

Implementation of the CLR insertion algorithm.

Definition at line 174 of file RedBlackTree.java.

9.80.3.4 `Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.maxAll ()` [package]

Returns the node with the largest key. `return key.(max(this.nodes.key))`

Definition at line 143 of file RedBlackTree.java.

9.80.3.5 `Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.minAll ()` [package]

Returns the node with the smallest key. `return key.(min(this.nodes.key))`

Definition at line 134 of file RedBlackTree.java.

9.80.3.6 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.predecessor (Node *node*)
[package]

Implementation of the tree-predecessor algorithm from CLR. Returns the given node's predecessor, if it exists. Otherwise returns null. return the given node's predecessor throws NullPointerException - node = null

Definition at line 109 of file RedBlackTree.java.

9.80.3.7 void edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.replace (Node *o*, Node *n*)
[package]

Replaces the old node, o, with the given new node, n, in this tree.

Definition at line 161 of file RedBlackTree.java.

9.80.3.8 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.search (int *k*) [package]

Returns the node with the given key, or null no such node exists. return

Definition at line 67 of file RedBlackTree.java.

9.80.3.9 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.searchGTE (int *k*)
[package]

Returns the node whose key is the ceiling of k in this tree, or null if no such node exists.

Definition at line 78 of file RedBlackTree.java.

9.80.3.10 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.searchLTE (int *k*)
[package]

Returns the node whose key is the floor of k in this tree, or null if no such node exists. return {n: this.nodes | n.key <= k && no n': this.nodes - n | n'.key <= k && n'.key > n.key }

Definition at line 92 of file RedBlackTree.java.

9.80.3.11 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.successor (Node *node*)
[package]

Implementation of the tree-successor algorithm from CLR. Returns the given node's successor, if it exists. Otherwise returns null.

Definition at line 125 of file RedBlackTree.java.

9.80.4 Member Data Documentation**9.80.4.1 final boolean edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.BLACK = true**
[static, package]

Definition at line 37 of file RedBlackTree.java.

9.80.4.2 final boolean edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.RED = false
[static, package]

Definition at line 38 of file RedBlackTree.java.

9.80.4.3 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.root [package]

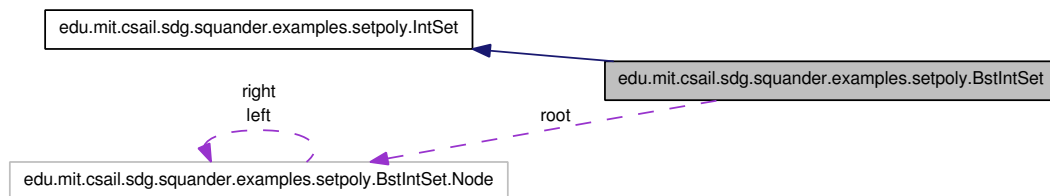
Definition at line 44 of file RedBlackTree.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/rbt/RedBlackTree.java](#)

9.81 edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::setpoly::IntSet](#). Collaboration diagram for `edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet`:



Classes

- class `Node`

Public Member Functions

- boolean `add` (int *e*)
- String `toString` ()

Private Member Functions

- String `printNode` (Node *n*)

Private Attributes

- Node `root` = null

9.81.1 Detailed Description

Definition at line 16 of file `BstIntSet.java`.

9.81.2 Member Function Documentation

9.81.2.1 boolean `edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.add` (int *e*)

Reimplemented from [edu.mit.csail.sdg.squander.examples.setpoly.IntSet](#).

Definition at line 36 of file `BstIntSet.java`.

9.81.2.2 String `edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.printNode` (Node *n*) [private]

Definition at line 45 of file `BstIntSet.java`.

9.81.2.3 String edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.toString ()

Definition at line 41 of file BstIntSet.java.

9.81.3 Member Data Documentation

9.81.3.1 Node edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.root = null [private]

Definition at line 31 of file BstIntSet.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/setpoly/BstIntSet.java](#)

9.82 edu.mit.csail.sdg.squander.examples.setpoly.IntSet Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet](#), and [edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet](#).

Public Member Functions

- [IntSet](#) ()
- boolean [add](#) (int *e*)
- boolean [contains](#) (int *e*)
- boolean [containsAll](#) ([IntSet](#) *s2*)
- boolean [remove](#) (int *e*)
- [Set](#)< Integer > [nodes](#) ()

Static Public Member Functions

- static void [main](#) (String[] *args*)
- static void [main2](#) (String[] *args*)

Private Member Functions

- void [init](#) ()

9.82.1 Detailed Description

Definition at line 17 of file [IntSet.java](#).

9.82.2 Constructor & Destructor Documentation

9.82.2.1 [edu.mit.csail.sdg.squander.examples.setpoly.IntSet.IntSet](#) ()

Definition at line 19 of file [IntSet.java](#).

9.82.3 Member Function Documentation

9.82.3.1 boolean [edu.mit.csail.sdg.squander.examples.setpoly.IntSet.add](#) (int *e*)

Reimplemented in [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet](#).

Definition at line 26 of file [IntSet.java](#).

Referenced by [edu.mit.csail.sdg.squander.examples.setpoly.IntSet.main\(\)](#), and [edu.mit.csail.sdg.squander.examples.setpoly.IntSet.main2\(\)](#).

9.82.3.2 boolean [edu.mit.csail.sdg.squander.examples.setpoly.IntSet.contains](#) (int *e*)

Definition at line 29 of file [IntSet.java](#).

9.82.3.3 boolean edu.mit.csail.sdg.squander.examples.setpoly.IntSet.containsAll (IntSet s2)

Definition at line 32 of file IntSet.java.

Referenced by edu.mit.csail.sdg.squander.examples.setpoly.IntSet.main().

9.82.3.4 void edu.mit.csail.sdg.squander.examples.setpoly.IntSet.init () [private]

Definition at line 22 of file IntSet.java.

**9.82.3.5 static void edu.mit.csail.sdg.squander.examples.setpoly.IntSet.main (String[] args)
[static]**

Definition at line 43 of file IntSet.java.

References edu.mit.csail.sdg.squander.examples.setpoly.IntSet.add(), edu.mit.csail.sdg.squander.examples.setpoly.IntSet.containsAll(), and edu.mit.csail.sdg.squander.examples.setpoly.IntSet.remove().

**9.82.3.6 static void edu.mit.csail.sdg.squander.examples.setpoly.IntSet.main2 (String[] args)
[static]**

Definition at line 56 of file IntSet.java.

References edu.mit.csail.sdg.squander.examples.setpoly.IntSet.add(), edu.mit.csail.sdg.squander.examples.setpoly.IntSet.nodes(), and edu.mit.csail.sdg.squander.examples.setpoly.IntSet.remove().

9.82.3.7 Set<Integer> edu.mit.csail.sdg.squander.examples.setpoly.IntSet.nodes ()

Reimplemented in [edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet](#).

Definition at line 41 of file IntSet.java.

Referenced by edu.mit.csail.sdg.squander.examples.setpoly.IntSet.main2().

9.82.3.8 boolean edu.mit.csail.sdg.squander.examples.setpoly.IntSet.remove (int e)

Definition at line 36 of file IntSet.java.

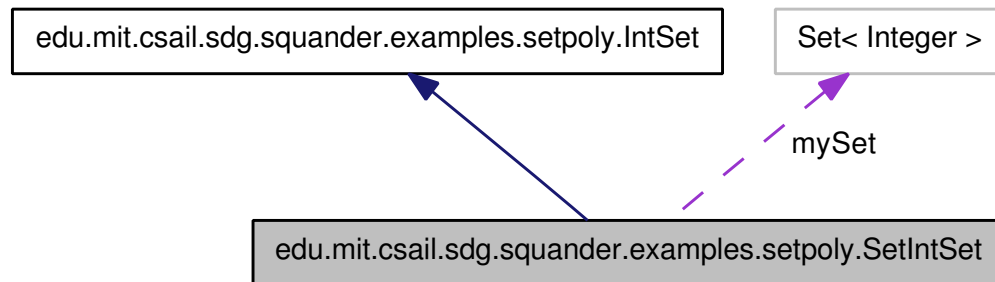
Referenced by edu.mit.csail.sdg.squander.examples.setpoly.IntSet.main(), edu.mit.csail.sdg.squander.examples.setpoly.IntSet.main2(), and

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/setpoly/IntSet.java](#)

9.83 edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::setpoly::IntSet](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet](#):



Public Member Functions

- `Set< Integer >` [nodes](#) ()
- `String` [toString](#) ()

Private Attributes

- `Set< Integer >` [mySet](#) = `new HashSet<Integer>()`

9.83.1 Detailed Description

Definition at line 13 of file `SetIntSet.java`.

9.83.2 Member Function Documentation

9.83.2.1 `Set<Integer>` `edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet.nodes` ()

Reimplemented from [edu.mit.csail.sdg.squander.examples.setpoly.IntSet](#).

Definition at line 18 of file `SetIntSet.java`.

9.83.2.2 `String` `edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet.toString` ()

Definition at line 23 of file `SetIntSet.java`.

9.83.3 Member Data Documentation

9.83.3.1 `Set<Integer>` `edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet.mySet` = `new HashSet<Integer>()` [`private`]

Definition at line 15 of file `SetIntSet.java`.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/setpoly/SetIntSet.java](#)

9.84 edu.mit.csail.sdg.squander.examples.sort.Sort Class Reference

Public Member Functions

- [Sort](#) (int...array)
- int[] [getA](#) ()
- void [sort](#) ()
- String [toString](#) ()

Static Public Member Functions

- static void [main](#) (String[] args)

Private Attributes

- int[] [a](#) = new int[0]

9.84.1 Detailed Description

Definition at line 19 of file Sort.java.

9.84.2 Constructor & Destructor Documentation

9.84.2.1 edu.mit.csail.sdg.squander.examples.sort.Sort.Sort (int... array)

Definition at line 24 of file Sort.java.

References [edu.mit.csail.sdg.squander.examples.sort.Sort.a](#).

Referenced by [edu.mit.csail.sdg.squander.examples.sort.Sort.main\(\)](#).

9.84.3 Member Function Documentation

9.84.3.1 int [] edu.mit.csail.sdg.squander.examples.sort.Sort.getA ()

Definition at line 32 of file Sort.java.

References [edu.mit.csail.sdg.squander.examples.sort.Sort.a](#).

Referenced by [edu.mit.csail.sdg.squander.examples.sort.SortTest.test1\(\)](#), [edu.mit.csail.sdg.squander.examples.sort.SortTest.test2\(\)](#), and [edu.mit.csail.sdg.squander.examples.sort.SortTest.test3\(\)](#).

9.84.3.2 static void edu.mit.csail.sdg.squander.examples.sort.Sort.main (String[] args) [static]

Definition at line 50 of file Sort.java.

References [edu.mit.csail.sdg.squander.examples.sort.Sort.a](#), [edu.mit.csail.sdg.squander.examples.sort.Sort.Sort\(\)](#), and [edu.mit.csail.sdg.squander.examples.sort.Sort.sort\(\)](#).

9.84.3.3 void edu.mit.csail.sdg.squander.examples.sort.Sort.sort ()

Definition at line 40 of file Sort.java.

Referenced by edu.mit.csail.sdg.squander.examples.sort.Sort.main(), edu.mit.csail.sdg.squander.examples.sort.SortTest.test1(), edu.mit.csail.sdg.squander.examples.sort.SortTest.test2(), and edu.mit.csail.sdg.squander.examples.sort.SortTest.test3().

9.84.3.4 String edu.mit.csail.sdg.squander.examples.sort.Sort.toString ()

Definition at line 46 of file Sort.java.

References edu.mit.csail.sdg.squander.examples.sort.Sort.a.

9.84.4 Member Data Documentation

9.84.4.1 int [] edu.mit.csail.sdg.squander.examples.sort.Sort.a = new int[0] [private]

Definition at line 22 of file Sort.java.

Referenced by edu.mit.csail.sdg.squander.examples.sort.Sort.getA(), edu.mit.csail.sdg.squander.examples.sort.Sort.main(), edu.mit.csail.sdg.squander.examples.sort.Sort.Sort(), and edu.mit.csail.sdg.squander.examples.sort.Sort.toString().

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/sort/Sort.java](#)

9.85 edu.mit.csail.sdg.squander.examples.sort.SortTest Class Reference

Public Member Functions

- void [test1](#) ()
- void [test2](#) ()
- void [test3](#) ()

9.85.1 Detailed Description

Definition at line 15 of file SortTest.java.

9.85.2 Member Function Documentation

9.85.2.1 void edu.mit.csail.sdg.squander.examples.sort.SortTest.test1 ()

Definition at line 18 of file SortTest.java.

References [edu.mit.csail.sdg.squander.examples.sort.Sort.getA\(\)](#), and [edu.mit.csail.sdg.squander.examples.sort.Sort.sort\(\)](#).

9.85.2.2 void edu.mit.csail.sdg.squander.examples.sort.SortTest.test2 ()

Definition at line 29 of file SortTest.java.

References [edu.mit.csail.sdg.squander.examples.sort.Sort.getA\(\)](#), and [edu.mit.csail.sdg.squander.examples.sort.Sort.sort\(\)](#).

9.85.2.3 void edu.mit.csail.sdg.squander.examples.sort.SortTest.test3 ()

Definition at line 38 of file SortTest.java.

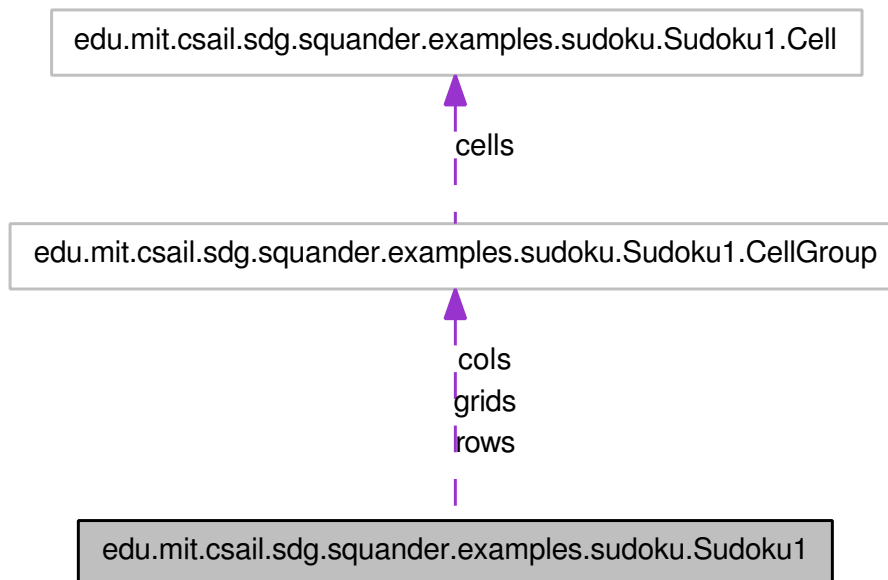
References [edu.mit.csail.sdg.squander.examples.sort.Sort.getA\(\)](#), and [edu.mit.csail.sdg.squander.examples.sort.Sort.sort\(\)](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/sort/SortTest.java](#)

9.86 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1 Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1:



Classes

- class `Cell`
- class `CellGroup`

Public Member Functions

- `Sudoku1` (int `n`)
- void `setCellValue` (int row, int col, int val)
- int `getCellValue` (int row, int col)
- void `solve` ()
- String `printSimple` ()
- String `toString` ()

Static Public Member Functions

- static `Sudoku1 parse` (String puzzle)
- static void `main` (String[] args)

Private Member Functions

- void `printHLLine` (StringBuilder sb, int n2, int m)
- void `init` ()

Private Attributes

- final int `n`
- CellGroup[] `rows`
- CellGroup[] `cols`
- CellGroup[] `grids`

9.86.1 Detailed Description

Definition at line 19 of file Sudoku1.java.

9.86.2 Constructor & Destructor Documentation

9.86.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.Sudoku1 (int *n*)

Definition at line 54 of file Sudoku1.java.

9.86.3 Member Function Documentation

9.86.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.getCellValue (int *row*, int *col*)

Definition at line 71 of file Sudoku1.java.

9.86.3.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.init () [private]

Definition at line 117 of file Sudoku1.java.

9.86.3.3 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.main (String[] *args*) [static]

Definition at line 155 of file Sudoku1.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.solve().

9.86.3.4 static Sudoku1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.parse (String *puzzle*) [static]

Definition at line 143 of file Sudoku1.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.setCellValue().

9.86.3.5 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.printHLine (StringBuilder *sb*, int *n2*, int *m*) [private]

Definition at line 108 of file Sudoku1.java.

9.86.3.6 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.printSimple ()

Definition at line 82 of file Sudoku1.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku1Small().

9.86.3.7 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.setCellValue (int row, int col, int val)

Definition at line 63 of file Sudoku1.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.parse().

9.86.3.8 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.solve ()

Definition at line 78 of file Sudoku1.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.main(), and edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku1Small().

9.86.3.9 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.toString ()

Definition at line 91 of file Sudoku1.java.

9.86.4 Member Data Documentation**9.86.4.1 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.cols [private]**

Definition at line 51 of file Sudoku1.java.

9.86.4.2 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.grids [private]

Definition at line 52 of file Sudoku1.java.

9.86.4.3 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.n [private]

Definition at line 48 of file Sudoku1.java.

9.86.4.4 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.rows [private]

Definition at line 50 of file Sudoku1.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sudoku/[Sudoku1.java](#)

9.87 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test Class Reference

Public Member Functions

- void [testSudoku1Small](#) ()
- void [testSudoku2Small](#) ()
- void [testSudoku3Small](#) ()
- void [testSudoku5Small](#) ()

9.87.1 Detailed Description

Definition at line 15 of file Sudoku1Test.java.

9.87.2 Member Function Documentation

9.87.2.1 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku1Small ()

Definition at line 18 of file Sudoku1Test.java.

References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.printSimple\(\)](#), and [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.solve\(\)](#).

9.87.2.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku2Small ()

Definition at line 25 of file Sudoku1Test.java.

References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.printSimple\(\)](#), and [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.solve\(\)](#).

9.87.2.3 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku3Small ()

Definition at line 32 of file Sudoku1Test.java.

References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.printSimple\(\)](#), and [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.solve\(\)](#).

9.87.2.4 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku5Small ()

Definition at line 39 of file Sudoku1Test.java.

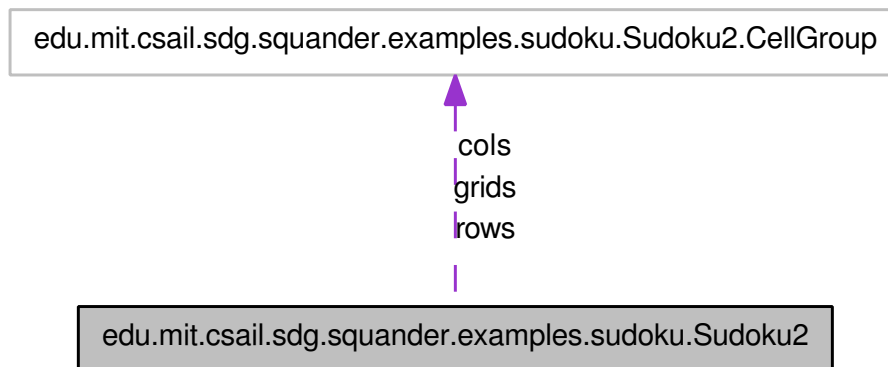
References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.printSimple\(\)](#), and [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.solve\(\)](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1Test.java](#)

9.88 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2 Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2:



Classes

- class `CellGroup`

Public Member Functions

- `Sudoku2` (int `n`)
- void `setCellValue` (int row, int col, int val)
- int `getCellValue` (int row, int col)
- void `solve` ()
- boolean `repOK` ()
- String `printSimple` ()
- String `toString` ()

Static Public Member Functions

- static `Sudoku2` `parse` (String puzzle)
- static void `main` (String[] args)

Private Member Functions

- void `printHLLine` (StringBuilder sb, int n2, int m)
- void `init` ()

Private Attributes

- final int `n`
- final int `m`
- `CellGroup`[] `rows`

- [CellGroup\[\] cols](#)
- [CellGroup\[\] grids](#)

9.88.1 Detailed Description

Definition at line 22 of file Sudoku2.java.

9.88.2 Constructor & Destructor Documentation

9.88.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.Sudoku2 (int *n*)

Definition at line 47 of file Sudoku2.java.

9.88.3 Member Function Documentation

9.88.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.getCellValue (int *row*, int *col*)

Definition at line 66 of file Sudoku2.java.

9.88.3.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.init () [private]

Definition at line 129 of file Sudoku2.java.

9.88.3.3 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.main (String[] *args*) [static]

Definition at line 152 of file Sudoku2.java.

References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.repOK\(\)](#), [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.solve\(\)](#) and [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.setCellValue\(\)](#).

9.88.3.4 static Sudoku2 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.parse (String *puzzle*) [static]

Definition at line 140 of file Sudoku2.java.

References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.setCellValue\(\)](#).

9.88.3.5 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.printHLLine (StringBuilder *sb*, int *n2*, int *m*) [private]

Definition at line 120 of file Sudoku2.java.

9.88.3.6 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.printSimple ()

Definition at line 94 of file Sudoku2.java.

Referenced by [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku2Small\(\)](#).

9.88.3.7 boolean edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.repOK ()

Definition at line 81 of file Sudoku2.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.main().

9.88.3.8 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.setCellValue (int row, int col, int val)

Definition at line 55 of file Sudoku2.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.parse().

9.88.3.9 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.solve ()

Definition at line 77 of file Sudoku2.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.main(), and edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku2Small().

9.88.3.10 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.toString ()

Definition at line 103 of file Sudoku2.java.

9.88.4 Member Data Documentation**9.88.4.1 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.cols [private]**

Definition at line 44 of file Sudoku2.java.

9.88.4.2 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.grids [private]

Definition at line 45 of file Sudoku2.java.

9.88.4.3 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.m [private]

Definition at line 41 of file Sudoku2.java.

9.88.4.4 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.n [private]

Definition at line 39 of file Sudoku2.java.

9.88.4.5 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.rows [private]

Definition at line 43 of file Sudoku2.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sudoku/[Sudoku2.java](#)

9.89 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3 Class Reference

Public Member Functions

- [Sudoku3](#) (int *n*)
- void [setCellValue](#) (int row, int col, int value)
- int [getCellValue](#) (int row, int col)
- void [solve](#) ()
- String [printSimple](#) ()
- String [toString](#) ()

Static Public Member Functions

- static [Sudoku3](#) [parse](#) (String puzzle)
- static void [main](#) (String[] args)

Private Member Functions

- void [initGrid](#) ()
- void [printHLine](#) (StringBuilder sb, int n2, int m)

Private Attributes

- final int *n*
- final int *m*
- final int[] *nums*

9.89.1 Detailed Description

"grid" is indexed from "1" not from "0"

Author:

Aleksandar Milicevic

Definition at line 26 of file Sudoku3.java.

9.89.2 Constructor & Destructor Documentation

9.89.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.Sudoku3 (int *n*)

Definition at line 33 of file Sudoku3.java.

9.89.3 Member Function Documentation

9.89.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.getCellValue (int *row*, int *col*)

Definition at line 55 of file Sudoku3.java.

9.89.3.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.initGrid () [private]

Definition at line 44 of file Sudoku3.java.

9.89.3.3 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.main (String[] args) [static]

Definition at line 122 of file Sudoku3.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.solve().

9.89.3.4 static Sudoku3 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.parse (String puzzle) [static]

Definition at line 107 of file Sudoku3.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.setCellValue().

9.89.3.5 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.printHLLine (StringBuilder sb, int n2, int m) [private]

Definition at line 98 of file Sudoku3.java.

9.89.3.6 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.printSimple ()

Definition at line 72 of file Sudoku3.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku3Small().

9.89.3.7 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.setCellValue (int row, int col, int value)

Definition at line 48 of file Sudoku3.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.parse().

9.89.3.8 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.solve ()

Definition at line 68 of file Sudoku3.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.main(), and edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku3Small().

9.89.3.9 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.toString ()

Definition at line 81 of file Sudoku3.java.

9.89.4 Member Data Documentation

9.89.4.1 `final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.m` `[private]`

Definition at line 30 of file Sudoku3.java.

9.89.4.2 `final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.n` `[private]`

Definition at line 28 of file Sudoku3.java.

9.89.4.3 `final int [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.nums` `[private]`

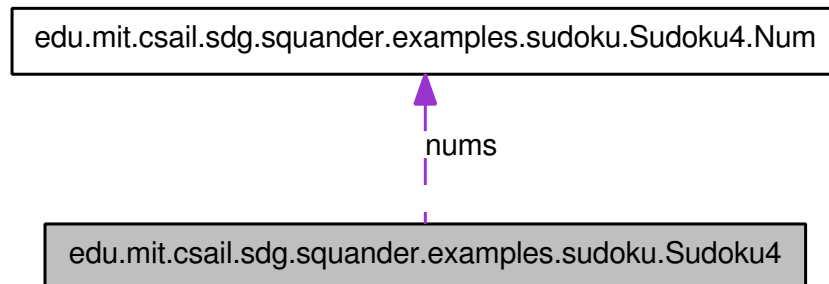
Definition at line 31 of file Sudoku3.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku3.java](#)

9.90 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4 Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4:



Classes

- class [Num](#)

Public Member Functions

- [Sudoku4](#) (int *n*)
- void [setCellValue](#) (int row, int col, int value)
- int [getCellValue](#) (int row, int col)
- void [solve](#) ()
- String [printSimple](#) ()
- String [toString](#) ()

Static Public Member Functions

- static [Sudoku4 parse](#) (String puzzle)
- static void [main](#) (String[] args)

Private Member Functions

- void [initGrid](#) ()
- void [printHLine](#) (StringBuilder sb, int n2, int *m*)

Private Attributes

- final int *n*
- final int *m*
- final [Num](#)[] *nums*

9.90.1 Detailed Description

"grid" is indexed from "1" not from "0"

Author:

Aleksandar Milicevic

Definition at line 26 of file Sudoku4.java.

9.90.2 Constructor & Destructor Documentation

9.90.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Sudoku4 (int *n*)

Definition at line 41 of file Sudoku4.java.

9.90.3 Member Function Documentation

9.90.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.getCellValue (int *row*, int *col*)

Definition at line 65 of file Sudoku4.java.

9.90.3.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.initGrid () [private]

Definition at line 52 of file Sudoku4.java.

9.90.3.3 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.main (String[] *args*) [static]

Definition at line 142 of file Sudoku4.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.solve().

9.90.3.4 static Sudoku4 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.parse (String *puzzle*) [static]

Definition at line 127 of file Sudoku4.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.setCellValue().

9.90.3.5 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.printHLLine (StringBuilder *sb*, int *n2*, int *m*) [private]

Definition at line 118 of file Sudoku4.java.

9.90.3.6 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.printSimple ()

Definition at line 92 of file Sudoku4.java.

9.90.3.7 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.setCellValue (int row, int col, int value)

Definition at line 56 of file Sudoku4.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.parse().

9.90.3.8 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.solve ()

Definition at line 84 of file Sudoku4.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.main().

9.90.3.9 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.toString ()

Definition at line 101 of file Sudoku4.java.

9.90.4 Member Data Documentation**9.90.4.1 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.m [private]**

Definition at line 38 of file Sudoku4.java.

9.90.4.2 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.n [private]

Definition at line 36 of file Sudoku4.java.

9.90.4.3 final Num [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.nums [private]

Definition at line 39 of file Sudoku4.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku4.java](#)

9.91 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num Class Reference

Public Member Functions

- [Num](#) (int *val*)

Package Attributes

- final int [val](#)

9.91.1 Detailed Description

Definition at line 28 of file Sudoku4.java.

9.91.2 Constructor & Destructor Documentation

9.91.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num.Num (int *val*)

Definition at line 31 of file Sudoku4.java.

9.91.3 Member Data Documentation

9.91.3.1 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num.val [package]

Definition at line 29 of file Sudoku4.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku4.java](#)

9.92 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5 Class Reference

Public Member Functions

- [Sudoku5](#) (int *n*)
- void [setCellValue](#) (int row, int col, int value)
- int [getCellValue](#) (int row, int col)
- void [solve](#) ()
- String [printSimple](#) ()
- String [toString](#) ()

Static Public Member Functions

- static [Sudoku5 parse](#) (String puzzle)
- static void [main](#) (String[] args)

Private Member Functions

- void [printHLine](#) (StringBuilder sb, int n2, int m)

Private Attributes

- int[][] [grid](#)
- final int [n](#)
- final int [m](#)
- final int[] [nums](#)

9.92.1 Detailed Description

"grid" is indexed from "1" not from "0"

Author:

Aleksandar Milicevic

Definition at line 23 of file Sudoku5.java.

9.92.2 Constructor & Destructor Documentation

9.92.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.Sudoku5 (int *n*)

Definition at line 31 of file Sudoku5.java.

9.92.3 Member Function Documentation

9.92.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.getCellValue (int *row*, int *col*)

Definition at line 48 of file Sudoku5.java.

9.92.3.2 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.main (String[] args) [static]

Definition at line 115 of file Sudoku5.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.solve().

9.92.3.3 static Sudoku5 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.parse (String puzzle) [static]

Definition at line 100 of file Sudoku5.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.setCellValue().

9.92.3.4 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.printHLine (StringBuilder sb, int n2, int m) [private]

Definition at line 91 of file Sudoku5.java.

9.92.3.5 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.printSimple ()

Definition at line 65 of file Sudoku5.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku5Small().

9.92.3.6 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.setCellValue (int row, int col, int value)

Definition at line 43 of file Sudoku5.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.parse().

9.92.3.7 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.solve ()

Definition at line 61 of file Sudoku5.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.main(), and edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku5Small().

9.92.3.8 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.toString ()

Definition at line 74 of file Sudoku5.java.

9.92.4 Member Data Documentation**9.92.4.1 int [][] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.grid [private]**

Definition at line 25 of file Sudoku5.java.

9.92.4.2 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.m [private]

Definition at line 28 of file Sudoku5.java.

9.92.4.3 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.n [private]

Definition at line 26 of file Sudoku5.java.

9.92.4.4 final int [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.nums [private]

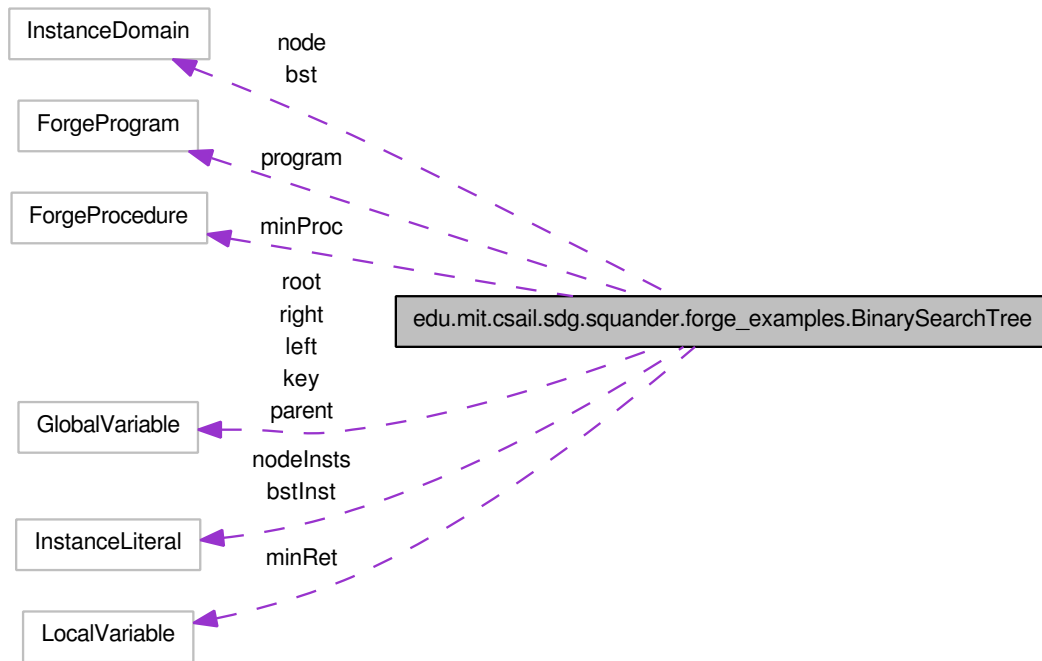
Definition at line 29 of file Sudoku5.java.

The documentation for this class was generated from the following file:

- [examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku5.java](#)

9.93 edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree:



Public Member Functions

- [BinarySearchTree](#) ()
- void [runMin](#) ()

Static Public Member Functions

- static void [main](#) (String[] args)

Private Member Functions

- ForgeCFG [cfgMin](#) ()
- ForgeBounds [bounds](#) ()

Static Private Member Functions

- static SolveOptions [options](#) ()

Private Attributes

- ForgeProgram [program](#)

- InstanceDomain [node](#)
- InstanceDomain [bst](#)
- InstanceLiteral [nodeInsts \[\]](#)
- InstanceLiteral [bstInst](#)
- GlobalVariable [root](#)
- GlobalVariable [key](#)
- GlobalVariable [left](#)
- GlobalVariable [right](#)
- GlobalVariable [parent](#)
- LocalVariable [minRet](#)
- ForgeProcedure [minProc](#)

9.93.1 Detailed Description

An example of a Forge program that implements and Binary Search Tree data structure and a couple of operations on it.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 31 of file BinarySearchTree.java.

9.93.2 Constructor & Destructor Documentation

9.93.2.1 `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree ()`

Creates Forge programs, instance domains, global variables, literal instances, procedures and such

Definition at line 54 of file BinarySearchTree.java.

References `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bst`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bstInst`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.key`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.left`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minProc`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minRet`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.node`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.nodeInsts`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.parent`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.program`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.right`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.root`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.main()`.

9.93.3 Member Function Documentation

9.93.3.1 `ForgeBounds edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds ()` [private]

Returns Forge bounds that bound initial state space, i.e. encode a binary search tree into Forge bounds using `boundInitial` method.

Definition at line 120 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bst, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bstInst, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.key, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.left, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.node, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.nodeInsts, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.parent, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.program, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.right, and edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.root.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin().

9.93.3.2 ForgeCFG edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin () [private]

Returns the specs for the `min` operation

Definition at line 108 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.key, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minProc, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minRet, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.node, and edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.program.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin().

9.93.3.3 static void edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.main (String[] args) [static]

Definition at line 160 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin().

9.93.3.4 static SolveOptions edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.options () [static, private]

Returns Forge options for this purpose

Definition at line 99 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin().

9.93.3.5 void edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin ()

Runs the `min` operation on a binary search tree purely based on specs for that operation (no method implementation)

Definition at line 82 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds(), edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin(), edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minRet, and edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.options().

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.main().

9.93.4 Member Data Documentation

9.93.4.1 InstanceDomain `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bst` [private]

Definition at line 35 of file `BinarySearchTree.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds()`.

9.93.4.2 InstanceLiteral `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bstInst` [private]

Definition at line 38 of file `BinarySearchTree.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds()`.

9.93.4.3 GlobalVariable `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.key` [private]

Definition at line 41 of file `BinarySearchTree.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin()`.

9.93.4.4 GlobalVariable `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.left` [private]

Definition at line 42 of file `BinarySearchTree.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds()`.

9.93.4.5 ForgeProcedure `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minProc` [private]

Definition at line 48 of file `BinarySearchTree.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin()`.

9.93.4.6 LocalVariable `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minRet` [private]

Definition at line 46 of file `BinarySearchTree.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin()`.

9.93.4.7 InstanceDomain edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.node
[private]

Definition at line 34 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(),
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin().

9.93.4.8 InstanceLiteral edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.nodeInsts[]
[private]

Definition at line 37 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds().

9.93.4.9 GlobalVariable edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.parent
[private]

Definition at line 44 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds().

9.93.4.10 ForgeProgram edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.program
[private]

Definition at line 33 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(),
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin().

9.93.4.11 GlobalVariable edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.right
[private]

Definition at line 43 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds().

9.93.4.12 GlobalVariable edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.root
[private]

Definition at line 40 of file BinarySearchTree.java.

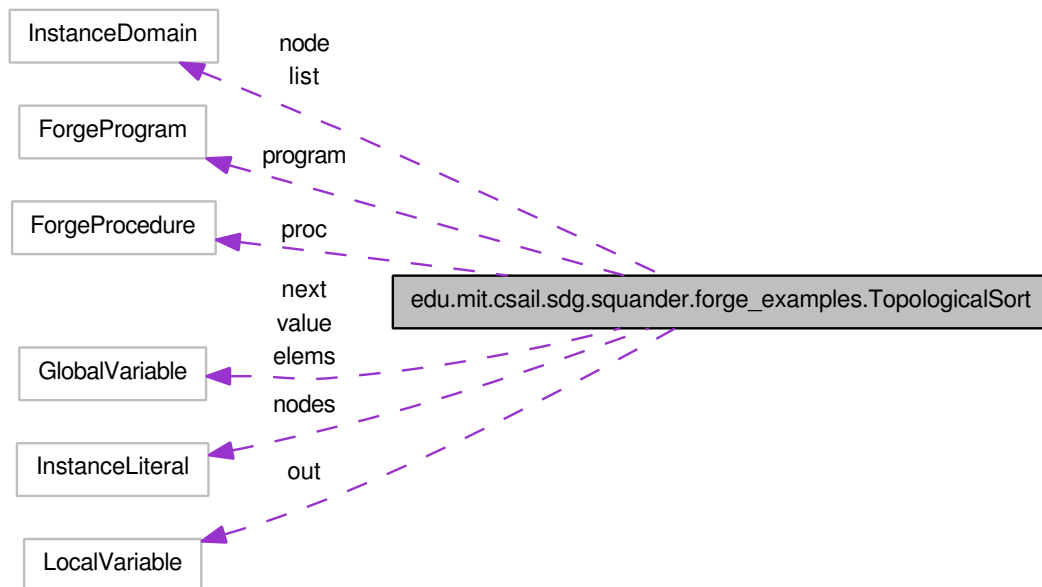
Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/forge_examples/BinarySearchTree.java](#)

9.94 edu.mit.csail.sdg.squander.forge_examples.TopologicalSort Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.forge_examples.TopologicalSort:



Public Member Functions

- [TopologicalSort \(\)](#)

Static Public Member Functions

- static void [main](#) (String[] args)

Package Functions

- ForgeExpression [condition](#) ()
- ForgeCFG [cfg](#) ()
- ForgeBounds [bounds](#) ()
- void [run](#) ()

Package Attributes

- final int [num](#) = 16
- final int [width](#) = 4
- final ForgeProgram [program](#)
- final InstanceDomain [node](#)
- final InstanceDomain [list](#)
- final InstanceLiteral[] [nodes](#) = new InstanceLiteral[[num](#)]

- final GlobalVariable [value](#)
- final GlobalVariable [next](#)
- final GlobalVariable [elems](#)
- final ForgeProcedure [proc](#)
- final LocalVariable [out](#)

9.94.1 Detailed Description

Author:

Kuat Yessenov

Definition at line 32 of file TopologicalSort.java.

9.94.2 Constructor & Destructor Documentation

9.94.2.1 edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort ()

Definition at line 43 of file TopologicalSort.java.

References [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.elems](#),
[edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.list](#), [edu.mit.csail.sdg.squander.forge_](#)
[examples.TopologicalSort.next](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.node](#),
[edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.nodes](#), [edu.mit.csail.sdg.squander.forge_](#)
[examples.TopologicalSort.num](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.out](#),
[edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.proc](#), [edu.mit.csail.sdg.squander.forge_](#)
[examples.TopologicalSort.program](#), and [edu.mit.csail.sdg.squander.forge_](#)
[examples.TopologicalSort.value](#).

Referenced by [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.main\(\)](#).

9.94.3 Member Function Documentation

9.94.3.1 ForgeBounds edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds () [package]

Definition at line 83 of file TopologicalSort.java.

References [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.list](#),
[edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.next](#), [edu.mit.csail.sdg.squander.forge_](#)
[examples.TopologicalSort.node](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.nodes](#),
[edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.num](#), [edu.mit.csail.sdg.squander.forge_](#)
[examples.TopologicalSort.program](#), and [edu.mit.csail.sdg.squander.forge_](#)
[examples.TopologicalSort.width](#).

Referenced by [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run\(\)](#).

9.94.3.2 ForgeCFG edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.cfg () [package]

Definition at line 79 of file TopologicalSort.java.

References `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition()`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.elems`, and `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.proc`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run()`.

9.94.3.3 ForgeExpression `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition ()` [package]

Definition at line 59 of file `TopologicalSort.java`.

References `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.elems`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.list`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.next`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.node`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.out`, and `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.program`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.cfg()`.

9.94.3.4 static void `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.main (String[] args)` [static]

Definition at line 126 of file `TopologicalSort.java`.

References `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run()`, and `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort()`.

9.94.3.5 void `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run ()` [package]

Definition at line 107 of file `TopologicalSort.java`.

References `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds()`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.cfg()`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.elems`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.out`, and `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.value`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.main()`.

9.94.4 Member Data Documentation

9.94.4.1 final GlobalVariable `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.elems` [package]

Definition at line 39 of file `TopologicalSort.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.cfg()`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition()`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run()`, and `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort()`.

9.94.4.2 final InstanceDomain `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.list` [package]

Definition at line 37 of file `TopologicalSort.java`.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds(), edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.3 final GlobalVariable edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.next [package]

Definition at line 39 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds(), edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.4 final InstanceDomain edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.node [package]

Definition at line 36 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds(), edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.5 final InstanceLiteral [] edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.nodes = new InstanceLiteral[num] [package]

Definition at line 38 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.6 final int edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.num = 16 [package]

Definition at line 33 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.7 final LocalVariable edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.out [package]

Definition at line 41 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition(), edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.8 final ForgeProcedure edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.proc [package]

Definition at line 40 of file TopologicalSort.java.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.cfg()`, and `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort()`.

9.94.4.9 final ForgeProgram edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.program [package]

Definition at line 35 of file `TopologicalSort.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds()`, `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition()`, and `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort()`.

9.94.4.10 final GlobalVariable edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.value [package]

Definition at line 39 of file `TopologicalSort.java`.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run()`, and `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort()`.

9.94.4.11 final int edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.width = 4 [package]

Definition at line 34 of file `TopologicalSort.java`.

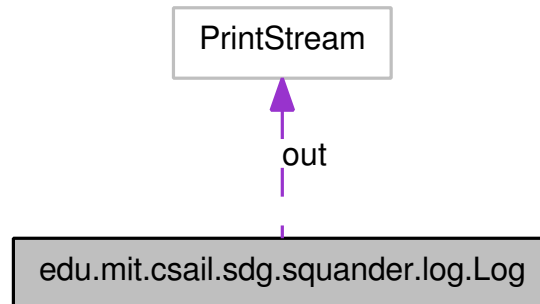
Referenced by `edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/forge_examples/TopologicalSort.java`

9.95 edu.mit.csail.sdg.squander.log.Log Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.log.Log:



Public Types

- enum `Level` {
 `ALL`, `TRACE`, `DEBUG`, `LOG`,
 `WARN`, `ERROR`, `FATAL`, `NONE` }

Static Public Member Functions

- static void `trace` (String msg)
- static void `trace` (String msg, Object...args)
- static void `debug` (String msg)
- static void `debug` (String msg, Object...args)
- static void `log` (String msg)
- static void `log` (String msg, Object...args)
- static void `warn` (String msg)
- static void `warn` (String msg, Object...args)
- static void `error` (String msg, Object...args)

Static Private Member Functions

- static void `myLog` (`Level` logLevel, String msg, Object...args)

Static Private Attributes

- static `PrintStream` `out` = `System.out`

9.95.1 Detailed Description

Simple logging facility

Author:

Aleksandar Milicevic

Definition at line 16 of file Log.java.

9.95.2 Member Enumeration Documentation

9.95.2.1 enum edu::mit::csail::sdg::squander::log::Log::Level

Enumerator:

ALL
TRACE
DEBUG
LOG
WARN
ERROR
FATAL
NONE

Definition at line 18 of file Log.java.

9.95.3 Member Function Documentation

9.95.3.1 static void edu.mit.csail.sdg.squander.log.Log.debug (String *msg*, Object... *args*) [static]

Definition at line 43 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.2 static void edu.mit.csail.sdg.squander.log.Log.debug (String *msg*) [static]

Definition at line 39 of file Log.java.

9.95.3.3 static void edu.mit.csail.sdg.squander.log.Log.error (String *msg*, Object... *args*) [static]

Definition at line 63 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.4 static void edu.mit.csail.sdg.squander.log.Log.log (String *msg*, Object... *args*) [static]

Definition at line 51 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.5 static void edu.mit.csail.sdg.squander.log.Log.log (String *msg*) [static]

Definition at line 47 of file Log.java.

9.95.3.6 static void edu.mit.csail.sdg.squander.log.Log.myLog (Level *logLevel*, String *msg*, Object... *args*) [static, private]

Definition at line 67 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.out.

Referenced by edu.mit.csail.sdg.squander.log.Log.debug(), edu.mit.csail.sdg.squander.log.Log.error(), edu.mit.csail.sdg.squander.log.Log.log(), edu.mit.csail.sdg.squander.log.Log.trace(), and edu.mit.csail.sdg.squander.log.Log.warn().

9.95.3.7 static void edu.mit.csail.sdg.squander.log.Log.trace (String *msg*, Object... *args*) [static]

Definition at line 35 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.8 static void edu.mit.csail.sdg.squander.log.Log.trace (String *msg*) [static]

Definition at line 31 of file Log.java.

9.95.3.9 static void edu.mit.csail.sdg.squander.log.Log.warn (String *msg*, Object... *args*) [static]

Definition at line 59 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.10 static void edu.mit.csail.sdg.squander.log.Log.warn (String *msg*) [static]

Definition at line 55 of file Log.java.

9.95.4 Member Data Documentation**9.95.4.1 PrintStream edu.mit.csail.sdg.squander.log.Log.out = System.out [static, private]**

Definition at line 22 of file Log.java.

Referenced by edu.mit.csail.sdg.squander.log.Log.myLog().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/log/Log.java](#)

9.96 edu.mit.csail.sdg.squander.options.ConfigLoader Class Reference

Static Public Member Functions

- static String[] [loadOptions](#) (Object confObj, String[] args)

Static Private Member Functions

- static Field [getField](#) (Class<?> cls, String name)
- static void [setString](#) (Object confObj, String optionName, String optionValue, Field f)
- static void [setEnum](#) (Object confObj, String optionName, String optionValue, Field f, Class<?> fieldType)
- static void [setClass](#) (Object confObj, String optionName, String optionValue, Field f)
- static void [setInt](#) (Object confObj, String optionName, String optionValue, Field f)
- static void [setBoolean](#) (Object confObj, String optionName, String optionValue, Field f)
- static void [error](#) (String msg)

9.96.1 Detailed Description

Definition at line 16 of file ConfigLoader.java.

9.96.2 Member Function Documentation

9.96.2.1 static void edu.mit.csail.sdg.squander.options.ConfigLoader.error (String msg) [static, private]

Definition at line 120 of file ConfigLoader.java.

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions(), edu.mit.csail.sdg.squander.options.ConfigLoader.setBoolean(), edu.mit.csail.sdg.squander.options.ConfigLoader.setClass(), edu.mit.csail.sdg.squander.options.ConfigLoader.setEnum(), and edu.mit.csail.sdg.squander.options.ConfigLoader.setInt().

9.96.2.2 static Field edu.mit.csail.sdg.squander.options.ConfigLoader.getField (Class<?> cls, String name) [static, private]

Definition at line 58 of file ConfigLoader.java.

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.3 static String [] edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions (Object confObj, String[] args) [static]

Definition at line 18 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error(), edu.mit.csail.sdg.squander.options.ConfigLoader.getField(), edu.mit.csail.sdg.squander.options.ConfigLoader.setBoolean(), edu.mit.csail.sdg.squander.options.ConfigLoader.setClass(), edu.mit.csail.sdg.squander.options.ConfigLoader.setEnum(), edu.mit.csail.sdg.squander.options.ConfigLoader.setInt(), and edu.mit.csail.sdg.squander.options.ConfigLoader.setString().

9.96.2.4 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setBoolean (Object *confObj*, String *optionName*, String *optionValue*, Field *f*) [static, private]

Definition at line 107 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error().

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.5 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setClass (Object *confObj*, String *optionName*, String *optionValue*, Field *f*) [static, private]

Definition at line 89 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error().

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.6 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setEnum (Object *confObj*, String *optionName*, String *optionValue*, Field *f*, Class<?> *fieldType*) [static, private]

Definition at line 70 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error().

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.7 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setInt (Object *confObj*, String *optionName*, String *optionValue*, Field *f*) [static, private]

Definition at line 97 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error().

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.8 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setString (Object *confObj*, String *optionName*, String *optionValue*, Field *f*) [static, private]

Definition at line 66 of file ConfigLoader.java.

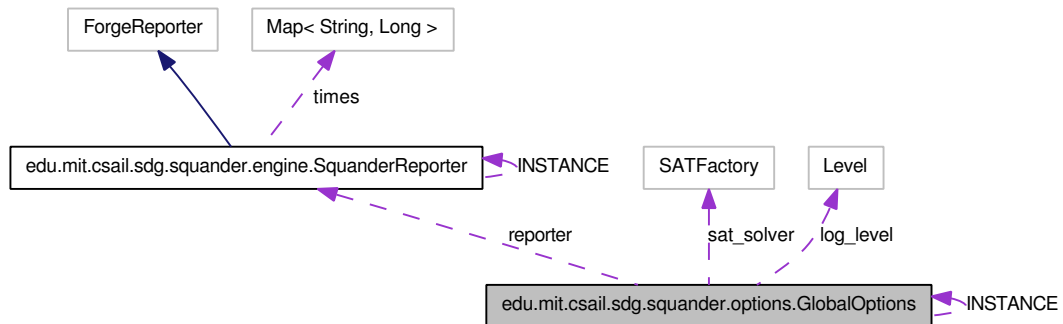
Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/options/ConfigLoader.java](#)

9.97 edu.mit.csail.sdg.squander.options.GlobalOptions Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.options.GlobalOptions:



Public Types

- enum `Engine` {
`Forge`, `Kodkod`, `Kodkod2`, `KodkodPart`,
`KodkodPart2` }

Public Member Functions

- `ISquander getSquanderImpl ()`

Public Attributes

- Level `log_level` = `Level.NONE`
- `Engine engine` = `Engine.Kodkod`
- `SATFactory sat_solver` = `SATFactory.MiniSat`
- int `min_bitwidth` = 5
- boolean `unsat_core` = false
- boolean `desugar_quants` = true
- `SquanderReporter reporter` = `SquanderReporter.INSTANCE`

Static Public Attributes

- static `GlobalOptions INSTANCE` = new `GlobalOptions()`

9.97.1 Detailed Description

Various general options, not related to particular specification executions

Author:

Aleksandar Milicevic

Definition at line 22 of file GlobalOptions.java.

9.97.2 Member Enumeration Documentation

9.97.2.1 enum edu::mit::csail::sdg::squander::options::GlobalOptions::Engine

Enumerator:

Forge

Kodkod

Kodkod2

KodkodPart

KodkodPart2

Definition at line 24 of file GlobalOptions.java.

9.97.3 Member Function Documentation

9.97.3.1 ISquander edu.mit.csail.sdg.squander.options.GlobalOptions.getSquanderImpl ()

Definition at line 43 of file GlobalOptions.java.

References edu.mit.csail.sdg.squander.options.GlobalOptions.engine.

9.97.4 Member Data Documentation

9.97.4.1 boolean edu.mit.csail.sdg.squander.options.GlobalOptions.desugar_quants = true

no need to change this

Definition at line 39 of file GlobalOptions.java.

9.97.4.2 Engine edu.mit.csail.sdg.squander.options.GlobalOptions.engine = Engine.Kodkod

Definition at line 31 of file GlobalOptions.java.

Referenced by edu.mit.csail.sdg.squander.options.GlobalOptions.getSquanderImpl().

9.97.4.3 GlobalOptions edu.mit.csail.sdg.squander.options.GlobalOptions.INSTANCE = new GlobalOptions() [static]

Definition at line 28 of file GlobalOptions.java.

9.97.4.4 Level edu.mit.csail.sdg.squander.options.GlobalOptions.log_level = Level.NONE

Definition at line 30 of file GlobalOptions.java.

9.97.4.5 int edu.mit.csail.sdg.squander.options.GlobalOptions.min_bitwidth = 5

minimum bitwidth to use

Definition at line 35 of file GlobalOptions.java.

9.97.4.6 SquanderReporter edu.mit.csail.sdg.squander.options.GlobalOptions.reporter = SquanderReporter.INSTANCE

Definition at line 41 of file GlobalOptions.java.

9.97.4.7 SATFactory edu.mit.csail.sdg.squander.options.GlobalOptions.sat_solver = SATFactory.MiniSat

Definition at line 32 of file GlobalOptions.java.

9.97.4.8 boolean edu.mit.csail.sdg.squander.options.GlobalOptions.unsat_core = false

should the unsat core be computed in case of no solution (it potentially degrades performance)

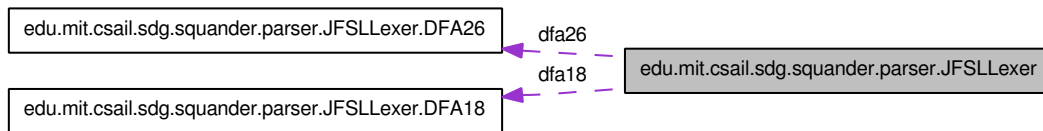
Definition at line 37 of file GlobalOptions.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/options/GlobalOptions.java](#)

9.98 edu.mit.csail.sdg.squander.parser.JFSLLexer Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.parser.JFSLLexer:



Classes

- class [DFA18](#)
- class [DFA26](#)

Public Member Functions

- [JFSLLexer](#) ()
- [JFSLLexer](#) (CharStream input)
- [JFSLLexer](#) (CharStream input, RecognizerSharedState state)
- String [getGrammarFileName](#) ()
- final void [mT__127](#) () throws RecognitionException
- final void [mT__128](#) () throws RecognitionException
- final void [mT__129](#) () throws RecognitionException
- final void [mT__130](#) () throws RecognitionException
- final void [mT__131](#) () throws RecognitionException
- final void [mT__132](#) () throws RecognitionException
- final void [mT__133](#) () throws RecognitionException
- final void [mT__134](#) () throws RecognitionException
- final void [mT__135](#) () throws RecognitionException
- final void [mT__136](#) () throws RecognitionException
- final void [mT__137](#) () throws RecognitionException
- final void [mT__138](#) () throws RecognitionException
- final void [mT__139](#) () throws RecognitionException
- final void [mT__140](#) () throws RecognitionException
- final void [mT__141](#) () throws RecognitionException
- final void [mT__142](#) () throws RecognitionException
- final void [mT__143](#) () throws RecognitionException
- final void [mT__144](#) () throws RecognitionException
- final void [mT__145](#) () throws RecognitionException
- final void [mT__146](#) () throws RecognitionException
- final void [mT__147](#) () throws RecognitionException
- final void [mT__148](#) () throws RecognitionException
- final void [mT__149](#) () throws RecognitionException
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- final void [mT__162](#) () throws RecognitionException
- final void [mT__163](#) () throws RecognitionException
- final void [mT__164](#) () throws RecognitionException
- final void [mT__165](#) () throws RecognitionException
- final void [mT__166](#) () throws RecognitionException
- final void [mT__167](#) () throws RecognitionException
- final void [mT__168](#) () throws RecognitionException
- final void [mT__169](#) () throws RecognitionException
- final void [mT__170](#) () throws RecognitionException
- final void [mT__171](#) () throws RecognitionException
- final void [mT__172](#) () throws RecognitionException
- final void [mT__173](#) () throws RecognitionException
- final void [mT__174](#) () throws RecognitionException
- final void [mT__175](#) () throws RecognitionException
- final void [mT__176](#) () throws RecognitionException
- final void [mT__177](#) () throws RecognitionException
- final void [mT__178](#) () throws RecognitionException
- final void [mT__179](#) () throws RecognitionException
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- final void [mT__181](#) () throws RecognitionException
- final void [mT__182](#) () throws RecognitionException
- final void [mT__183](#) () throws RecognitionException
- final void [mT__184](#) () throws RecognitionException
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- final void [mT__192](#) () throws RecognitionException
- final void [mT__193](#) () throws RecognitionException
- final void [mT__194](#) () throws RecognitionException
- final void [mT__195](#) () throws RecognitionException
- final void [mT__196](#) () throws RecognitionException
- final void [mT__197](#) () throws RecognitionException
- final void [mT__198](#) () throws RecognitionException
- final void [mT__199](#) () throws RecognitionException
- final void [mHexLiteral](#) () throws RecognitionException
- final void [mDecimalLiteral](#) () throws RecognitionException
- final void [mOctalLiteral](#) () throws RecognitionException
- final void [mHexDigit](#) () throws RecognitionException
- final void [mIntegerTypeSuffix](#) () throws RecognitionException

- final void [mFloatingPointLiteral](#) () throws RecognitionException
- final void [mExponent](#) () throws RecognitionException
- final void [mFloatTypeSuffix](#) () throws RecognitionException
- final void [mCharacterLiteral](#) () throws RecognitionException
- final void [mStringLiteral](#) () throws RecognitionException
- final void [mEscapeSequence](#) () throws RecognitionException
- final void [mOctalEscape](#) () throws RecognitionException
- final void [mUnicodeEscape](#) () throws RecognitionException
- final void [mIdentifier](#) () throws RecognitionException
- final void [mLetter](#) () throws RecognitionException
- final void [mJavaIDDigit](#) () throws RecognitionException
- final void [mWS](#) () throws RecognitionException
- void [mTokens](#) () throws RecognitionException

Static Public Attributes

- static final int [PACKAGE](#) = 96
- static final int [T__159](#) = 159
- static final int [OP_SET_ALL](#) = 75
- static final int [T__158](#) = 158
- static final int [OP_INSTANCEOF](#) = 54
- static final int [TYPE_INT](#) = 87
- static final int [OP_GEQ](#) = 49
- static final int [OP_SET_LONE](#) = 72
- static final int [OP_SET_NO](#) = 71
- static final int [T__160](#) = 160
- static final int [OP_INTERSECTION](#) = 42
- static final int [T__167](#) = 167
- static final int [LIT_FALSE](#) = 81
- static final int [T__168](#) = 168
- static final int [EOF](#) = -1
- static final int [T__165](#) = 165
- static final int [T__166](#) = 166
- static final int [T__163](#) = 163
- static final int [T__164](#) = 164
- static final int [T__161](#) = 161
- static final int [T__162](#) = 162
- static final int [OP_MOD](#) = 65
- static final int [OP_EQ](#) = 35
- static final int [IMPORT](#) = 99
- static final int [T__148](#) = 148
- static final int [T__147](#) = 147
- static final int [T__149](#) = 149
- static final int [TYPE_BYTE](#) = 85
- static final int [DECL_SET](#) = 7
- static final int [DECL_SEQ](#) = 8
- static final int [TYPE_PARAMETERS](#) = 98
- static final int [T__154](#) = 154
- static final int [T__155](#) = 155
- static final int [T__156](#) = 156

- static final int [T__157](#) = 157
- static final int [T__150](#) = 150
- static final int [T__151](#) = 151
- static final int [T__152](#) = 152
- static final int [T__153](#) = 153
- static final int [T__139](#) = 139
- static final int [T__138](#) = 138
- static final int [T__137](#) = 137
- static final int [T__136](#) = 136
- static final int [THIS_VAR](#) = 28
- static final int [IntegerTypeSuffix](#) = 118
- static final int [OP_DIFFERENCE](#) = 59
- static final int [T__141](#) = 141
- static final int [FILE](#) = 93
- static final int [T__142](#) = 142
- static final int [T__140](#) = 140
- static final int [T__145](#) = 145
- static final int [T__146](#) = 146
- static final int [T__143](#) = 143
- static final int [T__144](#) = 144
- static final int [METHOD_PARAMETERS](#) = 101
- static final int [OP_SHL](#) = 51
- static final int [T__128](#) = 128
- static final int [TYPE_REF](#) = 91
- static final int [T__127](#) = 127
- static final int [WS](#) = 126
- static final int [T__129](#) = 129
- static final int [OP_SHR](#) = 52
- static final int [SPECFIELD](#) = 95
- static final int [TYPE_CHAR](#) = 84
- static final int [FloatingPointLiteral](#) = 111
- static final int [JavaDDigit](#) = 125
- static final int [CALL](#) = 21
- static final int [SPECIFICATION](#) = 103
- static final int [T__130](#) = 130
- static final int [T__131](#) = 131
- static final int [T__132](#) = 132
- static final int [CLASS_DESIGNATOR](#) = 27
- static final int [T__133](#) = 133
- static final int [T__134](#) = 134
- static final int [CHAIN](#) = 17
- static final int [T__135](#) = 135
- static final int [OP_OR](#) = 37
- static final int [AMBIGUOUS](#) = 24
- static final int [TYPE_LONG](#) = 88
- static final int [DECLARATION](#) = 4
- static final int [HexDigit](#) = 117
- static final int [ENSURES](#) = 105
- static final int [OP_USHR](#) = 53
- static final int [ARGUMENT](#) = 23

- static final int `OP_NOT` = 39
- static final int `OP_EQUIV` = 66
- static final int `OP_SET_SOME` = 70
- static final int `UNARY` = 13
- static final int `OP_NEQUIV` = 67
- static final int `HexLiteral` = 114
- static final int `OP_DIVIDE` = 64
- static final int `THROW_VAR` = 33
- static final int `StringLiteral` = 113
- static final int `OP_SET_COMPREHENSION` = 77
- static final int `OP_MINUS_OR_DIFFERENCE` = 60
- static final int `OctalEscape` = 123
- static final int `CAST` = 26
- static final int `OP_BIT_AND_OR_INTERSECTION` = 43
- static final int `JOIN_REFLEXIVE` = 19
- static final int `OP_AND` = 38
- static final int `FloatTypeSuffix` = 120
- static final int `OctalLiteral` = 115
- static final int `BRACKET` = 20
- static final int `OP_RELATIONAL_COMPOSE` = 62
- static final int `OP_BIT_XOR` = 41
- static final int `LIT_NULL` = 82
- static final int `MODIFIES` = 106
- static final int `TYPE_DOUBLE` = 90
- static final int `Identifier` = 110
- static final int `QUANTIFY` = 14
- static final int `OP_MINUS` = 58
- static final int `VOID` = 31
- static final int `OP_LT` = 48
- static final int `OP_CLOSURE` = 46
- static final int `DECL_NONE` = 9
- static final int `OP_SET_SUM` = 74
- static final int `ARGUMENTS` = 16
- static final int `NULL` = 6
- static final int `CONDITIONAL` = 15
- static final int `INVARIANT` = 94
- static final int `OLD` = 22
- static final int `THROWS` = 107
- static final int `FRAME_LOCATION` = 10
- static final int `FIELD` = 25
- static final int `OP_RELATIONAL_OVERRIDE` = 61
- static final int `OP_PLUS_OR_UNION` = 57
- static final int `Letter` = 124
- static final int `EscapeSequence` = 121
- static final int `TYPE_BOOLEAN` = 83
- static final int `OP_TRANSPOSE` = 44
- static final int `CharacterLiteral` = 112
- static final int `SUPER_VAR` = 29
- static final int `OP_GT` = 47
- static final int `Exponent` = 119

- static final int `LIT_TRUE` = 80
- static final int `OP_BIT_NOT_OR_TRANSPOSE` = 45
- static final int `T__199` = 199
- static final int `TYPE_DECLARATION` = 97
- static final int `T__198` = 198
- static final int `PURE` = 109
- static final int `T__197` = 197
- static final int `T__196` = 196
- static final int `T__195` = 195
- static final int `T__194` = 194
- static final int `T__193` = 193
- static final int `T__192` = 192
- static final int `T__191` = 191
- static final int `T__190` = 190
- static final int `IDENTIFIER` = 30
- static final int `OP_BIT_OR` = 40
- static final int `OP_SET_SUBSET` = 78
- static final int `SPECCASE` = 102
- static final int `T__184` = 184
- static final int `T__183` = 183
- static final int `T__186` = 186
- static final int `T__185` = 185
- static final int `T__188` = 188
- static final int `T__187` = 187
- static final int `TYPE_SHORT` = 86
- static final int `T__189` = 189
- static final int `OP_PLUS` = 55
- static final int `HELPER` = 108
- static final int `T__180` = 180
- static final int `TYPE_FLOAT` = 89
- static final int `OP_SET_EXISTS` = 76
- static final int `T__182` = 182
- static final int `OP_NSET_SUBSET` = 79
- static final int `T__181` = 181
- static final int `DECLS` = 34
- static final int `DecimalLiteral` = 116
- static final int `JOIN` = 18
- static final int `T__175` = 175
- static final int `T__174` = 174
- static final int `OP_SET_NUM` = 73
- static final int `T__173` = 173
- static final int `T__172` = 172
- static final int `TYPE_ARRAY` = 92
- static final int `T__179` = 179
- static final int `T__178` = 178
- static final int `OP_SET_ONE` = 69
- static final int `REQUIRES` = 104
- static final int `T__177` = 177
- static final int `T__176` = 176
- static final int `UnicodeEscape` = 122

- static final int `OP_NEQ` = 36
- static final int `T__171` = 171
- static final int `T__170` = 170
- static final int `OP_TIMES` = 63
- static final int `OP_LEQ` = 50
- static final int `FRAME` = 5
- static final int `FRAME_ALL` = 11
- static final int `BINARY` = 12
- static final int `OP_UNION` = 56
- static final int `T__169` = 169
- static final int `METHOD` = 100
- static final int `RETURN_VAR` = 32
- static final int `OP_IMPLIES` = 68

Protected Attributes

- `DFA18 dfa18` = new `DFA18`(this)
- `DFA26 dfa26` = new `DFA26`(this)

Static Package Functions

- [\[static initializer\]](#)
- [\[static initializer\]](#)

Static Package Attributes

- static final String `DFA18_eotS`
- static final String `DFA18_eofS`
- static final String `DFA18_minS`
- static final String `DFA18_maxS`
- static final String `DFA18_acceptS`
- static final String `DFA18_specialS`
- static final String[] `DFA18_transitionS`
- static final short[] `DFA18_eot` = `DFA.unpackEncodedString(DFA18_eotS)`
- static final short[] `DFA18_eof` = `DFA.unpackEncodedString(DFA18_eofS)`
- static final char[] `DFA18_min` = `DFA.unpackEncodedStringToUnsignedChars(DFA18_minS)`
- static final char[] `DFA18_max` = `DFA.unpackEncodedStringToUnsignedChars(DFA18_maxS)`
- static final short[] `DFA18_accept` = `DFA.unpackEncodedString(DFA18_acceptS)`
- static final short[] `DFA18_special` = `DFA.unpackEncodedString(DFA18_specialS)`
- static final short[][] `DFA18_transition`
- static final String `DFA26_eotS`
- static final String `DFA26_eofS`
- static final String `DFA26_minS`
- static final String `DFA26_maxS`
- static final String `DFA26_acceptS`
- static final String `DFA26_specialS`
- static final String[] `DFA26_transitionS`
- static final short[] `DFA26_eot` = `DFA.unpackEncodedString(DFA26_eotS)`
- static final short[] `DFA26_eof` = `DFA.unpackEncodedString(DFA26_eofS)`

- static final char[] [DFA26_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA26_minS](#))
- static final char[] [DFA26_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA26_maxS](#))
- static final short[] [DFA26_accept](#) = DFA.unpackEncodedString([DFA26_acceptS](#))
- static final short[] [DFA26_special](#) = DFA.unpackEncodedString([DFA26_specialS](#))
- static final short[][] [DFA26_transition](#)

9.98.1 Detailed Description

Definition at line 12 of file JFSLLexer.java.

9.98.2 Constructor & Destructor Documentation

9.98.2.1 edu.mit.csail.sdg.squander.parser.JFSLLexer.JFSLLexer ()

Definition at line 214 of file JFSLLexer.java.

9.98.2.2 edu.mit.csail.sdg.squander.parser.JFSLLexer.JFSLLexer (CharStream *input*)

Definition at line 215 of file JFSLLexer.java.

9.98.2.3 edu.mit.csail.sdg.squander.parser.JFSLLexer.JFSLLexer (CharStream *input*, RecognizerSharedState *state*)

Definition at line 218 of file JFSLLexer.java.

9.98.3 Member Function Documentation

9.98.3.1 edu.mit.csail.sdg.squander.parser.JFSLLexer.[static initializer] () [static, package]

9.98.3.2 edu.mit.csail.sdg.squander.parser.JFSLLexer.[static initializer] () [static, package]

9.98.3.3 String edu.mit.csail.sdg.squander.parser.JFSLLexer.getGrammarFileName ()

Definition at line 222 of file JFSLLexer.java.

9.98.3.4 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mCharacterLiteral () throws RecognitionException

Definition at line 2407 of file JFSLLexer.java.

9.98.3.5 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mDecimalLiteral () throws RecognitionException

Definition at line 1809 of file JFSLLexer.java.

9.98.3.6 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mEscapeSequence () throws RecognitionException

Definition at line 2534 of file JFSLLexer.java.

9.98.3.7 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mExponent () throws RecognitionException

Definition at line 2303 of file JFSLLexer.java.

9.98.3.8 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mFloatingPointLiteral () throws RecognitionException

Definition at line 2021 of file JFSLLexer.java.

9.98.3.9 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mFloatTypeSuffix () throws RecognitionException

Definition at line 2383 of file JFSLLexer.java.

9.98.3.10 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mHexDigit () throws RecognitionException

Definition at line 1973 of file JFSLLexer.java.

9.98.3.11 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mHexLiteral () throws RecognitionException

Definition at line 1732 of file JFSLLexer.java.

9.98.3.12 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mIdentifier () throws RecognitionException

Definition at line 2765 of file JFSLLexer.java.

9.98.3.13 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mIntegerTypeSuffix () throws RecognitionException

Definition at line 1997 of file JFSLLexer.java.

9.98.3.14 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mJavaIDDigit () throws RecognitionException

Definition at line 2842 of file JFSLLexer.java.

9.98.3.15 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mLetter () throws RecognitionException

Definition at line 2818 of file JFSLLexer.java.

9.98.3.16 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mOctalEscape () throws RecognitionException

Definition at line 2625 of file JFSLLexer.java.

9.98.3.17 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mOctalLiteral () throws RecognitionException

Definition at line 1905 of file JFSLLexer.java.

9.98.3.18 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mStringLiteral () throws RecognitionException

Definition at line 2470 of file JFSLLexer.java.

9.98.3.19 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__127 () throws RecognitionException

Definition at line 225 of file JFSLLexer.java.

9.98.3.20 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__128 () throws RecognitionException

Definition at line 246 of file JFSLLexer.java.

9.98.3.21 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__129 () throws RecognitionException

Definition at line 266 of file JFSLLexer.java.

9.98.3.22 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__130 () throws RecognitionException

Definition at line 286 of file JFSLLexer.java.

9.98.3.23 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__131 () throws RecognitionException

Definition at line 307 of file JFSLLexer.java.

9.98.3.24 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__132 () throws RecognitionException

Definition at line 328 of file JFSLLexer.java.

9.98.3.25 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__133 () throws RecognitionException

Definition at line 349 of file JFSLLexer.java.

9.98.3.26 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__134 () throws RecognitionException

Definition at line 369 of file JFSLLexer.java.

9.98.3.27 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__135 () throws RecognitionException

Definition at line 389 of file JFSLLexer.java.

9.98.3.28 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__136 () throws RecognitionException

Definition at line 409 of file JFSLLexer.java.

9.98.3.29 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__137 () throws RecognitionException

Definition at line 429 of file JFSLLexer.java.

9.98.3.30 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__138 () throws RecognitionException

Definition at line 449 of file JFSLLexer.java.

9.98.3.31 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__139 () throws RecognitionException

Definition at line 470 of file JFSLLexer.java.

9.98.3.32 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__140 () throws RecognitionException

Definition at line 490 of file JFSLLexer.java.

9.98.3.33 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__141 () throws RecognitionException

Definition at line 510 of file JFSLLexer.java.

9.98.3.34 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__142 () throws RecognitionException

Definition at line 531 of file JFSLLexer.java.

9.98.3.35 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__143 () throws RecognitionException

Definition at line 552 of file JFSLLexer.java.

9.98.3.36 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__144 () throws RecognitionException

Definition at line 573 of file JFSLLexer.java.

9.98.3.37 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__145 () throws RecognitionException

Definition at line 594 of file JFSLLexer.java.

9.98.3.38 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__146 () throws RecognitionException

Definition at line 615 of file JFSLLexer.java.

9.98.3.39 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__147 () throws RecognitionException

Definition at line 636 of file JFSLLexer.java.

9.98.3.40 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__148 () throws RecognitionException

Definition at line 657 of file JFSLLexer.java.

9.98.3.41 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__149 () throws RecognitionException

Definition at line 678 of file JFSLLexer.java.

9.98.3.42 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__150 () throws RecognitionException

Definition at line 699 of file JFSLLexer.java.

9.98.3.43 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__151 () throws RecognitionException

Definition at line 719 of file JFSLLexer.java.

9.98.3.44 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__152 () throws RecognitionException

Definition at line 740 of file JFSLLexer.java.

9.98.3.45 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__153 () throws RecognitionException

Definition at line 760 of file JFSLLexer.java.

9.98.3.46 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__154 () throws RecognitionException

Definition at line 781 of file JFSLLexer.java.

9.98.3.47 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__155 () throws RecognitionException

Definition at line 802 of file JFSLLexer.java.

9.98.3.48 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__156 () throws RecognitionException

Definition at line 822 of file JFSLLexer.java.

9.98.3.49 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__157 () throws RecognitionException

Definition at line 843 of file JFSLLexer.java.

9.98.3.50 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__158 () throws RecognitionException

Definition at line 864 of file JFSLLexer.java.

9.98.3.51 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__159 () throws RecognitionException

Definition at line 885 of file JFSLLexer.java.

9.98.3.52 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__160 () throws RecognitionException

Definition at line 906 of file JFSLLexer.java.

9.98.3.53 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__161 () throws RecognitionException

Definition at line 927 of file JFSLLexer.java.

9.98.3.54 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__162 () throws RecognitionException

Definition at line 948 of file JFSLLexer.java.

9.98.3.55 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__163 () throws RecognitionException

Definition at line 969 of file JFSLLexer.java.

9.98.3.56 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__164 () throws RecognitionException

Definition at line 990 of file JFSLLexer.java.

9.98.3.57 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__165 () throws RecognitionException

Definition at line 1011 of file JFSLLexer.java.

9.98.3.58 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__166 () throws RecognitionException

Definition at line 1032 of file JFSLLexer.java.

9.98.3.59 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__167 () throws RecognitionException

Definition at line 1053 of file JFSLLexer.java.

9.98.3.60 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__168 () throws RecognitionException

Definition at line 1073 of file JFSLLexer.java.

9.98.3.61 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__169 () throws RecognitionException

Definition at line 1093 of file JFSLLexer.java.

9.98.3.62 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__170 () throws RecognitionException

Definition at line 1113 of file JFSLLexer.java.

9.98.3.63 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__171 () throws RecognitionException

Definition at line 1133 of file JFSLLexer.java.

9.98.3.64 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__172 () throws RecognitionException

Definition at line 1153 of file JFSLLexer.java.

9.98.3.65 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__173 () throws RecognitionException

Definition at line 1174 of file JFSLLexer.java.

9.98.3.66 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__174 () throws RecognitionException

Definition at line 1195 of file JFSLLexer.java.

9.98.3.67 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__175 () throws RecognitionException

Definition at line 1215 of file JFSLLexer.java.

9.98.3.68 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__176 () throws RecognitionException

Definition at line 1235 of file JFSLLexer.java.

9.98.3.69 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__177 () throws RecognitionException

Definition at line 1256 of file JFSLLexer.java.

9.98.3.70 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__178 () throws RecognitionException

Definition at line 1277 of file JFSLLexer.java.

9.98.3.71 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__179 () throws RecognitionException

Definition at line 1297 of file JFSLLexer.java.

9.98.3.72 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__180 () throws RecognitionException

Definition at line 1317 of file JFSLLexer.java.

9.98.3.73 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__181 () throws RecognitionException

Definition at line 1337 of file JFSLLexer.java.

9.98.3.74 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__182 () throws RecognitionException

Definition at line 1357 of file JFSLLexer.java.

9.98.3.75 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__183 () throws RecognitionException

Definition at line 1377 of file JFSLLexer.java.

9.98.3.76 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__184 () throws RecognitionException

Definition at line 1397 of file JFSLLexer.java.

9.98.3.77 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__185 () throws RecognitionException

Definition at line 1418 of file JFSLLexer.java.

9.98.3.78 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__186 () throws RecognitionException

Definition at line 1439 of file JFSLLexer.java.

9.98.3.79 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__187 () throws RecognitionException

Definition at line 1459 of file JFSLLexer.java.

9.98.3.80 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__188 () throws RecognitionException

Definition at line 1480 of file JFSLLexer.java.

9.98.3.81 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__189 () throws RecognitionException

Definition at line 1501 of file JFSLLexer.java.

9.98.3.82 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__190 () throws RecognitionException

Definition at line 1522 of file JFSLLexer.java.

9.98.3.83 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__191 () throws RecognitionException

Definition at line 1543 of file JFSLLexer.java.

9.98.3.84 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__192 () throws RecognitionException

Definition at line 1564 of file JFSLLexer.java.

9.98.3.85 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__193 () throws RecognitionException

Definition at line 1585 of file JFSLLexer.java.

9.98.3.86 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__194 () throws RecognitionException

Definition at line 1606 of file JFSLLexer.java.

9.98.3.87 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__195 () throws RecognitionException

Definition at line 1627 of file JFSLLexer.java.

9.98.3.88 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__196 () throws RecognitionException

Definition at line 1648 of file JFSLLexer.java.

9.98.3.89 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__197 () throws RecognitionException

Definition at line 1669 of file JFSLLexer.java.

9.98.3.90 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__198 () throws RecognitionException

Definition at line 1690 of file JFSLLexer.java.

9.98.3.91 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__199 () throws RecognitionException

Definition at line 1711 of file JFSLLexer.java.

9.98.3.92 void edu.mit.csail.sdg.squander.parser.JFSLLexer.mTokens () throws RecognitionException

Definition at line 2894 of file JFSLLexer.java.

9.98.3.93 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mUnicodeEscape () throws RecognitionException

Definition at line 2744 of file JFSLLexer.java.

9.98.3.94 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mWS () throws RecognitionException

Definition at line 2866 of file JFSLLexer.java.

9.98.4 Member Data Documentation

9.98.4.1 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.AMBIGUOUS = 24 [static]

Definition at line 90 of file JFSLLexer.java.

9.98.4.2 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.ARGUMENT = 23 [static]`

Definition at line 96 of file JFSLLexer.java.

9.98.4.3 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.ARGUMENTS = 16 [static]`

Definition at line 129 of file JFSLLexer.java.

9.98.4.4 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.BINARY = 12 [static]`

Definition at line 204 of file JFSLLexer.java.

9.98.4.5 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.BRACKET = 20 [static]`

Definition at line 115 of file JFSLLexer.java.

9.98.4.6 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CALL = 21 [static]`

Definition at line 79 of file JFSLLexer.java.

9.98.4.7 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CAST = 26 [static]`

Definition at line 109 of file JFSLLexer.java.

9.98.4.8 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CHAIN = 17 [static]`

Definition at line 87 of file JFSLLexer.java.

9.98.4.9 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CharacterLiteral = 112 [static]`

Definition at line 143 of file JFSLLexer.java.

9.98.4.10 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CLASS_DESIGNATOR = 27 [static]`

Definition at line 84 of file JFSLLexer.java.

9.98.4.11 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CONDITIONAL = 15 [static]`

Definition at line 131 of file JFSLLexer.java.

9.98.4.12 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DecimalLiteral = 116 [static]`

Definition at line 182 of file JFSLLexer.java.

9.98.4.13 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECL_NONE = 9 [static]`

Definition at line 127 of file JFSLLexer.java.

9.98.4.14 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECL_SEQ = 8 [static]`

Definition at line 42 of file JFSLLexer.java.

9.98.4.15 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECL_SET = 7 [static]`

Definition at line 41 of file JFSLLexer.java.

9.98.4.16 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECLARATION = 4 [static]`

Definition at line 92 of file JFSLLexer.java.

9.98.4.17 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECLS = 34 [static]`

Definition at line 181 of file JFSLLexer.java.

9.98.4.18 `DFA18 edu.mit.csail.sdg.squander.parser.JFSLLexer.dfa18 = new DFA18(this)
[protected]`

Definition at line 3472 of file JFSLLexer.java.

9.98.4.19 `final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_accept =
DFA.unpackEncodedString(DFA18_acceptS) [static, package]`

Definition at line 3499 of file JFSLLexer.java.

9.98.4.20 `final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_acceptS [static,
package]`

Initial value:

```
"\2\uffff\1\2\1\4\1\1\1\3"
```

Definition at line 3482 of file JFSLLexer.java.

9.98.4.21 `final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_eof =
DFA.unpackEncodedString(DFA18_eofS) [static, package]`

Definition at line 3496 of file JFSLLexer.java.

9.98.4.22 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_eofS [static, package]

Initial value:

```
"\6\uffff"
```

Definition at line 3476 of file JFSLLexer.java.

9.98.4.23 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_eot = DFA.unpackEncodedString(DFA18_eotS) [static, package]

Definition at line 3495 of file JFSLLexer.java.

9.98.4.24 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_eotS [static, package]

Initial value:

```
"\6\uffff"
```

Definition at line 3474 of file JFSLLexer.java.

9.98.4.25 final char [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_max = DFA.unpackEncodedStringToUnsignedChars(DFA18_maxS) [static, package]

Definition at line 3498 of file JFSLLexer.java.

9.98.4.26 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_maxS [static, package]

Initial value:

```
"\1\71\1\146\4\uffff"
```

Definition at line 3480 of file JFSLLexer.java.

9.98.4.27 final char [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_min = DFA.unpackEncodedStringToUnsignedChars(DFA18_minS) [static, package]

Definition at line 3497 of file JFSLLexer.java.

9.98.4.28 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_minS [static, package]

Initial value:

```
"\2\56\4\uffff"
```

Definition at line 3478 of file JFSLLexer.java.

9.98.4.29 `final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_special = DFA.unpackEncodedString(DFA18_specialS) [static, package]`

Definition at line 3500 of file JFSLLexer.java.

9.98.4.30 `final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_specialS [static, package]`

Initial value:

```
"\6\uffff">
```

Definition at line 3484 of file JFSLLexer.java.

9.98.4.31 `final short [][] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_transition [static, package]`

Definition at line 3501 of file JFSLLexer.java.

9.98.4.32 `final String [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_transitionS [static, package]`

Initial value:

```
{
    "\1\2\1\uffff\12\1",
    "\1\4\1\uffff\12\1\12\uffff\1\3\1\5\1\3\35\uffff\1\3\1\5\1\3",
    "",
    "",
    "",
    ""
}
```

Definition at line 3486 of file JFSLLexer.java.

9.98.4.33 `DFA26 edu.mit.csail.sdg.squander.parser.JFSLLexer.dfa26 = new DFA26(this) [protected]`

Definition at line 3473 of file JFSLLexer.java.

9.98.4.34 `final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_accept = DFA.unpackEncodedString(DFA26_acceptS) [static, package]`

Definition at line 3927 of file JFSLLexer.java.

9.98.4.35 `final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_acceptS [static, package]`

Initial value:

```
"\2\uffff\1\2\3\uffff\1\7\1\10\1\11\1\12\1\13\1\uffff\1\15\1\16\1"+
"\30\3\uffff\1\35\5\uffff\1\51\1\52\1\53\1\54\1\55\1\uffff\1\60\2"+
"\uffff\1\66\1\67\1\70\1\74\6\uffff\1\116\1\117\1\120\1\121\3\uffff"+
"\1\115\1\3\4\uffff\1\14\1\17\1\20\1\21\1\22\1\23\1\24\1\25\1\101"+
"\1\102\1\71\3\uffff\1\56\1\32\14\uffff\1\57\1\61\1\72\1\64\1\73"+
"\1\65\4\uffff\1\112\1\uffff\1\113\7\uffff\1\63\17\uffff\1\106\10"+
"\uffff\1\114\5\uffff\1\45\6\uffff\1\33\1\34\2\uffff\1\107\13\uffff"+
"\1\103\1\110\10\uffff\1\42\1\31\4\uffff\1\104\1\36\1\uffff\1\77"+
"\1\40\1\uffff\1\43\1\46\1\105\11\uffff\1\5\1\37\1\47\1\44\1\100"+
"\1\76\5\uffff\1\26\1\uffff\1\4\3\uffff\1\50\1\75\1\111\1\11\1\27"+
"\2\uffff\1\41\2\uffff\1\6\1\uffff\1\62"
```

Definition at line 3576 of file JFSLLexer.java.

9.98.4.36 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_eof =
DFA.unpackEncodedString(DFA26_eofS) [static, package]

Definition at line 3924 of file JFSLLexer.java.

9.98.4.37 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_eofS [static,
package]

Initial value:

```
"\u00de\uffff"
```

Definition at line 3541 of file JFSLLexer.java.

9.98.4.38 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_eot =
DFA.unpackEncodedString(DFA26_eotS) [static, package]

Definition at line 3923 of file JFSLLexer.java.

9.98.4.39 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_eotS [static,
package]

Initial value:

```
"\1\uffff\1\55\1\uffff\1\63\2\55\5\uffff\1\102\3\uffff\1\55\1\107"+
"\1\55\1\uffff\5\55\5\uffff\1\125\1\uffff\1\127\1\131\4\uffff\4\55"+
"\2\140\4\uffff\3\55\2\uffff\1\55\1\150\2\55\13\uffff\3\55\2\uffff"+
"\7\55\1\170\4\55\6\uffff\4\55\1\uffff\1\u0081\1\uffff\1\140\4\55"+
"\1\u0087\1\55\1\uffff\5\55\1\u008e\1\u008f\2\55\1\u0092\5\55\1\uffff"+
"\5\55\1\u009e\1\u009f\1\55\1\uffff\5\55\1\uffff\2\55\1\u00a8\1\u00a9"+
"\2\55\2\uffff\2\55\1\uffff\1\u00ae\1\u00af\1\55\1\u00b1\1\u00b2"+
"\1\55\1\u00b4\1\u00b5\1\u00b6\2\55\2\uffff\7\55\1\u00c0\2\uffff"+
"\1\u00c1\1\u00c2\1\u00c3\1\u00c4\2\uffff\1\u00c5\2\uffff\1\55\3"+
"\uffff\4\55\1\u00cb\1\55\1\u00cd\2\55\6\uffff\1\55\1\u00d1\1\u00d2"+
"\1\u00d3\1\u00d4\1\uffff\1\u00d5\1\uffff\2\55\1\u00d8\5\uffff\2"+
"\55\1\uffff\1\u00db\1\55\1\uffff\1\u00dd\1\uffff"
```

Definition at line 3528 of file JFSLLexer.java.

9.98.4.40 `final char [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_max = DFA.unpackEncodedStringToUnsignedChars(DFA26_maxS) [static, package]`

Definition at line 3926 of file JFSLLexer.java.

9.98.4.41 `final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_maxS [static, package]`

Initial value:

```
"\1\uafaff\1\165\1\uffff\1\71\1\156\1\154\5\uffff\1\157\3\uffff\1"+
"\162\1\174\1\165\1\uffff\1\162\1\165\1\171\2\157\5\uffff\1\46\1"+
"\uffff\1\53\1\76\4\uffff\1\145\1\156\1\154\2\170\1\146\4\uffff\1"+
"\143\1\142\1\151\2\uffff\1\160\1\uafaff\2\141\13\uffff\1\157\1\154"+
"\1\157\2\uffff\1\164\1\157\1\160\1\155\1\165\1\162\1\154\1\uafaff"+
"\1\157\1\164\1\156\1\165\6\uffff\1\164\1\145\1\154\1\151\1\uffff"+
"\1\146\1\uffff\1\146\1\153\1\154\1\166\1\157\1\uafaff\1\164\1\uffff"+
"\1\163\1\162\1\155\1\163\1\141\2\uafaff\1\162\1\145\1\uafaff\2\145"+
"\1\157\1\163\1\154\1\uffff\1\154\1\145\1\147\1\142\1\165\2\uafaff"+
"\1\163\1\uffff\1\141\1\151\1\141\2\162\1\uffff\1\141\1\163\2\uafaff"+
"\1\145\1\164\2\uffff\1\164\1\162\1\uffff\2\uafaff\1\167\2\uafaff\1"+
"\145\3\uafaff\1\154\1\162\2\uffff\1\164\1\147\1\143\2\164\1\146\1"+
"\156\1\uafaff\2\uffff\4\uafaff\2\uffff\1\uafaff\2\uffff\1\141\3\uffff"+
"\1\145\1\156\1\163\1\145\1\uafaff\1\145\1\uafaff\1\141\1\143\6\uffff"+
"\1\156\4\uafaff\1\uffff\1\uafaff\1\uffff\1\143\1\145\1\uafaff\5\uffff"+
"\1\145\1\157\1\uffff\1\uafaff\1\146\1\uffff\1\uafaff\1\uffff"
```

Definition at line 3559 of file JFSLLexer.java.

9.98.4.42 `final char [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_min = DFA.unpackEncodedStringToUnsignedChars(DFA26_minS) [static, package]`

Definition at line 3925 of file JFSLLexer.java.

9.98.4.43 `final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_minS [static, package]`

Initial value:

```
"\1\11\1\141\1\uffff\1\60\1\155\1\150\5\uffff\1\105\3\uffff\1\141"+
"\1\174\1\145\1\uffff\1\150\4\157\5\uffff\1\46\1\uffff\1\53\1\76"+
"\4\uffff\1\145\1\156\1\154\1\170\2\56\4\uffff\1\143\1\142\1\151"+
"\2\uffff\1\160\1\44\2\141\13\uffff\1\157\1\154\1\157\2\uffff\1\161"+
"\1\157\2\155\1\165\1\151\1\154\1\44\1\157\1\164\1\156\1\165\6\uffff"+
"\1\164\1\145\1\154\1\151\1\uffff\1\56\1\uffff\1\56\1\153\1\154\1"+
"\166\1\157\1\44\1\164\1\uffff\1\163\1\162\1\155\1\163\1\141\2\44"+
"\1\162\1\145\1\44\2\145\1\157\1\163\1\154\1\uffff\1\154\2\145\1"+
"\142\1\165\2\44\1\163\1\uffff\1\141\1\151\1\141\2\162\1\uffff\1"+
"\141\1\163\2\44\1\145\1\164\2\uffff\1\164\1\162\1\uffff\2\44\1\167"+
"\2\44\1\145\3\44\1\154\1\162\2\uffff\1\164\1\147\1\143\2\164\1\146"+
"\1\156\1\44\2\uffff\4\44\2\uffff\1\44\2\uffff\1\141\3\uffff\1\145"+
"\1\156\1\163\1\145\1\44\1\145\1\44\1\141\1\143\6\uffff\1\156\4\44"+
"\1\uffff\1\44\1\uffff\1\143\1\145\1\44\5\uffff\1\145\1\157\1\uffff"+
"\1\44\1\146\1\uffff\1\44\1\uffff"
```

Definition at line 3543 of file JFSLLexer.java.

9.98.4.44 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_special = DFA.unpackEncodedString(DFA26_specialS) [static, package]

Definition at line 3928 of file JFSLLexer.java.

9.98.4.45 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_specialS [static, package]

Initial value:

```
"\u00de\uuffff">
```

Definition at line 3588 of file JFSLLexer.java.

9.98.4.46 final short [][] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_transition [static, package]

Definition at line 3929 of file JFSLLexer.java.

9.98.4.47 final String [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_transitionS [static, package]

Definition at line 3590 of file JFSLLexer.java.

9.98.4.48 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.ENSURES = 105 [static]

Definition at line 94 of file JFSLLexer.java.

9.98.4.49 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.EOF = -1 [static]

Definition at line 27 of file JFSLLexer.java.

9.98.4.50 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.EscapeSequence = 121 [static]

Definition at line 140 of file JFSLLexer.java.

9.98.4.51 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.Exponent = 119 [static]

Definition at line 146 of file JFSLLexer.java.

9.98.4.52 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FIELD = 25 [static]

Definition at line 136 of file JFSLLexer.java.

9.98.4.53 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FILE = 93 [static]`

Definition at line 60 of file JFSLLexer.java.

9.98.4.54 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FloatingPointLiteral = 111 [static]`

Definition at line 77 of file JFSLLexer.java.

9.98.4.55 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FloatTypeSuffix = 120 [static]`

Definition at line 113 of file JFSLLexer.java.

9.98.4.56 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FRAME = 5 [static]`

Definition at line 202 of file JFSLLexer.java.

9.98.4.57 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FRAME_ALL = 11 [static]`

Definition at line 203 of file JFSLLexer.java.

9.98.4.58 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FRAME_LOCATION = 10 [static]`

Definition at line 135 of file JFSLLexer.java.

9.98.4.59 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.HELPER = 108 [static]`

Definition at line 174 of file JFSLLexer.java.

9.98.4.60 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.HexDigit = 117 [static]`

Definition at line 93 of file JFSLLexer.java.

9.98.4.61 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.HexLiteral = 114 [static]`

Definition at line 102 of file JFSLLexer.java.

9.98.4.62 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.IDENTIFIER = 30 [static]`

Definition at line 161 of file JFSLLexer.java.

9.98.4.63 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.Identifier = 110 [static]`

Definition at line 121 of file JFSLLexer.java.

9.98.4.64 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.IMPORT = 99 [static]`

Definition at line 36 of file JFSLLexer.java.

9.98.4.65 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.IntegerTypeSuffix = 118 [static]`

Definition at line 57 of file JFSLLexer.java.

9.98.4.66 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.INVARIANT = 94 [static]`

Definition at line 132 of file JFSLLexer.java.

9.98.4.67 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.JavaIDDigit = 125 [static]`

Definition at line 78 of file JFSLLexer.java.

9.98.4.68 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.JOIN = 18 [static]`

Definition at line 183 of file JFSLLexer.java.

9.98.4.69 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.JOIN_REFLEXIVE = 19 [static]`

Definition at line 111 of file JFSLLexer.java.

9.98.4.70 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.Letter = 124 [static]`

Definition at line 139 of file JFSLLexer.java.

9.98.4.71 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.LIT_FALSE = 81 [static]`

Definition at line 25 of file JFSLLexer.java.

9.98.4.72 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.LIT_NULL = 82 [static]`

Definition at line 118 of file JFSLLexer.java.

9.98.4.73 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.LIT_TRUE = 80 [static]`

Definition at line 147 of file JFSLLexer.java.

9.98.4.74 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.METHOD = 100 [static]`

Definition at line 207 of file JFSLLexer.java.

9.98.4.75 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.METHOD_PARAMETERS = 101 [static]`

Definition at line 67 of file JFSLLexer.java.

9.98.4.76 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.MODIFIES = 106 [static]`

Definition at line 119 of file JFSLLexer.java.

9.98.4.77 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.NULL = 6 [static]`

Definition at line 130 of file JFSLLexer.java.

9.98.4.78 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OctalEscape = 123 [static]`

Definition at line 108 of file JFSLLexer.java.

9.98.4.79 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OctalLiteral = 115 [static]`

Definition at line 114 of file JFSLLexer.java.

9.98.4.80 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OLD = 22 [static]`

Definition at line 133 of file JFSLLexer.java.

9.98.4.81 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_AND = 38 [static]`

Definition at line 112 of file JFSLLexer.java.

9.98.4.82 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_BIT_AND_OR_INTERSECTION = 43 [static]`

Definition at line 110 of file JFSLLexer.java.

9.98.4.83 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_BIT_NOT_OR_TRANSPOSE = 45 [static]`

Definition at line 148 of file JFSLLexer.java.

9.98.4.84 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_BIT_OR = 40 [static]`

Definition at line 162 of file JFSLLexer.java.

9.98.4.85 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_BIT_XOR = 41 [static]`

Definition at line 117 of file JFSLLexer.java.

9.98.4.86 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_CLOSURE = 46 [static]`

Definition at line 126 of file JFSLLexer.java.

9.98.4.87 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_DIFFERENCE = 59 [static]`

Definition at line 58 of file JFSLLexer.java.

9.98.4.88 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_DIVIDE = 64 [static]`

Definition at line 103 of file JFSLLexer.java.

9.98.4.89 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_EQ = 35 [static]`

Definition at line 35 of file JFSLLexer.java.

9.98.4.90 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_EQUIV = 66 [static]`

Definition at line 98 of file JFSLLexer.java.

9.98.4.91 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_GEQ = 49 [static]`

Definition at line 19 of file JFSLLexer.java.

9.98.4.92 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_GT = 47 [static]`

Definition at line 145 of file JFSLLexer.java.

9.98.4.93 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_IMPLIES = 68 [static]`

Definition at line 209 of file JFSLLexer.java.

9.98.4.94 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_INSTANCEOF = 54 [static]`

Definition at line 17 of file JFSLLexer.java.

9.98.4.95 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_INTERSECTION = 42 [static]`

Definition at line 23 of file JFSLLexer.java.

9.98.4.96 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_LEQ = 50 [static]`

Definition at line 201 of file JFSLLexer.java.

9.98.4.97 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_LT = 48 [static]`

Definition at line 125 of file JFSLLexer.java.

9.98.4.98 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_MINUS = 58 [static]`

Definition at line 123 of file JFSLLexer.java.

9.98.4.99 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_MINUS_OR_DIFFERENCE = 60 [static]`

Definition at line 107 of file JFSLLexer.java.

9.98.4.100 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_MOD = 65 [static]`

Definition at line 34 of file JFSLLexer.java.

9.98.4.101 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_NEQ = 36 [static]`

Definition at line 197 of file JFSLLexer.java.

9.98.4.102 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_NEQUIV = 67 [static]`

Definition at line 101 of file JFSLLexer.java.

9.98.4.103 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_NOT = 39 [static]`

Definition at line 97 of file JFSLLexer.java.

9.98.4.104 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_NSET_SUBSET = 79 [static]`

Definition at line 179 of file JFSLLexer.java.

9.98.4.105 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_OR = 37 [static]`

Definition at line 89 of file JFSLLexer.java.

9.98.4.106 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_PLUS = 55 [static]`

Definition at line 173 of file JFSLLexer.java.

9.98.4.107 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_PLUS_OR_UNION = 57 [static]`

Definition at line 138 of file JFSLLexer.java.

9.98.4.108 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_RELATIONAL_COMPOSE = 62 [static]`

Definition at line 116 of file JFSLLexer.java.

9.98.4.109 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_RELATIONAL_OVERRIDE = 61 [static]`

Definition at line 137 of file JFSLLexer.java.

9.98.4.110 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_ALL = 75 [static]`

Definition at line 15 of file JFSLLexer.java.

9.98.4.111 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_COMPREHENSION = 77 [static]`

Definition at line 106 of file JFSLLexer.java.

9.98.4.112 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_EXISTS = 76 [static]`

Definition at line 177 of file JFSLLexer.java.

9.98.4.113 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_LONE = 72 [static]`

Definition at line 20 of file JFSLLexer.java.

9.98.4.114 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_NO = 71 [static]`

Definition at line 21 of file JFSLLexer.java.

9.98.4.115 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_NUM = 73 [static]`

Definition at line 186 of file JFSLLexer.java.

9.98.4.116 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_ONE = 69 [static]`

Definition at line 192 of file JFSLLexer.java.

9.98.4.117 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_SOME = 70 [static]`

Definition at line 99 of file JFSLLexer.java.

9.98.4.118 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_SUBSET = 78`
`[static]`

Definition at line 163 of file JFSLLexer.java.

9.98.4.119 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_SUM = 74` `[static]`

Definition at line 128 of file JFSLLexer.java.

9.98.4.120 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SHL = 51` `[static]`

Definition at line 68 of file JFSLLexer.java.

9.98.4.121 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SHR = 52` `[static]`

Definition at line 74 of file JFSLLexer.java.

9.98.4.122 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_TIMES = 63` `[static]`

Definition at line 200 of file JFSLLexer.java.

9.98.4.123 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_TRANSPOSE = 44`
`[static]`

Definition at line 142 of file JFSLLexer.java.

9.98.4.124 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_UNION = 56` `[static]`

Definition at line 205 of file JFSLLexer.java.

9.98.4.125 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_USHR = 53` `[static]`

Definition at line 95 of file JFSLLexer.java.

9.98.4.126 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.PACKAGE = 96` `[static]`

Definition at line 13 of file JFSLLexer.java.

9.98.4.127 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.PURE = 109` `[static]`

Definition at line 152 of file JFSLLexer.java.

9.98.4.128 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.QUANTIFY = 14` `[static]`

Definition at line 122 of file JFSLLexer.java.

9.98.4.129 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.REQUIRES = 104 [static]`

Definition at line 193 of file JFSLLexer.java.

9.98.4.130 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.RETURN_VAR = 32 [static]`

Definition at line 208 of file JFSLLexer.java.

9.98.4.131 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.SPECCASE = 102 [static]`

Definition at line 164 of file JFSLLexer.java.

9.98.4.132 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.SPECFIELD = 95 [static]`

Definition at line 75 of file JFSLLexer.java.

9.98.4.133 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.SPECIFICATION = 103 [static]`

Definition at line 80 of file JFSLLexer.java.

9.98.4.134 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.StringLiteral = 113 [static]`

Definition at line 105 of file JFSLLexer.java.

9.98.4.135 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.SUPER_VAR = 29 [static]`

Definition at line 144 of file JFSLLexer.java.

9.98.4.136 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__127 = 127 [static]`

Definition at line 71 of file JFSLLexer.java.

9.98.4.137 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__128 = 128 [static]`

Definition at line 69 of file JFSLLexer.java.

9.98.4.138 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__129 = 129 [static]`

Definition at line 73 of file JFSLLexer.java.

9.98.4.139 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__130 = 130 [static]`

Definition at line 81 of file JFSLLexer.java.

9.98.4.140 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__131 = 131 [static]`

Definition at line 82 of file JFSLLexer.java.

9.98.4.141 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__132 = 132 [static]`

Definition at line 83 of file JFSLLexer.java.

9.98.4.142 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__133 = 133 [static]`

Definition at line 85 of file JFSLLexer.java.

9.98.4.143 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__134 = 134 [static]`

Definition at line 86 of file JFSLLexer.java.

9.98.4.144 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__135 = 135 [static]`

Definition at line 88 of file JFSLLexer.java.

9.98.4.145 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__136 = 136 [static]`

Definition at line 55 of file JFSLLexer.java.

9.98.4.146 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__137 = 137 [static]`

Definition at line 54 of file JFSLLexer.java.

9.98.4.147 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__138 = 138 [static]`

Definition at line 53 of file JFSLLexer.java.

9.98.4.148 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__139 = 139 [static]`

Definition at line 52 of file JFSLLexer.java.

9.98.4.149 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__140 = 140 [static]`

Definition at line 62 of file JFSLLexer.java.

9.98.4.150 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__141 = 141 [static]`

Definition at line 59 of file JFSLLexer.java.

9.98.4.151 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__142 = 142` `[static]`

Definition at line 61 of file JFSLLexer.java.

9.98.4.152 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__143 = 143` `[static]`

Definition at line 65 of file JFSLLexer.java.

9.98.4.153 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__144 = 144` `[static]`

Definition at line 66 of file JFSLLexer.java.

9.98.4.154 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__145 = 145` `[static]`

Definition at line 63 of file JFSLLexer.java.

9.98.4.155 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__146 = 146` `[static]`

Definition at line 64 of file JFSLLexer.java.

9.98.4.156 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__147 = 147` `[static]`

Definition at line 38 of file JFSLLexer.java.

9.98.4.157 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__148 = 148` `[static]`

Definition at line 37 of file JFSLLexer.java.

9.98.4.158 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__149 = 149` `[static]`

Definition at line 39 of file JFSLLexer.java.

9.98.4.159 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__150 = 150` `[static]`

Definition at line 48 of file JFSLLexer.java.

9.98.4.160 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__151 = 151` `[static]`

Definition at line 49 of file JFSLLexer.java.

9.98.4.161 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__152 = 152` `[static]`

Definition at line 50 of file JFSLLexer.java.

9.98.4.162 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__153 = 153` `[static]`

Definition at line 51 of file JFSLLexer.java.

9.98.4.163 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__154 = 154` `[static]`

Definition at line 44 of file JFSLLexer.java.

9.98.4.164 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__155 = 155` `[static]`

Definition at line 45 of file JFSLLexer.java.

9.98.4.165 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__156 = 156` `[static]`

Definition at line 46 of file JFSLLexer.java.

9.98.4.166 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__157 = 157` `[static]`

Definition at line 47 of file JFSLLexer.java.

9.98.4.167 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__158 = 158` `[static]`

Definition at line 16 of file JFSLLexer.java.

9.98.4.168 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__159 = 159` `[static]`

Definition at line 14 of file JFSLLexer.java.

9.98.4.169 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__160 = 160` `[static]`

Definition at line 22 of file JFSLLexer.java.

9.98.4.170 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__161 = 161` `[static]`

Definition at line 32 of file JFSLLexer.java.

9.98.4.171 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__162 = 162` `[static]`

Definition at line 33 of file JFSLLexer.java.

9.98.4.172 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__163 = 163` `[static]`

Definition at line 30 of file JFSLLexer.java.

9.98.4.173 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__164 = 164` `[static]`

Definition at line 31 of file JFSLLexer.java.

9.98.4.174 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__165 = 165` `[static]`

Definition at line 28 of file JFSLLexer.java.

9.98.4.175 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__166 = 166` `[static]`

Definition at line 29 of file JFSLLexer.java.

9.98.4.176 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__167 = 167` `[static]`

Definition at line 24 of file JFSLLexer.java.

9.98.4.177 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__168 = 168` `[static]`

Definition at line 26 of file JFSLLexer.java.

9.98.4.178 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__169 = 169` `[static]`

Definition at line 206 of file JFSLLexer.java.

9.98.4.179 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__170 = 170` `[static]`

Definition at line 199 of file JFSLLexer.java.

9.98.4.180 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__171 = 171` `[static]`

Definition at line 198 of file JFSLLexer.java.

9.98.4.181 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__172 = 172` `[static]`

Definition at line 188 of file JFSLLexer.java.

9.98.4.182 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__173 = 173` `[static]`

Definition at line 187 of file JFSLLexer.java.

9.98.4.183 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__174 = 174` `[static]`

Definition at line 185 of file JFSLLexer.java.

9.98.4.184 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__175 = 175` `[static]`

Definition at line 184 of file JFSLLexer.java.

9.98.4.185 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__176 = 176` `[static]`

Definition at line 195 of file JFSLLexer.java.

9.98.4.186 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__177 = 177` `[static]`

Definition at line 194 of file JFSLLexer.java.

9.98.4.187 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__178 = 178` `[static]`

Definition at line 191 of file JFSLLexer.java.

9.98.4.188 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__179 = 179` `[static]`

Definition at line 190 of file JFSLLexer.java.

9.98.4.189 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__180 = 180` `[static]`

Definition at line 175 of file JFSLLexer.java.

9.98.4.190 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__181 = 181` `[static]`

Definition at line 180 of file JFSLLexer.java.

9.98.4.191 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__182 = 182` `[static]`

Definition at line 178 of file JFSLLexer.java.

9.98.4.192 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__183 = 183` `[static]`

Definition at line 166 of file JFSLLexer.java.

9.98.4.193 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__184 = 184` `[static]`

Definition at line 165 of file JFSLLexer.java.

9.98.4.194 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__185 = 185` `[static]`

Definition at line 168 of file JFSLLexer.java.

9.98.4.195 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__186 = 186` `[static]`

Definition at line 167 of file JFSLLexer.java.

9.98.4.196 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__187 = 187` `[static]`

Definition at line 170 of file JFSLLexer.java.

9.98.4.197 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__188 = 188` `[static]`

Definition at line 169 of file JFSLLexer.java.

9.98.4.198 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__189 = 189` `[static]`

Definition at line 172 of file JFSLLexer.java.

9.98.4.199 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__190 = 190` `[static]`

Definition at line 160 of file JFSLLexer.java.

9.98.4.200 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__191 = 191` `[static]`

Definition at line 159 of file JFSLLexer.java.

9.98.4.201 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__192 = 192` `[static]`

Definition at line 158 of file JFSLLexer.java.

9.98.4.202 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__193 = 193` `[static]`

Definition at line 157 of file JFSLLexer.java.

9.98.4.203 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__194 = 194` `[static]`

Definition at line 156 of file JFSLLexer.java.

9.98.4.204 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__195 = 195` `[static]`

Definition at line 155 of file JFSLLexer.java.

9.98.4.205 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__196 = 196` `[static]`

Definition at line 154 of file JFSLLexer.java.

9.98.4.206 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__197 = 197 [static]`

Definition at line 153 of file JFSLLexer.java.

9.98.4.207 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__198 = 198 [static]`

Definition at line 151 of file JFSLLexer.java.

9.98.4.208 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__199 = 199 [static]`

Definition at line 149 of file JFSLLexer.java.

9.98.4.209 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.THIS_VAR = 28 [static]`

Definition at line 56 of file JFSLLexer.java.

9.98.4.210 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.THROW_VAR = 33 [static]`

Definition at line 104 of file JFSLLexer.java.

9.98.4.211 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.THROWS = 107 [static]`

Definition at line 134 of file JFSLLexer.java.

9.98.4.212 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_ARRAY = 92
[static]`

Definition at line 189 of file JFSLLexer.java.

9.98.4.213 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_BOOLEAN = 83
[static]`

Definition at line 141 of file JFSLLexer.java.

9.98.4.214 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_BYTE = 85 [static]`

Definition at line 40 of file JFSLLexer.java.

9.98.4.215 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_CHAR = 84 [static]`

Definition at line 76 of file JFSLLexer.java.

9.98.4.216 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_DECLARATION = 97
[static]`

Definition at line 150 of file JFSLLexer.java.

9.98.4.217 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_DOUBLE = 90`
`[static]`

Definition at line 120 of file JFSLLexer.java.

9.98.4.218 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_FLOAT = 89` `[static]`

Definition at line 176 of file JFSLLexer.java.

9.98.4.219 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_INT = 87` `[static]`

Definition at line 18 of file JFSLLexer.java.

9.98.4.220 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_LONG = 88` `[static]`

Definition at line 91 of file JFSLLexer.java.

9.98.4.221 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_PARAMETERS = 98`
`[static]`

Definition at line 43 of file JFSLLexer.java.

9.98.4.222 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_REF = 91` `[static]`

Definition at line 70 of file JFSLLexer.java.

9.98.4.223 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_SHORT = 86` `[static]`

Definition at line 171 of file JFSLLexer.java.

9.98.4.224 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.UNARY = 13` `[static]`

Definition at line 100 of file JFSLLexer.java.

9.98.4.225 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.UnicodeEscape = 122`
`[static]`

Definition at line 196 of file JFSLLexer.java.

9.98.4.226 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.VOID = 31` `[static]`

Definition at line 124 of file JFSLLexer.java.

9.98.4.227 `final int edu.mit.csail.sdg.squander.parser.JFSLLexer.WS = 126` `[static]`

Definition at line 72 of file JFSLLexer.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLLexer.java](#)

9.99 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18 Class Reference

Public Member Functions

- [DFA18](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()

9.99.1 Detailed Description

Definition at line 3511 of file JFSLLexer.java.

9.99.2 Constructor & Destructor Documentation

9.99.2.1 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18.DFA18 (BaseRecognizer *recognizer*)

Definition at line 3513 of file JFSLLexer.java.

9.99.3 Member Function Documentation

9.99.3.1 String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18.getDescription ()

Definition at line 3524 of file JFSLLexer.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLLexer.java](#)

9.100 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26 Class Reference

Public Member Functions

- [DFA26](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()

9.100.1 Detailed Description

Definition at line 3939 of file JFSLLexer.java.

9.100.2 Constructor & Destructor Documentation

9.100.2.1 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26.DFA26 (BaseRecognizer recognizer)

Definition at line 3941 of file JFSLLexer.java.

9.100.3 Member Function Documentation

9.100.3.1 String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26.getDescription ()

Definition at line 3952 of file JFSLLexer.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLLexer.java](#)

9.101 edu.mit.csail.sdg.squander.parser.JFSLParser Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.parser.JFSLParser:



Classes

- class **additiveExpression_return**
- class **additiveOp_return**
- class **andExpression_return**
- class **arguments_return**
- class **bitAndOp_return**
- class **castExpression_return**
- class **clause_return**
- class **common_return**
- class **compilationUnit_return**
- class **composeExpression_return**
- class **conditionalAndExpression_return**
- class **conditionalExpression_return**
- class **conditionalOrExpression_return**
- class **declaration_return**
- class **declarationMult_return**
- class **decls_return**
- class [DFA38](#)
- class [DFA42](#)
- class [DFA69](#)
- class [DFA77](#)
- class [DFA78](#)
- class [DFA79](#)
- class **equalityExpression_return**
- class **equalityOp_return**
- class **exclusiveOrExpression_return**

- class **expression_return**
- class **expressionList_return**
- class **frame_return**
- class **importDeclaration_return**
- class **inclusiveOrExpression_return**
- class **inOp_return**
- class **instanceOfExpression_return**
- class **integerLiteral_return**
- class **intersectionExpression_return**
- class **joinExpression_return**
- class **keywordLiteral_return**
- class **literal_return**
- class **logicalExpression_return**
- class **logicalOp_return**
- class **methodParameters_return**
- class **modifies_return**
- class **multiplicativeExpression_return**
- class **multOp_return**
- class **Node**
- class **NodeAdaptor**
- class **overrideExpression_return**
- class **packageName_return**
- class **parExpression_return**
- class **primary_return**
- class **primitiveType_return**
- class **quantifiedExpression_return**
- class **relationalExpression_return**
- class **relationalOp_return**
- class **relationalUnaryExpression_return**
- class **selector_return**
- class **setAdditiveExpression_return**
- class **setAdditiveOp_return**
- class **setDeclOp_return**
- class **setQuantOp_return**
- class **setUnaryExpression_return**
- class **setUnaryOp_return**
- class **shiftExpression_return**
- class **shiftOp_return**
- class **sizeExpression_return**
- class **specCase_return**
- class **specField_return**
- class **specUnaryOp_return**
- class **storePrimary_return**
- class **storeRef_return**
- class **storeSelectors_return**
- class **storeWildcard_return**
- class **type_return**
- class **typeBodyDeclaration_return**
- class **typeDeclaration_return**
- class **typeDisambiguous_return**

- class `typeName_return`
- class `typeParameters2_return`
- class `typeParameters_return`
- class `unaryExpression_return`
- class `unaryExpressionNotPlusMinus_return`

Public Types

- enum `Decision` {
 LOCAL, GLOBAL, TYPE, FRAGMENT,
 CONST }

Public Member Functions

- `JFSLParser` (TokenStream input)
- `JFSLParser` (TokenStream input, RecognizerSharedState state)
- void `setTreeAdaptor` (TreeAdaptor adaptor)
- TreeAdaptor `getTreeAdaptor` ()
- String[] `getTokenNames` ()
- String `getGrammarFileName` ()
- void `displayRecognitionError` (String[] tokenNames, RecognitionException e)
- final `JFSLParser.clause_return` `clause` () throws RecognitionException
- final `JFSLParser.specField_return` `specField` () throws RecognitionException
- final `JFSLParser.modifies_return` `modifies` () throws RecognitionException
- final `JFSLParser.compilationUnit_return` `compilationUnit` () throws RecognitionException
- final `JFSLParser.packageName_return` `packageName` () throws RecognitionException
- final `JFSLParser.importDeclaration_return` `importDeclaration` () throws RecognitionException
- final `JFSLParser.typeDeclaration_return` `typeDeclaration` () throws RecognitionException
- final `JFSLParser.typeParameters_return` `typeParameters` () throws RecognitionException
- final `JFSLParser.typeParameters2_return` `typeParameters2` () throws RecognitionException
- final `JFSLParser.typeBodyDeclaration_return` `typeBodyDeclaration` () throws RecognitionException
- final `JFSLParser.methodParameters_return` `methodParameters` () throws RecognitionException
- final `JFSLParser.specCase_return` `specCase` () throws RecognitionException
- final `JFSLParser.declaration_return` `declaration` () throws RecognitionException
- final `JFSLParser.declarationMult_return` `declarationMult` () throws RecognitionException
- final `JFSLParser.frame_return` `frame` () throws RecognitionException
- final `JFSLParser.storeRef_return` `storeRef` () throws RecognitionException
- final `JFSLParser.storePrimary_return` `storePrimary` () throws RecognitionException
- final `JFSLParser.storeSelectors_return` `storeSelectors` () throws RecognitionException
- final `JFSLParser.storeWildcard_return` `storeWildcard` () throws RecognitionException
- final `JFSLParser.keywordLiteral_return` `keywordLiteral` () throws RecognitionException
- final `JFSLParser.literal_return` `literal` () throws RecognitionException
- final `JFSLParser.integerLiteral_return` `integerLiteral` () throws RecognitionException
- final `JFSLParser.primitiveType_return` `primitiveType` () throws RecognitionException
- final `JFSLParser.typeName_return` `typeName` () throws RecognitionException
- final `JFSLParser.typeDisambiguous_return` `typeDisambiguous` () throws RecognitionException
- final `JFSLParser.type_return` `type` () throws RecognitionException
- final `JFSLParser.parExpression_return` `parExpression` () throws RecognitionException
- final `JFSLParser.expressionList_return` `expressionList` () throws RecognitionException

- final JFSLParser.arguments_return [arguments](#) () throws RecognitionException
- final JFSLParser.expression_return [expression](#) () throws RecognitionException
- final JFSLParser.conditionalExpression_return [conditionalExpression](#) () throws RecognitionException
- final JFSLParser.quantifiedExpression_return [quantifiedExpression](#) () throws RecognitionException
- final JFSLParser.logicalExpression_return [logicalExpression](#) () throws RecognitionException
- final JFSLParser.logicalOp_return [logicalOp](#) () throws RecognitionException
- final JFSLParser.conditionalOrExpression_return [conditionalOrExpression](#) () throws RecognitionException
- final JFSLParser.conditionalAndExpression_return [conditionalAndExpression](#) () throws RecognitionException
- final JFSLParser.inclusiveOrExpression_return [inclusiveOrExpression](#) () throws RecognitionException
- final JFSLParser.exclusiveOrExpression_return [exclusiveOrExpression](#) () throws RecognitionException
- final JFSLParser.andExpression_return [andExpression](#) () throws RecognitionException
- final JFSLParser.bitAndOp_return [bitAndOp](#) () throws RecognitionException
- final JFSLParser.equalityExpression_return [equalityExpression](#) () throws RecognitionException
- final JFSLParser.equalityOp_return [equalityOp](#) () throws RecognitionException
- final JFSLParser.instanceOfExpression_return [instanceOfExpression](#) () throws RecognitionException
- final JFSLParser.relationalExpression_return [relationalExpression](#) () throws RecognitionException
- final JFSLParser.inOp_return [inOp](#) () throws RecognitionException
- final JFSLParser.relationalOp_return [relationalOp](#) () throws RecognitionException
- final JFSLParser.setUnaryExpression_return [setUnaryExpression](#) () throws RecognitionException
- final JFSLParser.shiftExpression_return [shiftExpression](#) () throws RecognitionException
- final JFSLParser.shiftOp_return [shiftOp](#) () throws RecognitionException
- final JFSLParser.additiveExpression_return [additiveExpression](#) () throws RecognitionException
- final JFSLParser.additiveOp_return [additiveOp](#) () throws RecognitionException
- final JFSLParser.sizeExpression_return [sizeExpression](#) () throws RecognitionException
- final JFSLParser.multiplicativeExpression_return [multiplicativeExpression](#) () throws RecognitionException
- final JFSLParser.multOp_return [multOp](#) () throws RecognitionException
- final JFSLParser.setAdditiveExpression_return [setAdditiveExpression](#) () throws RecognitionException
- final JFSLParser.setAdditiveOp_return [setAdditiveOp](#) () throws RecognitionException
- final JFSLParser.overrideExpression_return [overrideExpression](#) () throws RecognitionException
- final JFSLParser.intersectionExpression_return [intersectionExpression](#) () throws RecognitionException
- final JFSLParser.composeExpression_return [composeExpression](#) () throws RecognitionException
- final JFSLParser.unaryExpression_return [unaryExpression](#) () throws RecognitionException
- final JFSLParser.unaryExpressionNotPlusMinus_return [unaryExpressionNotPlusMinus](#) () throws RecognitionException
- final JFSLParser.castExpression_return [castExpression](#) () throws RecognitionException
- final JFSLParser.decls_return [decls](#) () throws RecognitionException
- final JFSLParser.relationalUnaryExpression_return [relationalUnaryExpression](#) () throws RecognitionException
- final JFSLParser.joinExpression_return [joinExpression](#) () throws RecognitionException
- final JFSLParser.common_return [common](#) () throws RecognitionException
- final JFSLParser.primary_return [primary](#) () throws RecognitionException
- final JFSLParser.selector_return [selector](#) () throws RecognitionException

- final JFSLParser.specUnaryOp_return [specUnaryOp](#) () throws RecognitionException
- final JFSLParser.setDeclOp_return [setDeclOp](#) () throws RecognitionException
- final JFSLParser.setUnaryOp_return [setUnaryOp](#) () throws RecognitionException
- final JFSLParser.setQuantOp_return [setQuantOp](#) () throws RecognitionException
- final void [synpred13_JFSL_fragment](#) () throws RecognitionException
- final void [synpred26_JFSL_fragment](#) () throws RecognitionException
- final void [synpred37_JFSL_fragment](#) () throws RecognitionException
- final void [synpred56_JFSL_fragment](#) () throws RecognitionException
- final void [synpred58_JFSL_fragment](#) () throws RecognitionException
- final void [synpred62_JFSL_fragment](#) () throws RecognitionException
- final void [synpred63_JFSL_fragment](#) () throws RecognitionException
- final void [synpred99_JFSL_fragment](#) () throws RecognitionException
- final void [synpred101_JFSL_fragment](#) () throws RecognitionException
- final void [synpred117_JFSL_fragment](#) () throws RecognitionException
- final void [synpred118_JFSL_fragment](#) () throws RecognitionException
- final void [synpred119_JFSL_fragment](#) () throws RecognitionException
- final void [synpred120_JFSL_fragment](#) () throws RecognitionException
- final boolean [synpred99_JFSL](#) ()
- final boolean [synpred117_JFSL](#) ()
- final boolean [synpred62_JFSL](#) ()
- final boolean [synpred118_JFSL](#) ()
- final boolean [synpred63_JFSL](#) ()
- final boolean [synpred119_JFSL](#) ()
- final boolean [synpred56_JFSL](#) ()
- final boolean [synpred58_JFSL](#) ()
- final boolean [synpred13_JFSL](#) ()
- final boolean [synpred26_JFSL](#) ()
- final boolean [synpred37_JFSL](#) ()
- final boolean [synpred101_JFSL](#) ()
- final boolean [synpred120_JFSL](#) ()

Static Public Attributes

- static final String[] [tokenNames](#)
- static final int [PACKAGE](#) = 96
- static final int [T__159](#) = 159
- static final int [T__158](#) = 158
- static final int [OP_INSTANCEOF](#) = 54
- static final int [OP_SET_ALL](#) = 75
- static final int [OP_GEQ](#) = 49
- static final int [TYPE_INT](#) = 87
- static final int [OP_SET_LONE](#) = 72
- static final int [OP_SET_NO](#) = 71
- static final int [T__160](#) = 160
- static final int [T__167](#) = 167
- static final int [OP_INTERSECTION](#) = 42
- static final int [T__168](#) = 168
- static final int [EOF](#) = -1
- static final int [LIT_FALSE](#) = 81
- static final int [T__165](#) = 165

- static final int `T__166` = 166
- static final int `T__163` = 163
- static final int `T__164` = 164
- static final int `T__161` = 161
- static final int `T__162` = 162
- static final int `OP_MOD` = 65
- static final int `OP_EQ` = 35
- static final int `IMPORT` = 99
- static final int `T__148` = 148
- static final int `T__147` = 147
- static final int `T__149` = 149
- static final int `TYPE_BYTE` = 85
- static final int `DECL_SET` = 7
- static final int `DECL_SEQ` = 8
- static final int `TYPE_PARAMETERS` = 98
- static final int `T__154` = 154
- static final int `T__155` = 155
- static final int `T__156` = 156
- static final int `T__157` = 157
- static final int `T__150` = 150
- static final int `T__151` = 151
- static final int `T__152` = 152
- static final int `T__153` = 153
- static final int `T__139` = 139
- static final int `T__138` = 138
- static final int `T__137` = 137
- static final int `T__136` = 136
- static final int `THIS_VAR` = 28
- static final int `IntegerTypeSuffix` = 118
- static final int `OP_DIFFERENCE` = 59
- static final int `T__141` = 141
- static final int `T__142` = 142
- static final int `FILE` = 93
- static final int `T__140` = 140
- static final int `T__145` = 145
- static final int `T__146` = 146
- static final int `T__143` = 143
- static final int `T__144` = 144
- static final int `OP_SHL` = 51
- static final int `METHOD_PARAMETERS` = 101
- static final int `T__128` = 128
- static final int `T__127` = 127
- static final int `TYPE_REF` = 91
- static final int `WS` = 126
- static final int `T__129` = 129
- static final int `OP_SHR` = 52
- static final int `SPECFIELD` = 95
- static final int `TYPE_CHAR` = 84
- static final int `FloatingPointLiteral` = 111
- static final int `JavaIDDigit` = 125

- static final int `CALL` = 21
- static final int `SPECIFICATION` = 103
- static final int `T__130` = 130
- static final int `T__131` = 131
- static final int `T__132` = 132
- static final int `T__133` = 133
- static final int `CLASS_DESIGNATOR` = 27
- static final int `CHAIN` = 17
- static final int `T__134` = 134
- static final int `T__135` = 135
- static final int `OP_OR` = 37
- static final int `AMBIGUOUS` = 24
- static final int `TYPE_LONG` = 88
- static final int `HexDigit` = 117
- static final int `DECLARATION` = 4
- static final int `ENSURES` = 105
- static final int `OP_USHR` = 53
- static final int `ARGUMENT` = 23
- static final int `OP_NOT` = 39
- static final int `OP_EQUIV` = 66
- static final int `OP_SET_SOME` = 70
- static final int `UNARY` = 13
- static final int `OP_NEQUIV` = 67
- static final int `HexLiteral` = 114
- static final int `OP_DIVIDE` = 64
- static final int `THROW_VAR` = 33
- static final int `StringLiteral` = 113
- static final int `OP_SET_COMPREHENSION` = 77
- static final int `OP_MINUS_OR_DIFFERENCE` = 60
- static final int `OctalEscape` = 123
- static final int `CAST` = 26
- static final int `OP_BIT_AND_OR_INTERSECTION` = 43
- static final int `JOIN_REFLEXIVE` = 19
- static final int `OP_AND` = 38
- static final int `FloatTypeSuffix` = 120
- static final int `OctalLiteral` = 115
- static final int `BRACKET` = 20
- static final int `OP_RELATIONAL_COMPOSE` = 62
- static final int `OP_BIT_XOR` = 41
- static final int `LIT_NULL` = 82
- static final int `MODIFIES` = 106
- static final int `TYPE_DOUBLE` = 90
- static final int `Identifier` = 110
- static final int `QUANTIFY` = 14
- static final int `OP_MINUS` = 58
- static final int `VOID` = 31
- static final int `OP_LT` = 48
- static final int `OP_CLOSURE` = 46
- static final int `DECL_NONE` = 9
- static final int `OP_SET_SUM` = 74

- static final int [ARGUMENTS](#) = 16
- static final int [NULL](#) = 6
- static final int [CONDITIONAL](#) = 15
- static final int [INVARIANT](#) = 94
- static final int [OLD](#) = 22
- static final int [THROWS](#) = 107
- static final int [FRAME_LOCATION](#) = 10
- static final int [FIELD](#) = 25
- static final int [OP_RELATIONAL_OVERRIDE](#) = 61
- static final int [OP_PLUS_OR_UNION](#) = 57
- static final int [Letter](#) = 124
- static final int [EscapeSequence](#) = 121
- static final int [TYPE_BOOLEAN](#) = 83
- static final int [OP_TRANSPOSE](#) = 44
- static final int [CharacterLiteral](#) = 112
- static final int [SUPER_VAR](#) = 29
- static final int [OP_GT](#) = 47
- static final int [Exponent](#) = 119
- static final int [LIT_TRUE](#) = 80
- static final int [OP_BIT_NOT_OR_TRANSPOSE](#) = 45
- static final int [T__199](#) = 199
- static final int [TYPE_DECLARATION](#) = 97
- static final int [T__198](#) = 198
- static final int [PURE](#) = 109
- static final int [T__197](#) = 197
- static final int [T__196](#) = 196
- static final int [T__195](#) = 195
- static final int [T__194](#) = 194
- static final int [T__193](#) = 193
- static final int [T__192](#) = 192
- static final int [T__191](#) = 191
- static final int [T__190](#) = 190
- static final int [IDENTIFIER](#) = 30
- static final int [OP_BIT_OR](#) = 40
- static final int [OP_SET_SUBSET](#) = 78
- static final int [SPECCASE](#) = 102
- static final int [T__184](#) = 184
- static final int [T__183](#) = 183
- static final int [T__186](#) = 186
- static final int [T__185](#) = 185
- static final int [T__188](#) = 188
- static final int [T__187](#) = 187
- static final int [TYPE_SHORT](#) = 86
- static final int [T__189](#) = 189
- static final int [OP_PLUS](#) = 55
- static final int [HELPER](#) = 108
- static final int [T__180](#) = 180
- static final int [TYPE_FLOAT](#) = 89
- static final int [OP_SET_EXISTS](#) = 76
- static final int [T__182](#) = 182

- static final int `OP_NSET_SUBSET` = 79
- static final int `T__181` = 181
- static final int `DECLS` = 34
- static final int `DecimalLiteral` = 116
- static final int `JOIN` = 18
- static final int `T__175` = 175
- static final int `T__174` = 174
- static final int `OP_SET_NUM` = 73
- static final int `T__173` = 173
- static final int `T__172` = 172
- static final int `TYPE_ARRAY` = 92
- static final int `T__179` = 179
- static final int `T__178` = 178
- static final int `OP_SET_ONE` = 69
- static final int `REQUIRES` = 104
- static final int `T__177` = 177
- static final int `T__176` = 176
- static final int `UnicodeEscape` = 122
- static final int `OP_NEQ` = 36
- static final int `T__171` = 171
- static final int `T__170` = 170
- static final int `FRAME` = 5
- static final int `OP_LEQ` = 50
- static final int `OP_TIMES` = 63
- static final int `FRAME_ALL` = 11
- static final int `BINARY` = 12
- static final int `T__169` = 169
- static final int `OP_UNION` = 56
- static final int `METHOD` = 100
- static final int `RETURN_VAR` = 32
- static final int `OP_IMPLIES` = 68
- static final BitSet `FOLLOW_expression_in_clause720` = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet `FOLLOW_EOF_in_clause722` = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet `FOLLOW_declaration_in_specField729` = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet `FOLLOW_EOF_in_specField731` = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet `FOLLOW_frame_in_modifies738` = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet `FOLLOW_EOF_in_modifies740` = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet `FOLLOW_127_in_compilationUnit760` = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet `FOLLOW_packageName_in_compilationUnit762` = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000001L})
- static final BitSet `FOLLOW_128_in_compilationUnit764` = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000001CL})
- static final BitSet `FOLLOW_importDeclaration_in_compilationUnit770` = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000001CL})

- static final BitSet FOLLOW_typeDeclaration_in_compilationUnit776 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000001L})
- static final BitSet FOLLOW_128_in_compilationUnit778 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000001L})
- static final BitSet FOLLOW_EOF_in_compilationUnit785 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_packageName810 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000002L})
- static final BitSet FOLLOW_129_in_packageName813 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_packageName815 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000002L})
- static final BitSet FOLLOW_130_in_importDeclaration843 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_packageName_in_importDeclaration845 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000001L})
- static final BitSet FOLLOW_128_in_importDeclaration847 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000004L})
- static final BitSet FOLLOW_131_in_typeDeclaration874 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_132_in_typeDeclaration878 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_typeDeclaration881 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x00000000000000A0L})
- static final BitSet FOLLOW_typeParameters_in_typeDeclaration883 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000020L})
- static final BitSet FOLLOW_133_in_typeDeclaration890 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L, 0x0000000000000245DL})
- static final BitSet FOLLOW_typeBodyDeclaration_in_typeDeclaration892 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L, 0x0000000000000245DL})
- static final BitSet FOLLOW_134_in_typeDeclaration895 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_135_in_typeParameters926 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_typeParameters928 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000300L})
- static final BitSet FOLLOW_136_in_typeParameters931 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_typeParameters933 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000300L})
- static final BitSet FOLLOW_137_in_typeParameters937 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_135_in_typeParameters2959 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC80407FF0000820L, 0x0000000000000001L})
- static final BitSet FOLLOW_primary_in_typeParameters2961 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000300L})
- static final BitSet FOLLOW_136_in_typeParameters2964 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC80407FF0000820L, 0x0000000000000001L})
- static final BitSet FOLLOW_primary_in_typeParameters2966 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000300L})
- static final BitSet FOLLOW_137_in_typeParameters2970 = new BitSet(new long[] {0x0000000000000002L})

- static final BitSet FOLLOW_128_in_typeBodyDeclaration988 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_typeDeclaration_in_typeBodyDeclaration995 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_138_in_typeBodyDeclaration1002 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_139_in_typeBodyDeclaration1004 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_typeBodyDeclaration1006 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_typeBodyDeclaration1008 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_141_in_typeBodyDeclaration1022 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_139_in_typeBodyDeclaration1024 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0x00000000000030000L})
- static final BitSet FOLLOW_declaration_in_typeBodyDeclaration1026 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_typeBodyDeclaration1028 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_typeBodyDeclaration1042 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_139_in_typeBodyDeclaration1044 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0x00000007F80001000L})
- static final BitSet FOLLOW_methodParameters_in_typeBodyDeclaration1046 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_typeBodyDeclaration1048 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000020L})
- static final BitSet FOLLOW_133_in_typeBodyDeclaration1050 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000FC041L})
- static final BitSet FOLLOW_specCase_in_typeBodyDeclaration1052 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
- static final BitSet FOLLOW_128_in_typeBodyDeclaration1055 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000FC041L})
- static final BitSet FOLLOW_specCase_in_typeBodyDeclaration1057 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
- static final BitSet FOLLOW_128_in_typeBodyDeclaration1062 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
- static final BitSet FOLLOW_134_in_typeBodyDeclaration1066 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_type_in_methodParameters1104 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_methodParameters1106 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x000000000000100L})
- static final BitSet FOLLOW_136_in_methodParameters1109 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0x00000007F8000000L})
- static final BitSet FOLLOW_type_in_methodParameters1111 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_methodParameters1113 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x000000000000100L})
- static final BitSet FOLLOW_142_in_specCase1149 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})

- static final BitSet FOLLOW_139_in_specCase1151 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_specCase1157 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000001000L})
- static final BitSet FOLLOW_140_in_specCase1159 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x00000000000038000L})
- static final BitSet FOLLOW_143_in_specCase1170 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000800L})
- static final BitSet FOLLOW_139_in_specCase1172 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_specCase1178 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000001000L})
- static final BitSet FOLLOW_140_in_specCase1180 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x00000000000020000L})
- static final BitSet FOLLOW_144_in_specCase1185 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000800L})
- static final BitSet FOLLOW_139_in_specCase1187 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_specCase1193 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000001000L})
- static final BitSet FOLLOW_140_in_specCase1195 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x00000000000020000L})
- static final BitSet FOLLOW_145_in_specCase1206 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000800L})
- static final BitSet FOLLOW_139_in_specCase1208 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L, 0xFC80400000001820L, 0x0000000000000001L})
- static final BitSet FOLLOW_frame_in_specCase1214 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000001000L})
- static final BitSet FOLLOW_140_in_specCase1216 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_146_in_specCase1267 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_147_in_specCase1282 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_148_in_declaration1306 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_149_in_declaration1310 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_declaration1314 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000400000L})
- static final BitSet FOLLOW_150_in_declaration1316 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF6000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_declarationMult_in_declaration1318 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_declaration1320 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x00000000000008000L})
- static final BitSet FOLLOW_151_in_declaration1322 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L, 0xFC80400001000820L, 0x0000000000000001L})
- static final BitSet FOLLOW_frame_in_declaration1324 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x00000000001000000L})
- static final BitSet FOLLOW_152_in_declaration1327 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})

- static final BitSet FOLLOW_expression_in_declaration1329 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_148_in_declaration1361 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_149_in_declaration1365 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_declaration1369 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000400000L})
- static final BitSet FOLLOW_150_in_declaration1371 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_declarationMult_in_declaration1373 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_declaration1375 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000001000000L})
- static final BitSet FOLLOW_152_in_declaration1378 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_declaration1380 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_setDeclOp_in_declarationMult1420 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_153_in_declarationMult1426 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_154_in_declarationMult1436 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_storeRef_in_frame1467 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
- static final BitSet FOLLOW_136_in_frame1470 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0xFC80400000000920L,0x0000000000000001L})
- static final BitSet FOLLOW_storeRef_in_frame1472 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
- static final BitSet FOLLOW_storePrimary_in_storeRef1497 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000008000000002L})
- static final BitSet FOLLOW_storeSelectors_in_storeRef1499 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_storePrimary1532 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_common_in_storePrimary1547 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_selector_in_storeSelectors1562 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000008000000002L})
- static final BitSet FOLLOW_storeWildcard_in_storeSelectors1565 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_selector_in_storeSelectors1572 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x000008000000002L})
- static final BitSet FOLLOW_129_in_storeWildcard1593 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})
- static final BitSet FOLLOW_155_in_storeWildcard1595 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_156_in_keywordLiteral1616 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_157_in_keywordLiteral1628 = new BitSet(new long[] {0x0000000000000002L})

- static final BitSet FOLLOW_158_in_keywordLiteral1639 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_integerLiteral_in_literal1663 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_FloatingPointLiteral_in_literal1669 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_CharacterLiteral_in_literal1675 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_StringLiteral_in_literal1681 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_keywordLiteral_in_literal1687 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_set_in_integerLiteral0 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_159_in_primitiveType1741 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_160_in_primitiveType1750 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_161_in_primitiveType1760 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_162_in_primitiveType1772 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_163_in_primitiveType1783 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_164_in_primitiveType1794 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_165_in_primitiveType1804 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_166_in_primitiveType1815 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_typeName1832 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000082L})
- static final BitSet FOLLOW_129_in_typeName1835 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_typeName1837 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000082L})
- static final BitSet FOLLOW_typeParameters_in_typeName1841 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_primitiveType_in_typeDisambiguous1878 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000008000000000L})
- static final BitSet FOLLOW_167_in_typeDisambiguous1887 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000010000000000L})
- static final BitSet FOLLOW_168_in_typeDisambiguous1889 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000008000000000L})
- static final BitSet FOLLOW_typeName_in_typeDisambiguous1908 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000008000000000L})
- static final BitSet FOLLOW_167_in_typeDisambiguous1917 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000010000000000L})
- static final BitSet FOLLOW_168_in_typeDisambiguous1919 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000008000000000L})
- static final BitSet FOLLOW_typeDisambiguous_in_type1944 = new BitSet(new long[] {0x0000000000000002L})

- static final BitSet FOLLOW_typeName_in_type1950 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_139_in_parExpression1984 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_expression_in_parExpression1987 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000001000L})
- static final BitSet FOLLOW_140_in_parExpression1989 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_expression_in_expressionList2019 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x000000000000100L})
- static final BitSet FOLLOW_136_in_expressionList2022 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_expression_in_expressionList2025 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x000000000000100L})
- static final BitSet FOLLOW_139_in_arguments2046 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF001820L,0x0000000000000FFL})
- static final BitSet FOLLOW_expressionList_in_arguments2048 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000001000L})
- static final BitSet FOLLOW_140_in_arguments2051 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_conditionalExpression_in_expression2075 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_quantifiedExpression_in_conditionalExpression2092 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x000020000000000L})
- static final BitSet FOLLOW_169_in_conditionalExpression2105 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_expression_in_conditionalExpression2107 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000400000L})
- static final BitSet FOLLOW_150_in_conditionalExpression2109 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_expression_in_conditionalExpression2111 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_setQuantOp_in_quantifiedExpression2147 = new BitSet(new long[] {0x0000000000000000L,0x000040000000000L})
- static final BitSet FOLLOW_decls_in_quantifiedExpression2149 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000001000000L})
- static final BitSet FOLLOW_152_in_quantifiedExpression2151 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_expression_in_quantifiedExpression2153 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_logicalExpression_in_quantifiedExpression2171 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_conditionalOrExpression_in_logicalExpression2187 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x000040000000080L})
- static final BitSet FOLLOW_logicalOp_in_logicalExpression2200 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_conditionalOrExpression_in_logicalExpression2202 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_135_in_logicalOp2239 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000040000000000L})
- static final BitSet FOLLOW_170_in_logicalOp2241 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000200L})

- static final BitSet FOLLOW_137_in_logicalOp2243 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_135_in_logicalOp2251 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000080000000000L})
- static final BitSet FOLLOW_171_in_logicalOp2253 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000200L})
- static final BitSet FOLLOW_137_in_logicalOp2255 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_170_in_logicalOp2263 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000200L})
- static final BitSet FOLLOW_137_in_logicalOp2265 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_conditionalAndExpression_in_conditionalOrExpression2285 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000100000000000L})
- static final BitSet FOLLOW_172_in_conditionalOrExpression2300 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_conditionalAndExpression_in_conditionalOrExpression2304 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000100000000000L})
- static final BitSet FOLLOW_inclusiveOrExpression_in_conditionalAndExpression2341 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000200000000000L})
- static final BitSet FOLLOW_173_in_conditionalAndExpression2356 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_inclusiveOrExpression_in_conditionalAndExpression2360 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000200000000000L})
- static final BitSet FOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2402 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000001000000L})
- static final BitSet FOLLOW_152_in_inclusiveOrExpression2417 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2421 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000001000000L})
- static final BitSet FOLLOW_andExpression_in_exclusiveOrExpression2458 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_174_in_exclusiveOrExpression2473 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_andExpression_in_exclusiveOrExpression2477 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_equalityExpression_in_andExpression2516 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000800000000000L})
- static final BitSet FOLLOW_bitAndOp_in_andExpression2531 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_equalityExpression_in_andExpression2535 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000800000000000L})
- static final BitSet FOLLOW_175_in_bitAndOp2572 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_instanceOfExpression_in_equalityExpression2594 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000C00000000000L})
- static final BitSet FOLLOW_equalityOp_in_equalityExpression2611 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_instanceOfExpression_in_equalityExpression2615 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000C00000000000L})
- static final BitSet FOLLOW_170_in_equalityOp2656 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000400000000000L})

- static final BitSet FOLLOW_170_in_equalityOp2658 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_171_in_equalityOp2666 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
- static final BitSet FOLLOW_170_in_equalityOp2668 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_170_in_equalityOp2676 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_relationalExpression_in_instanceOfExpression2698 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0001000000000000L})
- static final BitSet FOLLOW_176_in_instanceOfExpression2713 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0x0000007F80000000L})
- static final BitSet FOLLOW_type_in_instanceOfExpression2717 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_setUnaryExpression_in_relationalExpression2756 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0002080000000280L})
- static final BitSet FOLLOW_relationalOp_in_relationalExpression2773 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000FFFL})
- static final BitSet FOLLOW_setUnaryExpression_in_relationalExpression2777 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0002080000000280L})
- static final BitSet FOLLOW_177_in_inOp2816 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_135_in_relationalOp2835 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
- static final BitSet FOLLOW_170_in_relationalOp2837 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_137_in_relationalOp2845 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
- static final BitSet FOLLOW_170_in_relationalOp2847 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_135_in_relationalOp2855 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_137_in_relationalOp2863 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_inOp_in_relationalOp2871 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_171_in_relationalOp2875 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0002000000000000L})
- static final BitSet FOLLOW_177_in_relationalOp2877 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_setUnaryOp_in_setUnaryExpression2896 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000FFFL})
- static final BitSet FOLLOW_joinExpression_in_setUnaryExpression2898 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_shiftExpression_in_setUnaryExpression2914 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_additiveExpression_in_shiftExpression2932 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000280L})
- static final BitSet FOLLOW_shiftOp_in_shiftExpression2949 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000FFFL})
- static final BitSet FOLLOW_additiveExpression_in_shiftExpression2953 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000280L})

- static final BitSet FOLLOW_135_in_shiftOp2990 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000080L})
- static final BitSet FOLLOW_135_in_shiftOp2992 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_137_in_shiftOp3000 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000200L})
- static final BitSet FOLLOW_137_in_shiftOp3002 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000200L})
- static final BitSet FOLLOW_137_in_shiftOp3004 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_137_in_shiftOp3012 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000200L})
- static final BitSet FOLLOW_137_in_shiftOp3014 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_sizeExpression_in_additiveExpression3034 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x000C000000000000L})
- static final BitSet FOLLOW_additiveOp_in_additiveExpression3052 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_sizeExpression_in_additiveExpression3056 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x000C000000000000L})
- static final BitSet FOLLOW_178_in_additiveOp3097 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_179_in_additiveOp3110 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_180_in_sizeExpression3130 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_joinExpression_in_sizeExpression3132 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_multiplicativeExpression_in_sizeExpression3148 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_setAdditiveExpression_in_multiplicativeExpression3166 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0060000008000000L})
- static final BitSet FOLLOW_multOp_in_multiplicativeExpression3183 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_setAdditiveExpression_in_multiplicativeExpression3187 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0060000008000000L})
- static final BitSet FOLLOW_155_in_multOp3217 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_181_in_multOp3230 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_182_in_multOp3243 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_overrideExpression_in_setAdditiveExpression3266 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0080000000000000L})
- static final BitSet FOLLOW_setAdditiveOp_in_setAdditiveExpression3286 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_overrideExpression_in_setAdditiveExpression3290 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0080000000000000L})
- static final BitSet FOLLOW_183_in_setAdditiveOp3332 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0004000000000000L})
- static final BitSet FOLLOW_178_in_setAdditiveOp3334 = new BitSet(new long[] {0x0000000000000002L})

- static final BitSet FOLLOW_183_in_setAdditiveOp3345 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0008000000000000L})
- static final BitSet FOLLOW_179_in_setAdditiveOp3347 = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet FOLLOW_intersectionExpression_in_overrideExpression3370 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0100000000000000L})
- static final BitSet FOLLOW_184_in_overrideExpression3385 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_intersectionExpression_in_overrideExpression3389 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0100000000000000L})
- static final BitSet FOLLOW_composeExpression_in_intersectionExpression3433 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0080000000000000L})
- static final BitSet FOLLOW_183_in_intersectionExpression3448 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000800000000000L})
- static final BitSet FOLLOW_175_in_intersectionExpression3450 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_composeExpression_in_intersectionExpression3454 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0080000000000000L})
- static final BitSet FOLLOW_unaryExpression_in_composeExpression3494 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0200000000000000L})
- static final BitSet FOLLOW_185_in_composeExpression3509 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_composeExpression3513 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0200000000000000L})
- static final BitSet FOLLOW_178_in_unaryExpression3556 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_unaryExpression3558 = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet FOLLOW_179_in_unaryExpression3574 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_unaryExpression3576 = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet FOLLOW_unaryExpressionNotPlusMinus_in_unaryExpression3592 = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet FOLLOW_186_in_unaryExpressionNotPlusMinus3605 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_unaryExpressionNotPlusMinus3607 = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet FOLLOW_171_in_unaryExpressionNotPlusMinus3623 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_unaryExpressionNotPlusMinus3625 = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet FOLLOW_castExpression_in_unaryExpressionNotPlusMinus3645 = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet FOLLOW_joinExpression_in_unaryExpressionNotPlusMinus3651 = new BitSet(new long[] {0x0000000000000000L})
- static final BitSet FOLLOW_139_in_castExpression3671 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000007F80000000L})
- static final BitSet FOLLOW_primitiveType_in_castExpression3673 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000001000L})
- static final BitSet FOLLOW_140_in_castExpression3675 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})

- static final BitSet FOLLOW_unaryExpression_in_castExpression3677 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_decls3703 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0002000000400000L})
- static final BitSet FOLLOW_inOp_in_decls3706 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_150_in_decls3710 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_declarationMult_in_decls3713 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_decls3715 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
- static final BitSet FOLLOW_136_in_decls3719 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_decls3722 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0002000000400000L})
- static final BitSet FOLLOW_inOp_in_decls3725 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_150_in_decls3729 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_decls3732 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
- static final BitSet FOLLOW_specUnaryOp_in_relationalUnaryExpression3773 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_parExpression_in_relationalUnaryExpression3775 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_specUnaryOp_in_relationalUnaryExpression3791 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_relationalUnaryExpression3793 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_primary_in_joinExpression3826 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000008000000002L})
- static final BitSet FOLLOW_selector_in_joinExpression3828 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000008000000002L})
- static final BitSet FOLLOW_parExpression_in_common3858 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_187_in_common3864 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_188_in_common3874 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_189_in_common3884 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_190_in_common3895 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_191_in_common3905 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_139_in_common3907 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_common3909 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_common3911 = new BitSet(new long[] {0x0000000000000002L})

- static final BitSet FOLLOW_192_in_common3925 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000800L})
- static final BitSet FOLLOW_139_in_common3927 = new BitSet(new long[] {0x0000000000000000L, 0x001C000000000000L})
- static final BitSet FOLLOW_integerLiteral_in_common3929 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000001000L})
- static final BitSet FOLLOW_140_in_common3931 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_relationalUnaryExpression_in_common3945 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_133_in_common3951 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_decls_in_common3953 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000001000000L})
- static final BitSet FOLLOW_152_in_common3955 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF000820L, 0x000000000000FFL})
- static final BitSet FOLLOW_expression_in_common3957 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000040L})
- static final BitSet FOLLOW_134_in_common3959 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_common_in_primary3984 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_literal_in_primary3990 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_typeDisambiguous_in_primary3996 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_primary4002 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000082L})
- static final BitSet FOLLOW_129_in_primary4005 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_primary4007 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000082L})
- static final BitSet FOLLOW_typeParameters2_in_primary4011 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_typeName_in_primary4038 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0080000000000000L})
- static final BitSet FOLLOW_183_in_primary4040 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_primary4042 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_primary4062 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000800L})
- static final BitSet FOLLOW_arguments_in_primary4064 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4090 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_selector4092 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000800L})
- static final BitSet FOLLOW_arguments_in_selector4094 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4110 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})

- static final BitSet FOLLOW_Identifier_in_selector4112 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4130 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000007F80000000L})
- static final BitSet FOLLOW_primitiveType_in_selector4132 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4146 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0xFC80400000000820L,0x0000000000000001L})
- static final BitSet FOLLOW_common_in_selector4148 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4162 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})
- static final BitSet FOLLOW_155_in_selector4164 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_selector4166 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4184 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})
- static final BitSet FOLLOW_155_in_selector4186 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0xFC80400000000820L,0x0000000000000001L})
- static final BitSet FOLLOW_common_in_selector4188 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_167_in_selector4202 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_selector4203 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
- static final BitSet FOLLOW_168_in_selector4205 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_167_in_selector4221 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
- static final BitSet FOLLOW_168_in_selector4223 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_183_in_specUnaryOp4245 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_174_in_specUnaryOp4247 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_174_in_specUnaryOp4251 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_183_in_specUnaryOp4263 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0400000000000000L})
- static final BitSet FOLLOW_186_in_specUnaryOp4265 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_186_in_specUnaryOp4269 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_193_in_setDeclOp4294 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_194_in_setDeclOp4306 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_195_in_setDeclOp4318 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_setDeclOp_in_setUnaryOp4341 = new BitSet(new long[] {0x0000000000000002L})

- static final BitSet FOLLOW_196_in_setUnaryOp4347 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_197_in_setUnaryOp4358 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_setUnaryOp_in_setQuantOp4380 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_180_in_setQuantOp4386 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_198_in_setQuantOp4397 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_199_in_setQuantOp4410 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_128_in_synpred13_JFSL1055 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000FC000L})
- static final BitSet FOLLOW_specCase_in_synpred13_JFSL1057 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_set_in_synpred26_JFSL1305 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_synpred26_JFSL1314 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000400000L})
- static final BitSet FOLLOW_150_in_synpred26_JFSL1316 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_declarationMult_in_synpred26_JFSL1318 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_synpred26_JFSL1320 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000800000L})
- static final BitSet FOLLOW_151_in_synpred26_JFSL1322 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0xFC80400001000820L,0x0000000000000001L})
- static final BitSet FOLLOW_frame_in_synpred26_JFSL1324 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000001000000L})
- static final BitSet FOLLOW_152_in_synpred26_JFSL1327 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_synpred26_JFSL1329 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_selector_in_synpred37_JFSL1562 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000008000000002L})
- static final BitSet FOLLOW_storeWildCard_in_synpred37_JFSL1565 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_167_in_synpred56_JFSL1887 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
- static final BitSet FOLLOW_168_in_synpred56_JFSL1889 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_167_in_synpred58_JFSL1917 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
- static final BitSet FOLLOW_168_in_synpred58_JFSL1919 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_169_in_synpred62_JFSL2105 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_synpred62_JFSL2107 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000400000L})
- static final BitSet FOLLOW_150_in_synpred62_JFSL2109 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})

- static final BitSet FOLLOW_expression_in_synpred62_JFSL2111 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_setQuantOp_in_synpred63_JFSL2147 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_decls_in_synpred63_JFSL2149 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000001000000L})
- static final BitSet FOLLOW_152_in_synpred63_JFSL2151 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_synpred63_JFSL2153 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_186_in_synpred99_JFSL3605 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_synpred99_JFSL3607 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_castExpression_in_synpred101_JFSL3645 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_typeDisambiguous_in_synpred117_JFSL3996 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_129_in_synpred118_JFSL4005 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_synpred118_JFSL4007 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_typeParameters2_in_synpred119_JFSL4011 = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_synpred120_JFSL4002 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
- static final BitSet FOLLOW_129_in_synpred120_JFSL4005 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_synpred120_JFSL4007 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
- static final BitSet FOLLOW_typeParameters2_in_synpred120_JFSL4011 = new BitSet(new long[] {0x0000000000000002L})

Protected Attributes

- TreeAdaptor adaptor = new CommonTreeAdaptor()
- DFA38 dfa38 = new DFA38(this)
- DFA42 dfa42 = new DFA42(this)
- DFA69 dfa69 = new DFA69(this)
- DFA78 dfa78 = new DFA78(this)
- DFA77 dfa77 = new DFA77(this)
- DFA79 dfa79 = new DFA79(this)

Static Package Functions

- [static initializer]
- [static initializer]
- [static initializer]
- [static initializer]
- [static initializer]
- [static initializer]

Static Package Attributes

- static final String [DFA38_eotS](#)
- static final String [DFA38_eofS](#)
- static final String [DFA38_minS](#)
- static final String [DFA38_maxS](#)
- static final String [DFA38_acceptS](#)
- static final String [DFA38_specialS](#)
- static final String[] [DFA38_transitionS](#)
- static final short[] [DFA38_eot](#) = DFA.unpackEncodedString([DFA38_eotS](#))
- static final short[] [DFA38_eof](#) = DFA.unpackEncodedString([DFA38_eofS](#))
- static final char[] [DFA38_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA38_minS](#))
- static final char[] [DFA38_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA38_maxS](#))
- static final short[] [DFA38_accept](#) = DFA.unpackEncodedString([DFA38_acceptS](#))
- static final short[] [DFA38_special](#) = DFA.unpackEncodedString([DFA38_specialS](#))
- static final short[][] [DFA38_transition](#)
- static final String [DFA42_eotS](#)
- static final String [DFA42_eofS](#)
- static final String [DFA42_minS](#)
- static final String [DFA42_maxS](#)
- static final String [DFA42_acceptS](#)
- static final String [DFA42_specialS](#)
- static final String[] [DFA42_transitionS](#)
- static final short[] [DFA42_eot](#) = DFA.unpackEncodedString([DFA42_eotS](#))
- static final short[] [DFA42_eof](#) = DFA.unpackEncodedString([DFA42_eofS](#))
- static final char[] [DFA42_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA42_minS](#))
- static final char[] [DFA42_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA42_maxS](#))
- static final short[] [DFA42_accept](#) = DFA.unpackEncodedString([DFA42_acceptS](#))
- static final short[] [DFA42_special](#) = DFA.unpackEncodedString([DFA42_specialS](#))
- static final short[][] [DFA42_transition](#)
- static final String [DFA69_eotS](#)
- static final String [DFA69_eofS](#)
- static final String [DFA69_minS](#)
- static final String [DFA69_maxS](#)
- static final String [DFA69_acceptS](#)
- static final String [DFA69_specialS](#)
- static final String[] [DFA69_transitionS](#)
- static final short[] [DFA69_eot](#) = DFA.unpackEncodedString([DFA69_eotS](#))
- static final short[] [DFA69_eof](#) = DFA.unpackEncodedString([DFA69_eofS](#))
- static final char[] [DFA69_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA69_minS](#))
- static final char[] [DFA69_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA69_maxS](#))
- static final short[] [DFA69_accept](#) = DFA.unpackEncodedString([DFA69_acceptS](#))
- static final short[] [DFA69_special](#) = DFA.unpackEncodedString([DFA69_specialS](#))
- static final short[][] [DFA69_transition](#)
- static final String [DFA78_eotS](#)
- static final String [DFA78_eofS](#)
- static final String [DFA78_minS](#)
- static final String [DFA78_maxS](#)
- static final String [DFA78_acceptS](#)
- static final String [DFA78_specialS](#)

- static final String[] [DFA78_transitionS](#)
- static final short[] [DFA78_eot](#) = DFA.unpackEncodedString([DFA78_eotS](#))
- static final short[] [DFA78_eof](#) = DFA.unpackEncodedString([DFA78_eofS](#))
- static final char[] [DFA78_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA78_minS](#))
- static final char[] [DFA78_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA78_maxS](#))
- static final short[] [DFA78_accept](#) = DFA.unpackEncodedString([DFA78_acceptS](#))
- static final short[] [DFA78_special](#) = DFA.unpackEncodedString([DFA78_specialS](#))
- static final short[][] [DFA78_transition](#)
- static final String [DFA77_eotS](#)
- static final String [DFA77_eofS](#)
- static final String [DFA77_minS](#)
- static final String [DFA77_maxS](#)
- static final String [DFA77_acceptS](#)
- static final String [DFA77_specialS](#)
- static final String[] [DFA77_transitionS](#)
- static final short[] [DFA77_eot](#) = DFA.unpackEncodedString([DFA77_eotS](#))
- static final short[] [DFA77_eof](#) = DFA.unpackEncodedString([DFA77_eofS](#))
- static final char[] [DFA77_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA77_minS](#))
- static final char[] [DFA77_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA77_maxS](#))
- static final short[] [DFA77_accept](#) = DFA.unpackEncodedString([DFA77_acceptS](#))
- static final short[] [DFA77_special](#) = DFA.unpackEncodedString([DFA77_specialS](#))
- static final short[][] [DFA77_transition](#)
- static final String [DFA79_eotS](#)
- static final String [DFA79_eofS](#)
- static final String [DFA79_minS](#)
- static final String [DFA79_maxS](#)
- static final String [DFA79_acceptS](#)
- static final String [DFA79_specialS](#)
- static final String[] [DFA79_transitionS](#)
- static final short[] [DFA79_eot](#) = DFA.unpackEncodedString([DFA79_eotS](#))
- static final short[] [DFA79_eof](#) = DFA.unpackEncodedString([DFA79_eofS](#))
- static final char[] [DFA79_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA79_minS](#))
- static final char[] [DFA79_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA79_maxS](#))
- static final short[] [DFA79_accept](#) = DFA.unpackEncodedString([DFA79_acceptS](#))
- static final short[] [DFA79_special](#) = DFA.unpackEncodedString([DFA79_specialS](#))
- static final short[][] [DFA79_transition](#)

9.101.1 Detailed Description

A Java 1.5 grammar for ANTLR v3 derived from the spec

This is a very close representation of the spec; the changes are comestic (remove left recursion) and also fixes (the spec isn't exactly perfect). I have run this on the 1.4.2 source and some nasty looking enums from 1.5, but have not really tested for 1.5 compatibility.

I built this with: `java -Xmx100M org.antlr.Tool java.g` and got two errors that are ok (for now): `java.g:691:9: Decision can match input such as "'0'..'9'{'E', 'e'}{'+', '-'}'0'..'9'{'D', 'F', 'd', 'f'}"` using multiple alternatives: 3, 4 As a result, alternative(s) 4 were disabled for that input `java.g:734:35: Decision can match input such as "{'$', 'A'..'Z', '_ ', 'a'..'z', '..', '..', '..', '..', '..', '..', '..'}"` using multiple alternatives: 1, 2 As a result, alternative(s) 2 were disabled for that input

You can turn enum on/off as a keyword :)

Version 1.0 -- initial release July 5, 2006 (requires 3.0b2 or higher)

Primary author: Terence Parr, July 2006

Version 1.0.1 -- corrections by Koen Vanderkimpfen & Marko van Dooren, October 25, 2006; fixed `normalInterfaceDeclaration`: now uses `typeParameters` instead of `typeParameter` (according to JLS, 3rd edition) fixed `castExpression`: no longer allows expression next to type (according to semantics in JLS, in contrast with syntax in JLS)

Version 1.0.2 -- Terence Parr, Nov 27, 2006 java spec I built this from had some bizarre for-loop control. Looked weird and so I looked elsewhere... Yep, it's messed up. simplified.

Version 1.0.3 -- Chris Hogue, Feb 26, 2007 Factored out an `annotationName` rule and used it in the annotation rule. Not sure why, but `typeName` wasn't recognizing references to inner annotations (e.g. `.InnerAnnotation()`) Factored out the `elementValue` section of an annotation reference. Created `elementValuePair` and `elementValuePairs` rules, then used them in the annotation rule. Allows it to recognize annotation references with multiple, comma separated attributes. Updated `elementValueArrayInitializer` so that it allows multiple elements. (It was only allowing 0 or 1 element). Updated `localVariableDeclaration` to allow annotations. Interestingly the JLS doesn't appear to indicate this is legal, but it does work as of at least JDK 1.5.0_06. Moved the `Identifier` portion of `annotationTypeElementRest` to `annotationMethodRest`. Because `annotationConstantRest` already references `variableDeclarator` which has the `Identifier` portion in it, the parser would fail on constants in annotation definitions because it expected two identifiers. Added optional trailing `';` to the alternatives in `annotationTypeElementRest`. Wouldn't handle an inner interface that has a trailing `';`. Swapped the expression and type rule reference order in `castExpression` to make it check for genericized casts first. It was failing to recognize a statement like `"Class<Byte> TYPE = (Class<Byte>)...;"` because it was seeing `'Class<Byte>'` in the cast expression as a less than expression, then failing on the `'>'`. Changed `createdName` to use `typeArguments` instead of `nonWildcardTypeArguments`. Again, JLS doesn't seem to allow this, but `java.lang.Class` has an example of of this construct. Changed the `'this'` alternative in primary to allow `'identifierSuffix'` rather than just `'arguments'`. The case it couldn't handle was a call to an explicit generic method invocation (e.g. `this.<E>doSomething()`). Using `identifierSuffix` may be overly aggressive--perhaps should create a more constrained `thisSuffix` rule?

Version 1.0.4 -- Hiroaki Nakamura, May 3, 2007

Fixed `formalParameterDecls`, `localVariableDeclaration`, `forInit`, and `forVarControl` to use `variableModifier*` not `'final'?` (annotation)?

Version 1.0.5 -- Terence, June 21, 2007 --`a[i].foo` didn't work. Fixed `unaryExpression`

Version 1.0.6 -- John Ridgway, March 17, 2008 Made `"assert"` a switchable keyword like `"enum"`. Fixed `compilationUnit` to disallow `"annotation importDeclaration ..."`. Changed `"Identifier ('.' Identifier)*"` to `"qualifiedName"` in more places. Changed `modifier*` and/or `variableModifier*` to `classOrInterfaceModifiers`, `modifiers` or `variableModifiers`, as appropriate. Renamed `"bound"` to `"typeBound"` to better match language in the JLS. Added `"memberDeclaration"` which rewrites to `methodDeclaration` or `fieldDeclaration` and pulled `type` into `memberDeclaration`. So we parse `type` and then move on to decide whether we're dealing with a field or a method. Modified `"constructorDeclaration"` to use `"constructorBody"` instead of `"methodBody"`. `constructorBody` starts with `explicitConstructorInvocation`, then goes on to `blockStatement*`. Pulling `explicitConstructorInvocation` out of expressions allowed me to simplify `"primary"`. Changed `variableDeclarator` to simplify it. Changed `type` to use `classOrInterfaceType`, thus simplifying it; of course I then had to add `classOrInterfaceType`, but it is used in several places. Fixed annotations, old version allowed `"@X(y,z)"`, which is illegal. Added optional comma to end of `"elementValueArrayInitializer"`; as per JLS. Changed `annotationTypeElementRest` to use `normalClassDeclaration` and `normalInterfaceDeclaration` rather than `classDeclaration` and `interfaceDeclaration`, thus getting rid of a couple of grammar ambiguities. Split `localVariableDeclaration` into `localVariableDeclarationStatement` (includes the terminating semi-colon) and `localVariableDeclaration`. This allowed me to use `localVariableDeclaration` in `"forInit"` clauses, simplifying them. Changed `switchBlockStatementGroup` to use multiple labels. This adds an ambiguity, but if one uses appropriately greedy parsing it yields the parse that is closest to the meaning of the switch statement. Renamed `"forVarControl"` to `"enhancedForControl"` -- JLS language.

Added semantic predicates to test for shift operations rather than other things. Thus, for instance, the string "<<" will never be treated as a left-shift operator. In "creator" we rule out "nonWildcardTypeArguments" on arrayCreation, which are illegal. Moved "nonWildcardTypeArguments" into innerCreator. Removed 'super' superSuffix from explicitGenericInvocation, since that is only used in explicitConstructorInvocation at the beginning of a constructorBody. (This is part of the simplification of expressions mentioned earlier.) Simplified primary (got rid of those things that are only used in explicitConstructorInvocation). Lexer -- removed "Exponent?" from FloatingPointLiteral choice 4, since it led to an ambiguity.

This grammar successfully parses every .java file in the JDK 1.5 source tree (excluding those whose file names include '-', which are not valid Java compilation units).

Known remaining problems: "Letter" and "JavaIDDigit" are wrong. The actual specification of "Letter" should be "a character for which the method Character.isJavaIdentifierStart(int) returns true." A "Java letter-or-digit" is a character for which the method Character.isJavaIdentifierPart(int) returns true."

Definition at line 156 of file JFSLParser.java.

9.101.2 Member Enumeration Documentation

9.101.2.1 enum edu.mit.csail.sdg.squander.parser.JFSLParser::Decision

Enumerator:

LOCAL

GLOBAL

TYPE

FRAGMENT

CONST

Definition at line 432 of file JFSLParser.java.

9.101.3 Constructor & Destructor Documentation

9.101.3.1 edu.mit.csail.sdg.squander.parser.JFSLParser.JFSLParser (TokenStream *input*)

Definition at line 362 of file JFSLParser.java.

9.101.3.2 edu.mit.csail.sdg.squander.parser.JFSLParser.JFSLParser (TokenStream *input*, RecognizerSharedState *state*)

Definition at line 365 of file JFSLParser.java.

9.101.4 Member Function Documentation

9.101.4.1 edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]

9.101.4.2 edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]

9.101.4.3 edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]

9.101.4.4 edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]

9.101.4.5 edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]

9.101.4.6 edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]

9.101.4.7 final JFSLParser.additiveExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.additiveExpression ()
throws RecognitionException

Definition at line 8291 of file JFSLParser.java.

9.101.4.8 final JFSLParser.additiveOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.additiveOp ()
throws RecognitionException

Definition at line 8442 of file JFSLParser.java.

9.101.4.9 final JFSLParser.andExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.andExpression ()
throws RecognitionException

Definition at line 6506 of file JFSLParser.java.

9.101.4.10 final JFSLParser.arguments_return
edu.mit.csail.sdg.squander.parser.JFSLParser.arguments ()
throws RecognitionException

Definition at line 5128 of file JFSLParser.java.

9.101.4.11 final JFSLParser.bitAndOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.bitAndOp ()
throws RecognitionException

Definition at line 6656 of file JFSLParser.java.

9.101.4.12 final `JFSLParser.castExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.castExpression ()`
throws `RecognitionException`

Definition at line 10133 of file `JFSLParser.java`.

9.101.4.13 final `JFSLParser.clause_return` `edu.mit.csail.sdg.squander.parser.JFSLParser.clause ()`
throws `RecognitionException`

Definition at line 446 of file `JFSLParser.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.Source.parse()`.

9.101.4.14 final `JFSLParser.common_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.common ()` throws
`RecognitionException`

Definition at line 10855 of file `JFSLParser.java`.

9.101.4.15 final `JFSLParser.compilationUnit_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.compilationUnit ()`
throws `RecognitionException`

Definition at line 617 of file `JFSLParser.java`.

9.101.4.16 final `JFSLParser.composeExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.composeExpression ()`
throws `RecognitionException`

Definition at line 9602 of file `JFSLParser.java`.

9.101.4.17 final `JFSLParser.conditionalAndExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalAndExpression ()` throws
`RecognitionException`

Definition at line 6065 of file `JFSLParser.java`.

9.101.4.18 final `JFSLParser.conditionalExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalExpression`
`()` throws `RecognitionException`

Definition at line 5296 of file `JFSLParser.java`.

9.101.4.19 final `JFSLParser.conditionalOrExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalOrExpression ()` throws
`RecognitionException`

Definition at line 5918 of file `JFSLParser.java`.

9.101.4.20 final `JFSLParser.declaration_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.declaration ()` throws
`RecognitionException`

Definition at line 2429 of file `JFSLParser.java`.

9.101.4.21 final `JFSLParser.declarationMult_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.declarationMult ()`
throws `RecognitionException`

Definition at line 2846 of file `JFSLParser.java`.

9.101.4.22 final `JFSLParser.decls_return` `edu.mit.csail.sdg.squander.parser.JFSLParser.decls ()`
throws `RecognitionException`

Definition at line 10235 of file `JFSLParser.java`.

9.101.4.23 void `edu.mit.csail.sdg.squander.parser.JFSLParser.displayRecognitionError (String[]`
`tokenNames, RecognitionException e)`

Definition at line 434 of file `JFSLParser.java`.

9.101.4.24 final `JFSLParser.equalityExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.equalityExpression ()`
throws `RecognitionException`

Definition at line 6726 of file `JFSLParser.java`.

9.101.4.25 final `JFSLParser.equalityOp_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.equalityOp ()` throws
`RecognitionException`

Definition at line 6886 of file `JFSLParser.java`.

9.101.4.26 final `JFSLParser.exclusiveOrExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.exclusiveOrExpression`
`()` throws `RecognitionException`

Definition at line 6359 of file `JFSLParser.java`.

9.101.4.27 final `JFSLParser.expression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.expression ()` throws
`RecognitionException`

Definition at line 5242 of file `JFSLParser.java`.

9.101.4.28 **final JFSLParser.expressionList_return**
edu.mit.csail.sdg.squander.parser.JFSLParser.expressionList ()
throws RecognitionException

Definition at line 5039 of file JFSLParser.java.

9.101.4.29 **final JFSLParser.frame_return** **edu.mit.csail.sdg.squander.parser.JFSLParser.frame ()**
throws RecognitionException

Definition at line 3057 of file JFSLParser.java.

9.101.4.30 **String** **edu.mit.csail.sdg.squander.parser.JFSLParser.getGrammarFileName ()**

Definition at line 382 of file JFSLParser.java.

9.101.4.31 **String []** **edu.mit.csail.sdg.squander.parser.JFSLParser.getTokenNames ()**

Definition at line 381 of file JFSLParser.java.

9.101.4.32 **TreeAdaptor** **edu.mit.csail.sdg.squander.parser.JFSLParser.getTreeAdaptor ()**

Definition at line 377 of file JFSLParser.java.

9.101.4.33 **final JFSLParser.importDeclaration_return**
edu.mit.csail.sdg.squander.parser.JFSLParser.importDeclaration ()
throws RecognitionException

Definition at line 884 of file JFSLParser.java.

9.101.4.34 **final JFSLParser.inclusiveOrExpression_return**
edu.mit.csail.sdg.squander.parser.JFSLParser.inclusiveOrExpression
() throws RecognitionException

Definition at line 6212 of file JFSLParser.java.

9.101.4.35 **final JFSLParser.inOp_return** **edu.mit.csail.sdg.squander.parser.JFSLParser.inOp ()**
throws RecognitionException

Definition at line 7440 of file JFSLParser.java.

9.101.4.36 **final JFSLParser.instanceOfExpression_return**
edu.mit.csail.sdg.squander.parser.JFSLParser.instanceOfExpression ()
throws RecognitionException

Definition at line 7063 of file JFSLParser.java.

9.101.4.37 final `JFSLParser.integerLiteral_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.integerLiteral ()` throws
`RecognitionException`

Definition at line 4017 of file `JFSLParser.java`.

9.101.4.38 final `JFSLParser.intersectionExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.intersectionExpression`
`()` throws `RecognitionException`

Definition at line 9443 of file `JFSLParser.java`.

9.101.4.39 final `JFSLParser.joinExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.joinExpression ()`
throws `RecognitionException`

Definition at line 10736 of file `JFSLParser.java`.

9.101.4.40 final `JFSLParser.keywordLiteral_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.keywordLiteral ()`
throws `RecognitionException`

Definition at line 3696 of file `JFSLParser.java`.

9.101.4.41 final `JFSLParser.literal_return` `edu.mit.csail.sdg.squander.parser.JFSLParser.literal ()`
throws `RecognitionException`

Definition at line 3859 of file `JFSLParser.java`.

9.101.4.42 final `JFSLParser.logicalExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.logicalExpression ()`
throws `RecognitionException`

Definition at line 5582 of file `JFSLParser.java`.

9.101.4.43 final `JFSLParser.logicalOp_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.logicalOp ()` throws
`RecognitionException`

Definition at line 5724 of file `JFSLParser.java`.

9.101.4.44 final `JFSLParser.methodParameters_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.methodParameters ()`
throws `RecognitionException`

Definition at line 1865 of file `JFSLParser.java`.

9.101.4.45 final `JFSLParser.modifies_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.modifies ()` throws
`RecognitionException`

Definition at line 560 of file `JFSLParser.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.Source.parse()`.

9.101.4.46 final `JFSLParser.multiplicativeExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.multiplicativeExpression ()` throws
`RecognitionException`

Definition at line 8687 of file `JFSLParser.java`.

9.101.4.47 final `JFSLParser.multOp_return` `edu.mit.csail.sdg.squander.parser.JFSLParser.multOp`
`()` throws `RecognitionException`

Definition at line 8838 of file `JFSLParser.java`.

9.101.4.48 final `JFSLParser.overrideExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.overrideExpression ()`
throws `RecognitionException`

Definition at line 9296 of file `JFSLParser.java`.

9.101.4.49 final `JFSLParser.packageName_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.packageName ()` throws
`RecognitionException`

Definition at line 764 of file `JFSLParser.java`.

9.101.4.50 final `JFSLParser.parExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.parExpression ()`
throws `RecognitionException`

Definition at line 4979 of file `JFSLParser.java`.

9.101.4.51 final `JFSLParser.primary_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.primary ()` throws
`RecognitionException`

Definition at line 11304 of file `JFSLParser.java`.

9.101.4.52 final `JFSLParser.primitiveType_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.primitiveType ()` throws
`RecognitionException`

Definition at line 4077 of file `JFSLParser.java`.

9.101.4.53 final `JFSLParser.quantifiedExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.quantifiedExpression ()`
throws `RecognitionException`

Definition at line 5454 of file `JFSLParser.java`.

9.101.4.54 final `JFSLParser.relationalExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.relationalExpression ()`
throws `RecognitionException`

Definition at line 7204 of file `JFSLParser.java`.

9.101.4.55 final `JFSLParser.relationalOp_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.relationalOp ()` throws
`RecognitionException`

Definition at line 7510 of file `JFSLParser.java`.

9.101.4.56 final `JFSLParser.relationalUnaryExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.relationalUnaryExpression ()` throws
`RecognitionException`

Definition at line 10490 of file `JFSLParser.java`.

9.101.4.57 final `JFSLParser.selector_return` `edu.mit.csail.sdg.squander.parser.JFSLParser.selector`
`()` throws `RecognitionException`

Definition at line 11645 of file `JFSLParser.java`.

9.101.4.58 final `JFSLParser.setAdditiveExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.setAdditiveExpression`
`()` throws `RecognitionException`

Definition at line 9001 of file `JFSLParser.java`.

9.101.4.59 final `JFSLParser.setAdditiveOp_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.setAdditiveOp ()`
throws `RecognitionException`

Definition at line 9152 of file `JFSLParser.java`.

9.101.4.60 final `JFSLParser.setDeclOp_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.setDeclOp ()` throws
`RecognitionException`

Definition at line 12331 of file `JFSLParser.java`.

9.101.4.61 final `JFSLParser.setQuantOp_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.setQuantOp ()` throws
`RecognitionException`

Definition at line 12643 of file `JFSLParser.java`.

9.101.4.62 void `edu.mit.csail.sdg.squander.parser.JFSLParser.setTreeAdaptor (TreeAdaptor`
`adaptor)`

Definition at line 374 of file `JFSLParser.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.Source.parse()`.

9.101.4.63 final `JFSLParser.setUnaryExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.setUnaryExpression ()`
throws `RecognitionException`

Definition at line 7801 of file `JFSLParser.java`.

9.101.4.64 final `JFSLParser.setUnaryOp_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.setUnaryOp ()` throws
`RecognitionException`

Definition at line 12494 of file `JFSLParser.java`.

9.101.4.65 final `JFSLParser.shiftExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.shiftExpression ()`
throws `RecognitionException`

Definition at line 7927 of file `JFSLParser.java`.

9.101.4.66 final `JFSLParser.shiftOp_return` `edu.mit.csail.sdg.squander.parser.JFSLParser.shiftOp`
`()` throws `RecognitionException`

Definition at line 8093 of file `JFSLParser.java`.

9.101.4.67 final `JFSLParser.sizeExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.sizeExpression ()`
throws `RecognitionException`

Definition at line 8564 of file `JFSLParser.java`.

9.101.4.68 final `JFSLParser.specCase_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.specCase ()` throws
`RecognitionException`

Definition at line 2022 of file `JFSLParser.java`.

9.101.4.69 final `JFSLParser.specField_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.specField ()` throws
`RecognitionException`

Definition at line 503 of file `JFSLParser.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.Source.parse()`.

9.101.4.70 final `JFSLParser.specUnaryOp_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.specUnaryOp ()` throws
`RecognitionException`

Definition at line 12099 of file `JFSLParser.java`.

9.101.4.71 final `JFSLParser.storePrimary_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.storePrimary ()` throws
`RecognitionException`

Definition at line 3302 of file `JFSLParser.java`.

9.101.4.72 final `JFSLParser.storeRef_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.storeRef ()` throws
`RecognitionException`

Definition at line 3212 of file `JFSLParser.java`.

9.101.4.73 final `JFSLParser.storeSelectors_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.storeSelectors ()` throws
`RecognitionException`

Definition at line 3416 of file `JFSLParser.java`.

9.101.4.74 final `JFSLParser.storeWildCard_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.storeWildCard ()`
throws `RecognitionException`

Definition at line 3614 of file `JFSLParser.java`.

9.101.4.75 final boolean `edu.mit.csail.sdg.squander.parser.JFSLParser.synpred101_JFSL ()`

Definition at line 13352 of file `JFSLParser.java`.

9.101.4.76 final void `edu.mit.csail.sdg.squander.parser.JFSLParser.synpred101_JFSL_fragment ()`
throws `RecognitionException`

Definition at line 13081 of file `JFSLParser.java`.

9.101.4.77 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred117_JFSL ()

Definition at line 13212 of file JFSLParser.java.

9.101.4.78 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred117_JFSL_fragment ()
throws RecognitionException

Definition at line 13096 of file JFSLParser.java.

9.101.4.79 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred118_JFSL ()

Definition at line 13240 of file JFSLParser.java.

9.101.4.80 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred118_JFSL_fragment ()
throws RecognitionException

Definition at line 13111 of file JFSLParser.java.

9.101.4.81 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred119_JFSL ()

Definition at line 13268 of file JFSLParser.java.

9.101.4.82 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred119_JFSL_fragment ()
throws RecognitionException

Definition at line 13123 of file JFSLParser.java.

9.101.4.83 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred120_JFSL ()

Definition at line 13366 of file JFSLParser.java.

9.101.4.84 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred120_JFSL_fragment ()
throws RecognitionException

Definition at line 13138 of file JFSLParser.java.

9.101.4.85 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred13_JFSL ()

Definition at line 13310 of file JFSLParser.java.

9.101.4.86 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred13_JFSL_fragment ()
throws RecognitionException

Definition at line 12825 of file JFSLParser.java.

9.101.4.87 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred26_JFSL ()

Definition at line 13324 of file JFSLParser.java.

**9.101.4.88 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred26_JFSL_fragment ()
throws RecognitionException**

Definition at line 12841 of file JFSLParser.java.

9.101.4.89 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred37_JFSL ()

Definition at line 13338 of file JFSLParser.java.

**9.101.4.90 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred37_JFSL_fragment ()
throws RecognitionException**

Definition at line 12919 of file JFSLParser.java.

9.101.4.91 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred56_JFSL ()

Definition at line 13282 of file JFSLParser.java.

**9.101.4.92 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred56_JFSL_fragment ()
throws RecognitionException**

Definition at line 12981 of file JFSLParser.java.

9.101.4.93 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred58_JFSL ()

Definition at line 13296 of file JFSLParser.java.

**9.101.4.94 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred58_JFSL_fragment ()
throws RecognitionException**

Definition at line 12999 of file JFSLParser.java.

9.101.4.95 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred62_JFSL ()

Definition at line 13226 of file JFSLParser.java.

**9.101.4.96 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred62_JFSL_fragment ()
throws RecognitionException**

Definition at line 13017 of file JFSLParser.java.

9.101.4.97 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred63_JFSL ()

Definition at line 13254 of file JFSLParser.java.

9.101.4.98 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred63_JFSL_fragment ()
throws RecognitionException

Definition at line 13039 of file JFSLParser.java.

9.101.4.99 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred99_JFSL ()

Definition at line 13198 of file JFSLParser.java.

9.101.4.100 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred99_JFSL_fragment ()
throws RecognitionException

Definition at line 13065 of file JFSLParser.java.

9.101.4.101 final JFSLParser.type_return edu.mit.csail.sdg.squander.parser.JFSLParser.type ()
throws RecognitionException

Definition at line 4903 of file JFSLParser.java.

9.101.4.102 final JFSLParser.typeBodyDeclaration_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeBodyDeclaration
() throws RecognitionException

Definition at line 1471 of file JFSLParser.java.

9.101.4.103 final JFSLParser.typeDeclaration_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeDeclaration ()
throws RecognitionException

Definition at line 1005 of file JFSLParser.java.

9.101.4.104 final JFSLParser.typeDisambiguous_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeDisambiguous ()
throws RecognitionException

Definition at line 4596 of file JFSLParser.java.

9.101.4.105 final JFSLParser.typeName_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeName () throws
RecognitionException

Definition at line 4425 of file JFSLParser.java.

9.101.4.106 final `JFSLParser.typeParameters_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.typeParameters ()`
throws `RecognitionException`

Definition at line 1218 of file `JFSLParser.java`.

9.101.4.107 final `JFSLParser.typeParameters2_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.typeParameters2 ()`
throws `RecognitionException`

Definition at line 1342 of file `JFSLParser.java`.

9.101.4.108 final `JFSLParser.unaryExpression_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.unaryExpression ()`
throws `RecognitionException`

Definition at line 9749 of file `JFSLParser.java`.

9.101.4.109 final `JFSLParser.unaryExpressionNotPlusMinus_return`
`edu.mit.csail.sdg.squander.parser.JFSLParser.unaryExpressionNotPlusMinus ()`
throws `RecognitionException`

Definition at line 9959 of file `JFSLParser.java`.

9.101.5 Member Data Documentation

9.101.5.1 `TreeAdaptor` `edu.mit.csail.sdg.squander.parser.JFSLParser.adaptor = new`
`CommonTreeAdaptor() [protected]`

Definition at line 372 of file `JFSLParser.java`.

9.101.5.2 final `int` `edu.mit.csail.sdg.squander.parser.JFSLParser.AMBIGUOUS = 24 [static]`

Definition at line 237 of file `JFSLParser.java`.

9.101.5.3 final `int` `edu.mit.csail.sdg.squander.parser.JFSLParser.ARGUMENT = 23 [static]`

Definition at line 243 of file `JFSLParser.java`.

9.101.5.4 final `int` `edu.mit.csail.sdg.squander.parser.JFSLParser.ARGUMENTS = 16 [static]`

Definition at line 276 of file `JFSLParser.java`.

9.101.5.5 final `int` `edu.mit.csail.sdg.squander.parser.JFSLParser.BINARY = 12 [static]`

Definition at line 351 of file `JFSLParser.java`.

9.101.5.6 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.BRACKET = 20 [static]`

Definition at line 262 of file JFSLParser.java.

9.101.5.7 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.CALL = 21 [static]`

Definition at line 226 of file JFSLParser.java.

9.101.5.8 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.CAST = 26 [static]`

Definition at line 256 of file JFSLParser.java.

9.101.5.9 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.CHAIN = 17 [static]`

Definition at line 233 of file JFSLParser.java.

9.101.5.10 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.CharacterLiteral = 112 [static]`

Definition at line 290 of file JFSLParser.java.

9.101.5.11 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.CLASS_DESIGNATOR = 27 [static]`

Definition at line 232 of file JFSLParser.java.

9.101.5.12 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.CONDITIONAL = 15 [static]`

Definition at line 278 of file JFSLParser.java.

9.101.5.13 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.DecimalLiteral = 116 [static]`

Definition at line 329 of file JFSLParser.java.

9.101.5.14 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECL_NONE = 9 [static]`

Definition at line 274 of file JFSLParser.java.

9.101.5.15 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECL_SEQ = 8 [static]`

Definition at line 189 of file JFSLParser.java.

9.101.5.16 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECL_SET = 7 [static]`

Definition at line 188 of file JFSLParser.java.

9.101.5.17 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECLARATION = 4`
`[static]`

Definition at line 240 of file JFSLParser.java.

9.101.5.18 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECLS = 34` `[static]`

Definition at line 328 of file JFSLParser.java.

9.101.5.19 `DFA38 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa38 = new DFA38(this)`
`[protected]`

Definition at line 13382 of file JFSLParser.java.

9.101.5.20 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_accept =`
`DFA.unpackEncodedString(DFA38_acceptS) [static, package]`

Definition at line 13422 of file JFSLParser.java.

9.101.5.21 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_acceptS` `[static,`
`package]`

Initial value:

```
"\1\uffff\1\1\3\uffff\1\2\5\uffff"
```

Definition at line 13397 of file JFSLParser.java.

9.101.5.22 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_eof =`
`DFA.unpackEncodedString(DFA38_eofS) [static, package]`

Definition at line 13419 of file JFSLParser.java.

9.101.5.23 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_eofS` `[static,`
`package]`

Initial value:

```
"\2\uffff\1\5\3\uffff\1\5\2\uffff\1\5\1\uffff"
```

Definition at line 13390 of file JFSLParser.java.

9.101.5.24 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_eot =`
`DFA.unpackEncodedString(DFA38_eotS) [static, package]`

Definition at line 13418 of file JFSLParser.java.

9.101.5.25 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_eotS` `[static, package]`

Initial value:

```
"\13\uffff"
```

Definition at line 13388 of file JFSLParser.java.

9.101.5.26 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_max = DFA.unpackEncodedStringToUnsignedChars(DFA38_maxS)` `[static, package]`

Definition at line 13421 of file JFSLParser.java.

9.101.5.27 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_maxS` `[static, package]`

Initial value:

```
"\1\u00a6\u1\uffff\u1\u00af\u1\u00ab\u1\u00ab\u1\u00af\u1\u0089\u1"+  
"\156\u1\u00af\u1\u0089"
```

Definition at line 13394 of file JFSLParser.java.

9.101.5.28 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_min = DFA.unpackEncodedStringToUnsignedChars(DFA38_minS)` `[static, package]`

Definition at line 13420 of file JFSLParser.java.

9.101.5.29 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_minS` `[static, package]`

Initial value:

```
"\1\u0088\u1\u0088\u3\u0088\u1\u0088\u1\u0088\u2\u0088\u1\u0088"
```

Definition at line 13392 of file JFSLParser.java.

9.101.5.30 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_special = DFA.unpackEncodedString(DFA38_specialS)` `[static, package]`

Definition at line 13423 of file JFSLParser.java.

9.101.5.31 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_specialS` `[static, package]`

Initial value:


```
"\13\uffff}>"
```

Definition at line 13399 of file JFSLParser.java.

9.101.5.32 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_transition [static, package]

Definition at line 13424 of file JFSLParser.java.

9.101.5.33 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_transitionS [static, package]

Initial value:

```
{
    "\1\2\60\uffff\10\1",
    "",
    "\1\5\22\uffff\1\3\4\uffff\1\5\1\4\1\5\3\uffff\1\5\11\uffff"+
    "\1\5\1\uffff\1\5\16\uffff\1\1\10\5",
    "\1\6",
    "\1\7\73\uffff\2\5",
    "",
    "\1\5\22\uffff\1\3\4\uffff\1\5\1\4\1\5\3\uffff\1\5\11\uffff"+
    "\1\5\1\uffff\1\5\16\uffff\1\1\10\5",
    "\1\10\1\11",
    "\1\12",
    "\1\5\27\uffff\3\5\3\uffff\1\5\11\uffff\1\5\1\uffff\1\5\16\uffff"+
    "\1\1\10\5",
    "\1\10\1\11"
}
```

Definition at line 13401 of file JFSLParser.java.

9.101.5.34 DFA42 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa42 = new DFA42(this) [protected]

Definition at line 13383 of file JFSLParser.java.

9.101.5.35 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_accept = DFA.unpackEncodedString(DFA42_acceptS) [static, package]

Definition at line 13511 of file JFSLParser.java.

9.101.5.36 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_acceptS [static, package]

Initial value:

```
"\7\uffff\1\1\1\uffff\1\2\35\uffff"
```

Definition at line 13459 of file JFSLParser.java.

9.101.5.37 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_eof = DFA.unpackEncodedString(DFA42_eofS) [static, package]`

Definition at line 13508 of file JFSLParser.java.

9.101.5.38 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_eofS [static, package]`

Initial value:

```
"\47\uffff"
```

Definition at line 13453 of file JFSLParser.java.

9.101.5.39 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_eot = DFA.unpackEncodedString(DFA42_eotS) [static, package]`

Definition at line 13507 of file JFSLParser.java.

9.101.5.40 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_eotS [static, package]`

Initial value:

```
"\47\uffff"
```

Definition at line 13451 of file JFSLParser.java.

9.101.5.41 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_max = DFA.unpackEncodedStringToUnsignedChars(DFA42_maxS) [static, package]`

Definition at line 13510 of file JFSLParser.java.

9.101.5.42 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_maxS [static, package]`

Initial value:

```
"\1\u00c7\6\0\40\uffff"
```

Definition at line 13457 of file JFSLParser.java.

9.101.5.43 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_min = DFA.unpackEncodedStringToUnsignedChars(DFA42_minS) [static, package]`

Definition at line 13509 of file JFSLParser.java.

9.101.5.44 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_minS [static, package]

Initial value:

```
"\1\156\6\0\40\uffff"
```

Definition at line 13455 of file JFSLParser.java.

9.101.5.45 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_special = DFA.unpackEncodedString(DFA42_specialS) [static, package]

Definition at line 13512 of file JFSLParser.java.

9.101.5.46 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_specialS [static, package]

Initial value:

```
"\1\uffff\1\0\1\1\1\2\1\3\1\4\1\5\40\uffff)>"
```

Definition at line 13461 of file JFSLParser.java.

9.101.5.47 final short [[]] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_transition [static, package]

Definition at line 13513 of file JFSLParser.java.

9.101.5.48 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_transitionS [static, package]

Definition at line 13463 of file JFSLParser.java.

9.101.5.49 DFA69 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa69 = new DFA69(this) [protected]

Definition at line 13384 of file JFSLParser.java.

9.101.5.50 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_accept = DFA.unpackEncodedString(DFA69_acceptS) [static, package]

Definition at line 13692 of file JFSLParser.java.

9.101.5.51 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_acceptS [static, package]

Initial value:

```
"\2\uffff\1\2\1\uffff\1\4\30\uffff\1\1\1\3"
```

Definition at line 13649 of file JFSLParser.java.

9.101.5.52 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_eof = DFA.unpackEncodedString(DFA69_eofS) [static, package]`

Definition at line 13689 of file JFSLParser.java.

9.101.5.53 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_eofS [static, package]`

Initial value:

```
"\37\uffff"
```

Definition at line 13643 of file JFSLParser.java.

9.101.5.54 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_eot = DFA.unpackEncodedString(DFA69_eotS) [static, package]`

Definition at line 13688 of file JFSLParser.java.

9.101.5.55 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_eotS [static, package]`

Initial value:

```
"\37\uffff"
```

Definition at line 13641 of file JFSLParser.java.

9.101.5.56 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_max = DFA.unpackEncodedStringToUnsignedChars(DFA69_maxS) [static, package]`

Definition at line 13691 of file JFSLParser.java.

9.101.5.57 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_maxS [static, package]`

Initial value:

```
"\1\u00c0\1\0\1\uffff\1\0\33\uffff"
```

Definition at line 13647 of file JFSLParser.java.

9.101.5.58 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_min =
DFA.unpackEncodedStringToUnsignedChars(DFA69_minS) [static, package]

Definition at line 13690 of file JFSLParser.java.

9.101.5.59 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_minS [static,
package]

Initial value:

```
"\1\156\1\0\1\uffff\1\0\33\uffff"
```

Definition at line 13645 of file JFSLParser.java.

9.101.5.60 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_special =
DFA.unpackEncodedString(DFA69_specialS) [static, package]

Definition at line 13693 of file JFSLParser.java.

9.101.5.61 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_specialS
[static, package]

Initial value:

```
"\1\uffff\1\0\1\uffff\1\1\33\uffff">
```

Definition at line 13651 of file JFSLParser.java.

9.101.5.62 final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_transition
[static, package]

Definition at line 13694 of file JFSLParser.java.

9.101.5.63 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_transitionS
[static, package]

Definition at line 13653 of file JFSLParser.java.

9.101.5.64 DFA77 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa77 = new DFA77(this)
[protected]

Definition at line 13386 of file JFSLParser.java.

9.101.5.65 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_accept =
DFA.unpackEncodedString(DFA77_acceptS) [static, package]

Definition at line 13923 of file JFSLParser.java.

9.101.5.66 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_acceptS` [`static`, `package`]

Initial value:

```
"\2\uffff\1\2\33\uffff\1\1"
```

Definition at line 13880 of file JFSLParser.java.

9.101.5.67 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_eof = DFA.unpackEncodedString(DFA77_eofS)` [`static`, `package`]

Definition at line 13920 of file JFSLParser.java.

9.101.5.68 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_eofS` [`static`, `package`]

Initial value:

```
"\1\2\36\uffff"
```

Definition at line 13874 of file JFSLParser.java.

9.101.5.69 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_eot = DFA.unpackEncodedString(DFA77_eotS)` [`static`, `package`]

Definition at line 13919 of file JFSLParser.java.

9.101.5.70 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_eotS` [`static`, `package`]

Initial value:

```
"\37\uffff"
```

Definition at line 13872 of file JFSLParser.java.

9.101.5.71 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_max = DFA.unpackEncodedStringToUnsignedChars(DFA77_maxS)` [`static`, `package`]

Definition at line 13922 of file JFSLParser.java.

9.101.5.72 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_maxS` [`static`, `package`]

Initial value:

```
"\1\u00b9\1\0\35\uffff"
```

Definition at line 13878 of file JFSLParser.java.

9.101.5.73 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_min =
DFA.unpackEncodedStringToUnsignedChars(DFA77_minS) [static, package]

Definition at line 13921 of file JFSLParser.java.

9.101.5.74 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_minS [static,
package]

Initial value:

```
"\1\u0081\1\0\35\uffff"
```

Definition at line 13876 of file JFSLParser.java.

9.101.5.75 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_special =
DFA.unpackEncodedString(DFA77_specialS) [static, package]

Definition at line 13924 of file JFSLParser.java.

9.101.5.76 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_specialS
[static, package]

Initial value:

```
"\1\uffff\1\0\35\uffff}>"
```

Definition at line 13882 of file JFSLParser.java.

9.101.5.77 final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_transition
[static, package]

Definition at line 13925 of file JFSLParser.java.

9.101.5.78 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_transitionS
[static, package]

Definition at line 13884 of file JFSLParser.java.

9.101.5.79 DFA78 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa78 = new DFA78(this)
[protected]

Definition at line 13385 of file JFSLParser.java.

9.101.5.80 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_accept =
DFA.unpackEncodedString(DFA78_acceptS) [static, package]

Definition at line 13817 of file JFSLParser.java.

9.101.5.81 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_acceptS [static, package]

Initial value:

```
"\1\uffff\1\1\1\2\1\3\3\uffff\1\4\2\uffff\1\6\3\uffff\1\5\6\uffff"
```

Definition at line 13773 of file JFSLParser.java.

9.101.5.82 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_eof = DFA.unpackEncodedString(DFA78_eofS) [static, package]

Definition at line 13814 of file JFSLParser.java.

9.101.5.83 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_eofS [static, package]

Initial value:

```
"\4\uffff\1\7\6\uffff\2\7\3\uffff\2\7\1\uffff\1\7\1\uffff"
```

Definition at line 13764 of file JFSLParser.java.

9.101.5.84 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_eot = DFA.unpackEncodedString(DFA78_eotS) [static, package]

Definition at line 13813 of file JFSLParser.java.

9.101.5.85 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_eotS [static, package]

Initial value:

```
"\25\uffff"
```

Definition at line 13762 of file JFSLParser.java.

9.101.5.86 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_max = DFA.unpackEncodedStringToUnsignedChars(DFA78_maxS) [static, package]

Definition at line 13816 of file JFSLParser.java.

9.101.5.87 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_maxS [static, package]

Initial value:


```
"\1\u00c0\3\uffff\1\u00b9\1\u00c0\1\u00c5\1\uffff\1\u00c7\1\u00b3"+
"\1\uffff\2\u00b9\1\0\1\uffff\1\u00c7\1\u00c5\1\u00b9\1\u00ba\1\u00c5"+
"\1\u00ba"
```

Definition at line 13769 of file JFSLParser.java.

9.101.5.88 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_min = DFA.unpackEncodedStringToUnsignedChars(DFA78_minS) [static, package]`

Definition at line 13815 of file JFSLParser.java.

9.101.5.89 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_minS [static, package]`

Initial value:

```
"\1\156\3\uffff\1\u0081\2\156\1\uffff\2\156\1\uffff\2\u0081\1\0\1"+
"\uffff\2\156\1\u0081\3\156"
```

Definition at line 13766 of file JFSLParser.java.

9.101.5.90 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_special = DFA.unpackEncodedString(DFA78_specialS) [static, package]`

Definition at line 13818 of file JFSLParser.java.

9.101.5.91 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_specialS [static, package]`

Initial value:

```
"\15\uffff\1\0\7\uffff}>"
```

Definition at line 13775 of file JFSLParser.java.

9.101.5.92 `final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_transition [static, package]`

Definition at line 13819 of file JFSLParser.java.

9.101.5.93 `final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_transitionS [static, package]`

Definition at line 13777 of file JFSLParser.java.

9.101.5.94 `DFA79 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa79 = new DFA79(this) [protected]`

Definition at line 13387 of file JFSLParser.java.

9.101.5.95 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_accept = DFA.unpackEncodedString(DFA79_acceptS) [static, package]`

Definition at line 14015 of file JFSLParser.java.

9.101.5.96 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_acceptS [static, package]`

Initial value:

```
"\5\uffff\1\4\1\3\1\10\1\7\1\2\1\1\1\5\1\6"
```

Definition at line 13986 of file JFSLParser.java.

9.101.5.97 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_eof = DFA.unpackEncodedString(DFA79_eofS) [static, package]`

Definition at line 14012 of file JFSLParser.java.

9.101.5.98 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_eofS [static, package]`

Initial value:

```
"\3\uffff\1\11\11\uffff"
```

Definition at line 13980 of file JFSLParser.java.

9.101.5.99 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_eot = DFA.unpackEncodedString(DFA79_eotS) [static, package]`

Definition at line 14011 of file JFSLParser.java.

9.101.5.100 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_eotS [static, package]`

Initial value:

```
"\15\uffff"
```

Definition at line 13978 of file JFSLParser.java.

9.101.5.101 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_max = DFA.unpackEncodedStringToUnsignedChars(DFA79_maxS) [static, package]`

Definition at line 14014 of file JFSLParser.java.

9.101.5.102 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_maxS` `[static, package]`

Initial value:

```
"\1\u00a7\1\u00c0\1\u00c7\1\u00b9\1\u00c0\10\uffff"
```

Definition at line 13984 of file JFSLParser.java.

9.101.5.103 `final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_min = DFA.unpackEncodedStringToUnsignedChars(DFA79_minS)` `[static, package]`

Definition at line 14013 of file JFSLParser.java.

9.101.5.104 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_minS` `[static, package]`

Initial value:

```
"\1\u0081\2\156\1\u0081\1\156\10\uffff"
```

Definition at line 13982 of file JFSLParser.java.

9.101.5.105 `final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_special = DFA.unpackEncodedString(DFA79_specialS)` `[static, package]`

Definition at line 14016 of file JFSLParser.java.

9.101.5.106 `final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_specialS` `[static, package]`

Initial value:

```
"\15\uffff}>"
```

Definition at line 13988 of file JFSLParser.java.

9.101.5.107 `final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_transition` `[static, package]`

Definition at line 14017 of file JFSLParser.java.

9.101.5.108 `final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_transitionS` `[static, package]`

Initial value:

```

{
    "\1\1\45\uffff\1\2",
    "\1\3\26\uffff\1\5\5\uffff\1\5\17\uffff\1\4\3\uffff\10\6\7\uffff"+
    "\1\5\10\uffff\1\5\2\uffff\7\5",
    "\7\10\20\uffff\1\10\5\uffff\1\10\20\uffff\13\10\1\uffff\1\7"+
    "\2\uffff\1\10\2\uffff\1\10\3\uffff\3\10\2\uffff\1\10\2\uffff"+
    "\16\10",
    "\1\11\4\uffff\4\11\1\uffff\1\12\1\11\11\uffff\3\11\2\uffff"+
    "\1\11\13\uffff\15\11\1\uffff\5\11",
    "\1\13\26\uffff\1\14\5\uffff\1\14\42\uffff\1\14\10\uffff\1\14"+
    "\2\uffff\7\14",
    "",
    "",
    "",
    "",
    "",
    "",
    "",
    ""
}

```

Definition at line 13990 of file JFSLParser.java.

9.101.5.109 final int edu.mit.csail.sdg.squander.parser.JFSLParser.ENSURES = 105 [static]

Definition at line 241 of file JFSLParser.java.

9.101.5.110 final int edu.mit.csail.sdg.squander.parser.JFSLParser.EOF = -1 [static]

Definition at line 173 of file JFSLParser.java.

9.101.5.111 final int edu.mit.csail.sdg.squander.parser.JFSLParser.EscapeSequence = 121 [static]

Definition at line 287 of file JFSLParser.java.

9.101.5.112 final int edu.mit.csail.sdg.squander.parser.JFSLParser.Exponent = 119 [static]

Definition at line 293 of file JFSLParser.java.

9.101.5.113 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FIELD = 25 [static]

Definition at line 283 of file JFSLParser.java.

9.101.5.114 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FILE = 93 [static]

Definition at line 208 of file JFSLParser.java.

9.101.5.115 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FloatingPointLiteral = 111 [static]

Definition at line 224 of file JFSLParser.java.

9.101.5.116 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.FloatTypeSuffix = 120`
`[static]`

Definition at line 260 of file JFSLParser.java.

9.101.5.117 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-`
`127_in_compilationUnit760 = new BitSet(new`
`long[] {0x0000000000000000L, 0x0000400000000000L})`
`[static]`

Definition at line 14052 of file JFSLParser.java.

9.101.5.118 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-`
`128_in_compilationUnit764 = new BitSet(new`
`long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000001CL})`
`[static]`

Definition at line 14054 of file JFSLParser.java.

9.101.5.119 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-`
`128_in_compilationUnit778 = new BitSet(new`
`long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000001L})`
`[static]`

Definition at line 14057 of file JFSLParser.java.

9.101.5.120 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-`
`128_in_importDeclaration847 = new BitSet(new`
`long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000004L})`
`[static]`

Definition at line 14064 of file JFSLParser.java.

9.101.5.121 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-`
`128_in_synpred13_JFSL1055 = new BitSet(new`
`long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000FC00L})`
`[static]`

Definition at line 14400 of file JFSLParser.java.

9.101.5.122 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-`
`128_in_typeBodyDeclaration1055 = new BitSet(new`
`long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000FC041L})`
`[static]`

Definition at line 14098 of file JFSLParser.java.

```
9.101.5.123 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
128_in_typeBodyDeclaration1062 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
[static]
```

Definition at line 14100 of file JFSLParser.java.

```
9.101.5.124 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_128_in_-
typeBodyDeclaration988 = new BitSet(new long[] {0x0000000000000002L})
[static]
```

Definition at line 14082 of file JFSLParser.java.

```
9.101.5.125 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_packageName813 = new BitSet(new
long[] {0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14060 of file JFSLParser.java.

```
9.101.5.126 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_129_in_-
primary4005 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14356 of file JFSLParser.java.

```
9.101.5.127 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_129_in_-
selector4090 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14364 of file JFSLParser.java.

```
9.101.5.128 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_129_in_-
selector4110 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14367 of file JFSLParser.java.

```
9.101.5.129 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_selector4130 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000007F80000000L})
[static]
```

Definition at line 14369 of file JFSLParser.java.

```
9.101.5.130 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
129_in_selector4146 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0xFC80400000000820L,0x000000000000001L})  
[static]
```

Definition at line 14371 of file JFSLParser.java.

```
9.101.5.131 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
129_in_selector4162 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})  
[static]
```

Definition at line 14373 of file JFSLParser.java.

```
9.101.5.132 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
129_in_selector4184 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})  
[static]
```

Definition at line 14376 of file JFSLParser.java.

```
9.101.5.133 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
129_in_storeWildCard1593 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})  
[static]
```

Definition at line 14156 of file JFSLParser.java.

```
9.101.5.134 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
129_in_synpred118_JFSL4005 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14429 of file JFSLParser.java.

```
9.101.5.135 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
129_in_synpred120_JFSL4005 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14433 of file JFSLParser.java.

```
9.101.5.136 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
129_in_typeName1835 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14176 of file JFSLParser.java.

```
9.101.5.137 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
130_in_importDeclaration843 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14062 of file JFSLParser.java.

```
9.101.5.138 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
131_in_typeDeclaration874 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14065 of file JFSLParser.java.

```
9.101.5.139 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
132_in_typeDeclaration878 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14066 of file JFSLParser.java.

```
9.101.5.140 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
133_in_common3951 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14347 of file JFSLParser.java.

```
9.101.5.141 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
133_in_typeBodyDeclaration1050 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000FC041L})  
[static]
```

Definition at line 14096 of file JFSLParser.java.

```
9.101.5.142 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
133_in_typeDeclaration890 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L,0x000000000000245DL})  
[static]
```

Definition at line 14069 of file JFSLParser.java.

```
9.101.5.143 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
134_in_common3959 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14351 of file JFSLParser.java.

9.101.5.144 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_134_in_typeBodyDeclaration1066 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14101 of file JFSLParser.java.

9.101.5.145 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_134_in_typeDeclaration895 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14071 of file JFSLParser.java.

9.101.5.146 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_135_in_logicalOp2239 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})`
[static]

Definition at line 14210 of file JFSLParser.java.

9.101.5.147 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_135_in_logicalOp2251 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000080000000000L})`
[static]

Definition at line 14213 of file JFSLParser.java.

9.101.5.148 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_135_in_relationalOp2835 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})`
[static]

Definition at line 14249 of file JFSLParser.java.

9.101.5.149 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_135_in_relationalOp2855 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14253 of file JFSLParser.java.

9.101.5.150 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_135_in_shiftOp2990 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000080L})`
[static]

Definition at line 14264 of file JFSLParser.java.

```
9.101.5.151 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
135_in_shiftOp2992 = new BitSet(new long[ ]{0x000000000000002L})  
[static]
```

Definition at line 14265 of file JFSLParser.java.

```
9.101.5.152 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
135_in_typeParameters2959 = new BitSet(new  
long[ ]{0x000000000000000L,0x001FC0000000000L,0xFC80407FF0000820L,0x000000000000001L})  
[static]
```

Definition at line 14077 of file JFSLParser.java.

```
9.101.5.153 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
135_in_typeParameters926 = new BitSet(new  
long[ ]{0x000000000000000L,0x000040000000000L})  
[static]
```

Definition at line 14072 of file JFSLParser.java.

```
9.101.5.154 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_136_in_-  
decls3719 = new BitSet(new long[ ]{0x000000000000000L,0x000040000000000L})  
[static]
```

Definition at line 14322 of file JFSLParser.java.

```
9.101.5.155 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
136_in_expressionList2022 = new BitSet(new  
long[ ]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14191 of file JFSLParser.java.

```
9.101.5.156 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
136_in_frame1470 = new BitSet(new  
long[ ]{0x000000000000000L,0x000040000000000L,0xFC80400000000920L,0x000000000000001L})  
[static]
```

Definition at line 14147 of file JFSLParser.java.

```
9.101.5.157 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
136_in_methodParameters1109 = new BitSet(new  
long[ ]{0x000000000000000L,0x000040000000000L,0x0000007F8000000L})  
[static]
```

Definition at line 14104 of file JFSLParser.java.

```
9.101.5.158 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
136_in_typeParameters2964 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC80407FF0000820L,0x000000000000001L})  
[static]
```

Definition at line 14079 of file JFSLParser.java.

```
9.101.5.159 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
136_in_typeParameters931 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14074 of file JFSLParser.java.

```
9.101.5.160 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_logicalOp2243 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14212 of file JFSLParser.java.

```
9.101.5.161 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_logicalOp2255 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14215 of file JFSLParser.java.

```
9.101.5.162 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_logicalOp2265 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14217 of file JFSLParser.java.

```
9.101.5.163 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_relationalOp2845 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})  
[static]
```

Definition at line 14251 of file JFSLParser.java.

```
9.101.5.164 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_137_-  
in_relationalOp2863 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14254 of file JFSLParser.java.

```
9.101.5.165 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_shiftOp3000 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000200L})  
[static]
```

Definition at line 14266 of file JFSLParser.java.

```
9.101.5.166 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_shiftOp3002 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000200L})  
[static]
```

Definition at line 14267 of file JFSLParser.java.

```
9.101.5.167 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_shiftOp3004 = new BitSet(new long[] {0x000000000000002L})  
[static]
```

Definition at line 14268 of file JFSLParser.java.

```
9.101.5.168 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_shiftOp3012 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000200L})  
[static]
```

Definition at line 14269 of file JFSLParser.java.

```
9.101.5.169 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
137_in_shiftOp3014 = new BitSet(new long[] {0x000000000000002L})  
[static]
```

Definition at line 14270 of file JFSLParser.java.

```
9.101.5.170 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_137_-  
in_typeParameters2970 = new BitSet(new long[] {0x000000000000002L})  
[static]
```

Definition at line 14081 of file JFSLParser.java.

```
9.101.5.171 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_137_-  
in_typeParameters937 = new BitSet(new long[] {0x000000000000002L})  
[static]
```

Definition at line 14076 of file JFSLParser.java.

```
9.101.5.172 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
138_in_typeBodyDeclaration1002 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000800L})  
[static]
```

Definition at line 14084 of file JFSLParser.java.

```
9.101.5.173 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
139_in_arguments2046 = new BitSet(new  
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0001820L, 0x000000000000FFL})  
[static]
```

Definition at line 14193 of file JFSLParser.java.

```
9.101.5.174 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
139_in_castExpression3671 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000007F8000000L})  
[static]
```

Definition at line 14313 of file JFSLParser.java.

```
9.101.5.175 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
139_in_common3907 = new BitSet(new  
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x000000000000FFL})  
[static]
```

Definition at line 14339 of file JFSLParser.java.

```
9.101.5.176 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
139_in_common3927 = new BitSet(new  
long[] {0x0000000000000000L, 0x001C00000000000L})  
[static]
```

Definition at line 14343 of file JFSLParser.java.

```
9.101.5.177 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
139_in_parExpression1984 = new BitSet(new  
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x000000000000FFL})  
[static]
```

Definition at line 14187 of file JFSLParser.java.

```
9.101.5.178 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
139_in_specCase1151 = new BitSet(new  
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x000000000000FFL})  
[static]
```

Definition at line 14108 of file JFSLParser.java.

9.101.5.179 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-139_in_specCase1172 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})`
[static]

Definition at line 14112 of file JFSLParser.java.

9.101.5.180 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-139_in_specCase1187 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})`
[static]

Definition at line 14116 of file JFSLParser.java.

9.101.5.181 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-139_in_specCase1208 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0xFC80400000001820L,0x000000000000001L})`
[static]

Definition at line 14120 of file JFSLParser.java.

9.101.5.182 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-139_in_typeBodyDeclaration1004 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})`
[static]

Definition at line 14085 of file JFSLParser.java.

9.101.5.183 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-139_in_typeBodyDeclaration1024 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0x000000000030000L})`
[static]

Definition at line 14089 of file JFSLParser.java.

9.101.5.184 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-139_in_typeBodyDeclaration1044 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0x0000007F80001000L})`
[static]

Definition at line 14093 of file JFSLParser.java.

9.101.5.185 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_arguments2051 = new BitSet(new long[] {0x000000000000002L})`
[static]

Definition at line 14195 of file JFSLParser.java.

9.101.5.186 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_castExpression3675 = new BitSet(new long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})`
[static]

Definition at line 14315 of file JFSLParser.java.

9.101.5.187 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_common3911 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14341 of file JFSLParser.java.

9.101.5.188 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_common3931 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14345 of file JFSLParser.java.

9.101.5.189 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_140_in_parExpression1989 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14189 of file JFSLParser.java.

9.101.5.190 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_specCase1159 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x00000000000038000L})`
[static]

Definition at line 14110 of file JFSLParser.java.

9.101.5.191 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_specCase1180 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000020000L})`
[static]

Definition at line 14114 of file JFSLParser.java.

9.101.5.192 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_specCase1195 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000020000L})`
[static]

Definition at line 14118 of file JFSLParser.java.

9.101.5.193 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_specCase1216 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14122 of file JFSLParser.java.

9.101.5.194 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_140_in_typeBodyDeclaration1008 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14087 of file JFSLParser.java.

9.101.5.195 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_140_in_typeBodyDeclaration1028 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14091 of file JFSLParser.java.

9.101.5.196 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-140_in_typeBodyDeclaration1048 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000020L})`
[static]

Definition at line 14095 of file JFSLParser.java.

9.101.5.197 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-141_in_typeBodyDeclaration1022 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})`
[static]

Definition at line 14088 of file JFSLParser.java.

9.101.5.198 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-142_in_specCase1149 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})`
[static]

Definition at line 14107 of file JFSLParser.java.

9.101.5.199 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-143_in_specCase1170 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})`
[static]

Definition at line 14111 of file JFSLParser.java.


```
9.101.5.200 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
144_in_specCase1185 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000800L})  
[static]
```

Definition at line 14115 of file JFSLParser.java.

```
9.101.5.201 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
145_in_specCase1206 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000800L})  
[static]
```

Definition at line 14119 of file JFSLParser.java.

```
9.101.5.202 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
146_in_specCase1267 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14123 of file JFSLParser.java.

```
9.101.5.203 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
147_in_specCase1282 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14124 of file JFSLParser.java.

```
9.101.5.204 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
148_in_declaration1306 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000400000000000L})  
[static]
```

Definition at line 14125 of file JFSLParser.java.

```
9.101.5.205 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
148_in_declaration1361 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000400000000000L})  
[static]
```

Definition at line 14135 of file JFSLParser.java.

```
9.101.5.206 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
149_in_declaration1310 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000400000000000L})  
[static]
```

Definition at line 14126 of file JFSLParser.java.

```
9.101.5.207 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
149_in_declaration1365 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14136 of file JFSLParser.java.

```
9.101.5.208 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
150_in_conditionalExpression2109 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14200 of file JFSLParser.java.

```
9.101.5.209 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
150_in_declaration1316 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14128 of file JFSLParser.java.

```
9.101.5.210 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
150_in_declaration1371 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14138 of file JFSLParser.java.

```
9.101.5.211 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
150_in_decls3710 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14319 of file JFSLParser.java.

```
9.101.5.212 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
150_in_decls3729 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14325 of file JFSLParser.java.

```
9.101.5.213 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
150_in_synpred26_JFSL1316 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14404 of file JFSLParser.java.

9.101.5.214 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-150_in_synpred62_JFSL2109 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14419 of file JFSLParser.java.

9.101.5.215 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-151_in_declaration1322 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0xFC80400001000820L,0x0000000000000001L})
[static]

Definition at line 14131 of file JFSLParser.java.

9.101.5.216 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-151_in_synpred26_JFSL1322 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L,0xFC80400001000820L,0x0000000000000001L})
[static]

Definition at line 14407 of file JFSLParser.java.

9.101.5.217 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-152_in_common3955 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14349 of file JFSLParser.java.

9.101.5.218 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-152_in_declaration1327 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14133 of file JFSLParser.java.

9.101.5.219 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-152_in_declaration1378 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14141 of file JFSLParser.java.

9.101.5.220 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-152_in_inclusiveOrExpression2417 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14225 of file JFSLParser.java.

```

9.101.5.221 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_quantifiedExpression2151 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

```

Definition at line 14204 of file JFSLParser.java.

```

9.101.5.222 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_synpred26_JFSL1327 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

```

Definition at line 14409 of file JFSLParser.java.

```

9.101.5.223 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_synpred63_JFSL2151 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

```

Definition at line 14423 of file JFSLParser.java.

```

9.101.5.224 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_153_-
in_declarationMult1426 = new BitSet(new long[] {0x0000000000000002L})
[static]

```

Definition at line 14144 of file JFSLParser.java.

```

9.101.5.225 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_154_-
in_declarationMult1436 = new BitSet(new long[] {0x0000000000000002L})
[static]

```

Definition at line 14145 of file JFSLParser.java.

```

9.101.5.226 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
155_in_multOp3217 = new BitSet(new long[] {0x0000000000000002L})
[static]

```

Definition at line 14282 of file JFSLParser.java.

```

9.101.5.227 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_155_in_-
selector4164 = new BitSet(new long[] {0x0000000000000000L,0x0000400000000000L})
[static]

```

Definition at line 14374 of file JFSLParser.java.

9.101.5.228 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_155_in_selector4186 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0xFC80400000000820L, 0x0000000000000001L})`
[static]

Definition at line 14377 of file JFSLParser.java.

9.101.5.229 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_155_in_storeWildCard1595 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14157 of file JFSLParser.java.

9.101.5.230 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_156_in_keywordLiteral1616 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14158 of file JFSLParser.java.

9.101.5.231 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_157_in_keywordLiteral1628 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14159 of file JFSLParser.java.

9.101.5.232 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_158_in_keywordLiteral1639 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14160 of file JFSLParser.java.

9.101.5.233 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_159_in_primitiveType1741 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14167 of file JFSLParser.java.

9.101.5.234 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_160_in_primitiveType1750 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14168 of file JFSLParser.java.

9.101.5.235 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_161_in_primitiveType1760 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14169 of file JFSLParser.java.

9.101.5.236 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_162_-in_primitiveType1772 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14170 of file JFSLParser.java.

9.101.5.237 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_163_-in_primitiveType1783 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14171 of file JFSLParser.java.

9.101.5.238 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_164_-in_primitiveType1794 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14172 of file JFSLParser.java.

9.101.5.239 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_165_-in_primitiveType1804 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14173 of file JFSLParser.java.

9.101.5.240 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_166_-in_primitiveType1815 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14174 of file JFSLParser.java.

9.101.5.241 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-167_in_selector4202 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})`
[static]

Definition at line 14379 of file JFSLParser.java.

9.101.5.242 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-167_in_selector4221 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})`
[static]

Definition at line 14382 of file JFSLParser.java.

```
9.101.5.243 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
167_in_synpred56_JFSL1887 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})  
[static]
```

Definition at line 14413 of file JFSLParser.java.

```
9.101.5.244 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
167_in_synpred58_JFSL1917 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})  
[static]
```

Definition at line 14415 of file JFSLParser.java.

```
9.101.5.245 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
167_in_typeDisambiguous1887 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})  
[static]
```

Definition at line 14180 of file JFSLParser.java.

```
9.101.5.246 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
167_in_typeDisambiguous1917 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})  
[static]
```

Definition at line 14183 of file JFSLParser.java.

```
9.101.5.247 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
168_in_selector4205 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14381 of file JFSLParser.java.

```
9.101.5.248 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
168_in_selector4223 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14383 of file JFSLParser.java.

```
9.101.5.249 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_168_-  
in_synpred56_JFSL1889 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14414 of file JFSLParser.java.

```

9.101.5.250 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_168_
in_synpred58_JFSL1919 = new BitSet(new long[ ]{0x000000000000002L})
[static]

```

Definition at line 14416 of file JFSLParser.java.

```

9.101.5.251 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
168_in_typeDisambiguous1889 = new BitSet(new
long[ ]{0x000000000000002L,0x000000000000000L,0x000000800000000L})
[static]

```

Definition at line 14181 of file JFSLParser.java.

```

9.101.5.252 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
168_in_typeDisambiguous1919 = new BitSet(new
long[ ]{0x000000000000002L,0x000000000000000L,0x000000800000000L})
[static]

```

Definition at line 14184 of file JFSLParser.java.

```

9.101.5.253 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
169_in_conditionalExpression2105 = new BitSet(new
long[ ]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})
[static]

```

Definition at line 14198 of file JFSLParser.java.

```

9.101.5.254 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
169_in_synpred62_JFSL2105 = new BitSet(new
long[ ]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})
[static]

```

Definition at line 14417 of file JFSLParser.java.

```

9.101.5.255 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
170_in_equalityOp2656 = new BitSet(new
long[ ]{0x000000000000000L,0x000000000000000L,0x000004000000000L})
[static]

```

Definition at line 14237 of file JFSLParser.java.

```

9.101.5.256 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
170_in_equalityOp2658 = new BitSet(new long[ ]{0x000000000000002L})
[static]

```

Definition at line 14238 of file JFSLParser.java.

9.101.5.257 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-170_in_equalityOp2668 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14240 of file JFSLParser.java.

9.101.5.258 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-170_in_equalityOp2676 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14241 of file JFSLParser.java.

9.101.5.259 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-170_in_logicalOp2241 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000200L})`
[static]

Definition at line 14211 of file JFSLParser.java.

9.101.5.260 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-170_in_logicalOp2263 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000200L})`
[static]

Definition at line 14216 of file JFSLParser.java.

9.101.5.261 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_170_in_relationalOp2837 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14250 of file JFSLParser.java.

9.101.5.262 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_170_in_relationalOp2847 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14252 of file JFSLParser.java.

9.101.5.263 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-171_in_equalityOp2666 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})`
[static]

Definition at line 14239 of file JFSLParser.java.

```
9.101.5.264 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
171_in_logicalOp2253 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000200L})  
[static]
```

Definition at line 14214 of file JFSLParser.java.

```
9.101.5.265 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
171_in_relationalOp2875 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0002000000000000L})  
[static]
```

Definition at line 14256 of file JFSLParser.java.

```
9.101.5.266 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
171_in_unaryExpressionNotPlusMinus3623 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})  
[static]
```

Definition at line 14309 of file JFSLParser.java.

```
9.101.5.267 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
172_in_conditionalOrExpression2300 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})  
[static]
```

Definition at line 14219 of file JFSLParser.java.

```
9.101.5.268 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
173_in_conditionalAndExpression2356 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})  
[static]
```

Definition at line 14222 of file JFSLParser.java.

```
9.101.5.269 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
174_in_exclusiveOrExpression2473 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})  
[static]
```

Definition at line 14228 of file JFSLParser.java.

```
9.101.5.270 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_174_-  
in_specUnaryOp4247 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14385 of file JFSLParser.java.

9.101.5.271 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_174_-in_specUnaryOp4251 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 14386 of file JFSLParser.java.

9.101.5.272 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_175_in_bitAndOp2572 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 14233 of file JFSLParser.java.

9.101.5.273 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_175_in_intersectionExpression3450 = new BitSet(new long[]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF000820L,0x0000000000000FFL})
[static]

Definition at line 14297 of file JFSLParser.java.

9.101.5.274 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_176_in_instanceOfExpression2713 = new BitSet(new long[]{0x000000000000000L,0x000040000000000L,0x000007F8000000L})
[static]

Definition at line 14243 of file JFSLParser.java.

9.101.5.275 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_177_in_inOp2816 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 14248 of file JFSLParser.java.

9.101.5.276 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_177_in_relationalOp2877 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 14257 of file JFSLParser.java.

9.101.5.277 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_178_in_additiveOp3097 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 14274 of file JFSLParser.java.

9.101.5.278 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_178_in_setAdditiveOp3334 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 14289 of file JFSLParser.java.

```
9.101.5.279 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
178_in_unaryExpression3556 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14302 of file JFSLParser.java.

```
9.101.5.280 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
179_in_additiveOp3110 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14275 of file JFSLParser.java.

```
9.101.5.281 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_179_-  
in_setAdditiveOp3347 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14291 of file JFSLParser.java.

```
9.101.5.282 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
179_in_unaryExpression3574 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14304 of file JFSLParser.java.

```
9.101.5.283 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_180_-  
in_setQuantOp4386 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14397 of file JFSLParser.java.

```
9.101.5.284 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
180_in_sizeExpression3130 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14276 of file JFSLParser.java.

```
9.101.5.285 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
181_in_multOp3230 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14283 of file JFSLParser.java.

9.101.5.286 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-182_in_multOp3243 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 14284 of file JFSLParser.java.

9.101.5.287 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-183_in_intersectionExpression3448 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000800000000000L})
[static]

Definition at line 14296 of file JFSLParser.java.

9.101.5.288 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_183_in_primary4040 = new BitSet(new long[]{0x0000000000000000L,0x0000400000000000L})
[static]

Definition at line 14360 of file JFSLParser.java.

9.101.5.289 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-183_in_setAdditiveOp3332 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0004000000000000L})
[static]

Definition at line 14288 of file JFSLParser.java.

9.101.5.290 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-183_in_setAdditiveOp3345 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0008000000000000L})
[static]

Definition at line 14290 of file JFSLParser.java.

9.101.5.291 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-183_in_specUnaryOp4245 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000400000000000L})
[static]

Definition at line 14384 of file JFSLParser.java.

9.101.5.292 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-183_in_specUnaryOp4263 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0400000000000000L})
[static]

Definition at line 14387 of file JFSLParser.java.

```
9.101.5.293 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
184_in_overrideExpression3385 = new BitSet(new  
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})  
[static]
```

Definition at line 14293 of file JFSLParser.java.

```
9.101.5.294 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
185_in_composeExpression3509 = new BitSet(new  
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})  
[static]
```

Definition at line 14300 of file JFSLParser.java.

```
9.101.5.295 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_186_-  
in_specUnaryOp4265 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14388 of file JFSLParser.java.

```
9.101.5.296 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_186_-  
in_specUnaryOp4269 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14389 of file JFSLParser.java.

```
9.101.5.297 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
186_in_synpred99_JFSL3605 = new BitSet(new  
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})  
[static]
```

Definition at line 14425 of file JFSLParser.java.

```
9.101.5.298 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
186_in_unaryExpressionNotPlusMinus3605 = new BitSet(new  
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})  
[static]
```

Definition at line 14307 of file JFSLParser.java.

```
9.101.5.299 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
187_in_common3864 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14334 of file JFSLParser.java.

9.101.5.300 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-188_in_common3874 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14335 of file JFSLParser.java.

9.101.5.301 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-189_in_common3884 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14336 of file JFSLParser.java.

9.101.5.302 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-190_in_common3895 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14337 of file JFSLParser.java.

9.101.5.303 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-191_in_common3905 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000800L})`
[static]

Definition at line 14338 of file JFSLParser.java.

9.101.5.304 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-192_in_common3925 = new BitSet(new long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000800L})`
[static]

Definition at line 14342 of file JFSLParser.java.

9.101.5.305 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-193_in_setDeclOp4294 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14390 of file JFSLParser.java.

9.101.5.306 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-194_in_setDeclOp4306 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14391 of file JFSLParser.java.

9.101.5.307 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-195_in_setDeclOp4318 = new BitSet(new long[] {0x0000000000000002L})`
[static]

Definition at line 14392 of file JFSLParser.java.

```
9.101.5.308 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_196_-  
in_setUnaryOp4347 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14394 of file JFSLParser.java.

```
9.101.5.309 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_197_-  
in_setUnaryOp4358 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14395 of file JFSLParser.java.

```
9.101.5.310 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_198_-  
in_setQuantOp4397 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14398 of file JFSLParser.java.

```
9.101.5.311 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_199_-  
in_setQuantOp4410 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14399 of file JFSLParser.java.

```
9.101.5.312 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
additiveExpression_in_declaration1320 = new BitSet(new  
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000800000L})  
[static]
```

Definition at line 14130 of file JFSLParser.java.

```
9.101.5.313 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
additiveExpression_in_declaration1375 = new BitSet(new  
long[ ]{0x0000000000000002L,0x0000000000000000L,0x0000000001000000L})  
[static]
```

Definition at line 14140 of file JFSLParser.java.

```
9.101.5.314 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
additiveExpression_in_decls3715 = new BitSet(new  
long[ ]{0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})  
[static]
```

Definition at line 14321 of file JFSLParser.java.

9.101.5.315 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
additiveExpression_in_decls3732 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000100L})
[static]

Definition at line 14326 of file JFSLParser.java.

9.101.5.316 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
additiveExpression_in_shiftExpression2932 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000280L})
[static]

Definition at line 14261 of file JFSLParser.java.

9.101.5.317 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
additiveExpression_in_shiftExpression2953 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000280L})
[static]

Definition at line 14263 of file JFSLParser.java.

9.101.5.318 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
additiveExpression_in_synpred26_JFSL1320 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000800000L})
[static]

Definition at line 14406 of file JFSLParser.java.

9.101.5.319 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
additiveOp_in_additiveExpression3052 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
[static]

Definition at line 14272 of file JFSLParser.java.

9.101.5.320 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
andExpression_in_exclusiveOrExpression2458 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000400000000000L})
[static]

Definition at line 14227 of file JFSLParser.java.

9.101.5.321 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
andExpression_in_exclusiveOrExpression2477 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000400000000000L})
[static]

Definition at line 14229 of file JFSLParser.java.

9.101.5.322 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-arguments_in_primary4064 = new BitSet(new long[]{0x000000000000002L})`
[static]

Definition at line 14363 of file JFSLParser.java.

9.101.5.323 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-arguments_in_selector4094 = new BitSet(new long[]{0x000000000000002L})`
[static]

Definition at line 14366 of file JFSLParser.java.

9.101.5.324 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-bitAndOp_in_andExpression2531 = new BitSet(new long[]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})`
[static]

Definition at line 14231 of file JFSLParser.java.

9.101.5.325 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-castExpression_in_synpred101_JFSL3645 = new BitSet(new long[]{0x000000000000002L})` **[static]**

Definition at line 14427 of file JFSLParser.java.

9.101.5.326 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-castExpression_in_unaryExpressionNotPlusMinus3645 = new BitSet(new long[]{0x000000000000002L})` **[static]**

Definition at line 14311 of file JFSLParser.java.

9.101.5.327 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-CharacterLiteral_in_literal1675 = new BitSet(new long[]{0x000000000000002L})`
[static]

Definition at line 14163 of file JFSLParser.java.

9.101.5.328 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-common_in_primary3984 = new BitSet(new long[]{0x000000000000002L})`
[static]

Definition at line 14352 of file JFSLParser.java.

9.101.5.329 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-common_in_selector4148 = new BitSet(new long[]{0x000000000000002L})`
[static]

Definition at line 14372 of file JFSLParser.java.

9.101.5.330 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-common_in_selector4188 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14378 of file JFSLParser.java.

9.101.5.331 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-in_storePrimary1547 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14152 of file JFSLParser.java.

9.101.5.332 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-composeExpression_in_intersectionExpression3433 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0080000000000000L})
[static]

Definition at line 14295 of file JFSLParser.java.

9.101.5.333 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-composeExpression_in_intersectionExpression3454 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0080000000000000L})
[static]

Definition at line 14298 of file JFSLParser.java.

9.101.5.334 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-conditionalAndExpression_in_conditionalOrExpression2285 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000100000000000L})
[static]

Definition at line 14218 of file JFSLParser.java.

9.101.5.335 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-conditionalAndExpression_in_conditionalOrExpression2304 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000100000000000L})
[static]

Definition at line 14220 of file JFSLParser.java.

9.101.5.336 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-conditionalExpression_in_expression2075 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14196 of file JFSLParser.java.

```

9.101.5.337 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
conditionalOrExpression_in_logicalExpression2187 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000040000000080L})
[static]

```

Definition at line 14207 of file JFSLParser.java.

```

9.101.5.338 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
conditionalOrExpression_in_logicalExpression2202 = new BitSet(new
long[] {0x0000000000000002L}) [static]

```

Definition at line 14209 of file JFSLParser.java.

```

9.101.5.339 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
declaration_in_specField729 = new BitSet(new long[] {0x0000000000000000L})
[static]

```

Definition at line 14048 of file JFSLParser.java.

```

9.101.5.340 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
declaration_in_typeBodyDeclaration1026 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
[static]

```

Definition at line 14090 of file JFSLParser.java.

```

9.101.5.341 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
declarationMult_in_declaration1318 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

```

Definition at line 14129 of file JFSLParser.java.

```

9.101.5.342 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
declarationMult_in_declaration1373 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

```

Definition at line 14139 of file JFSLParser.java.

```

9.101.5.343 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_
declarationMult_in_decls3713 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

```

Definition at line 14320 of file JFSLParser.java.

```
9.101.5.344 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
declarationMult_in_synpred26_JFSL1318 = new BitSet(new  
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14405 of file JFSLParser.java.

```
9.101.5.345 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
decls_in_common3953 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000001000000L})  
[static]
```

Definition at line 14348 of file JFSLParser.java.

```
9.101.5.346 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
decls_in_quantifiedExpression2149 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000001000000L})  
[static]
```

Definition at line 14203 of file JFSLParser.java.

```
9.101.5.347 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
decls_in_synpred63_JFSL2149 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000001000000L})  
[static]
```

Definition at line 14422 of file JFSLParser.java.

```
9.101.5.348 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
EOF_in_clause722 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14047 of file JFSLParser.java.

```
9.101.5.349 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_EOF_-  
in_compilationUnit785 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14058 of file JFSLParser.java.

```
9.101.5.350 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
EOF_in_modifies740 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14051 of file JFSLParser.java.

9.101.5.351 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_EOF_in_specField731 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14049 of file JFSLParser.java.

9.101.5.352 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_equalityExpression_in_andExpression2516 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000800000000000L})`
[static]

Definition at line 14230 of file JFSLParser.java.

9.101.5.353 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_equalityExpression_in_andExpression2535 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000800000000000L})`
[static]

Definition at line 14232 of file JFSLParser.java.

9.101.5.354 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_equalityOp_in_equalityExpression2611 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})`
[static]

Definition at line 14235 of file JFSLParser.java.

9.101.5.355 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2402 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x000000001000000L})`
[static]

Definition at line 14224 of file JFSLParser.java.

9.101.5.356 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2421 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x000000001000000L})`
[static]

Definition at line 14226 of file JFSLParser.java.

9.101.5.357 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_clause720 = new BitSet(new long[]{0x0000000000000000L})`
[static]

Definition at line 14046 of file JFSLParser.java.

```
9.101.5.358 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_common3909 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})  
[static]
```

Definition at line 14340 of file JFSLParser.java.

```
9.101.5.359 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_common3957 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000040L})  
[static]
```

Definition at line 14350 of file JFSLParser.java.

```
9.101.5.360 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_conditionalExpression2107 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000040000L})  
[static]
```

Definition at line 14199 of file JFSLParser.java.

```
9.101.5.361 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_-  
in_conditionalExpression2111 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14201 of file JFSLParser.java.

```
9.101.5.362 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_declaration1329 = new BitSet(new long[] {0x000000000000002L})  
[static]
```

Definition at line 14134 of file JFSLParser.java.

```
9.101.5.363 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_declaration1380 = new BitSet(new long[] {0x000000000000002L})  
[static]
```

Definition at line 14142 of file JFSLParser.java.

```
9.101.5.364 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_expressionList2019 = new BitSet(new  
long[] {0x000000000000002L,0x0000000000000000L,0x000000000000100L})  
[static]
```

Definition at line 14190 of file JFSLParser.java.

```
9.101.5.365 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_expressionList2025 = new BitSet(new  
long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000100L})  
[static]
```

Definition at line 14192 of file JFSLParser.java.

```
9.101.5.366 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_parExpression1987 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000001000L})  
[static]
```

Definition at line 14188 of file JFSLParser.java.

```
9.101.5.367 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_-  
in_quantifiedExpression2153 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14205 of file JFSLParser.java.

```
9.101.5.368 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_selector4203 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000010000000000L})  
[static]
```

Definition at line 14380 of file JFSLParser.java.

```
9.101.5.369 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_specCase1157 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000001000L})  
[static]
```

Definition at line 14109 of file JFSLParser.java.

```
9.101.5.370 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_specCase1178 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000001000L})  
[static]
```

Definition at line 14113 of file JFSLParser.java.

```
9.101.5.371 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
expression_in_specCase1193 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000001000L})  
[static]
```

Definition at line 14117 of file JFSLParser.java.

9.101.5.372 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_synpred26_JFSL1329 = new BitSet(new long[]{{0x0000000000000002L}})`
[static]

Definition at line 14410 of file JFSLParser.java.

9.101.5.373 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_synpred62_JFSL2107 = new BitSet(new long[]{{0x0000000000000000L,0x0000000000000000L,0x0000000000400000L}})`
[static]

Definition at line 14418 of file JFSLParser.java.

9.101.5.374 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_synpred62_JFSL2111 = new BitSet(new long[]{{0x0000000000000002L}})`
[static]

Definition at line 14420 of file JFSLParser.java.

9.101.5.375 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_synpred63_JFSL2153 = new BitSet(new long[]{{0x0000000000000002L}})`
[static]

Definition at line 14424 of file JFSLParser.java.

9.101.5.376 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_typeBodyDeclaration1006 = new BitSet(new long[]{{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L}})`
[static]

Definition at line 14086 of file JFSLParser.java.

9.101.5.377 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expressionList_in_arguments2048 = new BitSet(new long[]{{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L}})`
[static]

Definition at line 14194 of file JFSLParser.java.

9.101.5.378 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_FloatingPointLiteral_in_literal1669 = new BitSet(new long[]{{0x0000000000000002L}})`
[static]

Definition at line 14162 of file JFSLParser.java.

```
9.101.5.379 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
frame_in_declaration1324 = new BitSet(new  
long[] {0x0000000000000002L,0x0000000000000000L,0x000000001000000L})  
[static]
```

Definition at line 14132 of file JFSLParser.java.

```
9.101.5.380 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
frame_in_modifies738 = new BitSet(new long[] {0x0000000000000000L})  
[static]
```

Definition at line 14050 of file JFSLParser.java.

```
9.101.5.381 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
frame_in_specCase1214 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000001000L})  
[static]
```

Definition at line 14121 of file JFSLParser.java.

```
9.101.5.382 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
frame_in_synpred26_JFSL1324 = new BitSet(new  
long[] {0x0000000000000002L,0x0000000000000000L,0x000000001000000L})  
[static]
```

Definition at line 14408 of file JFSLParser.java.

```
9.101.5.383 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
Identifier_in_declaration1314 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000400000L})  
[static]
```

Definition at line 14127 of file JFSLParser.java.

```
9.101.5.384 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
Identifier_in_declaration1369 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000400000L})  
[static]
```

Definition at line 14137 of file JFSLParser.java.

```
9.101.5.385 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
Identifier_in_decls3703 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000200000400000L})  
[static]
```

Definition at line 14317 of file JFSLParser.java.

```
9.101.5.386 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_decls3722 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0002000000400000L})
[static]
```

Definition at line 14323 of file JFSLParser.java.

```
9.101.5.387 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_methodParameters1106 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
[static]
```

Definition at line 14103 of file JFSLParser.java.

```
9.101.5.388 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_methodParameters1113 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
[static]
```

Definition at line 14106 of file JFSLParser.java.

```
9.101.5.389 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_packageName810 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x000000000000002L})
[static]
```

Definition at line 14059 of file JFSLParser.java.

```
9.101.5.390 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_packageName815 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x000000000000002L})
[static]
```

Definition at line 14061 of file JFSLParser.java.

```
9.101.5.391 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_primary4002 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
[static]
```

Definition at line 14355 of file JFSLParser.java.

```
9.101.5.392 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_primary4007 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
[static]
```

Definition at line 14357 of file JFSLParser.java.

9.101.5.393 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_primary4042 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14361 of file JFSLParser.java.

9.101.5.394 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_primary4062 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})`
[static]

Definition at line 14362 of file JFSLParser.java.

9.101.5.395 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_relationalUnaryExpression3793 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14330 of file JFSLParser.java.

9.101.5.396 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_selector4092 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})`
[static]

Definition at line 14365 of file JFSLParser.java.

9.101.5.397 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_selector4112 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14368 of file JFSLParser.java.

9.101.5.398 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_selector4166 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14375 of file JFSLParser.java.

9.101.5.399 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_storePrimary1532 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14151 of file JFSLParser.java.

9.101.5.400 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_synpred118_JFSL4007 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14430 of file JFSLParser.java.

```
9.101.5.401 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_synpred120_JFSL4002 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
[static]
```

Definition at line 14432 of file JFSLParser.java.

```
9.101.5.402 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_synpred120_JFSL4007 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
[static]
```

Definition at line 14434 of file JFSLParser.java.

```
9.101.5.403 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_synpred26_JFSL1314 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000400000L})
[static]
```

Definition at line 14403 of file JFSLParser.java.

```
9.101.5.404 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_typeBodyDeclaration1042 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000800L})
[static]
```

Definition at line 14092 of file JFSLParser.java.

```
9.101.5.405 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_typeDeclaration881 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000A0L})
[static]
```

Definition at line 14067 of file JFSLParser.java.

```
9.101.5.406 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_typeName1832 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
[static]
```

Definition at line 14175 of file JFSLParser.java.

```
9.101.5.407 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_ -
Identifier_in_typeName1837 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
[static]
```

Definition at line 14177 of file JFSLParser.java.

9.101.5.408 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_typeParameters928 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000300L})`
[static]

Definition at line 14073 of file JFSLParser.java.

9.101.5.409 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_typeParameters933 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000300L})`
[static]

Definition at line 14075 of file JFSLParser.java.

9.101.5.410 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_importDeclaration_in_compilationUnit770 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x00000000000001CL})`
[static]

Definition at line 14055 of file JFSLParser.java.

9.101.5.411 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_inclusiveOrExpression_in_conditionalAndExpression2341 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000200000000000L})`
[static]

Definition at line 14221 of file JFSLParser.java.

9.101.5.412 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_inclusiveOrExpression_in_conditionalAndExpression2360 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0000200000000000L})`
[static]

Definition at line 14223 of file JFSLParser.java.

9.101.5.413 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_inOp_in_decls3706 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})`
[static]

Definition at line 14318 of file JFSLParser.java.

9.101.5.414 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_inOp_in_decls3725 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})`
[static]

Definition at line 14324 of file JFSLParser.java.

```
9.101.5.415 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_inOp_in_relationalOp2871 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14255 of file JFSLParser.java.

```
9.101.5.416 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_instanceOfExpression_in_equalityExpression2594 = new BitSet(new  
long[ ]{0x0000000000000002L,0x0000000000000000L,0x000000C000000000L})  
[static]
```

Definition at line 14234 of file JFSLParser.java.

```
9.101.5.417 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_instanceOfExpression_in_equalityExpression2615 = new BitSet(new  
long[ ]{0x0000000000000002L,0x0000000000000000L,0x000000C000000000L})  
[static]
```

Definition at line 14236 of file JFSLParser.java.

```
9.101.5.418 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_integerLiteral_in_common3929 = new BitSet(new  
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})  
[static]
```

Definition at line 14344 of file JFSLParser.java.

```
9.101.5.419 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_integerLiteral_in_literal1663 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14161 of file JFSLParser.java.

```
9.101.5.420 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_intersectionExpression_in_overrideExpression3370 = new BitSet(new  
long[ ]{0x0000000000000002L,0x0000000000000000L,0x0100000000000000L})  
[static]
```

Definition at line 14292 of file JFSLParser.java.

```
9.101.5.421 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_intersectionExpression_in_overrideExpression3389 = new BitSet(new  
long[ ]{0x0000000000000002L,0x0000000000000000L,0x0100000000000000L})  
[static]
```

Definition at line 14294 of file JFSLParser.java.

9.101.5.422 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-joinExpression_in_setUnaryExpression2898 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14259 of file JFSLParser.java.

9.101.5.423 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-joinExpression_in_sizeExpression3132 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14277 of file JFSLParser.java.

9.101.5.424 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-joinExpression_in_unaryExpressionNotPlusMinus3651 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14312 of file JFSLParser.java.

9.101.5.425 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-keywordLiteral_in_literal1687 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14165 of file JFSLParser.java.

9.101.5.426 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-literal_in_primary3990 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14353 of file JFSLParser.java.

9.101.5.427 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-logicalExpression_in_quantifiedExpression2171 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14206 of file JFSLParser.java.

9.101.5.428 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-logicalOp_in_logicalExpression2200 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL}) [static]

Definition at line 14208 of file JFSLParser.java.

9.101.5.429 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-methodParameters_in_typeBodyDeclaration1046 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000001000L}) [static]

Definition at line 14094 of file JFSLParser.java.

9.101.5.430 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-multiplicativeExpression_in_sizeExpression3148 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14278 of file JFSLParser.java.

9.101.5.431 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-multOp_in_multiplicativeExpression3183 = new BitSet(new long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL}) [static]

Definition at line 14280 of file JFSLParser.java.

9.101.5.432 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-overrideExpression_in_setAdditiveExpression3266 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0080000000000000L}) [static]

Definition at line 14285 of file JFSLParser.java.

9.101.5.433 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-overrideExpression_in_setAdditiveExpression3290 = new BitSet(new long[] {0x0000000000000002L,0x0000000000000000L,0x0080000000000000L}) [static]

Definition at line 14287 of file JFSLParser.java.

9.101.5.434 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-packageName_in_compilationUnit762 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000001L}) [static]

Definition at line 14053 of file JFSLParser.java.

9.101.5.435 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-packageName_in_importDeclaration845 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000001L}) [static]

Definition at line 14063 of file JFSLParser.java.

9.101.5.436 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-parExpression_in_common3858 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14333 of file JFSLParser.java.

9.101.5.437 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_parExpression_in_relationalUnaryExpression3775 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14328 of file JFSLParser.java.

9.101.5.438 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primary_in_joinExpression3826 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000008000000002L})`
[static]

Definition at line 14331 of file JFSLParser.java.

9.101.5.439 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primary_in_typeParameters2961 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000300L})`
[static]

Definition at line 14078 of file JFSLParser.java.

9.101.5.440 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primary_in_typeParameters2966 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000300L})`
[static]

Definition at line 14080 of file JFSLParser.java.

9.101.5.441 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primitiveType_in_castExpression3673 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000001000L})`
[static]

Definition at line 14314 of file JFSLParser.java.

9.101.5.442 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primitiveType_in_selector4132 = new BitSet(new long[]{0x0000000000000002L})`
[static]

Definition at line 14370 of file JFSLParser.java.

9.101.5.443 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primitiveType_in_typeDisambiguous1878 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000008000000000L})`
[static]

Definition at line 14179 of file JFSLParser.java.

```
9.101.5.444 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
quantifiedExpression_in_conditionalExpression2092 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000020000000000L})
[static]
```

Definition at line 14197 of file JFSLParser.java.

```
9.101.5.445 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
relationalExpression_in_instanceOfExpression2698 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0001000000000000L})
[static]
```

Definition at line 14242 of file JFSLParser.java.

```
9.101.5.446 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
relationalOp_in_relationalExpression2773 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]
```

Definition at line 14246 of file JFSLParser.java.

```
9.101.5.447 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
relationalUnaryExpression_in_common3945 = new BitSet(new
long[] {0x0000000000000002L}) [static]
```

Definition at line 14346 of file JFSLParser.java.

```
9.101.5.448 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
selector_in_joinExpression3828 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000008000000002L})
[static]
```

Definition at line 14332 of file JFSLParser.java.

```
9.101.5.449 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
selector_in_storeSelectors1562 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000008000000002L})
[static]
```

Definition at line 14153 of file JFSLParser.java.

```
9.101.5.450 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
selector_in_storeSelectors1572 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0000008000000002L})
[static]
```

Definition at line 14155 of file JFSLParser.java.

```
9.101.5.451 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
selector_in_synpred37_JFSL1562 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000008000000002L})
[static]
```

Definition at line 14411 of file JFSLParser.java.

```
9.101.5.452 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
set_in_integerLiteral0 = new BitSet(new long[] {0x0000000000000002L})
[static]
```

Definition at line 14166 of file JFSLParser.java.

```
9.101.5.453 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
set_in_synpred26_JFSL1305 = new BitSet(new
long[] {0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14402 of file JFSLParser.java.

```
9.101.5.454 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
setAdditiveExpression_in_multiplicativeExpression3166 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0060000008000000L})
[static]
```

Definition at line 14279 of file JFSLParser.java.

```
9.101.5.455 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
setAdditiveExpression_in_multiplicativeExpression3187 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x0060000008000000L})
[static]
```

Definition at line 14281 of file JFSLParser.java.

```
9.101.5.456 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
setAdditiveOp_in_setAdditiveExpression3286 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]
```

Definition at line 14286 of file JFSLParser.java.

```
9.101.5.457 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setDeclOp_-
in_declarationMult1420 = new BitSet(new long[] {0x0000000000000002L})
[static]
```

Definition at line 14143 of file JFSLParser.java.

```
9.101.5.458 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
in_setUnaryOp4341 = new BitSet(new long[ ]{0x000000000000002L})  
[static]
```

Definition at line 14393 of file JFSLParser.java.

```
9.101.5.459 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
setQuantOp_in_quantifiedExpression2147 = new BitSet(new  
long[ ]{0x0000000000000000L,0x0000400000000000L}) [static]
```

Definition at line 14202 of file JFSLParser.java.

```
9.101.5.460 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
setQuantOp_in_synpred63_JFSL2147 = new BitSet(new  
long[ ]{0x0000000000000000L,0x0000400000000000L}) [static]
```

Definition at line 14421 of file JFSLParser.java.

```
9.101.5.461 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
setUnaryExpression_in_relationalExpression2756 = new BitSet(new  
long[ ]{0x0000000000000002L,0x0000000000000000L,0x000208000000280L})  
[static]
```

Definition at line 14245 of file JFSLParser.java.

```
9.101.5.462 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
setUnaryExpression_in_relationalExpression2777 = new BitSet(new  
long[ ]{0x0000000000000002L,0x0000000000000000L,0x000208000000280L})  
[static]
```

Definition at line 14247 of file JFSLParser.java.

```
9.101.5.463 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
in_setQuantOp4380 = new BitSet(new long[ ]{0x000000000000002L})  
[static]
```

Definition at line 14396 of file JFSLParser.java.

```
9.101.5.464 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
setUnaryOp_in_setUnaryExpression2896 = new BitSet(new  
long[ ]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14258 of file JFSLParser.java.

9.101.5.465 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
shiftExpression_in_setUnaryExpression2914 = new BitSet(new
long[] {0x0000000000000002L}) [static]`

Definition at line 14260 of file JFSLParser.java.

9.101.5.466 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
shiftOp_in_shiftExpression2949 = new BitSet(new
long[] {0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]`

Definition at line 14262 of file JFSLParser.java.

9.101.5.467 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
sizeExpression_in_additiveExpression3034 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x000C000000000000L})
[static]`

Definition at line 14271 of file JFSLParser.java.

9.101.5.468 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
sizeExpression_in_additiveExpression3056 = new BitSet(new
long[] {0x0000000000000002L,0x0000000000000000L,0x000C000000000000L})
[static]`

Definition at line 14273 of file JFSLParser.java.

9.101.5.469 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_specCase_
in_synpred13_JFSL1057 = new BitSet(new long[] {0x0000000000000002L})
[static]`

Definition at line 14401 of file JFSLParser.java.

9.101.5.470 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
specCase_in_typeBodyDeclaration1052 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
[static]`

Definition at line 14097 of file JFSLParser.java.

9.101.5.471 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
specCase_in_typeBodyDeclaration1057 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
[static]`

Definition at line 14099 of file JFSLParser.java.

```
9.101.5.472 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
specUnaryOp_in_relationalUnaryExpression3773 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000800L})  
[static]
```

Definition at line 14327 of file JFSLParser.java.

```
9.101.5.473 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
specUnaryOp_in_relationalUnaryExpression3791 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000400000000000L}) [static]
```

Definition at line 14329 of file JFSLParser.java.

```
9.101.5.474 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
storePrimary_in_storeRef1497 = new BitSet(new  
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000008000000002L})  
[static]
```

Definition at line 14149 of file JFSLParser.java.

```
9.101.5.475 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
storeRef_in_frame1467 = new BitSet(new  
long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000100L})  
[static]
```

Definition at line 14146 of file JFSLParser.java.

```
9.101.5.476 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
storeRef_in_frame1472 = new BitSet(new  
long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000100L})  
[static]
```

Definition at line 14148 of file JFSLParser.java.

```
9.101.5.477 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
storeSelectors_in_storeRef1499 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14150 of file JFSLParser.java.

```
9.101.5.478 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
storeWildcard_in_storeSelectors1565 = new BitSet(new  
long[] {0x0000000000000002L}) [static]
```

Definition at line 14154 of file JFSLParser.java.

```
9.101.5.479 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
storeWildcard_in_synpred37_JFSL1565 = new BitSet(new  
long[] {0x0000000000000002L}) [static]
```

Definition at line 14412 of file JFSLParser.java.

```
9.101.5.480 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
StringLiteral_in_literal1681 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14164 of file JFSLParser.java.

```
9.101.5.481 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_type_in_-  
instanceOfExpression2717 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14244 of file JFSLParser.java.

```
9.101.5.482 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
type_in_methodParameters1104 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14102 of file JFSLParser.java.

```
9.101.5.483 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
type_in_methodParameters1111 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L})  
[static]
```

Definition at line 14105 of file JFSLParser.java.

```
9.101.5.484 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
typeBodyDeclaration_in_typeDeclaration892 = new BitSet(new  
long[] {0x0000000000000000L,0x0000400000000000L,0x000000000000245DL})  
[static]
```

Definition at line 14070 of file JFSLParser.java.

```
9.101.5.485 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
typeDeclaration_in_compilationUnit776 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000001L})  
[static]
```

Definition at line 14056 of file JFSLParser.java.

9.101.5.486 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-typeDeclaration_in_typeBodyDeclaration995 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14083 of file JFSLParser.java.

9.101.5.487 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-typeDisambiguous_in_primary3996 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14354 of file JFSLParser.java.

9.101.5.488 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-typeDisambiguous_in_synpred117_JFSL3996 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14428 of file JFSLParser.java.

9.101.5.489 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-typeDisambiguous_in_type1944 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14185 of file JFSLParser.java.

9.101.5.490 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-typeName_in_primary4038 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0080000000000000L}) [static]

Definition at line 14359 of file JFSLParser.java.

9.101.5.491 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-typeName_in_type1950 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14186 of file JFSLParser.java.

9.101.5.492 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-typeName_in_typeDisambiguous1908 = new BitSet(new long[] {0x0000000000000000L,0x0000000000000000L,0x0000008000000000L}) [static]

Definition at line 14182 of file JFSLParser.java.

9.101.5.493 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-typeParameters2_in_primary4011 = new BitSet(new long[] {0x0000000000000002L}) [static]

Definition at line 14358 of file JFSLParser.java.

```
9.101.5.494 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
typeParameters2_in_synpred119_JFSL4011 = new BitSet(new  
long[] {0x0000000000000002L}) [static]
```

Definition at line 14431 of file JFSLParser.java.

```
9.101.5.495 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
typeParameters2_in_synpred120_JFSL4011 = new BitSet(new  
long[] {0x0000000000000002L}) [static]
```

Definition at line 14435 of file JFSLParser.java.

```
9.101.5.496 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
typeParameters_in_typeDeclaration883 = new BitSet(new  
long[] {0x0000000000000000L,0x0000000000000000L,0x000000000000020L})  
[static]
```

Definition at line 14068 of file JFSLParser.java.

```
9.101.5.497 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
typeParameters_in_typeName1841 = new BitSet(new long[] {0x0000000000000002L})  
[static]
```

Definition at line 14178 of file JFSLParser.java.

```
9.101.5.498 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
unaryExpression_in_castExpression3677 = new BitSet(new  
long[] {0x0000000000000002L}) [static]
```

Definition at line 14316 of file JFSLParser.java.

```
9.101.5.499 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
unaryExpression_in_composeExpression3494 = new BitSet(new  
long[] {0x0000000000000002L,0x0000000000000000L,0x0200000000000000L})  
[static]
```

Definition at line 14299 of file JFSLParser.java.

```
9.101.5.500 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
unaryExpression_in_composeExpression3513 = new BitSet(new  
long[] {0x0000000000000002L,0x0000000000000000L,0x0200000000000000L})  
[static]
```

Definition at line 14301 of file JFSLParser.java.

9.101.5.501 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_unaryExpression_in_synpred99_JFSL3607 = new BitSet(new long[] {0x0000000000000002L}) [static]`

Definition at line 14426 of file JFSLParser.java.

9.101.5.502 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_unaryExpression_in_unaryExpression3558 = new BitSet(new long[] {0x0000000000000002L}) [static]`

Definition at line 14303 of file JFSLParser.java.

9.101.5.503 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_unaryExpression_in_unaryExpression3576 = new BitSet(new long[] {0x0000000000000002L}) [static]`

Definition at line 14305 of file JFSLParser.java.

9.101.5.504 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_unaryExpression_in_unaryExpressionNotPlusMinus3607 = new BitSet(new long[] {0x0000000000000002L}) [static]`

Definition at line 14308 of file JFSLParser.java.

9.101.5.505 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_unaryExpression_in_unaryExpressionNotPlusMinus3625 = new BitSet(new long[] {0x0000000000000002L}) [static]`

Definition at line 14310 of file JFSLParser.java.

9.101.5.506 `final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_unaryExpressionNotPlusMinus_in_unaryExpression3592 = new BitSet(new long[] {0x0000000000000002L}) [static]`

Definition at line 14306 of file JFSLParser.java.

9.101.5.507 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.FRAME = 5 [static]`

Definition at line 347 of file JFSLParser.java.

9.101.5.508 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.FRAME_ALL = 11 [static]`

Definition at line 350 of file JFSLParser.java.

9.101.5.509 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.FRAME_LOCATION = 10`
`[static]`

Definition at line 282 of file JFSLParser.java.

9.101.5.510 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.HELPER = 108` `[static]`

Definition at line 321 of file JFSLParser.java.

9.101.5.511 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.HexDigit = 117` `[static]`

Definition at line 239 of file JFSLParser.java.

9.101.5.512 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.HexLiteral = 114` `[static]`

Definition at line 249 of file JFSLParser.java.

9.101.5.513 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.IDENTIFIER = 30`
`[static]`

Definition at line 308 of file JFSLParser.java.

9.101.5.514 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.Identifier = 110` `[static]`

Definition at line 268 of file JFSLParser.java.

9.101.5.515 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.IMPORT = 99` `[static]`

Definition at line 183 of file JFSLParser.java.

9.101.5.516 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.IntegerTypeSuffix = 118`
`[static]`

Definition at line 204 of file JFSLParser.java.

9.101.5.517 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.INVARIANT = 94` `[static]`

Definition at line 279 of file JFSLParser.java.

9.101.5.518 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.JavaIDDigit = 125` `[static]`

Definition at line 225 of file JFSLParser.java.

9.101.5.519 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.JOIN = 18` `[static]`

Definition at line 330 of file JFSLParser.java.

9.101.5.520 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.JOIN_REFLEXIVE = 19`
`[static]`

Definition at line 258 of file JFSLParser.java.

9.101.5.521 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.Letter = 124` `[static]`

Definition at line 286 of file JFSLParser.java.

9.101.5.522 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.LIT_FALSE = 81` `[static]`

Definition at line 174 of file JFSLParser.java.

9.101.5.523 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.LIT_NULL = 82` `[static]`

Definition at line 265 of file JFSLParser.java.

9.101.5.524 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.LIT_TRUE = 80` `[static]`

Definition at line 294 of file JFSLParser.java.

9.101.5.525 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.METHOD = 100` `[static]`

Definition at line 354 of file JFSLParser.java.

9.101.5.526 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.METHOD_PARAMETERS = 101`
`[static]`

Definition at line 215 of file JFSLParser.java.

9.101.5.527 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.MODIFIES = 106` `[static]`

Definition at line 266 of file JFSLParser.java.

9.101.5.528 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.NULL = 6` `[static]`

Definition at line 277 of file JFSLParser.java.

9.101.5.529 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OctalEscape = 123`
`[static]`

Definition at line 255 of file JFSLParser.java.

9.101.5.530 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OctalLiteral = 115` `[static]`

Definition at line 261 of file JFSLParser.java.

9.101.5.531 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OLD = 22 [static]`

Definition at line 280 of file JFSLParser.java.

9.101.5.532 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_AND = 38 [static]`

Definition at line 259 of file JFSLParser.java.

9.101.5.533 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_BIT_AND_OR_INTERSECTION = 43 [static]`

Definition at line 257 of file JFSLParser.java.

9.101.5.534 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_BIT_NOT_OR_TRANSPOSE = 45 [static]`

Definition at line 295 of file JFSLParser.java.

9.101.5.535 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_BIT_OR = 40 [static]`

Definition at line 309 of file JFSLParser.java.

9.101.5.536 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_BIT_XOR = 41 [static]`

Definition at line 264 of file JFSLParser.java.

9.101.5.537 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_CLOSURE = 46 [static]`

Definition at line 273 of file JFSLParser.java.

9.101.5.538 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_DIFFERENCE = 59 [static]`

Definition at line 205 of file JFSLParser.java.

9.101.5.539 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_DIVIDE = 64 [static]`

Definition at line 250 of file JFSLParser.java.

9.101.5.540 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_EQ = 35 [static]`

Definition at line 182 of file JFSLParser.java.

9.101.5.541 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_EQUIV = 66 [static]`

Definition at line 245 of file JFSLParser.java.

9.101.5.542 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_GEQ = 49 [static]`

Definition at line 165 of file JFSLParser.java.

9.101.5.543 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_GT = 47 [static]`

Definition at line 292 of file JFSLParser.java.

9.101.5.544 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_IMPLIES = 68
[static]`

Definition at line 356 of file JFSLParser.java.

9.101.5.545 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_INSTANCEOF = 54
[static]`

Definition at line 163 of file JFSLParser.java.

9.101.5.546 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_INTERSECTION = 42
[static]`

Definition at line 171 of file JFSLParser.java.

9.101.5.547 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_LEQ = 50 [static]`

Definition at line 348 of file JFSLParser.java.

9.101.5.548 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_LT = 48 [static]`

Definition at line 272 of file JFSLParser.java.

9.101.5.549 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_MINUS = 58 [static]`

Definition at line 270 of file JFSLParser.java.

9.101.5.550 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_MINUS_OR_-
DIFFERENCE = 60 [static]`

Definition at line 254 of file JFSLParser.java.

9.101.5.551 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_MOD = 65 [static]`

Definition at line 181 of file JFSLParser.java.

9.101.5.552 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_NEQ = 36 [static]`

Definition at line 344 of file JFSLParser.java.

9.101.5.553 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_NEQUIV = 67 [static]`

Definition at line 248 of file JFSLParser.java.

9.101.5.554 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_NOT = 39 [static]`

Definition at line 244 of file JFSLParser.java.

9.101.5.555 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_NSET_SUBSET = 79 [static]`

Definition at line 326 of file JFSLParser.java.

9.101.5.556 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_OR = 37 [static]`

Definition at line 236 of file JFSLParser.java.

9.101.5.557 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_PLUS = 55 [static]`

Definition at line 320 of file JFSLParser.java.

9.101.5.558 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_PLUS_OR_UNION = 57 [static]`

Definition at line 285 of file JFSLParser.java.

9.101.5.559 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_RELATIONAL_COMPOSE = 62 [static]`

Definition at line 263 of file JFSLParser.java.

9.101.5.560 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_RELATIONAL_OVERRIDE = 61 [static]`

Definition at line 284 of file JFSLParser.java.

9.101.5.561 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_ALL = 75 [static]`

Definition at line 164 of file JFSLParser.java.

9.101.5.562 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_COMPREHENSION = 77 [static]`

Definition at line 253 of file JFSLParser.java.

9.101.5.563 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_EXISTS = 76 [static]`

Definition at line 324 of file JFSLParser.java.

9.101.5.564 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_LONE = 72 [static]`

Definition at line 167 of file JFSLParser.java.

9.101.5.565 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_NO = 71 [static]`

Definition at line 168 of file JFSLParser.java.

9.101.5.566 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_NUM = 73 [static]`

Definition at line 333 of file JFSLParser.java.

9.101.5.567 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_ONE = 69 [static]`

Definition at line 339 of file JFSLParser.java.

9.101.5.568 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_SOME = 70 [static]`

Definition at line 246 of file JFSLParser.java.

9.101.5.569 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_SUBSET = 78 [static]`

Definition at line 310 of file JFSLParser.java.

9.101.5.570 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_SUM = 74 [static]`

Definition at line 275 of file JFSLParser.java.

9.101.5.571 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SHL = 51 [static]`

Definition at line 214 of file JFSLParser.java.

9.101.5.572 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SHR = 52 [static]`

Definition at line 221 of file JFSLParser.java.

9.101.5.573 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_TIMES = 63 [static]`

Definition at line 349 of file JFSLParser.java.

9.101.5.574 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_TRANSPOSE = 44 [static]`

Definition at line 289 of file JFSLParser.java.

9.101.5.575 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_UNION = 56 [static]`

Definition at line 353 of file JFSLParser.java.

9.101.5.576 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_USHR = 53 [static]`

Definition at line 242 of file JFSLParser.java.

9.101.5.577 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.PACKAGE = 96 [static]`

Definition at line 160 of file JFSLParser.java.

9.101.5.578 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.PURE = 109 [static]`

Definition at line 299 of file JFSLParser.java.

9.101.5.579 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.QUANTIFY = 14 [static]`

Definition at line 269 of file JFSLParser.java.

9.101.5.580 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.REQUIRES = 104 [static]`

Definition at line 340 of file JFSLParser.java.

9.101.5.581 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.RETURN_VAR = 32 [static]`

Definition at line 355 of file JFSLParser.java.

9.101.5.582 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.SPECCASE = 102 [static]`

Definition at line 311 of file JFSLParser.java.

9.101.5.583 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.SPECFIELD = 95 [static]`

Definition at line 222 of file JFSLParser.java.

9.101.5.584 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.SPECIFICATION = 103 [static]`

Definition at line 227 of file JFSLParser.java.

9.101.5.585 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.StringLiteral = 113 [static]`

Definition at line 252 of file JFSLParser.java.

9.101.5.586 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.SUPER_VAR = 29 [static]`

Definition at line 291 of file JFSLParser.java.

9.101.5.587 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__127 = 127 [static]`

Definition at line 217 of file JFSLParser.java.

9.101.5.588 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__128 = 128 [static]`

Definition at line 216 of file JFSLParser.java.

9.101.5.589 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__129 = 129 [static]`

Definition at line 220 of file JFSLParser.java.

9.101.5.590 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__130 = 130 [static]`

Definition at line 228 of file JFSLParser.java.

9.101.5.591 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__131 = 131 [static]`

Definition at line 229 of file JFSLParser.java.

9.101.5.592 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__132 = 132 [static]`

Definition at line 230 of file JFSLParser.java.

9.101.5.593 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__133 = 133 [static]`

Definition at line 231 of file JFSLParser.java.

9.101.5.594 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__134 = 134` `[static]`

Definition at line 234 of file JFSLParser.java.

9.101.5.595 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__135 = 135` `[static]`

Definition at line 235 of file JFSLParser.java.

9.101.5.596 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__136 = 136` `[static]`

Definition at line 202 of file JFSLParser.java.

9.101.5.597 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__137 = 137` `[static]`

Definition at line 201 of file JFSLParser.java.

9.101.5.598 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__138 = 138` `[static]`

Definition at line 200 of file JFSLParser.java.

9.101.5.599 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__139 = 139` `[static]`

Definition at line 199 of file JFSLParser.java.

9.101.5.600 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__140 = 140` `[static]`

Definition at line 209 of file JFSLParser.java.

9.101.5.601 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__141 = 141` `[static]`

Definition at line 206 of file JFSLParser.java.

9.101.5.602 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__142 = 142` `[static]`

Definition at line 207 of file JFSLParser.java.

9.101.5.603 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__143 = 143` `[static]`

Definition at line 212 of file JFSLParser.java.

9.101.5.604 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__144 = 144` `[static]`

Definition at line 213 of file JFSLParser.java.

9.101.5.605 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__145 = 145` `[static]`

Definition at line 210 of file JFSLParser.java.

9.101.5.606 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__146 = 146` `[static]`

Definition at line 211 of file JFSLParser.java.

9.101.5.607 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__147 = 147` `[static]`

Definition at line 185 of file JFSLParser.java.

9.101.5.608 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__148 = 148` `[static]`

Definition at line 184 of file JFSLParser.java.

9.101.5.609 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__149 = 149` `[static]`

Definition at line 186 of file JFSLParser.java.

9.101.5.610 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__150 = 150` `[static]`

Definition at line 195 of file JFSLParser.java.

9.101.5.611 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__151 = 151` `[static]`

Definition at line 196 of file JFSLParser.java.

9.101.5.612 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__152 = 152` `[static]`

Definition at line 197 of file JFSLParser.java.

9.101.5.613 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__153 = 153` `[static]`

Definition at line 198 of file JFSLParser.java.

9.101.5.614 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__154 = 154` `[static]`

Definition at line 191 of file JFSLParser.java.

9.101.5.615 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__155 = 155` `[static]`

Definition at line 192 of file JFSLParser.java.

9.101.5.616 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__156 = 156` `[static]`

Definition at line 193 of file JFSLParser.java.

9.101.5.617 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__157 = 157` `[static]`

Definition at line 194 of file JFSLParser.java.

9.101.5.618 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__158 = 158` `[static]`

Definition at line 162 of file JFSLParser.java.

9.101.5.619 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__159 = 159` `[static]`

Definition at line 161 of file JFSLParser.java.

9.101.5.620 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__160 = 160` `[static]`

Definition at line 169 of file JFSLParser.java.

9.101.5.621 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__161 = 161` `[static]`

Definition at line 179 of file JFSLParser.java.

9.101.5.622 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__162 = 162` `[static]`

Definition at line 180 of file JFSLParser.java.

9.101.5.623 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__163 = 163` `[static]`

Definition at line 177 of file JFSLParser.java.

9.101.5.624 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__164 = 164` `[static]`

Definition at line 178 of file JFSLParser.java.

9.101.5.625 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__165 = 165` `[static]`

Definition at line 175 of file JFSLParser.java.

9.101.5.626 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__166 = 166` `[static]`

Definition at line 176 of file JFSLParser.java.

9.101.5.627 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__167 = 167` `[static]`

Definition at line 170 of file JFSLParser.java.

9.101.5.628 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__168 = 168` `[static]`

Definition at line 172 of file JFSLParser.java.

9.101.5.629 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__169 = 169` `[static]`

Definition at line 352 of file JFSLParser.java.

9.101.5.630 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__170 = 170` `[static]`

Definition at line 346 of file JFSLParser.java.

9.101.5.631 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__171 = 171` `[static]`

Definition at line 345 of file JFSLParser.java.

9.101.5.632 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__172 = 172` `[static]`

Definition at line 335 of file JFSLParser.java.

9.101.5.633 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__173 = 173` `[static]`

Definition at line 334 of file JFSLParser.java.

9.101.5.634 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__174 = 174` `[static]`

Definition at line 332 of file JFSLParser.java.

9.101.5.635 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__175 = 175` `[static]`

Definition at line 331 of file JFSLParser.java.

9.101.5.636 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__176 = 176` `[static]`

Definition at line 342 of file JFSLParser.java.

9.101.5.637 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__177 = 177` `[static]`

Definition at line 341 of file JFSLParser.java.

9.101.5.638 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__178 = 178` `[static]`

Definition at line 338 of file JFSLParser.java.

9.101.5.639 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__179 = 179` `[static]`

Definition at line 337 of file JFSLParser.java.

9.101.5.640 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__180 = 180` `[static]`

Definition at line 322 of file JFSLParser.java.

9.101.5.641 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__181 = 181` `[static]`

Definition at line 327 of file JFSLParser.java.

9.101.5.642 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__182 = 182` `[static]`

Definition at line 325 of file JFSLParser.java.

9.101.5.643 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__183 = 183` `[static]`

Definition at line 313 of file JFSLParser.java.

9.101.5.644 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__184 = 184` `[static]`

Definition at line 312 of file JFSLParser.java.

9.101.5.645 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__185 = 185` `[static]`

Definition at line 315 of file JFSLParser.java.

9.101.5.646 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__186 = 186` `[static]`

Definition at line 314 of file JFSLParser.java.

9.101.5.647 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__187 = 187` `[static]`

Definition at line 317 of file JFSLParser.java.

9.101.5.648 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__188 = 188` `[static]`

Definition at line 316 of file JFSLParser.java.

9.101.5.649 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__189 = 189` `[static]`

Definition at line 319 of file JFSLParser.java.

9.101.5.650 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__190 = 190` `[static]`

Definition at line 307 of file JFSLParser.java.

9.101.5.651 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__191 = 191` `[static]`

Definition at line 306 of file JFSLParser.java.

9.101.5.652 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__192 = 192` `[static]`

Definition at line 305 of file JFSLParser.java.

9.101.5.653 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__193 = 193` `[static]`

Definition at line 304 of file JFSLParser.java.

9.101.5.654 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__194 = 194` `[static]`

Definition at line 303 of file JFSLParser.java.

9.101.5.655 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__195 = 195` `[static]`

Definition at line 302 of file JFSLParser.java.

9.101.5.656 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__196 = 196` `[static]`

Definition at line 301 of file JFSLParser.java.

9.101.5.657 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__197 = 197` `[static]`

Definition at line 300 of file JFSLParser.java.

9.101.5.658 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__198 = 198` `[static]`

Definition at line 298 of file JFSLParser.java.

9.101.5.659 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__199 = 199` `[static]`

Definition at line 296 of file JFSLParser.java.

9.101.5.660 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.THIS_VAR = 28` `[static]`

Definition at line 203 of file JFSLParser.java.

9.101.5.661 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.THROW_VAR = 33`
`[static]`

Definition at line 251 of file JFSLParser.java.

9.101.5.662 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.THROWS = 107` `[static]`

Definition at line 281 of file JFSLParser.java.

9.101.5.663 `final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.tokenNames` `[static]`

Initial value:

```
new String[] {
    "<invalid>", "<EOR>", "<DOWN>", "<UP>", "DECLARATION", "FRAME", "NULL", "
    DECL_SET", "DECL_SEQ", "DECL_NONE", "FRAME_LOCATION", "FRAME_ALL", "BINARY", "UNA
    RY", "QUANTIFY", "CONDITIONAL", "ARGUMENTS", "CHAIN", "JOIN", "JOIN_REFLEXIVE", "
    BRACKET", "CALL", "OLD", "ARGUMENT", "AMBIGUOUS", "FIELD", "CAST", "CLASS_DESIGNA
    TOR", "THIS_VAR", "SUPER_VAR", "IDENTIFIER", "VOID", "RETURN_VAR", "THROW_VAR", "
    DECLS", "OP_EQ", "OP_NEQ", "OP_OR", "OP_AND", "OP_NOT", "OP_BIT_OR", "OP_BIT_XOR"
    , "OP_INTERSECTION", "OP_BIT_AND_OR_INTERSECTION", "OP_TRANSPOSE", "OP_BIT_NOT_OR
    _TRANSPOSE", "OP_CLOSURE", "OP_GT", "OP_LT", "OP_GEQ", "OP_LEQ", "OP_SHL", "OP_SH
    R", "OP_USHR", "OP_INSTANCEOF", "OP_PLUS", "OP_UNION", "OP_PLUS_OR_UNION", "OP_MI
    NUS", "OP_DIFFERENCE", "OP_MINUS_OR_DIFFERENCE", "OP_RELATIONAL_OVERRIDE", "OP_RE
    LATIONAL_COMPOSE", "OP_TIMES", "OP_DIVIDE", "OP_MOD", "OP_EQUIV", "OP_NEQUIV", "O
    P_IMPLIES", "OP_SET_ONE", "OP_SET_SOME", "OP_SET_NO", "OP_SET_LONE", "OP_SET_NUM"
    , "OP_SET_SUM", "OP_SET_ALL", "OP_SET_EXISTS", "OP_SET_COMPREHENSION", "OP_SET_SU
    BSET", "OP_NSET_SUBSET", "LIT_TRUE", "LIT_FALSE", "LIT_NULL", "TYPE_BOOLEAN", "TY
    PE_CHAR", "TYPE_BYTE", "TYPE_SHORT", "TYPE_INT", "TYPE_LONG", "TYPE_FLOAT", "TYPE
    _DOUBLE", "TYPE_REF", "TYPE_ARRAY", "FILE", "INVARIANT", "SPECFIELD", "PACKAGE",
    "TYPE_DECLARATION", "TYPE_PARAMETERS", "IMPORT", "METHOD", "METHOD_PARAMETERS", "
    SPECCASE", "SPECIFICATION", "REQUIRES", "ENSURES", "MODIFIES", "THROWS", "HELPER"
    , "PURE", "Identifier", "FloatingPointLiteral", "CharacterLiteral", "StringLitera
    l", "HexLiteral", "OctalLiteral", "DecimalLiteral", "HexDigit", "IntegerTypeSuffi
    x", "Exponent", "FloatTypeSuffix", "EscapeSequence", "UnicodeEscape", "OctalEscap
    e", "Letter", "JavaIDDigit", "WS", "'package'", "';'", "'.'", "'import'", "'class
    '", "'interface'", "'{'", "'}'", "'<'", "'/'", "'>'", "'@Invariant'", "'('", "')"
    ', "'@SpecField'", "'@Requires'", "'@Ensures'", "'@Throws'", "'@Modifies'", "'@He
    lper'", "'@Pure'", "'public'", "'private'", "':'", "'from'", "'|'", "'set'", "'se
    q'", "'*'", "'true'", "'false'", "'null'", "'boolean'", "'char'", "'byte'", "'sho
    rt'", "'int'", "'long'", "'float'", "'double'", "'['", "']'", "'?'", "'='", "'!'
    ", "'||'", "'&&'", "'^'", "'&'", "'instanceof'", "'in'", "'+'", "'-'", "'#'", "'/
    /'", "'%'", "'@'", "'++'", "'->'", "'~'", "'return'", "'throw'", "'this'", "'super'
    ", "'@old'", "'@arg'", "'one'", "'some'", "'lone'", "'no'", "'sum'", "'all'", "'e
    xists'"
}
```

Definition at line 157 of file JFSLParser.java.

9.101.5.664 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_ARRAY = 92`
`[static]`

Definition at line 336 of file JFSLParser.java.

9.101.5.665 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_BOOLEAN = 83`
`[static]`

Definition at line 288 of file JFSLParser.java.

9.101.5.666 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_BYTE = 85`
`[static]`

Definition at line 187 of file JFSLParser.java.

9.101.5.667 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_CHAR = 84`
`[static]`

Definition at line 223 of file JFSLParser.java.

9.101.5.668 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_DECLARATION = 97`
`[static]`

Definition at line 297 of file JFSLParser.java.

9.101.5.669 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_DOUBLE = 90`
`[static]`

Definition at line 267 of file JFSLParser.java.

9.101.5.670 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_FLOAT = 89`
`[static]`

Definition at line 323 of file JFSLParser.java.

9.101.5.671 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_INT = 87` `[static]`

Definition at line 166 of file JFSLParser.java.

9.101.5.672 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_LONG = 88`
`[static]`

Definition at line 238 of file JFSLParser.java.

9.101.5.673 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_PARAMETERS = 98`
`[static]`

Definition at line 190 of file JFSLParser.java.

9.101.5.674 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_REF = 91` `[static]`

Definition at line 218 of file JFSLParser.java.

9.101.5.675 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_SHORT = 86`
`[static]`

Definition at line 318 of file JFSLParser.java.

9.101.5.676 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.UNARY = 13` `[static]`

Definition at line 247 of file JFSLParser.java.

9.101.5.677 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.UnicodeEscape = 122`
`[static]`

Definition at line 343 of file JFSLParser.java.

9.101.5.678 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.VOID = 31` `[static]`

Definition at line 271 of file JFSLParser.java.

9.101.5.679 `final int edu.mit.csail.sdg.squander.parser.JFSLParser.WS = 126` `[static]`

Definition at line 219 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLParser.java](#)

9.102 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38 Class Reference

Public Member Functions

- [DFA38](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()

9.102.1 Detailed Description

Definition at line 13434 of file JFSLParser.java.

9.102.2 Constructor & Destructor Documentation

9.102.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38.DFA38 (BaseRecognizer recognizer)

Definition at line 13436 of file JFSLParser.java.

9.102.3 Member Function Documentation

9.102.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38.getDescription ()

Definition at line 13447 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLParser.java](#)

9.103 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42 Class Reference

Public Member Functions

- [DFA42](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()
- int [specialStateTransition](#) (int s, IntStream _input) throws NoViableAltException

9.103.1 Detailed Description

Definition at line 13523 of file JFSLParser.java.

9.103.2 Constructor & Destructor Documentation

9.103.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42.DFA42 (BaseRecognizer recognizer)

Definition at line 13525 of file JFSLParser.java.

9.103.3 Member Function Documentation

9.103.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42.getDescription ()

Definition at line 13536 of file JFSLParser.java.

9.103.3.2 int edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42.specialStateTransition (int s, IntStream _input) throws NoViableAltException

Definition at line 13539 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLParser.java](#)

9.104 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69 Class Reference

Public Member Functions

- [DFA69](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()
- int [specialStateTransition](#) (int s, IntStream _input) throws NoViableAltException

9.104.1 Detailed Description

Definition at line 13704 of file JFSLParser.java.

9.104.2 Constructor & Destructor Documentation

9.104.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69.DFA69 (BaseRecognizer recognizer)

Definition at line 13706 of file JFSLParser.java.

9.104.3 Member Function Documentation

9.104.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69.getDescription ()

Definition at line 13717 of file JFSLParser.java.

9.104.3.2 int edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69.specialStateTransition (int s, IntStream _input) throws NoViableAltException

Definition at line 13720 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLParser.java](#)

9.105 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77 Class Reference

Public Member Functions

- [DFA77](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()
- int [specialStateTransition](#) (int s, IntStream _input) throws NoViableAltException

9.105.1 Detailed Description

Definition at line 13935 of file JFSLParser.java.

9.105.2 Constructor & Destructor Documentation

9.105.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77.DFA77 (BaseRecognizer recognizer)

Definition at line 13937 of file JFSLParser.java.

9.105.3 Member Function Documentation

9.105.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77.getDescription ()

Definition at line 13948 of file JFSLParser.java.

9.105.3.2 int edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77.specialStateTransition (int s, IntStream _input) throws NoViableAltException

Definition at line 13951 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLParser.java](#)

9.106 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78 Class Reference

Public Member Functions

- [DFA78](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()
- int [specialStateTransition](#) (int s, IntStream _input) throws NoViableAltException

9.106.1 Detailed Description

Definition at line 13829 of file JFSLParser.java.

9.106.2 Constructor & Destructor Documentation

9.106.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78.DFA78 (BaseRecognizer recognizer)

Definition at line 13831 of file JFSLParser.java.

9.106.3 Member Function Documentation

9.106.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78.getDescription ()

Definition at line 13842 of file JFSLParser.java.

9.106.3.2 int edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78.specialStateTransition (int s, IntStream _input) throws NoViableAltException

Definition at line 13845 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLParser.java](#)

9.107 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79 Class Reference

Public Member Functions

- [DFA79](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()

9.107.1 Detailed Description

Definition at line 14027 of file JFSLParser.java.

9.107.2 Constructor & Destructor Documentation

9.107.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79.DFA79 (BaseRecognizer recognizer)

Definition at line 14029 of file JFSLParser.java.

9.107.3 Member Function Documentation

9.107.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79.getDescription ()

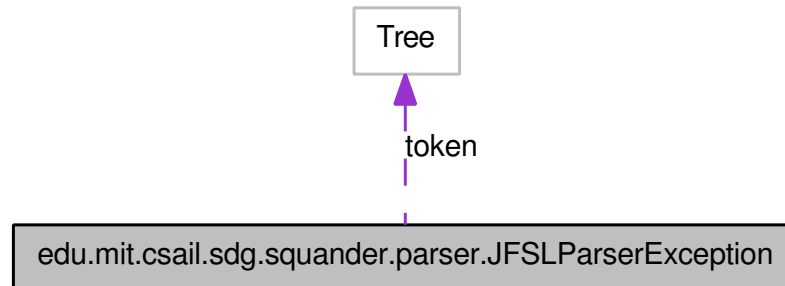
Definition at line 14040 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLParser.java](#)

9.108 edu.mit.csail.sdg.squander.parser.JFSLParserException Class Reference

Inherited by [edu.mit.csail.sdg.squander.spec.TypeCheckException](#). Collaboration diagram for [edu.mit.csail.sdg.squander.parser.JFSLParserException](#):



Public Member Functions

- [JFSLParserException](#) (String msg)
- [JFSLParserException](#) (String msg, Throwable cause)
- [JFSLParserException](#) (String msg, Tree token)
- [JFSLParserException](#) (String msg, String source)
- [JFSLParserException](#) (RecognitionException cause)
- [JFSLParserException](#) (Throwable cause)
- [JFSLParserException](#) (Throwable cause, Tree token)
- void [setToken](#) (Tree token)
- void [setSource](#) (String source)
- String [source](#) ()
- int [column](#) ()
- int [line](#) ()
- String [token](#) ()

Private Member Functions

- [StringBuilder layout](#) (Tree t, [StringBuilder sb](#), String buf)

Private Attributes

- int [line](#) = -1
- int [column](#) = -1
- Tree [token](#)
- String [source](#)

9.108.1 Detailed Description

Parsing exception.

Author:

kuat

Definition at line 16 of file JFSLParserException.java.

9.108.2 Constructor & Destructor Documentation

9.108.2.1 edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (String *msg*)

Definition at line 26 of file JFSLParserException.java.

9.108.2.2 edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (String *msg*, Throwable *cause*)

Definition at line 30 of file JFSLParserException.java.

9.108.2.3 edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (String *msg*, Tree *token*)

Definition at line 34 of file JFSLParserException.java.

9.108.2.4 edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (String *msg*, String *source*)

Definition at line 39 of file JFSLParserException.java.

9.108.2.5 edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (RecognitionException *cause*)

Definition at line 44 of file JFSLParserException.java.

9.108.2.6 edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (Throwable *cause*)

Definition at line 51 of file JFSLParserException.java.

9.108.2.7 edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (Throwable *cause*, Tree *token*)

Definition at line 55 of file JFSLParserException.java.

9.108.3 Member Function Documentation

9.108.3.1 `int edu.mit.csail.sdg.squander.parser.JFSLParserException.column ()`

Definition at line 76 of file JFSLParserException.java.

9.108.3.2 `StringBuilder edu.mit.csail.sdg.squander.parser.JFSLParserException.layout (Tree t, StringBuilder sb, String buf) [private]`

Token tree output

Definition at line 93 of file JFSLParserException.java.

9.108.3.3 `int edu.mit.csail.sdg.squander.parser.JFSLParserException.line ()`

Definition at line 80 of file JFSLParserException.java.

9.108.3.4 `void edu.mit.csail.sdg.squander.parser.JFSLParserException.setSource (String source)`

Definition at line 68 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.108.3.5 `void edu.mit.csail.sdg.squander.parser.JFSLParserException.setToken (Tree token)`

Definition at line 60 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visit().

9.108.3.6 `String edu.mit.csail.sdg.squander.parser.JFSLParserException.source ()`

Definition at line 72 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.108.3.7 `String edu.mit.csail.sdg.squander.parser.JFSLParserException.token ()`

Report the deepest subtree in the tree as text

Definition at line 85 of file JFSLParserException.java.

9.108.4 Member Data Documentation

9.108.4.1 `int edu.mit.csail.sdg.squander.parser.JFSLParserException.column = -1 [private]`

Definition at line 18 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.108.4.2 `int edu.mit.csail.sdg.squander.parser.JFSLParserException.line = -1` `[private]`

line and column of the error, -1 if not specified

Definition at line 18 of file JFSLParserException.java.

9.108.4.3 `String edu.mit.csail.sdg.squander.parser.JFSLParserException.source` `[private]`

source string, may not correspond to the token

Definition at line 24 of file JFSLParserException.java.

Referenced by `edu.mit.csail.sdg.squander.Squander.exe()`.

9.108.4.4 `Tree edu.mit.csail.sdg.squander.parser.JFSLParserException.token` `[private]`

token at which the error occurred

Definition at line 21 of file JFSLParserException.java.

Referenced by `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visit()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/parser/JFSLParserException.java](#)

9.109 edu.mit.csail.sdg.squander.regressions.Tests Class Reference

Public Member Functions

- void [testMake](#) ()

Package Functions

- [Tests\[\] make](#) ()

9.109.1 Detailed Description

Definition at line 17 of file Tests.java.

9.109.2 Member Function Documentation

9.109.2.1 Tests [] edu.mit.csail.sdg.squander.regressions.Tests.make () [package]

Definition at line 22 of file Tests.java.

Referenced by edu.mit.csail.sdg.squander.regressions.Tests.testMake().

9.109.2.2 void edu.mit.csail.sdg.squander.regressions.Tests.testMake ()

Definition at line 27 of file Tests.java.

References edu.mit.csail.sdg.squander.regressions.Tests.make().

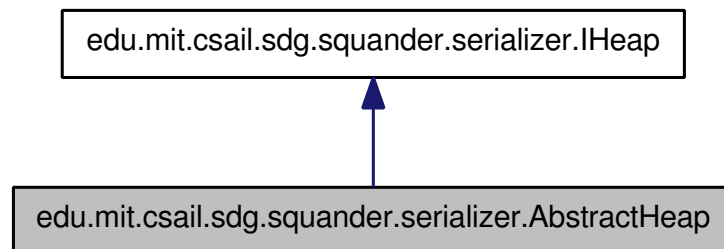
The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/regressions/[Tests.java](#)

9.110 edu.mit.csail.sdg.squander.serializer.AbstractHeap Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::IHeap](#).

Inherited by [edu.mit.csail.sdg.squander.engine.Heap](#). Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#):



Public Member Functions

- void [serialize](#) ([HeapListener](#) listener)
- void [serialize](#) ([HeapListener](#) listener, Predicate< Field > pred)

Protected Member Functions

- abstract List< Object > [getHeapObjects](#) ()

9.110.1 Detailed Description

Common abstract base class for all (or some) concrete heap classes.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 19 of file [AbstractHeap.java](#).

9.110.2 Member Function Documentation

9.110.2.1 abstract List<Object>
[edu.mit.csail.sdg.squander.serializer.AbstractHeap.getHeapObjects](#) ()
 [protected, pure virtual]

Returns all object on this heap.

Implemented in [edu.mit.csail.sdg.squander.engine.Heap](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize\(\)](#).

9.110.2.2 void edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize (HeapListener *listener*, Predicate< Field > *pred*)

Serializes whole heap (all object on the heap). The given listener gets notified about all visited objects and their fields.

Parameters:

listener : gets informed about traversed objects/fields

pred : tell which fields to follow during the serialization

Implements [edu.mit.csail.sdg.squander.serializer.IHeap](#).

Definition at line 26 of file AbstractHeap.java.

References [edu.mit.csail.sdg.squander.serializer.AbstractHeap.getHeapObjects\(\)](#), [edu.mit.csail.sdg.squander.serializer.Serializer.serialize\(\)](#) and

9.110.2.3 void edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize (HeapListener *listener*)

Definition at line 21 of file AbstractHeap.java.

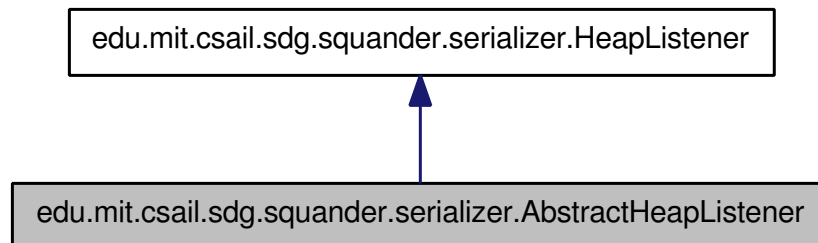
Referenced by [edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene\(\)](#).

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/AbstractHeap.java](#)

9.111 edu.mit.csail.sdg.squander.serializer.AbstractHeapListener Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::HeapListener](#). Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#):



Public Member Functions

- void [newObject](#) (Object obj)
- void [visitPrimitive](#) (Object obj)
- void [visitArrayIntField](#) (Object sourceArray, int index, int value)
- void [visitArrayLength](#) (Object sourceArray, int length)
- void [visitArrayRefField](#) (Object sourceArray, int index, Object value)
- void [visitBooleanField](#) (Field field, Object obj, boolean value)
- void [visitIntField](#) (Field field, Object source, int value)
- void [visitRefField](#) (Field field, Object source, Object value)

9.111.1 Detailed Description

Provides no-ops for every required method.

Author:

drayside

Definition at line 16 of file [AbstractHeapListener.java](#).

9.111.2 Member Function Documentation

9.111.2.1 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.newObject (Object obj)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 18 of file [AbstractHeapListener.java](#).

9.111.2.2 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitArrayIntField (Object sourceArray, int index, int value)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 20 of file [AbstractHeapListener.java](#).

9.111.2.3 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitArrayLength (Object *sourceArray*, int *length*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 21 of file AbstractHeapListener.java.

9.111.2.4 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitArrayRefField (Object *sourceArray*, int *index*, Object *value*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 22 of file AbstractHeapListener.java.

9.111.2.5 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitBooleanField (Field *field*, Object *obj*, boolean *value*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 23 of file AbstractHeapListener.java.

9.111.2.6 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitIntField (Field *field*, Object *source*, int *value*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 24 of file AbstractHeapListener.java.

9.111.2.7 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitPrimitive (Object *obj*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 19 of file AbstractHeapListener.java.

9.111.2.8 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitRefField (Field *field*, Object *source*, Object *value*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

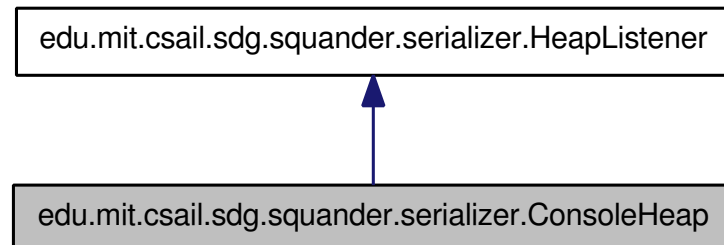
Definition at line 25 of file AbstractHeapListener.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/AbstractHeapListener.java](#)

9.112 edu.mit.csail.sdg.squander.serializer.ConsoleHeap Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::HeapListener](#). Collaboration diagram for `edu.mit.csail.sdg.squander.serializer.ConsoleHeap`:



Public Member Functions

- void [newObject](#) (final Object obj)
- void [visitPrimitive](#) (Object obj)
- void [visitRefField](#) (final Field field, final Object source, final Object value)
- void [visitIntField](#) (final Field field, final Object source, final int value)
- void [visitBooleanField](#) (final Field field, final Object source, final boolean value)
- void [visitArrayIntField](#) (Object sourceArray, int index, int value)
- void [visitArrayRefField](#) (Object sourceArray, int index, Object value)
- void [visitArrayLength](#) (Object sourceArray, final int length)

9.112.1 Detailed Description

Just prints out things to the console, as told to it by a [Serializer](#).

See also:

[Serializer](#)
[HeapListener](#)

Author:

drayside

Definition at line 20 of file ConsoleHeap.java.

9.112.2 Member Function Documentation

9.112.2.1 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.newObject (final Object obj)

Definition at line 23 of file ConsoleHeap.java.

Referenced by `edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitPrimitive()`.

9.112.2.2 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitArrayIntField (Object *sourceArray*, int *index*, int *value*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 55 of file ConsoleHeap.java.

9.112.2.3 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitArrayLength (Object *sourceArray*, final int *length*)

Definition at line 71 of file ConsoleHeap.java.

9.112.2.4 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitArrayRefField (Object *sourceArray*, int *index*, Object *value*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 63 of file ConsoleHeap.java.

9.112.2.5 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitBooleanField (final Field *field*, final Object *source*, final boolean *value*)

Definition at line 48 of file ConsoleHeap.java.

9.112.2.6 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitIntField (final Field *field*, final Object *source*, final int *value*)

Definition at line 41 of file ConsoleHeap.java.

9.112.2.7 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitPrimitive (Object *obj*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 28 of file ConsoleHeap.java.

References [edu.mit.csail.sdg.squander.serializer.ConsoleHeap.newObject\(\)](#).

9.112.2.8 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitRefField (final Field *field*, final Object *source*, final Object *value*)

Definition at line 33 of file ConsoleHeap.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/ConsoleHeap.java](#)

9.113 edu.mit.csail.sdg.squander.serializer.HeapListener Interface Reference

Inherited by [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#), and [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#).

Public Member Functions

- void [newObject](#) (Object obj)
- void [visitPrimitive](#) (Object obj)
- void [visitRefField](#) (Field field, Object source, Object value)
- void [visitIntField](#) (Field field, Object source, int value)
- void [visitBooleanField](#) (Field field, Object obj, boolean value)
- void [visitArrayIntField](#) (Object sourceArray, int index, int value)
- void [visitArrayRefField](#) (Object sourceArray, int index, Object value)
- void [visitArrayLength](#) (Object sourceArray, int length)

9.113.1 Detailed Description

An interface for listening to events generated by the [Serializer](#).

See also:

[Serializer](#)

Author:

drayside

Definition at line 16 of file HeapListener.java.

9.113.2 Member Function Documentation

9.113.2.1 void edu.mit.csail.sdg.squander.serializer.HeapListener.newObject (Object obj)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serialize\(\)](#).

9.113.2.2 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayIntField (Object sourceArray, int index, int value)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#), and [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.traverseIntArray\(\)](#).

9.113.2.3 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayLength (Object *sourceArray*, int *length*)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.traverseIntArray\(\)](#), and [edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjArray\(\)](#).

9.113.2.4 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayRefField (Object *sourceArray*, int *index*, Object *value*)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#), and [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjArray\(\)](#).

9.113.2.5 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitBooleanField (Field *field*, Object *obj*, boolean *value*)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass\(\)](#).

9.113.2.6 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitIntField (Field *field*, Object *source*, int *value*)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass\(\)](#).

9.113.2.7 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitPrimitive (Object *obj*)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#), and [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serialize\(\)](#).

9.113.2.8 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitRefField (Field *field*, Object *source*, Object *value*)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass\(\)](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/HeapListener.java](#)

9.114 edu.mit.csail.sdg.squander.serializer.IHeap Interface Reference

Inherited by [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#).

Public Member Functions

- void [serialize](#) ([HeapListener](#) listener, Predicate< Field > pred)

9.114.1 Detailed Description

An abstract representation of the heap (at least the part that we care about)

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 17 of file IHeap.java.

9.114.2 Member Function Documentation

9.114.2.1 void edu.mit.csail.sdg.squander.serializer.IHeap.serialize ([HeapListener](#) *listener*, Predicate< Field > *pred*)

Serializes whole heap (all object on the heap). The given listener gets notified about all visited objects and their fields.

Parameters:

- listener* : gets informed about traversed objects/fields
- pred* : tell which fields to follow during the serialization

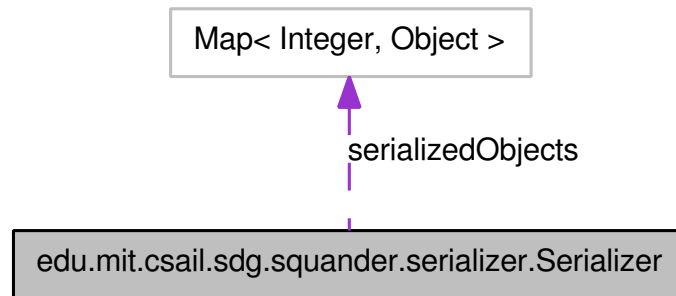
Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/IHeap.java](#)

9.115 edu.mit.csail.sdg.squander.serializer.Serializer Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.serializer.Serializer:



Public Member Functions

- `List< Object > serializedObjects ()`
- `void serialize (Object obj, HeapListener listener, Predicate< Field > fieldPred)`
- `void mutate (final Field field, final int sourceId, final int targetId)`
- `void dispose ()`

Private Types

- `enum Phase { Serialization, Mutation, Disposed }`

Private Member Functions

- `void serializeArray (Object obj, HeapListener listener, Predicate< Field > fieldPred)`
- `void traverseIntArray (Object obj, HeapListener listener)`
- `void traverseObjArray (Object obj, HeapListener listener, Predicate< Field > fieldPred)`
- `void serializeClass (Object obj, HeapListener listener, Predicate< Field > fieldPred)`

Private Attributes

- `final Map< Integer, Object > serializedObjects = new HashMap<Integer, Object>()`
- `Phase phase = Phase.Serialization`

9.115.1 Detailed Description

Definition at line 22 of file `Serializer.java`.

9.115.2 Member Enumeration Documentation

9.115.2.1 enum edu::mit::csail::sdg::squander::serializer::Serializer::Phase [private]

Enumerator:

Serialization

Mutation

Disposed

Definition at line 26 of file Serializer.java.

9.115.3 Member Function Documentation

9.115.3.1 void edu.mit.csail.sdg.squander.serializer.Serializer.dispose ()

Definition at line 209 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.Serializer.phase, and edu.mit.csail.sdg.squander.serializer.Serializer.serializedC

9.115.3.2 void edu.mit.csail.sdg.squander.serializer.Serializer.mutate (final Field *field*, final int *sourceId*, final int *targetId*)

Definition at line 191 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.Serializer.phase, and edu.mit.csail.sdg.squander.serializer.Serializer.serializedC

9.115.3.3 void edu.mit.csail.sdg.squander.serializer.Serializer.serialize (Object *obj*, HeapListener *listener*, Predicate< Field > *fieldPred*)

Parameters:

obj : the root object (to start the serialization from)

listener : gets informed about traversed object/fields

fieldPred : simple predicate function. Used during the heap serialization (traversal) to determine whether a field should be followed or not.

Definition at line 51 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.HeapListener.newObject(), edu.mit.csail.sdg.squander.serializer.Serializer.phase, edu.mit.csail.sdg.squander.serializer.Serializer.serializeArray(), edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass(), edu.mit.csail.sdg.squander.serializer.Serializer.serializedObjects, and edu.mit.csail.sdg.squander.serializer.HeapListener.visitPrimitive().

Referenced by edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize(), edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass(), and edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjA

9.115.3.4 void edu.mit.csail.sdg.squander.serializer.Serializer.serializeArray (Object *obj*, HeapListener *listener*, Predicate< Field > *fieldPred*) [private]

Goes through the elements of the given array, notifies the given listener about those array elements, and finally recursively calls serialize on every array element (unless array is of primitive type)

Author:

Aleksandar Milicevic

Parameters:

fieldPred

Definition at line 92 of file Serializer.java.

References `edu.mit.csail.sdg.squander.serializer.Serializer.traverseIntArray()`, `edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjArray()`, and

Referenced by `edu.mit.csail.sdg.squander.serializer.Serializer.serialize()`.

9.115.3.5 void edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass (Object obj, HeapListener listener, Predicate< Field > fieldPred) [private]

Definition at line 140 of file Serializer.java.

References `edu.mit.csail.sdg.squander.serializer.Serializer.serialize()`, `edu.mit.csail.sdg.squander.serializer.HeapListener.visitBooleanField()`, `edu.mit.csail.sdg.squander.serializer.HeapListener.visitIntField()`, and `edu.mit.csail.sdg.squander.serializer.HeapListener.visitReferenceField()`.

Referenced by `edu.mit.csail.sdg.squander.serializer.Serializer.serialize()`.

9.115.3.6 List<Object> edu.mit.csail.sdg.squander.serializer.Serializer.serializedObjects ()

Returns an unmodifiable list of the objects that have been serialized.

Returns:

Definition at line 33 of file Serializer.java.

Referenced by `edu.mit.csail.sdg.squander.serializer.Serializer.dispose()`, `edu.mit.csail.sdg.squander.serializer.Serializer.mutate()`, and `edu.mit.csail.sdg.squander.serializer.Serializer.serialize()`.

9.115.3.7 void edu.mit.csail.sdg.squander.serializer.Serializer.traverseIntArray (Object obj, HeapListener listener) [private]

Notifies the given listener about int array elements

Author:

Aleksandar Milicevic

Definition at line 111 of file Serializer.java.

References `edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayIntField()`, `edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayLength()`, and

Referenced by `edu.mit.csail.sdg.squander.serializer.Serializer.serializeArray()`.

9.115.3.8 void edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjArray (Object *obj*, HeapListener *listener*, Predicate< Field > *fieldPred*) [private]

Notifies the given listener about reference array elements, and after that recursively calls `serialize` for every one of them.

Author:

Aleksandar Milicevic

Definition at line 125 of file `Serializer.java`.

References `edu.mit.csail.sdg.squander.serializer.Serializer.serialize()`, `edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayRefField()`, and `edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayRefField()`.

Referenced by `edu.mit.csail.sdg.squander.serializer.Serializer.serializeArray()`.

9.115.4 Member Data Documentation

9.115.4.1 Phase edu.mit.csail.sdg.squander.serializer.Serializer.phase = Phase.Serialization [private]

Definition at line 27 of file `Serializer.java`.

Referenced by `edu.mit.csail.sdg.squander.serializer.Serializer.dispose()`, `edu.mit.csail.sdg.squander.serializer.Serializer.mutate()`, and `edu.mit.csail.sdg.squander.serializer.Serializer.serialize()`.

9.115.4.2 final Map<Integer, Object> edu.mit.csail.sdg.squander.serializer.Serializer.serializedObjects = new HashMap<Integer, Object>() [private]

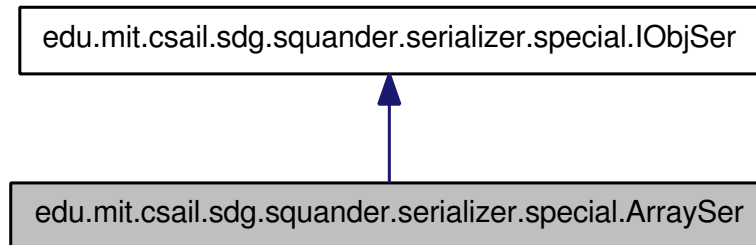
Definition at line 24 of file `Serializer.java`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/Serializer.java](#)

9.116 edu.mit.csail.sdg.squander.serializer.special.ArraySer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer](#). Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#):



Public Member Functions

- boolean [accepts](#) (Class<?> clz)
- Object [newInstance](#) (Class<?> cls)
- List< [FieldValue](#) > [absFunc](#) (JavaScene javaScene, Object obj)
- Object [concrFunc](#) (Object obj, [FieldValue](#) fieldValue)

Static Public Attributes

- static final String [ELEMS](#) = "elems"
- static final String [LENGTH](#) = "length"

Private Member Functions

- Object [restoreElems](#) (Object obj, [FieldValue](#) fieldValue)
- Object [restoreLength](#) (Object obj, [FieldValue](#) fldVal)

9.116.1 Detailed Description

Array serializer.

Author:

Aleksandar Milicevic

Definition at line 23 of file ArraySer.java.

9.116.2 Member Function Documentation

9.116.2.1 List<FieldValue> edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc (JavaScene javaScene, Object obj)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 39 of file ArraySer.java.

References [edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple\(\)](#), [edu.mit.csail.sdg.squander.spec.JavaScene.classSpecFor](#), [edu.mit.csail.sdg.squander.serializer.special.ArraySer.ELEMS](#), [edu.mit.csail.sdg.squander.spec.ClassSpec.findField\(\)](#), and [edu.mit.csail.sdg.squander.serializer.special.ArraySer.LENGTH](#).

9.116.2.2 boolean [edu.mit.csail.sdg.squander.serializer.special.ArraySer.accepts \(Class<?> *clz*\)](#)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 29 of file ArraySer.java.

9.116.2.3 Object [edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc \(Object *obj*, FieldValue *fieldValue*\)](#)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 57 of file ArraySer.java.

References [edu.mit.csail.sdg.squander.serializer.special.ArraySer.ELEMS](#), [edu.mit.csail.sdg.squander.absstate.FieldValue.jfield](#), [edu.mit.csail.sdg.squander.serializer.special.ArraySer.LENGTH](#), [edu.mit.csail.sdg.squander.spec.JField.name](#), [edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreElems\(\)](#), and [edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreLength\(\)](#).

9.116.2.4 Object [edu.mit.csail.sdg.squander.serializer.special.ArraySer.newInstance \(Class<?> *cls*\)](#)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 34 of file ArraySer.java.

9.116.2.5 Object [edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreElems \(Object *obj*, FieldValue *fieldValue*\) \[private\]](#)

Definition at line 68 of file ArraySer.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#), and [edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc\(\)](#).

9.116.2.6 Object [edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreLength \(Object *obj*, FieldValue *fldVal*\) \[private\]](#)

Definition at line 83 of file ArraySer.java.

Referenced by [edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc\(\)](#).

9.116.3 Member Data Documentation

9.116.3.1 final String edu.mit.csail.sdg.squander.serializer.special.ArraySer.ELEMS = "elems" [static]

Definition at line 25 of file ArraySer.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc(), and edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc().

9.116.3.2 final String edu.mit.csail.sdg.squander.serializer.special.ArraySer.LENGTH = "length" [static]

Definition at line 26 of file ArraySer.java.

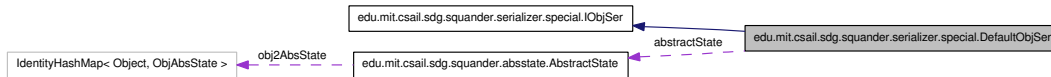
Referenced by edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc(), and edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/ArraySer.java](#)

9.117 edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer](#). Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#):



Public Member Functions

- boolean [accepts](#) (Class<?> clz)
- Object [newInstance](#) (Class<?> cls)
- List< [FieldValue](#) > [absFunc](#) (JavaScene javaScene, Object obj)
- Object [concrFunc](#) (Object obj, [FieldValue](#) fldVal)

Static Private Attributes

- static final [AbstractState](#) [abstractState](#) = new [AbstractState](#)()

9.117.1 Detailed Description

Default object serializer that works for all classes. It serializes objects simply by reading their fields using Java reflection.

Author:

Aleksandar Milicevic

Definition at line 27 of file [DefaultObjSer.java](#).

9.117.2 Member Function Documentation

9.117.2.1 List<FieldValue> edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc (JavaScene javaScene, Object obj)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 42 of file [DefaultObjSer.java](#).

References [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.abstractState](#), [edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple\(\)](#), [edu.mit.csail.sdg.squander.spec.JavaScene.classSpecForObj\(\)](#), [edu.mit.csail.sdg.squander.absstate.AbstractState.getObjState\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjAbsState.getSpecField\(\)](#), [edu.mit.csail.sdg.squander.spec.JField.isPureAbstract\(\)](#), [edu.mit.csail.sdg.squander.absstate.FieldValue.jfield](#), and [edu.mit.csail.sdg.squander.spec.ClassSpec.usedFieldsAll\(\)](#).

9.117.2.2 boolean `edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.accepts(Class<?> clz)`

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 32 of file `DefaultObjSer.java`.

9.117.2.3 Object `edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc(Object obj, FieldValue fieldValue)`

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 74 of file `DefaultObjSer.java`.

References [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.abstractState](#), [edu.mit.csail.sdg.squander.absstate.ObjAbsState.add\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity](#), [edu.mit.csail.sdg.squander.spec.JField.getJavaField\(\)](#), [edu.mit.csail.sdg.squander.absstate.AbstractState.getOrAddObjState\(\)](#), [edu.mit.csail.sdg.squander.absstate.FieldValue.jfield](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#), and [edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet](#).

9.117.2.4 Object `edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.newInstance(Class<?> cls)`

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 37 of file `DefaultObjSer.java`.

9.117.3 Member Data Documentation

9.117.3.1 final `AbstractState` `edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.abstractState = new AbstractState() [static, private]`

Definition at line 29 of file `DefaultObjSer.java`.

Referenced by [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc\(\)](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc\(\)](#), and [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.newInstance\(\)](#).

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/DefaultObjSer.java](#)

9.118 edu.mit.csail.sdg.squander.serializer.special.IObjSer Interface Reference

Inherited by [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

Public Member Functions

- boolean [accepts](#) ([Class](#)<?> *clz*)
- Object [newInstance](#) ([Class](#)<?> *cls*)
- List< [FieldValue](#) > [absFunc](#) ([JavaScene](#) *javaScene*, Object *obj*)
- Object [concrFunc](#) (Object *obj*, [FieldValue](#) *fieldValue*)

9.118.1 Detailed Description

Interface for object serialization/deserialization

Author:

Aleksandar Milicevic

Definition at line 17 of file `IObjSer.java`.

9.118.2 Member Function Documentation

9.118.2.1 List<FieldValue> edu.mit.csail.sdg.squander.serializer.special.IObjSer.absFunc (JavaScene javaScene, Object obj)

abstraction function

Implemented in [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

Referenced by [edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse\(\)](#).

9.118.2.2 boolean edu.mit.csail.sdg.squander.serializer.special.IObjSer.accepts (Class<?> clz)

returns whether this serializer supports (can serialize) the given class

Implemented in [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

9.118.2.3 Object edu.mit.csail.sdg.squander.serializer.special.IObjSer.concrFunc (Object obj, FieldValue fieldValue)

concretization function

Implemented in [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

9.118.2.4 Object `edu.mit.csail.sdg.squander.serializer.special.IObjSer.newInstance(Class<?> cls)`

creates a new instance of the given class

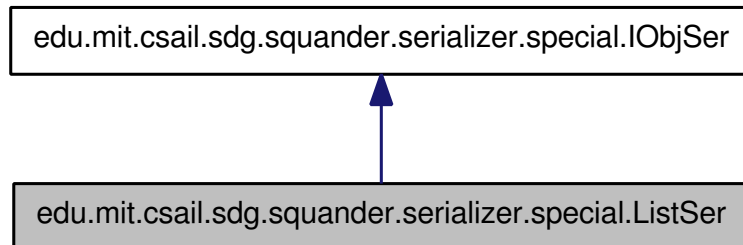
Implemented in [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/IObjSer.java](#)

9.119 edu.mit.csail.sdg.squander.serializer.special.ListSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer](#). Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.special.ListSer](#):



Public Member Functions

- boolean [accepts](#) (Class<?> clz)
- List [newInstance](#) (Class<?> cls)
- List< [FieldValue](#) > [absFunc](#) ([JavaScene](#) javaScene, Object obj)
- Object [concrFunc](#) (Object obj, [FieldValue](#) fieldValue)

Static Public Attributes

- static final String [DATA](#) = "elts"

Private Member Functions

- Object [restoreElems](#) (Object obj, [FieldValue](#) fieldValue)

9.119.1 Detailed Description

List serializer.

Author:

Aleksandar Milicevic

Definition at line 22 of file ListSer.java.

9.119.2 Member Function Documentation

9.119.2.1 List<FieldValue> edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc ([JavaScene](#) javaScene, Object obj)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 39 of file ListSer.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple(), edu.mit.csail.sdg.squander.spec.JavaScene.classSpecFor, edu.mit.csail.sdg.squander.serializer.special.ListSer.DATA, and edu.mit.csail.sdg.squander.spec.ClassSpec.findField().

9.119.2.2 boolean edu.mit.csail.sdg.squander.serializer.special.ListSer.accepts (Class<?> *clz*)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 27 of file ListSer.java.

9.119.2.3 Object edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc (Object *obj*, FieldValue *fieldValue*)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 65 of file ListSer.java.

References edu.mit.csail.sdg.squander.serializer.special.ListSer.DATA, edu.mit.csail.sdg.squander.spec.JField.isPureAbstract(), edu.mit.csail.sdg.squander.absstate.FieldValue.jfield, edu.mit.csail.sdg.squander.spec.JField.name, and edu.mit.csail.sdg.squander.serializer.special.ListSer.restoreElems().

9.119.2.4 List edu.mit.csail.sdg.squander.serializer.special.ListSer.newInstance (Class<?> *cls*)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 33 of file ListSer.java.

9.119.2.5 Object edu.mit.csail.sdg.squander.serializer.special.ListSer.restoreElems (Object *obj*, FieldValue *fieldValue*) [private]

Definition at line 78 of file ListSer.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc().

9.119.3 Member Data Documentation

9.119.3.1 final String edu.mit.csail.sdg.squander.serializer.special.ListSer.DATA = "elts" [static]

Definition at line 24 of file ListSer.java.

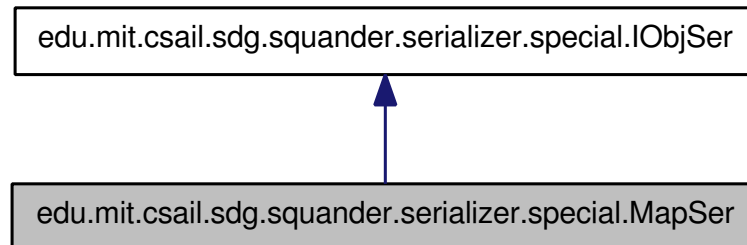
Referenced by edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc(), and edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/special/ListSer.java

9.120 edu.mit.csail.sdg.squander.serializer.special.MapSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer](#). Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.special.MapSer](#):



Public Member Functions

- boolean [accepts](#) (Class<?> clz)
- Map [newInstance](#) (Class<?> cls)
- List< [FieldValue](#) > [absFunc](#) (JavaScene javaScene, Object obj)
- Object [concrFunc](#) (Object obj, [FieldValue](#) fieldValue)

Static Public Attributes

- static final String [DATA](#) = "elts"
- static final String [LENGTH](#) = "length"

Private Member Functions

- Object [restoreElems](#) (Object obj, [FieldValue](#) fieldValue)

9.120.1 Detailed Description

Map serializer.

Author:

Aleksandar Milicevic

Definition at line 24 of file MapSer.java.

9.120.2 Member Function Documentation

9.120.2.1 List<FieldValue> edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc (JavaScene javaScene, Object obj)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 42 of file MapSer.java.

References [edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple\(\)](#), [edu.mit.csail.sdg.squander.spec.JavaScene.classSpecFor](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer.DATA](#), [edu.mit.csail.sdg.squander.spec.ClassSpec.findField\(\)](#), and [edu.mit.csail.sdg.squander.serializer.special.MapSer.LENGTH](#).

9.120.2.2 boolean [edu.mit.csail.sdg.squander.serializer.special.MapSer.accepts \(Class<?> clz\)](#)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 30 of file MapSer.java.

9.120.2.3 Object [edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc \(Object obj, FieldValue fieldValue\)](#)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 67 of file MapSer.java.

References [edu.mit.csail.sdg.squander.serializer.special.MapSer.DATA](#), [edu.mit.csail.sdg.squander.spec.JField.isPureAbstract\(\)](#), [edu.mit.csail.sdg.squander.absstate.FieldValue.jfield](#), [edu.mit.csail.sdg.squander.spec.JField.name](#), and [edu.mit.csail.sdg.squander.serializer.special.MapSer.restoreElems\(\)](#).

9.120.2.4 Map [edu.mit.csail.sdg.squander.serializer.special.MapSer.newInstance \(Class<?> cls\)](#)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 36 of file MapSer.java.

9.120.2.5 Object [edu.mit.csail.sdg.squander.serializer.special.MapSer.restoreElems \(Object obj, FieldValue fieldValue\) \[private\]](#)

Definition at line 80 of file MapSer.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc\(\)](#).

9.120.3 Member Data Documentation

9.120.3.1 final String [edu.mit.csail.sdg.squander.serializer.special.MapSer.DATA = "elts" \[static\]](#)

Definition at line 26 of file MapSer.java.

Referenced by [edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc\(\)](#), and [edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc\(\)](#).

9.120.3.2 `final String edu.mit.csail.sdg.squander.serializer.special.MapSer.LENGTH = "length"`
`[static]`

Definition at line 27 of file MapSer.java.

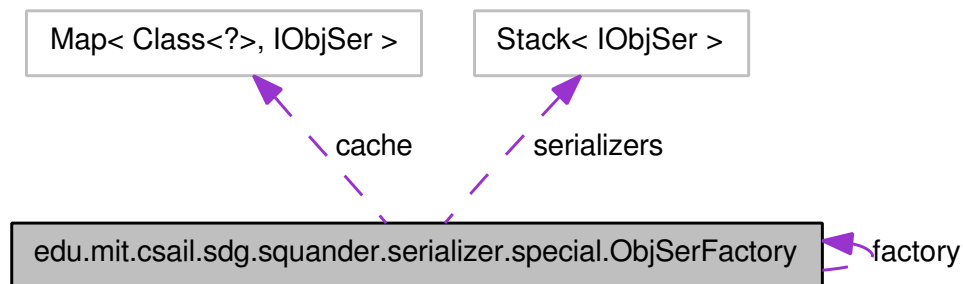
Referenced by `edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/serializer/special/MapSer.java`

9.121 edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory:



Public Member Functions

- [IObjSer getSerForObj](#) (Object obj)
- [IObjSer getSerForCls](#) (Class<?> clz)

Static Public Attributes

- static final [ObjSerFactory](#) factory = new [ObjSerFactory](#)()

Private Member Functions

- [ObjSerFactory](#) ()

Private Attributes

- Stack< [IObjSer](#) > [serializers](#) = new Stack<[IObjSer](#)>()
- Map< Class<?>, [IObjSer](#) > [cache](#) = new HashMap<Class<?>, [IObjSer](#)>()

9.121.1 Detailed Description

Factory class responsible for returning the right serializer for a give class.

Author:

Aleksandar Milicevic

Definition at line 16 of file `ObjSerFactory.java`.

9.121.2 Constructor & Destructor Documentation

9.121.2.1 `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.ObjSerFactory ()` [private]

Definition at line 47 of file `ObjSerFactory.java`.

References `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.serializers`.

9.121.3 Member Function Documentation

9.121.3.1 `IObjSer edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForCls (Class<?> clz)`

Returns the right serializer for the given class

Definition at line 33 of file `ObjSerFactory.java`.

References `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.cache`, `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.serializers`, and

Referenced by `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForObj()`.

9.121.3.2 `IObjSer edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForObj (Object obj)`

Returns the right serializer for the given object

Definition at line 26 of file `ObjSerFactory.java`.

References `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForCls()`.

Referenced by `edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse()`.

9.121.4 Member Data Documentation

9.121.4.1 `Map<Class<?>, IObjSer> edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.cache = new HashMap<Class<?>, IObjSer>() [private]`

Definition at line 21 of file `ObjSerFactory.java`.

Referenced by `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForCls()`.

9.121.4.2 `final ObjSerFactory edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.factory = new ObjSerFactory() [static]`

Definition at line 18 of file `ObjSerFactory.java`.

9.121.4.3 `Stack<IObjSer> edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.serializers = new Stack<IObjSer>() [private]`

Definition at line 20 of file `ObjSerFactory.java`.

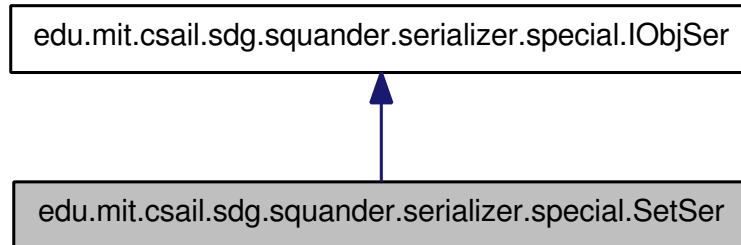
Referenced by `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForCls()`, and `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.ObjSerFactory()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/ObjSerFactory.java](#)

9.122 edu.mit.csail.sdg.squander.serializer.special.SetSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer](#). Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.special.SetSer](#):



Public Member Functions

- boolean [accepts](#) (Class<?> clz)
- Set [newInstance](#) (Class<?> cls)
- List< [FieldValue](#) > [absFunc](#) ([JavaScene](#) javaScene, Object obj)
- Object [concrFunc](#) (Object obj, [FieldValue](#) fieldValue)

Static Public Attributes

- static final String [DATA](#) = "elts"
- static final String [LENGTH](#) = "length"

Private Member Functions

- Object [restoreElems](#) (Object obj, [FieldValue](#) fieldValue)
- Object [restoreLength](#) (Object obj, [FieldValue](#) fldVal)

9.122.1 Detailed Description

Set serializer.

Author:

Aleksandar Milicevic

Definition at line 24 of file SetSer.java.

9.122.2 Member Function Documentation

9.122.2.1 List<FieldValue> edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc (JavaScene javaScene, Object obj)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 42 of file SetSer.java.

References [edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple\(\)](#), [edu.mit.csail.sdg.squander.spec.JavaScene.classSpecFor](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer.DATA](#), [edu.mit.csail.sdg.squander.spec.ClassSpec.findField\(\)](#), and [edu.mit.csail.sdg.squander.serializer.special.SetSer.LENGTH](#).

9.122.2.2 boolean [edu.mit.csail.sdg.squander.serializer.special.SetSer.accepts \(Class<?> clz\)](#)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 30 of file SetSer.java.

9.122.2.3 Object [edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc \(Object obj, FieldValue fieldValue\)](#)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 66 of file SetSer.java.

References [edu.mit.csail.sdg.squander.serializer.special.SetSer.DATA](#), [edu.mit.csail.sdg.squander.absstate.FieldValue.jfield](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer.LENGTH](#), [edu.mit.csail.sdg.squander.spec.JField.name](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer.restoreElems\(\)](#), and [edu.mit.csail.sdg.squander.serializer.special.SetSer.restore](#).

9.122.2.4 Set [edu.mit.csail.sdg.squander.serializer.special.SetSer.newInstance \(Class<?> cls\)](#)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 36 of file SetSer.java.

9.122.2.5 Object [edu.mit.csail.sdg.squander.serializer.special.SetSer.restoreElems \(Object obj, FieldValue fieldValue\) \[private\]](#)

Definition at line 77 of file SetSer.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc\(\)](#).

9.122.2.6 Object [edu.mit.csail.sdg.squander.serializer.special.SetSer.restoreLength \(Object obj, FieldValue fldVal\) \[private\]](#)

Definition at line 87 of file SetSer.java.

Referenced by [edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc\(\)](#).

9.122.3 Member Data Documentation

9.122.3.1 `final String edu.mit.csail.sdg.squander.serializer.special.SetSer.DATA = "elts"` [static]

Definition at line 26 of file SetSer.java.

Referenced by `edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc()`, and
`edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc()`.

9.122.3.2 `final String edu.mit.csail.sdg.squander.serializer.special.SetSer.LENGTH = "length"` [static]

Definition at line 27 of file SetSer.java.

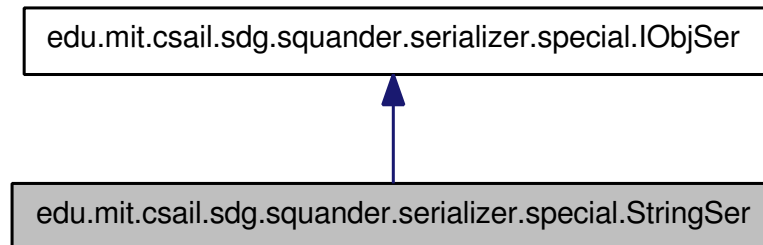
Referenced by `edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc()`, and
`edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/SetSer.java](#)

9.123 edu.mit.csail.sdg.squander.serializer.special.StringSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer](#). Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.special.StringSer](#):



Public Member Functions

- boolean [accepts](#) (Class<?> clz)
- Object [newInstance](#) (Class<?> cls)
- Object [concrFunc](#) (Object obj, [FieldValue](#) fieldValue)
- List< [FieldValue](#) > [absFunc](#) ([JavaScene](#) javaScene, Object obj)

9.123.1 Detailed Description

String serializer.

Author:

Aleksandar Milicevic

Definition at line 18 of file `StringSer.java`.

9.123.2 Member Function Documentation

9.123.2.1 List<FieldValue> edu.mit.csail.sdg.squander.serializer.special.StringSer.absFunc (JavaScene javaScene, Object obj)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 36 of file `StringSer.java`.

9.123.2.2 boolean edu.mit.csail.sdg.squander.serializer.special.StringSer.accepts (Class<?> clz)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 21 of file `StringSer.java`.

9.123.2.3 Object `edu.mit.csail.sdg.squander.serializer.special.StringSer.concrFunc` (Object *obj*, FieldValue *fieldValue*)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 31 of file `StringSer.java`.

9.123.2.4 Object `edu.mit.csail.sdg.squander.serializer.special.StringSer.newInstance` (Class<?> *cls*)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

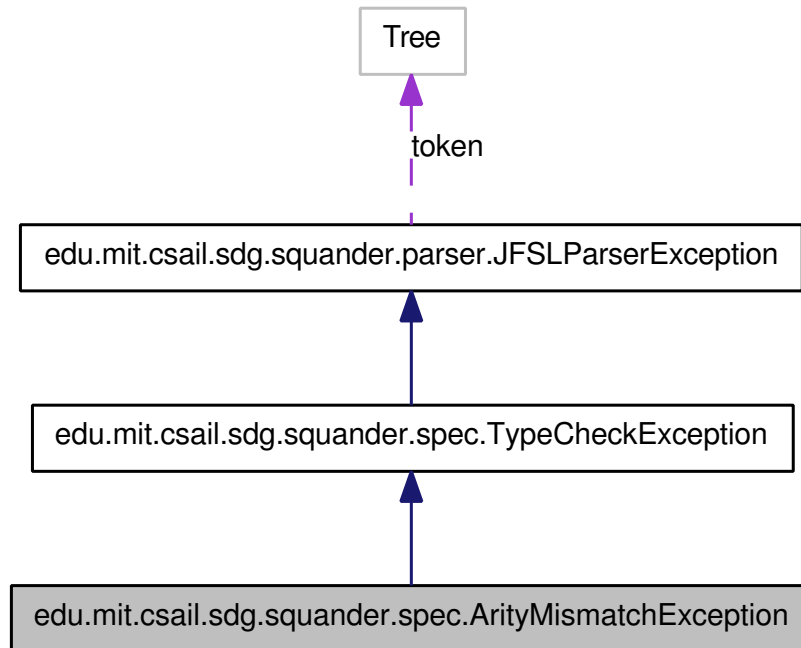
Definition at line 26 of file `StringSer.java`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/StringSer.java](#)

9.124 edu.mit.csail.sdg.squander.spec.ArityMismatchException Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::TypeCheckException](#). Collaboration diagram for [edu.mit.csail.sdg.squander.spec.ArityMismatchException](#):



Package Functions

- [ArityMismatchException](#) (int left, int right)
- [ArityMismatchException](#) (int left, int right, String msg)

Static Private Attributes

- static final long [serialVersionUID](#) = 9078354475670245756L

9.124.1 Detailed Description

Definition at line 7 of file [ArityMismatchException.java](#).

9.124.2 Constructor & Destructor Documentation

9.124.2.1 [edu.mit.csail.sdg.squander.spec.ArityMismatchException.ArityMismatchException](#) (int left, int right) [[package](#)]

Definition at line 11 of file [ArityMismatchException.java](#).

9.124.2.2 `edu.mit.csail.sdg.squander.spec.ArityMismatchException.ArityMismatchException (int left, int right, String msg)` [package]

Definition at line 15 of file `ArityMismatchException.java`.

9.124.3 Member Data Documentation

9.124.3.1 `final long edu.mit.csail.sdg.squander.spec.ArityMismatchException serialVersionUID = 9078354475670245756L` [static, private]

Reimplemented from [edu.mit.csail.sdg.squander.spec.TypeCheckException](#).

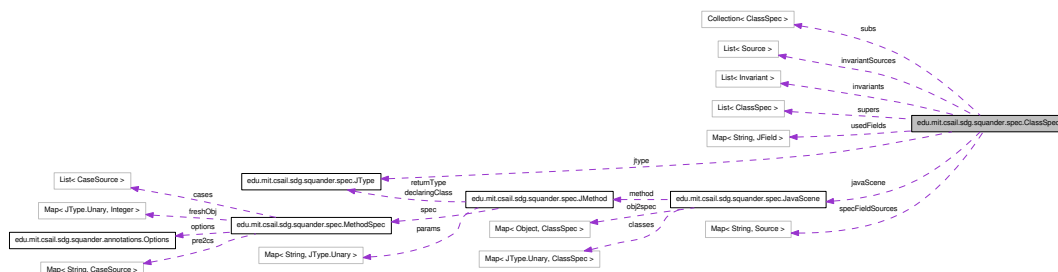
Definition at line 9 of file `ArityMismatchException.java`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/ArityMismatchException.java](#)

9.125 edu.mit.csail.sdg.squander.spec.ClassSpec Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.ClassSpec:



Classes

- class **Invariant**

Public Member Functions

- **ClassSpec** (JType.Unary *jtype*, JavaScene *javaScene*)
- **ClassSpec** (Class *clz*, JType.Unary[] *typeParams*, JavaScene *javaScene*)
- boolean **isEmpty** ()
- JType.Unary **jtype** ()
- Class **clz** ()
- JType.Unary[] **typeParams** ()
- Collection< **ClassSpec** > **subs** ()
- void **setSubs** (Collection< **ClassSpec** > *subs*)
- void **addSuper** (**ClassSpec** *superClsSpec*)
- **JField** **findField** (String *name*)
- **JField** **ensureField** (String *name*)
- **JField** **ensureField** (String *name*, boolean *recurse*)
- Collection< **Invariant** > **invariants** ()
- Collection< **Source** > **specFields** ()
- boolean **hasSpecField** (String *name*)
- Collection< **JField** > **usedFields** ()
- Collection< **JField** > **usedFieldsAll** ()
- void **addInvariant** (**Source** *src*)
- void **addSpecFieldSource** (**Source** *src*)
- void **addSpecField** (**JField** *field*)
- void **typecheck** ()
- void **translateSpecs** (**ForgeScene** *forgeScene*)
- String **toString** ()

Private Member Functions

- void **addUsedField** (**JField** *field*)
- String **extractSpecFieldName** (**Source** *src*)

Private Attributes

- final `JType.Unary jtype`
- final `JavaScene javaScene`
- `Collection< ClassSpec > subs`
- `List< ClassSpec > supers = new LinkedList<ClassSpec>()`
- `Map< String, Source > specFieldSources = new HashMap<String, Source>()`
- `List< Source > invariantSources = new ArrayList<Source>()`
- `List< Invariant > invariants = new ArrayList<Invariant>()`
- `Map< String, JField > usedFields = new HashMap<String, JField>()`

9.125.1 Detailed Description

Definition at line 24 of file `ClassSpec.java`.

9.125.2 Constructor & Destructor Documentation

9.125.2.1 `edu.mit.csail.sdg.squander.spec.ClassSpec.ClassSpec (JType.Unary jtype, JavaScene javaScene)`

Definition at line 56 of file `ClassSpec.java`.

9.125.2.2 `edu.mit.csail.sdg.squander.spec.ClassSpec.ClassSpec (Class clz, JType.Unary[] typeParams, JavaScene javaScene)`

Definition at line 61 of file `ClassSpec.java`.

9.125.3 Member Function Documentation

9.125.3.1 `void edu.mit.csail.sdg.squander.spec.ClassSpec.addInvariant (Source src)`

Definition at line 158 of file `ClassSpec.java`.

References `edu.mit.csail.sdg.squander.spec.JavaScene.isFinished()`.

Referenced by `edu.mit.csail.sdg.squander.spec.JavaScene.createClassSpec()`.

9.125.3.2 `void edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField (JField field)`

Definition at line 168 of file `ClassSpec.java`.

References `edu.mit.csail.sdg.squander.spec.JavaScene.isFinished()`, `edu.mit.csail.sdg.squander.spec.JField.isSpec()` and

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration()`.

9.125.3.3 `void edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecFieldSource (Source src)`

Definition at line 163 of file `ClassSpec.java`.

References `edu.mit.csail.sdg.squander.spec.JavaScene.isFinished()`.

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.createClassSpec().

9.125.3.4 void edu.mit.csail.sdg.squander.spec.ClassSpec.addSuper (ClassSpec *superClsSpec*)

Definition at line 76 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass().

9.125.3.5 void edu.mit.csail.sdg.squander.spec.ClassSpec.addUsedField (JField *field*) [private]

Definition at line 221 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.JField.name.

9.125.3.6 Class edu.mit.csail.sdg.squander.spec.ClassSpec.clz ()

Definition at line 70 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), and edu.mit.csail.sdg.squander.spec.JavaScene.subTypes().

9.125.3.7 JField edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField (String *name*, boolean *recurse*)

Definition at line 96 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.ISpecProvider.extractFieldSpec(), edu.mit.csail.sdg.squander.spec.JavaScene.isFinished(), edu.mit.csail.sdg.squander.spec.Source.isFuncField(), edu.mit.csail.sdg.squander.spec.JField.newJavaField(), edu.mit.csail.sdg.squander.spec.TypeChecker.setClsSpecForSpecField(), edu.mit.csail.sdg.squander.spec.JField.setFuncFlag(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.125.3.8 JField edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField (String *name*)

Definition at line 91 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Namespace.findField().

9.125.3.9 String edu.mit.csail.sdg.squander.spec.ClassSpec.extractSpecFieldName (Source *src*) [private]

Definition at line 225 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.Source.source.

9.125.3.10 JField edu.mit.csail.sdg.squander.spec.ClassSpec.findField (String *name*)

Definition at line 78 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElement and edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength().

9.125.3.11 boolean `edu.mit.csail.sdg.squander.spec.ClassSpec.hasSpecField (String name)`

Definition at line 145 of file `ClassSpec.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner()`.

9.125.3.12 `Collection<Invariant>` `edu.mit.csail.sdg.squander.spec.ClassSpec.invariants ()`

Definition at line 143 of file `ClassSpec.java`.

9.125.3.13 boolean `edu.mit.csail.sdg.squander.spec.ClassSpec.isEmpty ()`

Definition at line 65 of file `ClassSpec.java`.

9.125.3.14 `JType.Unary` `edu.mit.csail.sdg.squander.spec.ClassSpec.jtype ()`

Definition at line 69 of file `ClassSpec.java`.

9.125.3.15 void `edu.mit.csail.sdg.squander.spec.ClassSpec.setSubs (Collection< ClassSpec > subs)`

Definition at line 74 of file `ClassSpec.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.JavaScene.subTypes()`.

9.125.3.16 `Collection<Source>` `edu.mit.csail.sdg.squander.spec.ClassSpec.specFields ()`

Definition at line 144 of file `ClassSpec.java`.

9.125.3.17 `Collection<ClassSpec>` `edu.mit.csail.sdg.squander.spec.ClassSpec.subs ()`

Definition at line 73 of file `ClassSpec.java`.

9.125.3.18 String `edu.mit.csail.sdg.squander.spec.ClassSpec.toString ()`

Definition at line 213 of file `ClassSpec.java`.

9.125.3.19 void `edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs (ForgeScene forgeScene)`

Definition at line 185 of file `ClassSpec.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv()`, `edu.mit.csail.sdg.squander.spec.Frame.locations`, `edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable()`, `edu.mit.csail.sdg.squander.spec.JField.setAbsFun()`, `edu.mit.csail.sdg.squander.spec.JField.setBound()`, `edu.mit.csail.sdg.squander.spec.JField.setDomain()`, `edu.mit.csail.sdg.squander.spec.JField setFrame()`, `edu.mit.csail.sdg.squander.spec.ForgeEnv.thisVar()`, and `edu.mit.csail.sdg.squander.spec.Source.translate()`.

9.125.3.20 void edu.mit.csail.sdg.squander.spec.ClassSpec.typecheck ()

Type-checks only invariants

Definition at line 177 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass().

9.125.3.21 JType.Unary [] edu.mit.csail.sdg.squander.spec.ClassSpec.typeParams ()

Definition at line 71 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner().

9.125.3.22 Collection<JField> edu.mit.csail.sdg.squander.spec.ClassSpec.usedFields ()

Definition at line 146 of file ClassSpec.java.

9.125.3.23 Collection<JField> edu.mit.csail.sdg.squander.spec.ClassSpec.usedFieldsAll ()

Definition at line 147 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc().

9.125.4 Member Data Documentation**9.125.4.1 List<Invariant> edu.mit.csail.sdg.squander.spec.ClassSpec.invariants = new ArrayList<Invariant>() [private]**

Definition at line 52 of file ClassSpec.java.

9.125.4.2 List<Source> edu.mit.csail.sdg.squander.spec.ClassSpec.invariantSources = new ArrayList<Source>() [private]

Definition at line 51 of file ClassSpec.java.

9.125.4.3 final JavaScene edu.mit.csail.sdg.squander.spec.ClassSpec.javaScene [private]

Definition at line 45 of file ClassSpec.java.

9.125.4.4 final JType.Unary edu.mit.csail.sdg.squander.spec.ClassSpec.jtype [private]

Definition at line 44 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), edu.mit.csail.sdg.squander.spec.JavaScene.subTypes(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration().

9.125.4.5 `Map<String, Source> edu.mit.csail.sdg.squander.spec.ClassSpec.specFieldSources = new HashMap<String, Source>() [private]`

Definition at line 50 of file ClassSpec.java.

9.125.4.6 `Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.ClassSpec.subs [private]`

Definition at line 47 of file ClassSpec.java.

Referenced by `edu.mit.csail.sdg.squander.spec.JavaScene.subTypes()`.

9.125.4.7 `List<ClassSpec> edu.mit.csail.sdg.squander.spec.ClassSpec.supers = new LinkedList<ClassSpec>() [private]`

Definition at line 48 of file ClassSpec.java.

9.125.4.8 `Map<String, JField> edu.mit.csail.sdg.squander.spec.ClassSpec.usedFields = new HashMap<String, JField>() [private]`

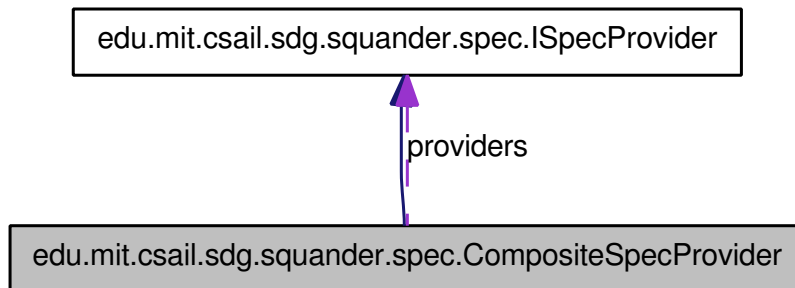
Definition at line 54 of file ClassSpec.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/ClassSpec.java](#)

9.126 edu.mit.csail.sdg.squander.spec.CompositeSpecProvider Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::ISpecProvider](#). Collaboration diagram for edu.mit.csail.sdg.squander.spec.CompositeSpecProvider:



Public Member Functions

- [CompositeSpecProvider](#) ([ISpecProvider](#)...[providers](#))
- [List< Source > extractClassSpec](#) ([JType.Unary jtype](#))
- [List< Source > extractFieldSpec](#) ([Field field](#), [JType.Unary declaringType](#))
- [MethodSpec extractMethodSpec](#) ([Method method](#), [NameSpace ns](#))

Private Attributes

- final [ISpecProvider\[\] providers](#)

9.126.1 Detailed Description

Definition at line 12 of file `CompositeSpecProvider.java`.

9.126.2 Constructor & Destructor Documentation

9.126.2.1 edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.CompositeSpecProvider (ISpecProvider... providers)

Definition at line 16 of file `CompositeSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers`.

9.126.3 Member Function Documentation

9.126.3.1 List<Source> edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractClassSpec (JType.Unary jtype)

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 21 of file `CompositeSpecProvider.java`.

References [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers](#).

9.126.3.2 `List<Source> edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractFieldSpec(Field field, JType.Unary declaringType)`

Definition at line 29 of file [CompositeSpecProvider.java](#).

References [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers](#).

9.126.3.3 `MethodSpec edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractMethodSpec(Method method, Namespace ns)`

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 37 of file [CompositeSpecProvider.java](#).

References [edu.mit.csail.sdg.squander.spec.MethodSpec.cases](#), and [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers](#).

9.126.4 Member Data Documentation

9.126.4.1 `final ISpecProvider [] edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers [private]`

Definition at line 14 of file [CompositeSpecProvider.java](#).

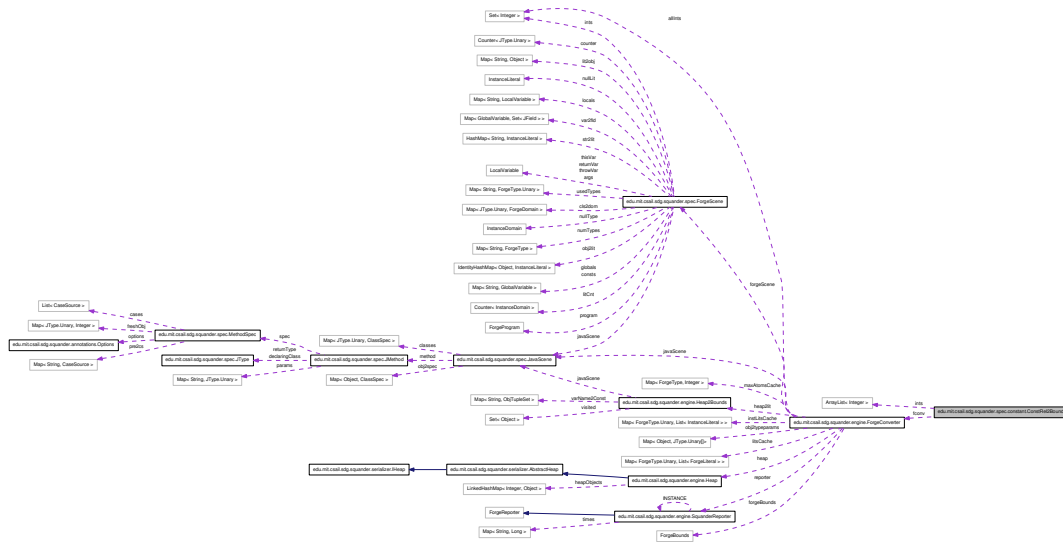
Referenced by [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.CompositeSpecProvider\(\)](#), [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractClassSpec\(\)](#), [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractFieldSpec\(\)](#), and [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractMethodSpec\(\)](#).

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/CompositeSpecProvider.java](#)

9.127 edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound:



Public Member Functions

- [ConstRel2Bound](#) ([ForgeConverter fconv](#))
- [ObjTupleSet visitDec](#) ()
- [ObjTupleSet visitInc](#) ()
- [ObjTupleSet visitIdent](#) ()
- [ObjTupleSet visitNone](#) ()
- [ObjTupleSet visitUniv](#) ()

Protected Member Functions

- [Set< Integer > allInts](#) ()

Private Attributes

- final [ForgeConverter fconv](#)
- final [ArrayList< Integer > ints](#)

9.127.1 Detailed Description

Definition at line 18 of file [ConstRel2Bound.java](#).

9.127.2 Constructor & Destructor Documentation

9.127.2.1 `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ConstRel2Bound` (`ForgeConverter fconv`)

Definition at line 23 of file `ConstRel2Bound.java`.

References `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts()`, and
`edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints`.

9.127.3 Member Function Documentation

9.127.3.1 `Set<Integer> edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts ()` [`protected`]

Definition at line 61 of file `ConstRel2Bound.java`.

References `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.fconv`,
`edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene`, `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints`,
`edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt()`.

Referenced by `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ConstRel2Bound()`.

9.127.3.2 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitDec ()`

Definition at line 30 of file `ConstRel2Bound.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, and
`edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints`.

9.127.3.3 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitIdent ()`

Definition at line 46 of file `ConstRel2Bound.java`.

9.127.3.4 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitInc ()`

Definition at line 38 of file `ConstRel2Bound.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, and
`edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints`.

9.127.3.5 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitNone ()`

Definition at line 51 of file `ConstRel2Bound.java`.

9.127.3.6 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitUniv ()`

Definition at line 57 of file `ConstRel2Bound.java`.

9.127.4 Member Data Documentation

9.127.4.1 final ForgeConverter edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.fconv [private]

Definition at line 20 of file ConstRel2Bound.java.

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts().

9.127.4.2 final ArrayList<Integer> edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints [private]

Definition at line 21 of file ConstRel2Bound.java.

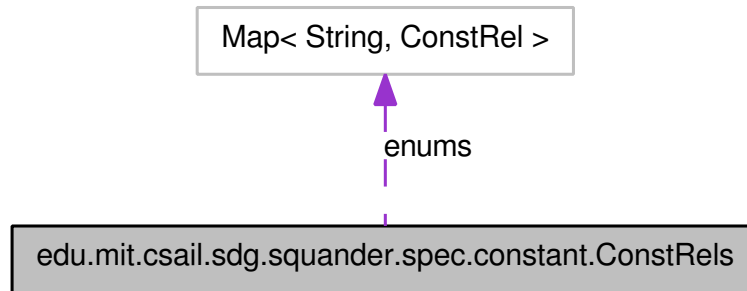
Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts(),
edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ConstRel2Bound(),
edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitDec(), and
edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitInc().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/constant/ConstRel2Bound.java](#)

9.128 edu.mit.csail.sdg.squander.spec.constant.ConstRels Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.constant.ConstRels:



Static Public Member Functions

- static [ConstRel findRel](#) (String text)

Static Package Functions

- [[static initializer](#)]

Static Private Attributes

- static Map< String, [ConstRel](#) > [enums](#)

9.128.1 Detailed Description

Definition at line 10 of file ConstRels.java.

9.128.2 Member Function Documentation

9.128.2.1 `edu.mit.csail.sdg.squander.spec.constant.ConstRels.[static initializer] ()` [`static`, `package`]

9.128.2.2 `static ConstRel edu.mit.csail.sdg.squander.spec.constant.ConstRels.findRel (String text)` [`static`]

Definition at line 21 of file ConstRels.java.

References `edu.mit.csail.sdg.squander.spec.constant.ConstRels.enums`.

9.128.3 Member Data Documentation

9.128.3.1 `Map<String, ConstRel>` edu.mit.csail.sdg.squander.spec.constant.ConstRels.enums [static, private]

Definition at line 12 of file ConstRels.java.

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRels.findRel().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/constant/[ConstRels.java](#)

9.129 edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E > Interface Reference

Public Member Functions

- E [visitUniv \(\)](#)
- E [visitNone \(\)](#)
- E [visitInc \(\)](#)
- E [visitDec \(\)](#)

Package Functions

- E [visitIdent \(\)](#)

9.129.1 Detailed Description

Definition at line 7 of file ConstRelVisitor.java.

9.129.2 Member Function Documentation

9.129.2.1 E edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitDec ()

9.129.2.2 E edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitIdent ()
[package]

9.129.2.3 E edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitInc ()

9.129.2.4 E edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitNone ()

9.129.2.5 E edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitUniv ()

The documentation for this interface was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/constant/[ConstRelVisitor.java](#)

9.130 edu.mit.csail.sdg.squander.spec.ForgeEnv Interface Reference

Inherited by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Public Types

- enum [State](#) { [PRE](#), [POST](#) }

Public Member Functions

- [ForgeEnv](#) [setPreStateMode](#) ()
- [ForgeEnv](#) [addLocal](#) (LocalVariable var)
- [ForgeType](#) [integerType](#) ()
- [ForgeType](#) [booleanType](#) ()
- [ForgeType](#) [stringType](#) ()
- [ForgeType](#) [nullType](#) ()
- [ForgeExpression](#) [intExpr](#) (int i)
- [ForgeExpression](#) [stringExpr](#) (String text)
- [ForgeExpression](#) [trueExpr](#) ()
- [ForgeExpression](#) [falseExpr](#) ()
- [ForgeExpression](#) [returnVar](#) ()
- [ForgeExpression](#) [throwVar](#) ()
- [LocalVariable](#) [thisVar](#) ()
- [ForgeExpression](#) [arg](#) (int i)
- [ForgeExpression](#) [arrayLength](#) (JType jtype)
- [ForgeExpression](#) [arrayElems](#) (JType jtype)
- [ForgeExpression](#) [globalVar](#) (GlobalVariable var)
- [JType.Unary](#) [classForDomain](#) (ForgeDomain domain)
- [LocalDecls](#) [emptyDecls](#) ()
- [LocalVariable](#) [newLocalVar](#) (String name, ForgeType type)
- [LocalVariable](#) [findLocal](#) (String name)
- [GlobalVariable](#) [ensureGlobal](#) (JField field)
- [GlobalVariable](#) [ensureConst](#) (String name)
- [ForgeDomain.Unary](#) [ensureDomain](#) (JType.Unary clz)
- [ForgeDomain.Unary](#) [typeForCls](#) (JType.Unary clz, boolean includeNull)
- void [ensureNum](#) (ForgeType type)
- void [ensureInt](#) (int i)
- void [ensureAllInts](#) ()

9.130.1 Detailed Description

Definition at line 14 of file ForgeEnv.java.

9.130.2 Member Enumeration Documentation

9.130.2.1 enum edu::mit::csail::sdg::squander::spec::ForgeEnv::State

Enumerator:

PRE

POST

Definition at line 16 of file ForgeEnv.java.

9.130.3 Member Function Documentation

9.130.3.1 ForgeEnv edu.mit.csail.sdg.squander.spec.ForgeEnv.addLocal (LocalVariable var)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitQuantification\(\)](#).

9.130.3.2 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.arg (int i)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitArgument\(\)](#).

9.130.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.arrayElems (JType jtype)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitBracket\(\)](#).

9.130.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.arrayLength (JType jtype)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

9.130.3.5 ForgeType edu.mit.csail.sdg.squander.spec.ForgeEnv.booleanType ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitBooleanType\(\)](#).

9.130.3.6 JType.Unary edu.mit.csail.sdg.squander.spec.ForgeEnv.classForDomain (ForgeDomain domain)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitBracket\(\)](#).

9.130.3.7 LocalDecls edu.mit.csail.sdg.squander.spec.ForgeEnv.emptyDecls ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitQuantification\(\)](#).

9.130.3.8 void [edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureAllInts \(\)](#)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitBinary\(\)](#).

9.130.3.9 GlobalVariable [edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureConst \(String name\)](#)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitName\(\)](#).

9.130.3.10 ForgeDomain.Unary [edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureDomain \(JType.Unary clz\)](#)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitArrayType\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitRefType\(\)](#).

9.130.3.11 GlobalVariable [edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureGlobal \(JField field\)](#)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitFieldRelation\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitName\(\)](#).

9.130.3.12 void [edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureInt \(int i\)](#)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitUnary\(\)](#).

9.130.3.13 void [edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureNum \(ForgeType type\)](#)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitUnary\(\)](#).

9.130.3.14 ForgeExpression [edu.mit.csail.sdg.squander.spec.ForgeEnv.falseExpr \(\)](#)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitFalse\(\)](#).

9.130.3.15 LocalVariable [edu.mit.csail.sdg.squander.spec.ForgeEnv.findLocal \(String name\)](#)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitName\(\)](#).

9.130.3.16 ForgeExpression `edu.mit.csail.sdg.squander.spec.ForgeEnv.globalVar` (*GlobalVariable var*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitFieldRelation()`, and `edu.mit.csail.sdg.squander.spec.Tr.visitName()`.

9.130.3.17 ForgeType `edu.mit.csail.sdg.squander.spec.ForgeEnv.integerType` ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitFieldDeclaration()`, and `edu.mit.csail.sdg.squander.spec.Tr.visitIntegralType()`.

9.130.3.18 ForgeExpression `edu.mit.csail.sdg.squander.spec.ForgeEnv.intExpr` (*int i*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitDecimal()`, and `edu.mit.csail.sdg.squander.spec.Tr.visitQuantification()`.

9.130.3.19 LocalVariable `edu.mit.csail.sdg.squander.spec.ForgeEnv.newLocalVar` (*String name, ForgeType type*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitQuantification()`.

9.130.3.20 ForgeType `edu.mit.csail.sdg.squander.spec.ForgeEnv.nullType` ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitNull()`.

9.130.3.21 ForgeExpression `edu.mit.csail.sdg.squander.spec.ForgeEnv.returnVar` ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitReturn()`.

9.130.3.22 ForgeEnv `edu.mit.csail.sdg.squander.spec.ForgeEnv.setPreStateMode` ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitOld()`.

9.130.3.23 ForgeExpression `edu.mit.csail.sdg.squander.spec.ForgeEnv.stringExpr` (*String text*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitString()`.

9.130.3.24 ForgeType edu.mit.csail.sdg.squander.spec.ForgeEnv.stringType ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

9.130.3.25 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeEnv.thisVar ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs\(\)](#), [edu.mit.csail.sdg.squander.spec.Tr.visitThis\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitThis\(\)](#).

9.130.3.26 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.throwVar ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitThrow\(\)](#).

9.130.3.27 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.trueExpr ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitFrame\(\)](#), [edu.mit.csail.sdg.squander.spec.Tr.visitQuantification\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitTrue\(\)](#).

9.130.3.28 ForgeDomain.Unary edu.mit.csail.sdg.squander.spec.ForgeEnv.typeForCls
(JType.Unary *clz*, boolean *includeNull*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

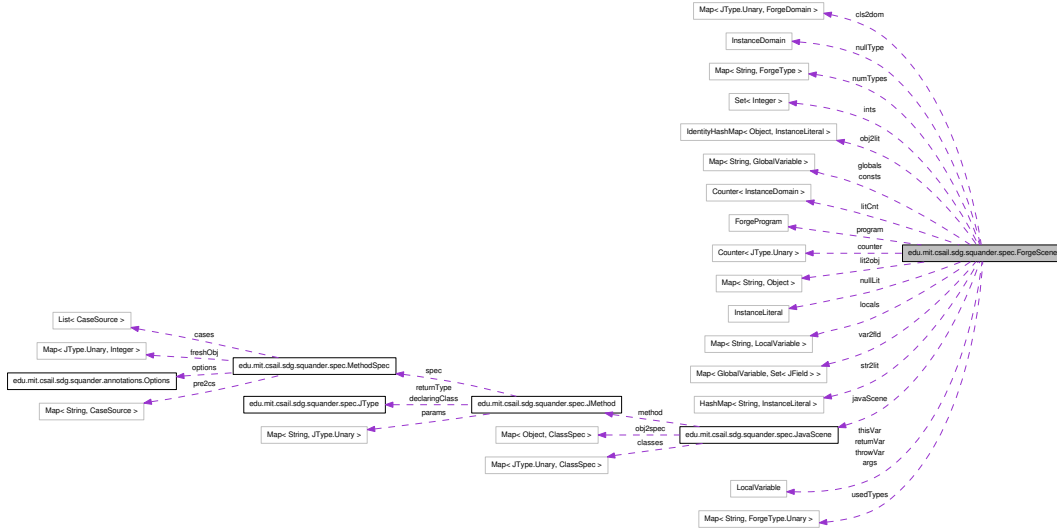
Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitName\(\)](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/ForgeEnv.java](#)

9.131 edu.mit.csail.sdg.squander.spec.ForgeScene Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.ForgeScene:



Classes

- class [ArrayVars](#)
- class [MyEnv](#)

Public Member Functions

- [ForgeScene](#) ([JavaScene javaScene](#))
- void [createLocalsForMethod](#) ([JMethod m](#))
- [LocalVariable newThisVariable](#) ([JType.Unary type](#))
- [ForgeEnv getEnv](#) ([LocalVariable thisVar](#))
- [ForgeProgram program](#) ()
- [LocalVariable thisVar](#) ()
- [LocalVariable returnVar](#) ()
- [LocalVariable throwVar](#) ()
- [LocalVariable\[\] args](#) ()
- [InstanceLiteral nullLit](#) ()
- [InstanceDomain nullType](#) ()
- [Set< InstanceDomain > domains](#) ()
- [GlobalVariable global](#) ([String name](#))
- [GlobalVariable global](#) ([JField fld](#))
- [Collection< GlobalVariable > consts](#) ()
- boolean [isConst](#) ([GlobalVariable var](#))
- [ForgeVariable findVar](#) ([String name](#))
- [Set< JField > fields](#) ([GlobalVariable var](#))
- boolean [isSpecField](#) ([GlobalVariable var](#))
- boolean [isOneField](#) ([GlobalVariable var](#))
- [Collection<? extends GlobalVariable > nonAbstractSpecFields](#) ()

- boolean `isPureAbstractSpecField` (GlobalVariable var)
- ForgeDomain `findDomain` (JType.Unary clz)
- ForgeDomain `ensureDomain` (JType.Unary clz)
- JType.Unary `findClassForDomain` (ForgeDomain dom)
- void `ensureInt` (int i)
- Set< Integer > `ints` ()
- boolean `isEnsureAllInts` ()
- void `ensureAllInts` (boolean b)
- Collection< ForgeType > `numTypes` ()
- Set< ForgeType.Unary > `usedTypes` ()
- GlobalVariable `ensureGlobal` (JField field)
- GlobalVariable `ensureConst` (String name)
- InstanceLiteral `createLiteral` (Object object)
- int `numLiteralsFor` (InstanceDomain id)
- ForgeType.Unary `typeForCls` (JType.Unary cls, boolean includeNull)
- Object `objForLit` (String litName)
- ForgeLiteral `forgeLitForObj` (Object obj)
- InstanceLiteral `instLitForObj` (Object obj)
- InstanceLiteral `litForName` (String name)

Private Member Functions

- void `addUsedType` (ForgeType.Unary t)
- ForgeType `getRangeForField` (JField field)
- ForgeType `convertToForgeType` (JType jtype, boolean includeNull)
- GlobalVariable `createGlobalVar` (JField field, String name)

Private Attributes

- final Counter< JType.Unary > `counter` = new Counter<JType.Unary>()
- final Counter< InstanceDomain > `litCnt` = new Counter<InstanceDomain>()
- final JavaScene `javaScene`
- final ForgeProgram `program`
- final InstanceDomain `nullType`
- final InstanceLiteral `nullLit`
- final IdentityHashMap< Object, InstanceLiteral > `obj2lit` = new IdentityHashMap<Object, InstanceLiteral>()
- final HashMap< String, InstanceLiteral > `str2lit` = new HashMap<String, InstanceLiteral>()
- final Map< String, Object > `lit2obj` = new HashMap<String, Object>()
- final Map< JType.Unary, ForgeDomain > `cls2dom` = new HashMap<JType.Unary, ForgeDomain>()
- final Map< String, GlobalVariable > `globals` = new HashMap<String, GlobalVariable>()
- final Map< String, LocalVariable > `locals` = new HashMap<String, LocalVariable>()
- final Map< String, GlobalVariable > `consts` = new HashMap<String, GlobalVariable>()
- final Map< GlobalVariable, Set< JField > > `var2fld` = new HashMap<GlobalVariable, Set<JField>>()
- final Set< Integer > `ints` = new HashSet<Integer>(64)
- boolean `ensureAllInts` = false
- Map< String, ForgeType > `numTypes` = new HashMap<String, ForgeType>()

- Map< String, ForgeType.Unary > `usedTypes` = new HashMap<String, ForgeType.Unary>()
- LocalVariable `throwVar`
- LocalVariable `returnVar`
- LocalVariable `thisVar`
- LocalVariable[] `args` = new LocalVariable[0]

9.131.1 Detailed Description

Definition at line 35 of file ForgeScene.java.

9.131.2 Constructor & Destructor Documentation

9.131.2.1 edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene (JavaScene javaScene)

Definition at line 96 of file ForgeScene.java.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom`, `edu.mit.csail.sdg.squander.spec.ForgeScene.lit2obj`, `edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt`, `edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.nullType()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.program()`.

9.131.3 Member Function Documentation

9.131.3.1 void edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType (ForgeType.Unary t) [private]

Definition at line 354 of file ForgeScene.java.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.usedTypes()`.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls()`.

9.131.3.2 LocalVariable [] edu.mit.csail.sdg.squander.spec.ForgeScene.args ()

Definition at line 159 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arg()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv()`.

9.131.3.3 Collection<GlobalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.consts ()

Definition at line 165 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureConst()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.findVar()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.isConst()`.

9.131.3.4 ForgeType edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType (JType jtype, boolean includeNull) [private]

Definition at line 367 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.JType.domain(), edu.mit.csail.sdg.squander.spec.JType.projection(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureConst(), and edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField().

9.131.3.5 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar (JField *field*, String *name*) [private]

Definition at line 375 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(), edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), edu.mit.csail.sdg.squander.spec.JField.owningType(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal().

9.131.3.6 InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral (Object *object*)

Definition at line 278 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.counter, edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene, edu.mit.csail.sdg.squander.spec.JavaScene.jtypeForObj(), edu.mit.csail.sdg.squander.spec.ForgeScene.lit2obj, edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt, edu.mit.csail.sdg.squander.spec.ForgeScene.obj2lit, edu.mit.csail.sdg.squander.spec.ForgeScene.program(), and edu.mit.csail.sdg.squander.spec.ForgeScene.str2lit.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.131.3.7 void edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod (JMethod *m*)

Definition at line 110 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args(), edu.mit.csail.sdg.squander.spec.JMethod.declaringClass, edu.mit.csail.sdg.squander.spec.JMethod.isStatic, edu.mit.csail.sdg.squander.spec.ForgeScene.locals, edu.mit.csail.sdg.squander.spec.JMethod.name(), edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable(), edu.mit.csail.sdg.squander.spec.JMethod.params, edu.mit.csail.sdg.squander.spec.ForgeScene.program(), edu.mit.csail.sdg.squander.spec.JMethod.returnType, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.131.3.8 Set<InstanceDomain> edu.mit.csail.sdg.squander.spec.ForgeScene.domains ()

Definition at line 162 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds().

9.131.3.9 void edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts (boolean *b*)

Definition at line 246 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts.

9.131.3.10 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.ensureConst (String *name*)

Definition at line 268 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.consts(), edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeT and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.131.3.11 ForgeDomain edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain (JType.Unary *clz*)

Definition at line 224 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType(), edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom, and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

9.131.3.12 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal (JField *field*)

Definition at line 250 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), edu.mit.csail.sdg.squander.spec.JField.fullName(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(), edu.mit.csail.sdg.squander.spec.ForgeScene.globals, edu.mit.csail.sdg.squander.spec.JField.isSpec(), and edu.mit.csail.sdg.squander.spec.ForgeScene.var2fld.

9.131.3.13 void edu.mit.csail.sdg.squander.spec.ForgeScene.ensureInt (int *i*)

Definition at line 242 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.ints().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.131.3.14 Set<JField> edu.mit.csail.sdg.squander.spec.ForgeScene.fields (GlobalVariable *var*)

Definition at line 176 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.var2fld.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), edu.mit.csail.sdg.squander.engine.SquanderResult.getJFieldForVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField(), edu.mit.csail.sdg.squander.spec.ForgeScene.isPureAbstractSpecField(), edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField and edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.131.3.15 JType.Unary edu.mit.csail.sdg.squander.spec.ForgeScene.findClassForDomain (ForgeDomain *dom*)

Definition at line 234 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.classForDomain().

9.131.3.16 ForgeDomain edu.mit.csail.sdg.squander.spec.ForgeScene.findDomain (JType.Unary *clz*)

Definition at line 222 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

9.131.3.17 ForgeVariable edu.mit.csail.sdg.squander.spec.ForgeScene.findVar (String *name*)

Definition at line 167 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.consts(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(), and edu.mit.csail.sdg.squander.spec.ForgeScene.locals.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds().

9.131.3.18 ForgeLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.forgeLitForObj (Object *obj*)

Definition at line 322 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet().

9.131.3.19 ForgeEnv edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv (LocalVariable *this Var*)

Definition at line 147 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args(), and edu.mit.csail.sdg.squander.spec.ForgeScene.locals.

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs(), and edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.131.3.20 ForgeType edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField (JField *fld*) [private]

Definition at line 358 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(), edu.mit.csail.sdg.squander.spec.JField.isSpec(), edu.mit.csail.sdg.squander.spec.JType.range(), edu.mit.csail.sdg.squander.spec.JField.type, and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar().

9.131.3.21 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.global (JField *fld*)

Definition at line 164 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.JField.fullName(), and edu.mit.csail.sdg.squander.spec.ForgeScene.globals.

9.131.3.22 GlobalVariable `edu.mit.csail.sdg.squander.spec.ForgeScene.global` (String *name*)

Definition at line 163 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.globals`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields()`, `edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal()`, `edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArity()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.findVar()`, `edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue()`, and `edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField()`.

9.131.3.23 InstanceLiteral `edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj` (Object *obj*)

Definition at line 335 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.obj2lit`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.str2lit`.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.forgeLitForObj()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getLitNameForObject()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2atom()`.

9.131.3.24 Set<Integer> `edu.mit.csail.sdg.squander.spec.ForgeScene.ints` ()

returns only used ints

Definition at line 244 of file `ForgeScene.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureInt()`.

9.131.3.25 boolean `edu.mit.csail.sdg.squander.spec.ForgeScene.isConst` (GlobalVariable *var*)

Definition at line 166 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.consts()`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations()`.

9.131.3.26 boolean `edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts` ()

Definition at line 245 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize()`.

9.131.3.27 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField (GlobalVariable var)

Definition at line 188 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), edu.mit.csail.sdg.squander.spec.JField.getBound(), and edu.mit.csail.sdg.squander.spec.JField.isSpec().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent().

9.131.3.28 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.isPureAbstractSpecField (GlobalVariable var)

Definition at line 211 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields().

9.131.3.29 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField (GlobalVariable var)

Definition at line 180 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.131.3.30 InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.litForName (String name)

Definition at line 343 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.131.3.31 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable (JType.Unary type)

Definition at line 141 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.131.3.32 Collection<? extends GlobalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields ()

Definition at line 202 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.globals, edu.mit.csail.sdg.squander.spec.ForgeScene.isPureAbstractSpecField(), and edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField().

Referenced by edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.131.3.33 InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit ()

Definition at line 160 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj().

9.131.3.34 InstanceDomain edu.mit.csail.sdg.squander.spec.ForgeScene.nullType ()

Definition at line 161 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

9.131.3.35 int edu.mit.csail.sdg.squander.spec.ForgeScene.numLiteralsFor (InstanceDomain *id*)

Definition at line 292 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize().

9.131.3.36 Collection<ForgeType> edu.mit.csail.sdg.squander.spec.ForgeScene.numTypes ()

Definition at line 247 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureNum().

9.131.3.37 Object edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit (String *litName*)

Definition at line 318 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.lit2obj.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj(), edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Ko

9.131.3.38 ForgeProgram edu.mit.csail.sdg.squander.spec.ForgeScene.program ()

Definition at line 155 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.booleanType(), edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.spec.ForgeScene.domains(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.emptyDecls(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureConst(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.falseExpr(), edu.mit.csail.sdg.squander.spec.ForgeScene.forgeLitForObj(), edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.integer(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.intExpr(), edu.mit.csail.sdg.squander.spec.ForgeScene.isPureAbstractSpec(), edu.mit.csail.sdg.squander.spec.ForgeScene.litForName(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.newLocalVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExpr(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

9.131.3.39 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar ()

Definition at line 157 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod().

9.131.3.40 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar ()

Definition at line 156 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod().

9.131.3.41 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.throwVar ()

Definition at line 158 of file ForgeScene.java.

9.131.3.42 ForgeType.Unary edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls (JType.Unary cls, boolean includeNull)

Definition at line 297 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.findDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene, edu.mit.csail.sdg.squander.spec.ForgeScene.nullType(), edu.mit.csail.sdg.squander.spec.ForgeScene.program(), and edu.mit.csail.sdg.squander.spec.JavaScene.subTypes().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), edu.mit.csail.sdg.squander.spec.Spec.invariant(), and edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable().

9.131.3.43 Set<ForgeType.Unary> edu.mit.csail.sdg.squander.spec.ForgeScene.usedTypes ()

Definition at line 248 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType().

9.131.4 Member Data Documentation**9.131.4.1 LocalVariable [] edu.mit.csail.sdg.squander.spec.ForgeScene.args = new LocalVariable[0] [private]**

Definition at line 94 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(), edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(), and edu.mit.csail.sdg.squander.spec.Spec.wellformedPre().

9.131.4.2 `final Map<JType.Unary, ForgeDomain>`
`edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom = new`
`HashMap<JType.Unary, ForgeDomain>() [private]`

Maps Java classes to Forge domains.

Definition at line 69 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.findClassForDomain()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.findDomain()`,
and `edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene()`.

9.131.4.3 `final Map<String, GlobalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.consts`
`= new HashMap<String, GlobalVariable>() [private]`

Definition at line 76 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff()`, and
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations()`.

9.131.4.4 `final Counter<JType.Unary> edu.mit.csail.sdg.squander.spec.ForgeScene.counter =`
`new Counter<JType.Unary>() [private]`

Definition at line 49 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral()`.

9.131.4.5 `boolean edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts = false [private]`

whether all integers (within a bound) should be enumerated in Kodkod

Definition at line 84 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts()`,
`edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts()`.

9.131.4.6 `final Map<String, GlobalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.globals`
`= new HashMap<String, GlobalVariable>() [private]`

Maps Java fields to Forge global variables.

Definition at line 72 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.global()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields()`.

9.131.4.7 `final Set<Integer> edu.mit.csail.sdg.squander.spec.ForgeScene.ints = new`
`HashSet<Integer>(64) [private]`

List of all integers found on the heap

Definition at line 81 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse()`, and

edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize().

9.131.4.8 final JavaScene edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene [private]

Definition at line 52 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

9.131.4.9 final Map<String, Object> edu.mit.csail.sdg.squander.spec.ForgeScene.lit2obj = new HashMap<String, Object>() [private]

Keys are sometimes ForgeAtom and sometimes InstanceLiteral. We use Strings to abstract these to a common representation.

Definition at line 66 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit().

9.131.4.10 final Counter<InstanceDomain> edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt = new Counter<InstanceDomain>() [private]

Definition at line 50 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.numLiteralsFor(), and edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExpr().

9.131.4.11 final Map<String, LocalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.locals = new HashMap<String, LocalVariable>() [private]

Maps local variable names to local variables (e.g. thisVar, throwVar, returnVar, args)

Definition at line 74 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.spec.ForgeScene.findVar(), and edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv().

9.131.4.12 final InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit [private]

Definition at line 55 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2atom().

9.131.4.13 final InstanceDomain edu.mit.csail.sdg.squander.spec.ForgeScene.nullType [private]

Definition at line 54 of file ForgeScene.java.

9.131.4.14 `Map<String, ForgeType> edu.mit.csail.sdg.squander.spec.ForgeScene.numTypes = new HashMap<String, ForgeType>() [private]`

types whose cardinality is mentioned in the spec

Definition at line 87 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`.

9.131.4.15 `final IdentityHashMap<Object, InstanceLiteral> edu.mit.csail.sdg.squander.spec.ForgeScene.obj2lit = new IdentityHashMap<Object, InstanceLiteral>() [private]`

Maps memory addresses to Forge InstanceLiterals.

Definition at line 58 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj()`, and

9.131.4.16 `final ForgeProgram edu.mit.csail.sdg.squander.spec.ForgeScene.program [private]`

Definition at line 53 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint()`, `edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint()`, `edu.mit.csail.sdg.squander.spec.Frame.condition()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec()`, `edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType()`, `edu.mit.csail.sdg.squander.spec.Spec.funcConstraint()`, `edu.mit.csail.sdg.squander.engine.SquanderImpl.getModsForPostState()`, `edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec()`, `edu.mit.csail.sdg.squander.spec.Spec.invariant()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds()`, `edu.mit.csail.sdg.squander.spec.Frame.modCond()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.printUniverseStats()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.proc()`, `edu.mit.csail.sdg.squander.engine.SquanderResult.program()`, `edu.mit.csail.sdg.squander.spec.Spec.wellformedPost()`, and `edu.mit.csail.sdg.squander.spec.Spec.wellformedPre()`.

9.131.4.17 `LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar [private]`

Definition at line 92 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.proc()`, `edu.mit.csail.sdg.squander.engine.SquanderResult.returnVar()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed()`, and `edu.mit.csail.sdg.squander.spec.Spec.wellformedPost()`.

9.131.4.18 `final HashMap<String, InstanceLiteral>`
`edu.mit.csail.sdg.squander.spec.ForgeScene.str2lit = new`
`HashMap<String, InstanceLiteral>() [private]`

Maps string to Forge literals.

Definition at line 60 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExp`

9.131.4.19 `LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar [private]`

Definition at line 93 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations()`,
`edu.mit.csail.sdg.squander.engine.ForgeConverter.proc()`, `edu.mit.csail.sdg.squander.engine.SquanderResult.self()`,
`edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs()`, and `edu.mit.csail.sdg.squander.spec.Spec.wellformedPre()`.

9.131.4.20 `LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.throwVar [private]`

Definition at line 91 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.Spec.wellformedPost()`.

9.131.4.21 `Map<String, ForgeType.Unary>`
`edu.mit.csail.sdg.squander.spec.ForgeScene.usedTypes = new`
`HashMap<String, ForgeType.Unary>() [private]`

Definition at line 89 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains()`.

9.131.4.22 `final Map<GlobalVariable, Set<JField> >`
`edu.mit.csail.sdg.squander.spec.ForgeScene.var2fld = new`
`HashMap<GlobalVariable, Set<JField>>() [private]`

Definition at line 78 of file ForgeScene.java.

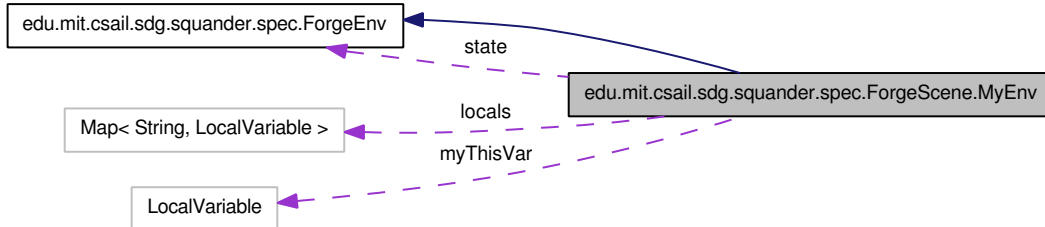
Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal()`, and
`edu.mit.csail.sdg.squander.spec.ForgeScene.fields()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/ForgeScene.java](#)

9.132 edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::ForgeEnv.Collaboration](#) diagram for
 edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv:



Public Member Functions

- ForgeExpression [arg](#) (int i)
- JType.Unary [classForDomain](#) (ForgeDomain domain)
- ForgeExpression [arrayElems](#) (JType type)
- ForgeExpression [arrayLength](#) (JType type)
- ForgeExpression [globalVar](#) (GlobalVariable var)
- LocalVariable [newLocalVar](#) (String name, ForgeType type)
- ForgeType [integerType](#) ()
- ForgeType [nullType](#) ()
- ForgeExpression [intExpr](#) (int i)
- ForgeType [booleanType](#) ()
- ForgeExpression [trueExpr](#) ()
- ForgeExpression [falseExpr](#) ()
- LocalDecls [emptyDecls](#) ()
- ForgeExpression [returnVar](#) ()
- LocalVariable [thisVar](#) ()
- ForgeExpression [throwVar](#) ()
- [ForgeEnv setPreStateMode](#) ()
- ForgeExpression [stringExpr](#) (String text)
- ForgeType [stringType](#) ()
- [ForgeEnv addLocal](#) (LocalVariable var)
- ForgeDomain.Unary [ensureDomain](#) (JType.Unary clz)
- ForgeDomain.Unary [typeForCls](#) (JType.Unary clz, boolean includeNull)
- GlobalVariable [ensureGlobal](#) (JField field)
- GlobalVariable [ensureConst](#) (String name)
- LocalVariable [findLocal](#) (String name)
- void [ensureAllInts](#) ()
- void [ensureInt](#) (int i)
- void [ensureNum](#) (ForgeType type)

Package Functions

- [MyEnv](#) (LocalVariable thisVar, Map<String, LocalVariable> locals)

Private Member Functions

- [MyEnv](#) ([State state](#), [LocalVariable thisVar](#), [Map< String, LocalVariable > locals](#))
- [ForgeExpression getThrowVar](#) ()

Private Attributes

- final [ForgeEnv.State state](#)
- final [Map< String, LocalVariable > locals](#)
- [LocalVariable myThisVar](#)

9.132.1 Detailed Description

Definition at line 386 of file [ForgeScene.java](#).

9.132.2 Constructor & Destructor Documentation

9.132.2.1 [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv](#) ([LocalVariable thisVar](#), [Map< String, LocalVariable > locals](#)) [[package](#)]

Definition at line 392 of file [ForgeScene.java](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode\(\)](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode\(\)](#).

9.132.2.2 [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv](#) ([State state](#), [LocalVariable thisVar](#), [Map< String, LocalVariable > locals](#)) [[private](#)]

Definition at line 396 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar](#).

9.132.3 Member Function Documentation

9.132.3.1 [ForgeEnv](#) [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal](#) ([LocalVariable var](#))

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 476 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv.addLocal\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state](#).

9.132.3.2 [ForgeExpression](#) [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arg](#) ([int i](#))

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 403 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.args\(\)](#).

9.132.3.3 ForgeExpression `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems` (JType type)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 413 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.JType.domain()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureGlobal()`, `edu.mit.csail.sdg.squander.spec.ClassSpec.findField()`, `edu.mit.csail.sdg.squander.spec.JavaScene.findSpec()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state`.

9.132.3.4 ForgeExpression `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength` (JType type)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 420 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.JType.domain()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureGlobal()`, `edu.mit.csail.sdg.squander.spec.ClassSpec.findField()`, `edu.mit.csail.sdg.squander.spec.JavaScene.findSpec()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state`.

9.132.3.5 ForgeType `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.booleanType` ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 442 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.program()`.

9.132.3.6 JType.Unary `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.classForDomain` (ForgeDomain domain)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 408 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.findClassForDomain()`.

9.132.3.7 LocalDecls `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.emptyDecls` ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 445 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.program()`.

9.132.3.8 void `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureAllInts` ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 509 of file `ForgeScene.java`.

9.132.3.9 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureConst (String *name*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 499 of file ForgeScene.java.

9.132.3.10 ForgeDomain.Unary
edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureDomain
(JType.Unary *clz*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 484 of file ForgeScene.java.

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringType\(\)](#).

9.132.3.11 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureGlobal
(JField *field*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 494 of file ForgeScene.java.

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems\(\)](#), and
[edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength\(\)](#).

9.132.3.12 void edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureInt (int *i*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 514 of file ForgeScene.java.

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.intExpr\(\)](#).

9.132.3.13 void edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureNum (ForgeType *type*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 519 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.numTypes\(\)](#).

9.132.3.14 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.falseExpr ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 444 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#).

9.132.3.15 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.findLocal (String *name*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 504 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals](#).

9.132.3.16 ForgeExpression [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar \(\)](#) [private]

Definition at line 523 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.throwVar\(\)](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.typeF](#)

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.throwVar\(\)](#).

9.132.3.17 ForgeExpression [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.globalVar](#) (GlobalVariable *var*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 427 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state](#).

9.132.3.18 ForgeType [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.integerType \(\)](#)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 439 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#).

9.132.3.19 ForgeExpression [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.intExpr \(int *i*\)](#)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 441 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureInt\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.intExpr\(int i\)](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#).

9.132.3.20 LocalVariable [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.newLocalVar \(String *name*, ForgeType *type*\)](#)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 435 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#).

9.132.3.21 ForgeType [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.nullType \(\)](#)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 440 of file ForgeScene.java.

9.132.3.22 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.returnVar ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 447 of file ForgeScene.java.

9.132.3.23 ForgeEnv edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 452 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.My](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state](#).

9.132.3.24 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExpr
(String *text*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 459 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.str2lit](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringType\(\)](#).

9.132.3.25 ForgeType edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringType ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 471 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureDomain\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExpr\(\)](#).

9.132.3.26 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.thisVar ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 448 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar](#).

9.132.3.27 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.throwVar ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 449 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar\(\)](#).

9.132.3.28 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.trueExpr ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 443 of file ForgeScene.java.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.program()`.

9.132.3.29 **ForgeDomain.Unary** `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.typeForCls` (`JType.Unary clz`, `boolean includeNull`)

Implements `edu.mit.csail.sdg.squander.spec.ForgeEnv`.

Definition at line 489 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar()`.

9.132.4 Member Data Documentation

9.132.4.1 **final** `Map<String, LocalVariable>` `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals` [`private`]

Definition at line 389 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.findLocal()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrow`
and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode()`.

9.132.4.2 **LocalVariable** `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar` [`private`]

Definition at line 390 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateM`
and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.thisVar()`.

9.132.4.3 **final** `ForgeEnv.State` `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state` [`private`]

Definition at line 388 of file ForgeScene.java.

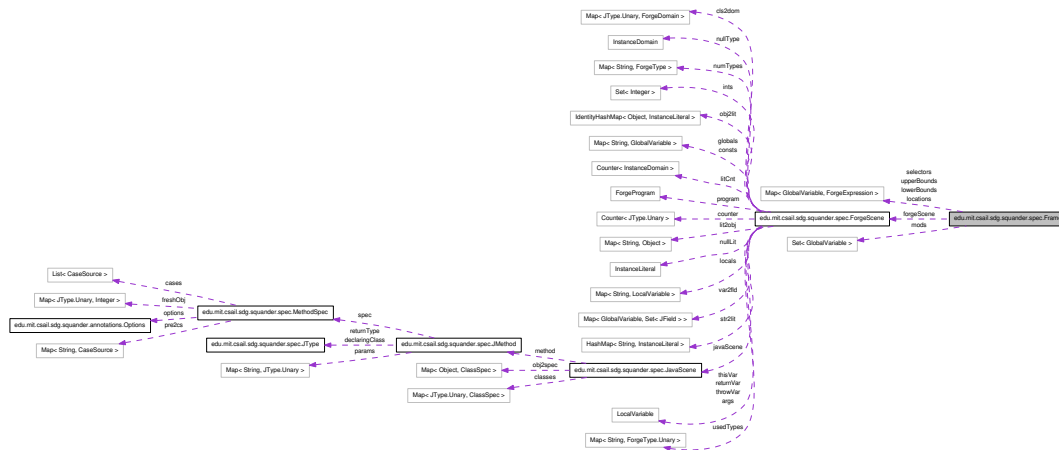
Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLe`
`edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.globalVar()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPre`

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/spec/ForgeScene.java`

9.133 edu.mit.csail.sdg.squander.spec.Frame Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.Frame:



Public Member Functions

- [Frame](#) ([ForgeScene](#) scene)
- [Set](#)< [GlobalVariable](#) > [locations](#) ()
- [ForgeExpression](#) [instSelector](#) ([GlobalVariable](#) g)
- [ForgeExpression](#) [lowerBound](#) ([GlobalVariable](#) g)
- [ForgeExpression](#) [upperBound](#) ([GlobalVariable](#) g)
- void [add](#) ([GlobalVariable](#) var, [ForgeExpression](#) location, [ForgeExpression](#) sel, [ForgeExpression](#) lower, [ForgeExpression](#) upper)
- [ForgeExpression](#) [condition](#) ()
- [ForgeExpression](#) [modCond](#) ()
- [ForgeExpression](#) [modCond](#) ([GlobalVariable](#) var)
- [ForgeExpression](#) [lowerCond](#) ([GlobalVariable](#) var)
- [ForgeExpression](#) [upperCond](#) ([GlobalVariable](#) var)
- [Set](#)< [GlobalVariable](#) > [modifiable](#) ()
- [String](#) [toString](#) ()

Private Member Functions

- [ForgeExpression](#) [modCond](#) ([GlobalVariable](#) var, [ForgeExpression](#) instSel, [LocalVariable](#) l)

Private Attributes

- final [ForgeScene](#) [forgeScene](#)
- final [Map](#)< [GlobalVariable](#), [ForgeExpression](#) > [locations](#)
- final [Map](#)< [GlobalVariable](#), [ForgeExpression](#) > [selectors](#)
- final [Map](#)< [GlobalVariable](#), [ForgeExpression](#) > [lowerBounds](#)
- final [Map](#)< [GlobalVariable](#), [ForgeExpression](#) > [upperBounds](#)
- [Set](#)< [GlobalVariable](#) > [mods](#) = null

9.133.1 Detailed Description

Frame condition. The roots of location may be local variables. The context of these variables is not specified in this class.

frame : set GlobalVariable -> ForgeExpression { (all var : GlobalVariable | one var.frame) }

Definition at line 27 of file Frame.java.

9.133.2 Constructor & Destructor Documentation

9.133.2.1 edu.mit.csail.sdg.squander.spec.Frame.Frame (ForgeScene scene)

Definition at line 36 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.Frame.locations(), edu.mit.csail.sdg.squander.spec.Frame.lowerBounds, edu.mit.csail.sdg.squander.spec.Frame.selectors, and edu.mit.csail.sdg.squander.spec.Frame.upperBounds.

9.133.3 Member Function Documentation

9.133.3.1 void edu.mit.csail.sdg.squander.spec.Frame.add (GlobalVariable var, ForgeExpression location, ForgeExpression sel, ForgeExpression lower, ForgeExpression upper)

frame = no var.frame) ? (frame) ++ var -> heap : (frame) ++ var -> (var.frame) + heap

If var stands for a spec field, the frame of the field is automatically added.

Parameters:

upper

Definition at line 60 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.Frame.locations(), edu.mit.csail.sdg.squander.spec.Frame.lowerBounds, edu.mit.csail.sdg.squander.spec.Frame.selectors, and edu.mit.csail.sdg.squander.spec.Frame.upperBounds.

9.133.3.2 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.condition ()

Requires that no additional relations are added to the scene afterwards.

Returns:

(all var : scene.globals() | no var.frame => (all quant | quant.var = quant.(var)) && (all var : scene.globals() | some var.frame => (all quant | quant.var != quant.(var) => quant in var.frame))

Definition at line 126 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.Frame.modCond(), edu.mit.csail.sdg.squander.spec.Frame.modifiable(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.Frame.selectors.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.toString().

9.133.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.instSelector (GlobalVariable *g*)

Definition at line 48 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.selectors.

9.133.3.4 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.Frame.locations ()

Definition at line 44 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), and edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.133.3.5 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.lowerBound (GlobalVariable *g*)

Definition at line 49 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.lowerBounds.

9.133.3.6 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.lowerCond (GlobalVariable *var*)

Definition at line 161 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.lowerBounds, and edu.mit.csail.sdg.squander.spec.Frame.selectors.

9.133.3.7 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.modCond (GlobalVariable *var*, ForgeExpression *instSel*, LocalVariable *l*) [private]

Definition at line 179 of file Frame.java.

9.133.3.8 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.modCond (GlobalVariable *var*)

Definition at line 152 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.Frame.modCond(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.Frame.selectors.

9.133.3.9 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.modCond ()

Definition at line 143 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.forgeScene, and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.condition(), and edu.mit.csail.sdg.squander.spec.Frame.modCond().

9.133.3.10 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.Frame.modifiable ()

Global variables for which old heap locations may be modified.

Returns:

{ var : scene.globals() | some var.frame }

Definition at line 188 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.FrameInference.globals, edu.mit.csail.sdg.squander.spec.Frame.locations(), edu.mit.csail.sdg.squander.spec.Frame.mods, and edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields().

Referenced by edu.mit.csail.sdg.squander.spec.Frame.condition(), and edu.mit.csail.sdg.squander.spec.Frame.toString().

9.133.3.11 String edu.mit.csail.sdg.squander.spec.Frame.toString ()

Definition at line 234 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.condition(), and edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.133.3.12 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.upperBound (GlobalVariable g)

Definition at line 50 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.upperBounds.

9.133.3.13 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.upperCond (GlobalVariable var)

Definition at line 169 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.selectors, and edu.mit.csail.sdg.squander.spec.Frame.upperBounds.

9.133.4 Member Data Documentation**9.133.4.1 final ForgeScene edu.mit.csail.sdg.squander.spec.Frame.forgeScene [private]**

Definition at line 28 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.condition(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), edu.mit.csail.sdg.squander.spec.Frame.modCond(), and edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.133.4.2 final Map<GlobalVariable, ForgeExpression> edu.mit.csail.sdg.squander.spec.Frame.locations [private]

Definition at line 29 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), and edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.133.4.3 final Map<GlobalVariable, ForgeExpression> edu.mit.csail.sdg.squander.spec.Frame.lowerBounds [private]

Definition at line 31 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), edu.mit.csail.sdg.squander.spec.Frame.lowerBound(), and edu.mit.csail.sdg.squander.spec.Frame.lowerCond().

9.133.4.4 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.Frame.mods = null [private]

Definition at line 34 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.133.4.5 final Map<GlobalVariable, ForgeExpression> edu.mit.csail.sdg.squander.spec.Frame.selectors [private]

Definition at line 30 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.condition(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), edu.mit.csail.sdg.squander.spec.Frame.instSelector(), edu.mit.csail.sdg.squander.spec.Frame.lowerCond(), edu.mit.csail.sdg.squander.spec.Frame.modCond(), and edu.mit.csail.sdg.squander.spec.Frame.upperCond().

9.133.4.6 final Map<GlobalVariable, ForgeExpression> edu.mit.csail.sdg.squander.spec.Frame.upperBounds [private]

Definition at line 32 of file Frame.java.

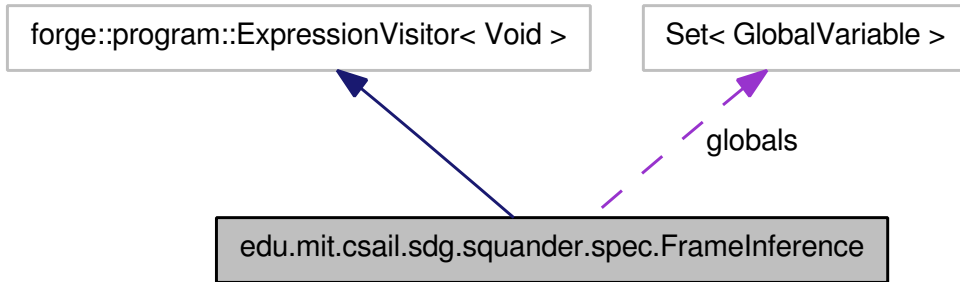
Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), edu.mit.csail.sdg.squander.spec.Frame.upperBound(), and edu.mit.csail.sdg.squander.spec.Frame.upperCond().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/Frame.java

9.134 edu.mit.csail.sdg.squander.spec.FrameInference Class Reference

Inherits forge::program::ExpressionVisitor< Void >. Collaboration diagram for edu.mit.csail.sdg.squander.spec.FrameInference:



Public Member Functions

- Set< GlobalVariable > [globals](#) ()

Protected Member Functions

- Void [visit](#) (ForgeType expr)
- Void [visit](#) (ForgeLiteral expr)
- Void [visit](#) (ForgeVariable expr)
- Void [visit](#) (UnaryExpression expr)
- Void [visit](#) (BinaryExpression expr)
- Void [visit](#) (ConditionalExpression expr)
- Void [visit](#) (ProjectionExpression expr)
- Void [visit](#) (QuantifyExpression expr)
- Void [visit](#) (OldExpression expr)

Private Attributes

- Set< GlobalVariable > [globals](#) = new HashSet<GlobalVariable>()

9.134.1 Detailed Description

Definition at line 22 of file FrameInference.java.

9.134.2 Member Function Documentation

9.134.2.1 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.FrameInference.globals ()

Definition at line 26 of file FrameInference.java.

Referenced by edu.mit.csail.sdg.squander.spec.FrameInference.visit().

9.134.2.2 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (OldExpression *expr*)
[protected]

Definition at line 79 of file FrameInference.java.

9.134.2.3 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (QuantifyExpression *expr*)
[protected]

Definition at line 73 of file FrameInference.java.

9.134.2.4 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ProjectionExpression *expr*)
[protected]

Definition at line 67 of file FrameInference.java.

9.134.2.5 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ConditionalExpression *expr*)
[protected]

Definition at line 59 of file FrameInference.java.

9.134.2.6 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (BinaryExpression *expr*)
[protected]

Definition at line 52 of file FrameInference.java.

9.134.2.7 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (UnaryExpression *expr*)
[protected]

Definition at line 46 of file FrameInference.java.

9.134.2.8 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ForgeVariable *expr*)
[protected]

Definition at line 39 of file FrameInference.java.

References edu.mit.csail.sdg.squander.spec.FrameInference.globals().

9.134.2.9 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ForgeLiteral *expr*)
[protected]

Definition at line 34 of file FrameInference.java.

9.134.2.10 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ForgeType *expr*)
[protected]

Definition at line 29 of file FrameInference.java.

9.134.3 Member Data Documentation

9.134.3.1 `Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.FrameInference.globals = new HashSet<GlobalVariable>() [private]`

Definition at line 24 of file `FrameInference.java`.

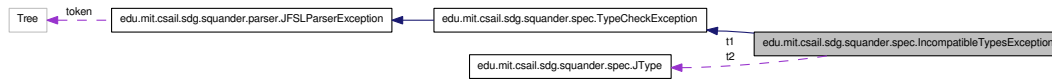
Referenced by `edu.mit.csail.sdg.squander.spec.Frame.modifiable()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/spec/FrameInference.java`

9.135 edu.mit.csail.sdg.squander.spec.IncompatibleTypesException Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::TypeCheckException](#). Collaboration diagram for [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException](#):



Public Member Functions

- [IncompatibleTypesException](#) ([JType t1](#), [JType t2](#), [int pos](#), [String expr](#))
- [JType getT1](#) ()
- [JType getT2](#) ()
- [String getExpr](#) ()
- [int getPos](#) ()

Private Attributes

- final [JType t1](#)
- final [JType t2](#)
- final [String expr](#)
- final [int pos](#)

Static Private Attributes

- static final long [serialVersionUID](#) = 9096734998607169611L

9.135.1 Detailed Description

Definition at line 7 of file [IncompatibleTypesException.java](#).

9.135.2 Constructor & Destructor Documentation

9.135.2.1 [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.IncompatibleTypesException](#) ([JType t1](#), [JType t2](#), [int pos](#), [String expr](#))

Definition at line 15 of file [IncompatibleTypesException.java](#).

9.135.3 Member Function Documentation

9.135.3.1 [String edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getExpr](#) ()

Definition at line 31 of file [IncompatibleTypesException.java](#).

References [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.expr](#).

9.135.3.2 `int edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getPos ()`

Definition at line 35 of file `IncompatibleTypesException.java`.

References `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.pos`.

9.135.3.3 `JType edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getT1 ()`

Definition at line 23 of file `IncompatibleTypesException.java`.

References `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.t1`.

9.135.3.4 `JType edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getT2 ()`

Definition at line 27 of file `IncompatibleTypesException.java`.

References `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.t2`.

9.135.4 Member Data Documentation

9.135.4.1 `final String edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.expr` `[private]`

Definition at line 12 of file `IncompatibleTypesException.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getExpr()`.

9.135.4.2 `final int edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.pos` `[private]`

Definition at line 13 of file `IncompatibleTypesException.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getPos()`.

9.135.4.3 `final long` `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.serialVersionUID =` `9096734998607169611L` `[static, private]`

Reimplemented from [edu.mit.csail.sdg.squander.spec.TypeCheckException](#).

Definition at line 9 of file `IncompatibleTypesException.java`.

9.135.4.4 `final JType edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.t1` `[private]`

Definition at line 11 of file `IncompatibleTypesException.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getT1()`.

9.135.4.5 `final JType edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.t2` `[private]`

Definition at line 11 of file `IncompatibleTypesException.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getT2()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/spec/IncompatibleTypesException.java`

9.136 edu.mit.csail.sdg.squander.spec.ISpecProvider Interface Reference

Inherited by [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#), and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#).

Public Member Functions

- [List< Source > extractClassSpec](#) (JType.Unary *jtype*)
- [List< Source > extractFieldSpec](#) (Field *field*, Unary *declaringType*)
- [MethodSpec extractMethodSpec](#) (Method *method*, [NameSpace ns](#))

9.136.1 Detailed Description

Definition at line 14 of file [ISpecProvider.java](#).

9.136.2 Member Function Documentation

9.136.2.1 [List<Source> edu.mit.csail.sdg.squander.spec.ISpecProvider.extractClassSpec](#) (JType.Unary *jtype*)

Implemented in [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#), and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#).

Referenced by [edu.mit.csail.sdg.squander.spec.JavaScene.createClassSpec\(\)](#).

9.136.2.2 [List<Source> edu.mit.csail.sdg.squander.spec.ISpecProvider.extractFieldSpec](#) (Field *field*, Unary *declaringType*)

Referenced by [edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField\(\)](#).

9.136.2.3 [MethodSpec edu.mit.csail.sdg.squander.spec.ISpecProvider.extractMethodSpec](#) (Method *method*, [NameSpace ns](#))

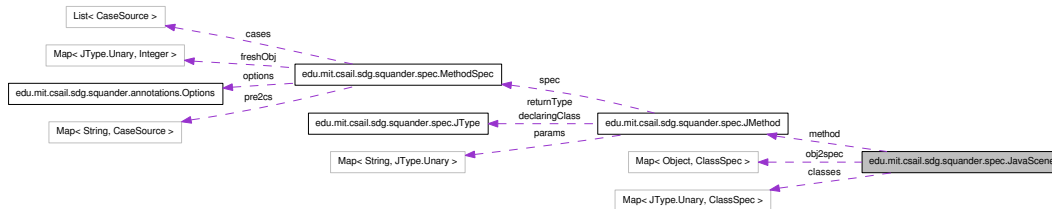
Implemented in [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#), and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/ISpecProvider.java](#)

9.137 edu.mit.csail.sdg.squander.spec.JavaScene Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.JavaScene:



Public Member Functions

- boolean `isFinished` ()
- void `addObj2spec` (Object object, [ClassSpec](#) cs)
- [ClassSpec](#) `ensureClass` (Class<?> cls)
- [ClassSpec](#) `ensureClass` (JType.Unary type)
- void `finish` ()
- void `setMethod` (JMethod method)
- void `setArgs` (Object[] methodArgs)
- JMethod `method` ()
- [MethodSpec](#) `methodSpec` ()
- Collection< [ClassSpec](#) > `classSpecs` ()
- Collection< Class<?> > `classes` ()
- List< JType.Unary > `jtypes` (Class<?> cls)
- [ClassSpec](#) `classSpecForObj` (Object o)
- JType.Unary `jtypeForObj` (Object o)
- [ClassSpec](#) `classSpec` (Unary jtype)
- [ClassSpec](#) `findSpec` (Class cls, boolean ensureSingle)
- void `setCaller` (Object caller)
- Object `caller` ()
- Object[] `methodArgs` ()
- Collection< JField > `specFields` ()
- Collection< [ClassSpec](#) > `subTypes` (JType.Unary jtype)
- Collection< [ClassSpec](#) > `subTypes` (Class<?> cls)
- void `translateSpecs` ([ForgeScene](#) forgeScene)

Private Member Functions

- Collection< [ClassSpec](#) > `subTypes` ([ClassSpec](#) clsSpec)
- [ClassSpec](#) `createClassSpec` (JType.Unary jtype)

Private Attributes

- Map< JType.Unary, [ClassSpec](#) > `classes` = new HashMap<JType.Unary, [ClassSpec](#)>()
- Map< Object, [ClassSpec](#) > `obj2spec` = new IdentityHashMap<Object, [ClassSpec](#)>()
- JMethod `method`
- Object `caller`
- Object[] `methodArgs` = new Object[0]
- boolean `finished` = false

9.137.1 Detailed Description

Definition at line 25 of file JavaScene.java.

9.137.2 Member Function Documentation

9.137.2.1 void edu.mit.csail.sdg.squander.spec.JavaScene.addObj2spec (Object *object*, ClassSpec *cs*)

Definition at line 38 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject().

9.137.2.2 Object edu.mit.csail.sdg.squander.spec.JavaScene.caller ()

Definition at line 154 of file JavaScene.java.

9.137.2.3 Collection<Class<?> > edu.mit.csail.sdg.squander.spec.JavaScene.classes ()

Definition at line 122 of file JavaScene.java.

9.137.2.4 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.classSpec (Unary *jtype*)

Definition at line 140 of file JavaScene.java.

9.137.2.5 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.classSpecForObj (Object *o*)

Definition at line 138 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), and edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc().

9.137.2.6 Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs ()

Definition at line 112 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.funcConstraint(), and edu.mit.csail.sdg.squander.spec.Spec.invariant().

9.137.2.7 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.createClassSpec (JType.Unary *jtype*) [private]

Definition at line 206 of file JavaScene.java.

References edu.mit.csail.sdg.squander.spec.ClassSpec.addInvariant(), edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField(), and edu.mit.csail.sdg.squander.spec.ISpecProvider.extractClassSpec().

9.137.2.8 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass (JType.Unary type)

Definition at line 44 of file JavaScene.java.

References edu.mit.csail.sdg.squander.spec.ClassSpec.addSuper(), and edu.mit.csail.sdg.squander.spec.ClassSpec.typecheck().

9.137.2.9 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass (Class<?> cls)

Definition at line 40 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.Namespace.findField(), edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitName(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType().

9.137.2.10 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.findSpec (Class cls, boolean ensureSingle)

Definition at line 141 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems(), and edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength().

9.137.2.11 void edu.mit.csail.sdg.squander.spec.JavaScene.finish ()

Definition at line 63 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.137.2.12 boolean edu.mit.csail.sdg.squander.spec.JavaScene.isFinished ()

Definition at line 36 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.addInvariant(), edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField(), edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecFieldSource(), and edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.137.2.13 JType.Unary edu.mit.csail.sdg.squander.spec.JavaScene.jtypeForObj (Object o)

Definition at line 139 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral().

9.137.2.14 List<JType.Unary> edu.mit.csail.sdg.squander.spec.JavaScene.jtypes (Class<?> cls)

Definition at line 129 of file JavaScene.java.

9.137.2.15 JMethod edu.mit.csail.sdg.squander.spec.JavaScene.method ()

Definition at line 110 of file JavaScene.java.

9.137.2.16 `Object [] edu.mit.csail.sdg.squander.spec.JavaScene.methodArgs ()`

Definition at line 155 of file `JavaScene.java`.

9.137.2.17 `MethodSpec edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec ()`

Definition at line 111 of file `JavaScene.java`.

References `edu.mit.csail.sdg.squander.spec.JMethod.spec`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.proc()`.

9.137.2.18 `void edu.mit.csail.sdg.squander.spec.JavaScene.setArgs (Object[] methodArgs)`

Definition at line 103 of file `JavaScene.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext()`.

9.137.2.19 `void edu.mit.csail.sdg.squander.spec.JavaScene.setCaller (Object caller)`

Definition at line 153 of file `JavaScene.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext()`.

9.137.2.20 `void edu.mit.csail.sdg.squander.spec.JavaScene.setMethod (JMethod method)`

Definition at line 98 of file `JavaScene.java`.

References `edu.mit.csail.sdg.squander.spec.JMethod.spec`, and `edu.mit.csail.sdg.squander.spec.MethodSpec.typecheck()`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext()`.

9.137.2.21 `Collection<JField> edu.mit.csail.sdg.squander.spec.JavaScene.specFields ()`

Definition at line 157 of file `JavaScene.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields()`.

9.137.2.22 `Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.subTypes (ClassSpec clsSpec) [private]`

Definition at line 175 of file `JavaScene.java`.

References `edu.mit.csail.sdg.squander.spec.ClassSpec.clz()`, `edu.mit.csail.sdg.squander.spec.ClassSpec.jtype`, `edu.mit.csail.sdg.squander.spec.ClassSpec.setSubs()`, and `edu.mit.csail.sdg.squander.spec.ClassSpec.subs`.

9.137.2.23 `Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.subTypes (Class<?> cls)`

Definition at line 171 of file `JavaScene.java`.

9.137.2.24 `Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.subTypes` (`JType.Unary jtype`)

Definition at line 167 of file `JavaScene.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls()`.

9.137.2.25 `void edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs (ForgeScene forgeScene)`

Definition at line 193 of file `JavaScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv()`, `edu.mit.csail.sdg.squander.spec.JMethod.spec`, `edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar`, and `edu.mit.csail.sdg.squander.spec.MethodSpec.translateSpecs()`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`.

9.137.3 Member Data Documentation

9.137.3.1 `Object edu.mit.csail.sdg.squander.spec.JavaScene.caller` [`private`]

Definition at line 31 of file `JavaScene.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff()`.

9.137.3.2 `Map<JType.Unary, ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.classes = new HashMap<JType.Unary, ClassSpec>()` [`private`]

Definition at line 27 of file `JavaScene.java`.

9.137.3.3 `boolean edu.mit.csail.sdg.squander.spec.JavaScene.finished = false` [`private`]

Definition at line 34 of file `JavaScene.java`.

9.137.3.4 `JMethod edu.mit.csail.sdg.squander.spec.JavaScene.method` [`private`]

Definition at line 30 of file `JavaScene.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()`, `edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.proc()`.

9.137.3.5 `Object [] edu.mit.csail.sdg.squander.spec.JavaScene.methodArgs = new Object[0]` [`private`]

Definition at line 32 of file `JavaScene.java`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff()`.

9.137.3.6 `Map<Object, ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.obj2spec = new IdentityHashMap<Object, ClassSpec>()` [`private`]

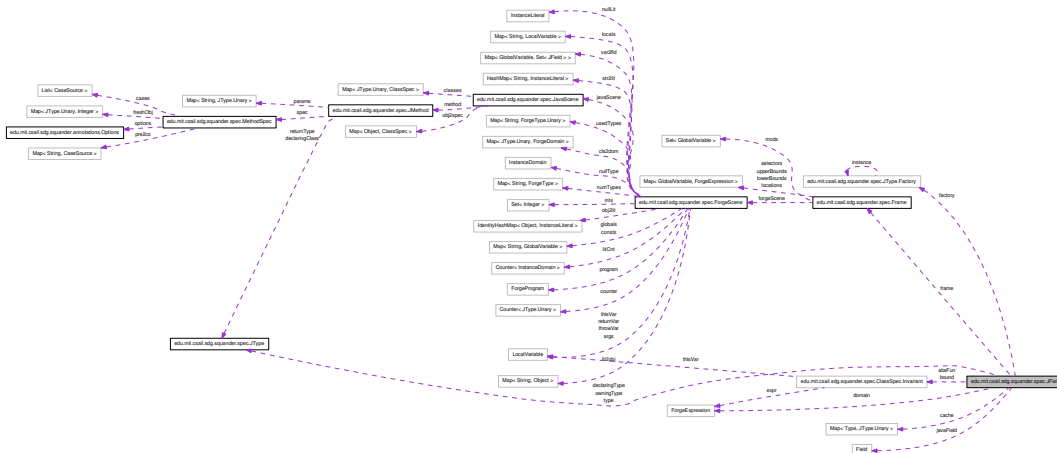
Definition at line 28 of file `JavaScene.java`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/JavaScene.java](#)

9.138 edu.mit.csail.sdg.squander.spec.JField Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.JField:



Public Member Functions

- `String name ()`
- `JType type ()`
- `JType.Unary owningType ()`
- `JType.Unary declaringType ()`
- `Field getJavaField ()`
- `boolean isStatic ()`
- `boolean isSpec ()`
- `boolean isFunc ()`
- `boolean isPureAbstract ()`
- `ForgeExpression getDomain ()`
- `Invariant getAbsFun ()`
- `Invariant getBound ()`
- `Frame getFrame ()`
- `void setDomain (ForgeExpression dom)`
- `void setAbsFun (Invariant absFun)`
- `void setBound (Invariant bound)`
- `void setFrame (Frame frame)`
- `void setFuncFlag (boolean flag)`
- `boolean equals (Object obj)`
- `int hashCode ()`
- `String fullName ()`
- `Unary[][] getTypeParams ()`
- `String toString ()`

Static Public Member Functions

- static [JField newSpecField](#) (String *name*, Class<?> *owner*, Class<?> *declarer*, [JType type](#))
- static [JField newSpecField](#) (String *name*, [Unary owningType](#), [Unary declaringType](#), [JType type](#))
- static [JField newJavaField](#) (Field *f*)
- static [Unary\[\] getTypeParams](#) (Type *genericType*)
- static [Unary convertToJType](#) (Type *t*)

Package Functions

- [JField](#) (String *name*, [JType type](#), [Unary owningType](#), [Unary declaringType](#), Field *javaField*)

Private Attributes

- final [JType type](#)
- final [JType.Unary owningType](#)
- final [JType.Unary declaringType](#)
- final String *name*
- final Field *javaField*
- [ForgeExpression domain](#)
- Invariant [absFun](#)
- Invariant [bound](#)
- [Frame frame](#)
- boolean [funcFlag](#) = false

Static Private Attributes

- static final [Factory factory](#) = [JType.Factory.instance](#)
- static [Map< Type, JType.Unary > cache](#) = new [HashMap<Type, Unary>\(\)](#)

9.138.1 Detailed Description

Author:

kuat
Aleksandar Milicevic

Definition at line 25 of file [JField.java](#).

9.138.2 Constructor & Destructor Documentation

9.138.2.1 [edu.mit.csail.sdg.squander.spec.JField.JField](#) (String *name*, [JType type](#), [Unary owningType](#), [Unary declaringType](#), Field *javaField*) [[package](#)]

Definition at line 61 of file [JField.java](#).

Referenced by [edu.mit.csail.sdg.squander.spec.JField.newJavaField\(\)](#), and [edu.mit.csail.sdg.squander.spec.JField.newSpecField\(\)](#).

9.138.3 Member Function Documentation

9.138.3.1 static Unary edu.mit.csail.sdg.squander.spec.JField.convertToJType (Type *t*) [static]

Definition at line 149 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.cache, and edu.mit.csail.sdg.squander.spec.JField.getTypeParams().

Referenced by edu.mit.csail.sdg.squander.spec.JField.getTypeParams().

9.138.3.2 JType.Unary edu.mit.csail.sdg.squander.spec.JField.declaringType ()

Definition at line 72 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.newJavaField(), edu.mit.csail.sdg.squander.spec.JField.newSpecField(), and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.3 boolean edu.mit.csail.sdg.squander.spec.JField.equals (Object *obj*)

Definition at line 91 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.4 String edu.mit.csail.sdg.squander.spec.JField.fullName ()

Definition at line 104 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.name(), edu.mit.csail.sdg.squander.spec.JField.owningType(), and edu.mit.csail.sdg.squander.spec.JType.simpleName().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), and edu.mit.csail.sdg.squander.spec.ForgeScene.global().

9.138.3.5 Invariant edu.mit.csail.sdg.squander.spec.JField.getAbsFun ()

Definition at line 80 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.absFun.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint().

9.138.3.6 Invariant edu.mit.csail.sdg.squander.spec.JField.getBound ()

Definition at line 81 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.bound.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), and edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField().

9.138.3.7 ForgeExpression edu.mit.csail.sdg.squander.spec.JField.getDomain ()

Definition at line 79 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.domain.

9.138.3.8 Frame edu.mit.csail.sdg.squander.spec.JField.getFrame ()

Definition at line 82 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.frame.

9.138.3.9 Field edu.mit.csail.sdg.squander.spec.JField.getJavaField ()

Definition at line 73 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.javaField.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc().

9.138.3.10 static Unary [] edu.mit.csail.sdg.squander.spec.JField.getTypeParams (Type *genericType*) [static]

Definition at line 135 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.convertToJType().

9.138.3.11 Unary [][] edu.mit.csail.sdg.squander.spec.JField.getTypeParams ()

Definition at line 109 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.JField.javaField, edu.mit.csail.sdg.squander.spec.JType.projection(), and edu.mit.csail.sdg.squander.spec.JField.type().

Referenced by edu.mit.csail.sdg.squander.spec.JField.convertToJType(), and edu.mit.csail.sdg.squander.spec.JField.newJavaField().

9.138.3.12 int edu.mit.csail.sdg.squander.spec.JField.hashCode ()

Definition at line 100 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.13 boolean edu.mit.csail.sdg.squander.spec.JField.isFunc ()

Definition at line 76 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.funcFlag, and edu.mit.csail.sdg.squander.spec.JField.isSpec().

9.138.3.14 boolean edu.mit.csail.sdg.squander.spec.JField.isPureAbstract ()

Definition at line 77 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.absFun.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc(), and edu.mit.csail.sdg.squander.serializer.special.ListSer.conc

9.138.3.15 boolean edu.mit.csail.sdg.squander.spec.JField.isSpec ()

Definition at line 75 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.javaField.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), edu.mit.csail.sdg.squander.spec.JField.isFunc(), edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField(), and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.16 boolean edu.mit.csail.sdg.squander.spec.JField.isStatic ()

Definition at line 74 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.javaField.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField(), and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.17 String edu.mit.csail.sdg.squander.spec.JField.name ()

Definition at line 69 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.fullName(), edu.mit.csail.sdg.squander.spec.JField.newJavaField(), and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.18 static JField edu.mit.csail.sdg.squander.spec.JField.newJavaField (Field f) [static]

Definition at line 53 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType(), edu.mit.csail.sdg.squander.spec.JField.factory, edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), edu.mit.csail.sdg.squander.spec.JField.JField(), edu.mit.csail.sdg.squander.spec.JField.name(), and edu.mit.csail.sdg.squander.spec.JField.type().

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.138.3.19 static JField edu.mit.csail.sdg.squander.spec.JField.newSpecField (String name, Unary owningType, Unary declaringType, JType type) [static]

Definition at line 49 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.JField().

9.138.3.20 static JField edu.mit.csail.sdg.squander.spec.JField.newSpecField (String name, Class<?> owner, Class<?> declarer, JType type) [static]

Definition at line 43 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType(), edu.mit.csail.sdg.squander.spec.JField.factory, and edu.mit.csail.sdg.squander.spec.JField.owningType().

9.138.3.21 JType.Unary edu.mit.csail.sdg.squander.spec.JField.owningType ()

Definition at line 71 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.fullName(), and edu.mit.csail.sdg.squander.spec.JField.newSpecField().

9.138.3.22 void edu.mit.csail.sdg.squander.spec.JField.setAbsFun (Invariant *absFun*)

Definition at line 85 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.138.3.23 void edu.mit.csail.sdg.squander.spec.JField.setBound (Invariant *bound*)

Definition at line 86 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.138.3.24 void edu.mit.csail.sdg.squander.spec.JField.setDomain (ForgeExpression *dom*)

Definition at line 84 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.domain.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.138.3.25 void edu.mit.csail.sdg.squander.spec.JField setFrame (Frame *frame*)

Definition at line 87 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.138.3.26 void edu.mit.csail.sdg.squander.spec.JField.setFuncFlag (boolean *flag*)

Definition at line 88 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.funcFlag.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.138.3.27 String edu.mit.csail.sdg.squander.spec.JField.toString ()

Definition at line 123 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType(), edu.mit.csail.sdg.squander.spec.JField.isSpec(), edu.mit.csail.sdg.squander.spec.JField.isStatic(), edu.mit.csail.sdg.squander.spec.JField.name(), and edu.mit.csail.sdg.squander.spec.JField.type().

Referenced by edu.mit.csail.sdg.squander.spec.JField.equals(), and edu.mit.csail.sdg.squander.spec.JField.hashCode().

9.138.3.28 JType edu.mit.csail.sdg.squander.spec.JField.type ()

Definition at line 70 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), edu.mit.csail.sdg.squander.spec.JField.newJavaField(), and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.4 Member Data Documentation

9.138.4.1 Invariant edu.mit.csail.sdg.squander.spec.JField.absFun [private]

Definition at line 38 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getAbsFun(), and edu.mit.csail.sdg.squander.spec.JField.isPureAbstract().

9.138.4.2 Invariant edu.mit.csail.sdg.squander.spec.JField.bound [private]

Definition at line 39 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getBound().

9.138.4.3 Map<Type, JType.Unary> edu.mit.csail.sdg.squander.spec.JField.cache = new HashMap<Type, Unary>() [static, private]

Definition at line 133 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.convertToJType().

9.138.4.4 final JType.Unary edu.mit.csail.sdg.squander.spec.JField.declaringType [private]

Definition at line 31 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), and edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

9.138.4.5 ForgeExpression edu.mit.csail.sdg.squander.spec.JField.domain [private]

Definition at line 37 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getDomain(), and edu.mit.csail.sdg.squander.spec.JField.setDomain().

9.138.4.6 final Factory edu.mit.csail.sdg.squander.spec.JField.factory = JType.Factory.instance [static, private]

Definition at line 27 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.newJavaField(), edu.mit.csail.sdg.squander.spec.JField.newSpecField(), and edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty().

9.138.4.7 Frame edu.mit.csail.sdg.squander.spec.JField.frame [private]

Definition at line 40 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getFrame().

9.138.4.8 boolean edu.mit.csail.sdg.squander.spec.JField.funcFlag = false [private]

Definition at line 41 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.isFunc(), and edu.mit.csail.sdg.squander.spec.JField.setFuncFlag().

9.138.4.9 final Field edu.mit.csail.sdg.squander.spec.JField.javaField [private]

Definition at line 33 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getJavaField(), edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), edu.mit.csail.sdg.squander.spec.JField.isSpec(), and edu.mit.csail.sdg.squander.spec.JField.isStatic().

9.138.4.10 final String edu.mit.csail.sdg.squander.spec.JField.name [private]

Definition at line 32 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjAbsState.add(), edu.mit.csail.sdg.squander.spec.ClassSpec.addUsedField(), edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc(), edu.mit.csail.sdg.squander.absstate.ObjAbsState.getOrAddSpecField(), and edu.mit.csail.sdg.squander.absstate.FieldValue.toString().

9.138.4.11 final JType.Unary edu.mit.csail.sdg.squander.spec.JField.owningType [private]

Definition at line 30 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar(), and edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint().

9.138.4.12 final JType edu.mit.csail.sdg.squander.spec.JField.type [private]

Definition at line 29 of file JField.java.

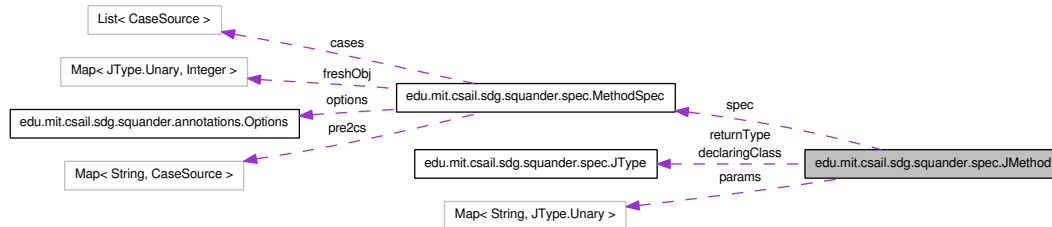
Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), and edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/JField.java](#)

9.139 edu.mit.csail.sdg.squander.spec.JMethod Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.JMethod:



Public Member Functions

- [JMethod](#) (String `methodName`, Class<?> `declaringClass`, Map< String, Class<?>> `params`, Class<?> `returnType`, boolean `isStatic`)
- [JMethod](#) (String `methodName`, JType.Unary `declaringClass`, Map< String, JType.Unary > `params`, JType.Unary `returnType`, boolean `isStatic`)
- String `name` ()
- Unary `declaringClass` ()
- Map< String, Unary > `params` ()
- List< Unary > `paramTypes` ()
- Unary `returnType` ()
- boolean `isStatic` ()
- [MethodSpec](#) `spec` ()
- void `setSpec` ([MethodSpec](#) `spec`)

Static Public Member Functions

- static [JMethod](#) `forJavaMethod` (Method `m`)

Static Private Member Functions

- static Map< String, Unary > `convertMap` (Map< String, Class<?>> `map`)

Private Attributes

- final String `methodName`
- final JType.Unary `declaringClass`
- final Map< String, JType.Unary > `params`
- final JType.Unary `returnType`
- final boolean `isStatic`
- [MethodSpec](#) `spec`

9.139.1 Detailed Description

Definition at line 23 of file `JMethod.java`.

9.139.2 Constructor & Destructor Documentation

9.139.2.1 `edu.mit.csail.sdg.squander.spec.JMethod.JMethod` (*String methodName*, *Class<?> declaringClass*, *Map<String, Class<?>> params*, *Class<?> returnType*, *boolean isStatic*)

Definition at line 33 of file `JMethod.java`.

References `edu.mit.csail.sdg.squander.spec.JMethod.convertMap()`, `edu.mit.csail.sdg.squander.spec.JMethod.params()` and

Referenced by `edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod()`.

9.139.2.2 `edu.mit.csail.sdg.squander.spec.JMethod.JMethod` (*String methodName*, *JType.Unary declaringClass*, *Map<String, JType.Unary> params*, *JType.Unary returnType*, *boolean isStatic*)

Definition at line 47 of file `JMethod.java`.

References `edu.mit.csail.sdg.squander.spec.JMethod.declaringClass()`, `edu.mit.csail.sdg.squander.spec.JMethod.returnType()` and

9.139.3 Member Function Documentation

9.139.3.1 `static Map<String, Unary> edu.mit.csail.sdg.squander.spec.JMethod.convertMap` (*Map<String, Class<?>> map*) [*static, private*]

Definition at line 39 of file `JMethod.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.JMethod.JMethod()`.

9.139.3.2 `Unary edu.mit.csail.sdg.squander.spec.JMethod.declaringClass` ()

Definition at line 57 of file `JMethod.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.JMethod.JMethod()`.

9.139.3.3 `static JMethod edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod` (*Method m*) [*static*]

Definition at line 66 of file `JMethod.java`.

References `edu.mit.csail.sdg.squander.spec.JMethod.isStatic()`, `edu.mit.csail.sdg.squander.spec.JMethod.JMethod()`, `edu.mit.csail.sdg.squander.spec.JMethod.name()`, `edu.mit.csail.sdg.squander.spec.JMethod.params()`, and `edu.mit.csail.sdg.squander.spec.JMethod.spec()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.convToJMethod()`.

9.139.3.4 `boolean edu.mit.csail.sdg.squander.spec.JMethod.isStatic` ()

Definition at line 61 of file `JMethod.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod()`.

9.139.3.5 String edu.mit.csail.sdg.squander.spec.JMethod.name ()

Definition at line 56 of file JMethod.java.

References edu.mit.csail.sdg.squander.spec.JMethod.methodName.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.proc().

9.139.3.6 Map<String, Unary> edu.mit.csail.sdg.squander.spec.JMethod.params ()

Definition at line 58 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod(), edu.mit.csail.sdg.squander.spec.JMethod.JMethod(), and edu.mit.csail.sdg.squander.spec.JMethod.paramTypes().

9.139.3.7 List<Unary> edu.mit.csail.sdg.squander.spec.JMethod.paramTypes ()

Definition at line 59 of file JMethod.java.

References edu.mit.csail.sdg.squander.spec.JMethod.params().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitArgument().

9.139.3.8 Unary edu.mit.csail.sdg.squander.spec.JMethod.returnType ()

Definition at line 60 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.JMethod().

9.139.3.9 void edu.mit.csail.sdg.squander.spec.JMethod.setSpec (MethodSpec spec)

Definition at line 64 of file JMethod.java.

9.139.3.10 MethodSpec edu.mit.csail.sdg.squander.spec.JMethod.spec ()

Definition at line 62 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod().

9.139.4 Member Data Documentation

9.139.4.1 final JType.Unary edu.mit.csail.sdg.squander.spec.JMethod.declaringClass [private]

Definition at line 26 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and edu.mit.csail.sdg.squander.spec.NameSpace.forMethod().

9.139.4.2 final boolean edu.mit.csail.sdg.squander.spec.JMethod.isStatic [private]

Definition at line 29 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitThis().

9.139.4.3 final String edu.mit.csail.sdg.squander.spec.JMethod.methodName [private]

Definition at line 25 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.name().

9.139.4.4 final Map<String, JType.Unary> edu.mit.csail.sdg.squander.spec.JMethod.params [private]

Definition at line 27 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and edu.mit.csail.sdg.squander.spec.NameSpace.forMethod().

9.139.4.5 final JType.Unary edu.mit.csail.sdg.squander.spec.JMethod.returnType [private]

Definition at line 28 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitReturn().

9.139.4.6 MethodSpec edu.mit.csail.sdg.squander.spec.JMethod.spec [private]

Definition at line 31 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod(), edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext(), edu.mit.csail.sdg.squander.spec.JavaScene.setMethod(), and edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/JMethod.java](#)

9.140 edu.mit.csail.sdg.squander.spec.JType Interface Reference

Inherited by edu.mit.csail.sdg.squander.spec.JType.AbstractJType.

Classes

- class **AbstractJType**
- class **Factory**
- class **Tuple**
- class **Unary**

Public Member Functions

- boolean [isUnary](#) ()
- int [arity](#) ()
- String [name](#) ()
- String [simpleName](#) ()
- JType.Unary [domain](#) ()
- JType.Unary [range](#) ()
- List< JType.Unary > [tuple](#) ()
- JType projection (int...columns)
- JType.Unary [projection](#) (int column)
- JType [projectionFrom](#) (int start)
- JType [projectionFromTo](#) (int start, int end)
- JType [transpose](#) ()
- JType [union](#) (JType type)
- JType [difference](#) (JType type)
- JType [intersection](#) (JType type)
- JType [product](#) (JType that)
- JType [join](#) (JType type)
- boolean [isInteger](#) ()
- boolean [isBoolean](#) ()
- boolean [isSubtypeOf](#) (JType that)

9.140.1 Detailed Description

Definition at line 18 of file JType.java.

9.140.2 Member Function Documentation

9.140.2.1 int edu.mit.csail.sdg.squander.spec.JType.arity ()

Arity of a type

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(), edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), edu.mit.csail.sdg.squander.spec.TypeChecker.setTypeParams(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive()

9.140.2.2 JType edu.mit.csail.sdg.squander.spec.JType.difference (JType type)

$$x \text{ :- } (A_j), y \text{ :- } (B_j) \Rightarrow x - y \text{ :- } (A_j)$$

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary().

9.140.2.3 JType.Unary edu.mit.csail.sdg.squander.spec.JType.domain ()

Domain of a type is its leftmost type in the tuple

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength(), edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForge(), edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitArrayType(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification().

9.140.2.4 JType edu.mit.csail.sdg.squander.spec.JType.intersection (JType type)

$$x \text{ :- } (A_1, \dots, A_i), y \text{ :- } (B_1, \dots, B_i) \Rightarrow x - y \text{ :- } (A_j)$$

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary().

9.140.2.5 boolean edu.mit.csail.sdg.squander.spec.JType.isBoolean ()**9.140.2.6 boolean edu.mit.csail.sdg.squander.spec.JType.isInteger ()**

Common types

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary().

9.140.2.7 boolean edu.mit.csail.sdg.squander.spec.JType.isSubtypeOf (JType that)

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame().

9.140.2.8 boolean edu.mit.csail.sdg.squander.spec.JType.isUnary ()

A unary type has arity 1

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitName().

9.140.2.9 JType edu.mit.csail.sdg.squander.spec.JType.join (JType type)

$$x \text{ :- } (A_1, A_2, \dots, A_i), y \text{ :- } (B_1, B_2, \dots, B_j) \Rightarrow x.y \text{ :- } (A_1, A_2, \dots, A_{i-1}, B_2, \dots, B_j)$$

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive().

9.140.2.10 String edu.mit.csail.sdg.squander.spec.JType.name ()

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes().

9.140.2.11 JType edu.mit.csail.sdg.squander.spec.JType.product (JType *that*)

$$x :- (A_1, A_2, \dots, A_i), y :- (B_1, B_2, \dots, B_j) \Rightarrow x \rightarrow y :- (A_1, A_2, \dots, A_i, B_1, \dots, B_j)$$

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification()

9.140.2.12 JType.Unary edu.mit.csail.sdg.squander.spec.JType.projection (int *column*)

Projection of a type onto its columns

9.140.2.13 JType edu.mit.csail.sdg.squander.spec.JType.projection (int... *columns*)

Projection of a type onto its columns

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(), edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), and edu.mit.csail.sdg.squander.spec.TypeChecker.setTypeParams().

9.140.2.14 JType edu.mit.csail.sdg.squander.spec.JType.projectionFrom (int *start*)**9.140.2.15 JType edu.mit.csail.sdg.squander.spec.JType.projectionFromTo (int *start*, int *end*)**

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame().

9.140.2.16 JType.Unary edu.mit.csail.sdg.squander.spec.JType.range ()

Range of a type is its rightmost type in the tuple

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldRelation(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitName(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType().

9.140.2.17 String edu.mit.csail.sdg.squander.spec.JType.simpleName ()

Referenced by edu.mit.csail.sdg.squander.spec.JField.fullName().

9.140.2.18 JType edu.mit.csail.sdg.squander.spec.JType.transpose ()

Transpose of a tuple type

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary().

9.140.2.19 List<JType.Unary> edu.mit.csail.sdg.squander.spec.JType.tuple ()

All atoms in the tuple

9.140.2.20 JType edu.mit.csail.sdg.squander.spec.JType.union (JType *type*)

$x :- (A_1, \dots, A_i), y :- (B_1, \dots, B_i) \Rightarrow x + y :- (LCA(A_j, B_j)) (j=1..i)$

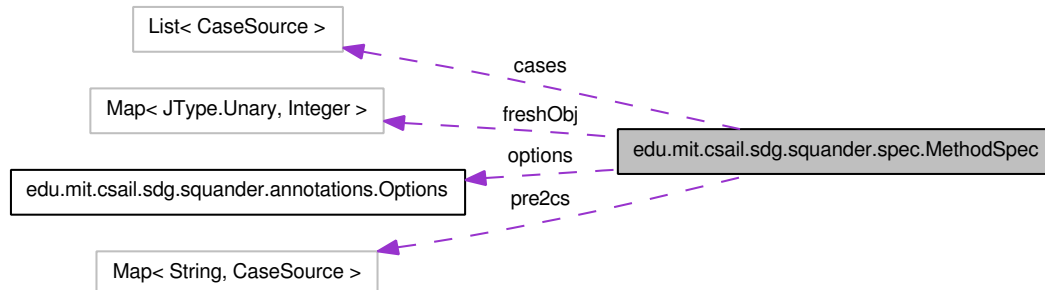
Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitConditional()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinRef`

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/JType.java](#)

9.141 edu.mit.csail.sdg.squander.spec.MethodSpec Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.MethodSpec:



Classes

- class [CaseSource](#)

Public Member Functions

- [Options options](#) ()
- boolean [isHelper](#) ()
- boolean [isPure](#) ()
- List< [CaseSource](#) > [cases](#) ()
- boolean [isTrivial](#) ()
- Map< [JType.Unary](#), [Integer](#) > [freshObjects](#) ()
- void [typecheck](#) ([JavaScene](#) javaScene)
- void [translateSpecs](#) ([ForgeEnv](#) env, [ForgeScene](#) forgeScene)
- void [addOptions](#) ([Options](#) opt)

Package Functions

- [MethodSpec](#) ()
- void [addFreshObj](#) ([Class](#)<?> cls, [Class](#)<?>[] typeParams, int num)
- void [addCase](#) ([Source](#) requires, [Source](#) ensures, [Source](#) modifies, boolean exceptional)
- void [mergeCasesWith](#) ([MethodSpec](#) ms)
- void [makeHelper](#) ()
- void [makePure](#) ()

Private Attributes

- final List< [CaseSource](#) > [cases](#)
- final Map< [String](#), [CaseSource](#) > [pre2cs](#) = new [HashMap](#)<[String](#), [CaseSource](#)>()
- final Map< [JType.Unary](#), [Integer](#) > [freshObj](#) = new [HashMap](#)<[JType.Unary](#), [Integer](#)>()
- [Options options](#)
- boolean [helper](#)
- boolean [pure](#)

9.141.1 Detailed Description

Method specification source. Abstract data type that holds method specifications.

Empty specification source should be the identity with respect to the union operation.

Author:

kuat
Aleksandar Milicevic

Definition at line 27 of file MethodSpec.java.

9.141.2 Constructor & Destructor Documentation

9.141.2.1 `edu.mit.csail.sdg.squander.spec.MethodSpec.MethodSpec ()` [package]

Definition at line 73 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.cases()`, `edu.mit.csail.sdg.squander.spec.MethodSpec.helper`, and `edu.mit.csail.sdg.squander.spec.MethodSpec.pure`.

9.141.3 Member Function Documentation

9.141.3.1 `void edu.mit.csail.sdg.squander.spec.MethodSpec.addCase (Source requires, Source ensures, Source modifies, boolean exceptional)` [package]

Definition at line 114 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.cases()`, `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.exc`, `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frmSrc`, `edu.mit.csail.sdg.squander.spec.Source.ns`, `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.postSrc()`, `edu.mit.csail.sdg.squander.spec.MethodSpec.pre2cs`, `edu.mit.csail.sdg.squander.spec.Source.rule`, and `edu.mit.csail.sdg.squander.spec.Source.source`.

Referenced by `edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive()`.

9.141.3.2 `void edu.mit.csail.sdg.squander.spec.MethodSpec.addFreshObj (Class<?> cls, Class<?>[] typeParams, int num)` [package]

Definition at line 103 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.freshObj`.

Referenced by `edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive()`.

9.141.3.3 `void edu.mit.csail.sdg.squander.spec.MethodSpec.addOptions (Options opt)`

Definition at line 99 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.options()`.

Referenced by `edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive()`.

9.141.3.4 List<CaseSource> edu.mit.csail.sdg.squander.spec.MethodSpec.cases ()

Definition at line 68 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase(), edu.mit.csail.sdg.squander.spec.MethodSpec.isTrivial(), edu.mit.csail.sdg.squander.spec.MethodSpec.mergeCasesWith(), edu.mit.csail.sdg.squander.spec.MethodSpec.MethodSpec(), edu.mit.csail.sdg.squander.spec.MethodSpec.translateSpecs(), and edu.mit.csail.sdg.squander.spec.MethodSpec.typecheck().

9.141.3.5 Map<JType.Unary, Integer> edu.mit.csail.sdg.squander.spec.MethodSpec.freshObjects ()

Definition at line 71 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.freshObj.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects().

9.141.3.6 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.isHelper ()

Definition at line 66 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.helper.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec().

9.141.3.7 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.isPure ()

Definition at line 67 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.pure.

9.141.3.8 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.isTrivial ()

Definition at line 69 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases(), and edu.mit.csail.sdg.squander.spec.MethodSpec.pure.

9.141.3.9 void edu.mit.csail.sdg.squander.spec.MethodSpec.makeHelper () [package]

Definition at line 145 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.helper.

9.141.3.10 void edu.mit.csail.sdg.squander.spec.MethodSpec.makePure () [package]

Definition at line 149 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.pure.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.141.3.11 void edu.mit.csail.sdg.squander.spec.MethodSpec.mergeCasesWith (MethodSpec ms) [package]

Definition at line 140 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases.

9.141.3.12 Options edu.mit.csail.sdg.squander.spec.MethodSpec.options ()

Definition at line 65 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addOptions().

9.141.3.13 void edu.mit.csail.sdg.squander.spec.MethodSpec.translateSpecs (ForgeEnv env, ForgeScene forgeScene)

Definition at line 88 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases().

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs().

9.141.3.14 void edu.mit.csail.sdg.squander.spec.MethodSpec.typecheck (JavaScene javaScene)

Definition at line 79 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases().

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.setMethod().

9.141.4 Member Data Documentation

9.141.4.1 final List<CaseSource> edu.mit.csail.sdg.squander.spec.MethodSpec.cases [private]

Definition at line 57 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractMethodSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec(), and edu.mit.csail.sdg.squander.spec.MethodSpec.mergeCasesWith.

9.141.4.2 final Map<JType.Unary, Integer> edu.mit.csail.sdg.squander.spec.MethodSpec.freshObj = new HashMap<JType.Unary, Integer>() [private]

Definition at line 59 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addFreshObj(), and edu.mit.csail.sdg.squander.spec.MethodSpec.freshObjects().

9.141.4.3 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.helper [private]

Definition at line 62 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.isHelper(), edu.mit.csail.sdg.squander.spec.MethodSpec.makeHelper(), and edu.mit.csail.sdg.squander.spec.MethodSpec.MethodSpec().

9.141.4.4 Options edu.mit.csail.sdg.squander.spec.MethodSpec.options [private]

Definition at line 60 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), and edu.mit.csail.sdg.squander.engine.ForgerConverter.finish().

9.141.4.5 final Map<String, CaseSource> edu.mit.csail.sdg.squander.spec.MethodSpec.pre2cs = new HashMap<String, CaseSource>() [private]

Definition at line 58 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase().

9.141.4.6 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.pure [private]

Definition at line 63 of file MethodSpec.java.

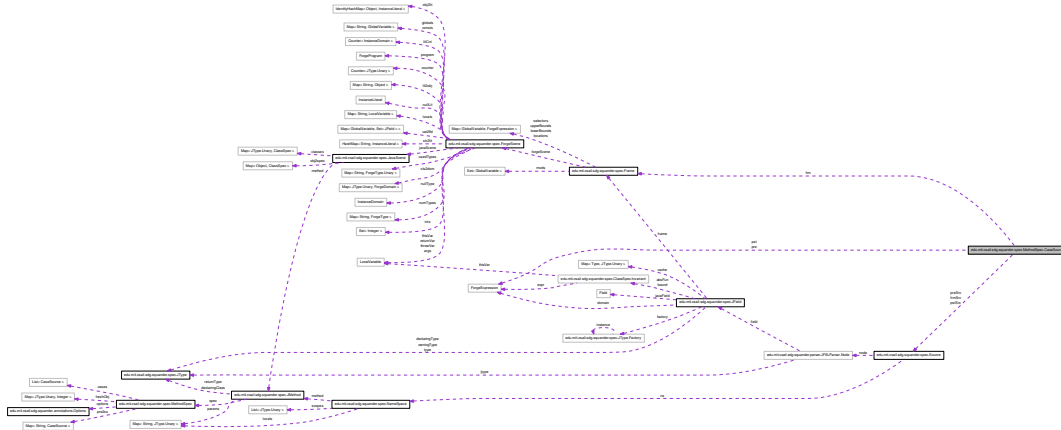
Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.isPure(), edu.mit.csail.sdg.squander.spec.MethodSpec.isTrivial(), edu.mit.csail.sdg.squander.spec.MethodSpec.makePure(), and edu.mit.csail.sdg.squander.spec.MethodSpec.MethodSpec().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/MethodSpec.java](#)

9.142 edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource:



Public Member Functions

- [Source preSrc \(\)](#)
- [Source postSrc \(\)](#)
- [Source frmSrc \(\)](#)
- boolean [exceptional \(\)](#)
- [ForgeExpression pre \(\)](#)
- [ForgeExpression post \(\)](#)
- [Frame frame \(\)](#)

Package Functions

- [CaseSource](#) ([Source](#) requires, [Source](#) ensures, [Source](#) modifies, boolean [exceptional](#))

Private Attributes

- [Source preSrc](#)
- [Source pstSrc](#)
- [Source frmSrc](#)
- boolean [exceptional](#)
- [ForgeExpression pre](#)
- [ForgeExpression pst](#)
- [Frame frm](#)

9.142.1 Detailed Description

Specification case source

Definition at line 30 of file MethodSpec.java.

9.142.2 Constructor & Destructor Documentation

9.142.2.1 edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.CaseSource (Source *requires*, Source *ensures*, Source *modifies*, boolean *exceptional*) [package]

Definition at line 49 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frmSrc`, `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.preSrc()`, and `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource`.

9.142.3 Member Function Documentation

9.142.3.1 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.exceptional ()

Definition at line 43 of file MethodSpec.java.

9.142.3.2 Frame edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frame ()

Definition at line 47 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frm`.

9.142.3.3 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frameSrc ()

Definition at line 42 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frmSrc`.

9.142.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.post ()

Definition at line 46 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pst`.

9.142.3.5 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.postSrc ()

Definition at line 41 of file MethodSpec.java.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pstSrc`.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.addCase()`.

9.142.3.6 ForgeExpression edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pre ()

Definition at line 45 of file MethodSpec.java.

9.142.3.7 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.preSrc ()

Definition at line 40 of file MethodSpec.java.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.CaseSource()`.

9.142.4 Member Data Documentation

9.142.4.1 boolean `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.exceptional` `[private]`

Definition at line 34 of file `MethodSpec.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.addCase()`.

9.142.4.2 Frame `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frm` `[private]`

Definition at line 38 of file `MethodSpec.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frame()`.

9.142.4.3 Source `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frmSrc` `[private]`

Definition at line 33 of file `MethodSpec.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.addCase()`,
`edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.CaseSource()`, and
`edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frameSrc()`.

9.142.4.4 ForgeExpression `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pre` `[private]`

Definition at line 36 of file `MethodSpec.java`.

9.142.4.5 Source `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.preSrc` `[private]`

Definition at line 31 of file `MethodSpec.java`.

9.142.4.6 ForgeExpression `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pst` `[private]`

Definition at line 37 of file `MethodSpec.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.post()`.

9.142.4.7 Source `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pstSrc` `[private]`

Definition at line 32 of file `MethodSpec.java`.

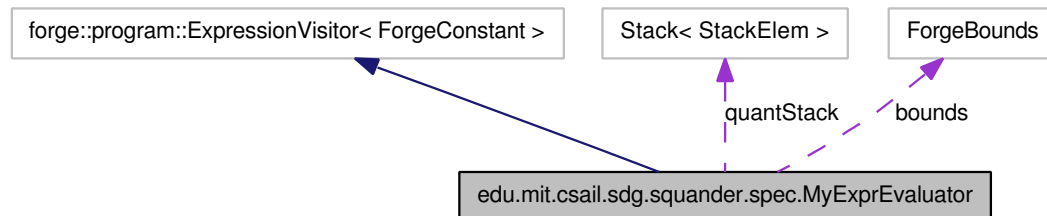
Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.CaseSource()`, and
`edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.postSrc()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/MethodSpec.java](#)

9.143 edu.mit.csail.sdg.squander.spec.MyExprEvaluator Class Reference

Inherits forge::program::ExpressionVisitor< ForgeConstant >. Collaboration diagram for edu.mit.csail.sdg.squander.spec.MyExprEvaluator:



Classes

- interface **BinFunc**< **R**, **T** >
- class **StackElem**

Public Member Functions

- [MyExprEvaluator](#) (ForgeBounds [bounds](#))

Protected Member Functions

- ForgeConstant [visit](#) (BinaryExpression [expr](#))
- ForgeConstant [visit](#) (ConditionalExpression [expr](#))
- ForgeConstant [visit](#) (ForgeVariable [expr](#))
- ForgeConstant [visit](#) (ProjectionExpression [expr](#))
- ForgeConstant [visit](#) (QuantifyExpression [expr](#))
- ForgeConstant [visit](#) (UnaryExpression [expr](#))
- abstract ForgeConstant [visitGlobalVariable](#) (GlobalVariable [var](#))
- abstract ForgeConstant [visitLocalVariable](#) (LocalVariable [var](#))
- StackElem [searchStack](#) (LocalVariable [var](#))

Protected Attributes

- ForgeBounds [bounds](#)
- final Stack< StackElem > [quantStack](#) = new Stack<StackElem>()

Package Functions

- private< R > ForgeConstant [visitIntBinExpr](#) (BinaryExpression [expr](#), BinFunc< R, Integer > [f](#))

Private Member Functions

- ForgeConstant [visitEquals](#) (BinaryExpression expr)
- ForgeConstant [visitJoin](#) (BinaryExpression expr)
- ForgeConstant [visitProduct](#) (BinaryExpression expr)
- ForgeConstant [visitRelUnion](#) (BinaryExpression expr)
- ForgeConstant [visitDiff](#) (BinaryExpression expr)
- ForgeConstant [visitSubset](#) (BinaryExpression expr)
- ForgeConstant [visitClosure](#) (ForgeConstant res)
- ForgeConstant [visitBoolBinExpr](#) (BinaryExpression expr, BinFunc< Boolean, Boolean > f)
- ForgeConstant [visitUnion](#) (QuantifyExpression expr)
- ForgeConstant [visitAll](#) (QuantifyExpression expr)
- ForgeConstant [visitExists](#) (QuantifyExpression expr)

9.143.1 Detailed Description

Definition at line 27 of file MyExprEvaluator.java.

9.143.2 Constructor & Destructor Documentation

9.143.2.1 `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.MyExprEvaluator` (ForgeBounds *bounds*)

Definition at line 63 of file MyExprEvaluator.java.

9.143.3 Member Function Documentation

9.143.3.1 `StackElem edu.mit.csail.sdg.squander.spec.MyExprEvaluator.searchStack` (LocalVariable *var*) [`protected`]

Definition at line 193 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack`.

9.143.3.2 `ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit` (UnaryExpression *expr*) [`protected`]

Definition at line 154 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitClosure()` and `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitClosure()`.

9.143.3.3 `ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit` (QuantifyExpression *expr*) [`protected`]

Definition at line 140 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitAll()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitExists()`, and `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitUnion()`.

9.143.3.4 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit (ProjectionExpression *expr*) [protected]

Definition at line 134 of file MyExprEvaluator.java.

9.143.3.5 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit (ForgeVariable *expr*) [protected]

Definition at line 126 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitGlobalVariable()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitLocalVariable()`, and

9.143.3.6 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit (ConditionalExpression *expr*) [protected]

Definition at line 116 of file MyExprEvaluator.java.

9.143.3.7 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit (BinaryExpression *expr*) [protected]

Definition at line 68 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitBoolBinExpr()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitDiff()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitEquals()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitIntBinExpr()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitJoin()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitProduct()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitRelUnion()`, and `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitSubset()`.

9.143.3.8 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitAll (QuantifyExpression *expr*) [private]

Definition at line 297 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack()`, and

Referenced by `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit()`.

9.143.3.9 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitBoolBinExpr (BinaryExpression *expr*, BinFunc< Boolean, Boolean > *f*) [private]

Definition at line 253 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds()`.

Referenced by `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit()`.

9.143.3.10 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitClosure (ForgeConstant *res*) [private]

Definition at line 239 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.11 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitDiff
(BinaryExpression *expr*) [private]**

Definition at line 226 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.12 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitEquals
(BinaryExpression *expr*) [private]**

Definition at line 202 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.13 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitExists
(QuantifyExpression *expr*) [private]**

Definition at line 312 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds, and
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.14 abstract ForgeConstant
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitGlobalVariable
(GlobalVariable *var*) [protected, pure virtual]**

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.15 private<R> ForgeConstant
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitIntBinExpr
(BinaryExpression *expr*, BinFunc< R, Integer > *f*) [package]**

Definition at line 264 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.16 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitJoin
(BinaryExpression *expr*) [private]**

Definition at line 208 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.17 abstract ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitLocalVariable (LocalVariable *var*) [protected, pure virtual]

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.18 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitProduct (BinaryExpression *expr*) [private]

Definition at line 214 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.19 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitRelUnion (BinaryExpression *expr*) [private]

Definition at line 220 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.20 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitSubset (BinaryExpression *expr*) [private]

Definition at line 233 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.21 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitUnion (QuantifyExpression *expr*) [private]

Definition at line 280 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds, and
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.4 Member Data Documentation

9.143.4.1 ForgeBounds edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds [protected]

Definition at line 60 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit(),
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitAll(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitBoolBinEx
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitEquals(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitExists()
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitIntBinExpr(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitSub
and edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitUnion().

9.143.4.2 `final Stack<StackElem> edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack = new Stack<StackElem>() [protected]`

Definition at line 61 of file MyExprEvaluator.java.

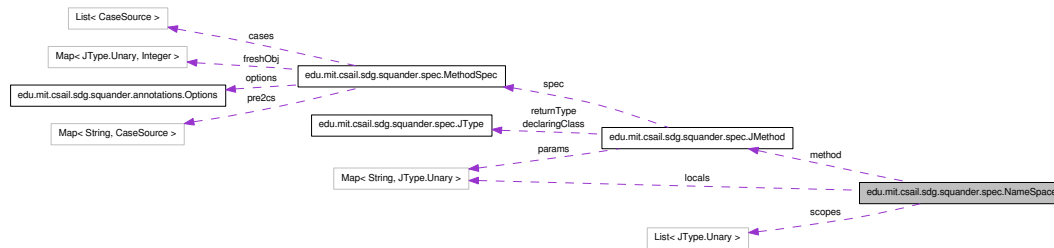
Referenced by `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.searchStack()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitAll()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitExists()`, and `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitUnion()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/MyExprEvaluator.java](#)

9.144 edu.mit.csail.sdg.squander.spec.Namespace Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.Namespace:



Public Member Functions

- [Namespace addLocal](#) (String name, JType.Unary type)
- [Namespace addScope](#) (JType.Unary clz)
- [JField findField](#) (String name, [JavaScene](#) scene)
- JType.Unary [findLocal](#) (String name)
- boolean [inArray](#) ()
- [JMethod method](#) ()
- JType.Unary [scope](#) ()
- JType.Unary [declarer](#) ()

Static Public Member Functions

- static [Namespace forMethod](#) ([JMethod](#) method)
- static [Namespace forClass](#) (Unary type)

Private Member Functions

- [Namespace](#) ([JMethod](#) method, Map< String, Unary > [locals](#), List< Unary > [scopes](#))

Private Attributes

- final Map< String, JType.Unary > [locals](#)
- final List< JType.Unary > [scopes](#)
- final [JMethod](#) [method](#)

9.144.1 Detailed Description

Definition at line 14 of file `Namespace.java`.

9.144.2 Constructor & Destructor Documentation

9.144.2.1 `edu.mit.csail.sdg.squander.spec.NameSpace.NameSpace` (JMethod *method*, `Map<String, Unary > locals`, `List< Unary > scopes`) [**private**]

Definition at line 42 of file `NameSpace.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.NameSpace.addLocal()`, `edu.mit.csail.sdg.squander.spec.NameSpace.addScope()`, `edu.mit.csail.sdg.squander.spec.NameSpace.forClass()`, and `edu.mit.csail.sdg.squander.spec.NameSpace.forMethod()`.

9.144.3 Member Function Documentation

9.144.3.1 `NameSpace` `edu.mit.csail.sdg.squander.spec.NameSpace.addLocal` (`String name`, `JType.Unary type`)

Definition at line 48 of file `NameSpace.java`.

References `edu.mit.csail.sdg.squander.spec.NameSpace.locals`, `edu.mit.csail.sdg.squander.spec.NameSpace.method()`, `edu.mit.csail.sdg.squander.spec.NameSpace.NameSpace()`, and `edu.mit.csail.sdg.squander.spec.NameSpace.scopes`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification()`.

9.144.3.2 `NameSpace` `edu.mit.csail.sdg.squander.spec.NameSpace.addScope` (`JType.Unary clz`)

Definition at line 55 of file `NameSpace.java`.

References `edu.mit.csail.sdg.squander.spec.NameSpace.locals`, `edu.mit.csail.sdg.squander.spec.NameSpace.method()`, `edu.mit.csail.sdg.squander.spec.NameSpace.NameSpace()`, and `edu.mit.csail.sdg.squander.spec.NameSpace.scopes`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldRelation()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive()`.

9.144.3.3 `JType.Unary` `edu.mit.csail.sdg.squander.spec.NameSpace.declarer` ()

Definition at line 91 of file `NameSpace.java`.

References `edu.mit.csail.sdg.squander.spec.NameSpace.scopes`.

Referenced by `edu.mit.csail.sdg.squander.spec.NameSpace.findField()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.visitThis()`.

9.144.3.4 `JField` `edu.mit.csail.sdg.squander.spec.NameSpace.findField` (`String name`, `JavaScene scene`)

Definition at line 62 of file `NameSpace.java`.

References `edu.mit.csail.sdg.squander.spec.NameSpace.declarer()`, `edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass()`, `edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField()`, and `edu.mit.csail.sdg.squander.spec.NameSpace.scope()`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField()`.

9.144.3.5 `JType.Unary edu.mit.csail.sdg.squander.spec.Namespace.findLocal (String name)`

Definition at line 70 of file `Namespace.java`.

References `edu.mit.csail.sdg.squander.spec.Namespace.locals`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitName()`.

9.144.3.6 `static Namespace edu.mit.csail.sdg.squander.spec.Namespace.forClass (Unary type) [static]`

Definition at line 30 of file `Namespace.java`.

References `edu.mit.csail.sdg.squander.spec.Namespace.locals`, `edu.mit.csail.sdg.squander.spec.Namespace.Namespace()`, and `edu.mit.csail.sdg.squander.spec.Namespace.scopes`.

Referenced by `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.MyVisitor()`.

9.144.3.7 `static Namespace edu.mit.csail.sdg.squander.spec.Namespace.forMethod (JMethod method) [static]`

Definition at line 24 of file `Namespace.java`.

References `edu.mit.csail.sdg.squander.spec.JMethod.declaringClass`, `edu.mit.csail.sdg.squander.spec.Namespace.Namespace()`, `edu.mit.csail.sdg.squander.spec.JMethod.params`, and `edu.mit.csail.sdg.squander.spec.Namespace.scopes`.

9.144.3.8 `boolean edu.mit.csail.sdg.squander.spec.Namespace.inArray ()`

Definition at line 74 of file `Namespace.java`.

References `edu.mit.csail.sdg.squander.spec.Namespace.scope()`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket()`.

9.144.3.9 `JMethod edu.mit.csail.sdg.squander.spec.Namespace.method ()`

Definition at line 81 of file `Namespace.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.Namespace.addLocal()`, and `edu.mit.csail.sdg.squander.spec.Namespace.addScope()`.

9.144.3.10 `JType.Unary edu.mit.csail.sdg.squander.spec.Namespace.scope ()`

Definition at line 85 of file `Namespace.java`.

References `edu.mit.csail.sdg.squander.spec.Namespace.scopes`.

Referenced by `edu.mit.csail.sdg.squander.spec.Namespace.findField()`, `edu.mit.csail.sdg.squander.spec.Namespace.inArray()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket()`.

9.144.4 Member Data Documentation

9.144.4.1 final Map<String, JType.Unary> edu.mit.csail.sdg.squander.spec.Namespace.locals [private]

Definition at line 16 of file Namespace.java.

Referenced by edu.mit.csail.sdg.squander.spec.Namespace.addLocal(), edu.mit.csail.sdg.squander.spec.Namespace.addScope(), edu.mit.csail.sdg.squander.spec.Namespace.findLocal(), and edu.mit.csail.sdg.squander.spec.Namespace.forClass().

9.144.4.2 final JMethod edu.mit.csail.sdg.squander.spec.Namespace.method [private]

Definition at line 18 of file Namespace.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitArgument(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitReturn(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitThis().

9.144.4.3 final List<JType.Unary> edu.mit.csail.sdg.squander.spec.Namespace.scopes [private]

Definition at line 17 of file Namespace.java.

Referenced by edu.mit.csail.sdg.squander.spec.Namespace.addLocal(), edu.mit.csail.sdg.squander.spec.Namespace.addScope(), edu.mit.csail.sdg.squander.spec.Namespace.declarer(), edu.mit.csail.sdg.squander.spec.Namespace.forClass(), edu.mit.csail.sdg.squander.spec.Namespace.forMethod(), and edu.mit.csail.sdg.squander.spec.Namespace.scope().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/NameSpace.java](#)

9.145 edu.mit.csail.sdg.squander.spec.Null Class Reference

9.145.1 Detailed Description

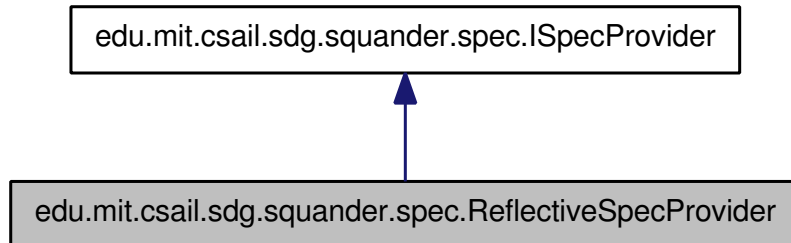
Definition at line 7 of file Null.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/Null.java](#)

9.146 edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::ISpecProvider](#).Collaboration diagram for edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider:



Public Member Functions

- [MethodSpec](#) `extractMethodSpec` (Method method, [NameSpace](#) ns)
- List< [Source](#) > `extractClassSpec` (JType.Unary jtype)
- List< [Source](#) > `extractFieldSpec` (Field field, JType.Unary declType)

Private Member Functions

- void `extractMethodSpec` (Method method, [MethodSpec](#) result, [NameSpace](#) ns)
- void `extractMethodSpecNonRecursive` (Method method, [MethodSpec](#) result, [NameSpace](#) ns)
- List< String > `convertArray` (String[] str)
- String `clause` (Collection< String > clauses)
- String `frame` (Collection< String > frames)

Private Attributes

- final String `TYPE_EXCEPTIONAL` = "EXCEPTIONAL"
- final String `CLAUSE_DEFAULT` = "true"
- final String `RETURNS_FORMAT` = "return = (%s)"
- final String `NONNULL_FORMAT` = "(%s) != null"

9.146.1 Detailed Description

Definition at line 38 of file ReflectiveSpecProvider.java.

9.146.2 Member Function Documentation

9.146.2.1 String edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.clause (Collection< String > clauses) [private]

Definition at line 190 of file ReflectiveSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.CLAUSE_DEFAULT.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.2.2 List<String> edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.convertArray (String[] *strs*) [private]

Extracts elements of a string array annotation

Definition at line 180 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.2.3 List<Source> edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractClassSpec (JType.Unary *jtype*)

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 144 of file ReflectiveSpecProvider.java.

9.146.2.4 List<Source> edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractFieldSpec (Field *field*, JType.Unary *declType*)

Definition at line 164 of file ReflectiveSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.NONNULL_FORMAT.

9.146.2.5 void edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec (Method *method*, MethodSpec *result*, Namespace *ns*) [private]

Definition at line 53 of file ReflectiveSpecProvider.java.

References [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec\(\)](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive\(\)](#), and [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive\(\)](#).

9.146.2.6 MethodSpec edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec (Method *method*, Namespace *ns*)

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 47 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec().

9.146.2.7 void edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive (Method *method*, MethodSpec *result*, Namespace *ns*) [private]

Definition at line 72 of file ReflectiveSpecProvider.java.

References [edu.mit.csail.sdg.squander.spec.MethodSpec.addCase\(\)](#), [edu.mit.csail.sdg.squander.spec.MethodSpec.addFreshObject\(\)](#), [edu.mit.csail.sdg.squander.spec.MethodSpec.addOptions\(\)](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.clause\(\)](#), [edu.mit.csail.sdg.squander.annotations.FreshObjects.cls\(\)](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.convertArray\(\)](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.frame\(\)](#), [edu.mit.csail.sdg.squander.spec.MethodSpec.makePure\(\)](#), and [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive\(\)](#).

edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.NONNULL_FORMAT,
 edu.mit.csail.sdg.squander.annotations.FreshObjects.num(), edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.RETURN_
 FORMAT, edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.TYPE_
 EXCEPTIONAL, edu.mit.csail.sdg.squander.annotations.FreshObjects.typeParams(), and
 edu.mit.csail.sdg.squander.annotations.Fresh.value().

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec().

9.146.2.8 String edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.frame (Collection< String > frames) [private]

Definition at line 203 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.3 Member Data Documentation

9.146.3.1 final String edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.CLAUSE_DEFAULT = "true" [private]

Definition at line 43 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.clause().

9.146.3.2 final String edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.NONNULL_ FORMAT = "(%s) != null" [private]

Definition at line 45 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractFieldSpec(), and
 edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.3.3 final String edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.RETURNS_ FORMAT = "return = (%s)" [private]

Definition at line 44 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.3.4 final String edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.TYPE_ EXCEPTIONAL = "EXCEPTIONAL" [private]

Definition at line 40 of file ReflectiveSpecProvider.java.

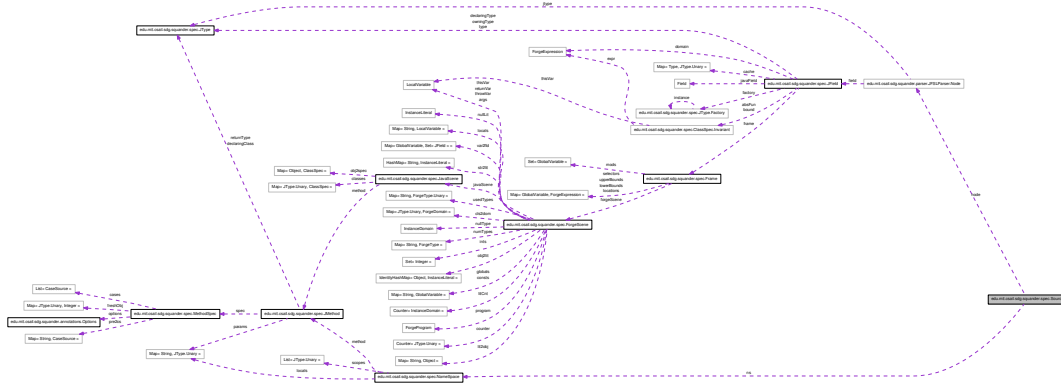
Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[ReflectiveSpecProvider.java](#)

9.147 edu.mit.csail.sdg.squander.spec.Source Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.Source:



Public Member Functions

- boolean `isClause` ()
- boolean `isFrame` ()
- boolean `isDecl` ()
- boolean `isFunctionField` ()
- Node `node` ()
- void `parse` ()
- void `typecheck` (TypeChecker checker)
- ForgeExpression `translate` (Tr tr, ForgeEnv env)
- String `toString` ()

Public Attributes

- final String `source`
- final Namespace `ns`
- final Rule `rule`
- final boolean `isFunctionFlag`

Package Types

- enum Rule { `CLAUSE`, `DECLARATION`, `FRAME` }

Package Functions

- Source (String `source`, Namespace `ns`, Rule `kind`)
- Source (String `source`, Namespace `ns`, Rule `kind`, boolean `isFunctionFlag`)

Private Attributes

- Node `node`
- boolean `typechecked` = false

9.147.1 Detailed Description

Wraps a source string and presents a type checked abstract syntax tree. The source is parsed and type-checked lazily.

Author:

kuat
Aleksandar Milicevic

Definition at line 28 of file Source.java.

9.147.2 Member Enumeration Documentation

9.147.2.1 enum edu::mit::csail::sdg::squander::spec::Source::Rule [package]

Enumerator:

CLAUSE
DECLARATION
FRAME

Definition at line 29 of file Source.java.

9.147.3 Constructor & Destructor Documentation

9.147.3.1 edu.mit.csail.sdg.squander.spec.Source.Source (String *source*, Namespace *ns*, Rule *kind*) [package]

Unparsed specification

Definition at line 44 of file Source.java.

9.147.3.2 edu.mit.csail.sdg.squander.spec.Source.Source (String *source*, Namespace *ns*, Rule *kind*, boolean *isFunctionFlag*) [package]

Definition at line 48 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.node(), and edu.mit.csail.sdg.squander.spec.Source.rule.

9.147.4 Member Function Documentation

9.147.4.1 boolean edu.mit.csail.sdg.squander.spec.Source.isClause ()

Definition at line 58 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.rule.

9.147.4.2 boolean edu.mit.csail.sdg.squander.spec.Source.isDecl ()

Definition at line 60 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.rule.

9.147.4.3 boolean edu.mit.csail.sdg.squander.spec.Source.isFrame ()

Definition at line 59 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.rule.

9.147.4.4 boolean edu.mit.csail.sdg.squander.spec.Source.isFuncField ()

Definition at line 61 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.isFuncFlag.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.147.4.5 Node edu.mit.csail.sdg.squander.spec.Source.node ()

Definition at line 63 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.parse(), and edu.mit.csail.sdg.squander.spec.Source.source.

Referenced by edu.mit.csail.sdg.squander.spec.Source.parse(), edu.mit.csail.sdg.squander.spec.Source.Source(), edu.mit.csail.sdg.squander.spec.Source.translate(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.147.4.6 void edu.mit.csail.sdg.squander.spec.Source.parse ()

Definition at line 76 of file Source.java.

References edu.mit.csail.sdg.squander.parser.JFSLParser.clause(), edu.mit.csail.sdg.squander.parser.JFSLParser.modifies(), edu.mit.csail.sdg.squander.spec.Source.node(), edu.mit.csail.sdg.squander.spec.Source.rule, edu.mit.csail.sdg.squander.parser.JFSLParser.setTreeAdaptor(), edu.mit.csail.sdg.squander.spec.Source.source, and edu.mit.csail.sdg.squander.parser.JFSLParser.specField().

Referenced by edu.mit.csail.sdg.squander.spec.Source.node(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.147.4.7 String edu.mit.csail.sdg.squander.spec.Source.toString ()

Definition at line 149 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.rule, and edu.mit.csail.sdg.squander.spec.Source.source.

9.147.4.8 ForgeExpression edu.mit.csail.sdg.squander.spec.Source.translate (Tr *tr*, ForgeEnv *env*)

MUST CALL "typecheck" PRIOR TO CALLING THIS METHOD

Definition at line 137 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.node(), edu.mit.csail.sdg.squander.spec.Source.source, and edu.mit.csail.sdg.squander.spec.Source.typechecked.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.147.4.9 void edu.mit.csail.sdg.squander.spec.Source.typecheck (TypeChecker *checker*)

Definition at line 119 of file Source.java.

References `edu.mit.csail.sdg.squander.spec.Source.node()`, `edu.mit.csail.sdg.squander.spec.Source.ns`, `edu.mit.csail.sdg.squander.spec.Source.parse()`, `edu.mit.csail.sdg.squander.parser.JFSLParserException.setSource()`, `edu.mit.csail.sdg.squander.spec.Source.source`, and `edu.mit.csail.sdg.squander.spec.Source.typechecked`.

Referenced by `edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField()`.

9.147.5 Member Data Documentation

9.147.5.1 final boolean `edu.mit.csail.sdg.squander.spec.Source.isFuncFlag`

Definition at line 37 of file `Source.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.Source.isFuncField()`.

9.147.5.2 Node `edu.mit.csail.sdg.squander.spec.Source.node` [private]

Definition at line 40 of file `Source.java`.

9.147.5.3 final NameSpace `edu.mit.csail.sdg.squander.spec.Source.ns`

Definition at line 35 of file `Source.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.addCase()`, `edu.mit.csail.sdg.squander.spec.Source.typecheck()`, and `edu.mit.csail.sdg.squander.spec.Source.typecheck()`.

9.147.5.4 final Rule `edu.mit.csail.sdg.squander.spec.Source.rule`

Definition at line 36 of file `Source.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.addCase()`, `edu.mit.csail.sdg.squander.spec.Source.isClause()`, `edu.mit.csail.sdg.squander.spec.Source.isDecl()`, `edu.mit.csail.sdg.squander.spec.Source.isFrame()`, `edu.mit.csail.sdg.squander.spec.Source.parse()`, `edu.mit.csail.sdg.squander.spec.Source.Source()`, and `edu.mit.csail.sdg.squander.spec.Source.toString()`.

9.147.5.5 final String `edu.mit.csail.sdg.squander.spec.Source.source`

Definition at line 31 of file `Source.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.MethodSpec.addCase()`, `edu.mit.csail.sdg.squander.spec.ClassSpec.extractSpecFieldName()`, `edu.mit.csail.sdg.squander.spec.Source.node()`, `edu.mit.csail.sdg.squander.spec.Source.parse()`, `edu.mit.csail.sdg.squander.spec.Source.toString()`, `edu.mit.csail.sdg.squander.spec.Source.translate()`, and `edu.mit.csail.sdg.squander.spec.Source.typecheck()`.

9.147.5.6 boolean `edu.mit.csail.sdg.squander.spec.Source.typechecked = false` [private]

Definition at line 41 of file `Source.java`.

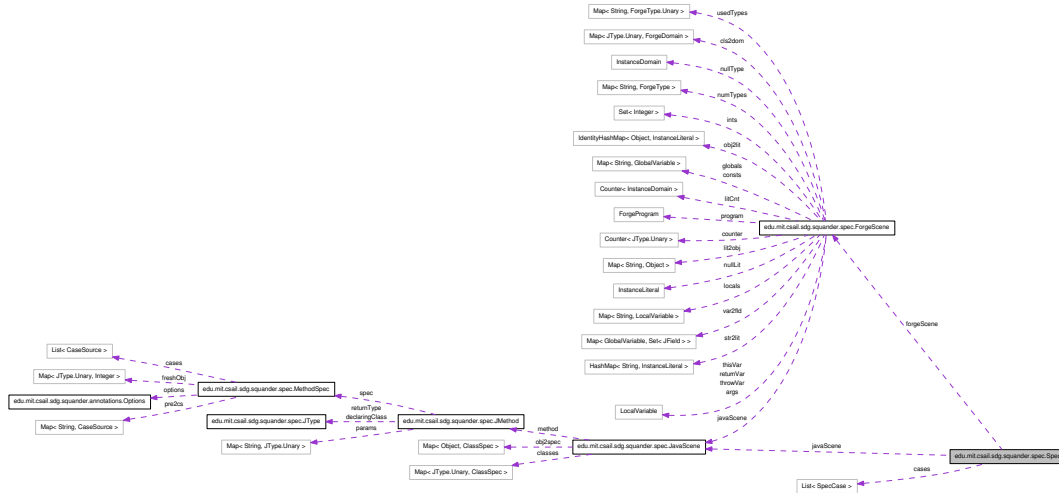
Referenced by `edu.mit.csail.sdg.squander.spec.Source.translate()`, `edu.mit.csail.sdg.squander.spec.Source.typecheck()`, and `edu.mit.csail.sdg.squander.spec.Source.typecheck()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/spec/Source.java`

9.148 edu.mit.csail.sdg.squander.spec.Spec Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.Spec:



Classes

- class [SpecCase](#)

Public Member Functions

- [Spec](#) ([JavaScene](#) javaScene, [ForgeScene](#) forgeScene)
- [JavaScene](#) javaScene ()
- [ForgeScene](#) forgeScene ()
- Collection< [SpecCase](#) > cases ()
- boolean isEmpty ()
- void [addCase](#) ([ForgeExpression](#) requires, [ForgeExpression](#) ensures, [Frame](#) frame, boolean helper)
- [ForgeExpression](#) invariant ()
- [ForgeExpression](#) [wellformedPre](#) (Set< [GlobalVariable](#) > modifiable)
- [ForgeExpression](#) [wellformedPost](#) (Set< [GlobalVariable](#) > modifiable)
- [ForgeExpression](#) [concreteConstraint](#) (Set< [GlobalVariable](#) > unmodifiable)
- [ForgeExpression](#) [abstractConstraint](#) ()
- [ForgeExpression](#) [funcConstraint](#) ()
- String [toString](#) ()

Private Member Functions

- [ForgeExpression](#) [fieldConstraint](#) ([JField](#) field)

Private Attributes

- final [JavaScene](#) javaScene
- final [ForgeScene](#) forgeScene
- final List< [SpecCase](#) > cases

Static Private Attributes

- static int `fieldCounter` = 0

9.148.1 Detailed Description

Specification.

proc: Procedure cases: set [SpecCase](#)

Author:

Kuat Yessenov (kuat@mit.edu)
Aleksandar Milicevic

Definition at line 32 of file `Spec.java`.

9.148.2 Constructor & Destructor Documentation

9.148.2.1 `edu.mit.csail.sdg.squander.spec.Spec.Spec` (`JavaScene javaScene`, `ForgeScene forgeScene`)

Definition at line 83 of file `Spec.java`.

References `edu.mit.csail.sdg.squander.spec.Spec.cases()`.

9.148.3 Member Function Documentation

9.148.3.1 `ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint` ()

Definition at line 226 of file `Spec.java`.

References `edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs()`, `edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint()`, `edu.mit.csail.sdg.squander.spec.Spec.forgeScene()`, `edu.mit.csail.sdg.squander.spec.Spec.javaScene()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.program`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec()`, `edu.mit.csail.sdg.squander.engine.SquanderImpl.getPreSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPreSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPreSpec()`, and `edu.mit.csail.sdg.squander.spec.Spec.toString()`.

9.148.3.2 `void edu.mit.csail.sdg.squander.spec.Spec.addCase` (`ForgeExpression requires`, `ForgeExpression ensures`, `Frame frame`, `boolean helper`)

Definition at line 103 of file `Spec.java`.

References `edu.mit.csail.sdg.squander.spec.Spec.cases()`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec()`.

9.148.3.3 Collection <SpecCase> edu.mit.csail.sdg.squander.spec.Spec.cases ()

Definition at line 96 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.addCase(), edu.mit.csail.sdg.squander.spec.Spec.isEmpty(), edu.mit.csail.sdg.squander.spec.Spec.Spec(), and edu.mit.csail.sdg.squander.spec.Spec.toString().

9.148.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint (Set<GlobalVariable > *unmodifiable*)

Skips over the unmodifiable vars

Definition at line 208 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(), edu.mit.csail.sdg.squander.spec.Spec.javaScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.toString(), edu.mit.csail.sdg.squander.spec.Spec.wellformedPost(), and edu.mit.csail.sdg.squander.spec.Spec.wellformedPre().

9.148.3.5 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint (JField *field*) [private]

Definition at line 275 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType, edu.mit.csail.sdg.squander.spec.Spec.fieldCounter, edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.JField.getAbsFun(), edu.mit.csail.sdg.squander.spec.JField.getBound(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(), edu.mit.csail.sdg.squander.spec.JField.isSpec(), edu.mit.csail.sdg.squander.spec.JField.isStatic(), edu.mit.csail.sdg.squander.spec.JField.owningType, edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), and edu.mit.csail.sdg.squander.spec.Spec.funcConstraint().

9.148.3.6 ForgeScene edu.mit.csail.sdg.squander.spec.Spec.forgeScene ()

Definition at line 95 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.Spec.funcConstraint(), edu.mit.csail.sdg.squander.spec.Spec.invariant(), edu.mit.csail.sdg.squander.spec.Spec.wellformedPost(), and edu.mit.csail.sdg.squander.spec.Spec.wellformedPre().

9.148.3.7 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.funcConstraint ()

Definition at line 238 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.Spec.javaScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(),

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec(), and
 edu.mit.csail.sdg.squander.spec.Spec.toString().

9.148.3.8 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.invariant ()

Semantic meaning of a specification. OR of old(pre) AND of old(pre) => post /\ frame All modifiable global variables across frames. Expression denoting the valid state semantics of invariants: For all relevant classes, for any instance in the class all invariants must hold. The only exception is for constructors to avoid invariant condition on the of "this" (the exact type, not super-types.)

Definition at line 150 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.Spec.javaScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post().

9.148.3.9 boolean edu.mit.csail.sdg.squander.spec.Spec.isEmpty ()

Definition at line 97 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.cases().

9.148.3.10 JavaScene edu.mit.csail.sdg.squander.spec.Spec.javaScene ()

Definition at line 94 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.funcConstraint(), and edu.mit.csail.sdg.squander.spec.Spec.invariant().

9.148.3.11 String edu.mit.csail.sdg.squander.spec.Spec.toString ()

Definition at line 251 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.cases(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), and edu.mit.csail.sdg.squander.spec.Spec.funcConstraint().

9.148.3.12 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.wellformedPost (Set< GlobalVariable > modifiable)

Java language constraints for the post-state Language constraints for post-state

Parameters:

modifiable

Definition at line 193 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, and edu.mit.csail.sdg.squander.spec.ForgeScene.throwVar.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec().

9.148.3.13 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.wellformedPre (Set<GlobalVariable > *modifiable*)

Java language constraints for the pre-state

Parameters:

modifiable

Definition at line 172 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar.

9.148.4 Member Data Documentation

9.148.4.1 final List<SpecCase> edu.mit.csail.sdg.squander.spec.Spec.cases [private]

Definition at line 77 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.148.4.2 int edu.mit.csail.sdg.squander.spec.Spec.fieldCounter = 0 [static, private]

Definition at line 73 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint().

9.148.4.3 final ForgeScene edu.mit.csail.sdg.squander.spec.Spec.forgeScene [private]

Definition at line 76 of file Spec.java.

9.148.4.4 final JavaScene edu.mit.csail.sdg.squander.spec.Spec.javaScene [private]

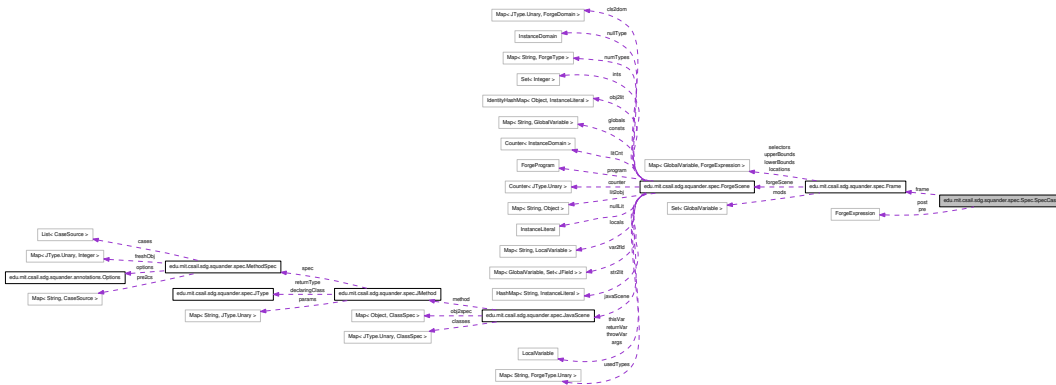
Definition at line 75 of file Spec.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/Spec.java](#)

9.149 edu.mit.csail.sdg.squander.spec.Spec.SpecCase Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.Spec.SpecCase:



Public Member Functions

- ForgeExpression [preOnly](#) ()
- ForgeExpression [postOnly](#) ()
- ForgeExpression [pre](#) ()
- ForgeExpression [post](#) ()
- [Frame](#) [frame](#) ()
- [Spec](#) [spec](#) ()
- String [toString](#) ()

Private Member Functions

- [SpecCase](#) (ForgeExpression requires, ForgeExpression ensures, [Frame](#) [frame](#), boolean [helper](#))

Private Attributes

- final ForgeExpression [pre](#)
- final ForgeExpression [post](#)
- final [Frame](#) [frame](#)
- final boolean [helper](#)

9.149.1 Detailed Description

Specification case. Remark that the pre-condition is **not** in the pre-state.

Author:

Kuat Yessenov (kuat@mit.edu)
Aleksandar Milicevic

Definition at line 41 of file Spec.java.

9.149.2 Constructor & Destructor Documentation

9.149.2.1 edu.mit.csail.sdg.squander.spec.Spec.SpecCase.SpecCase (ForgeExpression *requires*, ForgeExpression *ensures*, Frame *frame*, boolean *helper*) [private]

Definition at line 47 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post(), and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre().

9.149.3 Member Function Documentation

9.149.3.1 Frame edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame ()

Definition at line 59 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString().

9.149.3.2 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post ()

Definition at line 57 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.helper, and edu.mit.csail.sdg.squander.spec.Spec.invariant().

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.postOnly(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.SpecCase(), and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString().

9.149.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.postOnly ()

Definition at line 55 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post().

9.149.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre ()

Definition at line 56 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.preOnly(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.SpecCase(), and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString().

9.149.3.5 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.preOnly ()

Definition at line 54 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre().

9.149.3.6 Spec edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec ()

Definition at line 60 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(),

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec(),
 edu.mit.csail.sdg.squander.engine.SquanderImpl.getPreSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.get
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPreSpec().

9.149.3.7 String edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString ()

Definition at line 63 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.helper,
 edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post(), and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre().

9.149.4 Member Data Documentation

9.149.4.1 final Frame edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame [private]

Definition at line 44 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.get
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModsForPostState(),
 edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImp

9.149.4.2 final boolean edu.mit.csail.sdg.squander.spec.Spec.SpecCase.helper [private]

Definition at line 45 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post(), and
 edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString().

9.149.4.3 final ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post [private]

Definition at line 43 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec().

9.149.4.4 final ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre [private]

Definition at line 42 of file Spec.java.

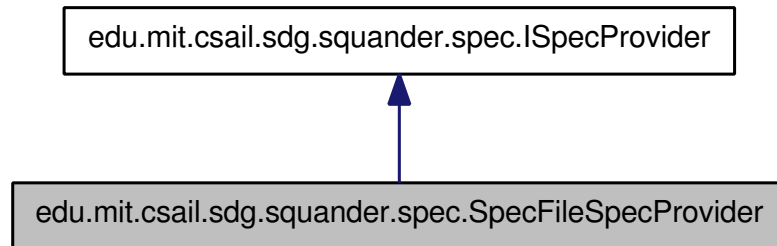
Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPreSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPreSpec(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPreSpec().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/Spec.java](#)

9.150 edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::ISpecProvider](#). Collaboration diagram for edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider:



Classes

- class [MyVisitor](#)

Public Member Functions

- List< [Source](#) > [extractFieldSpec](#) (Field field, [JType.Unary](#) declaringType)
- [MethodSpec](#) [extractMethodSpec](#) (Method method, [NameSpace](#) ns)
- List< [Source](#) > [extractClassSpec](#) ([JType.Unary](#) jtype)

Private Member Functions

- URL [findSpecFile](#) (Class<?> clazz)
- Node [parse](#) (URL specFile)

9.150.1 Detailed Description

Definition at line 27 of file SpecFileSpecProvider.java.

9.150.2 Member Function Documentation

9.150.2.1 List<Source> edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractClassSpec ([JType.Unary](#) jtype)

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 118 of file SpecFileSpecProvider.java.

References [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.findSpecFile\(\)](#), and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.parse\(\)](#).

9.150.2.2 `List<Source> edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractFieldSpec`
(Field *field*, JType.Unary *declaringType*)

Definition at line 108 of file `SpecFileSpecProvider.java`.

9.150.2.3 `MethodSpec edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractMethodSpec`
(Method *method*, NameSpace *ns*)

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 113 of file `SpecFileSpecProvider.java`.

9.150.2.4 `URL edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.findSpecFile` (Class<?>
clazz) [**private**]

Definition at line 126 of file `SpecFileSpecProvider.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractClassSpec()`.

9.150.2.5 `Node edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.parse` (URL *specFile*)
[**private**]

Definition at line 138 of file `SpecFileSpecProvider.java`.

References `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.setTreeAdaptor()`, `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfile()`, and

Referenced by `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractClassSpec()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/spec/SpecFileSpecProvider.java`

9.151 edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor Class Reference

Inherits edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< List< Source > >. Collaboration diagram for edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor:



Public Member Functions

- [MyVisitor](#) (JType.Unary *jtype*)

Protected Member Functions

- List< [Source](#) > [visitInvariant](#) (Node n)
- List< [Source](#) > [visitSpecField](#) (Node n)
- List< [Source](#) > [visitFuncField](#) (Node n)
- List< [Source](#) > [visitSpecFile](#) (String modifiers, String name, List< String > paramNames, List< List< [Source](#) > > specSources)

Private Member Functions

- String [replaceParamTypes](#) (String source, List< String > paramNames)
- String [escapeClsName](#) (String name)

Private Attributes

- final JType.Unary [jtype](#)
- final [Namespace](#) ns

9.151.1 Detailed Description

Definition at line 29 of file SpecFileSpecProvider.java.

9.151.2 Constructor & Destructor Documentation

9.151.2.1 edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.MyVisitor (JType.Unary *jtype*)

Definition at line 34 of file SpecFileSpecProvider.java.

References [edu.mit.csail.sdg.squander.spec.Namespace.forClass\(\)](#), [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor](#) and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns](#).

9.151.3 Member Function Documentation

9.151.3.1 String `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.escapeClsName` (String *name*) [`private`]

Definition at line 102 of file `SpecFileSpecProvider.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes()`.

9.151.3.2 String `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes` (String *source*, List< String > *paramNames*) [`private`]

Definition at line 76 of file `SpecFileSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.escapeClsName()`, `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.jtype`, and `edu.mit.csail.sdg.squander.spec.JType.name()`.

Referenced by `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecFile()`.

9.151.3.3 List<Source> `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitFuncField` (Node *n*) [`protected`]

Definition at line 56 of file `SpecFileSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns`.

9.151.3.4 List<Source> `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitInvariant` (Node *n*) [`protected`]

Definition at line 40 of file `SpecFileSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns`.

9.151.3.5 List<Source> `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecField` (Node *n*) [`protected`]

Definition at line 48 of file `SpecFileSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns`.

9.151.3.6 List<Source> `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecFile` (String *modifiers*, String *name*, List< String > *paramNames*, List< List< Source >> *specSources*) [`protected`]

Definition at line 64 of file `SpecFileSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns`, and `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes()`.

9.151.4 Member Data Documentation

9.151.4.1 final JType.Unary edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.jtype [private]

Definition at line 31 of file SpecFileSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.MyVisitor(), and edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes().

9.151.4.2 final Namespace edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns [private]

Definition at line 32 of file SpecFileSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.MyVisitor(), edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitFuncField(), edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitInvariant(), edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecField(), and edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecFile().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/SpecFileSpecProvider.java](#)

9.152 edu.mit.csail.sdg.squander.spec.SqFunc Class Reference

Classes

- interface **Binary**< **R**, **A1**, **A2** >
- class **Func**

Static Public Member Functions

- static Func [mkFunc](#) (String ensures)
- static Func [mkFunc](#) (String requires, String ensures, String modifies)

9.152.1 Detailed Description

Definition at line 16 of file SqFunc.java.

9.152.2 Member Function Documentation

9.152.2.1 static Func edu.mit.csail.sdg.squander.spec.SqFunc.mkFunc (String *requires*, String *ensures*, String *modifies*) [**static**]

Definition at line 52 of file SqFunc.java.

9.152.2.2 static Func edu.mit.csail.sdg.squander.spec.SqFunc.mkFunc (String *ensures*) [**static**]

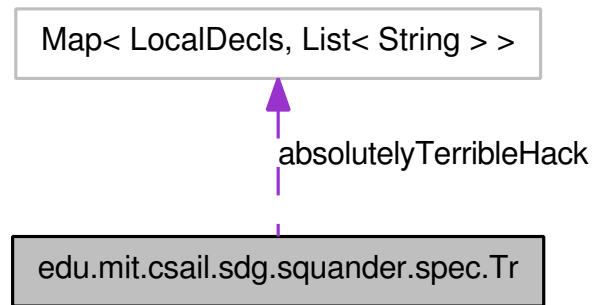
Definition at line 48 of file SqFunc.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/SqFunc.java](#)

9.153 edu.mit.csail.sdg.squander.spec.Tr Class Reference

Inherited by edu.mit.csail.sdg.squander.spec.Tr.FrameConstructor, edu.mit.csail.sdg.squander.spec.Tr.SpecFieldBoundTranslator and edu.mit.csail.sdg.squander.spec.Tr.SpecFieldTranslator. Collaboration diagram for edu.mit.csail.sdg.squander.spec.Tr:



Classes

- class **FrameConstructor**
- class **SpecFieldBoundTranslator**
- class **SpecFieldTranslator**

Static Public Attributes

- static Map< LocalDecls, List< String > > **absolutelyTerribleHack** = new IdentityHashMap<LocalDecls, List<String>>()

Protected Member Functions

- ForgeExpression **visitBinary** (ForgeEnv env, Node tree, int op, Node leftTree, Node rightTree)
- ForgeExpression **visitConditional** (ForgeEnv env, Node condTree, Node leftTree, Node rightTree)
- ForgeExpression **visitDecimal** (ForgeEnv env, int i)
- ForgeExpression **visitString** (ForgeEnv env, String text)
- ForgeExpression **visitTrue** (ForgeEnv env)
- ForgeExpression **visitFalse** (ForgeEnv env)
- ForgeExpression **visitNull** (ForgeEnv env)
- ForgeExpression **visitReturn** (ForgeEnv env)
- ForgeExpression **visitThrow** (ForgeEnv env)
- ForgeExpression **visitThis** (ForgeEnv env)
- ForgeExpression **visitSuper** (ForgeEnv env)
- ForgeExpression **visitArgument** (ForgeEnv env, int i)
- ForgeExpression **visitOld** (ForgeEnv env, Node sub)
- ForgeExpression **visitQuantification** (ForgeEnv env, int op, List< String > names, List< String > mults, List< Node > sets, Node expr)
- ForgeExpression **visitUnary** (ForgeEnv env, Node tree, int op, Node expr)
- ForgeExpression **visitName** (ForgeEnv env, Node ident)
- ForgeExpression **visitAmbiguous** (ForgeEnv env, List< Node > idents)

- ForgeExpression [visitBracket](#) ([ForgeEnv](#) env, ForgeExpression primary, Node tree)
- ForgeExpression [visitJoin](#) ([ForgeEnv](#) env, ForgeExpression primary, Node tree)
- ForgeExpression [visitJoinReflexive](#) ([ForgeEnv](#) env, ForgeExpression primary, Node tree)
- ForgeExpression [visitMethodCall](#) ([ForgeEnv](#) env, ForgeExpression receiver, String id, Node arguments)
- ForgeExpression [visitFieldDeclaration](#) ([ForgeEnv](#) env, Node ident, int op, Node set, Node frame, Node constraint)
- ForgeExpression [visitCastExpression](#) ([ForgeEnv](#) env, Node type, Node sub)
- ForgeExpression [visitFieldRelation](#) ([ForgeEnv](#) env, Node type, Node ident)
- ForgeExpression [visitArrayType](#) ([ForgeEnv](#) env, Node base)
- ForgeExpression [visitBooleanType](#) ([ForgeEnv](#) env)
- ForgeExpression [visitIntegralType](#) ([ForgeEnv](#) env)
- ForgeExpression [visitRefType](#) ([ForgeEnv](#) env, Node source, List< Node > idents)
- ForgeExpression [visitFrame](#) ([ForgeEnv](#) env, List< ForgeExpression > locations, List< Node > fields, List< ForgeExpression > selectors, List< ForgeExpression > lowers, List< ForgeExpression > uppers)

Package Functions

- [Tr](#) ()

Private Member Functions

- int[] [reverse](#) (int i)

9.153.1 Detailed Description

Definition at line 72 of file Tr.java.

9.153.2 Constructor & Destructor Documentation

9.153.2.1 `edu.mit.csail.sdg.squander.spec.Tr.Tr ()` **[package]**

Definition at line 76 of file Tr.java.

9.153.3 Member Function Documentation

9.153.3.1 `int [] edu.mit.csail.sdg.squander.spec.Tr.reverse (int i)` **[private]**

Definition at line 362 of file Tr.java.

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitUnary()`.

9.153.3.2 `ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitAmbiguous (ForgeEnv env, List< Node > idents)` **[protected]**

Definition at line 403 of file Tr.java.

References `edu.mit.csail.sdg.squander.spec.Tr.visitName()`.

9.153.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitArgument (ForgeEnv env, int i) [protected]

Definition at line 225 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.arg().

9.153.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitArrayType (ForgeEnv env, Node base) [protected]

Definition at line 472 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureDomain().

9.153.3.5 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitBinary (ForgeEnv env, Node tree, int op, Node leftTree, Node rightTree) [protected]

Definition at line 79 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureAllInts().

9.153.3.6 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitBooleanType (ForgeEnv env) [protected]

Definition at line 479 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.booleanType().

9.153.3.7 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitBracket (ForgeEnv env, ForgeExpression primary, Node tree) [protected]

Definition at line 416 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.arrayElems(), and edu.mit.csail.sdg.squander.spec.ForgeEnv.classForDomain().

9.153.3.8 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitCastExpression (ForgeEnv env, Node type, Node sub) [protected]

Definition at line 460 of file Tr.java.

9.153.3.9 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitConditional (ForgeEnv env, Node condTree, Node leftTree, Node rightTree) [protected]

Definition at line 172 of file Tr.java.

9.153.3.10 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitDecimal (ForgeEnv env, int i) [protected]

Definition at line 180 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.intExpr().

9.153.3.11 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitFalse (ForgeEnv env) [protected]

Definition at line 195 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.falseExpr().

9.153.3.12 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitFieldDeclaration (ForgeEnv env, Node ident, int op, Node set, Node frame, Node constraint) [protected]

Returns field declaration set expression for type information

Definition at line 454 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.integerType().

9.153.3.13 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitFieldRelation (ForgeEnv env, Node type, Node ident) [protected]

Definition at line 465 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureGlobal(), and edu.mit.csail.sdg.squander.spec.ForgeEnv.globalVar().

9.153.3.14 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitFrame (ForgeEnv env, List< ForgeExpression > locations, List< Node > fields, List< ForgeExpression > selectors, List< ForgeExpression > lowers, List< ForgeExpression > uppers) [protected]

Definition at line 496 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.trueExpr().

9.153.3.15 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitIntegralType (ForgeEnv env) [protected]

Definition at line 484 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.integerType().

9.153.3.16 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitJoin (ForgeEnv env, ForgeExpression primary, Node tree) [protected]

Definition at line 438 of file Tr.java.

9.153.3.17 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitJoinReflexive (ForgeEnv env, ForgeExpression primary, Node tree) [protected]

Definition at line 443 of file Tr.java.

9.153.3.18 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitMethodCall (ForgeEnv *env*, ForgeExpression *receiver*, String *id*, Node *arguments*) [protected]

Definition at line 448 of file Tr.java.

9.153.3.19 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitName (ForgeEnv *env*, Node *ident*) [protected]

Definition at line 370 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureConst(), edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureGlobal(), edu.mit.csail.sdg.squander.spec.ForgeEnv.findLocal(), edu.mit.csail.sdg.squander.spec.ForgeEnv.globalVar(), and edu.mit.csail.sdg.squander.spec.ForgeEnv.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitAmbiguous().

9.153.3.20 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitNull (ForgeEnv *env*) [protected]

Definition at line 200 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.nullType().

9.153.3.21 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitOld (ForgeEnv *env*, Node *sub*) [protected]

Definition at line 230 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.setPreStateMode().

9.153.3.22 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitQuantification (ForgeEnv *env*, int *op*, List< String > *names*, List< String > *mults*, List< Node > *sets*, Node *expr*) [protected]

Definition at line 235 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.Tr.absolutelyTerribleHack, edu.mit.csail.sdg.squander.spec.ForgeEnv.addLocal(), edu.mit.csail.sdg.squander.spec.ForgeEnv.emptyDecls(), edu.mit.csail.sdg.squander.spec.ForgeEnv.intExpr(), edu.mit.csail.sdg.squander.spec.ForgeEnv.newLocalVar(), and edu.mit.csail.sdg.squander.spec.ForgeEnv.trueExpr().

9.153.3.23 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitRefType (ForgeEnv *env*, Node *source*, List< Node > *idents*) [protected]

Definition at line 489 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureDomain().

9.153.3.24 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitReturn (ForgeEnv *env*) [protected]

Definition at line 205 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.returnVar().

9.153.3.25 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Tr.visitString (ForgeEnv env, String text) [**protected**]

Definition at line 185 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.stringExpr().

9.153.3.26 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Tr.visitSuper (ForgeEnv env) [**protected**]

Definition at line 220 of file Tr.java.

9.153.3.27 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Tr.visitThis (ForgeEnv env) [**protected**]

Definition at line 215 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.thisVar().

9.153.3.28 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Tr.visitThrow (ForgeEnv env) [**protected**]

Definition at line 210 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.throwVar().

9.153.3.29 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Tr.visitTrue (ForgeEnv env) [**protected**]

Definition at line 190 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.trueExpr().

9.153.3.30 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Tr.visitUnary (ForgeEnv env, Node tree, int op, Node expr) [**protected**]

Definition at line 323 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureInt(), edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureNum(), and edu.mit.csail.sdg.squander.spec.Tr.reverse().

9.153.4 Member Data Documentation

9.153.4.1 **Map**<LocalDecls, List<String> > edu.mit.csail.sdg.squander.spec.Tr.absolutelyTerribleHack = new IdentityHashMap<LocalDecls, List<String>>() [**static**]

Definition at line 74 of file Tr.java.

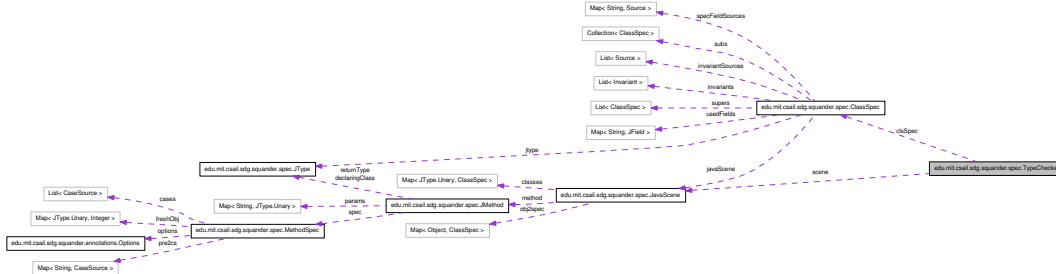
Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitQuantification().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/Tr.java](#)

9.154 edu.mit.csail.sdg.squander.spec.TypeChecker Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.TypeChecker:



Public Member Functions

- [TypeChecker](#) ([JavaScene](#) scene)
- void [setClsSpecForSpecField](#) ([ClassSpec](#) clsSpec)
- [JType](#) [visitAmbiguous](#) ([NameSpace](#) env, List< Node > idents)
- [JType](#) [visitName](#) ([NameSpace](#) env, Node ident)

Static Public Member Functions

- static void [main](#) (String[] args)

Protected Member Functions

- void [validate](#) (Node tree, [JType](#) type)
- void [checkSubtype](#) (String expr, [JType](#) sub, [JType](#) supr) throws [TypeCheckException](#)
- void [checkJoin](#) ([JType](#) primary, [JType](#) rest) throws [TypeCheckException](#)
- void [checkArity](#) (String inExpr, [JType](#)...expressions) throws [TypeCheckException](#)
- void [checkBoolean](#) ([JType](#) expr, Node node) throws [TypeCheckException](#)
- void [checkInteger](#) ([JType](#) expr, Node node) throws [TypeCheckException](#)
- void [checkUnary](#) ([JType](#) expr, Node node) throws [TypeCheckException](#)
- [JType](#) [visitArgument](#) ([NameSpace](#) env, int i)
- [JType](#) [visitBracket](#) ([NameSpace](#) env, [JType](#) primary, Node tree)
- [JType](#) [visitJoin](#) ([NameSpace](#) env, [JType](#) primary, Node tree)
- [JType](#) [visitJoinReflexive](#) ([NameSpace](#) env, [JType](#) primary, Node tree)
- [JType](#) [visitMethodCall](#) ([NameSpace](#) env, [JType](#) receiver, String name, Node arguments)
- [JType](#) [visitBinary](#) ([NameSpace](#) env, Node tree, int op, Node leftTree, Node rightTree)
- [JType](#) [visitConditional](#) ([NameSpace](#) env, Node condTree, Node leftTree, Node rightTree)
- [JType](#) [visitDecimal](#) ([NameSpace](#) env, int i)
- [JType](#) [visitString](#) ([NameSpace](#) env, String s)
- [JType](#) [visitFalse](#) ([NameSpace](#) env)
- [JType](#) [visitNull](#) ([NameSpace](#) env)
- [JType](#) [visitOld](#) ([NameSpace](#) env, Node sub)
- [JType](#) [visitQuantification](#) ([NameSpace](#) env, int op, List< String > names, List< String > mults, List< Node > sets, Node expr)
- [JType](#) [visitReturn](#) ([NameSpace](#) env)

- [JType visitThrow](#) ([NameSpace](#) env)
- [JType visitSuper](#) ([NameSpace](#) env)
- [JType visitThis](#) ([NameSpace](#) env)
- [JType visitTrue](#) ([NameSpace](#) env)
- [JType visitUnary](#) ([NameSpace](#) env, Node tree, int op, Node expr)
- [JType visitFieldDeclaration](#) ([NameSpace](#) env, Node ident, int op, Node set, Node frame, Node constraint)
- [JType visitCastExpression](#) ([NameSpace](#) env, Node type, Node sub)
- [JType visitFieldRelation](#) ([NameSpace](#) env, Node type, Node ident)
- [JType visitFrame](#) ([NameSpace](#) env, List< [JType](#) > joins, List< Node > fields, List< [JType](#) > selectors, List< [JType](#) > lowers, List< [JType](#) > uppers)
- [JType visitArrayType](#) ([NameSpace](#) env, Node base)
- [JType visitBooleanType](#) ([NameSpace](#) env)
- [JType visitIntegralType](#) ([NameSpace](#) env)
- [JType visitRefType](#) ([NameSpace](#) env, Node source, List< Node > idents)

Protected Attributes

- final [JavaScene](#) scene

Private Member Functions

- [JType.Unary getFldOwner](#) (String fldName)
- String [print](#) (List< Node > rest)
- [JType setTypeParams](#) ([JType](#) primary, [JType.Unary\[\]](#) typeParams)
- [JType.Unary\[\] visitTypeParams](#) ([NameSpace](#) env, Node node)
- [JType resolveField](#) ([NameSpace](#) env, Node tree)
- [JType resolveType](#) ([NameSpace](#) env, String name)
- [Class<?> getClass](#) (String name)

Private Attributes

- [ClassSpec](#) clsSpec

9.154.1 Detailed Description

Analysis that tries to determine the type of expressions in the expression tree. In addition, it resolves all name identifiers to corresponding fields, determines the meaning of syntactically ambiguous expressions (which may depend on semantic type information.)

The analysis runs without any knowledge of relevant sub types of any given Java type (unlike subsequent translation phase.) The goal is to determine the scope of specification expressions in terms of elements of a Java program. The scope includes:

1. all relevant types (most importantly the type of fields) that are directly or indirectly referenced in the source;;
2. all relevant concrete and abstract fields;

The analysis mutates the tree by augmenting nodes with type information that is reused in translation.

Type inference is performed by the rules described in the corresponding comment sections. The rules follow Java guide lines of static type checking in combination of Alloy-style higher-arity types and set operations on types.

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kuat
Aleksandar Milicevic

Definition at line 99 of file TypeChecker.java.

9.154.2 Constructor & Destructor Documentation

9.154.2.1 edu.mit.csail.sdg.squander.spec.TypeChecker.TypeChecker (JavaScene *scene*)

Parameters:

scene

clsSpec should be non-null only when type-checking spec fields, in which cases the value of this field should be the declaring class of the spec field.

Definition at line 116 of file TypeChecker.java.

9.154.3 Member Function Documentation

9.154.3.1 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkArity (String *inExpr*, JType... *expressions*) throws TypeCheckException [protected]

Definition at line 157 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.checkSubtype().

9.154.3.2 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean (JType *expr*, Node *node*) throws TypeCheckException [protected]

Definition at line 167 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitConditional(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary().

9.154.3.3 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger (JType *expr*, Node *node*) throws TypeCheckException [protected]

Definition at line 173 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary().

9.154.3.4 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkJoin (JType *primary*, JType *rest*) throws TypeCheckException [protected]

Definition at line 150 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin().

9.154.3.5 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkSubtype (String *expr*, JType *sub*, JType *supr*) throws TypeCheckException [protected]

Definition at line 140 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkArity().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary().

9.154.3.6 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkUnary (JType *expr*, Node *node*) throws TypeCheckException [protected]

Definition at line 179 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitArrayType(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification().

9.154.3.7 Class<?> edu.mit.csail.sdg.squander.spec.TypeChecker.getClass (String *name*) [private]

Definition at line 806 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitArrayType().

9.154.3.8 JType.Unary edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner (String *fldName*) [private]

Definition at line 509 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.clsSpec, edu.mit.csail.sdg.squander.spec.ClassSpec.clz(), edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.spec.ClassSpec.hasSpecField(), edu.mit.csail.sdg.squander.spec.ClassSpec.jtype, edu.mit.csail.sdg.squander.spec.TypeChecker.scene, and edu.mit.csail.sdg.squander.spec.ClassSpec.typeParams().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration().

9.154.3.9 static void edu.mit.csail.sdg.squander.spec.TypeChecker.main (String[] *args*) [static]

Definition at line 741 of file TypeChecker.java.

9.154.3.10 String edu.mit.csail.sdg.squander.spec.TypeChecker.print (List< Node > *rest*) [private]

Definition at line 676 of file TypeChecker.java.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous()`.

9.154.3.11 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField` (*Namespace env*, *Node tree*) [**private**]

Checks whether the node is a field (length and elems are considered fields.)

Definition at line 748 of file `TypeChecker.java`.

References `edu.mit.csail.sdg.squander.spec.JField.declaringType`, `edu.mit.csail.sdg.squander.spec.Namespace.findField()`, `edu.mit.csail.sdg.squander.spec.JField.isStatic()`, `edu.mit.csail.sdg.squander.spec.JType.product()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.scene`, and `edu.mit.csail.sdg.squander.spec.JField.type`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldRelation()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.visitName()`.

9.154.3.12 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType` (*Namespace env*, *String name*) [**private**]

Definition at line 764 of file `TypeChecker.java`.

References `edu.mit.csail.sdg.squander.spec.JType.arity()`, `edu.mit.csail.sdg.squander.spec.Namespace.declarer()`, `edu.mit.csail.sdg.squander.spec.JType.domain()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.getClass()`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitName()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType()`.

9.154.3.13 **void** `edu.mit.csail.sdg.squander.spec.TypeChecker.setClsSpecForSpecField` (*ClassSpec clsSpec*)

Parameters:

***should* be non-null only when type-checking spec fields, in which cases the value of this field should the declaring class of the spec field.

Definition at line 126 of file `TypeChecker.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField()`.

9.154.3.14 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.setTypeParams` (*JType primary*, *JType.Unary[] typeParams*) [**private**]

Definition at line 684 of file `TypeChecker.java`.

References `edu.mit.csail.sdg.squander.spec.JType.arity()`, and `edu.mit.csail.sdg.squander.spec.JType.projection()`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous()`.

9.154.3.15 **void** `edu.mit.csail.sdg.squander.spec.TypeChecker.validate` (*Node tree*, *JType type*) [**protected**]

Definition at line 131 of file `TypeChecker.java`.

9.154.3.16 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous (Namespace env, List< Node > idents)

This part is somewhat tricky due to ambiguity between package names, type names, and field dereferences. The best strategy that we may follow is to consult JLS 3.0. Refer to section 6.5 for details of classification of ambiguous names.

Ambiguous qualified names $A.n$ where n is a simple name are classified as follows:

- if A is a package name, then check if n is a type declared in the package, in which case reclassify as type name; otherwise, leave as a package name
- if A is a type name, then check if n is a field of A ; else check if n is a member type of A ; else report an error
- if A is an expression, then let T be its type. If n is a field of T , classify as an expression, else if n is a member type, classify of a type name, else report an error

Definition at line 625 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.Namespace.addScope(), edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.spec.JType.join(), edu.mit.csail.sdg.squander.spec.ClassSpec.jtype, edu.mit.csail.sdg.squander.spec.TypeChecker.print(), edu.mit.csail.sdg.squander.spec.JType.range(), edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), edu.mit.csail.sdg.squander.spec.TypeChecker.scene, edu.mit.csail.sdg.squander.spec.TypeChecker.setTypeParams(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitName(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitTypeParams().

9.154.3.17 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitArgument (Namespace env, int i) [protected]

Implementation of a visitor

Definition at line 190 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.Namespace.method, and edu.mit.csail.sdg.squander.spec.JMethod.paramTypes().

9.154.3.18 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitArrayType (Namespace env, Node base) [protected]

Definition at line 577 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkUnary(), edu.mit.csail.sdg.squander.spec.JType.domain(), and edu.mit.csail.sdg.squander.spec.TypeChecker.getClass().

9.154.3.19 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary (Namespace env, Node tree, int op, Node leftTree, Node rightTree) [protected]

Definition at line 241 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkSubtype(), edu.mit.csail.sdg.squander.spec.JType.difference(), edu.mit.csail.sdg.squander.spec.JType.intersection(), edu.mit.csail.sdg.squander.spec.JType.isInteger(), edu.mit.csail.sdg.squander.spec.JType.product(), and edu.mit.csail.sdg.squander.spec.JType.union().

9.154.3.20 **JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitBooleanType (Namespace env)**
[protected]

Definition at line 584 of file TypeChecker.java.

9.154.3.21 **JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket (Namespace env, JType primary, Node tree)** **[protected]**

Definition at line 200 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.Namespace.addScope(), edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger(), edu.mit.csail.sdg.squander.spec.JType.domain(), edu.mit.csail.sdg.squander.spec.Namespace.inArray(), edu.mit.csail.sdg.squander.spec.JType.join(), edu.mit.csail.sdg.squander.spec.JType.range(), and edu.mit.csail.sdg.squander.spec.Namespace.scope().

9.154.3.22 **JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitCastExpression (Namespace env, Node type, Node sub)** **[protected]**

Definition at line 525 of file TypeChecker.java.

9.154.3.23 **JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitConditional (Namespace env, Node condTree, Node leftTree, Node rightTree)** **[protected]**

Definition at line 340 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean(), and edu.mit.csail.sdg.squander.spec.JType.union().

9.154.3.24 **JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitDecimal (Namespace env, int i)** **[protected]**

Definition at line 349 of file TypeChecker.java.

9.154.3.25 **JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitFalse (Namespace env)**
[protected]

Definition at line 359 of file TypeChecker.java.

9.154.3.26 **JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration (Namespace env, Node ident, int op, Node set, Node frame, Node constraint)** **[protected]**

Definition at line 491 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoo, edu.mit.csail.sdg.squander.spec.TypeChecker.clsSpec, edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), and edu.mit.csail.sdg.squander.spec.ClassSpec.jtype.

9.154.3.27 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldRelation (Namespace env, Node type, Node ident) [protected]

Definition at line 531 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.Namespace.addScope(), edu.mit.csail.sdg.squander.spec.JType.range(), and edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

9.154.3.28 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame (Namespace env, List< JType > joins, List< Node > fields, List< JType > selectors, List< JType > lowers, List< JType > uppers) [protected]

Definition at line 538 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.Namespace.addScope(), edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.JType.domain(), edu.mit.csail.sdg.squander.spec.JType.isSubtypeOf(), edu.mit.csail.sdg.squander.spec.JType.projectionFromTo(), edu.mit.csail.sdg.squander.spec.JType.range(), and edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

9.154.3.29 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitIntegralType (Namespace env) [protected]

Definition at line 589 of file TypeChecker.java.

9.154.3.30 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin (Namespace env, JType primary, Node tree) [protected]

Definition at line 218 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.Namespace.addScope(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkJoin(), edu.mit.csail.sdg.squander.spec.JType.join(), and edu.mit.csail.sdg.squander.spec.JType.range().

9.154.3.31 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive (Namespace env, JType primary, Node tree) [protected]

Definition at line 225 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.Namespace.addScope(), edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.JType.join(), edu.mit.csail.sdg.squander.spec.JType.range(), and edu.mit.csail.sdg.squander.spec.JType.union().

9.154.3.32 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitMethodCall (Namespace env, JType receiver, String name, Node arguments) [protected]

Definition at line 236 of file TypeChecker.java.

9.154.3.33 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitName (Namespace env, Node ident)

Definition at line 707 of file TypeChecker.java.

References `edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass()`, `edu.mit.csail.sdg.squander.spec.Namespace.findLocal()`, `edu.mit.csail.sdg.squander.spec.JType.isUnary()`, `edu.mit.csail.sdg.squander.spec.JType.range()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.scene`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous()`.

9.154.3.34 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.visitNull` (`Namespace env`)
[protected]

Definition at line 364 of file `TypeChecker.java`.

9.154.3.35 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.visitOld` (`Namespace env`, `Node sub`) [protected]

Definition at line 369 of file `TypeChecker.java`.

9.154.3.36 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification` (`Namespace env`, `int op`, `List<String> names`, `List<String> mults`, `List<Node> sets`, `Node expr`) [protected]

Definition at line 374 of file `TypeChecker.java`.

References `edu.mit.csail.sdg.squander.spec.Namespace.addLocal()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.checkUnary()`, `edu.mit.csail.sdg.squander.spec.JType.domain()`, and `edu.mit.csail.sdg.squander.spec.JType.product()`.

9.154.3.37 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType` (`Namespace env`, `Node source`, `List<Node> idents`) [protected]

Definition at line 594 of file `TypeChecker.java`.

References `edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass()`, `edu.mit.csail.sdg.squander.spec.JType.range()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.scene`.

9.154.3.38 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.visitReturn` (`Namespace env`)
[protected]

Definition at line 410 of file `TypeChecker.java`.

References `edu.mit.csail.sdg.squander.spec.Namespace.method`, and `edu.mit.csail.sdg.squander.spec.JMethod.returnType`.

9.154.3.39 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.visitString` (`Namespace env`, `String s`) [protected]

Definition at line 354 of file `TypeChecker.java`.

9.154.3.40 **JType** `edu.mit.csail.sdg.squander.spec.TypeChecker.visitSuper` (`Namespace env`)
[protected]

Definition at line 420 of file `TypeChecker.java`.

9.154.3.41 **JType** edu.mit.csail.sdg.squander.spec.TypeChecker.visitThis (Namespace *env*)
[protected]

Definition at line 425 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.Namespace.declarer(), edu.mit.csail.sdg.squander.spec.JMethod.isStatic, and edu.mit.csail.sdg.squander.spec.Namespace.method.

9.154.3.42 **JType** edu.mit.csail.sdg.squander.spec.TypeChecker.visitThrow (Namespace *env*)
[protected]

Definition at line 415 of file TypeChecker.java.

9.154.3.43 **JType** edu.mit.csail.sdg.squander.spec.TypeChecker.visitTrue (Namespace *env*)
[protected]

Definition at line 434 of file TypeChecker.java.

9.154.3.44 **JType.Unary []** edu.mit.csail.sdg.squander.spec.TypeChecker.visitTypeParams
(Namespace *env*, Node *node*) [private]

Definition at line 696 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous().

9.154.3.45 **JType** edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary (Namespace *env*, Node *tree*, int *op*, Node *expr*) [protected]

Definition at line 439 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger(), edu.mit.csail.sdg.squander.spec.JType.isInteger(), and edu.mit.csail.sdg.squander.spec.JType.transpose().

9.154.4 Member Data Documentation**9.154.4.1** **ClassSpec** edu.mit.csail.sdg.squander.spec.TypeChecker.clsSpec [private]

should be non-null only when type-checking spec fields, in which cases the value of this field should be the declaring class of the spec field.

Definition at line 107 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration().

9.154.4.2 **final JavaScene** edu.mit.csail.sdg.squander.spec.TypeChecker.scene [protected]

Definition at line 101 of file TypeChecker.java.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous()`, `edu.mit.csail.sdg.squander.spec.TypeChecker.visitName()`, and `edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType()`.

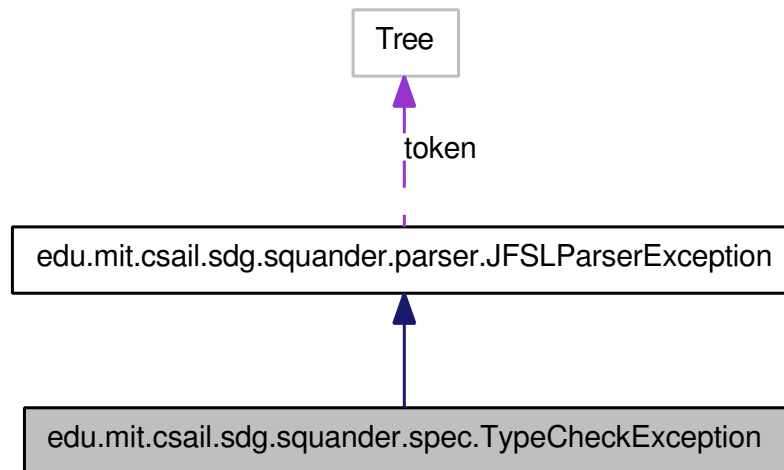
The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/TypeChecker.java](#)

9.155 edu.mit.csail.sdg.squander.spec.TypeCheckException Class Reference

Inherits [edu::mit::csail::sdg::squander::parser::JFSLParserException](#).

Inherited by [edu.mit.csail.sdg.squander.spec.ArityMismatchException](#), [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException](#), [edu.mit.csail.sdg.squander.spec.TypeCheckException](#) and [edu.mit.csail.sdg.squander.spec.TypeCheckException](#). Collaboration diagram for



Public Member Functions

- [TypeCheckException](#) (String msg, Throwable t)
- [TypeCheckException](#) (String msg)
- [TypeCheckException](#) (String msg, String src)
- String [getSrc](#) ()

Private Attributes

- final String [src](#)

Static Private Attributes

- static final long [serialVersionUID](#) = -6673030100868748117L

9.155.1 Detailed Description

Indicates an error in type checking phase.

Author:

kuat

Definition at line 15 of file [TypeCheckException.java](#).

9.155.2 Constructor & Destructor Documentation

9.155.2.1 `edu.mit.csail.sdg.squander.spec.TypeCheckException.TypeCheckException (String msg, Throwable t)`

Definition at line 19 of file `TypeCheckException.java`.

References `edu.mit.csail.sdg.squander.spec.TypeCheckException.src`.

9.155.2.2 `edu.mit.csail.sdg.squander.spec.TypeCheckException.TypeCheckException (String msg)`

Definition at line 24 of file `TypeCheckException.java`.

9.155.2.3 `edu.mit.csail.sdg.squander.spec.TypeCheckException.TypeCheckException (String msg, String src)`

Definition at line 28 of file `TypeCheckException.java`.

9.155.3 Member Function Documentation

9.155.3.1 `String edu.mit.csail.sdg.squander.spec.TypeCheckException.getSrc ()`

Definition at line 33 of file `TypeCheckException.java`.

References `edu.mit.csail.sdg.squander.spec.TypeCheckException.src`.

9.155.4 Member Data Documentation

9.155.4.1 `final long edu.mit.csail.sdg.squander.spec.TypeCheckException.serialVersionUID = -6673030100868748117L [static, private]`

Reimplemented in [edu.mit.csail.sdg.squander.spec.ArityMismatchException](#), and [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException](#).

Definition at line 16 of file `TypeCheckException.java`.

9.155.4.2 `final String edu.mit.csail.sdg.squander.spec.TypeCheckException.src [private]`

Definition at line 17 of file `TypeCheckException.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.TypeCheckException.getSrc()`, and `edu.mit.csail.sdg.squander.spec.TypeCheckException.TypeCheckException()`.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/TypeCheckException.java](#)

9.156 edu.mit.csail.sdg.squander.spec.Visitor< N, M > Class Reference

Public Member Functions

- final N [visit](#) (M env, Tree tree)

Static Public Member Functions

- static int [parseInt](#) (Tree tree)

Protected Member Functions

- void [validate](#) (Node node, N result)
- N [visitFieldDeclaration](#) (M env, Node ident, int op, Node set, Node frame, Node constraint)
- N [visitFrame](#) (M env, List< N > joins, List< Node > fields, List< N > selectors, List< N > lowers, List< N > uppers)
- N [visitBinary](#) (M env, Node tree, int op, Node leftTree, Node rightTree)
- N [visitUnary](#) (M env, Node tree, int op, Node expr)
- N [visitQuantification](#) (M env, int op, List< String > names, List< String > mults, List< Node > sets, Node expr)
- N [visitConditional](#) (M env, Node condTree, Node leftTree, Node rightTree)
- N [visitOld](#) (M env, Node sub)
- N [visitName](#) (M env, Node tree)
- N [visitAmbiguous](#) (M env, List< Node > idents)
- N [visitCastExpression](#) (M env, Node type, Node sub)
- N [visitFieldRelation](#) (M env, Node type, Node ident)
- N [visitBracket](#) (M env, N primary, Node selector)
- N [visitJoin](#) (M env, N primary, Node selector)
- N [visitJoinReflexive](#) (M env, N primary, Node selector)
- N [visitMethodCall](#) (M env, N receiver, String id, Node arguments)
- N [visitThis](#) (M env)
- N [visitSuper](#) (M env)
- N [visitReturn](#) (M env)
- N [visitThrow](#) (M env)
- N [visitDecimal](#) (M env, int i)
- N [visitString](#) (M env, String s)
- N [visitTrue](#) (M env)
- N [visitFalse](#) (M env)
- N [visitNull](#) (M env)
- N [visitArgument](#) (M env, int i)
- N [visitIntegralType](#) (M env)
- N [visitBooleanType](#) (M env)
- N [visitArrayType](#) (M env, Node base)
- N [visitRefType](#) (M env, Node source, List< Node > idents)
- List< Node > [children](#) (Tree node)
- Node [child](#) (Node parent)
- String [asText](#) (Tree node)

Private Member Functions

- final `N` `visitChain` (`M` env, `List< Node >` children)
- `Node` `cast` (`Tree tree`)

9.156.1 Detailed Description

Abstract visitor of unparsed specification expressions.

Author:

kuat

Parameters:

- `<N>` type of the output value
- `<M>` type of the input value, presumably a context of evaluation

Definition at line 67 of file `Visitor.java`.

9.156.2 Member Function Documentation

9.156.2.1 String `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.asText` (`Tree node`) [protected]

Returns the text content of a token node

Definition at line 410 of file `Visitor.java`.

9.156.2.2 Node `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.cast` (`Tree tree`) [private]

Performs casting

Definition at line 398 of file `Visitor.java`.

9.156.2.3 Node `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.child` (`Node parent`) [protected]

Get a single child

Definition at line 405 of file `Visitor.java`.

9.156.2.4 List<Node> `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.children` (`Tree node`) [protected]

Definition at line 389 of file `Visitor.java`.

9.156.2.5 static int `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.parseInt` (`Tree tree`) [static]

Assumes the content is a decimal expression text

Definition at line 417 of file `Visitor.java`.

9.156.2.6 void edu.mit.csail.sdg.squander.spec.Visitor< N, M >.validate (Node *node*, N *result*) [protected]

Validate the result of a visit

Definition at line 314 of file Visitor.java.

9.156.2.7 final N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visit (M *env*, Tree *tree*)

Invoking a visitor method based on the type of the tree nodes.

Top-level expression

Composite expression

Simple expressions

Definition at line 73 of file Visitor.java.

References edu.mit.csail.sdg.squander.parser.JFSLParserException.setToken(), and edu.mit.csail.sdg.squander.parser.JFSLParserException.token.

9.156.2.8 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitAmbiguous (M *env*, List< Node > *idents*) [protected]

Definition at line 339 of file Visitor.java.

9.156.2.9 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitArgument (M *env*, int *i*) [protected]

Definition at line 375 of file Visitor.java.

9.156.2.10 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitArrayType (M *env*, Node *base*) [protected]

Definition at line 383 of file Visitor.java.

9.156.2.11 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitBinary (M *env*, Node *tree*, int *op*, Node *leftTree*, Node *rightTree*) [protected]

Definition at line 327 of file Visitor.java.

9.156.2.12 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitBooleanType (M *env*) [protected]

Definition at line 381 of file Visitor.java.

9.156.2.13 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitBracket (M *env*, N *primary*, Node *selector*) [protected]

Definition at line 347 of file Visitor.java.

9.156.2.14 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitCastExpression (M env, Node type, Node sub) [protected]

Definition at line 341 of file Visitor.java.

9.156.2.15 final N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitChain (M env, List< Node > children) [private]

Process chain expression in EBNF

Definition at line 284 of file Visitor.java.

9.156.2.16 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitConditional (M env, Node condTree, Node leftTree, Node rightTree) [protected]

Definition at line 333 of file Visitor.java.

9.156.2.17 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitDecimal (M env, int i) [protected]

Definition at line 365 of file Visitor.java.

9.156.2.18 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitFalse (M env) [protected]

Definition at line 371 of file Visitor.java.

9.156.2.19 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitFieldDeclaration (M env, Node ident, int op, Node set, Node frame, Node constraint) [protected]

Definition at line 321 of file Visitor.java.

9.156.2.20 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitFieldRelation (M env, Node type, Node ident) [protected]

Definition at line 343 of file Visitor.java.

9.156.2.21 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitFrame (M env, List< N > joins, List< Node > fields, List< N > selectors, List< N > lowers, List< N > uppers) [protected]

Definition at line 323 of file Visitor.java.

9.156.2.22 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitIntegralType (M env) [protected]

Definition at line 379 of file Visitor.java.

9.156.2.23 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitJoin (M env, N primary, Node selector) [protected]

Definition at line 349 of file Visitor.java.

9.156.2.24 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitJoinReflexive (M env, N primary, Node selector) [protected]

Definition at line 351 of file Visitor.java.

9.156.2.25 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitMethodCall (M env, N receiver, String id, Node arguments) [protected]

Definition at line 353 of file Visitor.java.

9.156.2.26 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitName (M env, Node tree) [protected]

Definition at line 337 of file Visitor.java.

9.156.2.27 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitNull (M env) [protected]

Definition at line 373 of file Visitor.java.

9.156.2.28 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitOld (M env, Node sub) [protected]

Definition at line 335 of file Visitor.java.

9.156.2.29 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitQuantification (M env, int op, List< String > names, List< String > mults, List< Node > sets, Node expr) [protected]

Definition at line 331 of file Visitor.java.

9.156.2.30 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitRefType (M env, Node source, List< Node > idents) [protected]

Definition at line 385 of file Visitor.java.

9.156.2.31 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitReturn (M env) [protected]

Definition at line 361 of file Visitor.java.

9.156.2.32 N `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitString (M env, String s)`
[protected]

Definition at line 367 of file Visitor.java.

9.156.2.33 N `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitSuper (M env)` [protected]

Definition at line 359 of file Visitor.java.

9.156.2.34 N `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitThis (M env)` [protected]

Definition at line 357 of file Visitor.java.

9.156.2.35 N `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitThrow (M env)`
[protected]

Definition at line 363 of file Visitor.java.

9.156.2.36 N `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitTrue (M env)` [protected]

Definition at line 369 of file Visitor.java.

9.156.2.37 N `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitUnary (M env, Node tree, int op, Node expr)` [protected]

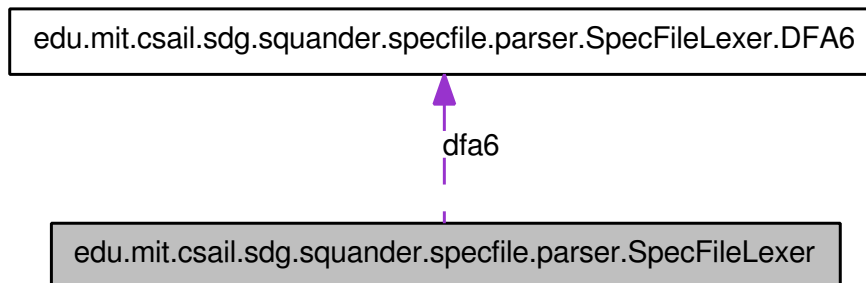
Definition at line 329 of file Visitor.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/Visitor.java](#)

9.157 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer:



Classes

- class [DFA6](#)

Public Member Functions

- [SpecFileLexer](#) ()
- [SpecFileLexer](#) (CharStream input)
- [SpecFileLexer](#) (CharStream input, RecognizerSharedState state)
- String [getGrammarFileName](#) ()
- final void [mT__18](#) () throws RecognitionException
- final void [mT__19](#) () throws RecognitionException
- final void [mT__20](#) () throws RecognitionException
- final void [mT__21](#) () throws RecognitionException
- final void [mT__22](#) () throws RecognitionException
- final void [mT__23](#) () throws RecognitionException
- final void [mT__24](#) () throws RecognitionException
- final void [mT__25](#) () throws RecognitionException
- final void [mT__26](#) () throws RecognitionException
- final void [mT__27](#) () throws RecognitionException
- final void [mT__28](#) () throws RecognitionException
- final void [mT__29](#) () throws RecognitionException
- final void [mT__30](#) () throws RecognitionException
- final void [mT__31](#) () throws RecognitionException
- final void [mT__32](#) () throws RecognitionException
- final void [mT__33](#) () throws RecognitionException
- final void [mIdentifier](#) () throws RecognitionException
- final void [mStringLiteral](#) () throws RecognitionException
- final void [mEscapeSequence](#) () throws RecognitionException
- final void [mOctalEscape](#) () throws RecognitionException
- final void [mUnicodeEscape](#) () throws RecognitionException
- final void [mHexDigit](#) () throws RecognitionException
- final void [mLetter](#) () throws RecognitionException

- final void [mJavaIDDigit](#) () throws RecognitionException
- final void [mWS](#) () throws RecognitionException
- void [mTokens](#) () throws RecognitionException

Static Public Attributes

- static final int [T__29](#) = 29
- static final int [T__28](#) = 28
- static final int [T__27](#) = 27
- static final int [T__26](#) = 26
- static final int [T__25](#) = 25
- static final int [T__24](#) = 24
- static final int [SPECFILE](#) = 4
- static final int [T__23](#) = 23
- static final int [T__22](#) = 22
- static final int [T__21](#) = 21
- static final int [T__20](#) = 20
- static final int [INVARIANT](#) = 7
- static final int [EOF](#) = -1
- static final int [HexDigit](#) = 16
- static final int [Identifier](#) = 9
- static final int [StringLiteral](#) = 10
- static final int [T__30](#) = 30
- static final int [T__19](#) = 19
- static final int [T__31](#) = 31
- static final int [T__32](#) = 32
- static final int [T__33](#) = 33
- static final int [WS](#) = 17
- static final int [T__18](#) = 18
- static final int [SPECFIELD](#) = 5
- static final int [UnicodeEscape](#) = 14
- static final int [JavaIDDigit](#) = 12
- static final int [FUNCFIELD](#) = 6
- static final int [Letter](#) = 11
- static final int [EscapeSequence](#) = 13
- static final int [OctalEscape](#) = 15
- static final int [PARAMS](#) = 8

Protected Attributes

- [DFA6](#) [dfa6](#) = new [DFA6](#)(this)

Static Package Functions

- [[static initializer](#)]

Static Package Attributes

- static final String [DFA6_eotS](#)
- static final String [DFA6_eofS](#)
- static final String [DFA6_minS](#)
- static final String [DFA6_maxS](#)
- static final String [DFA6_acceptS](#)
- static final String [DFA6_specialS](#)
- static final String[] [DFA6_transitionS](#)
- static final short[] [DFA6_eot](#) = DFA.unpackEncodedString([DFA6_eotS](#))
- static final short[] [DFA6_eof](#) = DFA.unpackEncodedString([DFA6_eofS](#))
- static final char[] [DFA6_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA6_minS](#))
- static final char[] [DFA6_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA6_maxS](#))
- static final short[] [DFA6_accept](#) = DFA.unpackEncodedString([DFA6_acceptS](#))
- static final short[] [DFA6_special](#) = DFA.unpackEncodedString([DFA6_specialS](#))
- static final short[][] [DFA6_transition](#)

9.157.1 Detailed Description

Definition at line 12 of file SpecFileLexer.java.

9.157.2 Constructor & Destructor Documentation

9.157.2.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SpecFileLexer ()

Definition at line 48 of file SpecFileLexer.java.

9.157.2.2 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SpecFileLexer (CharStream *input*)

Definition at line 49 of file SpecFileLexer.java.

9.157.2.3 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SpecFileLexer (CharStream *input*, RecognizerSharedState *state*)

Definition at line 52 of file SpecFileLexer.java.

9.157.3 Member Function Documentation

9.157.3.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.[static initializer] () [static, package]

9.157.3.2 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.getGrammarFileName ()

Definition at line 56 of file SpecFileLexer.java.

9.157.3.3 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mEscapeSequence () throws RecognitionException

Definition at line 523 of file SpecFileLexer.java.

9.157.3.4 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mHexDigit () throws RecognitionException

Definition at line 754 of file SpecFileLexer.java.

9.157.3.5 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mIdentifier () throws RecognitionException

Definition at line 387 of file SpecFileLexer.java.

9.157.3.6 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mJavaIDDigit () throws RecognitionException

Definition at line 802 of file SpecFileLexer.java.

9.157.3.7 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mLetter () throws RecognitionException

Definition at line 778 of file SpecFileLexer.java.

9.157.3.8 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mOctalEscape () throws RecognitionException

Definition at line 614 of file SpecFileLexer.java.

9.157.3.9 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mStringLiteral () throws RecognitionException

Definition at line 459 of file SpecFileLexer.java.

9.157.3.10 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__18 () throws RecognitionException

Definition at line 59 of file SpecFileLexer.java.

9.157.3.11 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__19 () throws RecognitionException

Definition at line 79 of file SpecFileLexer.java.

9.157.3.12 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__20 () throws RecognitionException

Definition at line 99 of file SpecFileLexer.java.

9.157.3.13 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__21 () throws RecognitionException

Definition at line 119 of file SpecFileLexer.java.

9.157.3.14 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__22 () throws RecognitionException

Definition at line 139 of file SpecFileLexer.java.

9.157.3.15 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__23 () throws RecognitionException

Definition at line 160 of file SpecFileLexer.java.

9.157.3.16 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__24 () throws RecognitionException

Definition at line 181 of file SpecFileLexer.java.

9.157.3.17 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__25 () throws RecognitionException

Definition at line 202 of file SpecFileLexer.java.

9.157.3.18 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__26 () throws RecognitionException

Definition at line 223 of file SpecFileLexer.java.

9.157.3.19 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__27 () throws RecognitionException

Definition at line 244 of file SpecFileLexer.java.

9.157.3.20 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__28 () throws RecognitionException

Definition at line 265 of file SpecFileLexer.java.

9.157.3.21 **final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__29 () throws RecognitionException**

Definition at line 285 of file SpecFileLexer.java.

9.157.3.22 **final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__30 () throws RecognitionException**

Definition at line 305 of file SpecFileLexer.java.

9.157.3.23 **final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__31 () throws RecognitionException**

Definition at line 325 of file SpecFileLexer.java.

9.157.3.24 **final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__32 () throws RecognitionException**

Definition at line 346 of file SpecFileLexer.java.

9.157.3.25 **final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__33 () throws RecognitionException**

Definition at line 367 of file SpecFileLexer.java.

9.157.3.26 **void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mTokens () throws RecognitionException**

Definition at line 854 of file SpecFileLexer.java.

9.157.3.27 **final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mUnicodeEscape () throws RecognitionException**

Definition at line 733 of file SpecFileLexer.java.

9.157.3.28 **final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mWS () throws RecognitionException**

Definition at line 826 of file SpecFileLexer.java.

9.157.4 Member Data Documentation

9.157.4.1 **DFA6 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.dfa6 = new DFA6(this) [protected]**

Definition at line 998 of file SpecFileLexer.java.

9.157.4.2 final short [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_accept = DFA.unpackEncodedString(DFA6_acceptS) [static, package]

Definition at line 1103 of file SpecFileLexer.java.

9.157.4.3 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_acceptS [static, package]

Initial value:

```
"\1\uffff\1\1\1\2\1\3\1\4\4\uffff\1\13\1\14\1\15\1\20\1\21\1\22\1"+
"\23\4\uffff\1\12\1\16\1\17\22\uffff\1\10\3\uffff\1\6\1\uffff\1\5"+
"\4\uffff\1\7\1\11"
```

Definition at line 1015 of file SpecFileLexer.java.

9.157.4.4 final short [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_eof = DFA.unpackEncodedString(DFA6_eofS) [static, package]

Definition at line 1100 of file SpecFileLexer.java.

9.157.4.5 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_eofS [static, package]

Initial value:

```
"\66\uffff"
```

Definition at line 1002 of file SpecFileLexer.java.

9.157.4.6 final short [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_eot = DFA.unpackEncodedString(DFA6_eotS) [static, package]

Definition at line 1099 of file SpecFileLexer.java.

9.157.4.7 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_eotS [static, package]

Initial value:

```
"\5\uffff\3\15\10\uffff\4\15\3\uffff\15\15\1\51\3\15\1\55\1\uffff"+
"\1\15\1\57\1\15\1\uffff\1\15\1\uffff\2\15\1\64\1\65\2\uffff"
```

Definition at line 999 of file SpecFileLexer.java.

9.157.4.8 final char [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_max = DFA.unpackEncodedStringToUnsignedChars(DFA6_maxS) [static, package]

Definition at line 1102 of file SpecFileLexer.java.

9.157.4.9 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_maxS
[static, package]

Initial value:

```
"\1\uafaff\4\uffff\1\165\1\154\1\156\1\123\7\uffff\1\157\1\142\1\141"+
"\1\164\3\uffff\1\166\1\164\1\154\1\163\1\145\1\141\1\145\1\151\1"+
"\163\1\162\1\164\2\143\1\uafaff\1\146\1\145\1\164\1\uafaff\1\uffff"+
"\1\141\1\uafaff\1\145\1\uffff\1\143\1\uffff\1\144\1\145\2\uafaff\2"+
"\uffff"
```

Definition at line 1009 of file SpecFileLexer.java.

9.157.4.10 final char [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_min =
DFA.unpackEncodedStringToUnsignedChars(DFA6_minS) [static, package]

Definition at line 1101 of file SpecFileLexer.java.

9.157.4.11 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_minS
[static, package]

Initial value:

```
"\1\11\4\uffff\1\162\1\154\1\156\1\106\7\uffff\1\151\1\142\1\141"+
"\1\164\3\uffff\1\166\1\164\1\154\1\163\1\145\1\141\1\145\1\151\1"+
"\163\1\162\1\164\2\143\1\144\1\146\1\145\1\164\1\144\1\uffff\1\141"+
"\1\144\1\145\1\uffff\1\143\1\uffff\1\144\1\145\2\144\2\uffff"
```

Definition at line 1004 of file SpecFileLexer.java.

9.157.4.12 final short [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_special =
DFA.unpackEncodedString(DFA6_specialS) [static, package]

Definition at line 1104 of file SpecFileLexer.java.

9.157.4.13 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_specialS
[static, package]

Initial value:

```
"\66\uffff}>"
```

Definition at line 1019 of file SpecFileLexer.java.

9.157.4.14 final short [][] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_
transition [static, package]

Definition at line 1105 of file SpecFileLexer.java.

9.157.4.15 `final String [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_ - transitionS [static, package]`

Definition at line 1021 of file SpecFileLexer.java.

9.157.4.16 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.EOF = -1 [static]`

Definition at line 25 of file SpecFileLexer.java.

9.157.4.17 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.EscapeSequence = 13 [static]`

Definition at line 41 of file SpecFileLexer.java.

9.157.4.18 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.FUNCFIELD = 6 [static]`

Definition at line 39 of file SpecFileLexer.java.

9.157.4.19 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.HexDigit = 16 [static]`

Definition at line 26 of file SpecFileLexer.java.

9.157.4.20 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.Identifier = 9 [static]`

Definition at line 27 of file SpecFileLexer.java.

9.157.4.21 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.INVARIANT = 7 [static]`

Definition at line 24 of file SpecFileLexer.java.

9.157.4.22 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.JavaIDDigit = 12 [static]`

Definition at line 38 of file SpecFileLexer.java.

9.157.4.23 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.Letter = 11 [static]`

Definition at line 40 of file SpecFileLexer.java.

9.157.4.24 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.OctalEscape = 15 [static]`

Definition at line 42 of file SpecFileLexer.java.

9.157.4.25 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.PARAMS = 8`
`[static]`

Definition at line 43 of file SpecFileLexer.java.

9.157.4.26 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SPECFIELD = 5`
`[static]`

Definition at line 36 of file SpecFileLexer.java.

9.157.4.27 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SPECFILE = 4`
`[static]`

Definition at line 19 of file SpecFileLexer.java.

9.157.4.28 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.StringLiteral = 10`
`[static]`

Definition at line 28 of file SpecFileLexer.java.

9.157.4.29 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__18 = 18`
`[static]`

Definition at line 35 of file SpecFileLexer.java.

9.157.4.30 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__19 = 19`
`[static]`

Definition at line 30 of file SpecFileLexer.java.

9.157.4.31 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__20 = 20`
`[static]`

Definition at line 23 of file SpecFileLexer.java.

9.157.4.32 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__21 = 21`
`[static]`

Definition at line 22 of file SpecFileLexer.java.

9.157.4.33 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__22 = 22`
`[static]`

Definition at line 21 of file SpecFileLexer.java.

9.157.4.34 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__23 = 23`
`[static]`

Definition at line 20 of file SpecFileLexer.java.

9.157.4.35 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__24 = 24`
`[static]`

Definition at line 18 of file SpecFileLexer.java.

9.157.4.36 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__25 = 25`
`[static]`

Definition at line 17 of file SpecFileLexer.java.

9.157.4.37 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__26 = 26`
`[static]`

Definition at line 16 of file SpecFileLexer.java.

9.157.4.38 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__27 = 27`
`[static]`

Definition at line 15 of file SpecFileLexer.java.

9.157.4.39 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__28 = 28`
`[static]`

Definition at line 14 of file SpecFileLexer.java.

9.157.4.40 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__29 = 29`
`[static]`

Definition at line 13 of file SpecFileLexer.java.

9.157.4.41 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__30 = 30`
`[static]`

Definition at line 29 of file SpecFileLexer.java.

9.157.4.42 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__31 = 31`
`[static]`

Definition at line 31 of file SpecFileLexer.java.

9.157.4.43 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__32 = 32`
`[static]`

Definition at line 32 of file SpecFileLexer.java.

9.157.4.44 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__33 = 33`
`[static]`

Definition at line 33 of file SpecFileLexer.java.

9.157.4.45 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.UnicodeEscape = 14`
`[static]`

Definition at line 37 of file SpecFileLexer.java.

9.157.4.46 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.WS = 17` `[static]`

Definition at line 34 of file SpecFileLexer.java.

The documentation for this class was generated from the following file:

- [spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileLexer.java](#)

9.158 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6 Class Reference

Public Member Functions

- [DFA6](#) (BaseRecognizer recognizer)
- String [getDescription](#) ()

9.158.1 Detailed Description

Definition at line 1115 of file SpecFileLexer.java.

9.158.2 Constructor & Destructor Documentation

9.158.2.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6.DFA6 (BaseRecognizer recognizer)

Definition at line 1117 of file SpecFileLexer.java.

9.158.3 Member Function Documentation

9.158.3.1 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6.getDescription ()

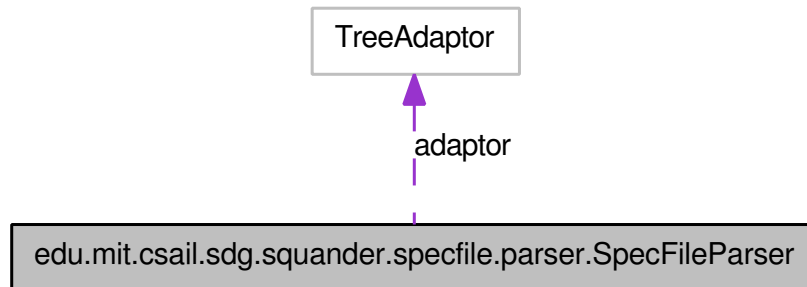
Definition at line 1128 of file SpecFileLexer.java.

The documentation for this class was generated from the following file:

- [spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileLexer.java](#)

9.159 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser:



Classes

- class **cls_return**
- class **funcfield_return**
- class **invariant_return**
- class **mod_return**
- class **Node**
- class **NodeAdaptor**
- class **params_return**
- class **specfield_return**
- class **specfile_return**
- class **strings_return**
- class **type_return**

Public Member Functions

- [SpecFileParser](#) (TokenStream input)
- [SpecFileParser](#) (TokenStream input, RecognizerSharedState state)
- void [setTreeAdaptor](#) (TreeAdaptor adaptor)
- TreeAdaptor [getTreeAdaptor](#) ()
- String[] [getTokenNames](#) ()
- String [getGrammarFileName](#) ()
- void [displayRecognitionError](#) (String[] tokenNames, RecognitionException e)
- final SpecFileParser.specfile_return [specfile](#) () throws RecognitionException
- final SpecFileParser.type_return [type](#) () throws RecognitionException
- final SpecFileParser.mod_return [mod](#) () throws RecognitionException
- final SpecFileParser.cls_return [cls](#) () throws RecognitionException
- final SpecFileParser.specfield_return [specfield](#) () throws RecognitionException
- final SpecFileParser.funcfield_return [funcfield](#) () throws RecognitionException
- final SpecFileParser.invariant_return [invariant](#) () throws RecognitionException
- final SpecFileParser.params_return [params](#) () throws RecognitionException
- final SpecFileParser.strings_return [strings](#) () throws RecognitionException

Static Public Attributes

- static final String[] [tokenNames](#)
- static final int [T__29](#) = 29
- static final int [T__28](#) = 28
- static final int [T__27](#) = 27
- static final int [T__26](#) = 26
- static final int [T__25](#) = 25
- static final int [T__24](#) = 24
- static final int [SPECFILE](#) = 4
- static final int [T__23](#) = 23
- static final int [T__22](#) = 22
- static final int [T__21](#) = 21
- static final int [T__20](#) = 20
- static final int [INVARIANT](#) = 7
- static final int [EOF](#) = -1
- static final int [HexDigit](#) = 16
- static final int [Identifier](#) = 9
- static final int [StringLiteral](#) = 10
- static final int [T__19](#) = 19
- static final int [T__30](#) = 30
- static final int [T__31](#) = 31
- static final int [T__32](#) = 32
- static final int [WS](#) = 17
- static final int [T__33](#) = 33
- static final int [T__18](#) = 18
- static final int [SPECFIELD](#) = 5
- static final int [UnicodeEscape](#) = 14
- static final int [JavaIDDigit](#) = 12
- static final int [OctalEscape](#) = 15
- static final int [EscapeSequence](#) = 13
- static final int [Letter](#) = 11
- static final int [FUNCFIELD](#) = 6
- static final int [PARAMS](#) = 8
- static final BitSet [FOLLOW_type_in_specfile105](#) = new BitSet(new long[] {0x0000000000000200L})
- static final BitSet [FOLLOW_Identifier_in_specfile107](#) = new BitSet(new long[] {0x0000000000140000L})
- static final BitSet [FOLLOW_18_in_specfile110](#) = new BitSet(new long[] {0x0000000000000200L})
- static final BitSet [FOLLOW_params_in_specfile112](#) = new BitSet(new long[] {0x0000000000080000L})
- static final BitSet [FOLLOW_19_in_specfile114](#) = new BitSet(new long[] {0x0000000000100000L})
- static final BitSet [FOLLOW_20_in_specfile118](#) = new BitSet(new long[] {0x0000000188200000L})
- static final BitSet [FOLLOW_specfield_in_specfile120](#) = new BitSet(new long[] {0x0000000188200000L})
- static final BitSet [FOLLOW_funcfield_in_specfile123](#) = new BitSet(new long[] {0x0000000180200000L})
- static final BitSet [FOLLOW_invariant_in_specfile126](#) = new BitSet(new long[] {0x0000000100200000L})
- static final BitSet [FOLLOW_21_in_specfile129](#) = new BitSet(new long[] {0x0000000000000002L})
- static final BitSet [FOLLOW_mod_in_type162](#) = new BitSet(new long[] {0x0000000006000000L})

- static final BitSet FOLLOW_cls_in_type165 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_set_in_mod0 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_set_in_cls0 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_27_in_specfield202 = new BitSet(new long[]{0x0000000010000000L})
- static final BitSet FOLLOW_28_in_specfield204 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_StringLiteral_in_specfield206 = new BitSet(new long[]{0x0000000020000000L})
- static final BitSet FOLLOW_29_in_specfield208 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_specfield210 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_27_in_specfield230 = new BitSet(new long[]{0x0000000010000000L})
- static final BitSet FOLLOW_28_in_specfield232 = new BitSet(new long[]{0x0000000001000000L})
- static final BitSet FOLLOW_20_in_specfield234 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_strings_in_specfield236 = new BitSet(new long[]{0x0000000000200000L})
- static final BitSet FOLLOW_21_in_specfield238 = new BitSet(new long[]{0x0000000020000000L})
- static final BitSet FOLLOW_29_in_specfield240 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_specfield242 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_31_in_funcfield264 = new BitSet(new long[]{0x0000000010000000L})
- static final BitSet FOLLOW_28_in_funcfield266 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_StringLiteral_in_funcfield268 = new BitSet(new long[]{0x0000000020000000L})
- static final BitSet FOLLOW_29_in_funcfield270 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_funcfield272 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_31_in_funcfield292 = new BitSet(new long[]{0x0000000010000000L})
- static final BitSet FOLLOW_28_in_funcfield294 = new BitSet(new long[]{0x0000000001000000L})
- static final BitSet FOLLOW_20_in_funcfield296 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_strings_in_funcfield298 = new BitSet(new long[]{0x0000000000200000L})
- static final BitSet FOLLOW_21_in_funcfield300 = new BitSet(new long[]{0x0000000020000000L})
- static final BitSet FOLLOW_29_in_funcfield302 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_funcfield304 = new BitSet(new long[]{0x0000000000000002L})

- static final BitSet FOLLOW_32_in_invariant326 = new BitSet(new long[] {0x000000001000000L})
- static final BitSet FOLLOW_28_in_invariant328 = new BitSet(new long[] {0x0000000000000400L})
- static final BitSet FOLLOW_StringLiteral_in_invariant330 = new BitSet(new long[] {0x000000002000000L})
- static final BitSet FOLLOW_29_in_invariant332 = new BitSet(new long[] {0x000000004000002L})
- static final BitSet FOLLOW_30_in_invariant334 = new BitSet(new long[] {0x000000000000002L})
- static final BitSet FOLLOW_32_in_invariant354 = new BitSet(new long[] {0x000000001000000L})
- static final BitSet FOLLOW_28_in_invariant356 = new BitSet(new long[] {0x000000000100000L})
- static final BitSet FOLLOW_20_in_invariant358 = new BitSet(new long[] {0x0000000000000400L})
- static final BitSet FOLLOW_strings_in_invariant360 = new BitSet(new long[] {0x000000000200000L})
- static final BitSet FOLLOW_21_in_invariant362 = new BitSet(new long[] {0x000000002000000L})
- static final BitSet FOLLOW_29_in_invariant364 = new BitSet(new long[] {0x000000004000002L})
- static final BitSet FOLLOW_30_in_invariant366 = new BitSet(new long[] {0x000000000000002L})
- static final BitSet FOLLOW_Identifier_in_params388 = new BitSet(new long[] {0x000000020000002L})
- static final BitSet FOLLOW_33_in_params391 = new BitSet(new long[] {0x000000000000200L})
- static final BitSet FOLLOW_Identifier_in_params393 = new BitSet(new long[] {0x000000020000002L})
- static final BitSet FOLLOW_StringLiteral_in_strings430 = new BitSet(new long[] {0x000000020000002L})
- static final BitSet FOLLOW_33_in_strings433 = new BitSet(new long[] {0x0000000000000400L})
- static final BitSet FOLLOW_StringLiteral_in_strings435 = new BitSet(new long[] {0x000000020000002L})

Protected Attributes

- TreeAdaptor [adaptor](#) = new CommonTreeAdaptor()

9.159.1 Detailed Description

Definition at line 16 of file SpecFileParser.java.

9.159.2 Constructor & Destructor Documentation

9.159.2.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.SpecFileParser (TokenStream *input*)

Definition at line 56 of file SpecFileParser.java.

9.159.2.2 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.SpecFileParser` (TokenStream input, RecognizerSharedState state)

Definition at line 59 of file SpecFileParser.java.

9.159.3 Member Function Documentation

9.159.3.1 `final SpecFileParser.cls_return edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.cls ()` throws `RecognitionException`

Definition at line 515 of file SpecFileParser.java.

9.159.3.2 `void edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.displayRecognitionError (String[] tokenNames, RecognitionException e)`

Definition at line 104 of file SpecFileParser.java.

9.159.3.3 `final SpecFileParser.funcfield_return edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.funcfield ()` throws `RecognitionException`

Definition at line 827 of file SpecFileParser.java.

9.159.3.4 `String edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.getGrammarFileName ()`

Definition at line 76 of file SpecFileParser.java.

9.159.3.5 `String [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.getTokenNames ()`

Definition at line 75 of file SpecFileParser.java.

9.159.3.6 `TreeAdaptor edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.getTreeAdaptor ()`

Definition at line 71 of file SpecFileParser.java.

9.159.3.7 `final SpecFileParser.invariant_return edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.invariant ()` throws `RecognitionException`

Definition at line 1079 of file SpecFileParser.java.

9.159.3.8 final SpecFileParser.mod_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.mod () throws
RecognitionException

Definition at line 455 of file SpecFileParser.java.

9.159.3.9 final SpecFileParser.params_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.params ()
throws RecognitionException

Definition at line 1331 of file SpecFileParser.java.

9.159.3.10 void edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.setTreeAdaptor
(TreeAdaptor adaptor)

Definition at line 68 of file SpecFileParser.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.parse().

9.159.3.11 final SpecFileParser.specfield_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfield ()
throws RecognitionException

Definition at line 575 of file SpecFileParser.java.

9.159.3.12 final SpecFileParser.specfile_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfile ()
throws RecognitionException

Definition at line 116 of file SpecFileParser.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.parse().

9.159.3.13 final SpecFileParser.strings_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.strings ()
throws RecognitionException

Definition at line 1449 of file SpecFileParser.java.

9.159.3.14 final SpecFileParser.type_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.type ()
throws RecognitionException

Definition at line 376 of file SpecFileParser.java.

9.159.4 Member Data Documentation

9.159.4.1 `TreeAdaptor edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.adaptor = new CommonTreeAdaptor()` [`protected`]

Definition at line 66 of file `SpecFileParser.java`.

9.159.4.2 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.EOF = -1` [`static`]

Definition at line 32 of file `SpecFileParser.java`.

9.159.4.3 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.EscapeSequence = 13` [`static`]

Definition at line 47 of file `SpecFileParser.java`.

9.159.4.4 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_18_in_specfile110 = new BitSet(new long[]{0x0000000000000200L})` [`static`]

Definition at line 1559 of file `SpecFileParser.java`.

9.159.4.5 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_19_in_specfile114 = new BitSet(new long[]{0x000000000100000L})` [`static`]

Definition at line 1561 of file `SpecFileParser.java`.

9.159.4.6 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_20_in_funcfield296 = new BitSet(new long[]{0x000000000000400L})` [`static`]

Definition at line 1590 of file `SpecFileParser.java`.

9.159.4.7 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_20_in_invariant358 = new BitSet(new long[]{0x000000000000400L})` [`static`]

Definition at line 1602 of file `SpecFileParser.java`.

9.159.4.8 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_20_in_specfield234 = new BitSet(new long[]{0x000000000000400L})` [`static`]

Definition at line 1578 of file `SpecFileParser.java`.

9.159.4.9 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_20_in_specfile118 = new BitSet(new long[]{0x0000000188200000L})
[static]

Definition at line 1562 of file SpecFileParser.java.

9.159.4.10 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_21_in_funcfield300 = new BitSet(new long[]{0x0000000020000000L})
[static]

Definition at line 1592 of file SpecFileParser.java.

9.159.4.11 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_21_in_invariant362 = new BitSet(new long[]{0x0000000020000000L})
[static]

Definition at line 1604 of file SpecFileParser.java.

9.159.4.12 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_21_in_specfield238 = new BitSet(new long[]{0x0000000020000000L})
[static]

Definition at line 1580 of file SpecFileParser.java.

9.159.4.13 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_21_in_specfile129 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 1566 of file SpecFileParser.java.

9.159.4.14 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_27_in_specfield202 = new BitSet(new long[]{0x0000000010000000L})
[static]

Definition at line 1571 of file SpecFileParser.java.

9.159.4.15 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_27_in_specfield230 = new BitSet(new long[]{0x0000000010000000L})
[static]

Definition at line 1576 of file SpecFileParser.java.

9.159.4.16 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_28_in_funcfield266 = new BitSet(new long[]{0x0000000000000400L})
[static]

Definition at line 1584 of file SpecFileParser.java.

9.159.4.17 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_28_in_funcfield294 = new BitSet(new long[]{0x00000000010000L})`
[static]

Definition at line 1589 of file SpecFileParser.java.

9.159.4.18 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_28_in_invariant328 = new BitSet(new long[]{0x000000000000400L})`
[static]

Definition at line 1596 of file SpecFileParser.java.

9.159.4.19 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_28_in_invariant356 = new BitSet(new long[]{0x00000000010000L})`
[static]

Definition at line 1601 of file SpecFileParser.java.

9.159.4.20 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_28_in_specfield204 = new BitSet(new long[]{0x000000000000400L})`
[static]

Definition at line 1572 of file SpecFileParser.java.

9.159.4.21 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_28_in_specfield232 = new BitSet(new long[]{0x00000000010000L})`
[static]

Definition at line 1577 of file SpecFileParser.java.

9.159.4.22 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_29_in_funcfield270 = new BitSet(new long[]{0x000000004000002L})`
[static]

Definition at line 1586 of file SpecFileParser.java.

9.159.4.23 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_29_in_funcfield302 = new BitSet(new long[]{0x000000004000002L})`
[static]

Definition at line 1593 of file SpecFileParser.java.

9.159.4.24 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_29_in_invariant332 = new BitSet(new long[]{0x000000004000002L})`
[static]

Definition at line 1598 of file SpecFileParser.java.

9.159.4.25 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_29_in_invariant364 = new BitSet(new long[]{0x000000004000002L})
[static]

Definition at line 1605 of file SpecFileParser.java.

9.159.4.26 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_29_in_specfield208 = new BitSet(new long[]{0x000000004000002L})
[static]

Definition at line 1574 of file SpecFileParser.java.

9.159.4.27 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_29_in_specfield240 = new BitSet(new long[]{0x000000004000002L})
[static]

Definition at line 1581 of file SpecFileParser.java.

9.159.4.28 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_30_in_funcfield272 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 1587 of file SpecFileParser.java.

9.159.4.29 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_30_in_funcfield304 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 1594 of file SpecFileParser.java.

9.159.4.30 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_30_in_invariant334 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 1599 of file SpecFileParser.java.

9.159.4.31 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_30_in_invariant366 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 1606 of file SpecFileParser.java.

9.159.4.32 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_30_in_specfield210 = new BitSet(new long[]{0x000000000000002L})
[static]

Definition at line 1575 of file SpecFileParser.java.

9.159.4.33 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_30_in_specfield242 = new BitSet(new long[]{0x000000000000002L})`
[static]

Definition at line 1582 of file SpecFileParser.java.

9.159.4.34 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_31_in_funcfield264 = new BitSet(new long[]{0x000000001000000L})`
[static]

Definition at line 1583 of file SpecFileParser.java.

9.159.4.35 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_31_in_funcfield292 = new BitSet(new long[]{0x000000001000000L})`
[static]

Definition at line 1588 of file SpecFileParser.java.

9.159.4.36 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_32_in_invariant326 = new BitSet(new long[]{0x000000001000000L})`
[static]

Definition at line 1595 of file SpecFileParser.java.

9.159.4.37 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_32_in_invariant354 = new BitSet(new long[]{0x000000001000000L})`
[static]

Definition at line 1600 of file SpecFileParser.java.

9.159.4.38 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_33_in_params391 = new BitSet(new long[]{0x000000000000200L})`
[static]

Definition at line 1608 of file SpecFileParser.java.

9.159.4.39 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_33_in_strings433 = new BitSet(new long[]{0x000000000000400L})`
[static]

Definition at line 1611 of file SpecFileParser.java.

9.159.4.40 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_cls_in_type165 = new BitSet(new long[]{0x00000000000002L})`
[static]

Definition at line 1568 of file SpecFileParser.java.

9.159.4.41 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_
funcfield_in_specfile123 = new BitSet(new long[]{0x0000000180200000L})
[static]

Definition at line 1564 of file SpecFileParser.java.

9.159.4.42 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_
Identifier_in_params388 = new BitSet(new long[]{0x0000000200000002L})
[static]

Definition at line 1607 of file SpecFileParser.java.

9.159.4.43 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_
Identifier_in_params393 = new BitSet(new long[]{0x0000000200000002L})
[static]

Definition at line 1609 of file SpecFileParser.java.

9.159.4.44 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_
Identifier_in_specfile107 = new BitSet(new long[]{0x000000000140000L})
[static]

Definition at line 1558 of file SpecFileParser.java.

9.159.4.45 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_
invariant_in_specfile126 = new BitSet(new long[]{0x0000000100200000L})
[static]

Definition at line 1565 of file SpecFileParser.java.

9.159.4.46 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_
mod_in_type162 = new BitSet(new long[]{0x0000000006000000L})
[static]

Definition at line 1567 of file SpecFileParser.java.

9.159.4.47 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_
params_in_specfile112 = new BitSet(new long[]{0x000000000080000L})
[static]

Definition at line 1560 of file SpecFileParser.java.

9.159.4.48 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_
set_in_cls0 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 1570 of file SpecFileParser.java.

9.159.4.49 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-set_in_mod0 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 1569 of file SpecFileParser.java.

9.159.4.50 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-specfield_in_specfile120 = new BitSet(new long[]{0x0000000188200000L})
[static]

Definition at line 1563 of file SpecFileParser.java.

9.159.4.51 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-StringLiteral_in_funcfield268 = new BitSet(new long[]{0x0000000020000000L})
[static]

Definition at line 1585 of file SpecFileParser.java.

9.159.4.52 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-StringLiteral_in_invariant330 = new BitSet(new long[]{0x0000000020000000L})
[static]

Definition at line 1597 of file SpecFileParser.java.

9.159.4.53 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-StringLiteral_in_specfield206 = new BitSet(new long[]{0x0000000020000000L})
[static]

Definition at line 1573 of file SpecFileParser.java.

9.159.4.54 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-StringLiteral_in_strings430 = new BitSet(new long[]{0x0000000020000002L})
[static]

Definition at line 1610 of file SpecFileParser.java.

9.159.4.55 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-StringLiteral_in_strings435 = new BitSet(new long[]{0x0000000020000002L})
[static]

Definition at line 1612 of file SpecFileParser.java.

9.159.4.56 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-strings_in_funcfield298 = new BitSet(new long[]{0x0000000000200000L})
[static]

Definition at line 1591 of file SpecFileParser.java.

9.159.4.57 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_strings_in_invariant360 = new BitSet(new long[]{0x00000000020000L})`
[static]

Definition at line 1603 of file SpecFileParser.java.

9.159.4.58 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_strings_in_specfield236 = new BitSet(new long[]{0x00000000020000L})`
[static]

Definition at line 1579 of file SpecFileParser.java.

9.159.4.59 `final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_type_in_specfile105 = new BitSet(new long[]{0x000000000000200L})`
[static]

Definition at line 1557 of file SpecFileParser.java.

9.159.4.60 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FUNCFIELD = 6`
[static]

Definition at line 49 of file SpecFileParser.java.

9.159.4.61 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.HexDigit = 16`
[static]

Definition at line 33 of file SpecFileParser.java.

9.159.4.62 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.Identifier = 9`
[static]

Definition at line 34 of file SpecFileParser.java.

9.159.4.63 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.INVARIANT = 7`
[static]

Definition at line 31 of file SpecFileParser.java.

9.159.4.64 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.JavaIDDigit = 12`
[static]

Definition at line 45 of file SpecFileParser.java.

9.159.4.65 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.Letter = 11`
[static]

Definition at line 48 of file SpecFileParser.java.

9.159.4.66 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.OctalEscape = 15`
`[static]`

Definition at line 46 of file SpecFileParser.java.

9.159.4.67 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.PARAMS = 8`
`[static]`

Definition at line 50 of file SpecFileParser.java.

9.159.4.68 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.SPECFIELD = 5`
`[static]`

Definition at line 43 of file SpecFileParser.java.

9.159.4.69 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.SPECFILE = 4`
`[static]`

Definition at line 26 of file SpecFileParser.java.

9.159.4.70 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.StringLiteral = 10`
`[static]`

Definition at line 35 of file SpecFileParser.java.

9.159.4.71 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__18 = 18`
`[static]`

Definition at line 42 of file SpecFileParser.java.

9.159.4.72 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__19 = 19`
`[static]`

Definition at line 36 of file SpecFileParser.java.

9.159.4.73 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__20 = 20`
`[static]`

Definition at line 30 of file SpecFileParser.java.

9.159.4.74 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__21 = 21`
`[static]`

Definition at line 29 of file SpecFileParser.java.

9.159.4.75 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__22 = 22`
`[static]`

Definition at line 28 of file SpecFileParser.java.

9.159.4.76 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__23 = 23`
`[static]`

Definition at line 27 of file SpecFileParser.java.

9.159.4.77 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__24 = 24`
`[static]`

Definition at line 25 of file SpecFileParser.java.

9.159.4.78 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__25 = 25`
`[static]`

Definition at line 24 of file SpecFileParser.java.

9.159.4.79 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__26 = 26`
`[static]`

Definition at line 23 of file SpecFileParser.java.

9.159.4.80 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__27 = 27`
`[static]`

Definition at line 22 of file SpecFileParser.java.

9.159.4.81 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__28 = 28`
`[static]`

Definition at line 21 of file SpecFileParser.java.

9.159.4.82 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__29 = 29`
`[static]`

Definition at line 20 of file SpecFileParser.java.

9.159.4.83 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__30 = 30`
`[static]`

Definition at line 37 of file SpecFileParser.java.

9.159.4.84 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__31 = 31`
[static]

Definition at line 38 of file SpecFileParser.java.

9.159.4.85 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__32 = 32`
[static]

Definition at line 39 of file SpecFileParser.java.

9.159.4.86 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__33 = 33`
[static]

Definition at line 41 of file SpecFileParser.java.

9.159.4.87 `final String [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.tokenNames`
[static]

Initial value:

```
new String[] {
    "<invalid>", "<EOR>", "<DOWN>", "<UP>", "SPECFILE", "SPECFIELD", "FUNCTION",
    "LD", "INVARIANT", "PARAMS", "Identifier", "StringLiteral", "Letter", "JavaIDDigit",
    "EscapeSequence", "UnicodeEscape", "OctalEscape", "HexDigit", "WS", "'<', '>',
    "'{'", "'}''", "'private'", "'public'", "'protected'", "'class'", "'interface'",
    "'@SpecField'", "'('", "')'", "';'", "'@FuncField'", "'@Invariant'", "','",
}
```

Definition at line 17 of file SpecFileParser.java.

9.159.4.88 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.UnicodeEscape = 14`
[static]

Definition at line 44 of file SpecFileParser.java.

9.159.4.89 `final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.WS = 17` [static]

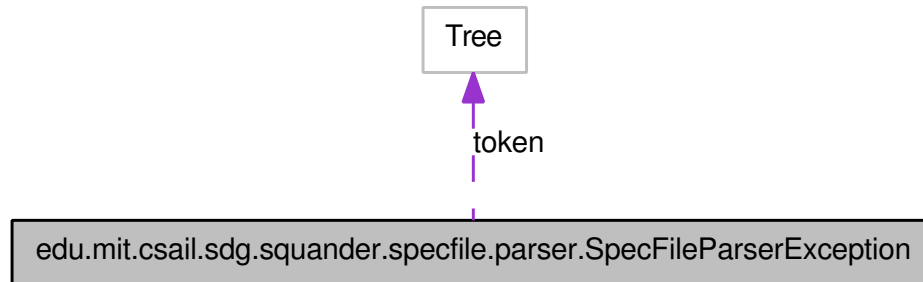
Definition at line 40 of file SpecFileParser.java.

The documentation for this class was generated from the following file:

- [spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParser.java](#)

9.160 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException:



Public Member Functions

- [SpecFileParserException](#) (String msg)
- [SpecFileParserException](#) (String msg, Throwable cause)
- [SpecFileParserException](#) (String msg, Tree token)
- [SpecFileParserException](#) (String msg, String source)
- [SpecFileParserException](#) (RecognitionException cause)
- [SpecFileParserException](#) (Throwable cause)
- [SpecFileParserException](#) (Throwable cause, Tree token)
- void [setToken](#) (Tree token)
- void [setSource](#) (String source)
- String [source](#) ()
- int [column](#) ()
- int [line](#) ()
- String [token](#) ()

Private Member Functions

- [StringBuilder layout](#) (Tree t, StringBuilder sb, String buf)

Private Attributes

- int [line](#) = -1
- int [column](#) = -1
- Tree [token](#)
- String [source](#)

9.160.1 Detailed Description

Parsing exception.

Author:

kuat

Definition at line 12 of file SpecFileParserException.java.

9.160.2 Constructor & Destructor Documentation**9.160.2.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (String *msg*)**

Definition at line 22 of file SpecFileParserException.java.

9.160.2.2 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (String *msg*, Throwable *cause*)

Definition at line 26 of file SpecFileParserException.java.

9.160.2.3 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (String *msg*, Tree *token*)

Definition at line 30 of file SpecFileParserException.java.

9.160.2.4 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (String *msg*, String *source*)

Definition at line 35 of file SpecFileParserException.java.

9.160.2.5 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (RecognitionException *cause*)

Definition at line 40 of file SpecFileParserException.java.

9.160.2.6 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (Throwable *cause*)

Definition at line 47 of file SpecFileParserException.java.

9.160.2.7 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (Throwable *cause*, Tree *token*)

Definition at line 51 of file SpecFileParserException.java.

9.160.3 Member Function Documentation**9.160.3.1 int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.column ()**

Definition at line 72 of file SpecFileParserException.java.

9.160.3.2 `StringBuilder edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.layout (Tree t, StringBuilder sb, String buf) [private]`

Token tree output

Definition at line 89 of file SpecFileParserException.java.

9.160.3.3 `int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.line ()`

Definition at line 76 of file SpecFileParserException.java.

9.160.3.4 `void edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.setSource (String source)`

Definition at line 64 of file SpecFileParserException.java.

9.160.3.5 `void edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.setToken (Tree token)`

Definition at line 56 of file SpecFileParserException.java.

Referenced by edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visit().

9.160.3.6 `String edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.source ()`

Definition at line 68 of file SpecFileParserException.java.

9.160.3.7 `String edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.token ()`

Report the deepest subtree in the tree as text

Definition at line 81 of file SpecFileParserException.java.

9.160.4 Member Data Documentation**9.160.4.1** `int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.column = -1 [private]`

Definition at line 14 of file SpecFileParserException.java.

9.160.4.2 `int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.line = -1 [private]`

line and column of the error, -1 if not specified

Definition at line 14 of file SpecFileParserException.java.

**9.160.4.3 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.source
[private]**

source string, may not correspond to the token

Definition at line 20 of file SpecFileParserException.java.

**9.160.4.4 Tree edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.token
[private]**

token at which the error occurred

Definition at line 17 of file SpecFileParserException.java.

Referenced by edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visit().

The documentation for this class was generated from the following file:

- [spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParserException.java](#)

9.161 edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N > Class Reference

Public Member Functions

- final N [visit](#) (Tree tree)

Protected Member Functions

- Node [cast](#) (Tree tree)
- Node [child](#) (Node parent)
- String [trimQuotes](#) (String s)
- String [asText](#) (Tree node)
- abstract N [visitSpecFile](#) (String modifiers, String name, List< String > paramTypes, List< N > children)
- abstract N [visitSpecField](#) (Node source)
- abstract N [visitFuncField](#) (Node n)
- abstract N [visitInvariant](#) (Node source)
- List< String > [visitParams](#) (Node paramsNode)

9.161.1 Detailed Description

Definition at line 18 of file SpecFileVisitor.java.

9.161.2 Member Function Documentation

9.161.2.1 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.asText (Tree node) [protected]

Returns the text content of a token node

Definition at line 37 of file SpecFileVisitor.java.

9.161.2.2 Node edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.cast (Tree tree) [protected]

Casts a Tree to a Node

Definition at line 21 of file SpecFileVisitor.java.

9.161.2.3 Node edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.child (Node parent) [protected]

Gets a single child

Definition at line 28 of file SpecFileVisitor.java.

9.161.2.4 `String edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.trimQuotes (String s)` [protected]

Definition at line 32 of file SpecFileVisitor.java.

9.161.2.5 `final N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visit (Tree tree)`

Definition at line 45 of file SpecFileVisitor.java.

References `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.setToken()`, `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.token()`, and `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.token()`.

9.161.2.6 `abstract N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitFuncField (Node n)` [protected, pure virtual]

9.161.2.7 `abstract N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitInvariant (Node source)` [protected, pure virtual]

9.161.2.8 `List<String> edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitParams (Node paramsNode)` [protected]

Definition at line 94 of file SpecFileVisitor.java.

9.161.2.9 `abstract N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitSpecField (Node source)` [protected, pure virtual]

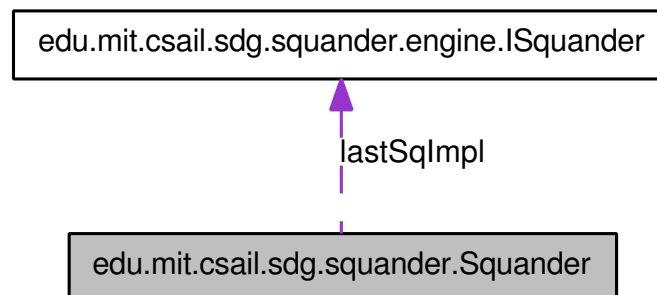
9.161.2.10 `abstract N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitSpecFile (String modifiers, String name, List<String> paramTypes, List<N> children)` [protected, pure virtual]

The documentation for this class was generated from the following file:

- [spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileVisitor.java](#)

9.162 edu.mit.csail.sdg.squander.Squander Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.Squander:



Static Public Member Functions

- static < R > R [exe](#) (Object caller, Object...methodArgs)
- static < R > R [exe](#) (Object caller, Class<?>[] methodParamTypes, Object[] methodArgs)
- static < R > R [exe](#) (Object caller, String clsName, String methodName)
- static < R > R [exe](#) (Object caller, String clsName, String methodName, Class<?>[] methodParamTypes, Object[] methodArgs)
- static [ISquanderResult](#) [getLastResult](#) ()

Private Member Functions

- [Squander](#) ()

Static Private Member Functions

- static String [getCallerMethod](#) (Throwable t)
- static String [getCallerClassName](#) (Throwable t)
- static StackTraceElement [getRightStackTraceElem](#) (Throwable t)

Static Private Attributes

- static [ISquander](#) [lastSqlImpl](#)

9.162.1 Detailed Description

Provides a public API to [Squander](#).

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 25 of file `Squander.java`.

9.162.2 Constructor & Destructor Documentation

9.162.2.1 `edu.mit.csail.sdg.squander.Squander.Squander () [private]`

Definition at line 27 of file Squander.java.

9.162.3 Member Function Documentation

9.162.3.1 `static <R> R edu.mit.csail.sdg.squander.Squander.exe (Object caller, String clsName, String methodName, Class<?>[] methodParamTypes, Object[] methodArgs) [static]`

The most general form

Parameters:

- `<R>` - the return type
- `caller` - the caller instance (`null` if static method)
- `clsName` - declaring class full name
- `methodName` - method name
- `methodParamTypes` - method parameter types
- `methodArgs` - invocation arguments

Returns:

- the return value of the invocation

Definition at line 112 of file Squander.java.

References `edu.mit.csail.sdg.squander.parser.JFSLParserException.column`, `edu.mit.csail.sdg.squander.Squander.lastSqlImpl`, `edu.mit.csail.sdg.squander.engine.ISquander.magic()`, and `edu.mit.csail.sdg.squander.parser.JFSLParserException.source()`.

9.162.3.2 `static <R> R edu.mit.csail.sdg.squander.Squander.exe (Object caller, String clsName, String methodName) [static]`

Executes the given method's specification. *Assumes that the method doesn't have any parameters.*

Parameters:

- `<R>` - the return type
- `caller` - the caller instance (`null` if static method)
- `clsName` - declaring class full name
- `methodName` - method name

Returns:

- the return value of the invocation

Definition at line 96 of file Squander.java.

References `edu.mit.csail.sdg.squander.Squander.exe()`.

9.162.3.3 `static <R> R edu.mit.csail.sdg.squander.Squander.exe (Object caller, Class<?>[] methodParamTypes, Object[] methodArgs) [static]`

Executes the caller method's specification.

Use this method only to invoke [Squander](#) from within the method which you want to squander an implementation for.

Parameters:

- `<R>` - the return type
- `caller` - the caller instance (null if static method)
- `methodParamTypes` - method parameter types
- `methodArgs` - invocation arguments

Returns:

- the return value of the invocation

Definition at line 78 of file Squander.java.

References edu.mit.csail.sdg.squander.Squander.exe(), edu.mit.csail.sdg.squander.Squander.getCallerClassName(), and edu.mit.csail.sdg.squander.Squander.getCallerMethod().

9.162.3.4 `static <R> R edu.mit.csail.sdg.squander.Squander.exe (Object caller, Object... methodArgs) [static]`

Executes the caller method's specification. Method parameter types are inferred from `methodArgs`. If there's any ambiguity about that, use [Squander#exe\(Object, Class\[\], Object\[\]\)](#).

Use this method only to invoke [Squander](#) from within the method which you want to squander an implementation for.

Parameters:

- `<R>` - the return type
- `caller` - the caller instance (null if static method)
- `methodArgs` - invocation arguments

Returns:

- the return value of the invocation

Definition at line 53 of file Squander.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.162.3.5 `static String edu.mit.csail.sdg.squander.Squander.getCallerClassName (Throwable t) [static, private]`

Definition at line 152 of file Squander.java.

References edu.mit.csail.sdg.squander.Squander.getRightStackTraceElem().

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.162.3.6 static String edu.mit.csail.sdg.squander.Squander.getCallerMethod (Throwable t) [static, private]

Definition at line 148 of file Squander.java.

References edu.mit.csail.sdg.squander.Squander.getRightStackTraceElem().

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.162.3.7 static ISquanderResult edu.mit.csail.sdg.squander.Squander.getLastResult () [static]

Returns the result of the last [Squander](#) execution.

Definition at line 142 of file Squander.java.

References edu.mit.csail.sdg.squander.engine.ISquander.getLastResult(), and edu.mit.csail.sdg.squander.Squander.lastSqImpl.

9.162.3.8 static StackTraceElement edu.mit.csail.sdg.squander.Squander.getRightStackTraceElem (Throwable t) [static, private]

Definition at line 156 of file Squander.java.

Referenced by edu.mit.csail.sdg.squander.Squander.getCallerClassName(), and edu.mit.csail.sdg.squander.Squander.getCallerMethod().

9.162.4 Member Data Documentation

9.162.4.1 ISquander edu.mit.csail.sdg.squander.Squander.lastSqImpl [static, private]

Definition at line 31 of file Squander.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe(), and edu.mit.csail.sdg.squander.Squander.getLastResult().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/Squander.java](#)

9.163 edu.mit.csail.sdg.squander.util.test.TestUtils Class Reference

Static Public Member Functions

- static void [assertArraysEqualNoOrdering](#) (Object[] expected, Object[] actual)
- static void [assertArraysEqualNoOrdering](#) (int[] expected, int[] actual)
- static void [assertArrayContains](#) (Object[] array, Object obj)
- static void [assertArrayContains](#) (int[] array, int obj)

9.163.1 Detailed Description

Definition at line 14 of file TestUtils.java.

9.163.2 Member Function Documentation

9.163.2.1 static void edu.mit.csail.sdg.squander.util.test.TestUtils.assertArrayContains (int[] array, int obj) [static]

Definition at line 49 of file TestUtils.java.

9.163.2.2 static void edu.mit.csail.sdg.squander.util.test.TestUtils.assertArrayContains (Object[] array, Object obj) [static]

Definition at line 40 of file TestUtils.java.

Referenced by edu.mit.csail.sdg.squander.util.test.TestUtils.assertArraysEqualNoOrdering().

9.163.2.3 static void edu.mit.csail.sdg.squander.util.test.TestUtils.assertArraysEqualNoOrdering (int[] expected, int[] actual) [static]

Definition at line 28 of file TestUtils.java.

References edu.mit.csail.sdg.squander.util.test.TestUtils.assertArrayContains().

9.163.2.4 static void edu.mit.csail.sdg.squander.util.test.TestUtils.assertArraysEqualNoOrdering (Object[] expected, Object[] actual) [static]

Definition at line 16 of file TestUtils.java.

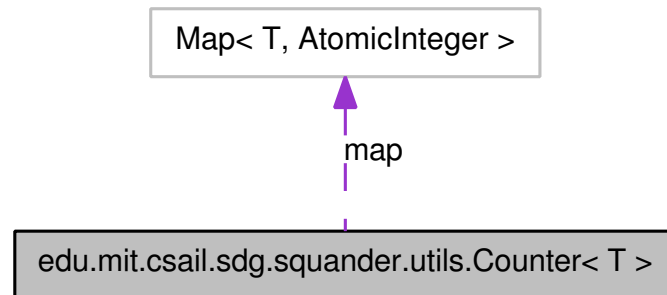
References edu.mit.csail.sdg.squander.util.test.TestUtils.assertArrayContains().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/util/test/TestUtils.java

9.164 edu.mit.csail.sdg.squander.utils.Counter< T > Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.utils.Counter< T >:



Public Member Functions

- [Counter \(\)](#)
- [int getCount \(final T key\)](#)
- [int incrementAndGet \(final T key\)](#)

Private Attributes

- `final Map< T, AtomicInteger > map = new HashMap<T,AtomicInteger>()`

9.164.1 Detailed Description

Definition at line 11 of file Counter.java.

9.164.2 Constructor & Destructor Documentation

9.164.2.1 edu.mit.csail.sdg.squander.utils.Counter< T >.Counter ()

Definition at line 15 of file Counter.java.

9.164.3 Member Function Documentation

9.164.3.1 int edu.mit.csail.sdg.squander.utils.Counter< T >.getCount (final T key)

Definition at line 19 of file Counter.java.

9.164.3.2 int edu.mit.csail.sdg.squander.utils.Counter< T >.incrementAndGet (final T key)

Definition at line 28 of file Counter.java.

9.164.4 Member Data Documentation

9.164.4.1 `final Map<T,AtomicInteger> edu.mit.csail.sdg.squander.utils.Counter< T >.map = new HashMap<T,AtomicInteger>() [private]`

Definition at line 13 of file Counter.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/utils/Counter.java](#)

9.165 edu.mit.csail.sdg.squander.utils.Predicate< T > Interface Reference

Inherited by edu.mit.csail.sdg.squander.utils.Predicate< T >.FalsePred< T >, and edu.mit.csail.sdg.squander.utils.Predicate< T >.TruePred< T >.

Classes

- class **FalsePred**< T >
- class **TruePred**< T >

Public Member Functions

- boolean [exe](#) (T t)

9.165.1 Detailed Description

Definition at line 7 of file Predicate.java.

9.165.2 Member Function Documentation

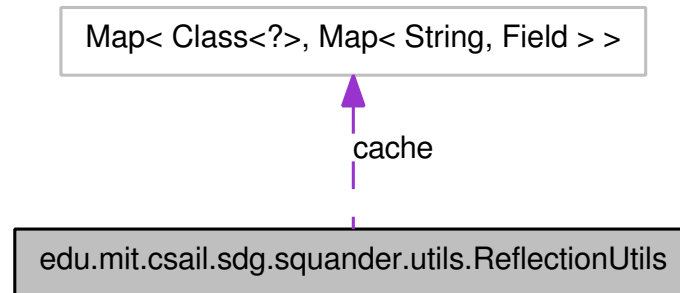
9.165.2.1 boolean edu.mit.csail.sdg.squander.utils.Predicate< T >.exe (T t)

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/utils/Predicate.java](#)

9.166 edu.mit.csail.sdg.squander.utils.ReflectionUtils Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.utils.ReflectionUtils:



Static Public Member Functions

- static Field [getFieldWithAccess](#) (Object obj, String fieldName)
- static Field [getFieldWithAccess](#) (Class<?> cls, String fieldName)
- static Field [getField](#) (Class<?> cls, String fieldName)
- static< R > R [getFieldValue](#) (Object obj, Field field)
- static< R > R [getFieldValue](#) (Object obj, String fieldName)
- static void [setFieldValue](#) (Object obj, String field, Object value)
- static void [setFieldValue](#) (Object obj, Field field, Object value)
- static Field[] [getAllFields](#) (Class<?> clz)
- static Field[] [getAllNonStaticFields](#) (Class<?> clz)
- static Field[] [getDeclaredNonStaticFields](#) (Class<?> clz)
- static Method [getMethod](#) (Class<?extends Object > clz, String methodName, Class<?>[] methodArgs) throws NoSuchMethodException
- static Method [findMethod](#) (Class<?> clz, String methodName, Class<?>[] methodParams) throws NoSuchMethodException
- static Class<?> [box](#) (Class<?> c)
- static Object [invoke](#) (Object obj, String method, Class<?>[] params, Object[] args)
- static Object [invoke_ex](#) (Object obj, String method, Class<?>[] params, Object[] args) throws NoSuchMethodException, IllegalAccessException, InvocationTargetException
- static Object [createObjectDefaultConstructor](#) (Class<?> clz)
- static Object [createNewArray](#) (Class<?> componentType, int len)
- static< T, K > T [newInstance](#) (Class< T > clz, Class< K > argType, K arg)
- static< T > T [newInstance](#) (Class< T > clz, Object[] args)
- static< T > T [newInstance](#) (Class< T > clz, Class<?>[] argTypes, Object[] args)
- static< T, K, V > T [newInstance](#) (Class< T > clz, Class< K > arg1Type, Class< V > arg2Type, K arg1, V arg2)
- static Method [getAnnotatedMethod](#) (Class<?> owner, Class<?extends Annotation > annotation)
- static Method[] [getAnnotatedMethods](#) (Class<?> owner, Class<?extends Annotation > annotation)
- static boolean [isPrimitive](#) (Class<?> type)
- static Class [lca](#) (Class clz1, Class clz2)
- static String [sig](#) (Method method)
- static Collection< Class<?> > [getImmParents](#) (Class<?> clz)
- static Collection< Type > [getImmGenericParents](#) (Class<?> cls)
- static String [toString](#) (Object obj)

Static Package Attributes

- static Map< Class<?>, Map< String, Field > > `cache` = new HashMap<Class<?>, Map<String, Field>>()

Static Private Member Functions

- static void `getAllFieldsRecursive` (Class<?> clz, List< Field > fldLst)
- static boolean `paramsMatch` (Class<?> declared, Class<?> actual)
- static void `printObj` (Object obj, StringBuilder sb, String indent, IdentityHashSet< Object > visited)

Static Private Attributes

- static final String `tab` = " "

9.166.1 Detailed Description

Author:

Aleksandar Milicevic <aca.milicevic@gmail.com>

Definition at line 29 of file ReflectionUtils.java.

9.166.2 Member Function Documentation

9.166.2.1 static Class<?> edu.mit.csail.sdg.squander.utils.ReflectionUtils.box (Class<?> c) [static]

Definition at line 225 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.paramsMatch().

9.166.2.2 static Object edu.mit.csail.sdg.squander.utils.ReflectionUtils.createNewArray (Class<?> componentType, int len) [static]

Definition at line 301 of file ReflectionUtils.java.

9.166.2.3 static Object edu.mit.csail.sdg.squander.utils.ReflectionUtils.createObjectDefaultConstructor (Class<?> clz) [static]

Creates object of the class clz using default constructor

If there is any problem during object construction, a RuntimeException is thrown

Parameters:

clz -the class of object

Returns:

- created object

Definition at line 288 of file ReflectionUtils.java.

9.166.2.4 static Method edu.mit.csail.sdg.squander.utils.ReflectionUtils.findMethod (Class<?> *clz*, String *methodName*, Class<?>[] *methodParams*) throws NoSuchMethodException
[static]

Definition at line 197 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.paramsMatch().

9.166.2.5 static Field [] edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFields (Class<?> *clz*) [static]

Definition at line 138 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFieldsRecursive().

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj().

9.166.2.6 static void edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFieldsRecursive (Class<?> *clz*, List<Field> *fldLst*) [static, private]

Definition at line 123 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFields(), and edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllNonStaticFields().

9.166.2.7 static Field [] edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllNonStaticFields (Class<?> *clz*) [static]

Definition at line 147 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFieldsRecursive().

9.166.2.8 static Method edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAnnotatedMethod (Class<?> *owner*, Class<? extends Annotation> *annotation*) [static]

Finds method in class *owner* that contains given annotation. There must be at most one annotation of the given type in the class. If there are more methods that contain same annotation, RuntimeException is thrown. In this case, it would good to use [getAnnotatedMethods\(Class, Class\)](#) method

Parameters:

owner
annotation

Returns:

See also:

[getAnnotatedMethods\(Class, Class\)](#)

Definition at line 354 of file ReflectionUtils.java.

9.166.2.9 static Method [] edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAnnotatedMethods (Class<?> *owner*, Class<?extends Annotation > *annotation*) [static]

Definition at line 368 of file ReflectionUtils.java.

9.166.2.10 static Field [] edu.mit.csail.sdg.squander.utils.ReflectionUtils.getDeclaredNonStaticFields (Class<?> *clz*) [static]

Definition at line 162 of file ReflectionUtils.java.

9.166.2.11 static Field edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField (Class<?> *cls*, String *fieldName*) [static]

Gets field from class *cls*, either declared in *cls* or in one of its superclasses

Parameters:

cls - declaring class of the field

fieldName - name of the field

Returns:

requested field

Definition at line 51 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.cache.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue(), edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldWithAccess(), and edu.mit.csail.sdg.squander.utils.ReflectionUtils.setFieldValue().

9.166.2.12 static <R> R edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue (Object *obj*, String *fieldName*) [static]

Definition at line 102 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField(), and edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue().

9.166.2.13 static <R> R edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue (Object *obj*, Field *field*) [static]

Definition at line 86 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue(), and edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj().

9.166.2.14 static Field edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldWithAccess (Class<?> *cls*, String *fieldName*) [static]

Definition at line 37 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField().

9.166.2.15 static Field edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldWithAccess (Object *obj*, String *fieldName*) [static]

Definition at line 33 of file ReflectionUtils.java.

9.166.2.16 static Collection<Type> edu.mit.csail.sdg.squander.utils.ReflectionUtils.getImmGenericParents (Class<?> *cls*) [static]

Definition at line 434 of file ReflectionUtils.java.

9.166.2.17 static Collection<Class<?> > edu.mit.csail.sdg.squander.utils.ReflectionUtils.getImmParents (Class<?> *clz*) [static]

Definition at line 425 of file ReflectionUtils.java.

9.166.2.18 static Method edu.mit.csail.sdg.squander.utils.ReflectionUtils.getMethod (Class<? extends Object > *clz*, String *methodName*, Class<?>[] *methodArgs*) throws NoSuchMethodException [static]

Gets method from class *clz* or any of its superclasses. If no method can be found `NoSuchMethodException` is raised.

Parameters:

clz - declaring class of the method
methodName - name of the method
methodArgs - method arguments

Returns:

requested method

Exceptions:

NoSuchMethodException

Definition at line 186 of file ReflectionUtils.java.

9.166.2.19 static Object edu.mit.csail.sdg.squander.utils.ReflectionUtils.invoke (Object *obj*, String *method*, Class<?>[] *params*, Object[] *args*) [static]

Invokes method of a given *obj* and set of parameters

Parameters:

obj - Object for which the method is going to be executed. Special if *obj* is of type `java.lang.Class`, method is executed as static method of class given as *obj* parameter

method - name of the object

params - actual parameters for the method

Returns:

- result of the method execution

If there is any problem with method invocation, a RuntimeException is thrown

Definition at line 255 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.invoke_ex().

9.166.2.20 `static Object edu.mit.csail.sdg.squander.utils.ReflectionUtils.invoke_ex (Object obj, String method, Class<?>[] params, Object[] args) throws NoSuchMethodException, IllegalAccessException, InvocationTargetException` **[static]**

Definition at line 263 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.invoke().

9.166.2.21 `static boolean edu.mit.csail.sdg.squander.utils.ReflectionUtils.isPrimitive (Class<?> type)` **[static]**

Definition at line 379 of file ReflectionUtils.java.

9.166.2.22 `static Class edu.mit.csail.sdg.squander.utils.ReflectionUtils.lca (Class clz1, Class clz2)` **[static]**

Lowest common ancestor of two classes in the type lattice.

Definition at line 392 of file ReflectionUtils.java.

9.166.2.23 `static <T,K,V> T edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance (Class< T > clz, Class< K > arg1Type, Class< V > arg2Type, K arg1, V arg2)` **[static]**

Definition at line 332 of file ReflectionUtils.java.

9.166.2.24 `static <T> T edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance (Class< T > clz, Class<?>[] argTypes, Object[] args)` **[static]**

Definition at line 322 of file ReflectionUtils.java.

9.166.2.25 `static <T> T edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance (Class< T > clz, Object[] args)` **[static]**

Definition at line 315 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance().

9.166.2.26 `static <T,K> T edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance (Class< T > clz, Class< K > argType, K arg) [static]`

Definition at line 305 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance().

9.166.2.27 `static boolean edu.mit.csail.sdg.squander.utils.ReflectionUtils.paramsMatch (Class<?> declared, Class<?> actual) [static, private]`

Definition at line 219 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.box().

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.findMethod().

9.166.2.28 `static void edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj (Object obj, StringBuilder sb, String indent, IdentityHashSet< Object > visited) [static, private]`

Definition at line 452 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFields(), edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue(), and edu.mit.csail.sdg.squander.utils.ReflectionUtils.tab.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.toString().

9.166.2.29 `static void edu.mit.csail.sdg.squander.utils.ReflectionUtils.setFieldValue (Object obj, Field field, Object value) [static]`

Definition at line 110 of file ReflectionUtils.java.

9.166.2.30 `static void edu.mit.csail.sdg.squander.utils.ReflectionUtils.setFieldValue (Object obj, String field, Object value) [static]`

Definition at line 106 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField().

9.166.2.31 `static String edu.mit.csail.sdg.squander.utils.ReflectionUtils.sig (Method method) [static]`

Returns method signature as string

Definition at line 415 of file ReflectionUtils.java.

9.166.2.32 `static String edu.mit.csail.sdg.squander.utils.ReflectionUtils.toString (Object obj) [static]`

Definition at line 445 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj().

9.166.3 Member Data Documentation

9.166.3.1 `Map<Class<?>, Map<String, Field> >`
`edu.mit.csail.sdg.squander.utils.ReflectionUtils.cache = new`
`HashMap<Class<?>, Map<String, Field>>() [static, package]`

Definition at line 31 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField().

9.166.3.2 `final String edu.mit.csail.sdg.squander.utils.ReflectionUtils.tab = " "` `[static,`
`private]`

Definition at line 443 of file ReflectionUtils.java.

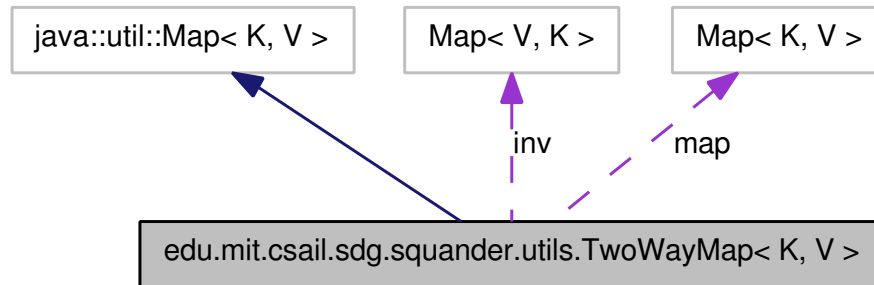
Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/utils/ReflectionUtils.java](#)

9.167 edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V > Class Reference

Inherits java::util::Map< K, V >. Collaboration diagram for edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >:



Public Member Functions

- void [clear](#) ()
- boolean [containsKey](#) (Object key)
- boolean [containsValue](#) (Object value)
- Set< java.util.Map.Entry< K, V > > [entrySet](#) ()
- boolean [equals](#) (Object o)
- V [get](#) (Object key)
- K [getKeyForValue](#) (V value)
- int [hashCode](#) ()
- boolean [isEmpty](#) ()
- Set< K > [keySet](#) ()
- V [put](#) (K key, V value)
- void [putAll](#) (Map<?extends K,?extends V > m)
- V [remove](#) (Object key)
- int [size](#) ()
- Collection< V > [values](#) ()

Private Attributes

- Map< K, V > [map](#) = new LinkedHashMap<K, V>()
- Map< V, K > [inv](#) = new LinkedHashMap<V, K>()

9.167.1 Detailed Description

Definition at line 12 of file TwoWayMap.java.

9.167.2 Member Function Documentation

9.167.2.1 void edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.clear ()

Definition at line 16 of file TwoWayMap.java.

9.167.2.2 `boolean edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.containsKey (Object key)`

Definition at line 21 of file TwoWayMap.java.

9.167.2.3 `boolean edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.containsValue (Object value)`

Definition at line 25 of file TwoWayMap.java.

9.167.2.4 `Set<java.util.Map.Entry<K, V> > edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.entrySet ()`

Definition at line 29 of file TwoWayMap.java.

9.167.2.5 `boolean edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.equals (Object o)`

Definition at line 33 of file TwoWayMap.java.

9.167.2.6 `V edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.get (Object key)`

Definition at line 37 of file TwoWayMap.java.

9.167.2.7 `K edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.getKeyForValue (V value)`

Definition at line 41 of file TwoWayMap.java.

9.167.2.8 `int edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.hashCode ()`

Definition at line 45 of file TwoWayMap.java.

9.167.2.9 `boolean edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.isEmpty ()`

Definition at line 49 of file TwoWayMap.java.

9.167.2.10 `Set<K> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.keySet ()`

Definition at line 53 of file TwoWayMap.java.

9.167.2.11 `V edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.put (K key, V value)`

Definition at line 57 of file TwoWayMap.java.

9.167.2.12 `void edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.putAll (Map<?extends K,?extends V > m)`

Definition at line 63 of file TwoWayMap.java.

9.167.2.13 `V edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.remove (Object key)`

Definition at line 69 of file TwoWayMap.java.

9.167.2.14 `int edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.size ()`

Definition at line 76 of file TwoWayMap.java.

9.167.2.15 `Collection<V> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.values ()`

Definition at line 80 of file TwoWayMap.java.

9.167.3 Member Data Documentation**9.167.3.1** `Map<V, K> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.inv = new LinkedHashMap<V, K>() [private]`

Definition at line 14 of file TwoWayMap.java.

9.167.3.2 `Map<K, V> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.map = new LinkedHashMap<K, V>() [private]`

Definition at line 13 of file TwoWayMap.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/utils/TwoWayMap.java](#)

9.168 edu.mit.csail.sdg.squander.utils.Utils Class Reference

Static Public Member Functions

- static boolean [isPrimitive](#) (Class<?> cls)
- static InstanceDomain [findDomain](#) (final Class<?> cls, final ForgeProgram program)
- static GlobalVariable [findGlobalVar](#) (String varName, ForgeProgram program)
- static InstanceLiteral [findLiteral](#) (final String litName, final ForgeProgram program)
- static ForgeDomain [getArrayDomain](#) (ForgeVariable g)
- static String [getArrayType](#) (final ForgeVariable var)
- static Class<?> [classForName](#) (final String clsName) throws ClassNotFoundException
- static Annotation[] [getMethodAnnotations](#) (String className, String methodName, Class<?>[] parameterTypes)
- static boolean [boolValue](#) (ForgeConstant fConst)
- static int [intValue](#) (ForgeConstant fConst)
- static String [getMethodParamName](#) (Method method, int i)
- static void [writeToFile](#) (String text, String fileName)

9.168.1 Detailed Description

Various static utility methods

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 34 of file Utils.java.

9.168.2 Member Function Documentation

9.168.2.1 static boolean edu.mit.csail.sdg.squander.utils.Utils.boolValue (ForgeConstant *fConst*) [static]

Definition at line 215 of file Utils.java.

9.168.2.2 static Class<?> edu.mit.csail.sdg.squander.utils.Utils.classForName (final String *clsName*) throws ClassNotFoundException [static]

Definition at line 142 of file Utils.java.

9.168.2.3 static InstanceDomain edu.mit.csail.sdg.squander.utils.Utils.findDomain (final Class<?> *cls*, final ForgeProgram *program*) [static]

Linearly searches through all instance domain in order to find one with the given name.

NOTE: there should probably exist a better (and more efficient) way to do this.

Definition at line 56 of file Utils.java.

9.168.2.4 static GlobalVariable edu.mit.csail.sdg.squander.utils.Utils.findGlobalVar (String *varName*, ForgeProgram *program*) [static]

Linearly searches through all global variables in order to find one with the given name.

NOTE: there should probably exist a better (and more efficient) way to do this.

Definition at line 80 of file Utils.java.

9.168.2.5 static InstanceLiteral edu.mit.csail.sdg.squander.utils.Utils.findLiteral (final String *litName*, final ForgeProgram *program*) [static]

Linearly searches through all instance literals in order to find one with the given name.

NOTE: there should probably exist a better (and more efficient) way to do this.

Definition at line 96 of file Utils.java.

9.168.2.6 static ForgeDomain edu.mit.csail.sdg.squander.utils.Utils.getArrayDomain (ForgeVariable *g*) [static]

Checks whether the given global variable is array and if it is returns its array domain, otherwise returns null.

Definition at line 110 of file Utils.java.

9.168.2.7 static String edu.mit.csail.sdg.squander.utils.Utils.getArrayType (final ForgeVariable *var*) [static]

Definition at line 127 of file Utils.java.

9.168.2.8 static Annotation [] edu.mit.csail.sdg.squander.utils.Utils.getMethodAnnotations (String *className*, String *methodName*, Class<?>[] *parameterTypes*) [static]

Finds the method in the given class with the given name and parameter types Returns all annotations on the given method

Definition at line 187 of file Utils.java.

9.168.2.9 static String edu.mit.csail.sdg.squander.utils.Utils.getMethodParamName (Method *method*, int *i*) [static]

Definition at line 227 of file Utils.java.

9.168.2.10 static int edu.mit.csail.sdg.squander.utils.Utils.intValue (ForgeConstant *fConst*) [static]

Definition at line 222 of file Utils.java.

9.168.2.11 static boolean edu.mit.csail.sdg.squander.utils.Utils.isPrimitive (Class<?> *cls*)
[static]

Returns true if `cls.isPrimitive()` is true, or if `cls` is equal to either `Integer.class` or `Boolean.class`

Definition at line 40 of file `Utils.java`.

9.168.2.12 static void edu.mit.csail.sdg.squander.utils.Utils.writeToFile (String *text*, String *fileName*)
[static]

Definition at line 237 of file `Utils.java`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/utils/Utils.java`

Chapter 10

File Documentation

10.1 `examples/edu/mit/csail/sdg/squander/examples/bst/BalancedBST.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.2 examples/edu/mit/csail/sdg/squander/examples/bst/BST_noParent.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.3 examples/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFld.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.4 examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoard.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoard](#)
- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoard.Cell](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.chess](#)

10.5 examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoardMan.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.chess](#)

10.6 examples/edu/mit/csail/sdg/squander/examples/equiv/Node.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.equiv.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.equiv](#)

10.7 examples/edu/mit/csail/sdg/squander/examples/graph/Graph.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph.Node](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph.Edge](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph](#)

10.8 examples/edu/mit/csail/sdg/squander/examples/graph2/Graph.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph2.Graph](#)
- class **edu.mit.csail.sdg.squander.examples.graph2.Graph.Node**

Packages

- package [edu.mit.csail.sdg.squander.examples.graph2](#)

10.9 examples/edu/mit/csail/sdg/squander/examples/partitioning/Graph.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.partitioning.Graph](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.partitioning](#)

10.10 examples/edu/mit/csail/sdg/squander/examples/graph/Graph_2.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph.Graph__2](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph__2.Node](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph__2.Edge](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph](#)

10.11 examples/edu/mit/csail/sdg/squander/examples/graph/HamiltonianMan.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph](#)

10.12 examples/edu/mit/csail/sdgsquander/examples/javacol/Collections.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.Collections](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.13 examples/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsEx.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.Str](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.14 examples/edu/mit/csail/sdgsquander/examples/list/func/Cons.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func.Cons](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func](#)

10.15 examples/edu/mit/csail/sdg/squander/examples/list/func2/Cons.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func2.Cons](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func2](#)

10.16 examples/edu/mit/csail/sdg/squander/examples/list/func/IntList.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func.IntList](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func](#)

10.17 examples/edu/mit/csail/sdg/squander/examples/list/func2/IntList.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func2.IntList](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func2](#)

10.18 `examples/edu/mit/csail/squander/examples/list/func2/Nil.java` File Reference

Classes

- class [edu.mit.csail.squander.examples.list.func2.Nil](#)

Packages

- package [edu.mit.csail.squander.examples.list.func2](#)

10.19 examples/edu/mit/csail/sdg/squander/examples/list/LinkedList.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.LinkedList](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedList.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list](#)

10.20 examples/edu/mit/csail/sdgsquander/examples/list/LinkedList_ind.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.LinkedList_ind](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list](#)

10.21 [examples/edu/mit/csail/sdg/squander/examples/mock/AddressBook.java](#) File Reference

Classes

- interface [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.22 examples/edu/mit/csail/sdg/squander/examples/mock/EmailMessage.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.EmailMessage](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.23 examples/edu/mit/csail/sdg/squander/examples/mock/MockAddressBook.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.24 examples/edu/mit/csail/sdg/squander/examples/mock/SquanderAddressBook File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.Entry](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.25 [examples/edu/mit/csail/sdg/squander/examples/numbers/Arithmetic.java](#) File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.Arithmetic](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.26 `examples/edu/mit/csail/sdgsquander/examples/numbers/DeclarativeSqRoot` File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.27 examples/edu/mit/csail/sdg/squander/examples/numbers/ImperativeSqRoot File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.28 examples/edu/mit/csail/sdg/squander/examples/numbers/ISqRoot.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.29 examples/edu/mit/csail/sdg/squander/examples/numbers/MixedSqRoot.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.30 examples/edu/mit/csail/sdg/squander/examples/partitioning/Domain.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.partitioning.Domain](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.partitioning](#)

10.31 [examples/edu/mit/csail/sdg/squander/examples/partitioning/Literal.java](#) File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.partitioning.Literal](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.partitioning](#)

10.32 examples/edu/mit/csail/sdg/squander/examples/partitioning/Partition.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.partitioning.Partition](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.partitioning](#)

10.33 [examples/edu/mit/csail/sdg/squander/examples/rbt/RedBlackTree.java](#) File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree](#)
- class [edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.rbt](#)

10.34 examples/edu/mit/csail/sdg/squander/examples/setpoly/BstIntSet.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet](#)
- class [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.setpoly](#)

10.35 examples/edu/mit/csail/sdg/squander/examples/setpoly/IntSet.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.setpoly.IntSet](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.setpoly](#)

10.36 examples/edu/mit/csail/sdg/squander/examples/setpoly/SetIntSet.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.setpoly](#)

10.37 examples/edu/mit/csail/sdg/squander/examples/sort/Sort.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sort.Sort](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sort](#)

10.38 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.Cell](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.CellGroup](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.39 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku2.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.CellGroup](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.40 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku3.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.41 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku4.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.42 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku5.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.43 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileLexer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6](#)

Packages

- package [edu.mit.csail.sdg.squander.specfile.parser](#)

10.44 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParser.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.Node](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.NodeAdaptor](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfile_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.type_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.mod_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.cls_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfield_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.funcfield_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.invariant_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.params_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.strings_return](#)

Packages

- package [edu.mit.csail.sdg.squander.specfile.parser](#)

10.45 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParserException.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException](#)

Packages

- package [edu.mit.csail.sdg.squander.specfile.parser](#)

10.46 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileVisitor.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor](#)< N >

Packages

- package [edu.mit.csail.sdg.squander.specfile.parser](#)

10.47 src/edu/mit/csail/sdg/annotations/FuncField.java File Reference

Classes

- interface [edu.mit.csail.sdg.annotations.FuncField](#)

Packages

- package [edu.mit.csail.sdg.annotations](#)

10.48 src/edu/mit/csail/sdg/squander/absstate/AbstractState.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.AbstractState](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.49 src/edu/mit/csail/sdg/squander/absstate/FieldValue.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.FieldValue](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.50 src/edu/mit/csail/sdg/squander/absstate/ObjAbsState.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.ObjAbsState](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.51 src/edu/mit/csail/sdg/squander/absstate/ObjTuple.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.ObjTuple](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.52 `src/edu/mit/csail/sdg/squander/absstate/ObjTupleSet.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.ObjTupleSet](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.53 src/edu/mit/csail/sdg/squander/annotations/Fresh.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.annotations.Fresh](#)

Packages

- package [edu.mit.csail.sdg.squander.annotations](#)

10.54 `src/edu/mit/csail/sdg/squander/annotations/FreshObjects.java` File Reference

Classes

- interface [edu.mit.csail.sdg.squander.annotations.FreshObjects](#)

Packages

- package [edu.mit.csail.sdg.squander.annotations](#)

10.55 src/edu/mit/csail/sdg/squander/annotations/Options.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.annotations.Options](#)

Packages

- package [edu.mit.csail.sdg.squander.annotations](#)

10.56 `src/edu/mit/csail/sdg/squander/engine/ForgeConverter.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.ForgeConverter](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.57 src/edu/mit/csail/sdg/squander/engine/ForgeEval.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.ForgeEval](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.58 `src/edu/mit/csail/sdg/squander/engine/Heap.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.Heap](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.59 src/edu/mit/csail/sdg/squander/engine/Heap2Bounds.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.Heap2Bounds](#)
- class **edu.mit.csail.sdg.squander.engine.Heap2Bounds.Pair**

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.60 `src/edu/mit/csail/sdg/squander/engine/ISquander.java` **File Reference**

Classes

- interface [edu.mit.csail.sdg.squander.engine.ISquander](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.61 src/edu/mit/csail/sdg/squander/engine/ISquanderResult.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.engine.ISquanderResult](#)
- interface [edu.mit.csail.sdg.squander.engine.ISquanderResult.IEvaluator](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.62 `src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkod2Impl.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#)
- class `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.FldRelElem`

Packages

- package [edu.mit.csail.sdg.squander.engine.kk](#)

10.63 src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.DiscoverHigherOrderQuant](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem](#)

Packages

- package [edu.mit.csail.sdg.squander.engine.kk](#)

10.64 `src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPart2Impl.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#)

Packages

- package [edu.mit.csail.sdg.squander.engine.kk](#)

10.65 src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPartImpl.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval](#)
- class **edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.Atom**

Packages

- package [edu.mit.csail.sdg.squander.engine.kk](#)

10.66 src/edu/mit/csail/sdg/squander/engine/SquanderEval.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderEval](#)
- interface [edu.mit.csail.sdg.squander.engine.SquanderEval.BinFunc< R, T >](#)
- class [edu.mit.csail.sdg.squander.engine.SquanderEval.StackElem](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.67 src/edu/mit/csail/sdg/squander/engine/SquanderEval2.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderEval2](#)
- interface [edu.mit.csail.sdg.squander.engine.SquanderEval2.BinFunc](#)< R, T >
- class [edu.mit.csail.sdg.squander.engine.SquanderEval2.StackElem](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.68 src/edu/mit/csail/sdg/squander/engine/SquanderImpl.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderImpl](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.69 src/edu/mit/csail/sdg/squander/engine/SquanderReporter.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderReporter](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.70 `src/edu/mit/csail/sdg/squander/engine/SquanderResult.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderResult](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.71 src/edu/mit/csail/sdg/squander/forge_examples/BinarySearchTree.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree](#)

Packages

- package [edu.mit.csail.sdg.squander.forge_examples](#)

10.72 examples/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTree.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.73 src/edu/mit/csail/sdg/squander/forge_examples/TopologicalSort.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort](#)

Packages

- package [edu.mit.csail.sdg.squander.forge_examples](#)

10.74 src/edu/mit/csail/sdg/squander/log/Log.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.log.Log](#)

Packages

- package [edu.mit.csail.sdg.squander.log](#)

10.75 src/edu/mit/csail/sdg/squander/options/ConfigLoader.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.options.ConfigLoader](#)

Packages

- package [edu.mit.csail.sdg.squander.options](#)

10.76 src/edu/mit/csail/sdg/squander/options/GlobalOptions.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.options.GlobalOptions](#)

Packages

- package [edu.mit.csail.sdg.squander.options](#)

10.77 src/edu/mit/csail/sdg/squander/parser/JFSLLexer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.parser.JFSLLexer](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26](#)

Packages

- package [edu.mit.csail.sdg.squander.parser](#)

10.78 `src/edu/mit/csail/sdg/squander/parser/JFSLParser.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.parser.JFSLParser](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.Node](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.NodeAdaptor](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.clause_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.specField_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.modifies_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.compilationUnit_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.packageName_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.importDeclaration_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeDeclaration_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeParameters_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeParameters2_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeBodyDeclaration_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.methodParameters_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.specCase_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.declaration_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.declarationMult_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.frame_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.storeRef_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.storePrimary_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.storeSelectors_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.storeWildCard_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.keywordLiteral_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.literal_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.integerLiteral_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.primitiveType_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeName_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeDisambiguous_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.type_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.parExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.expressionList_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.arguments_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.expression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.quantifiedExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.logicalExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.logicalOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalOrExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalAndExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.inclusiveOrExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.exclusiveOrExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.andExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.bitAndOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.equalityExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.equalityOp_return](#)

- class [edu.mit.csail.sdg.squander.parser.JFSLParser.instanceOfExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.relationalExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.inOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.relationalOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setUnaryExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.shiftExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.shiftOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.additiveExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.additiveOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.sizeExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.multiplicativeExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.multOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setAdditiveExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setAdditiveOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.overrideExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.intersectionExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.composeExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.unaryExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.unaryExpressionNotPlusMinus_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.castExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.decls_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.relationalUnaryExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.joinExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.common_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.primary_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.selector_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.specUnaryOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setDeclOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setUnaryOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setQuantOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79](#)

Packages

- package [edu.mit.csail.sdg.squander.parser](#)

10.79 `src/edu/mit/csail/sdg/squander/parser/JFSLParserException.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.parser.JFSLParserException](#)

Packages

- package [edu.mit.csail.sdg.squander.parser](#)

10.80 src/edu/mit/csail/sdg/squander/serializer/AbstractHeap.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.81 `src/edu/mit/csail/sdg/squander/serializer/AbstractHeapListener.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.82 src/edu/mit/csail/sdg/squander/serializer/ConsoleHeap.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.83 `src/edu/mit/csail/sdg/squander/serializer/HeapListener.java` File Reference

Classes

- interface [edu.mit.csail.sdg.squander.serializer.HeapListener](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.84 src/edu/mit/csail/sdg/squander/serializer/IHeap.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.serializer.IHeap](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.85 `src/edu/mit/csail/sdg/squander/serializer/Serializer.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.Serializer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.86 src/edu/mit/csail/sdg/squander/serializer/special/ArraySer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.87 `src/edu/mit/csail/sdg/squander/serializer/special/DefaultObjSer.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.88 src/edu/mit/csail/sdg/squander/serializer/special/IObjSer.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.89 `src/edu/mit/csail/sdg/squander/serializer/special/ListSer.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.ListSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.90 src/edu/mit/csail/sdg/squander/serializer/special/MapSer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.MapSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.91 `src/edu/mit/csail/sdg/squander/serializer/special/ObjSerFactory.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.92 src/edu/mit/csail/sdg/squander/serializer/special/SetSer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.SetSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.93 `src/edu/mit/csail/sdg/squander/serializer/special/StringSer.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.StringSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.94 src/edu/mit/csail/sdg/squander/spec/ArityMismatchException.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.ArityMismatchException](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.95 `src/edu/mit/csail/sdg/squander/spec/ClassSpec.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.ClassSpec](#)
- class `edu.mit.csail.sdg.squander.spec.ClassSpec.Invariant`

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.96 src/edu/mit/csail/sdg/squander/spec/CompositeSpecProvider.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.97 src/edu/mit/csail/sdg/squander/spec/constant/ConstRel.java File Reference

Packages

- package [edu.mit.csail.sdg.squander.spec.constant](#)

Enumerations

- enum [edu::mit::csail::sdg::squander::spec::constant.ConstRel](#) {
[edu::mit::csail::sdg::squander::spec::constant.IDEN](#) = (JType.Factory.instance.newJType(Object.class, Object.class)),
[edu::mit::csail::sdg::squander::spec::constant.UNIV](#) = (JType.Factory.instance.newJType(Object.class)),
[edu::mit::csail::sdg::squander::spec::constant.NONE](#) = (JType.Factory.instance.newJType(Object.class)),
[edu::mit::csail::sdg::squander::spec::constant.INC](#) = (JType.Factory.instance.newJType(int.class, int.class)),
[edu::mit::csail::sdg::squander::spec::constant.DEC](#) = (JType.Factory.instance.newJType(int.class, int.class)) }

10.98 src/edu/mit/csail/sdg/squander/spec/constant/ConstRel2Bound.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound](#)

Packages

- package [edu.mit.csail.sdg.squander.spec.constant](#)

10.99 `src/edu/mit/csail/sdg/squander/spec/constant/ConstRels.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.constant.ConstRels](#)

Packages

- package [edu.mit.csail.sdg.squander.spec.constant](#)

10.100 src/edu/mit/csail/sdg/squander/spec/constant/ConstRelVisitor.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor](#)< E >

Packages

- package [edu.mit.csail.sdg.squander.spec.constant](#)

10.101 `src/edu/mit/csail/sdg/squander/spec/ForgeEnv.java` File Reference

Classes

- interface [edu.mit.csail.sdg.squander.spec.ForgeEnv](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.102 src/edu/mit/csail/sdg/squander/spec/ForgeScene.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.ForgeScene](#)
- class **edu.mit.csail.sdg.squander.spec.ForgeScene.ArrayVars**
- class [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.103 `src/edu/mit/csail/sdg/squander/spec/Frame.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Frame](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.104 src/edu/mit/csail/sdg/squander/spec/FrameInference.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.FrameInference](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.105 `src/edu/mit/csail/sdg/squander/spec/IncompatibleTypesException.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.106 src/edu/mit/csail/sdg/squander/spec/ISpecProvider.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.spec.ISpecProvider](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.107 `src/edu/mit/csail/sdg/squander/spec/JavaScene.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.JavaScene](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.108 src/edu/mit/csail/sdg/squander/spec/JField.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.JField](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.109 `src/edu/mit/csail/sdg/squander/spec/JMethod.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.JMethod](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.110 src/edu/mit/csail/sdg/squander/spec/JType.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.spec.JType](#)
- class **edu.mit.csail.sdg.squander.spec.JType.Factory**
- class **edu.mit.csail.sdg.squander.spec.JType.AbstractJType**
- class **edu.mit.csail.sdg.squander.spec.JType.Unary**
- class **edu.mit.csail.sdg.squander.spec.JType.Tuple**

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.111 [src/edu/mit/csail/sdg/squander/spec/MethodSpec.java](#) **File Reference**

Classes

- class [edu.mit.csail.sdg.squander.spec.MethodSpec](#)
- class [edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.112 src/edu/mit/csail/sdg/squander/spec/MyExprEvaluator.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.MyExprEvaluator](#)
- interface [edu.mit.csail.sdg.squander.spec.MyExprEvaluator.BinFunc](#)< R, T >
- class [edu.mit.csail.sdg.squander.spec.MyExprEvaluator.StackElem](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.113 `src/edu/mit/csail/sdg/squander/spec/NameSpace.java` **File Reference**

Classes

- class [edu.mit.csail.sdg.squander.spec.NameSpace](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.114 src/edu/mit/csail/sdg/squander/spec/Null.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Null](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.115 src/edu/mit/csail/sdg/squander/spec/ReflectiveSpecProvider.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.116 src/edu/mit/csail/sdg/squander/spec/Source.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Source](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.117 src/edu/mit/csail/sdg/squander/spec/Spec.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Spec](#)
- class [edu.mit.csail.sdg.squander.spec.Spec.SpecCase](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.118 src/edu/mit/csail/sdg/squander/spec/SpecFileSpecProvider.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#)
- class [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.119 `src/edu/mit/csail/sdg/squander/spec/SqFunc.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.SqFunc](#)
- interface [edu.mit.csail.sdg.squander.spec.SqFunc.Binary](#) < **R**, **A1**, **A2** >
- class [edu.mit.csail.sdg.squander.spec.SqFunc.Func](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.120 src/edu/mit/csail/sdg/squander/spec/Tr.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Tr](#)
- class **edu.mit.csail.sdg.squander.spec.Tr.SpecFieldTranslator**
- class **edu.mit.csail.sdg.squander.spec.Tr.SpecFieldBoundTranslator**
- class **edu.mit.csail.sdg.squander.spec.Tr.FrameConstructor**

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.121 [src/edu/mit/csail/sdg/squander/spec/TypeChecker.java](#) File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.TypeChecker](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.122 src/edu/mit/csail/sdg/squander/spec/TypeCheckException.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.TypeCheckException](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.123 `src/edu/mit/csail/sdg/squander/spec/Visitor.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Visitor](#)< N, M >

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.124 src/edu/mit/csail/sdg/squander/Squander.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.Squander](#)

Packages

- package [edu.mit.csail.sdg.squander](#)

10.125 `src/edu/mit/csail/sdg/squander/utils/Counter.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.utils.Counter< T >](#)

Packages

- package [edu.mit.csail.sdg.squander.utils](#)

10.126 src/edu/mit/csail/sdg/squander/Utils/Predicate.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.Utils.Predicate< T >](#)
- class [edu.mit.csail.sdg.squander.Utils.Predicate< T >.TruePred< T >](#)
- class [edu.mit.csail.sdg.squander.Utils.Predicate< T >.FalsePred< T >](#)

Packages

- package [edu.mit.csail.sdg.squander.Utils](#)

10.127 `src/edu/mit/csail/sdg/squander/utils/ReflectionUtils.java` File Reference

Classes

- class [edu.mit.csail.sdg.squander.utils.ReflectionUtils](#)

Packages

- package [edu.mit.csail.sdg.squander.utils](#)

10.128 src/edu/mit/csail/sdg/squander/Utils/TwoWayMap.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.Utils.TwoWayMap< K, V >](#)

Packages

- package [edu.mit.csail.sdg.squander.Utils](#)

10.129 src/edu/mit/csail/sdg/squander/Utils.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.Utils](#)

Packages

- package [edu.mit.csail.sdg.squander](#)

10.130 examples/edu/mit/csail/sdg/squander/examples/func/Utils.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.func.Utils](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.func](#)

10.131 tests/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTreeTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.132 tests/edu/mit/csail/sdg/squander/examples/bst/BST_noParentTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.133 tests/edu/mit/csail/sdg/squander/examples/bst/BST_-noSpecFldTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.134 tests/edu/mit/csail/sdg/squander/examples/graph/GraphTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph.GraphTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph](#)

10.135 tests/edu/mit/csail/sdg/squander/examples/graph2/GraphTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph2.GraphTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph2](#)

10.136 tests/edu/mit/csail/sdg/squander/examples/javacol/ListTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.ListTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.137 tests/edu/mit/csail/sdg/squander/examples/list/func2/ListTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func2.ListTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func2](#)

10.138 tests/edu/mit/csail/sdg/squander/examples/javacol/MapTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.MapTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.139 tests/edu/mit/csail/sdg/squander/examples/javacol/SetTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.SetTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.140 tests/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.141 tests/edu/mit/csail/sdg/squander/examples/list/LinkedListTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.LinkedListTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list](#)

10.142 tests/edu/mit/csail/sdg/squander/examples/mock/MockAddressBookTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.143 tests/edu/mit/csail/sdg/squander/examples/mock/TestAddressBook.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.144 tests/edu/mit/csail/sdg/squander/examples/mock/TestSquanderAddressBook File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.145 tests/edu/mit/csail/sdg/squander/examples/numbers/ArithmeticTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.146 tests/edu/mit/csail/sdg/squander/examples/numbers/SqRootTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.SqRootTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.147 tests/edu/mit/csail/sdg/squander/examples/sort/SortTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sort.SortTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sort](#)

10.148 tests/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1Test.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.149 tests/edu/mit/csail/sdg/squander/regressions/Tests.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.regressions.Tests](#)

Packages

- package [edu.mit.csail.sdg.squander.regressions](#)

10.150 tests/edu/mit/csail/sdg/squander/util/test/TestUtils.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.util.test.TestUtils](#)

Packages

- package [edu.mit.csail.sdg.squander.util.test](#)

Index

[_findQ](#)
[edu::mit::csail::sdg::squander::examples::numbers::Arithmetic](#),
[313](#)

[_findR](#)
[edu::mit::csail::sdg::squander::examples::numbers::Arithmetic](#),
[313](#)

[_square_root_mixed](#)
[edu::mit::csail::sdg::squander::examples::numbers::Arithmetic](#),
[313](#)

a
[adaptor](#)
[edu::mit::csail::sdg::squander::parser::JFSLParser](#),
[346](#)

[absFun](#)
[edu::mit::csail::sdg::squander::spec::JField](#),
[665](#)

[absFunc](#)
[edu::mit::csail::sdg::squander::serializer::special::ArraySer](#),
[579](#)
[edu::mit::csail::sdg::squander::serializer::special::DefaultObjSer](#),
[582](#)
[edu::mit::csail::sdg::squander::serializer::special::IObjSer](#),
[584](#)
[edu::mit::csail::sdg::squander::serializer::special::ListSer](#),
[586](#)
[edu::mit::csail::sdg::squander::serializer::special::MapSer](#),
[588](#)
[edu::mit::csail::sdg::squander::serializer::special::SetSer](#),
[594](#)
[edu::mit::csail::sdg::squander::serializer::special::StringSer](#),
[597](#)

[absolutelyTerribleHack](#)
[edu::mit::csail::sdg::squander::spec::Tr](#), [720](#)

Abstract State, [19](#)

abstractConstraint
[edu::mit::csail::sdg::squander::spec::Spec](#), [702](#)

abstractState
[edu::mit::csail::sdg::squander::serializer::special::DefaultObjSer](#),
[583](#)

accepts
[edu::mit::csail::sdg::squander::serializer::special::ArraySer](#),
[580](#)
[edu::mit::csail::sdg::squander::serializer::special::DefaultObjSer](#),
[582](#)

[edu::mit::csail::sdg::squander::serializer::special::IObjSer](#),
[584](#)
[edu::mit::csail::sdg::squander::serializer::special::ListSer](#),
[587](#)
[edu::mit::csail::sdg::squander::serializer::special::MapSer](#),
[589](#)
[edu::mit::csail::sdg::squander::serializer::special::SetSer](#),
[595](#)
[edu::mit::csail::sdg::squander::serializer::special::StringSer](#),
[597](#)

[add](#)
[edu::mit::csail::sdg::squander::absstate::ObjAbsState](#),
[85](#)
[edu::mit::csail::sdg::squander::absstate::ObjTupleSet](#),
[92](#)
[edu::mit::csail::sdg::squander::examples::javacol::Collections](#),
[269](#)
[edu::mit::csail::sdg::squander::examples::list::LinkedList](#),
[296](#)
[edu::mit::csail::sdg::squander::examples::setpoly::BstIntSet](#),
[339](#)
[edu::mit::csail::sdg::squander::examples::setpoly::IntSet](#),
[341](#)
[edu::mit::csail::sdg::squander::spec::Frame](#),
[642](#)

[add_all](#)
[edu::mit::csail::sdg::squander::examples::list::LinkedList](#),
[296](#)

addAllTuples
[edu::mit::csail::sdg::squander::absstate::FieldValue](#),
[82](#)

addBound
[edu::mit::csail::sdg::squander::engine::Heap2Bounds](#),
[18](#)

addCase
[edu::mit::csail::sdg::squander::spec::MethodSpec](#),
[676](#)
[edu::mit::csail::sdg::squander::spec::Spec](#), [702](#)

addDefaultObjSer
[edu::mit::csail::sdg::squander::examples::graph::Graph](#),

- 255
- edu::mit::csail::sdg::squander::examples::graph::Graph_2, 262
- addFldRel
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodomoImpl, 129
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 602
- addFreshObj
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 676
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 602
- addInvariant
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 602
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 603
- additiveExpression
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 455
 - edu::mit::csail::sdg::squander::absstate::FieldValue, 82
- additiveOp
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 455
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 603
- addLocal
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 616
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 635
 - edu::mit::csail::sdg::squander::spec::NameSpace, allInts 690
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 104, 111
- addNode
 - edu::mit::csail::sdg::squander::examples::graph2::Graph_2, 251
 - edu::mit::csail::sdg::squander::examples::graph::Graph_1, 255
 - edu::mit::csail::sdg::squander::examples::graph::Graph_2, 262
 - edu::mit::csail::sdg::squander::examples::list::LinkedList_ind, 299
 - edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 610
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 400
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 467
- addObj2spec
 - edu::mit::csail::sdg::squander::spec::JavaScene, 654
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 201
- addObject
 - edu::mit::csail::sdg::squander::engine::Heap, 117
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 455
- addObjects
 - edu::mit::csail::sdg::squander::engine::Heap, 118
 - Annotations, 20
 - API, 28
 - arg
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 616
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 635
- addOptions
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 676
 - args
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodomoImpl, 129, 130
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodomoImpl, 137
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 622, 629
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 400
- addRelForVar
 - edu::mit::csail::sdg::squander::examples::mock::TestAddressBook, 311
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 467
- addScope
 - edu::mit::csail::sdg::squander::spec::NameSpace, 690
- addSpecField
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 602
- addSpecFieldSource
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 602
- addSuper
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 603
- addTuple
 - edu::mit::csail::sdg::squander::absstate::FieldValue, 82
- addUsedField
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 603
- addUsedType
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 622
- ANALYSIS
- andExpression
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 455
- API, 28
- arg
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 616
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 635
- arguments
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 400
- ARC4
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 467

- ARGUMENTS
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 104
 401
 atoms
 edu::mit::csail::sdg::squander::parser::JFSLParse, edu::mit::csail::sdg::squander::absstate::ObjTuple, 467 88
- arguments
 auxInt
 edu::mit::csail::sdg::squander::parser::JFSLParse, edu::mit::csail::sdg::squander::examples::graph::Graph, 455 259
- arity
 auxNode
 edu::mit::csail::sdg::squander::absstate::ObjTuple, edu::mit::csail::sdg::squander::examples::graph::Graph, 88, 90 259
 edu::mit::csail::sdg::squander::absstate::ObjTupleSet, before
 edu::mit::csail::sdg::squander::spec::JType, edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest, 671 219
- ArityMismatchException
 edu::mit::csail::sdg::squander::spec::ArityMismatchException, ParentTest, 228
 599
- arrayElems
 edu::mit::csail::sdg::squander::spec::ForgeEnv, BINARY
 616
 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 401
 635
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 467
- arrayEquals
 edu::mit::csail::sdg::squander::absstate::ObjTuple, BinarySearchTree
 88
 edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 215
- arrayLength
 edu::mit::csail::sdg::squander::spec::ForgeEnv, edu::mit::csail::sdg::squander::forge_ -
 616
 examples::BinarySearchTree, 366
 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 303
 636
 edu::mit::csail::sdg::squander::examples::mock::EmailMessage, 303
- arrElemsConstr
 edu::mit::csail::sdg::squander::engine::kk::SquanderBackend2Impl, 455
 130
 edu::mit::csail::sdg::squander::parser::JFSLParse, 455
- arrLenConstr
 edu::mit::csail::sdg::squander::engine::kk::SquanderBackend2Impl, 101
 130
 edu::mit::csail::sdg::squander::annotations::Options, 101
- assertArrayContains
 edu::mit::csail::sdg::squander::util::test::TestUtils, BLACK
 781
 edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 337
- assertArraysEqualNoOrdering
 edu::mit::csail::sdg::squander::util::test::TestUtils, poolAtom
 781
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 179
- assignments
 edu::mit::csail::sdg::squander::engine::SquanderBackend2Impl, BooleanType
 175
 edu::mit::csail::sdg::squander::spec::ForgeEnv, 616
 185
 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 636
- asText
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 736
 boolValue
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 179
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< N >, 775
 edu::mit::csail::sdg::squander::utils::Utils, 796
- atom2obj
 bound

- edu::mit::csail::sdg::squander::spec::JField, 665
- boundLocalVar
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 130
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 137
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 159
- boundOtherStuff
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 104
- bounds
 - edu::mit::csail::sdg::squander::engine::Heap2Bounds, 120
 - edu::mit::csail::sdg::squander::engine::SquanderEval, 175
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 366
 - edu::mit::csail::sdg::squander::forge_ - examples::TopologicalSort, 371
 - edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 687
- boundSpecFields
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 104
- box
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 786
- BRACKET
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 401
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 467
- bst
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest, 221
 - edu::mit::csail::sdg::squander::examples::bst::BST_ - noParentTest, 230
 - edu::mit::csail::sdg::squander::examples::bst::BST_ - noSpecFldTest, 241
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 368
- BST_noParent
 - edu::mit::csail::sdg::squander::examples::bst::BST_ - noParent, 224
- BST_noSpecFld
 - edu::mit::csail::sdg::squander::examples::bst::BST_ - noSpecFld, 233
- bstInst
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 368
- BUILDING_ANALYSIS
- edu::mit::csail::sdg::squander::engine::SquanderReporter, 201
- buildingAnalysis
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 195
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 201
- cache
 - edu::mit::csail::sdg::squander::serializer::special::ObjSerFactory, 592
- edu::mit::csail::sdg::squander::spec::JField, 665
- edu::mit::csail::sdg::squander::utils::ReflectionUtils, 792
- CALL
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 401
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 468
- caller
 - edu::mit::csail::sdg::squander::spec::JavaScene, 654, 657
- cases
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 676, 678
- edu::mit::csail::sdg::squander::spec::Spec, 702, 705
- CaseSource
 - edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource, 681
- CAST
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 401
- edu::mit::csail::sdg::squander::parser::JFSLParser, 468
- cast
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 736
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< N >, 775
- castExpression
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 455
- edu::mit::csail::sdg::squander::forge_ - examples::TopologicalSort, 371
- edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 367
- CHAIN
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 401

- edu::mit::csail::sdg::squander::parser::JFSLParser, 468
- CharacterLiteral
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 401
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 468
- check
 - edu::mit::csail::sdg::squander::examples::bst::BalancedBST, 212
- checkArity
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 724
- checkBoolean
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 724
- checkColorsOk
 - edu::mit::csail::sdg::squander::examples::graph::GraphTest, 265
- checkInteger
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 724
- checkJoin
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 724
- checkPre
 - edu::mit::csail::sdg::squander::engine::SquanderImpl, 187
- checkSubtype
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 725
- checkTSP
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 255
- checkUnary
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 725
- child
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 736
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< N >, 775
- children
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 736
- CLASS_DESIGNATOR
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 401
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 468
- classes
 - edu::mit::csail::sdg::squander::spec::JavaScene, 654, 657
- classForDomain
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 616
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 636
 - classForName
 - edu::mit::csail::sdg::squander::utils::Utils, 796
 - ClassSpec
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 602
 - classSpec
 - edu::mit::csail::sdg::squander::spec::JavaScene, 654
 - classSpecForObj
 - edu::mit::csail::sdg::squander::spec::JavaScene, 654
 - classSpecs
 - edu::mit::csail::sdg::squander::spec::JavaScene, 654
 - CLAUSE
 - edu::mit::csail::sdg::squander::spec::Source, 698
 - clause
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 456
 - edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider, 694
 - CLAUSE_DEFAULT
 - edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider, 696
 - clear
 - edu::mit::csail::sdg::squander::absstate::AbstractState, 78
 - edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 336
 - edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 793
 - cls
 - edu::mit::csail::sdg::squander::annotations::FreshObjects, 100
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 758
 - cls2dom
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 629
 - clsSpec
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 731
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 603
 - cnt
 - edu::mit::csail::sdg::squander::examples::partitioning::Domain, 328

- edu::mit::csail::sdg::squander::examples::partitioning::Internal, 332
- edu::mit::csail::sdg::squander::examples::partitioning::Internal, 642
- edu::mit::csail::sdg::squander::examples::partitioning::CONDITIONAL, 334
- edu::mit::csail::sdg::squander::parser::JFSLLexer, 401
- color, 256
- edu::mit::csail::sdg::squander::examples::graph::Graph, 468
- edu::mit::csail::sdg::squander::parser::JFSLParser, 468
- cols, conditionalAndExpression
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 350
- edu::mit::csail::sdg::squander::parser::JFSLParser, 456
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, conditionalExpression
- edu::mit::csail::sdg::squander::parser::JFSLParser, 354
- column, conditionalOrExpression
- edu::mit::csail::sdg::squander::parser::JFSLParser, 563
- edu::mit::csail::sdg::squander::parser::JFSLParser, 456
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 772, 773
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, Configuration, 23
- common, Cons
- edu::mit::csail::sdg::squander::examples::javacol::TypeParameter, 282
- edu::mit::csail::sdg::squander::examples::list::func2::Cons, 285
- edu::mit::csail::sdg::squander::parser::JFSLParser, 456
- edu::mit::csail::sdg::squander::examples::list::func::Cons, 292
- common2, CONST
- edu::mit::csail::sdg::squander::examples::javacol::TypeParameter, 282
- edu::mit::csail::sdg::squander::parser::JFSLParser, 454
- compilationUnit, ConstRel
- edu::mit::csail::sdg::squander::parser::JFSLParser, Specification, 27
- 456, ConstRel2Bound
- composeExpression, edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 610
- edu::mit::csail::sdg::squander::parser::JFSLParser, 456
- consts
- CompositeSpecProvider, edu::mit::csail::sdg::squander::spec::ForgeScene, 622, 630
- edu::mit::csail::sdg::squander::spec::CompositeSpecProvider, 607
- contains
- concreteConstraint, edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 93
- edu::mit::csail::sdg::squander::spec::Spec, 703
- concrFunc, edu::mit::csail::sdg::squander::examples::javacol::Collections, 269
- edu::mit::csail::sdg::squander::serializer::special::ArraySer, 580
- edu::mit::csail::sdg::squander::examples::mock::AddressBook, 583
- edu::mit::csail::sdg::squander::serializer::special::DefaultObjSer, 584
- edu::mit::csail::sdg::squander::examples::mock::MockAddressBook, 584
- edu::mit::csail::sdg::squander::serializer::special::IObjSer, 306
- edu::mit::csail::sdg::squander::examples::mock::SquanderAddressBook, 587
- edu::mit::csail::sdg::squander::serializer::special::ListSer, 308
- edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 589
- edu::mit::csail::sdg::squander::serializer::special::MapSer, 341
- edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 595
- edu::mit::csail::sdg::squander::serializer::special::SetSer, 341
- edu::mit::csail::sdg::squander::serializer::special::StringSer, 597
- edu::mit::csail::sdg::squander::examples::graph::Graph, 256
- condition, edu::mit::csail::sdg::squander::forge_ - examples::TopologicalSort, 372
- edu::mit::csail::sdg::squander::examples::graph::Graph_ - _2, 262

- containsKey
 - Counter
 - edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 793
 - edu::mit::csail::sdg::squander::utils::Counter< T >, 782
- containsValue
 - counter
 - edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 794
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 630
- conv2fc
 - createBounds
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 105
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 131
- conv2tuples
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 137, 138
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 159
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl, 163
- convAtom
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 138
 - createClassSpec
 - edu::mit::csail::sdg::squander::spec::JavaScene, 163
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 654
- convertArray
 - createDependencies
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl, 695
 - edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider, 164
- convertForgeSetToJavaArray
 - createFreshObjects
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 207
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 105
- convertFrom
 - createGlobalVar
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 93
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 623
- CONVERTING_METHOD
 - createLiteral
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 201
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 623
- convertingMethod
 - createLocalsForMethod
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 195
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 623
- convertMap
 - createNewArray
 - edu::mit::csail::sdg::squander::spec::JMethod, 668
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 786
- convertSpec
 - createObjectDefaultConstructor
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 130
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 786
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 138
 - createRelations
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 131
- convertToForgeType
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 622
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 139
- convertToJType
 - createUniverse
 - edu::mit::csail::sdg::squander::spec::JField, 661
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 139
- convertToObjTuple
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 93
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl, 164
- convToJMethod
 - CREATING_BOUNDS
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 187
 - edu::mit::csail::sdg::squander::engine::SquanderImpl, 201
 - CREATING_FRESH_OBJECTS

- edu::mit::csail::sdg::squander::engine::SquanderReporter, 201
- edu::mit::csail::sdg::squander::parser::JFSLParser, 468
- CREATING_KK_BOUNDS
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 201
 - DECL_SET, 402
- CREATING_KK_UNIV
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 201
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 468
 - DECLARATION
- creatingBounds
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 195
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 402
- creatingFreshObjects
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 195
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 468
 - edu::mit::csail::sdg::squander::spec::Source, 698
- creatingKodkodBounds
 - declaration
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 195
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 456
- creatingKodkodUniverse
 - declarationMult
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 196
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 457
- cs
 - DeclarativeSqRoot
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImp, 144
 - edu::mit::csail::sdg::squander::examples::numbers::DeclarativeSqR, 318
 - declarer
- DATA
 - edu::mit::csail::sdg::squander::spec::NameSpace, 690
 - edu::mit::csail::sdg::squander::serializer::special::ListSer, 587
 - declaringClass
 - edu::mit::csail::sdg::squander::serializer::special::MapSer, 589
 - edu::mit::csail::sdg::squander::spec::JMethod, 668, 669
 - edu::mit::csail::sdg::squander::serializer::special::SetSer, 596
 - SetSerType
 - edu::mit::csail::sdg::squander::spec::JField, 661, 665
- DEBUG
 - edu::mit::csail::sdg::squander::log::Log, 376
 - DECLS
- debug
 - edu::mit::csail::sdg::squander::log::Log, 376
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 402
- DEC
 - Specification, 27
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 469
- DecimalLiteral
 - decls
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 401
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 457
 - delete
 - edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 336
- Decision
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 454
 - desugar_quants
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 381
- DECL_NONE
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 401
 - DETECTED_SYMMETRIES
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 202
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 468
 - detectedSymmetries
- DECL_SEQ
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 196
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 402
 - DETECTING_SYMMETRIES

edu::mit::csail::sdg::squander::engine::SquanderReporter	edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA26,
202	426
detectingSymmetries	dfa26
edu::mit::csail::sdg::squander::engine::SquanderReporter	edu::mit::csail::sdg::squander::parser::JFSLLexer,
196	404
DFA18	DFA26_accept
edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA18	edu::mit::csail::sdg::squander::parser::JFSLLexer,
425	404
dfa18	DFA26_acceptS
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
402	404
DFA18_accept	DFA26_eof
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
402	405
DFA18_acceptS	DFA26_eofS
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
402	405
DFA18_eof	DFA26_eot
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
402	405
DFA18_eofS	DFA26_eotS
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
402	405
DFA18_eot	DFA26_max
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
403	405
DFA18_eotS	DFA26_maxS
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
403	406
DFA18_max	DFA26_min
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
403	406
DFA18_maxS	DFA26_minS
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
403	406
DFA18_min	DFA26_special
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
403	406
DFA18_minS	DFA26_specialS
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
403	407
DFA18_special	DFA26_transition
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
403	407
DFA18_specialS	DFA26_transitionS
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
404	407
DFA18_transition	DFA38
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLParser::DFA38,
404	555
DFA18_transitionS	dfa38
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLParser,
404	469
DFA26	DFA38_accept

edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 469 471
 DFA38_acceptS DFA42_eofS
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 469 472
 DFA38_eof DFA42_eot
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 469 472
 DFA38_eofS DFA42_eotS
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 469 472
 DFA38_eot DFA42_max
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 469 472
 DFA38_eotS DFA42_maxS
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 469 472
 DFA38_max DFA42_min
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 470 472
 DFA38_maxS DFA42_minS
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 470 472
 DFA38_min DFA42_special
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 470 473
 DFA38_minS DFA42_specialS
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 470 473
 DFA38_special DFA42_transition
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 470 473
 DFA38_specialS DFA42_transitionS
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 470 473
 DFA38_transition DFA6
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer::DFA6,
 471 753
 DFA38_transitionS dfa6
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
 471 746
 DFA42 DFA69
 edu::mit::csail::sdg::squander::parser::JFSLParser::DFA42, edu::mit::csail::sdg::squander::parser::JFSLParser::DFA69,
 556 557
 dfa42 dfa69
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 471 473
 DFA42_accept DFA69_accept
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 471 473
 DFA42_acceptS DFA69_acceptS
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 471 473
 DFA42_eof DFA69_eof

edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
474	747
DFA69_eofS	DFA6_maxS
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
474	747
DFA69_eot	DFA6_min
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
474	748
DFA69_eotS	DFA6_minS
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
474	748
DFA69_max	DFA6_special
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
474	748
DFA69_maxS	DFA6_specialS
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
474	748
DFA69_min	DFA6_transition
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
474	748
DFA69_minS	DFA6_transitionS
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
475	748
DFA69_special	DFA77
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::parser::JFSLParser::DFA77,
475	558
DFA69_specialS	dfa77
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::parser::JFSLParser,
475	475
DFA69_transition	DFA77_accept
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::parser::JFSLParser,
475	475
DFA69_transitionS	DFA77_acceptS
edu::mit::csail::sdg::squander::parser::JFSLParser,	edu::mit::csail::sdg::squander::parser::JFSLParser,
475	475
DFA6_accept	DFA77_eof
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,	edu::mit::csail::sdg::squander::parser::JFSLParser,
746	476
DFA6_acceptS	DFA77_eofS
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,	edu::mit::csail::sdg::squander::parser::JFSLParser,
747	476
DFA6_eof	DFA77_eot
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,	edu::mit::csail::sdg::squander::parser::JFSLParser,
747	476
DFA6_eofS	DFA77_eotS
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,	edu::mit::csail::sdg::squander::parser::JFSLParser,
747	476
DFA6_eot	DFA77_max
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,	edu::mit::csail::sdg::squander::parser::JFSLParser,
747	476
DFA6_eotS	DFA77_maxS
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,	edu::mit::csail::sdg::squander::parser::JFSLParser,
747	476
DFA6_max	DFA77_min

edu::mit::csail::sdg::squander::parser::JFSLParser, 476	edu::mit::csail::sdg::squander::parser::JFSLParser, 479
DFA77_minS	DFA78_specialS
edu::mit::csail::sdg::squander::parser::JFSLParser, 477	edu::mit::csail::sdg::squander::parser::JFSLParser, 479
DFA77_special	DFA78_transition
edu::mit::csail::sdg::squander::parser::JFSLParser, 477	edu::mit::csail::sdg::squander::parser::JFSLParser, 479
DFA77_specialS	DFA78_transitionS
edu::mit::csail::sdg::squander::parser::JFSLParser, 477	edu::mit::csail::sdg::squander::parser::JFSLParser, 479
DFA77_transition	DFA79
edu::mit::csail::sdg::squander::parser::JFSLParser, 477	edu::mit::csail::sdg::squander::parser::JFSLParser::DFA79, 560
DFA77_transitionS	dfa79
edu::mit::csail::sdg::squander::parser::JFSLParser, 477	edu::mit::csail::sdg::squander::parser::JFSLParser, 479
DFA78	DFA79_accept
edu::mit::csail::sdg::squander::parser::JFSLParser::DFA78, 559	edu::mit::csail::sdg::squander::parser::JFSLParser, 479
dfa78	DFA79_acceptS
edu::mit::csail::sdg::squander::parser::JFSLParser, 477	edu::mit::csail::sdg::squander::parser::JFSLParser, 480
DFA78_accept	DFA79_eof
edu::mit::csail::sdg::squander::parser::JFSLParser, 477	edu::mit::csail::sdg::squander::parser::JFSLParser, 480
DFA78_acceptS	DFA79_eofS
edu::mit::csail::sdg::squander::parser::JFSLParser, 477	edu::mit::csail::sdg::squander::parser::JFSLParser, 480
DFA78_eof	DFA79_eot
edu::mit::csail::sdg::squander::parser::JFSLParser, 478	edu::mit::csail::sdg::squander::parser::JFSLParser, 480
DFA78_eofS	DFA79_eotS
edu::mit::csail::sdg::squander::parser::JFSLParser, 478	edu::mit::csail::sdg::squander::parser::JFSLParser, 480
DFA78_eot	DFA79_max
edu::mit::csail::sdg::squander::parser::JFSLParser, 478	edu::mit::csail::sdg::squander::parser::JFSLParser, 480
DFA78_eotS	DFA79_maxS
edu::mit::csail::sdg::squander::parser::JFSLParser, 478	edu::mit::csail::sdg::squander::parser::JFSLParser, 480
DFA78_max	DFA79_min
edu::mit::csail::sdg::squander::parser::JFSLParser, 478	edu::mit::csail::sdg::squander::parser::JFSLParser, 481
DFA78_maxS	DFA79_minS
edu::mit::csail::sdg::squander::parser::JFSLParser, 478	edu::mit::csail::sdg::squander::parser::JFSLParser, 481
DFA78_min	DFA79_special
edu::mit::csail::sdg::squander::parser::JFSLParser, 479	edu::mit::csail::sdg::squander::parser::JFSLParser, 481
DFA78_minS	DFA79_specialS
edu::mit::csail::sdg::squander::parser::JFSLParser, 479	edu::mit::csail::sdg::squander::parser::JFSLParser, 481
DFA78_special	DFA79_transition

- edu::mit::csail::sdg::squander::parser::JFSLParser, 40
- 481
- DFA79_transitionS
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 481
- diff
 - edu::mit::csail::sdg::squander::absstate::ObjTuples, 93
 - edu::mit::csail::sdg::squander::examples::bst::BalancedBST, 213
- difference
 - edu::mit::csail::sdg::squander::spec::JType, 671
- displayRecognitionError
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 457
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 758
- dispose
 - edu::mit::csail::sdg::squander::serializer::Serializer, 576
- Disposed
 - edu::mit::csail::sdg::squander::serializer::Serializer, 576
- domain
 - edu::mit::csail::sdg::squander::spec::JField, 665
 - edu::mit::csail::sdg::squander::spec::JType, 672
- domains
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 623
- doms
 - edu::mit::csail::sdg::squander::examples::partitioning::Graph, 330
 - edu::mit::csail::sdg::squander::examples::partitioning::Partitions, 334
- dx
 - edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan, 246
- dy
 - edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan, 246
- edges
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 256, 260
 - edu::mit::csail::sdg::squander::examples::graph::Graph_2, 262, 264
- edu, 35
- edu.mit, 36
- edu.mit.csail, 37
- edu.mit.csail.sdg, 38
- edu.mit.csail.sdg.annotations, 39
 - edu.mit.csail.sdg.squander, 40
 - edu.mit.csail.sdg.squander.absstate, 41
 - edu.mit.csail.sdg.squander.annotations, 42
 - edu.mit.csail.sdg.squander.engine, 43
 - edu.mit.csail.sdg.squander.engine.kk, 44
 - edu.mit.csail.sdg.squander.examples, 45
 - edu.mit.csail.sdg.squander.examples.bst, 46
 - edu.mit.csail.sdg.squander.examples.chess, 47
 - edu.mit.csail.sdg.squander.examples.equiv, 48
 - edu.mit.csail.sdg.squander.examples.func, 49
 - edu.mit.csail.sdg.squander.examples.graph, 50
 - edu.mit.csail.sdg.squander.examples.graph2, 51
 - edu.mit.csail.sdg.squander.examples.javacol, 52
 - edu.mit.csail.sdg.squander.examples.list, 53
 - edu.mit.csail.sdg.squander.examples.list.func, 54
 - edu.mit.csail.sdg.squander.examples.list.func2, 55
 - edu.mit.csail.sdg.squander.examples.mock, 56
 - edu.mit.csail.sdg.squander.examples.numbers, 57
 - edu.mit.csail.sdg.squander.examples.partitioning, 58
 - edu.mit.csail.sdg.squander.examples.rbt, 59
 - edu.mit.csail.sdg.squander.examples.setpoly, 60
 - edu.mit.csail.sdg.squander.examples.sort, 61
 - edu.mit.csail.sdg.squander.examples.sudoku, 62
 - edu.mit.csail.sdg.squander.forge_examples, 63
 - edu.mit.csail.sdg.squander.log, 64
 - edu.mit.csail.sdg.squander.options, 65
 - edu.mit.csail.sdg.squander.parser, 66
 - edu.mit.csail.sdg.squander.regressions, 67
 - edu.mit.csail.sdg.squander.serializer, 68
 - edu.mit.csail.sdg.squander.serializer.special, 69
 - edu.mit.csail.sdg.squander.spec, 70
 - edu.mit.csail.sdg.squander.spec.constant, 71
 - edu.mit.csail.sdg.squander.specfile, 72
 - edu.mit.csail.sdg.squander.specfile.parser, 73
 - edu.mit.csail.sdg.squander.util, 74
 - edu.mit.csail.sdg.squander.util.test, 75
 - edu.mit.csail.sdg.squander.utils, 76
 - edu.mit.csail.sdg.squander.annotations::FuncField, 77
 - value, 77
 - edu::mit::csail::sdg::squander::absstate::AbstractState, 78
 - clear, 78
 - getAllObjects, 78
 - getAllObjStates, 79
 - getEntries, 79
 - getObjState, 79
 - getOrAddObjState, 79
 - obj2AbsState, 80
 - setObjState, 79
 - toString, 79
 - edu::mit::csail::sdg::squander::absstate::FieldValue, 81
 - addAllTuples, 82

- addTuple, 82
- FieldValue, 81
- jfield, 82
- toString, 82
- tupleSet, 82
- edu::mit::csail::sdg::squander::absstate::ObjAbsState, 84
 - add, 85
 - getObj, 85
 - getOrAddSpecField, 85
 - getSpecField, 85
 - iterator, 85
 - obj, 85
 - ObjAbsState, 84
 - specFields, 85
 - toString, 85
- edu::mit::csail::sdg::squander::absstate::ObjTuple, 87
 - arity, 88, 90
 - arrayEquals, 88
 - atoms, 88
 - equals, 88
 - get, 88
 - hashCode, 88
 - iterator, 88
 - objLiteralsEquals, 89
 - ObjTuple, 87
 - product, 89
 - projection, 89
 - toString, 89
 - tuple, 89, 90
- edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 91
 - add, 92
 - arity, 93, 97
 - contains, 93
 - convertFrom, 93
 - convertToObjTuple, 93
 - diff, 93
 - equals, 94
 - filter, 94
 - hashCode, 94
 - intersection, 94
 - isEmpty, 94
 - isTuple, 95
 - isUnary, 95
 - iterator, 95
 - join, 95
 - ObjTupleSet, 92
 - product, 95, 96
 - remove, 96
 - singleTuple, 96
 - size, 96
 - subsetOf, 96
 - toString, 97
 - tuples, 97, 98
 - union, 97
- edu::mit::csail::sdg::squander::annotations::Fresh, 99
 - value, 99
- edu::mit::csail::sdg::squander::annotations::FreshObjects, 100
 - cls, 100
 - num, 100
 - typeParams, 100
- edu::mit::csail::sdg::squander::annotations::Options, 101
 - bitwidth, 101
 - ensureAllInts, 101
 - solveAll, 101
- edu::mit::csail::sdg::squander::engine::ForgeConverter, 102
 - allInts, 104, 111
 - atom2obj, 104
 - boundOtherStuff, 104
 - boundSpecFields, 104
 - conv2fc, 105
 - createFreshObjects, 105
 - extent, 105
 - findInstLiteralsForType, 105
 - findLiteralsForType, 105
 - finish, 106
 - finished, 111
 - forgeBounds, 106, 111
 - ForgeConverter, 104
 - forgeOptions, 106
 - forgeScene, 107, 111
 - getMaxAtomsForType, 107
 - getSpec, 107
 - heap, 111
 - heap2Lit, 107
 - heap2lit, 112
 - initJavaScene, 107
 - instLitsCache, 112
 - javaScene, 108, 112
 - lit2obj, 108
 - litsCache, 112
 - makeForgeBounds, 108
 - mapToBoolean, 108
 - mapToInt, 108
 - maxAtomsCache, 112
 - maxInt, 109
 - maxSize, 109
 - minInt, 109
 - obj2atom, 109
 - obj2typeparams, 112
 - printBounds, 109
 - printObjSet, 110

- printUniverseStats, 110
- proc, 110
- reporter, 112
- setCallContext, 110
- edu::mit::csail::sdg::squander::engine::ForgeEval, 114
- evaluate, 115
- evaluateExpr, 115
- fconv, 116
- ForgeEval, 115
- hasSolution, 115
- nextSolution, 115
- solution, 116
- solutions, 116
- stats, 115
- trace, 115
- unsatCore, 115
- edu::mit::csail::sdg::squander::engine::Heap, 117
- addObject, 117
- addObjects, 118
- getHeapObjects, 118
- Heap, 117
- heapObjects, 118
- edu::mit::csail::sdg::squander::engine::Heap2Bounds, 119
- addBound, 120
- bounds, 120
- ensureAdequateBitWidth, 120
- ensureAdequateIntBitWidth, 121
- getBound, 121
- Heap2Bounds, 120
- javaScene, 122
- minBW, 121
- newObject, 121
- rbw, 122
- reachableObjects, 121
- traverse, 122
- varName2Const, 122
- visited, 122
- visitPrimitive, 122
- edu::mit::csail::sdg::squander::engine::ISquander, 124
- getLastResult, 124
- magic, 124, 125
- edu::mit::csail::sdg::squander::engine::ISquanderResult, 126
- findNext, 126
- getReturnValue, 126
- getSpecField, 126
- getStats, 127
- getTrace, 127
- hasSolution, 127
- restoreJavaHeap, 127
- unsatCore, 127
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 128
- addFldRel, 129
- addRelForVar, 129, 130
- arrElemsConstr, 130
- arrLenConstr, 130
- boundLocalVar, 130
- convertSpec, 130
- createBounds, 131
- createRelations, 131
- findFldRelsForVar, 131
- fldRels, 134
- getBounds, 131
- getEval, 132
- getExtent, 132
- getModLits, 132
- getModsForPostState, 132
- getPostSpec, 132
- getPreSpec, 133
- init, 133
- intsExpr, 133
- one, 133
- SquanderKodkod2Impl, 129
- wellformed, 133
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 135
- addRelForVar, 137
- boundLocalVar, 137
- conv2tuples, 137, 138
- convAtom, 138
- convertSpec, 138
- createBounds, 138
- createRelations, 139
- createUniverse, 139
- cs, 144
- exeSpec, 139
- falseRelation, 144
- fconv, 144
- findMaxArrayLength, 140
- forgeScene, 144
- form2expr, 140
- getEval, 140
- getExtent, 140
- getModsForPostState, 140
- getPostLower, 141
- getPostSpec, 141
- getPostUpper, 141
- getPreSpec, 142
- init, 142
- ints, 145
- lit2atom, 142
- lit2rel, 145
- lowerBounds, 145
- modifies, 146

- modVal, 146
- node2expr, 142
- node2form, 142
- node2int, 143
- nonnegs, 143
- printBoundsSummary, 143
- program, 146
- relName, 143
- SquanderKodkodImpl, 137
- trueRelation, 146
- type2expr, 147
- upperBounds, 147
- var2rel, 147
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::KodkodEval, 149
 - evaluate, 150
 - evaluateExpr, 150
 - hasSolution, 150
 - KodkodEval, 149
 - makeConst, 150
 - nextSolution, 150
 - solution, 151
 - solutions, 151
 - stats, 150
 - trace, 150
 - unsatCore, 151
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::Tr2KK, 152
 - fix, 153
 - getRelForVarAndCheck, 153
 - quantStack, 155
 - searchStack, 153
 - visit, 153, 154
 - visit2, 155
 - visitForgeType, 155
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::Tr2KK::StackElem, 156
 - name, 156
 - StackElem, 156
 - var, 156
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 158
 - boundLocalVar, 159
 - conv2tuples, 159
 - createBounds, 159
 - getBounds, 160
 - getExtent, 160
 - getLitNameForObject, 160
 - getPostLower, 160
 - getPostLowerUpper, 160
 - getPostUpper, 161
 - join, 161
 - SquanderKodkodPart2Impl, 159
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl, 162
 - convAtom, 163
 - createBounds, 163
 - createDependencies, 164
 - createUniverse, 164
 - getEval, 164
 - lit2atom, 166
 - nextAtomForLiteral, 164
 - partitionDomains, 164
 - partitions, 166
 - printPartitions, 165
 - processFirst, 165
 - processNext, 165
 - sort, 165
 - SquanderKodkodPartImpl, 163
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl::KodkodIntEval, 167
 - evaluate, 167
 - evaluateExpr, 167
 - KodkodIntEval, 167
 - makeConst, 168
 - var, 168
- edu::mit::csail::sdg::squander::engine::SquanderEval, 169
 - assignments, 175
 - bounds, 175
 - eval, 170
 - fconv, 175
 - getAssignments, 171
 - getEvaluator, 171
 - hasSolution, 175
 - quantStack, 176
 - searchStack, 171
 - visit, 171, 172
 - visitAll, 172
 - visitAssignment, 175
 - visitBoolBinExpr, 173
 - visitClosure, 173
 - visitDiff, 173
 - visitEquals, 173
 - visitExpr, 173
 - visitIntBinExpr, 173
 - visitIntersection, 174
 - visitJoin, 174
 - visitLocalVariable, 174
 - visitProduct, 174
 - visitRelUnion, 174
 - visitSubset, 174
 - visitUnion, 175
 - visitVariable, 175
- edu::mit::csail::sdg::squander::engine::SquanderEval2, 177
 - assignments, 185

- boolAtom, 179
- boolValue, 179
- eval, 179
- fconv, 185
- getAssignments, 179
- getEvaluator, 179
- hasSolution, 185
- heap2lit, 185
- intAtom, 180
- intValue, 180
- objAtom, 180
- quantStack, 185
- searchStack, 180
- visit, 180, 181
- visitAll, 182
- visitAssignment, 182
- visitBoolBinExpr, 182
- visitClosure, 182
- visitDiff, 182
- visitEquals, 182
- visitExists, 183
- visitIntBinExpr, 183
- visitIntersection, 183
- visitJoin, 183
- visitLocalVariable, 183
- visitProduct, 184
- visitRelUnion, 184
- visitSubset, 184
- visitUnion, 184
- visitVariable, 184
- edu::mit::csail::sdg::squander::engine::SquanderImpl, 186
 - checkPre, 187
 - convToJMethod, 187
 - ensurePost, 188
 - exeMethod, 188
 - exeSpec, 188
 - getLastResult, 189
 - getModsForPostState, 189
 - getPostSpec, 189
 - getPreSpec, 189
 - getSpec, 190
 - lastResult, 191
 - magic, 190, 191
 - reporter, 191
 - spec, 192
 - SquanderImpl, 187
- edu::mit::csail::sdg::squander::engine::SquanderReporter, 193
 - ANALYSIS, 201
 - BUILDING_ANALYSIS, 201
 - buildingAnalysis, 195
 - busy, 201
 - CONVERTING_METHOD, 201
 - convertingMethod, 195
 - CREATING_BOUNDS, 201
 - CREATING_FRESH_OBJECTS, 201
 - CREATING_KK_BOUNDS, 201
 - CREATING_KK_UNIV, 201
 - creatingBounds, 195
 - creatingFreshObjects, 195
 - creatingKodkodBounds, 195
 - creatingKodkodUniverse, 196
 - DETECTED_SYMMETRIES, 202
 - detectedSymmetries, 196
 - DETECTING_SYMMETRIES, 202
 - detectingSymmetries, 196
 - end, 196
 - finishedAnalysis, 197
 - FLATTENING, 202
 - flattening, 197
 - GENERATING_SBP, 202
 - generatingSBP, 197
 - getTaskTime, 197
 - INSTANCE, 202
 - kkRep, 202
 - kkReporter, 197
 - LOADING_JAVA_SCENE, 202
 - LOADING_JIMPLE, 203
 - loadingJavaScene, 197
 - OPTIMIZING_BOUNDS_AND_FORMULA, 203
 - optimizingBoundsAndFormula, 198
 - PACKAGIN_ANALYSIS, 203
 - packagingAnalysis, 198
 - RESTORING_HEAP, 203
 - RESTORING_SF, 203
 - restoringJavaHeap, 198
 - restoringSpecFields, 198
 - SCOLEMIZING, 203
 - skolemizing, 198
 - SOLVING_ANALYSIS, 203
 - SOLVING_CNF, 204
 - solvingAnalysis, 198
 - solvingCNF, 199
 - SquanderReporter, 195
 - start, 199
 - startedAnalysis, 199
 - sTime, 204
 - task, 204
 - times, 204
 - toString, 199
 - transformingProcedure, 199
 - TRANSLATING_FORGE, 204
 - TRANSLATING_SPECS, 204
 - TRANSLATING_TO_BOOLEAN, 204
 - TRANSLATING_TO_CNF, 204
 - TRANSLATING_TO_KODKOD, 205

- translatingForge, 200
- translatingSpecs, 200
- translatingToBoolean, 200
- translatingToCNF, 200
- translatingToKodkod, 200
- TRANSFORMING_PROCEDURE, 205
- TRAVERSING_HEAP, 205
- traversingHeap, 200
- edu::mit::csail::sdg::squander::engine::SquanderResult, 206
 - convertForgeSetToJavaArray, 207
 - eval, 210
 - fconv, 210
 - findNext, 207
 - getJFieldForVar, 207
 - getReturnValue, 208
 - getSpecField, 208
 - getStats, 208
 - getTrace, 208
 - hasSolution, 208
 - modifiable, 210
 - program, 209
 - restoreEmpty, 209
 - restoreJavaHeap, 209
 - returnVar, 209
 - self, 209
 - SquanderResult, 207
 - unsatCore, 210
- edu::mit::csail::sdg::squander::examples::bst::BalancedBST, 211
 - check, 212
 - diff, 213
 - insertKey_squander, 212
 - insertNode_slow_squander, 212
 - main, 212
 - removeNode_squander, 212
 - repOk, 212
- edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 214
 - BinarySearchTree, 215
 - findNode, 215
 - findNode_squander, 215
 - genBST, 215
 - getAllNodes_squander, 216
 - getRoot, 216
 - insert, 216
 - insertKey_squander, 216
 - insertNode_squander, 216
 - main, 216
 - max, 216
 - max_squander, 216
 - min, 217
 - min_squander, 217
 - NUM_NODES, 218
 - printNode, 217
 - removeNode_squander, 217
 - repOk, 217
 - root, 218
 - setRoot, 217
 - size, 217
 - toString, 218
- edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest, 219
 - before, 219
 - bst, 221
 - initBinarySearchTree, 219
 - keys, 222
 - main, 220
 - nodes, 222
 - testFindNode_squander, 220
 - testGetAllNodes_squander, 220
 - testInsertKey_squander, 220
 - testInsertMix, 220
 - testInsertNode_squander, 221
 - testMax_squander, 221
 - testMin_squander, 221
 - testRemoveNode_squander, 221
- edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 223
 - BST_noParent, 224
 - findNode, 224
 - findNode_squander, 224
 - genBST, 224
 - getAllNodes_squander, 225
 - getRoot, 225
 - insertKey_squander, 225
 - insertNode, 225
 - insertNode_slow_squander, 225
 - insertNode_squander, 225
 - main, 225
 - max, 226
 - max_squander, 226
 - min, 226
 - min_squander, 226
 - NUM_NODES, 227
 - printNode, 226
 - removeNode_squander, 226
 - repOk, 226
 - root, 227
 - setRoot, 227
 - size, 227
 - toString, 227
- edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest, 228
 - before, 228
 - bst, 230
 - initBinarySearchTree, 228
 - keys, 231

- main, 229
- nodes, 231
- testFindNode_squander, 229
- testGetAllNodes_squander, 229
- testInsertKey_squander, 229
- testInsertMix, 229
- testInsertNode_squander, 230
- testMax_squander, 230
- testMin_squander, 230
- testRemoveNode_squander, 230
- edu::mit::csail::sdg::squander::examples::bst::BST_-noSpecFld, 232
 - BST_noSpecFld, 233
 - findNode, 233
 - findNode_squander, 233
 - genBST, 234
 - getAllNodes_squander, 234
 - getRoot, 234
 - insertKey_squander, 234
 - insertNode, 234
 - insertNode_squander, 234
 - main, 234
 - max, 235
 - max_squander, 235
 - min, 235
 - min_squander, 235
 - NUM_NODES, 236
 - printNode, 235
 - removeNode_squander, 235
 - repOk, 235
 - root, 236
 - setRoot, 236
 - size, 236
 - toString, 236
- edu::mit::csail::sdg::squander::examples::bst::BST_-noSpecFldTest, 238
 - before, 239
 - bst, 241
 - initBinarySearchTree, 239
 - keys, 241
 - main, 239
 - nodes, 241
 - testFindNode_squander, 239
 - testGetAllNodes_squander, 239
 - testInsertKey_squander, 239
 - testInsertMix, 240
 - testInsertNode_squander, 240
 - testMax_squander, 240
 - testMin_squander, 240
 - testRemoveNode_squander, 240
- edu::mit::csail::sdg::squander::examples::chess::ChessBoard, 242
 - knightsTour, 242
 - knightsTour2, 242, 243
 - main, 243
 - nqueens, 243
 - nqueens2, 243
 - nqueens_int, 243
 - nqueens_rel, 243
 - printNQueens, 243
- edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan, 245
 - dx, 246
 - dy, 246
 - knightsTourMan, 245
 - main, 245
 - nqueens, 246
 - print, 246
 - search, 246
 - solveNQueens, 246
 - t1, 247
 - t2, 247
- edu::mit::csail::sdg::squander::examples::equiv::Node, 248
 - getEquiv, 248
 - left, 249
 - main, 248
 - Node, 248
 - right, 249
 - toString, 249
 - value, 249
- edu::mit::csail::sdg::squander::examples::func::Utils, 250
 - fold, 250
- edu::mit::csail::sdg::squander::examples::graph2::Graph, 251
 - addNode, 251
 - Graph, 251
 - hamiltonian, 251
 - maxClique, 251
 - newEdge, 252
 - newNode, 252
 - nodes, 252
 - numEdges, 252
 - numNodes, 252
 - size, 252
 - topsort, 252
- edu::mit::csail::sdg::squander::examples::graph2::GraphTest, 253
 - testGraph1, 253
 - testGraph2, 253
- edu::mit::csail::sdg::squander::examples::graph::Graph, 254
 - addEdge, 255
 - addNode, 255
 - auxInt, 259
 - auxNode, 259
 - checkTSP, 255

- color, 256
- containsEdge, 256
- edges, 256, 260
- findNode, 256
- getAuxInt, 256
- getAuxNode, 256
- getNeighbors, 256
- Graph, 255
- hamiltonian, 257
- hamiltonian2, 257
- maxClique, 257
- newEdge, 257
- newNode, 257
- newUndirectedEdge, 257, 258
- nodes, 258, 260
- numEdges, 258
- numNodes, 258
- removeAllIncomingEdges, 258
- removeAllOutgoingEdges, 258
- serialVersionUID, 260
- setAuxInt, 258
- setAuxNode, 259
- size, 259
- topsort, 259
- toString, 259
- tsp, 259
- edu::mit::csail::sdg::squander::examples::graph::Graph_ -
 - _2, 261
 - addEdge, 262
 - addNode, 262
 - containsEdge, 262
 - edges, 262, 264
 - Graph__2, 262
 - hamiltonian, 262
 - maxClique, 262
 - newEdge, 262
 - newNode, 263
 - nodes, 263, 264
 - numEdges, 263
 - numNodes, 263
 - removeAllIncomingEdges, 263
 - removeAllOutgoingEdges, 263
 - serialVersionUID, 264
 - size, 263
 - topsort, 263
 - toString, 263
- edu::mit::csail::sdg::squander::examples::graph::GraphTest
 - testAdd, 278
 - 265
 - checkColorsOk, 265
 - testColor, 265
 - testGraph1, 265
 - testGraph2, 265
 - testTSP, 266
- edu::mit::csail::sdg::squander::examples::graph::HamiltonianMan,
 - 267
 - hp, 267, 268
 - main, 268
 - printSolution, 268
 - solution, 268
- edu::mit::csail::sdg::squander::examples::javacol::Collections,
 - 269
 - add, 269
 - contains, 269
 - f, 269
 - get, 270
 - main, 270
 - next, 270
 - prev, 270
 - put, 270
 - remove, 270
 - removeKey, 270
 - set, 271
- edu::mit::csail::sdg::squander::examples::javacol::ListTest,
 - 272
 - elems, 273
 - lst, 273
 - setUp, 272
 - sqLst, 273
 - testAdd, 272
 - testGet, 273
 - testPrevNext, 273
 - testRemove, 273
 - testSet, 273
- edu::mit::csail::sdg::squander::examples::javacol::MapTest,
 - 275
 - keys, 276
 - map, 276
 - setUp, 275
 - sqMap, 276
 - testGet, 275
 - testPut, 276
 - testRemove, 276
 - vals, 276
- edu::mit::csail::sdg::squander::examples::javacol::SetTest,
 - 278
 - keys, 279
 - set, 279
 - setUp, 278
 - sqSet, 279
 - testContains, 279
 - testRemove, 279
- edu::mit::csail::sdg::squander::examples::javacol::Str,
 - 280
 - msg, 280
 - Str, 280

- edu::mit::csail::sdg::squander::examples::javacol::TypeParamsEx, 281
 - common, 282
 - common2, 282
 - findInt, 282
 - get, 282
 - init, 282
 - list, 283
 - main, 282
 - main1, 282
 - main3, 282
 - main4, 283
 - map, 283
 - ms, 283
 - sss, 283
 - TypeParamsEx, 282
- edu::mit::csail::sdg::squander::examples::javacol::TypeParamsExTest, 284
 - test1, 284
- edu::mit::csail::sdg::squander::examples::list::func2::Cons, 285
 - Cons, 285
 - getKey, 285
 - getRest, 285
 - key, 286
 - rest, 286
 - toString, 285
- edu::mit::csail::sdg::squander::examples::list::func2::IntList, 287
 - get, 287
 - main, 287
 - size, 287
 - sublist, 287
- edu::mit::csail::sdg::squander::examples::list::func2::ListTest, 289
 - elems, 290
 - lst, 290
 - setUp, 289
 - testSize, 289
 - testSublist, 289
- edu::mit::csail::sdg::squander::examples::list::func2::Nil, 291
 - toString, 291
- edu::mit::csail::sdg::squander::examples::list::func::Cons, 292
 - Cons, 292
 - key, 292, 293
 - rest, 293
- edu::mit::csail::sdg::squander::examples::list::func::IntList, 294
 - main, 294
 - next, 294
 - size, 294
- edu::mit::csail::sdg::squander::examples::list::LinkedList, 295
 - add, 296
 - add_man, 296
 - findNode, 296
 - header, 296, 297
 - iterator, 296
 - main, 296
 - nodes, 296
 - remove, 296
 - repOk, 296
 - size, 296
 - toString, 297
- edu::mit::csail::sdg::squander::examples::list::LinkedList_Ind, 298
 - addNode, 299
 - main, 299
 - nodes, 299
 - toString, 299
- edu::mit::csail::sdg::squander::examples::list::LinkedListTest, 300
 - lst, 301
 - setUp, 300
 - testFold, 300
- edu::mit::csail::sdg::squander::examples::mock::AddressBook, 302
 - contains, 302
 - getEmailAddress, 302
 - setEmailAddress, 302
- edu::mit::csail::sdg::squander::examples::mock::EmailMessage, 303
 - bind, 303
 - smtpAddress, 303
 - EmailMessage, 303
 - recipientName, 304
- edu::mit::csail::sdg::squander::examples::mock::MockAddressBook, 305
 - contains, 306
 - getEmailAddress, 306
 - init, 306
 - MockAddressBook, 305
 - setEmailAddress, 306
- edu::mit::csail::sdg::squander::examples::mock::MockAddressBookTest, 307
 - setUp, 307
- edu::mit::csail::sdg::squander::examples::mock::SquanderAddressBook, 308
 - entries, 309
 - getEmailAddress, 308
 - setEmailAddress, 309
 - toString, 309

- edu::mit::csail::sdg::squander::examples::mock::TestAddressBook, 310
 - addressBook, 311
 - setUp, 310
 - testBindIfAbsent, 310
 - testBindIfPresent, 310
- edu::mit::csail::sdg::squander::examples::mock::TestSquanderAddressBook, 312
 - setUp, 312
- edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 313
 - _findQ, 313
 - _findR, 313
 - _square_root_mixed, 313
 - findP, 314
 - findQ, 314
 - findR, 314
 - gcd, 314
 - gcd_impl, 314
 - main, 314
 - sort, 314
 - square_root, 315
 - square_root_finite, 315
 - square_root_mixed, 315
- edu::mit::csail::sdg::squander::examples::numbers::ArithmeticCode, 316
 - test1, 316
 - test2, 316
 - test3, 316
 - test4, 316
- edu::mit::csail::sdg::squander::examples::numbers::DeclarativeSqRoot, 317
 - DeclarativeSqRoot, 318
 - getQ, 318
 - getR, 318
 - getS, 318
 - init, 318
 - setQ, 318
 - setR, 319
 - sqRoot, 319
- edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqRoot, 320
 - findP, 321
 - findQ, 321
 - findR, 321
 - getQ, 321
 - getR, 321
 - getS, 321
 - ImperativeSqRoot, 321
 - q1, 322
 - r1, 322
 - s1, 322
 - setQ, 321
 - setR, 322
- edu::mit::csail::sdg::squander::examples::numbers::ISqRoot, 323
 - getQ, 323
 - getR, 323
 - getS, 323
 - sqRoot, 323
- edu::mit::csail::sdg::squander::examples::numbers::MixedSqRoot, 324
 - findP, 325
 - findQ, 325
 - findR, 325
 - MixedSqRoot, 324
 - sqRoot, 325
- edu::mit::csail::sdg::squander::examples::numbers::SqRootTest, 326
 - test1, 326
 - test2, 326
 - test3, 326
- edu::mit::csail::sdg::squander::examples::partitioning::Domain, 327
 - cnt, 328
 - equals, 327
 - getIdx, 327
 - getInsts, 327
 - hashCode, 328
 - idx, 328
 - insts, 328
 - toString, 328
- edu::mit::csail::sdg::squander::examples::partitioning::Graph, 329
 - cnt, 329
 - gen, 329
 - lits, 330
 - main, 329
 - n, 330
 - parts, 330
 - toString, 330
- edu::mit::csail::sdg::squander::examples::partitioning::Literal, 331
 - cnt, 332
 - getIdx, 331
 - hashCode, 331
 - idx, 332
 - toString, 331
- edu::mit::csail::sdg::squander::examples::partitioning::Partition, 333
 - cnt, 334
 - doms, 334
 - equals, 333
 - getDoms, 333
 - getIdx, 333
 - hashCode, 334
 - idx, 334

- toString, 334
- edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 348
 - 335
 - BLACK, 337
 - clear, 336
 - delete, 336
 - insert, 336
 - maxAll, 336
 - minAll, 336
 - predecessor, 336
 - RED, 337
 - RedBlackTree, 336
 - replace, 337
 - root, 338
 - search, 337
 - searchGTE, 337
 - searchLTE, 337
 - successor, 337
- edu::mit::csail::sdg::squander::examples::setpoly::BstIntSet, 339
 - add, 339
 - printNode, 339
 - root, 340
 - toString, 339
- edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 341
 - add, 341
 - contains, 341
 - containsAll, 341
 - init, 342
 - IntSet, 341
 - main, 342
 - main2, 342
 - nodes, 342
 - remove, 342
- edu::mit::csail::sdg::squander::examples::setpoly::SetIntSet, 343
 - mySet, 343
 - nodes, 343
 - toString, 343
- edu::mit::csail::sdg::squander::examples::sort::Sort, 345
 - a, 346
 - getA, 345
 - main, 345
 - Sort, 345
 - sort, 345
 - toString, 346
- edu::mit::csail::sdg::squander::examples::sort::SortTest, 347
 - test1, 347
 - test2, 347
 - test3, 347
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 348
 - cols, 350
 - getCellValue, 349
 - grids, 350
 - init, 349
 - main, 349
 - n, 350
 - parse, 349
 - printHLine, 349
 - printSimple, 349
 - rows, 350
 - setCellValue, 350
 - solve, 350
 - Sudoku1, 349
 - toString, 350
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1Test, 351
 - testSudoku1Small, 351
 - testSudoku2Small, 351
 - testSudoku3Small, 351
 - testSudoku5Small, 351
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 352
 - cols, 354
 - getCellValue, 353
 - grids, 354
 - init, 353
 - m, 354
 - main, 353
 - n, 354
 - parse, 353
 - printHLine, 353
 - printSimple, 353
 - repOK, 353
 - rows, 354
 - setCellValue, 354
 - solve, 354
 - Sudoku2, 353
 - toString, 354
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 355
 - getCellValue, 355
 - initGrid, 355
 - m, 357
 - main, 356
 - n, 357
 - nums, 357
 - parse, 356
 - printHLine, 356
 - printSimple, 356
 - setCellValue, 356
 - solve, 356
 - Sudoku3, 355

- toString, 356
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4
 - 358
 - getCellValue, 359
 - initGrid, 359
 - m, 360
 - main, 359
 - n, 360
 - nums, 360
 - parse, 359
 - printHLine, 359
 - printSimple, 359
 - setCellValue, 359
 - solve, 360
 - Sudoku4, 359
 - toString, 360
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4Num
 - 361
 - Num, 361
 - val, 361
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5
 - 362
 - getCellValue, 362
 - grid, 363
 - m, 363
 - main, 362
 - n, 364
 - nums, 364
 - parse, 363
 - printHLine, 363
 - printSimple, 363
 - setCellValue, 363
 - solve, 363
 - Sudoku5, 362
 - toString, 363
- edu::mit::csail::sdg::squander::forge_
 - examples::BinarySearchTree, 365
 - BinarySearchTree, 366
 - bounds, 366
 - bst, 368
 - bstInst, 368
 - cfgMin, 367
 - key, 368
 - left, 368
 - main, 367
 - minProc, 368
 - minRet, 368
 - node, 368
 - nodeInsts, 369
 - options, 367
 - parent, 369
 - program, 369
 - right, 369
 - root, 369
 - runMin, 367
- edu::mit::csail::sdg::squander::forge_
 - examples::TopologicalSort, 370
 - bounds, 371
 - cfg, 371
 - condition, 372
 - elems, 372
 - list, 372
 - main, 372
 - next, 373
 - node, 373
 - nodes, 373
 - num, 373
 - out, 373
 - proc, 373
 - program, 374
 - num, 372
 - TopologicalSort, 371
 - value, 374
 - width, 374
- edu::mit::csail::sdg::squander::log::Log, 375
 - ALL, 376
 - DEBUG, 376
 - debug, 376
 - ERROR, 376
 - error, 376
 - FATAL, 376
 - Level, 376
 - LOG, 376
 - log, 376
 - myLog, 376
 - NONE, 376
 - out, 377
 - TRACE, 376
 - trace, 377
 - WARN, 376
 - warn, 377
- edu::mit::csail::sdg::squander::options::ConfigLoader,
 - 378
 - error, 378
 - getField, 378
 - loadOptions, 378
 - setBoolean, 378
 - setClass, 379
 - setEnum, 379
 - setInt, 379
 - setString, 379
- edu::mit::csail::sdg::squander::options::GlobalOptions,
 - 380
 - desugar_quants, 381
 - Engine, 381
 - engine, 381
 - Forge, 381
 - getSquanderImpl, 381

- INSTANCE, 381
- Kodkod, 381
- Kodkod2, 381
- KodkodPart, 381
- KodkodPart2, 381
- log_level, 381
- min_bitwidth, 381
- reporter, 382
- sat_solver, 382
- unsat_core, 382
- edu::mit::csail::sdg::squander::parser::JFSLLexer, 383
- AMBIGUOUS, 400
- ARGUMENT, 400
- ARGUMENTS, 401
- BINARY, 401
- BRACKET, 401
- CALL, 401
- CAST, 401
- CHAIN, 401
- CharacterLiteral, 401
- CLASS_DESIGNATOR, 401
- CONDITIONAL, 401
- DecimalLiteral, 401
- DECL_NONE, 401
- DECL_SEQ, 402
- DECL_SET, 402
- DECLARATION, 402
- DECLS, 402
- dfa18, 402
- DFA18_accept, 402
- DFA18_acceptS, 402
- DFA18_eof, 402
- DFA18_eofS, 402
- DFA18_eot, 403
- DFA18_eotS, 403
- DFA18_max, 403
- DFA18_maxS, 403
- DFA18_min, 403
- DFA18_minS, 403
- DFA18_special, 403
- DFA18_specialS, 404
- DFA18_transition, 404
- DFA18_transitionS, 404
- dfa26, 404
- DFA26_accept, 404
- DFA26_acceptS, 404
- DFA26_eof, 405
- DFA26_eofS, 405
- DFA26_eot, 405
- DFA26_eotS, 405
- DFA26_max, 405
- DFA26_maxS, 406
- DFA26_min, 406
- DFA26_minS, 406
- DFA26_special, 406
- DFA26_specialS, 407
- DFA26_transition, 407
- DFA26_transitionS, 407
- ENSURES, 407
- EOF, 407
- EscapeSequence, 407
- Exponent, 407
- FIELD, 407
- FILE, 407
- FloatingPointLiteral, 408
- FloatTypeSuffix, 408
- FRAME, 408
- FRAME_ALL, 408
- FRAME_LOCATION, 408
- getGrammarFileName, 390
- HELPER, 408
- HexDigit, 408
- HexLiteral, 408
- IDENTIFIER, 408
- Identifier, 408
- IMPORT, 408
- IntegerTypeSuffix, 409
- INVARIANT, 409
- JavaIDDigit, 409
- JFSLLexer, 390
- JOIN, 409
- JOIN_REFLEXIVE, 409
- Letter, 409
- LIT_FALSE, 409
- LIT_NULL, 409
- LIT_TRUE, 409
- mCharacterLiteral, 390
- mDecimalLiteral, 390
- mEscapeSequence, 390
- METHOD, 409
- METHOD_PARAMETERS, 409
- mExponent, 391
- mFloatingPointLiteral, 391
- mFloatTypeSuffix, 391
- mHexDigit, 391
- mHexLiteral, 391
- mIdentifier, 391
- mIntegerTypeSuffix, 391
- mJavaIDDigit, 391
- mLetter, 391
- mOctalEscape, 392
- mOctalLiteral, 392
- MODIFIES, 410
- mStringLiteral, 392
- mT_127, 392
- mT_128, 392
- mT_129, 392

- mT__130, 392
- mT__131, 392
- mT__132, 392
- mT__133, 393
- mT__134, 393
- mT__135, 393
- mT__136, 393
- mT__137, 393
- mT__138, 393
- mT__139, 393
- mT__140, 393
- mT__141, 393
- mT__142, 394
- mT__143, 394
- mT__144, 394
- mT__145, 394
- mT__146, 394
- mT__147, 394
- mT__148, 394
- mT__149, 394
- mT__150, 394
- mT__151, 395
- mT__152, 395
- mT__153, 395
- mT__154, 395
- mT__155, 395
- mT__156, 395
- mT__157, 395
- mT__158, 395
- mT__159, 395
- mT__160, 396
- mT__161, 396
- mT__162, 396
- mT__163, 396
- mT__164, 396
- mT__165, 396
- mT__166, 396
- mT__167, 396
- mT__168, 396
- mT__169, 397
- mT__170, 397
- mT__171, 397
- mT__172, 397
- mT__173, 397
- mT__174, 397
- mT__175, 397
- mT__176, 397
- mT__177, 397
- mT__178, 398
- mT__179, 398
- mT__180, 398
- mT__181, 398
- mT__182, 398
- mT__183, 398
- mT__184, 398
- mT__185, 398
- mT__186, 398
- mT__187, 399
- mT__188, 399
- mT__189, 399
- mT__190, 399
- mT__191, 399
- mT__192, 399
- mT__193, 399
- mT__194, 399
- mT__195, 399
- mT__196, 400
- mT__197, 400
- mT__198, 400
- mT__199, 400
- mTokens, 400
- mUnicodeEscape, 400
- mWS, 400
- NULL, 410
- OctalEscape, 410
- OctalLiteral, 410
- OLD, 410
- OP_AND, 410
- OP_BIT_AND_OR_INTERSECTION, 410
- OP_BIT_NOT_OR_TRANSPOSE, 410
- OP_BIT_OR, 410
- OP_BIT_XOR, 410
- OP_CLOSURE, 410
- OP_DIFFERENCE, 411
- OP_DIVIDE, 411
- OP_EQ, 411
- OP_EQUIV, 411
- OP_GEQ, 411
- OP_GT, 411
- OP_IMPLIES, 411
- OP_INSTANCEOF, 411
- OP_INTERSECTION, 411
- OP_LEQ, 411
- OP_LT, 411
- OP_MINUS, 412
- OP_MINUS_OR_DIFFERENCE, 412
- OP_MOD, 412
- OP_NEQ, 412
- OP_NEQUIV, 412
- OP_NOT, 412
- OP_NSET_SUBSET, 412
- OP_OR, 412
- OP_PLUS, 412
- OP_PLUS_OR_UNION, 412
- OP_RELATIONAL_COMPOSE, 412
- OP_RELATIONAL_OVERRIDE, 413
- OP_SET_ALL, 413
- OP_SET_COMPREHENSION, 413

OP_SET_EXISTS, 413
OP_SET_LONE, 413
OP_SET_NO, 413
OP_SET_NUM, 413
OP_SET_ONE, 413
OP_SET_SOME, 413
OP_SET_SUBSET, 413
OP_SET_SUM, 414
OP_SHL, 414
OP_SHR, 414
OP_TIMES, 414
OP_TRANSPOSE, 414
OP_UNION, 414
OP_USHR, 414
PACKAGE, 414
PURE, 414
QUANTIFY, 414
REQUIRES, 414
RETURN_VAR, 415
SPECCASE, 415
SPECFIELD, 415
SPECIFICATION, 415
StringLiteral, 415
SUPER_VAR, 415
T_127, 415
T_128, 415
T_129, 415
T_130, 415
T_131, 415
T_132, 416
T_133, 416
T_134, 416
T_135, 416
T_136, 416
T_137, 416
T_138, 416
T_139, 416
T_140, 416
T_141, 416
T_142, 416
T_143, 417
T_144, 417
T_145, 417
T_146, 417
T_147, 417
T_148, 417
T_149, 417
T_150, 417
T_151, 417
T_152, 417
T_153, 417
T_154, 418
T_155, 418
T_156, 418
T_157, 418
T_158, 418
T_159, 418
T_160, 418
T_161, 418
T_162, 418
T_163, 418
T_164, 418
T_165, 419
T_166, 419
T_167, 419
T_168, 419
T_169, 419
T_170, 419
T_171, 419
T_172, 419
T_173, 419
T_174, 419
T_175, 419
T_176, 420
T_177, 420
T_178, 420
T_179, 420
T_180, 420
T_181, 420
T_182, 420
T_183, 420
T_184, 420
T_185, 420
T_186, 420
T_187, 421
T_188, 421
T_189, 421
T_190, 421
T_191, 421
T_192, 421
T_193, 421
T_194, 421
T_195, 421
T_196, 421
T_197, 421
T_198, 422
T_199, 422
THIS_VAR, 422
THROW_VAR, 422
THROWS, 422
TYPE_ARRAY, 422
TYPE_BOOLEAN, 422
TYPE_BYTE, 422
TYPE_CHAR, 422
TYPE_DECLARATION, 422
TYPE_DOUBLE, 422
TYPE_FLOAT, 423
TYPE_INT, 423

- TYPE_LONG, 423
- TYPE_PARAMETERS, 423
- TYPE_REF, 423
- TYPE_SHORT, 423
- UNARY, 423
- UnicodeEscape, 423
- VOID, 423
- WS, 423
- edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA18, DFA38_maxS, 470
 - 425
 - DFA18, 425
 - getDescription, 425
- edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA26, DFA38_specialS, 470
 - 426
 - DFA26, 426
 - getDescription, 426
- edu::mit::csail::sdg::squander::parser::JFSLParser, 427
 - adaptor, 467
 - additiveExpression, 455
 - additiveOp, 455
 - AMBIGUOUS, 467
 - andExpression, 455
 - ARGUMENT, 467
 - ARGUMENTS, 467
 - arguments, 455
 - BINARY, 467
 - bitAndOp, 455
 - BRACKET, 467
 - CALL, 468
 - CAST, 468
 - castExpression, 455
 - CHAIN, 468
 - CharacterLiteral, 468
 - CLASS_DESIGNATOR, 468
 - clause, 456
 - common, 456
 - compilationUnit, 456
 - composeExpression, 456
 - CONDITIONAL, 468
 - conditionalAndExpression, 456
 - conditionalExpression, 456
 - conditionalOrExpression, 456
 - CONST, 454
 - DecimalLiteral, 468
 - Decision, 454
 - DECL_NONE, 468
 - DECL_SEQ, 468
 - DECL_SET, 468
 - DECLARATION, 468
 - declaration, 456
 - declarationMult, 457
 - DECLS, 469
 - decls, 457
 - dfa38, 469
 - DFA38_accept, 469
 - DFA38_acceptS, 469
 - DFA38_eof, 469
 - DFA38_eofS, 469
 - DFA38_eot, 469
 - DFA38_eotS, 469
 - DFA38_max, 470
 - DFA38_min, 470
 - DFA38_minS, 470
 - DFA38_special, 470
 - DFA38_specialS, 470
 - DFA38_transition, 471
 - DFA38_transitionS, 471
 - dfa42, 471
 - DFA42_accept, 471
 - DFA42_acceptS, 471
 - DFA42_eof, 471
 - DFA42_eofS, 472
 - DFA42_eot, 472
 - DFA42_eotS, 472
 - DFA42_max, 472
 - DFA42_maxS, 472
 - DFA42_min, 472
 - DFA42_minS, 472
 - DFA42_special, 473
 - DFA42_specialS, 473
 - DFA42_transition, 473
 - DFA42_transitionS, 473
 - dfa69, 473
 - DFA69_accept, 473
 - DFA69_acceptS, 473
 - DFA69_eof, 474
 - DFA69_eofS, 474
 - DFA69_eot, 474
 - DFA69_eotS, 474
 - DFA69_max, 474
 - DFA69_maxS, 474
 - DFA69_min, 474
 - DFA69_minS, 475
 - DFA69_special, 475
 - DFA69_specialS, 475
 - DFA69_transition, 475
 - DFA69_transitionS, 475
 - dfa77, 475
 - DFA77_accept, 475
 - DFA77_acceptS, 475
 - DFA77_eof, 476
 - DFA77_eofS, 476
 - DFA77_eot, 476
 - DFA77_eotS, 476
 - DFA77_max, 476
 - DFA77_maxS, 476

- DFA77_min, [476](#)
- DFA77_minS, [477](#)
- DFA77_special, [477](#)
- DFA77_specialS, [477](#)
- DFA77_transition, [477](#)
- DFA77_transitionS, [477](#)
- dfa78, [477](#)
- DFA78_accept, [477](#)
- DFA78_acceptS, [477](#)
- DFA78_eof, [478](#)
- DFA78_eofS, [478](#)
- DFA78_eot, [478](#)
- DFA78_eotS, [478](#)
- DFA78_max, [478](#)
- DFA78_maxS, [478](#)
- DFA78_min, [479](#)
- DFA78_minS, [479](#)
- DFA78_special, [479](#)
- DFA78_specialS, [479](#)
- DFA78_transition, [479](#)
- DFA78_transitionS, [479](#)
- dfa79, [479](#)
- DFA79_accept, [479](#)
- DFA79_acceptS, [480](#)
- DFA79_eof, [480](#)
- DFA79_eofS, [480](#)
- DFA79_eot, [480](#)
- DFA79_eotS, [480](#)
- DFA79_max, [480](#)
- DFA79_maxS, [480](#)
- DFA79_min, [481](#)
- DFA79_minS, [481](#)
- DFA79_special, [481](#)
- DFA79_specialS, [481](#)
- DFA79_transition, [481](#)
- DFA79_transitionS, [481](#)
- displayRecognitionError, [457](#)
- ENSURES, [482](#)
- EOF, [482](#)
- equalityExpression, [457](#)
- equalityOp, [457](#)
- EscapeSequence, [482](#)
- exclusiveOrExpression, [457](#)
- Exponent, [482](#)
- expression, [457](#)
- expressionList, [457](#)
- FIELD, [482](#)
- FILE, [482](#)
- FloatingPointLiteral, [482](#)
- FloatTypeSuffix, [482](#)
- FOLLOW_127_in_compilationUnit760, [483](#)
- FOLLOW_128_in_compilationUnit764, [483](#)
- FOLLOW_128_in_compilationUnit778, [483](#)
- FOLLOW_128_in_importDeclaration847, [483](#)
- FOLLOW_128_in_synpred13_JFSL1055, [483](#)
- FOLLOW_128_in_typeBodyDeclaration1055, [483](#)
- FOLLOW_128_in_typeBodyDeclaration1062, [483](#)
- FOLLOW_128_in_typeBodyDeclaration988, [484](#)
- FOLLOW_129_in_packageName813, [484](#)
- FOLLOW_129_in_primary4005, [484](#)
- FOLLOW_129_in_selector4090, [484](#)
- FOLLOW_129_in_selector4110, [484](#)
- FOLLOW_129_in_selector4130, [484](#)
- FOLLOW_129_in_selector4146, [484](#)
- FOLLOW_129_in_selector4162, [485](#)
- FOLLOW_129_in_selector4184, [485](#)
- FOLLOW_129_in_storeWildcard1593, [485](#)
- FOLLOW_129_in_synpred118_JFSL4005, [485](#)
- FOLLOW_129_in_synpred120_JFSL4005, [485](#)
- FOLLOW_129_in_typeName1835, [485](#)
- FOLLOW_130_in_importDeclaration843, [485](#)
- FOLLOW_131_in_typeDeclaration874, [486](#)
- FOLLOW_132_in_typeDeclaration878, [486](#)
- FOLLOW_133_in_common3951, [486](#)
- FOLLOW_133_in_typeBodyDeclaration1050, [486](#)
- FOLLOW_133_in_typeDeclaration890, [486](#)
- FOLLOW_134_in_common3959, [486](#)
- FOLLOW_134_in_typeBodyDeclaration1066, [486](#)
- FOLLOW_134_in_typeDeclaration895, [487](#)
- FOLLOW_135_in_logicalOp2239, [487](#)
- FOLLOW_135_in_logicalOp2251, [487](#)
- FOLLOW_135_in_relationalOp2835, [487](#)
- FOLLOW_135_in_relationalOp2855, [487](#)
- FOLLOW_135_in_shiftOp2990, [487](#)
- FOLLOW_135_in_shiftOp2992, [487](#)
- FOLLOW_135_in_typeParameters2959, [488](#)
- FOLLOW_135_in_typeParameters926, [488](#)
- FOLLOW_136_in_decls3719, [488](#)
- FOLLOW_136_in_expressionList2022, [488](#)
- FOLLOW_136_in_frame1470, [488](#)
- FOLLOW_136_in_methodParameters1109, [488](#)
- FOLLOW_136_in_typeParameters2964, [488](#)
- FOLLOW_136_in_typeParameters931, [489](#)
- FOLLOW_137_in_logicalOp2243, [489](#)
- FOLLOW_137_in_logicalOp2255, [489](#)
- FOLLOW_137_in_logicalOp2265, [489](#)
- FOLLOW_137_in_relationalOp2845, [489](#)
- FOLLOW_137_in_relationalOp2863, [489](#)
- FOLLOW_137_in_shiftOp3000, [489](#)
- FOLLOW_137_in_shiftOp3002, [490](#)

- FOLLOW_137_in_shiftOp3004, 490
- FOLLOW_137_in_shiftOp3012, 490
- FOLLOW_137_in_shiftOp3014, 490
- FOLLOW_137_in_typeParameters2970, 490
- FOLLOW_137_in_typeParameters937, 490
- FOLLOW_138_in_typeBodyDeclaration1002, 490
- FOLLOW_139_in_arguments2046, 491
- FOLLOW_139_in_castExpression3671, 491
- FOLLOW_139_in_common3907, 491
- FOLLOW_139_in_common3927, 491
- FOLLOW_139_in_parExpression1984, 491
- FOLLOW_139_in_specCase1151, 491
- FOLLOW_139_in_specCase1172, 491
- FOLLOW_139_in_specCase1187, 492
- FOLLOW_139_in_specCase1208, 492
- FOLLOW_139_in_typeBodyDeclaration1004, 492
- FOLLOW_139_in_typeBodyDeclaration1024, 492
- FOLLOW_139_in_typeBodyDeclaration1044, 492
- FOLLOW_140_in_arguments2051, 492
- FOLLOW_140_in_castExpression3675, 492
- FOLLOW_140_in_common3911, 493
- FOLLOW_140_in_common3931, 493
- FOLLOW_140_in_parExpression1989, 493
- FOLLOW_140_in_specCase1159, 493
- FOLLOW_140_in_specCase1180, 493
- FOLLOW_140_in_specCase1195, 493
- FOLLOW_140_in_specCase1216, 493
- FOLLOW_140_in_typeBodyDeclaration1008, 494
- FOLLOW_140_in_typeBodyDeclaration1028, 494
- FOLLOW_140_in_typeBodyDeclaration1048, 494
- FOLLOW_141_in_typeBodyDeclaration1022, 494
- FOLLOW_142_in_specCase1149, 494
- FOLLOW_143_in_specCase1170, 494
- FOLLOW_144_in_specCase1185, 494
- FOLLOW_145_in_specCase1206, 495
- FOLLOW_146_in_specCase1267, 495
- FOLLOW_147_in_specCase1282, 495
- FOLLOW_148_in_declaration1306, 495
- FOLLOW_148_in_declaration1361, 495
- FOLLOW_149_in_declaration1310, 495
- FOLLOW_149_in_declaration1365, 495
- FOLLOW_150_in_-
 - conditionalExpression2109, 496
- FOLLOW_150_in_declaration1316, 496
- FOLLOW_150_in_declaration1371, 496
- FOLLOW_150_in_decls3710, 496
- FOLLOW_150_in_decls3729, 496
- FOLLOW_150_in_synpred26_JFSL1316, 496
- FOLLOW_150_in_synpred62_JFSL2109, 496
- FOLLOW_151_in_declaration1322, 497
- FOLLOW_151_in_synpred26_JFSL1322, 497
- FOLLOW_152_in_common3955, 497
- FOLLOW_152_in_declaration1327, 497
- FOLLOW_152_in_declaration1378, 497
- FOLLOW_152_in_-
 - inclusiveOrExpression2417, 497
- FOLLOW_152_in_quantifiedExpression2151, 497
- FOLLOW_152_in_synpred26_JFSL1327, 498
- FOLLOW_152_in_synpred63_JFSL2151, 498
- FOLLOW_153_in_declarationMult1426, 498
- FOLLOW_154_in_declarationMult1436, 498
- FOLLOW_155_in_multOp3217, 498
- FOLLOW_155_in_selector4164, 498
- FOLLOW_155_in_selector4186, 498
- FOLLOW_155_in_storeWildcard1595, 499
- FOLLOW_156_in_keywordLiteral1616, 499
- FOLLOW_157_in_keywordLiteral1628, 499
- FOLLOW_158_in_keywordLiteral1639, 499
- FOLLOW_159_in_primitiveType1741, 499
- FOLLOW_160_in_primitiveType1750, 499
- FOLLOW_161_in_primitiveType1760, 499
- FOLLOW_162_in_primitiveType1772, 499
- FOLLOW_163_in_primitiveType1783, 500
- FOLLOW_164_in_primitiveType1794, 500
- FOLLOW_165_in_primitiveType1804, 500
- FOLLOW_166_in_primitiveType1815, 500
- FOLLOW_167_in_selector4202, 500
- FOLLOW_167_in_selector4221, 500
- FOLLOW_167_in_synpred56_JFSL1887, 500
- FOLLOW_167_in_synpred58_JFSL1917, 501
- FOLLOW_167_in_typeDisambiguous1887, 501
- FOLLOW_167_in_typeDisambiguous1917, 501
- FOLLOW_168_in_selector4205, 501
- FOLLOW_168_in_selector4223, 501
- FOLLOW_168_in_synpred56_JFSL1889, 501
- FOLLOW_168_in_synpred58_JFSL1919, 501
- FOLLOW_168_in_typeDisambiguous1889, 502
- FOLLOW_168_in_typeDisambiguous1919, 502
- FOLLOW_169_in_-
 - conditionalExpression2105, 502
- FOLLOW_169_in_synpred62_JFSL2105, 502
- FOLLOW_170_in_equalityOp2656, 502
- FOLLOW_170_in_equalityOp2658, 502
- FOLLOW_170_in_equalityOp2668, 502
- FOLLOW_170_in_equalityOp2676, 503

- FOLLOW_170_in_logicalOp2241, 503
- FOLLOW_170_in_logicalOp2263, 503
- FOLLOW_170_in_relationalOp2837, 503
- FOLLOW_170_in_relationalOp2847, 503
- FOLLOW_171_in_equalityOp2666, 503
- FOLLOW_171_in_logicalOp2253, 503
- FOLLOW_171_in_relationalOp2875, 504
- FOLLOW_171_in_-
 - unaryExpressionNotPlusMinus3623, 504
- FOLLOW_172_in_-
 - conditionalOrExpression2300, 504
- FOLLOW_173_in_-
 - conditionalAndExpression2356, 504
- FOLLOW_174_in_-
 - exclusiveOrExpression2473, 504
- FOLLOW_174_in_specUnaryOp4247, 504
- FOLLOW_174_in_specUnaryOp4251, 504
- FOLLOW_175_in_bitAndOp2572, 505
- FOLLOW_175_in_-
 - intersectionExpression3450, 505
- FOLLOW_176_in_-
 - instanceOfExpression2713, 505
- FOLLOW_177_in_inOp2816, 505
- FOLLOW_177_in_relationalOp2877, 505
- FOLLOW_178_in_additiveOp3097, 505
- FOLLOW_178_in_setAdditiveOp3334, 505
- FOLLOW_178_in_unaryExpression3556, 505
- FOLLOW_179_in_additiveOp3110, 506
- FOLLOW_179_in_setAdditiveOp3347, 506
- FOLLOW_179_in_unaryExpression3574, 506
- FOLLOW_180_in_setQuantOp4386, 506
- FOLLOW_180_in_sizeExpression3130, 506
- FOLLOW_181_in_multOp3230, 506
- FOLLOW_182_in_multOp3243, 506
- FOLLOW_183_in_-
 - intersectionExpression3448, 507
- FOLLOW_183_in_primary4040, 507
- FOLLOW_183_in_setAdditiveOp3332, 507
- FOLLOW_183_in_setAdditiveOp3345, 507
- FOLLOW_183_in_specUnaryOp4245, 507
- FOLLOW_183_in_specUnaryOp4263, 507
- FOLLOW_184_in_overrideExpression3385, 507
- FOLLOW_185_in_composeExpression3509, 508
- FOLLOW_186_in_specUnaryOp4265, 508
- FOLLOW_186_in_specUnaryOp4269, 508
- FOLLOW_186_in_synpred99_JFSL3605, 508
- FOLLOW_186_in_-
 - unaryExpressionNotPlusMinus3605, 508
- FOLLOW_187_in_common3864, 508
- FOLLOW_188_in_common3874, 508
- FOLLOW_189_in_common3884, 509
- FOLLOW_190_in_common3895, 509
- FOLLOW_191_in_common3905, 509
- FOLLOW_192_in_common3925, 509
- FOLLOW_193_in_setDeclOp4294, 509
- FOLLOW_194_in_setDeclOp4306, 509
- FOLLOW_195_in_setDeclOp4318, 509
- FOLLOW_196_in_setUnaryOp4347, 509
- FOLLOW_197_in_setUnaryOp4358, 510
- FOLLOW_198_in_setQuantOp4397, 510
- FOLLOW_199_in_setQuantOp4410, 510
- FOLLOW_additiveExpression_in_-
 - declaration1320, 510
- FOLLOW_additiveExpression_in_-
 - declaration1375, 510
- FOLLOW_additiveExpression_in_decls3715, 510
- FOLLOW_additiveExpression_in_decls3732, 510
- FOLLOW_additiveExpression_in_-
 - shiftExpression2932, 511
- FOLLOW_additiveExpression_in_-
 - shiftExpression2953, 511
- FOLLOW_additiveExpression_in_-
 - synpred26_JFSL1320, 511
- FOLLOW_additiveOp_in_-
 - additiveExpression3052, 511
- FOLLOW_andExpression_in_-
 - exclusiveOrExpression2458, 511
- FOLLOW_andExpression_in_-
 - exclusiveOrExpression2477, 511
- FOLLOW_arguments_in_primary4064, 511
- FOLLOW_arguments_in_selector4094, 512
- FOLLOW_bitAndOp_in_andExpression2531, 512
- FOLLOW_castExpression_in_synpred101_-
 - JFSL3645, 512
- FOLLOW_castExpression_in_-
 - unaryExpressionNotPlusMinus3645, 512
- FOLLOW_CharacterLiteral_in_literal1675, 512
- FOLLOW_common_in_primary3984, 512
- FOLLOW_common_in_selector4148, 512
- FOLLOW_common_in_selector4188, 512
- FOLLOW_common_in_storePrimary1547, 513
- FOLLOW_composeExpression_in_-
 - intersectionExpression3433, 513
- FOLLOW_composeExpression_in_-
 - intersectionExpression3454, 513
- FOLLOW_conditionalAndExpression_in_-
 - conditionalOrExpression2285, 513

- FOLLOW_conditionalAndExpression_in_-
conditionalOrExpression2304, [513](#)
- FOLLOW_conditionalExpression_in_-
expression2075, [513](#)
- FOLLOW_conditionalOrExpression_in_-
logicalExpression2187, [513](#)
- FOLLOW_conditionalOrExpression_in_-
logicalExpression2202, [514](#)
- FOLLOW_declaration_in_specField729, [514](#)
- FOLLOW_declaration_in_-
typeBodyDeclaration1026, [514](#)
- FOLLOW_declarationMult_in_-
declaration1318, [514](#)
- FOLLOW_declarationMult_in_-
declaration1373, [514](#)
- FOLLOW_declarationMult_in_decls3713,
[514](#)
- FOLLOW_declarationMult_in_synpred26_-
JFSL1318, [514](#)
- FOLLOW_decls_in_common3953, [515](#)
- FOLLOW_decls_in_-
quantifiedExpression2149, [515](#)
- FOLLOW_decls_in_synpred63_JFSL2149,
[515](#)
- FOLLOW_EOF_in_clause722, [515](#)
- FOLLOW_EOF_in_compilationUnit785, [515](#)
- FOLLOW_EOF_in_modifies740, [515](#)
- FOLLOW_EOF_in_specField731, [515](#)
- FOLLOW_equalityExpression_in_-
andExpression2516, [516](#)
- FOLLOW_equalityExpression_in_-
andExpression2535, [516](#)
- FOLLOW_equalityOp_in_-
equalityExpression2611, [516](#)
- FOLLOW_exclusiveOrExpression_in_-
inclusiveOrExpression2402, [516](#)
- FOLLOW_exclusiveOrExpression_in_-
inclusiveOrExpression2421, [516](#)
- FOLLOW_expression_in_clause720, [516](#)
- FOLLOW_expression_in_common3909, [516](#)
- FOLLOW_expression_in_common3957, [517](#)
- FOLLOW_expression_in_-
conditionalExpression2107, [517](#)
- FOLLOW_expression_in_-
conditionalExpression2111, [517](#)
- FOLLOW_expression_in_declaration1329,
[517](#)
- FOLLOW_expression_in_declaration1380,
[517](#)
- FOLLOW_expression_in_-
expressionList2019, [517](#)
- FOLLOW_expression_in_-
expressionList2025, [517](#)
- FOLLOW_expression_in_parExpression1987,
[518](#)
- FOLLOW_expression_in_-
quantifiedExpression2153, [518](#)
- FOLLOW_expression_in_selector4203, [518](#)
- FOLLOW_expression_in_specCase1157, [518](#)
- FOLLOW_expression_in_specCase1178, [518](#)
- FOLLOW_expression_in_specCase1193, [518](#)
- FOLLOW_expression_in_synpred26_-
JFSL1329, [518](#)
- FOLLOW_expression_in_synpred62_-
JFSL2107, [519](#)
- FOLLOW_expression_in_synpred62_-
JFSL2111, [519](#)
- FOLLOW_expression_in_synpred63_-
JFSL2153, [519](#)
- FOLLOW_expression_in_-
typeBodyDeclaration1006, [519](#)
- FOLLOW_expressionList_in_arguments2048,
[519](#)
- FOLLOW_FloatingPointLiteral_in_-
literal1669, [519](#)
- FOLLOW_frame_in_declaration1324, [519](#)
- FOLLOW_frame_in_modifies738, [520](#)
- FOLLOW_frame_in_specCase1214, [520](#)
- FOLLOW_frame_in_synpred26_JFSL1324,
[520](#)
- FOLLOW_Identifier_in_declaration1314, [520](#)
- FOLLOW_Identifier_in_declaration1369, [520](#)
- FOLLOW_Identifier_in_decls3703, [520](#)
- FOLLOW_Identifier_in_decls3722, [520](#)
- FOLLOW_Identifier_in_-
methodParameters1106, [521](#)
- FOLLOW_Identifier_in_-
methodParameters1113, [521](#)
- FOLLOW_Identifier_in_packageName810,
[521](#)
- FOLLOW_Identifier_in_packageName815,
[521](#)
- FOLLOW_Identifier_in_primary4002, [521](#)
- FOLLOW_Identifier_in_primary4007, [521](#)
- FOLLOW_Identifier_in_primary4042, [521](#)
- FOLLOW_Identifier_in_primary4062, [522](#)
- FOLLOW_Identifier_in_-
relationalUnaryExpression3793, [522](#)
- FOLLOW_Identifier_in_selector4092, [522](#)
- FOLLOW_Identifier_in_selector4112, [522](#)
- FOLLOW_Identifier_in_selector4166, [522](#)
- FOLLOW_Identifier_in_storePrimary1532,
[522](#)
- FOLLOW_Identifier_in_synpred118_-
JFSL4007, [522](#)
- FOLLOW_Identifier_in_synpred120_-
JFSL4002, [522](#)

- FOLLOW_Identifier_in_synpred120_-
JFSL4007, [523](#)
- FOLLOW_Identifier_in_synpred26_-
JFSL1314, [523](#)
- FOLLOW_Identifier_in_-
typeBodyDeclaration1042, [523](#)
- FOLLOW_Identifier_in_typeDeclaration881,
[523](#)
- FOLLOW_Identifier_in_typeName1832, [523](#)
- FOLLOW_Identifier_in_typeName1837, [523](#)
- FOLLOW_Identifier_in_typeParameters928,
[523](#)
- FOLLOW_Identifier_in_typeParameters933,
[524](#)
- FOLLOW_importDeclaration_in_-
compilationUnit770, [524](#)
- FOLLOW_inclusiveOrExpression_in_-
conditionalAndExpression2341, [524](#)
- FOLLOW_inclusiveOrExpression_in_-
conditionalAndExpression2360, [524](#)
- FOLLOW_inOp_in_decls3706, [524](#)
- FOLLOW_inOp_in_decls3725, [524](#)
- FOLLOW_inOp_in_relationalOp2871, [524](#)
- FOLLOW_instanceOfExpression_in_-
equalityExpression2594, [525](#)
- FOLLOW_instanceOfExpression_in_-
equalityExpression2615, [525](#)
- FOLLOW_integerLiteral_in_common3929,
[525](#)
- FOLLOW_integerLiteral_in_literal1663, [525](#)
- FOLLOW_intersectionExpression_in_-
overrideExpression3370, [525](#)
- FOLLOW_intersectionExpression_in_-
overrideExpression3389, [525](#)
- FOLLOW_joinExpression_in_-
setUnaryExpression2898, [525](#)
- FOLLOW_joinExpression_in_-
sizeExpression3132, [526](#)
- FOLLOW_joinExpression_in_-
unaryExpressionNotPlusMinus3651,
[526](#)
- FOLLOW_keywordLiteral_in_literal1687,
[526](#)
- FOLLOW_literal_in_primary3990, [526](#)
- FOLLOW_logicalExpression_in_-
quantifiedExpression2171, [526](#)
- FOLLOW_logicalOp_in_-
logicalExpression2200, [526](#)
- FOLLOW_methodParameters_in_-
typeBodyDeclaration1046, [526](#)
- FOLLOW_multiplicativeExpression_in_-
sizeExpression3148, [526](#)
- FOLLOW_multOp_in_-
multiplicativeExpression3183, [527](#)
- FOLLOW_overrideExpression_in_-
setAdditiveExpression3266, [527](#)
- FOLLOW_overrideExpression_in_-
setAdditiveExpression3290, [527](#)
- FOLLOW_packageName_in_-
compilationUnit762, [527](#)
- FOLLOW_packageName_in_-
importDeclaration845, [527](#)
- FOLLOW_parExpression_in_common3858,
[527](#)
- FOLLOW_parExpression_in_-
relationalUnaryExpression3775, [527](#)
- FOLLOW_primary_in_joinExpression3826,
[528](#)
- FOLLOW_primary_in_typeParameters2961,
[528](#)
- FOLLOW_primary_in_typeParameters2966,
[528](#)
- FOLLOW_primitiveType_in_-
castExpression3673, [528](#)
- FOLLOW_primitiveType_in_selector4132,
[528](#)
- FOLLOW_primitiveType_in_-
typeDisambiguous1878, [528](#)
- FOLLOW_quantifiedExpression_in_-
conditionalExpression2092, [528](#)
- FOLLOW_relationalExpression_in_-
instanceOfExpression2698, [529](#)
- FOLLOW_relationalOp_in_-
relationalExpression2773, [529](#)
- FOLLOW_relationalUnaryExpression_in_-
common3945, [529](#)
- FOLLOW_selector_in_joinExpression3828,
[529](#)
- FOLLOW_selector_in_storeSelectors1562,
[529](#)
- FOLLOW_selector_in_storeSelectors1572,
[529](#)
- FOLLOW_selector_in_synpred37_JFSL1562,
[529](#)
- FOLLOW_set_in_integerLiteral0, [530](#)
- FOLLOW_set_in_synpred26_JFSL1305, [530](#)
- FOLLOW_setAdditiveExpression_in_-
multiplicativeExpression3166, [530](#)
- FOLLOW_setAdditiveExpression_in_-
multiplicativeExpression3187, [530](#)
- FOLLOW_setAdditiveOp_in_-
setAdditiveExpression3286, [530](#)
- FOLLOW_setDeclOp_in_-
declarationMult1420, [530](#)
- FOLLOW_setDeclOp_in_setUnaryOp4341,
[530](#)
- FOLLOW_setQuantOp_in_-
quantifiedExpression2147, [531](#)

- FOLLOW_setQuantOp_in_synpred63_-
JFSL2147, [531](#)
- FOLLOW_setUnaryExpression_in_-
relationalExpression2756, [531](#)
- FOLLOW_setUnaryExpression_in_-
relationalExpression2777, [531](#)
- FOLLOW_setUnaryOp_in_setQuantOp4380,
[531](#)
- FOLLOW_setUnaryOp_in_-
setUnaryExpression2896, [531](#)
- FOLLOW_shiftExpression_in_-
setUnaryExpression2914, [531](#)
- FOLLOW_shiftOp_in_shiftExpression2949,
[532](#)
- FOLLOW_sizeExpression_in_-
additiveExpression3034, [532](#)
- FOLLOW_sizeExpression_in_-
additiveExpression3056, [532](#)
- FOLLOW_specCase_in_synpred13_-
JFSL1057, [532](#)
- FOLLOW_specCase_in_-
typeBodyDeclaration1052, [532](#)
- FOLLOW_specCase_in_-
typeBodyDeclaration1057, [532](#)
- FOLLOW_specUnaryOp_in_-
relationalUnaryExpression3773, [532](#)
- FOLLOW_specUnaryOp_in_-
relationalUnaryExpression3791, [533](#)
- FOLLOW_storePrimary_in_storeRef1497,
[533](#)
- FOLLOW_storeRef_in_frame1467, [533](#)
- FOLLOW_storeRef_in_frame1472, [533](#)
- FOLLOW_storeSelectors_in_storeRef1499,
[533](#)
- FOLLOW_storeWildCard_in_-
storeSelectors1565, [533](#)
- FOLLOW_storeWildCard_in_synpred37_-
JFSL1565, [533](#)
- FOLLOW_StringLiteral_in_literal1681, [534](#)
- FOLLOW_type_in_-
instanceOfExpression2717, [534](#)
- FOLLOW_type_in_methodParameters1104,
[534](#)
- FOLLOW_type_in_methodParameters1111,
[534](#)
- FOLLOW_typeBodyDeclaration_in_-
typeDeclaration892, [534](#)
- FOLLOW_typeDeclaration_in_-
compilationUnit776, [534](#)
- FOLLOW_typeDeclaration_in_-
typeBodyDeclaration995, [534](#)
- FOLLOW_typeDisambiguous_in_-
primary3996, [535](#)
- FOLLOW_typeDisambiguous_in_-
synpred117_JFSL3996, [535](#)
- FOLLOW_typeDisambiguous_in_type1944,
[535](#)
- FOLLOW_typeName_in_primary4038, [535](#)
- FOLLOW_typeName_in_type1950, [535](#)
- FOLLOW_typeName_in_-
typeDisambiguous1908, [535](#)
- FOLLOW_typeParameters2_in_primary4011,
[535](#)
- FOLLOW_typeParameters2_in_synpred119_-
JFSL4011, [535](#)
- FOLLOW_typeParameters2_in_synpred120_-
JFSL4011, [536](#)
- FOLLOW_typeParameters_in_-
typeDeclaration883, [536](#)
- FOLLOW_typeParameters_in_-
typeName1841, [536](#)
- FOLLOW_unaryExpression_in_-
castExpression3677, [536](#)
- FOLLOW_unaryExpression_in_-
composeExpression3494, [536](#)
- FOLLOW_unaryExpression_in_-
composeExpression3513, [536](#)
- FOLLOW_unaryExpression_in_synpred99_-
JFSL3607, [536](#)
- FOLLOW_unaryExpression_in_-
unaryExpression3558, [537](#)
- FOLLOW_unaryExpression_in_-
unaryExpression3576, [537](#)
- FOLLOW_unaryExpression_in_-
unaryExpressionNotPlusMinus3607,
[537](#)
- FOLLOW_unaryExpression_in_-
unaryExpressionNotPlusMinus3625,
[537](#)
- FOLLOW_unaryExpressionNotPlusMinus_-
in_unaryExpression3592, [537](#)
- FRAGMENT, [454](#)
- FRAME, [537](#)
- frame, [458](#)
- FRAME_ALL, [537](#)
- FRAME_LOCATION, [537](#)
- getGrammarFileName, [458](#)
- getTokenNames, [458](#)
- getTreeAdaptor, [458](#)
- GLOBAL, [454](#)
- HELPER, [538](#)
- HexDigit, [538](#)
- HexLiteral, [538](#)
- IDENTIFIER, [538](#)
- Identifier, [538](#)
- IMPORT, [538](#)
- importDeclaration, [458](#)

- inclusiveOrExpression, 458
- inOp, 458
- instanceOfExpression, 458
- integerLiteral, 458
- IntegerTypeSuffix, 538
- intersectionExpression, 459
- INVARIANT, 538
- JavaIDDigit, 538
- JFSLParser, 454
- JOIN, 538
- JOIN_REFLEXIVE, 538
- joinExpression, 459
- keywordLiteral, 459
- Letter, 539
- LIT_FALSE, 539
- LIT_NULL, 539
- LIT_TRUE, 539
- literal, 459
- LOCAL, 454
- logicalExpression, 459
- logicalOp, 459
- METHOD, 539
- METHOD_PARAMETERS, 539
- methodParameters, 459
- MODIFIES, 539
- modifies, 459
- multiplicativeExpression, 460
- multOp, 460
- NULL, 539
- OctalEscape, 539
- OctalLiteral, 539
- OLD, 539
- OP_AND, 540
- OP_BIT_AND_OR_INTERSECTION, 540
- OP_BIT_NOT_OR_TRANSPOSE, 540
- OP_BIT_OR, 540
- OP_BIT_XOR, 540
- OP_CLOSURE, 540
- OP_DIFFERENCE, 540
- OP_DIVIDE, 540
- OP_EQ, 540
- OP_EQUIV, 540
- OP_GEQ, 541
- OP_GT, 541
- OP_IMPLIES, 541
- OP_INSTANCEOF, 541
- OP_INTERSECTION, 541
- OP_LEQ, 541
- OP_LT, 541
- OP_MINUS, 541
- OP_MINUS_OR_DIFFERENCE, 541
- OP_MOD, 541
- OP_NEQ, 541
- OP_NEQUIV, 542
- OP_NOT, 542
- OP_NSET_SUBSET, 542
- OP_OR, 542
- OP_PLUS, 542
- OP_PLUS_OR_UNION, 542
- OP_RELATIONAL_COMPOSE, 542
- OP_RELATIONAL_OVERRIDE, 542
- OP_SET_ALL, 542
- OP_SET_COMPREHENSION, 542
- OP_SET_EXISTS, 543
- OP_SET_LONE, 543
- OP_SET_NO, 543
- OP_SET_NUM, 543
- OP_SET_ONE, 543
- OP_SET_SOME, 543
- OP_SET_SUBSET, 543
- OP_SET_SUM, 543
- OP_SHL, 543
- OP_SHR, 543
- OP_TIMES, 544
- OP_TRANSPOSE, 544
- OP_UNION, 544
- OP_USHR, 544
- overrideExpression, 460
- PACKAGE, 544
- packageName, 460
- parExpression, 460
- primary, 460
- primitiveType, 460
- PURE, 544
- quantifiedExpression, 460
- QUANTIFY, 544
- relationalExpression, 461
- relationalOp, 461
- relationalUnaryExpression, 461
- REQUIRES, 544
- RETURN_VAR, 544
- selector, 461
- setAdditiveExpression, 461
- setAdditiveOp, 461
- setDeclOp, 461
- setQuantOp, 461
- setTreeAdaptor, 462
- setUnaryExpression, 462
- setUnaryOp, 462
- shiftExpression, 462
- shiftOp, 462
- sizeExpression, 462
- SPECCASE, 544
- specCase, 462
- SPECFIELD, 544
- specField, 462
- SPECIFICATION, 545
- specUnaryOp, 463

storePrimary, 463
storeRef, 463
storeSelectors, 463
storeWildcard, 463
StringLiteral, 545
SUPER_VAR, 545
synpred101_JFSL, 463
synpred101_JFSL_fragment, 463
synpred117_JFSL, 463
synpred117_JFSL_fragment, 464
synpred118_JFSL, 464
synpred118_JFSL_fragment, 464
synpred119_JFSL, 464
synpred119_JFSL_fragment, 464
synpred120_JFSL, 464
synpred120_JFSL_fragment, 464
synpred13_JFSL, 464
synpred13_JFSL_fragment, 464
synpred26_JFSL, 464
synpred26_JFSL_fragment, 465
synpred37_JFSL, 465
synpred37_JFSL_fragment, 465
synpred56_JFSL, 465
synpred56_JFSL_fragment, 465
synpred58_JFSL, 465
synpred58_JFSL_fragment, 465
synpred62_JFSL, 465
synpred62_JFSL_fragment, 465
synpred63_JFSL, 465
synpred63_JFSL_fragment, 466
synpred99_JFSL, 466
synpred99_JFSL_fragment, 466
T__127, 545
T__128, 545
T__129, 545
T__130, 545
T__131, 545
T__132, 545
T__133, 545
T__134, 545
T__135, 546
T__136, 546
T__137, 546
T__138, 546
T__139, 546
T__140, 546
T__141, 546
T__142, 546
T__143, 546
T__144, 546
T__145, 546
T__146, 547
T__147, 547
T__148, 547
T__149, 547
T__150, 547
T__151, 547
T__152, 547
T__153, 547
T__154, 547
T__155, 547
T__156, 547
T__157, 548
T__158, 548
T__159, 548
T__160, 548
T__161, 548
T__162, 548
T__163, 548
T__164, 548
T__165, 548
T__166, 548
T__167, 548
T__168, 549
T__169, 549
T__170, 549
T__171, 549
T__172, 549
T__173, 549
T__174, 549
T__175, 549
T__176, 549
T__177, 549
T__178, 549
T__179, 550
T__180, 550
T__181, 550
T__182, 550
T__183, 550
T__184, 550
T__185, 550
T__186, 550
T__187, 550
T__188, 550
T__189, 550
T__190, 551
T__191, 551
T__192, 551
T__193, 551
T__194, 551
T__195, 551
T__196, 551
T__197, 551
T__198, 551
T__199, 551
THIS_VAR, 551
THROW_VAR, 552
THROWS, 552

- tokenNames, 552
- TYPE, 454
- type, 466
- TYPE_ARRAY, 552
- TYPE_BOOLEAN, 552
- TYPE_BYTE, 553
- TYPE_CHAR, 553
- TYPE_DECLARATION, 553
- TYPE_DOUBLE, 553
- TYPE_FLOAT, 553
- TYPE_INT, 553
- TYPE_LONG, 553
- TYPE_PARAMETERS, 553
- TYPE_REF, 553
- TYPE_SHORT, 553
- typeBodyDeclaration, 466
- typeDeclaration, 466
- typeDisambiguous, 466
- typeName, 466
- typeParameters, 466
- typeParameters2, 467
- UNARY, 554
- unaryExpression, 467
- unaryExpressionNotPlusMinus, 467
- UnicodeEscape, 554
- VOID, 554
- WS, 554
- edu::mit::csail::sdg::squander::parser::JFSLParser::DFA38, 555
 - DFA38, 555
 - getDescription, 555
- edu::mit::csail::sdg::squander::parser::JFSLParser::DFA42, 556
 - DFA42, 556
 - getDescription, 556
 - specialStateTransition, 556
- edu::mit::csail::sdg::squander::parser::JFSLParser::DFA69, 557
 - DFA69, 557
 - getDescription, 557
 - specialStateTransition, 557
- edu::mit::csail::sdg::squander::parser::JFSLParser::DFA77, 558
 - DFA77, 558
 - getDescription, 558
 - specialStateTransition, 558
- edu::mit::csail::sdg::squander::parser::JFSLParser::DFA78, 559
 - DFA78, 559
 - getDescription, 559
 - specialStateTransition, 559
- edu::mit::csail::sdg::squander::parser::JFSLParser::DFA79, 560
 - DFA79, 560
 - getDescription, 560
- edu::mit::csail::sdg::squander::parser::JFSLParserException, 561
 - column, 563
 - JFSLParserException, 562
 - layout, 563
 - line, 563
 - setSource, 563
 - setToken, 563
 - source, 563, 564
 - token, 563, 564
- edu::mit::csail::sdg::squander::regressions::Tests, 565
 - make, 565
 - testMake, 565
- edu::mit::csail::sdg::squander::serializer::AbstractHeap, 566
 - getHeapObjects, 566
 - serialize, 566, 567
- edu::mit::csail::sdg::squander::serializer::AbstractHeapListener, 568
 - newObject, 568
 - visitArrayIntField, 568
 - visitArrayLength, 568
 - visitArrayRefField, 569
 - visitBooleanField, 569
 - visitIntField, 569
 - visitPrimitive, 569
 - visitRefField, 569
- edu::mit::csail::sdg::squander::serializer::ConsoleHeap, 570
 - newObject, 570
 - visitArrayIntField, 570
 - visitArrayLength, 571
 - visitArrayRefField, 571
 - visitBooleanField, 571
 - visitPrimitive, 571
 - visitRefField, 571
- edu::mit::csail::sdg::squander::serializer::HeapListener, 572
 - newObject, 572
 - visitArrayIntField, 572
 - visitArrayLength, 572
 - visitArrayRefField, 573
 - visitBooleanField, 573
 - visitPrimitive, 573
 - visitRefField, 573
- edu::mit::csail::sdg::squander::serializer::IHeap, 574
- edu::mit::csail::sdg::squander::serializer::Serializer, 575

- dispose, [576](#)
- Disposed, [576](#)
- mutate, [576](#)
- Mutation, [576](#)
- Phase, [576](#)
- phase, [578](#)
- Serialization, [576](#)
- serialize, [576](#)
- serializeArray, [576](#)
- serializeClass, [577](#)
- serializedObjects, [577](#), [578](#)
- traverseIntArray, [577](#)
- traverseObjArray, [577](#)
- edu::mit::csail::sdg::squander::serializer::special::ArraySer, [579](#)
 - absFunc, [579](#)
 - accepts, [580](#)
 - concrFunc, [580](#)
 - ELEMS, [581](#)
 - LENGTH, [581](#)
 - newInstance, [580](#)
 - restoreElems, [580](#)
 - restoreLength, [580](#)
- edu::mit::csail::sdg::squander::serializer::special::DefaultObjSer, [582](#)
 - absFunc, [582](#)
 - abstractState, [583](#)
 - accepts, [582](#)
 - concrFunc, [583](#)
 - newInstance, [583](#)
- edu::mit::csail::sdg::squander::serializer::special::IObjSer, [584](#)
 - absFunc, [584](#)
 - accepts, [584](#)
 - concrFunc, [584](#)
 - newInstance, [585](#)
- edu::mit::csail::sdg::squander::serializer::special::ListSer, [586](#)
 - absFunc, [586](#)
 - accepts, [587](#)
 - concrFunc, [587](#)
 - DATA, [587](#)
 - newInstance, [587](#)
 - restoreElems, [587](#)
- edu::mit::csail::sdg::squander::serializer::special::MapSer, [588](#)
 - absFunc, [588](#)
 - accepts, [589](#)
 - concrFunc, [589](#)
 - DATA, [589](#)
 - LENGTH, [589](#)
 - newInstance, [589](#)
 - restoreElems, [589](#)
- edu::mit::csail::sdg::squander::serializer::special::ObjSerFactory, [591](#)
 - cache, [592](#)
 - factory, [592](#)
 - getSerForCls, [592](#)
 - getSerForObj, [592](#)
 - ObjSerFactory, [592](#)
 - serializers, [592](#)
- edu::mit::csail::sdg::squander::serializer::special::SetSer, [594](#)
 - absFunc, [594](#)
 - accepts, [595](#)
 - concrFunc, [595](#)
 - DATA, [596](#)
 - LENGTH, [596](#)
 - newInstance, [595](#)
 - restoreElems, [595](#)
 - restoreLength, [595](#)
- edu::mit::csail::sdg::squander::serializer::special::StringSer, [597](#)
 - absFunc, [597](#)
 - accepts, [597](#)
 - concrFunc, [597](#)
 - newInstance, [598](#)
- edu::mit::csail::sdg::squander::spec::ArityMismatchException, [599](#)
 - ArityMismatchException, [599](#)
 - serialVersionUID, [600](#)
- edu::mit::csail::sdg::squander::spec::ClassSpec, [601](#)
 - addInvariant, [602](#)
 - addSpecField, [602](#)
 - addSpecFieldSource, [602](#)
 - addSuper, [603](#)
 - addUsedField, [603](#)
 - ClassSpec, [602](#)
 - clz, [603](#)
 - ensureField, [603](#)
 - extractSpecFieldName, [603](#)
 - findField, [603](#)
 - hasSpecField, [603](#)
 - invariants, [604](#), [605](#)
 - invariantSources, [605](#)
 - isEmpty, [604](#)
 - javaScene, [605](#)
 - jtype, [604](#), [605](#)
 - setSubs, [604](#)
 - specFields, [604](#)
 - specFieldSources, [605](#)
 - subs, [604](#), [606](#)
 - supers, [606](#)
 - toString, [604](#)
 - translateSpecs, [604](#)
 - typecheck, [604](#)

- typeParams, 605
- usedFields, 605, 606
- usedFieldsAll, 605
- edu::mit::csail::sdg::squander::spec::CompositeSpecProvider, 607
 - CompositeSpecProvider, 607
 - extractClassSpec, 607
 - extractFieldSpec, 608
 - extractMethodSpec, 608
 - providers, 608
- edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 609
 - allInts, 610
 - ConstRel2Bound, 610
 - fconv, 611
 - ints, 611
 - visitDec, 610
 - visitIdent, 610
 - visitInc, 610
 - visitNone, 610
 - visitUniv, 610
- edu::mit::csail::sdg::squander::spec::constant::ConstRels, 612
 - enums, 613
 - findRel, 612
- edu::mit::csail::sdg::squander::spec::constant::ConstRelVisitors, 614
 - E >, 614
 - visitDec, 614
 - visitIdent, 614
 - visitInc, 614
 - visitNone, 614
 - visitUniv, 614
- edu::mit::csail::sdg::squander::spec::ForgeEnv, 615
 - addLocal, 616
 - arg, 616
 - arrayElems, 616
 - arrayLength, 616
 - booleanType, 616
 - classForDomain, 616
 - emptyDecls, 616
 - ensureAllInts, 617
 - ensureConst, 617
 - ensureDomain, 617
 - ensureGlobal, 617
 - ensureInt, 617
 - ensureNum, 617
 - falseExpr, 617
 - findLocal, 617
 - globalVar, 617
 - integerType, 618
 - intExpr, 618
 - newLocalVar, 618
 - nullType, 618
 - POST, 616
 - PRE, 616
 - returnVar, 618
 - setPreStateMode, 618
 - State, 616
 - stringExpr, 618
 - stringType, 618
 - thisVar, 619
 - throwVar, 619
 - trueExpr, 619
 - typeForCls, 619
- edu::mit::csail::sdg::squander::spec::ForgeScene, 620
 - addUsedType, 622
 - args, 622, 629
 - cls2dom, 629
 - consts, 622, 630
 - convertToForgeType, 622
 - counter, 630
 - createGlobalVar, 623
 - createLiteral, 623
 - createLocalsForMethod, 623
 - domains, 623
 - ensureAllInts, 623, 630
 - ensureConst, 623
 - ensureDomain, 624
 - ensureGlobal, 624
 - ensureInt, 624
 - fields, 624
 - findClassForDomain, 624
 - findDomain, 624
 - findVar, 625
 - forgeLitForObj, 625
 - ForgeScene, 622
 - getEnv, 625
 - getRangeForField, 625
 - global, 625
 - globals, 630
 - instLitForObj, 626
 - ints, 626, 630
 - isConst, 626
 - isEnsureAllInts, 626
 - isOneField, 626
 - isPureAbstractSpecField, 627
 - isSpecField, 627
 - javaScene, 631
 - lit2obj, 631
 - litCnt, 631
 - litForName, 627
 - locals, 631
 - newThisVariable, 627
 - nonAbstractSpecFields, 627
 - nullLit, 627, 631
 - nullType, 628, 631
 - numLiteralsFor, 628

- numTypes, 628, 631
- obj2lit, 632
- objForLit, 628
- program, 628, 632
- returnVar, 628, 632
- str2lit, 632
- thisVar, 629, 633
- throwVar, 629, 633
- typeForCls, 629
- usedTypes, 629, 633
- var2fld, 633
- edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 634
 - addLocal, 635
 - arg, 635
 - arrayElems, 635
 - arrayLength, 636
 - booleanType, 636
 - classForDomain, 636
 - emptyDecls, 636
 - ensureAllInts, 636
 - ensureConst, 636
 - ensureDomain, 637
 - ensureGlobal, 637
 - ensureInt, 637
 - ensureNum, 637
 - falseExpr, 637
 - findLocal, 637
 - getThrowVar, 638
 - globalVar, 638
 - integerType, 638
 - intExpr, 638
 - locals, 640
 - MyEnv, 635
 - myThisVar, 640
 - newLocalVar, 638
 - nullType, 638
 - returnVar, 638
 - setPreStateMode, 639
 - state, 640
 - stringExpr, 639
 - stringType, 639
 - thisVar, 639
 - throwVar, 639
 - trueExpr, 639
 - typeForCls, 640
- edu::mit::csail::sdg::squander::spec::Frame, 641
 - add, 642
 - condition, 642
 - forgeScene, 644
 - Frame, 642
 - instSelector, 642
 - locations, 643, 644
 - lowerBound, 643
 - lowerBounds, 644
 - lowerCond, 643
 - modCond, 643
 - modifiable, 643
 - mods, 645
 - selectors, 645
 - toString, 644
 - upperBound, 644
 - upperBounds, 645
 - upperCond, 644
- edu::mit::csail::sdg::squander::spec::FrameInference, 646
 - globals, 646, 648
 - visit, 646, 647
- edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, 649
 - expr, 650
 - getExpr, 649
 - getPos, 649
 - getT1, 650
 - getT2, 650
 - IncompatibleTypesException, 649
 - pos, 650
 - serialVersionUID, 650
 - t1, 650
 - t2, 650
- edu::mit::csail::sdg::squander::spec::ISpecProvider, 652
 - extractClassSpec, 652
 - extractFieldSpec, 652
 - extractMethodSpec, 652
- edu::mit::csail::sdg::squander::spec::JavaScene, 653
 - addObj2spec, 654
 - caller, 654, 657
 - classes, 654, 657
 - classSpec, 654
 - classSpecForObj, 654
 - classSpecs, 654
 - createClassSpec, 654
 - ensureClass, 654, 655
 - findSpec, 655
 - finish, 655
 - finished, 657
 - isFinished, 655
 - jtypeForObj, 655
 - jtypes, 655
 - method, 655, 657
 - methodArgs, 655, 657
 - methodSpec, 656
 - obj2spec, 657
 - setArgs, 656
 - setCaller, 656
 - setMethod, 656

- specFields, 656
- subTypes, 656
- translateSpecs, 657
- edu::mit::csail::sdg::squander::spec::JField, 659
 - absFun, 665
 - bound, 665
 - cache, 665
 - convertToJType, 661
 - declaringType, 661, 665
 - domain, 665
 - equals, 661
 - factory, 665
 - frame, 665
 - fullName, 661
 - funcFlag, 665
 - getAbsFun, 661
 - getBound, 661
 - getDomain, 661
 - getFrame, 662
 - getJavaField, 662
 - getTypeParams, 662
 - hashCode, 662
 - isFunction, 662
 - isPureAbstract, 662
 - isSpec, 662
 - isStatic, 663
 - javaField, 666
 - JField, 660
 - name, 663, 666
 - newJavaField, 663
 - newSpecField, 663
 - owningType, 663, 666
 - setAbsFun, 664
 - setBound, 664
 - setDomain, 664
 - setFrame, 664
 - setFuncFlag, 664
 - toString, 664
 - type, 664, 666
- edu::mit::csail::sdg::squander::spec::JMethod, 667
 - convertMap, 668
 - declaringClass, 668, 669
 - forJavaMethod, 668
 - isStatic, 668, 669
 - JMethod, 668
 - methodName, 670
 - name, 668
 - params, 669, 670
 - paramTypes, 669
 - returnType, 669, 670
 - setSpec, 669
 - spec, 669, 670
- edu::mit::csail::sdg::squander::spec::JType, 671
 - arity, 671
 - difference, 671
 - domain, 672
 - intersection, 672
 - isBoolean, 672
 - isInteger, 672
 - isSubtypeOf, 672
 - isUnary, 672
 - join, 672
 - name, 672
 - product, 672
 - projection, 673
 - projectionFrom, 673
 - projectionFromTo, 673
 - range, 673
 - simpleName, 673
 - transpose, 673
 - tuple, 673
 - union, 673
- edu::mit::csail::sdg::squander::spec::MethodSpec, 675
 - addCase, 676
 - addFreshObj, 676
 - addOptions, 676
 - cases, 676, 678
 - freshObj, 678
 - freshObjects, 677
 - helper, 678
 - isHelper, 677
 - isPure, 677
 - isTrivial, 677
 - makeHelper, 677
 - makePure, 677
 - mergeCasesWith, 677
 - MethodSpec, 676
 - options, 678, 679
 - pre2cs, 679
 - pure, 679
 - translateSpecs, 678
 - typecheck, 678
- edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource, 680
 - CaseSource, 681
 - exceptional, 681, 682
 - frame, 681
 - frameSrc, 681
 - frm, 682
 - frmSrc, 682
 - post, 681
 - postSrc, 681
 - pre, 681, 682
 - preSrc, 681, 682
 - pst, 682
 - pstSrc, 682

- edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 683
 - bounds, 687
 - MyExprEvaluator, 684
 - quantStack, 687
 - searchStack, 684
 - visit, 684, 685
 - visitAll, 685
 - visitBoolBinExpr, 685
 - visitClosure, 685
 - visitDiff, 686
 - visitEquals, 686
 - visitExists, 686
 - visitGlobalVariable, 686
 - visitIntBinExpr, 686
 - visitJoin, 686
 - visitLocalVariable, 686
 - visitProduct, 687
 - visitRelUnion, 687
 - visitSubset, 687
 - visitUnion, 687
- edu::mit::csail::sdg::squander::spec::NameSpace, 689
 - addLocal, 690
 - addScope, 690
 - declarer, 690
 - findField, 690
 - findLocal, 690
 - forClass, 691
 - forMethod, 691
 - inArray, 691
 - locals, 692
 - method, 691, 692
 - NameSpace, 690
 - scope, 691
 - scopes, 692
- edu::mit::csail::sdg::squander::spec::Null, 693
- edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider, 694
 - clause, 694
 - CLAUSE_DEFAULT, 696
 - convertArray, 695
 - extractClassSpec, 695
 - extractFieldSpec, 695
 - extractMethodSpec, 695
 - extractMethodSpecNonRecursive, 695
 - frame, 696
 - NONNULL_FORMAT, 696
 - RETURNS_FORMAT, 696
 - TYPE_EXCEPTIONAL, 696
- edu::mit::csail::sdg::squander::spec::Source, 697
 - CLAUSE, 698
 - DECLARATION, 698
 - FRAME, 698
 - isClause, 698
 - isDecl, 698
 - isFrame, 698
 - isFunctionField, 699
 - isFunctionFlag, 700
 - node, 699, 700
 - ns, 700
 - parse, 699
 - Rule, 698
 - rule, 700
 - Source, 698
 - source, 700
 - toString, 699
 - translate, 699
 - typecheck, 699
 - typechecked, 700
- edu::mit::csail::sdg::squander::spec::Spec, 701
 - abstractConstraint, 702
 - addCase, 702
 - cases, 702, 705
 - concreteConstraint, 703
 - fieldConstraint, 703
 - fieldCounter, 705
 - forgeScene, 703, 705
 - funcConstraint, 703
 - invariant, 704
 - isEmpty, 704
 - javaScene, 704, 705
 - Spec, 702
 - toString, 704
 - wellformedPost, 704
 - wellformedPre, 705
- edu::mit::csail::sdg::squander::spec::Spec::SpecCase, 706
 - frame, 707, 708
 - helper, 708
 - post, 707, 708
 - postOnly, 707
 - pre, 707, 708
 - preOnly, 707
 - spec, 707
 - SpecCase, 707
 - toString, 708
- edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider, 709
 - extractClassSpec, 709
 - extractFieldSpec, 709
 - extractMethodSpec, 710
 - findSpecFile, 710
 - parse, 710
- edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider::MyVisitor, 711
 - escapeClsName, 712
 - jtype, 713

- MyVisitor, 711
- ns, 713
- replaceParamTypes, 712
- visitFuncField, 712
- visitInvariant, 712
- visitSpecField, 712
- visitSpecFile, 712
- edu::mit::csail::sdg::squander::spec::SqFunc, 714
 - mkFunc, 714
- edu::mit::csail::sdg::squander::spec::Tr, 715
 - absolutelyTerribleHack, 720
 - reverse, 716
 - Tr, 716
 - visitAmbiguous, 716
 - visitArgument, 716
 - visitArrayType, 717
 - visitBinary, 717
 - visitBooleanType, 717
 - visitBracket, 717
 - visitCastExpression, 717
 - visitConditional, 717
 - visitDecimal, 717
 - visitFalse, 717
 - visitFieldDeclaration, 718
 - visitFieldRelation, 718
 - visitFrame, 718
 - visitIntegralType, 718
 - visitJoin, 718
 - visitJoinReflexive, 718
 - visitMethodCall, 718
 - visitName, 719
 - visitNull, 719
 - visitOld, 719
 - visitQuantification, 719
 - visitRefType, 719
 - visitReturn, 719
 - visitString, 719
 - visitSuper, 720
 - visitThis, 720
 - visitThrow, 720
 - visitTrue, 720
 - visitUnary, 720
- edu::mit::csail::sdg::squander::spec::TypeChecker, 722
 - checkArity, 724
 - checkBoolean, 724
 - checkInteger, 724
 - checkJoin, 724
 - checkSubtype, 725
 - checkUnary, 725
 - clsSpec, 731
 - getClass, 725
 - getFldOwner, 725
 - main, 725
 - print, 725
 - resolveField, 726
 - resolveType, 726
 - scene, 731
 - setClsSpecForSpecField, 726
 - setTypeParams, 726
 - TypeChecker, 724
 - validate, 726
 - visitAmbiguous, 726
 - visitArgument, 727
 - visitArrayType, 727
 - visitBinary, 727
 - visitBooleanType, 727
 - visitBracket, 728
 - visitCastExpression, 728
 - visitConditional, 728
 - visitDecimal, 728
 - visitFalse, 728
 - visitFieldDeclaration, 728
 - visitFieldRelation, 728
 - visitFrame, 729
 - visitIntegralType, 729
 - visitJoin, 729
 - visitJoinReflexive, 729
 - visitMethodCall, 729
 - visitName, 729
 - visitNull, 730
 - visitOld, 730
 - visitQuantification, 730
 - visitRefType, 730
 - visitReturn, 730
 - visitString, 730
 - visitSuper, 730
 - visitThis, 730
 - visitThrow, 731
 - visitTrue, 731
 - visitTypeParams, 731
 - visitUnary, 731
- edu::mit::csail::sdg::squander::spec::TypeCheckException, 733
 - getSrc, 734
 - serialVersionUID, 734
 - src, 734
 - TypeCheckException, 734
- edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 735
 - asText, 736
 - cast, 736
 - child, 736
 - children, 736
 - parseInt, 736
 - validate, 736
 - visit, 737
 - visitAmbiguous, 737

- visitArgument, [737](#)
- visitArrayType, [737](#)
- visitBinary, [737](#)
- visitBooleanType, [737](#)
- visitBracket, [737](#)
- visitCastExpression, [737](#)
- visitChain, [738](#)
- visitConditional, [738](#)
- visitDecimal, [738](#)
- visitFalse, [738](#)
- visitFieldDeclaration, [738](#)
- visitFieldRelation, [738](#)
- visitFrame, [738](#)
- visitIntegralType, [738](#)
- visitJoin, [738](#)
- visitJoinReflexive, [739](#)
- visitMethodCall, [739](#)
- visitName, [739](#)
- visitNull, [739](#)
- visitOld, [739](#)
- visitQuantification, [739](#)
- visitRefType, [739](#)
- visitReturn, [739](#)
- visitString, [739](#)
- visitSuper, [740](#)
- visitThis, [740](#)
- visitThrow, [740](#)
- visitTrue, [740](#)
- visitUnary, [740](#)
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, [741](#)
- dfa6, [746](#)
- DFA6_accept, [746](#)
- DFA6_acceptS, [747](#)
- DFA6_eof, [747](#)
- DFA6_eofS, [747](#)
- DFA6_eot, [747](#)
- DFA6_eotS, [747](#)
- DFA6_max, [747](#)
- DFA6_maxS, [747](#)
- DFA6_min, [748](#)
- DFA6_minS, [748](#)
- DFA6_special, [748](#)
- DFA6_specialS, [748](#)
- DFA6_transition, [748](#)
- DFA6_transitionS, [748](#)
- EOF, [749](#)
- EscapeSequence, [749](#)
- FUNCFIELD, [749](#)
- getGrammarFileName, [743](#)
- HexDigit, [749](#)
- Identifier, [749](#)
- INVARIANT, [749](#)
- JavaIDDigit, [749](#)
- Letter, [749](#)
- mEscapeSequence, [743](#)
- mHexDigit, [744](#)
- mIdentifier, [744](#)
- mJavaIDDigit, [744](#)
- mLetter, [744](#)
- mOctalEscape, [744](#)
- mStringLiteral, [744](#)
- mT__18, [744](#)
- mT__19, [744](#)
- mT__20, [744](#)
- mT__21, [745](#)
- mT__22, [745](#)
- mT__23, [745](#)
- mT__24, [745](#)
- mT__25, [745](#)
- mT__26, [745](#)
- mT__27, [745](#)
- mT__28, [745](#)
- mT__29, [745](#)
- mT__30, [746](#)
- mT__31, [746](#)
- mT__32, [746](#)
- mT__33, [746](#)
- mTokens, [746](#)
- mUnicodeEscape, [746](#)
- mWS, [746](#)
- OctalEscape, [749](#)
- PARAMS, [749](#)
- SPECFIELD, [750](#)
- SPECFILE, [750](#)
- SpecFileLexer, [743](#)
- StringLiteral, [750](#)
- T__18, [750](#)
- T__19, [750](#)
- T__20, [750](#)
- T__21, [750](#)
- T__22, [750](#)
- T__23, [750](#)
- T__24, [751](#)
- T__25, [751](#)
- T__26, [751](#)
- T__27, [751](#)
- T__28, [751](#)
- T__29, [751](#)
- T__30, [751](#)
- T__31, [751](#)
- T__32, [751](#)
- T__33, [752](#)
- UnicodeEscape, [752](#)
- WS, [752](#)
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer::DFA6, [753](#)
- DFA6, [753](#)

- getDescription, 753
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser
 - 754
 - adaptor, 760
 - cls, 758
 - displayRecognitionError, 758
 - EOF, 760
 - EscapeSequence, 760
 - FOLLOW_18_in_specfile110, 760
 - FOLLOW_19_in_specfile114, 760
 - FOLLOW_20_in_funcfield296, 760
 - FOLLOW_20_in_invariant358, 760
 - FOLLOW_20_in_specfield234, 760
 - FOLLOW_20_in_specfile118, 760
 - FOLLOW_21_in_funcfield300, 761
 - FOLLOW_21_in_invariant362, 761
 - FOLLOW_21_in_specfield238, 761
 - FOLLOW_21_in_specfile129, 761
 - FOLLOW_27_in_specfield202, 761
 - FOLLOW_27_in_specfield230, 761
 - FOLLOW_28_in_funcfield266, 761
 - FOLLOW_28_in_funcfield294, 761
 - FOLLOW_28_in_invariant328, 762
 - FOLLOW_28_in_invariant356, 762
 - FOLLOW_28_in_specfield204, 762
 - FOLLOW_28_in_specfield232, 762
 - FOLLOW_29_in_funcfield270, 762
 - FOLLOW_29_in_funcfield302, 762
 - FOLLOW_29_in_invariant332, 762
 - FOLLOW_29_in_invariant364, 762
 - FOLLOW_29_in_specfield208, 763
 - FOLLOW_29_in_specfield240, 763
 - FOLLOW_30_in_funcfield272, 763
 - FOLLOW_30_in_funcfield304, 763
 - FOLLOW_30_in_invariant334, 763
 - FOLLOW_30_in_invariant366, 763
 - FOLLOW_30_in_specfield210, 763
 - FOLLOW_30_in_specfield242, 763
 - FOLLOW_31_in_funcfield264, 764
 - FOLLOW_31_in_funcfield292, 764
 - FOLLOW_32_in_invariant326, 764
 - FOLLOW_32_in_invariant354, 764
 - FOLLOW_33_in_params391, 764
 - FOLLOW_33_in_strings433, 764
 - FOLLOW_cls_in_type165, 764
 - FOLLOW_funcfield_in_specfile123, 764
 - FOLLOW_Identifier_in_params388, 765
 - FOLLOW_Identifier_in_params393, 765
 - FOLLOW_Identifier_in_specfile107, 765
 - FOLLOW_invariant_in_specfile126, 765
 - FOLLOW_mod_in_type162, 765
 - FOLLOW_params_in_specfile112, 765
 - FOLLOW_set_in_cls0, 765
 - FOLLOW_set_in_mod0, 765
 - FOLLOW_specfield_in_specfile120, 766
 - FOLLOW_StringLiteral_in_funcfield268, 766
 - FOLLOW_StringLiteral_in_invariant330, 766
 - FOLLOW_StringLiteral_in_specfield206, 766
 - FOLLOW_StringLiteral_in_strings430, 766
 - FOLLOW_StringLiteral_in_strings435, 766
 - FOLLOW_strings_in_funcfield298, 766
 - FOLLOW_strings_in_invariant360, 766
 - FOLLOW_strings_in_specfield236, 767
 - FOLLOW_type_in_specfile105, 767
 - FUNCFIELD, 767
 - funcfield, 758
 - getGrammarFileName, 758
 - getTokenNames, 758
 - getTreeAdaptor, 758
 - HexDigit, 767
 - Identifier, 767
 - INVARIANT, 767
 - invariant, 758
 - JavaIDDigit, 767
 - Letter, 767
 - mod, 758
 - OctalEscape, 767
 - PARAMS, 768
 - params, 759
 - setTreeAdaptor, 759
 - SPECFIELD, 768
 - specfield, 759
 - SPECFILE, 768
 - specfile, 759
 - SpecFileParser, 757
 - StringLiteral, 768
 - strings, 759
 - T__18, 768
 - T__19, 768
 - T__20, 768
 - T__21, 768
 - T__22, 768
 - T__23, 769
 - T__24, 769
 - T__25, 769
 - T__26, 769
 - T__27, 769
 - T__28, 769
 - T__29, 769
 - T__30, 769
 - T__31, 769
 - T__32, 770
 - T__33, 770
 - tokenNames, 770
 - type, 759
 - UnicodeEscape, 770
 - WS, 770

- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParserException, 771
- column, 772, 773
- layout, 772
- line, 773
- setSource, 773
- setToken, 773
- source, 773
- SpecFileParserException, 772
- token, 773, 774
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor, 775
 - N >, 775
 - asText, 775
 - cast, 775
 - child, 775
 - trimQuotes, 775
 - visit, 776
 - visitFuncField, 776
 - visitInvariant, 776
 - visitParams, 776
 - visitSpecField, 776
 - visitSpecFile, 776
- edu::mit::csail::sdg::squander::Squander, 777
 - exe, 778, 779
 - getCallerClassName, 779
 - getCallerMethod, 779
 - getLastResult, 780
 - getRightStackTraceElem, 780
 - lastSqlImpl, 780
 - Squander, 778
- edu::mit::csail::sdg::squander::util::test::TestUtils, 781
 - assertArrayContains, 781
 - assertArraysEqualNoOrdering, 781
- edu::mit::csail::sdg::squander::utils::Counter< T >, 782
 - Counter, 782
 - getCount, 782
 - incrementAndGet, 782
 - map, 783
- edu::mit::csail::sdg::squander::utils::Predicate< T >, 784
 - exe, 784
- edu::mit::csail::sdg::squander::utils::ReflectionUtils, 785
 - box, 786
 - cache, 792
 - createNewArray, 786
 - createObjectDefaultConstructor, 786
 - findMethod, 787
 - getAllFields, 787
 - getAllFieldsRecursive, 787
 - getAllNonStaticFields, 787
 - getAnnotatedMethod, 787
 - getDeclaredNonStaticFields, 788
 - getField, 788
 - getFieldValue, 788
 - getFieldWithAccess, 788, 789
 - getImmGenericParents, 789
 - getImmParents, 789
 - getMethod, 789
 - invoke, 789
 - invoke_ex, 790
 - isPrimitive, 790
 - lca, 790
 - newInstance, 790
 - paramsMatch, 791
 - printObj, 791
 - setFieldValue, 791
 - sig, 791
 - tab, 792
 - toString, 791
- edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 793
 - clear, 793
 - containsKey, 793
 - containsValue, 794
 - entrySet, 794
 - equals, 794
 - get, 794
 - getKeyForValue, 794
 - hashCode, 794
 - inv, 795
 - isEmpty, 794
 - keySet, 794
 - map, 795
 - put, 794
 - putAll, 794
 - remove, 794
 - size, 795
 - values, 795
- edu::mit::csail::sdg::squander::utils::Utils, 796
 - boolValue, 796
 - classForName, 796
 - findDomain, 796
 - findGlobalVar, 796
 - findLiteral, 797
 - getArrayDomain, 797
 - getArrayType, 797
 - getMethodAnnotations, 797
 - getMethodParamName, 797
 - intValue, 797
 - isPrimitive, 797
 - writeToFile, 798
- ELEMS
 - edu::mit::csail::sdg::squander::serializer::special::ArraySer, 581

- elems
 - edu::mit::csail::sdg::squander::examples::javacoll::ListTest, 617
 - 273
 - edu::mit::csail::sdg::squander::examples::list::func2::ListTest, 624
 - 290
 - edu::mit::csail::sdg::squander::forge_ - examples::TopologicalSort, 372
- emailAddress
 - edu::mit::csail::sdg::squander::examples::mock::EmailMessage, 303
- EmailMessage
 - edu::mit::csail::sdg::squander::examples::mock::EmailMessage, 303
- emptyDecls
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 616
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 636
- end
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 196
- Engine, 21
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 381
- engine
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 381
- ensureAdequateBitWidth
 - edu::mit::csail::sdg::squander::engine::Heap2Bounds, 120
- ensureAdequateIntBitWidth
 - edu::mit::csail::sdg::squander::engine::Heap2Bounds, 121
- ensureAllInts
 - edu::mit::csail::sdg::squander::annotations::Options, 101
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 623, 630
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 636
- ensureClass
 - edu::mit::csail::sdg::squander::spec::JavaScene, 654, 655
- ensureConst
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 623
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 636
- ensureDomain
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 624
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 637
- ensureField
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 603
- ensureGlobal
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 624
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 637
- ensureInt
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 624
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 637
- ensureNum
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 637
- ensurePost
 - edu::mit::csail::sdg::squander::engine::SquanderImpl, 188
- ENSURES
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 407
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 482
- entries
 - edu::mit::csail::sdg::squander::examples::mock::SquanderAddressB, 309
- entrySet
 - edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 794
- enums
 - edu::mit::csail::sdg::squander::spec::constant::ConstRels, 613
- EOF
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 407
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 482
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 749
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 760

equalityExpression	edu::mit::csail::sdg::squander::parser::JFSLParser, 457	edu::mit::csail::sdg::squander::engine::ForgeEval, 115
equalityOp	edu::mit::csail::sdg::squander::parser::JFSLParser, 457	edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::KodkodEval, 150
equals	Examples, 30	edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImp, 167
	edu::mit::csail::sdg::squander::absstate::ObjTupleExamples, 88	examples/edu/mit/csail/sdg/squander/examples/bst/BalancedBST.java, 799
	edu::mit::csail::sdg::squander::absstate::ObjTupleExamples, 94	examples/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTree.java, 870
	edu::mit::csail::sdg::squander::examples::partitioning::DSTad, 327	examples/edu/mit/csail/sdg/squander/examples/bst/BST_noParent.java, 800
	edu::mit::csail::sdg::squander::examples::partitioning::ListAd, 331	examples/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFld.java, 801
	edu::mit::csail::sdg::squander::examples::partitioning::PlusId, 333	examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoard.java, 802
	edu::mit::csail::sdg::squander::spec::JField, 661	examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoardMan.j, 803
	edu::mit::csail::sdg::squander::utils::TwoWayMap, K, V >, 794	examples/edu/mit/csail/sdg/squander/examples/equiv/Node.java, 804
ERROR	edu::mit::csail::sdg::squander::log::Log, 376	examples/edu/mit/csail/sdg/squander/examples/func/Utils.java, 929
error	edu::mit::csail::sdg::squander::log::Log, 376	examples/edu/mit/csail/sdg/squander/examples/graph/Graph.java, 805
	edu::mit::csail::sdg::squander::options::ConfigLoader, 378	examples/edu/mit/csail/sdg/squander/examples/graph/Graph_2.java, 808
escapeClsName	edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider, 712	examples/edu/mit/csail/sdg/squander/examples/graph/HamiltonianMan.j, 806
EscapeSequence	edu::mit::csail::sdg::squander::parser::JFSLLexer, 407	examples/edu/mit/csail/sdg/squander/examples/graph2/Graph.java, 806
	edu::mit::csail::sdg::squander::parser::JFSLParser, 482	examples/edu/mit/csail/sdg/squander/examples/javacol/Collections.java, 810
	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 749	examples/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsEx.j, 811
	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 760	examples/edu/mit/csail/sdg/squander/examples/list/func/Cons.java, 812
eval	edu::mit::csail::sdg::squander::engine::SquanderEval, 170	examples/edu/mit/csail/sdg/squander/examples/list/func/IntList.java, 814
	edu::mit::csail::sdg::squander::engine::SquanderEval2, 179	examples/edu/mit/csail/sdg/squander/examples/list/func2/Cons.java, 813
	edu::mit::csail::sdg::squander::engine::SquanderResult, 210	examples/edu/mit/csail/sdg/squander/examples/list/func2/IntList.java, 815
evaluate	edu::mit::csail::sdg::squander::engine::ForgeEval, 115	examples/edu/mit/csail/sdg/squander/examples/list/func2/Nil.java, 816
	edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::KodkodEval, 150	examples/edu/mit/csail/sdg/squander/examples/list/func2/IntList.java, 817
	edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImp::KodkodEval, 167	examples/edu/mit/csail/sdg/squander/examples/mock/AddressBook.java, 819
evaluateExpr		examples/edu/mit/csail/sdg/squander/examples/mock/EmailMessage.java, 820
		examples/edu/mit/csail/sdg/squander/examples/mock/MockAddressBoo, 820

- [821](#) edu::mit::csail::sdg::squander::engine::SquanderImpl,
[examples/edu/mit/csail/sdg/squander/examples/mock/SquanderAddressBook.java](#),
[822](#) exeSpec
[examples/edu/mit/csail/sdg/squander/examples/numbers/Arithmetic.java](#),
[823](#) edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl,
[139](#)
[examples/edu/mit/csail/sdg/squander/examples/numbers/DecimalSqrt.java](#),
[824](#) edu::mit::csail::sdg::squander::engine::SquanderImpl,
[188](#)
[examples/edu/mit/csail/sdg/squander/examples/numbers/ExponentiativeSqrt.java](#),
[825](#) edu::mit::csail::sdg::squander::parser::JFSLLexer,
[examples/edu/mit/csail/sdg/squander/examples/numbers/ISqrt.java](#),
[826](#) edu::mit::csail::sdg::squander::parser::JFSLParser,
[examples/edu/mit/csail/sdg/squander/examples/numbers/MixedSqrt.java](#),
[827](#) expr
[examples/edu/mit/csail/sdg/squander/examples/partitioning/Domain.java](#),
[828](#) edu::mit::csail::sdg::squander::spec::IncompatibleTypesException,
[650](#)
[examples/edu/mit/csail/sdg/squander/examples/partitioning/Graph.java](#),
[807](#) expression,
[edu::mit::csail::sdg::squander::parser::JFSLParser](#),
[examples/edu/mit/csail/sdg/squander/examples/partitioning/Literal.java](#),
[829](#) expressionList
[457](#)
[examples/edu/mit/csail/sdg/squander/examples/partitioning/Partition.java](#),
[830](#) edu::mit::csail::sdg::squander::parser::JFSLParser,
[457](#)
[examples/edu/mit/csail/sdg/squander/examples/rbt/RedBlackTree.java](#),
[831](#) extent,
[edu::mit::csail::sdg::squander::engine::ForgeConverter](#),
[examples/edu/mit/csail/sdg/squander/examples/setpoly/BstIntSet.java](#),
[832](#) 105
[extractClassSpec](#)
[examples/edu/mit/csail/sdg/squander/examples/setpoly/IntSet.java](#),
[833](#) edu::mit::csail::sdg::squander::spec::CompositeSpecProvider,
[607](#)
[examples/edu/mit/csail/sdg/squander/examples/setpoly/SetIntSet.java](#),
[834](#) edu::mit::csail::sdg::squander::spec::ISpecProvider,
[652](#)
[examples/edu/mit/csail/sdg/squander/examples/sort/Sort.java](#),
[835](#) edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider,
[695](#)
[examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1.java](#),
[836](#) edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider,
[709](#)
[examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku2.java](#),
[837](#) extractFieldSpec
[edu::mit::csail::sdg::squander::spec::CompositeSpecProvider](#),
[608](#)
[examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku3.java](#),
[838](#) edu::mit::csail::sdg::squander::spec::ISpecProvider,
[652](#)
[examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku4.java](#),
[839](#) edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider,
[695](#)
[examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku5.java](#),
[840](#) edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider,
[709](#)
[exceptional](#) extractMethodSpec
[edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource](#),
[681, 682](#) edu::mit::csail::sdg::squander::spec::CompositeSpecProvider,
[608](#)
[exclusiveOrExpression](#) edu::mit::csail::sdg::squander::spec::ISpecProvider,
[edu::mit::csail::sdg::squander::parser::JFSLParser](#),
[457](#) 652
[edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider](#),
[exe](#) 695
[edu::mit::csail::sdg::squander::Squander](#), 778, edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider,
[779](#) 710
[edu::mit::csail::sdg::squander::utils::Predicate< T >](#), 784 extractMethodSpecNonRecursive
[edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider](#),
[exeMethod](#) 695

- extractSpecFieldName
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 603
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 482
- filter
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 94
- f
 - edu::mit::csail::sdg::squander::examples::javacoll::Collections, 269
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 624
- factory
 - edu::mit::csail::sdg::squander::serializer::special::ObjSerFactory, 592
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 624
 - edu::mit::csail::sdg::squander::spec::JField, 665
 - edu::mit::csail::sdg::squander::utils::Utils, 796
- falseExpr
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 637
 - edu::mit::csail::sdg::squander::spec::NameSpace, 690
- falseRelation
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 144
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 131
- FATAL
 - edu::mit::csail::sdg::squander::log::Log, 376
- fconv
 - edu::mit::csail::sdg::squander::engine::ForgeEval, 116
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 144
 - edu::mit::csail::sdg::squander::engine::SquanderEval, 175
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, 185
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 210
 - edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 611
- FIELD
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 407
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 482
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 637
 - edu::mit::csail::sdg::squander::spec::NameSpace, 690
- fieldConstraint
 - edu::mit::csail::sdg::squander::spec::Spec, 703
- fieldCounter
 - edu::mit::csail::sdg::squander::spec::Spec, 705
- fields
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 624
 - edu::mit::csail::sdg::squander::engine::ISquanderResult, 126
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 207
- FieldValue
 - edu::mit::csail::sdg::squander::absstate::FieldValue, 81
- FILE
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 407
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 215
- findClassForDomain
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 624
- findDomain
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 624
- findField
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 603
 - edu::mit::csail::sdg::squander::spec::NameSpace, 690
- findFldRelsForVar
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 131
- findGlobalVar
 - edu::mit::csail::sdg::squander::utils::Utils, 796
- findInstLiteralsForType
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 105
- findInt
 - edu::mit::csail::sdg::squander::examples::javacoll::TypeParamsEx, 282
- findLiteral
 - edu::mit::csail::sdg::squander::utils::Utils, 797
- findLiteralsForType
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 105
- findLocal
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
- findMaxArrayLength
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 140
- findMethod
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 787
- findNext
 - edu::mit::csail::sdg::squander::engine::ISquanderResult, 126
- findNode
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 215

- edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 224
- edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 233
- edu::mit::csail::sdg::squander::examples::graph::GraphicalAnalysis, 256
- edu::mit::csail::sdg::squander::examples::list::LinkedList, 197
- findNode_squander
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 215
 - edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 224
 - edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 233
- findP
 - edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 314
 - edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqRoot, 321
 - edu::mit::csail::sdg::squander::examples::numbers::MixedSqRoots, 325
- findQ
 - edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 314
 - edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqRoot, 321
 - edu::mit::csail::sdg::squander::examples::numbers::MixedSqRoots, 325
- findR
 - edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 314
 - edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqRoot, 321
 - edu::mit::csail::sdg::squander::examples::numbers::MixedSqRoot, 325
- findRel
 - edu::mit::csail::sdg::squander::spec::constant::ConstRels, 483
- findSpec
 - edu::mit::csail::sdg::squander::spec::JavaScene, 655
- findSpecFile
 - edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider, 710
- findVar
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 625
- finish
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 106
 - edu::mit::csail::sdg::squander::spec::JavaScene, 655
- finished
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 111
 - edu::mit::csail::sdg::squander::spec::JavaScene, 657
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 197
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 197
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 197
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 202
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 197
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 408
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 482
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 408
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 482
 - edu::mit::csail::sdg::squander::examples::func::Utils, 250
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 760
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 764
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 778
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 847
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 1055
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 1055
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 1062
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 483
 - FOLLOW_128_in_typeBodyDeclaration988

- edu::mit::csail::sdg::squander::parser::JFSLParser, 484
 FOLLOW_129_in_packageName813
 edu::mit::csail::sdg::squander::parser::JFSLParser, 484
 FOLLOW_129_in_primary4005
 edu::mit::csail::sdg::squander::parser::JFSLParser, 484
 FOLLOW_129_in_selector4090
 edu::mit::csail::sdg::squander::parser::JFSLParser, 484
 FOLLOW_129_in_selector4110
 edu::mit::csail::sdg::squander::parser::JFSLParser, 484
 FOLLOW_129_in_selector4130
 edu::mit::csail::sdg::squander::parser::JFSLParser, 484
 FOLLOW_129_in_selector4146
 edu::mit::csail::sdg::squander::parser::JFSLParser, 484
 FOLLOW_129_in_selector4162
 edu::mit::csail::sdg::squander::parser::JFSLParser, 485
 FOLLOW_129_in_selector4184
 edu::mit::csail::sdg::squander::parser::JFSLParser, 485
 FOLLOW_129_in_storeWildCard1593
 edu::mit::csail::sdg::squander::parser::JFSLParser, 485
 FOLLOW_129_in_synpred118_JFSL4005
 edu::mit::csail::sdg::squander::parser::JFSLParser, 485
 FOLLOW_129_in_synpred120_JFSL4005
 edu::mit::csail::sdg::squander::parser::JFSLParser, 485
 FOLLOW_129_in_typeName1835
 edu::mit::csail::sdg::squander::parser::JFSLParser, 485
 FOLLOW_130_in_importDeclaration843
 edu::mit::csail::sdg::squander::parser::JFSLParser, 485
 FOLLOW_131_in_typeDeclaration874
 edu::mit::csail::sdg::squander::parser::JFSLParser, 486
 FOLLOW_132_in_typeDeclaration878
 edu::mit::csail::sdg::squander::parser::JFSLParser, 486
 FOLLOW_133_in_common3951
 edu::mit::csail::sdg::squander::parser::JFSLParser, 486
 FOLLOW_133_in_typeBodyDeclaration1050
 edu::mit::csail::sdg::squander::parser::JFSLParser, 486
 FOLLOW_133_in_typeDeclaration890
 edu::mit::csail::sdg::squander::parser::JFSLParser, 486
 FOLLOW_134_in_common3959
 edu::mit::csail::sdg::squander::parser::JFSLParser, 486
 FOLLOW_134_in_typeBodyDeclaration1066
 edu::mit::csail::sdg::squander::parser::JFSLParser, 486
 FOLLOW_134_in_typeDeclaration895
 edu::mit::csail::sdg::squander::parser::JFSLParser, 487
 FOLLOW_135_in_logicalOp2239
 edu::mit::csail::sdg::squander::parser::JFSLParser, 487
 FOLLOW_135_in_logicalOp2251
 edu::mit::csail::sdg::squander::parser::JFSLParser, 487
 FOLLOW_135_in_relationalOp2835
 edu::mit::csail::sdg::squander::parser::JFSLParser, 487
 FOLLOW_135_in_relationalOp2855
 edu::mit::csail::sdg::squander::parser::JFSLParser, 487
 FOLLOW_135_in_shiftOp2990
 edu::mit::csail::sdg::squander::parser::JFSLParser, 487
 FOLLOW_135_in_shiftOp2992
 edu::mit::csail::sdg::squander::parser::JFSLParser, 487
 FOLLOW_135_in_typeParameters2959
 edu::mit::csail::sdg::squander::parser::JFSLParser, 488
 FOLLOW_135_in_typeParameters926
 edu::mit::csail::sdg::squander::parser::JFSLParser, 488
 FOLLOW_136_in_decls3719
 edu::mit::csail::sdg::squander::parser::JFSLParser, 488
 FOLLOW_136_in_expressionList2022
 edu::mit::csail::sdg::squander::parser::JFSLParser, 488
 FOLLOW_136_in_frame1470
 edu::mit::csail::sdg::squander::parser::JFSLParser, 488
 FOLLOW_136_in_methodParameters1109
 edu::mit::csail::sdg::squander::parser::JFSLParser, 488
 FOLLOW_136_in_typeParameters2964
 edu::mit::csail::sdg::squander::parser::JFSLParser, 488
 FOLLOW_136_in_typeParameters931
 edu::mit::csail::sdg::squander::parser::JFSLParser, 489
 FOLLOW_137_in_logicalOp2243

edu::mit::csail::sdg::squander::parser::JFSLParser, 489	edu::mit::csail::sdg::squander::parser::JFSLParser, 491
FOLLOW_137_in_logicalOp2255	FOLLOW_139_in_specCase1172
edu::mit::csail::sdg::squander::parser::JFSLParser, 489	edu::mit::csail::sdg::squander::parser::JFSLParser, 491
FOLLOW_137_in_logicalOp2265	FOLLOW_139_in_specCase1187
edu::mit::csail::sdg::squander::parser::JFSLParser, 489	edu::mit::csail::sdg::squander::parser::JFSLParser, 492
FOLLOW_137_in_relationalOp2845	FOLLOW_139_in_specCase1208
edu::mit::csail::sdg::squander::parser::JFSLParser, 489	edu::mit::csail::sdg::squander::parser::JFSLParser, 492
FOLLOW_137_in_relationalOp2863	FOLLOW_139_in_typeBodyDeclaration1004
edu::mit::csail::sdg::squander::parser::JFSLParser, 489	edu::mit::csail::sdg::squander::parser::JFSLParser, 492
FOLLOW_137_in_shiftOp3000	FOLLOW_139_in_typeBodyDeclaration1024
edu::mit::csail::sdg::squander::parser::JFSLParser, 489	edu::mit::csail::sdg::squander::parser::JFSLParser, 492
FOLLOW_137_in_shiftOp3002	FOLLOW_139_in_typeBodyDeclaration1044
edu::mit::csail::sdg::squander::parser::JFSLParser, 490	edu::mit::csail::sdg::squander::parser::JFSLParser, 492
FOLLOW_137_in_shiftOp3004	FOLLOW_140_in_arguments2051
edu::mit::csail::sdg::squander::parser::JFSLParser, 490	edu::mit::csail::sdg::squander::parser::JFSLParser, 492
FOLLOW_137_in_shiftOp3012	FOLLOW_140_in_castExpression3675
edu::mit::csail::sdg::squander::parser::JFSLParser, 490	edu::mit::csail::sdg::squander::parser::JFSLParser, 492
FOLLOW_137_in_shiftOp3014	FOLLOW_140_in_common3911
edu::mit::csail::sdg::squander::parser::JFSLParser, 490	edu::mit::csail::sdg::squander::parser::JFSLParser, 493
FOLLOW_137_in_typeParameters2970	FOLLOW_140_in_common3931
edu::mit::csail::sdg::squander::parser::JFSLParser, 490	edu::mit::csail::sdg::squander::parser::JFSLParser, 493
FOLLOW_137_in_typeParameters937	FOLLOW_140_in_parExpression1989
edu::mit::csail::sdg::squander::parser::JFSLParser, 490	edu::mit::csail::sdg::squander::parser::JFSLParser, 493
FOLLOW_138_in_typeBodyDeclaration1002	FOLLOW_140_in_specCase1159
edu::mit::csail::sdg::squander::parser::JFSLParser, 490	edu::mit::csail::sdg::squander::parser::JFSLParser, 493
FOLLOW_139_in_arguments2046	FOLLOW_140_in_specCase1180
edu::mit::csail::sdg::squander::parser::JFSLParser, 491	edu::mit::csail::sdg::squander::parser::JFSLParser, 493
FOLLOW_139_in_castExpression3671	FOLLOW_140_in_specCase1195
edu::mit::csail::sdg::squander::parser::JFSLParser, 491	edu::mit::csail::sdg::squander::parser::JFSLParser, 493
FOLLOW_139_in_common3907	FOLLOW_140_in_specCase1216
edu::mit::csail::sdg::squander::parser::JFSLParser, 491	edu::mit::csail::sdg::squander::parser::JFSLParser, 493
FOLLOW_139_in_common3927	FOLLOW_140_in_typeBodyDeclaration1008
edu::mit::csail::sdg::squander::parser::JFSLParser, 491	edu::mit::csail::sdg::squander::parser::JFSLParser, 494
FOLLOW_139_in_parExpression1984	FOLLOW_140_in_typeBodyDeclaration1028
edu::mit::csail::sdg::squander::parser::JFSLParser, 491	edu::mit::csail::sdg::squander::parser::JFSLParser, 494
FOLLOW_139_in_specCase1151	FOLLOW_140_in_typeBodyDeclaration1048

- edu::mit::csail::sdg::squander::parser::JFSLParser, 494
 FOLLOW_141_in_typeBodyDeclaration1022
 edu::mit::csail::sdg::squander::parser::JFSLParser, 494
 FOLLOW_142_in_specCase1149
 edu::mit::csail::sdg::squander::parser::JFSLParser, 494
 FOLLOW_143_in_specCase1170
 edu::mit::csail::sdg::squander::parser::JFSLParser, 494
 FOLLOW_144_in_specCase1185
 edu::mit::csail::sdg::squander::parser::JFSLParser, 494
 FOLLOW_145_in_specCase1206
 edu::mit::csail::sdg::squander::parser::JFSLParser, 495
 FOLLOW_146_in_specCase1267
 edu::mit::csail::sdg::squander::parser::JFSLParser, 495
 FOLLOW_147_in_specCase1282
 edu::mit::csail::sdg::squander::parser::JFSLParser, 495
 FOLLOW_148_in_declaration1306
 edu::mit::csail::sdg::squander::parser::JFSLParser, 495
 FOLLOW_148_in_declaration1361
 edu::mit::csail::sdg::squander::parser::JFSLParser, 495
 FOLLOW_149_in_declaration1310
 edu::mit::csail::sdg::squander::parser::JFSLParser, 495
 FOLLOW_149_in_declaration1365
 edu::mit::csail::sdg::squander::parser::JFSLParser, 495
 FOLLOW_150_in_conditionalExpression2109
 edu::mit::csail::sdg::squander::parser::JFSLParser, 496
 FOLLOW_150_in_declaration1316
 edu::mit::csail::sdg::squander::parser::JFSLParser, 496
 FOLLOW_150_in_declaration1371
 edu::mit::csail::sdg::squander::parser::JFSLParser, 496
 FOLLOW_150_in_decls3710
 edu::mit::csail::sdg::squander::parser::JFSLParser, 496
 FOLLOW_150_in_decls3729
 edu::mit::csail::sdg::squander::parser::JFSLParser, 496
 FOLLOW_150_in_synpred26_JFSL1316
 edu::mit::csail::sdg::squander::parser::JFSLParser, 496
 FOLLOW_150_in_synpred62_JFSL2109
 edu::mit::csail::sdg::squander::parser::JFSLParser, 496
 FOLLOW_151_in_declaration1322
 edu::mit::csail::sdg::squander::parser::JFSLParser, 497
 FOLLOW_151_in_synpred26_JFSL1322
 edu::mit::csail::sdg::squander::parser::JFSLParser, 497
 FOLLOW_152_in_common3955
 edu::mit::csail::sdg::squander::parser::JFSLParser, 497
 FOLLOW_152_in_declaration1327
 edu::mit::csail::sdg::squander::parser::JFSLParser, 497
 FOLLOW_152_in_declaration1378
 edu::mit::csail::sdg::squander::parser::JFSLParser, 497
 FOLLOW_152_in_inclusiveOrExpression2417
 edu::mit::csail::sdg::squander::parser::JFSLParser, 497
 FOLLOW_152_in_quantifiedExpression2151
 edu::mit::csail::sdg::squander::parser::JFSLParser, 497
 FOLLOW_152_in_synpred26_JFSL1327
 edu::mit::csail::sdg::squander::parser::JFSLParser, 498
 FOLLOW_152_in_synpred63_JFSL2151
 edu::mit::csail::sdg::squander::parser::JFSLParser, 498
 FOLLOW_153_in_declarationMult1426
 edu::mit::csail::sdg::squander::parser::JFSLParser, 498
 FOLLOW_154_in_declarationMult1436
 edu::mit::csail::sdg::squander::parser::JFSLParser, 498
 FOLLOW_155_in_multOp3217
 edu::mit::csail::sdg::squander::parser::JFSLParser, 498
 FOLLOW_155_in_selector4164
 edu::mit::csail::sdg::squander::parser::JFSLParser, 498
 FOLLOW_155_in_selector4186
 edu::mit::csail::sdg::squander::parser::JFSLParser, 498
 FOLLOW_155_in_storeWildCard1595
 edu::mit::csail::sdg::squander::parser::JFSLParser, 499
 FOLLOW_156_in_keywordLiteral1616
 edu::mit::csail::sdg::squander::parser::JFSLParser, 499
 FOLLOW_157_in_keywordLiteral1628
 edu::mit::csail::sdg::squander::parser::JFSLParser, 499
 FOLLOW_158_in_keywordLiteral1639

- edu::mit::csail::sdg::squander::parser::JFSLParser, 499
 FOLLOW_159_in_primitiveType1741
 edu::mit::csail::sdg::squander::parser::JFSLParser, 499
 FOLLOW_160_in_primitiveType1750
 edu::mit::csail::sdg::squander::parser::JFSLParser, 499
 FOLLOW_161_in_primitiveType1760
 edu::mit::csail::sdg::squander::parser::JFSLParser, 499
 FOLLOW_162_in_primitiveType1772
 edu::mit::csail::sdg::squander::parser::JFSLParser, 499
 FOLLOW_163_in_primitiveType1783
 edu::mit::csail::sdg::squander::parser::JFSLParser, 500
 FOLLOW_164_in_primitiveType1794
 edu::mit::csail::sdg::squander::parser::JFSLParser, 500
 FOLLOW_165_in_primitiveType1804
 edu::mit::csail::sdg::squander::parser::JFSLParser, 500
 FOLLOW_166_in_primitiveType1815
 edu::mit::csail::sdg::squander::parser::JFSLParser, 500
 FOLLOW_167_in_selector4202
 edu::mit::csail::sdg::squander::parser::JFSLParser, 500
 FOLLOW_167_in_selector4221
 edu::mit::csail::sdg::squander::parser::JFSLParser, 500
 FOLLOW_167_in_synpred56_JFSL1887
 edu::mit::csail::sdg::squander::parser::JFSLParser, 500
 FOLLOW_167_in_synpred58_JFSL1917
 edu::mit::csail::sdg::squander::parser::JFSLParser, 501
 FOLLOW_167_in_typeDisambiguous1887
 edu::mit::csail::sdg::squander::parser::JFSLParser, 501
 FOLLOW_167_in_typeDisambiguous1917
 edu::mit::csail::sdg::squander::parser::JFSLParser, 501
 FOLLOW_168_in_selector4205
 edu::mit::csail::sdg::squander::parser::JFSLParser, 501
 FOLLOW_168_in_selector4223
 edu::mit::csail::sdg::squander::parser::JFSLParser, 501
 FOLLOW_168_in_synpred56_JFSL1889
 edu::mit::csail::sdg::squander::parser::JFSLParser, 501
 FOLLOW_168_in_synpred58_JFSL1919
 edu::mit::csail::sdg::squander::parser::JFSLParser, 501
 FOLLOW_168_in_typeDisambiguous1889
 edu::mit::csail::sdg::squander::parser::JFSLParser, 502
 FOLLOW_168_in_typeDisambiguous1919
 edu::mit::csail::sdg::squander::parser::JFSLParser, 502
 FOLLOW_169_in_conditionalExpression2105
 edu::mit::csail::sdg::squander::parser::JFSLParser, 502
 FOLLOW_169_in_synpred62_JFSL2105
 edu::mit::csail::sdg::squander::parser::JFSLParser, 502
 FOLLOW_170_in_equalityOp2656
 edu::mit::csail::sdg::squander::parser::JFSLParser, 502
 FOLLOW_170_in_equalityOp2658
 edu::mit::csail::sdg::squander::parser::JFSLParser, 502
 FOLLOW_170_in_equalityOp2668
 edu::mit::csail::sdg::squander::parser::JFSLParser, 502
 FOLLOW_170_in_equalityOp2676
 edu::mit::csail::sdg::squander::parser::JFSLParser, 503
 FOLLOW_170_in_logicalOp2241
 edu::mit::csail::sdg::squander::parser::JFSLParser, 503
 FOLLOW_170_in_logicalOp2263
 edu::mit::csail::sdg::squander::parser::JFSLParser, 503
 FOLLOW_170_in_relationalOp2837
 edu::mit::csail::sdg::squander::parser::JFSLParser, 503
 FOLLOW_170_in_relationalOp2847
 edu::mit::csail::sdg::squander::parser::JFSLParser, 503
 FOLLOW_171_in_equalityOp2666
 edu::mit::csail::sdg::squander::parser::JFSLParser, 503
 FOLLOW_171_in_logicalOp2253
 edu::mit::csail::sdg::squander::parser::JFSLParser, 503
 FOLLOW_171_in_relationalOp2875
 edu::mit::csail::sdg::squander::parser::JFSLParser, 504
 FOLLOW_171_in_-
 unaryExpressionNotPlusMinus3623
 edu::mit::csail::sdg::squander::parser::JFSLParser, 504
 FOLLOW_172_in_conditionalOrExpression2300
 edu::mit::csail::sdg::squander::parser::JFSLParser, 504

- FOLLOW_173_in_conditionalAndExpression2356 FOLLOW_182_in_multOp3243
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 504 506
- FOLLOW_174_in_exclusiveOrExpression2473 FOLLOW_183_in_intersectionExpression3448
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 504 507
- FOLLOW_174_in_specUnaryOp4247 FOLLOW_183_in_primary4040
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 504 507
- FOLLOW_174_in_specUnaryOp4251 FOLLOW_183_in_setAdditiveOp3332
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 504 507
- FOLLOW_175_in_bitAndOp2572 FOLLOW_183_in_setAdditiveOp3345
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 505 507
- FOLLOW_175_in_intersectionExpression3450 FOLLOW_183_in_specUnaryOp4245
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 505 507
- FOLLOW_176_in_instanceOfExpression2713 FOLLOW_183_in_specUnaryOp4263
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 505 507
- FOLLOW_177_in_inOp2816 FOLLOW_184_in_overrideExpression3385
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 505 507
- FOLLOW_177_in_relationalOp2877 FOLLOW_185_in_composeExpression3509
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 505 508
- FOLLOW_178_in_additiveOp3097 FOLLOW_186_in_specUnaryOp4265
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 505 508
- FOLLOW_178_in_setAdditiveOp3334 FOLLOW_186_in_specUnaryOp4269
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 505 508
- FOLLOW_178_in_unaryExpression3556 FOLLOW_186_in_synpred99_JFSL3605
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 505 508
- FOLLOW_179_in_additiveOp3110 FOLLOW_186_in_
 edu::mit::csail::sdg::squander::parser::JFSLParser, unaryExpressionNotPlusMinus3605
 506 edu::mit::csail::sdg::squander::parser::JFSLParser,
 506 508
- FOLLOW_179_in_setAdditiveOp3347 FOLLOW_187_in_common3864
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 506 508
- FOLLOW_179_in_unaryExpression3574 FOLLOW_188_in_common3874
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 506 508
- FOLLOW_180_in_setQuantOp4386 FOLLOW_189_in_common3884
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 506 509
- FOLLOW_180_in_sizeExpression3130 FOLLOW_18_in_specfile110
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser,
 506 760
- FOLLOW_181_in_multOp3230 FOLLOW_190_in_common3895
 edu::mit::csail::sdg::squander::parser::JFSLParser, 506

edu::mit::csail::sdg::squander::parser::JFSLParser, 509	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 761
FOLLOW_191_in_common3905	FOLLOW_27_in_specfield202
edu::mit::csail::sdg::squander::parser::JFSLParser, 509	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 761
FOLLOW_192_in_common3925	FOLLOW_27_in_specfield230
edu::mit::csail::sdg::squander::parser::JFSLParser, 509	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 761
FOLLOW_193_in_setDeclOp4294	FOLLOW_28_in_funcfield266
edu::mit::csail::sdg::squander::parser::JFSLParser, 509	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 761
FOLLOW_194_in_setDeclOp4306	FOLLOW_28_in_funcfield294
edu::mit::csail::sdg::squander::parser::JFSLParser, 509	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 761
FOLLOW_195_in_setDeclOp4318	FOLLOW_28_in_invariant328
edu::mit::csail::sdg::squander::parser::JFSLParser, 509	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 762
FOLLOW_196_in_setUnaryOp4347	FOLLOW_28_in_invariant356
edu::mit::csail::sdg::squander::parser::JFSLParser, 509	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 762
FOLLOW_197_in_setUnaryOp4358	FOLLOW_28_in_specfield204
edu::mit::csail::sdg::squander::parser::JFSLParser, 510	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 762
FOLLOW_198_in_setQuantOp4397	FOLLOW_28_in_specfield232
edu::mit::csail::sdg::squander::parser::JFSLParser, 510	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 762
FOLLOW_199_in_setQuantOp4410	FOLLOW_29_in_funcfield270
edu::mit::csail::sdg::squander::parser::JFSLParser, 510	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 762
FOLLOW_19_in_specfile114	FOLLOW_29_in_funcfield302
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 760	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 762
FOLLOW_20_in_funcfield296	FOLLOW_29_in_invariant332
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 760	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 762
FOLLOW_20_in_invariant358	FOLLOW_29_in_invariant364
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 760	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 762
FOLLOW_20_in_specfield234	FOLLOW_29_in_specfield208
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 760	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 763
FOLLOW_20_in_specfile118	FOLLOW_29_in_specfield240
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 760	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 763
FOLLOW_21_in_funcfield300	FOLLOW_30_in_funcfield272
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 761	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 763
FOLLOW_21_in_invariant362	FOLLOW_30_in_funcfield304
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 761	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 763
FOLLOW_21_in_specfield238	FOLLOW_30_in_invariant334
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 761	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 763
FOLLOW_21_in_specfile129	FOLLOW_30_in_invariant366

- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_andExpression_in_ 763
 FOLLOW_30_in_specfield210 edu::mit::csail::sdg::squander::parser::JFSLParser, 511
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_andExpression_in_ 763
 FOLLOW_30_in_specfield242 edu::mit::csail::sdg::squander::parser::JFSLParser, 511
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_arguments_in_primary4064
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_arguments_in_selector4094
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_bitAndOp_in_andExpression2531
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_castExpression_in_synpred101_- 764
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_castExpression_in_synpred101_- 764
 FOLLOW_33_in_params391 edu::mit::csail::sdg::squander::parser::JFSLParser, 512
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_castExpression_in_ 764
 FOLLOW_33_in_strings433 edu::mit::csail::sdg::squander::parser::JFSLParser, 512
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, FOLLOW_CharacterLiteral_in_literal1675
 FOLLOW_additiveExpression_in_declaration1320 edu::mit::csail::sdg::squander::parser::JFSLParser, 512
 edu::mit::csail::sdg::squander::parser::JFSLParser, FOLLOW_cls_in_type165
 FOLLOW_additiveExpression_in_declaration1375 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 764
 edu::mit::csail::sdg::squander::parser::JFSLParser, FOLLOW_common_in_primary3984
 FOLLOW_additiveExpression_in_decls3715 edu::mit::csail::sdg::squander::parser::JFSLParser, 512
 edu::mit::csail::sdg::squander::parser::JFSLParser, FOLLOW_common_in_selector4148
 FOLLOW_additiveExpression_in_decls3732 edu::mit::csail::sdg::squander::parser::JFSLParser, 512
 edu::mit::csail::sdg::squander::parser::JFSLParser, FOLLOW_common_in_selector4188
 FOLLOW_additiveExpression_in_- shiftExpression2932 edu::mit::csail::sdg::squander::parser::JFSLParser, 512
 edu::mit::csail::sdg::squander::parser::JFSLParser, FOLLOW_common_in_storePrimary1547
 FOLLOW_additiveExpression_in_- shiftExpression2953 edu::mit::csail::sdg::squander::parser::JFSLParser, 513
 edu::mit::csail::sdg::squander::parser::JFSLParser, FOLLOW_composeExpression_in_- intersectionExpression3433
 FOLLOW_additiveExpression_in_synpred26_- JFSL1320 edu::mit::csail::sdg::squander::parser::JFSLParser, 513
 edu::mit::csail::sdg::squander::parser::JFSLParser, FOLLOW_composeExpression_in_- intersectionExpression3454
 FOLLOW_additiveOp_in_additiveExpression3052 edu::mit::csail::sdg::squander::parser::JFSLParser, 513
 edu::mit::csail::sdg::squander::parser::JFSLParser, FOLLOW_conditionalAndExpression_in_- conditionalOrExpression2285
 511

- edu::mit::csail::sdg::squander::parser::JFSLParser, 513
- FOLLOW_conditionalAndExpression_in_conditionalOrExpression2304 edu::mit::csail::sdg::squander::parser::JFSLParser, 513
- FOLLOW_conditionalExpression_in_expression2075 edu::mit::csail::sdg::squander::parser::JFSLParser, 513
- FOLLOW_conditionalOrExpression_in_logicalExpression2187 edu::mit::csail::sdg::squander::parser::JFSLParser, 513
- FOLLOW_conditionalOrExpression_in_logicalExpression2202 edu::mit::csail::sdg::squander::parser::JFSLParser, 514
- FOLLOW_declaration_in_specField729 edu::mit::csail::sdg::squander::parser::JFSLParser, 514
- FOLLOW_declaration_in_typeBodyDeclaration1026 edu::mit::csail::sdg::squander::parser::JFSLParser, 514
- FOLLOW_declarationMult_in_declaration1318 edu::mit::csail::sdg::squander::parser::JFSLParser, 514
- FOLLOW_declarationMult_in_declaration1373 edu::mit::csail::sdg::squander::parser::JFSLParser, 514
- FOLLOW_declarationMult_in_decls3713 edu::mit::csail::sdg::squander::parser::JFSLParser, 514
- FOLLOW_declarationMult_in_synpred26_JFSL1318 edu::mit::csail::sdg::squander::parser::JFSLParser, 514
- FOLLOW_decls_in_common3953 edu::mit::csail::sdg::squander::parser::JFSLParser, 515
- FOLLOW_decls_in_quantifiedExpression2149 edu::mit::csail::sdg::squander::parser::JFSLParser, 515
- FOLLOW_decls_in_synpred63_JFSL2149 edu::mit::csail::sdg::squander::parser::JFSLParser, 515
- FOLLOW_EOF_in_clause722 edu::mit::csail::sdg::squander::parser::JFSLParser, 515
- FOLLOW_EOF_in_compilationUnit785 edu::mit::csail::sdg::squander::parser::JFSLParser, 515
- FOLLOW_EOF_in_modifies740
- edu::mit::csail::sdg::squander::parser::JFSLParser, 515
- FOLLOW_EOF_in_specField731 edu::mit::csail::sdg::squander::parser::JFSLParser, 515
- FOLLOW_equalityExpression_in_andExpression2516 edu::mit::csail::sdg::squander::parser::JFSLParser, 516
- FOLLOW_equalityExpression_in_andExpression2535 edu::mit::csail::sdg::squander::parser::JFSLParser, 516
- FOLLOW_equalityOp_in_equalityExpression2611 edu::mit::csail::sdg::squander::parser::JFSLParser, 516
- FOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2402 edu::mit::csail::sdg::squander::parser::JFSLParser, 516
- FOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2421 edu::mit::csail::sdg::squander::parser::JFSLParser, 516
- FOLLOW_expression_in_clause720 edu::mit::csail::sdg::squander::parser::JFSLParser, 516
- FOLLOW_expression_in_common3909 edu::mit::csail::sdg::squander::parser::JFSLParser, 516
- FOLLOW_expression_in_common3957 edu::mit::csail::sdg::squander::parser::JFSLParser, 517
- FOLLOW_expression_in_conditionalExpression2107 edu::mit::csail::sdg::squander::parser::JFSLParser, 517
- FOLLOW_expression_in_conditionalExpression2111 edu::mit::csail::sdg::squander::parser::JFSLParser, 517
- FOLLOW_expression_in_declaration1329 edu::mit::csail::sdg::squander::parser::JFSLParser, 517
- FOLLOW_expression_in_declaration1380 edu::mit::csail::sdg::squander::parser::JFSLParser, 517
- FOLLOW_expression_in_expressionList2019 edu::mit::csail::sdg::squander::parser::JFSLParser, 517
- FOLLOW_expression_in_expressionList2025 edu::mit::csail::sdg::squander::parser::JFSLParser, 517
- FOLLOW_expression_in_parExpression1987

- edu::mit::csail::sdg::squander::parser::JFSLParser, 518
 FOLLOW_expression_in_-quantifiedExpression2153
 edu::mit::csail::sdg::squander::parser::JFSLParser, 518
 FOLLOW_expression_in_selector4203
 edu::mit::csail::sdg::squander::parser::JFSLParser, 518
 FOLLOW_expression_in_specCase1157
 edu::mit::csail::sdg::squander::parser::JFSLParser, 518
 FOLLOW_expression_in_specCase1178
 edu::mit::csail::sdg::squander::parser::JFSLParser, 518
 FOLLOW_expression_in_specCase1193
 edu::mit::csail::sdg::squander::parser::JFSLParser, 518
 FOLLOW_expression_in_synpred26_JFSL1329
 edu::mit::csail::sdg::squander::parser::JFSLParser, 518
 FOLLOW_expression_in_synpred62_JFSL2107
 edu::mit::csail::sdg::squander::parser::JFSLParser, 519
 FOLLOW_expression_in_synpred62_JFSL2111
 edu::mit::csail::sdg::squander::parser::JFSLParser, 519
 FOLLOW_expression_in_synpred63_JFSL2153
 edu::mit::csail::sdg::squander::parser::JFSLParser, 519
 FOLLOW_expression_in_-typeBodyDeclaration1006
 edu::mit::csail::sdg::squander::parser::JFSLParser, 519
 FOLLOW_expressionList_in_arguments2048
 edu::mit::csail::sdg::squander::parser::JFSLParser, 519
 FOLLOW_FloatingPointLiteral_in_literal1669
 edu::mit::csail::sdg::squander::parser::JFSLParser, 519
 FOLLOW_frame_in_declaration1324
 edu::mit::csail::sdg::squander::parser::JFSLParser, 519
 FOLLOW_frame_in_modifies738
 edu::mit::csail::sdg::squander::parser::JFSLParser, 520
 FOLLOW_frame_in_specCase1214
 edu::mit::csail::sdg::squander::parser::JFSLParser, 520
 FOLLOW_frame_in_synpred26_JFSL1324
 edu::mit::csail::sdg::squander::parser::JFSLParser, 520
 FOLLOW_funcfield_in_specfile123
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 764
 FOLLOW_Identifier_in_declaration1314
 edu::mit::csail::sdg::squander::parser::JFSLParser, 520
 FOLLOW_Identifier_in_declaration1369
 edu::mit::csail::sdg::squander::parser::JFSLParser, 520
 FOLLOW_Identifier_in_decls3703
 edu::mit::csail::sdg::squander::parser::JFSLParser, 520
 FOLLOW_Identifier_in_decls3722
 edu::mit::csail::sdg::squander::parser::JFSLParser, 520
 FOLLOW_Identifier_in_methodParameters1106
 edu::mit::csail::sdg::squander::parser::JFSLParser, 521
 FOLLOW_Identifier_in_methodParameters1113
 edu::mit::csail::sdg::squander::parser::JFSLParser, 521
 FOLLOW_Identifier_in_packageName810
 edu::mit::csail::sdg::squander::parser::JFSLParser, 521
 FOLLOW_Identifier_in_packageName815
 edu::mit::csail::sdg::squander::parser::JFSLParser, 521
 FOLLOW_Identifier_in_params388
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 765
 FOLLOW_Identifier_in_params393
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 765
 FOLLOW_Identifier_in_primary4002
 edu::mit::csail::sdg::squander::parser::JFSLParser, 521
 FOLLOW_Identifier_in_primary4007
 edu::mit::csail::sdg::squander::parser::JFSLParser, 521
 FOLLOW_Identifier_in_primary4042
 edu::mit::csail::sdg::squander::parser::JFSLParser, 521
 FOLLOW_Identifier_in_primary4062
 edu::mit::csail::sdg::squander::parser::JFSLParser, 522
 FOLLOW_Identifier_in_-relationalUnaryExpression3793
 edu::mit::csail::sdg::squander::parser::JFSLParser, 522
 FOLLOW_Identifier_in_selector4092
 edu::mit::csail::sdg::squander::parser::JFSLParser, 522
 FOLLOW_Identifier_in_selector4112
 edu::mit::csail::sdg::squander::parser::JFSLParser, 522

- FOLLOW_Identifier_in_selector4166
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[522](#)
- FOLLOW_Identifier_in_specfile107
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser,
[765](#)
- FOLLOW_Identifier_in_storePrimary1532
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[522](#)
- FOLLOW_Identifier_in_synpred118_JFSL4007
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[522](#)
- FOLLOW_Identifier_in_synpred120_JFSL4002
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[522](#)
- FOLLOW_Identifier_in_synpred120_JFSL4007
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[523](#)
- FOLLOW_Identifier_in_synpred26_JFSL1314
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[523](#)
- FOLLOW_Identifier_in_typeBodyDeclaration1042
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[523](#)
- FOLLOW_Identifier_in_typeDeclaration881
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[523](#)
- FOLLOW_Identifier_in_typeName1832
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[523](#)
- FOLLOW_Identifier_in_typeName1837
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[523](#)
- FOLLOW_Identifier_in_typeParameters928
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[523](#)
- FOLLOW_Identifier_in_typeParameters933
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[524](#)
- FOLLOW_importDeclaration_in_-
 compilationUnit770
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[524](#)
- FOLLOW_inclusiveOrExpression_in_-
 conditionalAndExpression2341
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[524](#)
- FOLLOW_inclusiveOrExpression_in_-
 conditionalAndExpression2360
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[524](#)
- FOLLOW_inOp_in_decls3706
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[524](#)
- FOLLOW_inOp_in_decls3725
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[524](#)
- FOLLOW_inOp_in_relationalOp2871
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[524](#)
- FOLLOW_instanceOfExpression_in_-
 equalityExpression2594
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[525](#)
- FOLLOW_instanceOfExpression_in_-
 equalityExpression2615
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[525](#)
- FOLLOW_integerLiteral_in_common3929
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[525](#)
- FOLLOW_integerLiteral_in_literal1663
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[525](#)
- FOLLOW_intersectionExpression_in_-
 overrideExpression3370
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[525](#)
- FOLLOW_intersectionExpression_in_-
 overrideExpression3389
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[525](#)
- FOLLOW_invariant_in_specfile126
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser,
[765](#)
- FOLLOW_joinExpression_in_-
 setUnaryExpression2898
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[525](#)
- FOLLOW_joinExpression_in_sizeExpression3132
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[526](#)
- FOLLOW_joinExpression_in_-
 unaryExpressionNotPlusMinus3651
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[526](#)
- FOLLOW_keywordLiteral_in_literal1687
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[526](#)
- FOLLOW_literal_in_primary3990
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[526](#)
- FOLLOW_logicalExpression_in_-
 quantifiedExpression2171
 edu::mit::csail::sdg::squander::parser::JFSLParser,
[526](#)
- FOLLOW_logicalOp_in_logicalExpression2200

edu::mit::csail::sdg::squander::parser::JFSLParser	FOLLOW_primitiveType_in_selector	4132
526	edu::mit::csail::sdg::squander::parser::JFSLParser,	
FOLLOW_methodParameters_in_-		528
typeBodyDeclaration	1046	FOLLOW_primitiveType_in_-
edu::mit::csail::sdg::squander::parser::JFSLParser,		typeDisambiguous
526		1878
FOLLOW_mod_in_type	162	edu::mit::csail::sdg::squander::parser::JFSLParser,
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser		528
765	FOLLOW_quantifiedExpression_in_-	
FOLLOW_multiplicativeExpression_in_-		conditionalExpression
sizeExpression	3148	2092
edu::mit::csail::sdg::squander::parser::JFSLParser		edu::mit::csail::sdg::squander::parser::JFSLParser,
526	FOLLOW_relationalExpression_in_-	528
FOLLOW_multOp_in_-		instanceOfExpression
multiplicativeExpression	3183	2698
edu::mit::csail::sdg::squander::parser::JFSLParser		edu::mit::csail::sdg::squander::parser::JFSLParser,
527	FOLLOW_relationalOp_in_-	529
FOLLOW_overrideExpression_in_-		relationalExpression
setAdditiveExpression	3266	2773
edu::mit::csail::sdg::squander::parser::JFSLParser		edu::mit::csail::sdg::squander::parser::JFSLParser,
527	FOLLOW_relationalUnaryExpression_in_-	529
FOLLOW_overrideExpression_in_-		common
setAdditiveExpression	3290	3945
edu::mit::csail::sdg::squander::parser::JFSLParser		edu::mit::csail::sdg::squander::parser::JFSLParser,
527	FOLLOW_selector_in_joinExpression	529
FOLLOW_packageName_in_compilationUnit	762	3828
edu::mit::csail::sdg::squander::parser::JFSLParser		edu::mit::csail::sdg::squander::parser::JFSLParser,
527	FOLLOW_selector_in_storeSelectors	529
FOLLOW_packageName_in_-		1562
importDeclaration	845	edu::mit::csail::sdg::squander::parser::JFSLParser,
edu::mit::csail::sdg::squander::parser::JFSLParser		529
527	FOLLOW_selector_in_storeSelectors	1572
FOLLOW_params_in_specfile	112	edu::mit::csail::sdg::squander::parser::JFSLParser,
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser		529
765	FOLLOW_selector_in_synpred37_JFSL	1562
FOLLOW_parExpression_in_common	3858	edu::mit::csail::sdg::squander::parser::JFSLParser,
edu::mit::csail::sdg::squander::parser::JFSLParser		529
527	FOLLOW_set_in_cls0	
FOLLOW_parExpression_in_-		edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser,
relationalUnaryExpression	3775	765
edu::mit::csail::sdg::squander::parser::JFSLParser		FOLLOW_set_in_integerLiteral
527		0
FOLLOW_primary_in_joinExpression	3826	edu::mit::csail::sdg::squander::parser::JFSLParser,
edu::mit::csail::sdg::squander::parser::JFSLParser		530
528	FOLLOW_set_in_mod0	
FOLLOW_primary_in_typeParameters	2961	edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser,
edu::mit::csail::sdg::squander::parser::JFSLParser		765
528	FOLLOW_set_in_synpred26_JFSL	1305
FOLLOW_primary_in_typeParameters	2966	edu::mit::csail::sdg::squander::parser::JFSLParser,
edu::mit::csail::sdg::squander::parser::JFSLParser		530
528	FOLLOW_setAdditiveExpression_in_-	
FOLLOW_primitiveType_in_castExpression	3673	multiplicativeExpression
edu::mit::csail::sdg::squander::parser::JFSLParser		3166
528		edu::mit::csail::sdg::squander::parser::JFSLParser,
FOLLOW_setAdditiveExpression_in_-		530
	multiplicativeExpression	3187

- edu::mit::csail::sdg::squander::parser::JFSLParser, 530
 FOLLOW_setAdditiveOp_in_-
 setAdditiveExpression3286
 edu::mit::csail::sdg::squander::parser::JFSLParser, 530
 FOLLOW_setDeclOp_in_declarationMult1420
 edu::mit::csail::sdg::squander::parser::JFSLParser, 530
 FOLLOW_setDeclOp_in_setUnaryOp4341
 edu::mit::csail::sdg::squander::parser::JFSLParser, 530
 FOLLOW_setQuantOp_in_-
 quantifiedExpression2147
 edu::mit::csail::sdg::squander::parser::JFSLParser, 531
 FOLLOW_setQuantOp_in_synpred63_JFSL2147
 edu::mit::csail::sdg::squander::parser::JFSLParser, 531
 FOLLOW_setUnaryExpression_in_-
 relationalExpression2756
 edu::mit::csail::sdg::squander::parser::JFSLParser, 531
 FOLLOW_setUnaryExpression_in_-
 relationalExpression2777
 edu::mit::csail::sdg::squander::parser::JFSLParser, 531
 FOLLOW_setUnaryOp_in_setQuantOp4380
 edu::mit::csail::sdg::squander::parser::JFSLParser, 531
 FOLLOW_setUnaryOp_in_-
 setUnaryExpression2896
 edu::mit::csail::sdg::squander::parser::JFSLParser, 531
 FOLLOW_shiftExpression_in_-
 setUnaryExpression2914
 edu::mit::csail::sdg::squander::parser::JFSLParser, 531
 FOLLOW_shiftOp_in_shiftExpression2949
 edu::mit::csail::sdg::squander::parser::JFSLParser, 532
 FOLLOW_sizeExpression_in_-
 additiveExpression3034
 edu::mit::csail::sdg::squander::parser::JFSLParser, 532
 FOLLOW_sizeExpression_in_-
 additiveExpression3056
 edu::mit::csail::sdg::squander::parser::JFSLParser, 532
 FOLLOW_specCase_in_synpred13_JFSL1057
 edu::mit::csail::sdg::squander::parser::JFSLParser, 532
 FOLLOW_specCase_in_typeBodyDeclaration1052
 edu::mit::csail::sdg::squander::parser::JFSLParser, 532
 FOLLOW_specCase_in_typeBodyDeclaration1057
 edu::mit::csail::sdg::squander::parser::JFSLParser, 532
 FOLLOW_specfield_in_specfile120
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 766
 FOLLOW_specUnaryOp_in_-
 relationalUnaryExpression3773
 edu::mit::csail::sdg::squander::parser::JFSLParser, 532
 FOLLOW_specUnaryOp_in_-
 relationalUnaryExpression3791
 edu::mit::csail::sdg::squander::parser::JFSLParser, 533
 FOLLOW_storePrimary_in_storeRef1497
 edu::mit::csail::sdg::squander::parser::JFSLParser, 533
 FOLLOW_storeRef_in_frame1467
 edu::mit::csail::sdg::squander::parser::JFSLParser, 533
 FOLLOW_storeRef_in_frame1472
 edu::mit::csail::sdg::squander::parser::JFSLParser, 533
 FOLLOW_storeSelectors_in_storeRef1499
 edu::mit::csail::sdg::squander::parser::JFSLParser, 533
 FOLLOW_storeWildcard_in_storeSelectors1565
 edu::mit::csail::sdg::squander::parser::JFSLParser, 533
 FOLLOW_storeWildcard_in_synpred37_-
 JFSL1565
 edu::mit::csail::sdg::squander::parser::JFSLParser, 533
 FOLLOW_StringLiteral_in_funcfield268
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 766
 FOLLOW_StringLiteral_in_invariant330
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 766
 FOLLOW_StringLiteral_in_literal1681
 edu::mit::csail::sdg::squander::parser::JFSLParser, 534
 FOLLOW_StringLiteral_in_specfield206
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 766
 FOLLOW_StringLiteral_in_strings430
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 766
 FOLLOW_StringLiteral_in_strings435
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 766
 FOLLOW_strings_in_funcfield298

- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser 766
- FOLLOW_typeParameters2_in_synpred119_- JFSL4011
- FOLLOW_strings_in_invariant360 edu::mit::csail::sdg::squander::parser::JFSLParser, 535
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser 766
- FOLLOW_typeParameters2_in_synpred120_- JFSL4011
- FOLLOW_strings_in_specfield236 edu::mit::csail::sdg::squander::parser::JFSLParser, 767
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser 536
- FOLLOW_type_in_instanceOfExpression2717 FOLLOW_typeParameters_in_typeDeclaration883
- edu::mit::csail::sdg::squander::parser::JFSLParser, 534 edu::mit::csail::sdg::squander::parser::JFSLParser, 536
- FOLLOW_type_in_methodParameters1104 FOLLOW_typeParameters_in_typeName1841
- edu::mit::csail::sdg::squander::parser::JFSLParser, 534 edu::mit::csail::sdg::squander::parser::JFSLParser, 536
- FOLLOW_type_in_methodParameters1111 FOLLOW_unaryExpression_in_-
- edu::mit::csail::sdg::squander::parser::JFSLParser, 534 castExpression3677
- edu::mit::csail::sdg::squander::parser::JFSLParser, 536
- FOLLOW_type_in_specfile105 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser 767
- FOLLOW_unaryExpression_in_- composeExpression3494
- FOLLOW_typeBodyDeclaration_in_- edu::mit::csail::sdg::squander::parser::JFSLParser, 536
- edu::mit::csail::sdg::squander::parser::JFSLParser 534
- FOLLOW_unaryExpression_in_- composeExpression3513
- FOLLOW_typeDeclaration_in_- edu::mit::csail::sdg::squander::parser::JFSLParser, 536
- compilationUnit776 edu::mit::csail::sdg::squander::parser::JFSLParser 534
- FOLLOW_unaryExpression_in_synpred99_- JFSL3607
- FOLLOW_typeDeclaration_in_- edu::mit::csail::sdg::squander::parser::JFSLParser, 536
- edu::mit::csail::sdg::squander::parser::JFSLParser 534
- FOLLOW_unaryExpression_in_- unaryExpression3558
- FOLLOW_typeDisambiguous_in_primary3996 edu::mit::csail::sdg::squander::parser::JFSLParser, 537
- edu::mit::csail::sdg::squander::parser::JFSLParser, 535
- FOLLOW_unaryExpression_in_- unaryExpression3576
- FOLLOW_typeDisambiguous_in_synpred117_- JFSL3996 edu::mit::csail::sdg::squander::parser::JFSLParser, 537
- edu::mit::csail::sdg::squander::parser::JFSLParser, 535
- FOLLOW_unaryExpression_in_- unaryExpressionNotPlusMinus3607
- FOLLOW_typeName_in_primary4038 edu::mit::csail::sdg::squander::parser::JFSLParser, 535
- edu::mit::csail::sdg::squander::parser::JFSLParser, 537
- FOLLOW_unaryExpression_in_- unaryExpressionNotPlusMinus3625
- edu::mit::csail::sdg::squander::parser::JFSLParser, 537
- FOLLOW_typeName_in_type1950 edu::mit::csail::sdg::squander::parser::JFSLParser 535
- FOLLOW_unaryExpressionNotPlusMinus_in_- unaryExpression3592
- FOLLOW_typeName_in_typeDisambiguous1908 edu::mit::csail::sdg::squander::parser::JFSLParser, 535
- edu::mit::csail::sdg::squander::parser::JFSLParser, 537
- edu::mit::csail::sdg::squander::spec::NameSpace, 691
- forClass Forge

- edu::mit::csail::sdg::squander::options::GlobalOptions 381
- edu::mit::csail::sdg::squander::spec::JField, 665
- edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource, 681
- edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider, 696
- edu::mit::csail::sdg::squander::spec::Spec::SpecCase, 707, 708
- FRAME_ALL
- edu::mit::csail::sdg::squander::parser::JFSLLexer, 408
- edu::mit::csail::sdg::squander::parser::JFSLParser, 537
- FRAME_LOCATION
- edu::mit::csail::sdg::squander::parser::JFSLLexer, 408
- edu::mit::csail::sdg::squander::parser::JFSLParser, 537
- edu::mit::csail::sdg::squander::spec::ForgeScene, frameSrc 622
- edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource, 681
- edu::mit::csail::sdg::squander::engine::ForgeConverter, 106, 111
- edu::mit::csail::sdg::squander::spec::MethodSpec, 678
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 144
- freshObjects
- edu::mit::csail::sdg::squander::spec::Frame, 644
- edu::mit::csail::sdg::squander::spec::MethodSpec, 677
- edu::mit::csail::sdg::squander::spec::Spec, 703, 705
- frm
- edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource, 682
- frmSrc
- edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource, 682
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 140
- edu::mit::csail::sdg::squander::spec::JField, 661
- forMethod
- edu::mit::csail::sdg::squander::spec::NameSpace, funcConstraint 691
- edu::mit::csail::sdg::squander::spec::Spec, 703
- FRAGMENT
- FUNCFIELD
- edu::mit::csail::sdg::squander::parser::JFSLParser, 454
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 749
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 767
- funcfield
- edu::mit::csail::sdg::squander::parser::JFSLParser, 537
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 758
- edu::mit::csail::sdg::squander::spec::Source, 698
- funcFlag
- edu::mit::csail::sdg::squander::spec::JField, 665
- Frame
- edu::mit::csail::sdg::squander::spec::Frame, 642
- gcd
- edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 314
- frame
- edu::mit::csail::sdg::squander::parser::JFSLParser, 458
- gcd_impl

- edu::mit::csail::sdg::squander::examples::numbers::AbstractStates 314
- gen
 - edu::mit::csail::sdg::squander::examples::partitioning::GraphMethod 329
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeMethods 215
 - edu::mit::csail::sdg::squander::examples::bst::BST_-noParent, 224
 - edu::mit::csail::sdg::squander::examples::bst::BST_-noSpecFld, 234
- genBST
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeMethods 215
 - edu::mit::csail::sdg::squander::examples::bst::BST_-noParent, 224
 - edu::mit::csail::sdg::squander::examples::bst::BST_-noSpecFld, 234
- GENERATING_SBP
 - edu::mit::csail::sdg::squander::engine::SquanderReporter 202
- generatingSBP
 - edu::mit::csail::sdg::squander::engine::SquanderReporter 197
- get
 - edu::mit::csail::sdg::squander::absstate::ObjTuple, 88
 - edu::mit::csail::sdg::squander::examples::javacol::Collections 270
 - edu::mit::csail::sdg::squander::examples::javacol::TypeParamsEx, 282
 - edu::mit::csail::sdg::squander::examples::list::func2::IntList, 287
 - edu::mit::csail::sdg::squander::utils::TwoWayMap<K, V >, 794
- getA
 - edu::mit::csail::sdg::squander::examples::sort::Sort, 345
- getAbsFun
 - edu::mit::csail::sdg::squander::spec::JField, 661
- getAllFields
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 787
- getAllFieldsRecursive
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 787
- getAllNodes_squander
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 216
 - edu::mit::csail::sdg::squander::examples::bst::BST_-noParent, 225
 - edu::mit::csail::sdg::squander::examples::bst::BST_-noSpecFld, 234
- getAllNonStaticFields
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 787
- getAllObjects
 - edu::mit::csail::sdg::squander::absstate::AbstractState, 78
- getArrayDomain
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 787
- getArrayType
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 787
- getAssignments
 - edu::mit::csail::sdg::squander::engine::SquanderEval, 171
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, 179
- getAuxInt
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 256
- getAuxNode
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 256
- getBound
 - edu::mit::csail::sdg::squander::engine::Heap2Bounds, 121
- getBounds
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 131
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 160
- getCallerClassName
 - edu::mit::csail::sdg::squander::Squander, 779
- getCallerMethod
 - edu::mit::csail::sdg::squander::Squander, 779
- getCellValue
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 349
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 353
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 355
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 359
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 362
- getClass
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 725
- getCount
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 349
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 353
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 355
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 359
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 362

- edu::mit::csail::sdg::squander::utils::Counter< T >, 782
- getDeclaredNonStaticFields
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 788
- getDescription
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA18, 649
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA36, 425
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA38, 426
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA42, 555
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA49, 556
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA69, 557
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA77, 558
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA78, 559
 - edu::mit::csail::sdg::squander::parser::JFSLLexer::DFA79, 560
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer::DFA6, 753
- getDomain
 - edu::mit::csail::sdg::squander::spec::JField, 661
- getDoms
 - edu::mit::csail::sdg::squander::examples::partitioning::Partition, 333
- getEmailAddress
 - edu::mit::csail::sdg::squander::examples::mock::AddressBook, 302
 - edu::mit::csail::sdg::squander::examples::mock::MockAddressBook, 306
 - edu::mit::csail::sdg::squander::examples::mock::SquanderAddressBook, 308
- getEntries
 - edu::mit::csail::sdg::squander::absstate::AbstractState, 79
- getEnv
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 625
- getEquiv
 - edu::mit::csail::sdg::squander::examples::equiv::Node, 248
- getEval
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 132
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 140
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 164
- getEvaluator
 - edu::mit::csail::sdg::squander::engine::SquanderEval, 171
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, 179
 - getExpr
 - edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, 132
 - getExtent
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 132
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 140
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 160
 - getField
 - edu::mit::csail::sdg::squander::options::ConfigLoader, 378
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 788
 - getFieldValue
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 788
 - getFieldWithAccess
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 788, 789
 - getFldOwner
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 725
 - getFrame
 - edu::mit::csail::sdg::squander::spec::JField, 662
 - getGrammarFileName
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 390
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 458
 - getHeapObjects
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 743
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 758
 - getHeap
 - edu::mit::csail::sdg::squander::engine::Heap, 118
 - getAbstractHeap
 - edu::mit::csail::sdg::squander::serializer::AbstractHeap, 566
 - getIdx
 - edu::mit::csail::sdg::squander::examples::partitioning::Domain, 327
 - edu::mit::csail::sdg::squander::examples::partitioning::Literal, 331
 - edu::mit::csail::sdg::squander::examples::partitioning::Partition, 333
 - getImmGenericParents

- edu::mit::csail::sdg::squander::utils::ReflectionUtils, 789
 edu::mit::csail::sdg::squander::absstate::ObjAbsState, 85
 getImmParents edu::mit::csail::sdg::squander::utils::ReflectionUtils, 789
 edu::mit::csail::sdg::squander::absstate::AbstractState, 79
 getInsts edu::mit::csail::sdg::squander::examples::partitioning::dom::dom, 327
 edu::mit::csail::sdg::squander::absstate::AbstractState, 79
 getJavaField edu::mit::csail::sdg::squander::spec::JField, 662
 edu::mit::csail::sdg::squander::absstate::ObjAbsState, 85
 getJFieldForVar edu::mit::csail::sdg::squander::engine::SquanderResult, 207
 edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, 649
 getKey edu::mit::csail::sdg::squander::examples::list::func2::Cons, 285
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 141
 getKeyForValue edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 794
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 160
 getLastResult edu::mit::csail::sdg::squander::engine::ISquander, 124
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 160
 edu::mit::csail::sdg::squander::engine::SquanderImpl, 189
 edu::mit::csail::sdg::squander::Squander, 780
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 132
 getLitNameForObject edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 160
 edu::mit::csail::sdg::squander::engine::SquanderImpl, 189
 getMaxAtomsForType edu::mit::csail::sdg::squander::engine::ForgeConverter, 107
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 141
 getMethod edu::mit::csail::sdg::squander::utils::ReflectionUtils, 789
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 161
 getMethodAnnotations edu::mit::csail::sdg::squander::utils::Utils, 797
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 133
 getMethodParamName edu::mit::csail::sdg::squander::utils::Utils, 797
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 142
 getModLits edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 132
 edu::mit::csail::sdg::squander::engine::SquanderImpl, 189
 getModsForPostState edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 132
 edu::mit::csail::sdg::squander::examples::numbers::DeclarativeSqR, 318
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 140
 edu::mit::csail::sdg::squander::engine::SquanderImpl, 189
 edu::mit::csail::sdg::squander::examples::numbers::ISqRoot, 323
 getNeighbors edu::mit::csail::sdg::squander::examples::graph::Graph, 256
 edu::mit::csail::sdg::squander::examples::numbers::DeclarativeSqR, 318
 edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqR, 321
 getObj 321

- edu::mit::csail::sdg::squander::examples::numbers::ISqRoot, 323
- edu::mit::csail::sdg::squander::spec::TypeCheckException, 734
- getRangeForField
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 625
 - getStats
 - edu::mit::csail::sdg::squander::engine::ISquanderResult, 127
- getRelForVarAndCheck
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::Tr2KK, 153
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 208
 - getT1
 - edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, 650
- getRest
 - edu::mit::csail::sdg::squander::examples::list::func2::Cons, 285
 - getT2
 - edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, 650
- getReturnValue
 - edu::mit::csail::sdg::squander::engine::ISquanderResult, 126
 - getTaskTime
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 208
- getRightStackTraceElem
 - edu::mit::csail::sdg::squander::Squander, 780
 - getThrowVar
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 638
- getRoot
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTimes, 216
 - edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 225
 - edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 234
 - getTreeAdaptor
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 458
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 758
- getS
 - edu::mit::csail::sdg::squander::examples::numbers::Declaration::SqRoot, 318
 - edu::mit::csail::sdg::squander::examples::numbers::Imperative::SqRoot, 321
 - edu::mit::csail::sdg::squander::examples::numbers::ISqRoot, 323
 - getTrace
 - edu::mit::csail::sdg::squander::engine::ISquanderResult, 127
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 208
- getSerForCls
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 768
 - ObjSerFactory, 592
 - getTypeParams
 - edu::mit::csail::sdg::squander::spec::JField, 662
- getSerForObj
 - edu::mit::csail::sdg::squander::serializer::special::ObjSerFactory, 592
 - GLOBAL
- getSpec
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 454
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 107
 - global
 - edu::mit::csail::sdg::squander::engine::SquanderImpl, 190
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 625
- getSpecField
 - globals
 - edu::mit::csail::sdg::squander::absstate::ObjAbsState, 85
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 630
 - edu::mit::csail::sdg::squander::engine::ISquanderResult, 126
 - edu::mit::csail::sdg::squander::spec::FrameInference, 646, 648
 - edu::mit::csail::sdg::squander::engine::SquanderResult::GlobalVar, 208
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 617
- getSquanderImpl
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 381
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 638
- getSrc
 - Graph

[edu::mit::csail::sdg::squander::examples::graph2::GraphSpecField](#)
[251](#)
[edu::mit::csail::sdg::squander::examples::graph::Graph](#), [603](#)
[255](#)
[header](#)
[Graph__2](#)
[edu::mit::csail::sdg::squander::examples::graph::Graph_](#)
[_2, 262](#)
[grid](#)
[edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5](#),
[363](#)
[edu::mit::csail::sdg::squander::engine::Heap](#),
[117](#)
[grids](#)
[edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1](#),
[350](#)
[edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2](#),
[354](#)
[Heap2Bounds](#)
[edu::mit::csail::sdg::squander::engine::Heap2Bounds](#),
[120](#)
[hamiltonian](#)
[edu::mit::csail::sdg::squander::examples::graph2::Graph_](#)
[251](#)
[edu::mit::csail::sdg::squander::examples::graph::Graph](#),
[257](#)
[edu::mit::csail::sdg::squander::examples::graph::Graph_](#)
[_2, 262](#)
[hamiltonian2](#)
[edu::mit::csail::sdg::squander::examples::graph::Graph](#),
[257](#)
[hashCode](#)
[edu::mit::csail::sdg::squander::absstate::ObjTuple](#),
[88](#)
[edu::mit::csail::sdg::squander::absstate::ObjTupleSet](#),
[94](#)
[edu::mit::csail::sdg::squander::examples::partitioning::Domain](#),
[328](#)
[edu::mit::csail::sdg::squander::examples::partitioning::Literal](#),
[331](#)
[edu::mit::csail::sdg::squander::examples::partitioning::Partition](#),
[334](#)
[edu::mit::csail::sdg::squander::spec::JField](#),
[662](#)
[edu::mit::csail::sdg::squander::utils::TwoWayMap](#)
[K, V >, 794](#)
[hasSolution](#)
[edu::mit::csail::sdg::squander::engine::ForgeEval](#),
[115](#)
[edu::mit::csail::sdg::squander::engine::ISquanderResult](#),
[127](#)
[edu::mit::csail::sdg::squander::engine::kk::SquanderKodomoImports::Squander](#),
[150](#)
[edu::mit::csail::sdg::squander::engine::SquanderHexLiteral](#),
[175](#)
[edu::mit::csail::sdg::squander::engine::SquanderEval2](#),
[185](#)
[edu::mit::csail::sdg::squander::engine::SquanderResult](#),
[208](#)
[ClassSpec](#)
[edu::mit::csail::sdg::squander::spec::ClassSpec](#),
[603](#)
[LinkedList](#)
[edu::mit::csail::sdg::squander::examples::list::LinkedList](#),
[296, 297](#)
[edu::mit::csail::sdg::squander::examples::list::LinkedList_](#)
[ind, 299](#)
[Sudoku](#)
[edu::mit::csail::sdg::squander::engine::ForgeConverter](#),
[111](#)
[Sudoku1](#)
[edu::mit::csail::sdg::squander::engine::ForgeConverter](#),
[111](#)
[Sudoku2](#)
[edu::mit::csail::sdg::squander::engine::ForgeConverter](#),
[112](#)
[SquanderEval2](#)
[edu::mit::csail::sdg::squander::engine::SquanderEval2](#),
[185](#)
[Heap](#)
[edu::mit::csail::sdg::squander::engine::Heap](#),
[118](#)
[HELPER](#)
[edu::mit::csail::sdg::squander::parser::JFSLLexer](#),
[408](#)
[JFSLParser](#)
[edu::mit::csail::sdg::squander::parser::JFSLParser](#),
[538](#)
[MethodSpec](#)
[edu::mit::csail::sdg::squander::spec::MethodSpec](#),
[678](#)
[Spec::SpecCase](#)
[edu::mit::csail::sdg::squander::spec::Spec::SpecCase](#),
[708](#)
[HexDigit](#)
[edu::mit::csail::sdg::squander::parser::JFSLLexer](#),
[408](#)
[JFSLParser](#)
[edu::mit::csail::sdg::squander::parser::JFSLParser](#),
[538](#)
[SpecFileLexer](#)
[edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[749](#)
[SpecFileParser](#)
[edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[767](#)
[HexLiteral](#)
[edu::mit::csail::sdg::squander::parser::JFSLLexer](#),
[408](#)
[JFSLParser](#)
[edu::mit::csail::sdg::squander::parser::JFSLParser](#),
[538](#)
[hp](#)

- edu::mit::csail::sdg::squander::examples::graph::HamiltonianMatch, 142
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 267, 268
- IDEN**
Specification, 27
- IDENTIFIER**
edu::mit::csail::sdg::squander::parser::JFSLLexer, 408
edu::mit::csail::sdg::squander::parser::JFSLParser, 538
- Identifier**
edu::mit::csail::sdg::squander::parser::JFSLLexer, 408
edu::mit::csail::sdg::squander::parser::JFSLParser, 538
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 749
edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 767
- idx**
edu::mit::csail::sdg::squander::examples::partitioning::Domain, 328
edu::mit::csail::sdg::squander::examples::partitioning::Domain, 332
edu::mit::csail::sdg::squander::examples::partitioning::Partition, 334
edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqRoot, 321
- ImperativeSqRoot**
edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqRoot, 321
- IMPORT**
edu::mit::csail::sdg::squander::parser::JFSLLexer, 408
edu::mit::csail::sdg::squander::parser::JFSLParser, 538
- importDeclaration**
edu::mit::csail::sdg::squander::parser::JFSLParser, 458
- inArray**
edu::mit::csail::sdg::squander::spec::NameSpace, 691
- INC**
Specification, 27
- inclusiveOrExpression**
edu::mit::csail::sdg::squander::parser::JFSLParser, 458
- IncompatibleTypesException**
edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, 649
- incrementAndGet**
edu::mit::csail::sdg::squander::utils::Counter< T >, 782
- init**
edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 133
edu::mit::csail::sdg::squander::examples::javacol::TypeParamsEx, 282
edu::mit::csail::sdg::squander::examples::mock::MockAddressBook, 306
edu::mit::csail::sdg::squander::examples::numbers::DeclarativeSqR, 318
edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 342
edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 349
edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 353
edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest, 219
edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest, 228
edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFldTest, 239
edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 355
edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 359
initJavaScene
edu::mit::csail::sdg::squander::engine::ForgeConverter, 107
inOp
edu::mit::csail::sdg::squander::parser::JFSLParser, 458
insert
edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 216
edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 336
insertKey_squander
edu::mit::csail::sdg::squander::examples::bst::BalancedBST, 212
edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 216
edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 225
edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 234
edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 225
edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 234
insertNode_slow_squander
edu::mit::csail::sdg::squander::examples::bst::BalancedBST, 212

edu::mit::csail::sdg::squander::examples::bst::BST_
 noParent, 225
 insertNode_squander
 edu::mit::csail::sdg::squander::examples::bst::BinarySearch, 638
 216
 ints
 edu::mit::csail::sdg::squander::examples::bst::BST_
 noParent, 225
 edu::mit::csail::sdg::squander::examples::bst::BST_
 noSpecFld, 234
 INSTANCE
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 626, 630
 202
 IntSet
 edu::mit::csail::sdg::squander::options::GlobalOptions, 381
 edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 341
 instanceOfExpression
 edu::mit::csail::sdg::squander::parser::JFSLParser, 458
 intsExpr
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 133
 instLitForObj
 edu::mit::csail::sdg::squander::spec::ForgeScene, 626
 intValue
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 180
 instLitsCache
 edu::mit::csail::sdg::squander::engine::ForgeConverter, 112
 inv
 edu::mit::csail::sdg::squander::utils::Utils, 797
 insts
 edu::mit::csail::sdg::squander::examples::partitioning::Domain, 328
 K, V >, 795
 INVARIANT
 instSelector
 edu::mit::csail::sdg::squander::spec::Frame, 642
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 409
 edu::mit::csail::sdg::squander::parser::JFSLParser, 538
 intAtom
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 180
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 749
 integerLiteral
 edu::mit::csail::sdg::squander::parser::JFSLParser, 458
 invariant
 edu::mit::csail::sdg::squander::spec::Spec, 704
 integerType
 edu::mit::csail::sdg::squander::spec::ForgeEnv, 618
 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 638
 edu::mit::csail::sdg::squander::spec::ClassSpec, 604, 605
 IntegerTypeSuffix
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 409
 edu::mit::csail::sdg::squander::parser::JFSLParser, 538
 invariantSources
 edu::mit::csail::sdg::squander::spec::ClassSpec, 605
 invoke
 intersection
 edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 94
 edu::mit::csail::sdg::squander::spec::JType, 672
 edu::mit::csail::sdg::squander::utils::ReflectionUtils, 789
 invoke_ex
 edu::mit::csail::sdg::squander::utils::ReflectionUtils, 790
 intersectionExpression
 edu::mit::csail::sdg::squander::parser::JFSLParser, 459
 isBoolean
 edu::mit::csail::sdg::squander::spec::JType, 672
 intExpr
 isClause

- edu::mit::csail::sdg::squander::spec::Source, 698
- isConst
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 626
- isDecl
 - edu::mit::csail::sdg::squander::spec::Source, 698
- isEmpty
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 94
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 604
 - edu::mit::csail::sdg::squander::spec::Spec, 704
 - edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 794
- isEnsureAllInts
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 626
- isFinished
 - edu::mit::csail::sdg::squander::spec::JavaScene, 655
- isFrame
 - edu::mit::csail::sdg::squander::spec::Source, 698
- isFunction
 - edu::mit::csail::sdg::squander::spec::JField, 662
- isFunctionField
 - edu::mit::csail::sdg::squander::spec::Source, 699
- isFunctionFlag
 - edu::mit::csail::sdg::squander::spec::Source, 700
- isHelper
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 677
- isInteger
 - edu::mit::csail::sdg::squander::spec::JType, 672
- isOneField
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 626
- isPrimitive
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 790
 - edu::mit::csail::sdg::squander::utils::Utils, 797
- isPure
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 677
- isPureAbstract
 - edu::mit::csail::sdg::squander::spec::JField, 662
- isPureAbstractSpecField
- edu::mit::csail::sdg::squander::spec::ForgeScene, 627
- isSpec
 - edu::mit::csail::sdg::squander::spec::JField, 662
- isSpecField
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 627
- isStatic
 - edu::mit::csail::sdg::squander::spec::JField, 663
 - edu::mit::csail::sdg::squander::spec::JMethod, 668, 669
- isSubtypeOf
 - edu::mit::csail::sdg::squander::spec::JType, 672
- isTrivial
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 677
- isTuple
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 95
- isUnary
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 95
 - edu::mit::csail::sdg::squander::spec::JType, 672
- iterator
 - edu::mit::csail::sdg::squander::absstate::ObjAbsState, 85
 - edu::mit::csail::sdg::squander::absstate::ObjTuple, 88
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 95
 - edu::mit::csail::sdg::squander::examples::list::LinkedList, 296
- javaField
 - edu::mit::csail::sdg::squander::spec::JField, 666
- JavaIDDigit
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 409
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 538
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 749
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 767
- javaScene
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 108, 112
 - edu::mit::csail::sdg::squander::engine::Heap2Bounds, 122

- edu::mit::csail::sdg::squander::spec::ClassSpec, 605
- edu::mit::csail::sdg::squander::spec::ForgeScene, 631
- edu::mit::csail::sdg::squander::spec::Spec, 704, 705
- JField
 - edu::mit::csail::sdg::squander::spec::JField, 660
- jfield
 - edu::mit::csail::sdg::squander::absstate::FieldValueKeys, 82
- JFSL Parser, 24
- JFSLLexer
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 390
- JFSLParser
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 454
- JFSLParserException
 - edu::mit::csail::sdg::squander::parser::JFSLParserException, 562
- JMethod
 - edu::mit::csail::sdg::squander::spec::JMethod, 668
- JOIN
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 409
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 538
- join
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 95
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 161
 - edu::mit::csail::sdg::squander::spec::JType, 672
- JOIN_REFLEXIVE
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 409
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 538
- joinExpression
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 459
- jtype
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 604, 605
 - edu::mit::csail::sdg::squander::spec::SpecFileSpec, 713
- jtypeForObj
 - edu::mit::csail::sdg::squander::spec::JavaScene, 655
- jtypes
 - edu::mit::csail::sdg::squander::spec::JavaScene, 655
- key
 - edu::mit::csail::sdg::squander::examples::list::func2::Cons, 286
 - edu::mit::csail::sdg::squander::examples::list::func::Cons, 292, 293
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 368
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest, 222
 - edu::mit::csail::sdg::squander::examples::bst::BST_ - noParentTest, 231
 - edu::mit::csail::sdg::squander::examples::bst::BST_ - noSpecFldTest, 241
 - edu::mit::csail::sdg::squander::examples::javacol::MapTest, 276
 - edu::mit::csail::sdg::squander::examples::javacol::SetTest, 279
- keySet
 - edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 794
- keywordLiteral
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 459
- kkRep
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 202
- kkReporter
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 197
- knightsTour2
 - edu::mit::csail::sdg::squander::examples::chess::ChessBoard, 242
 - edu::mit::csail::sdg::squander::examples::chess::ChessBoard, 242, 243
- knightsTourMan
 - edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan, 245
- Kodkod
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 381
- Kodkod2
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 381
- KodkodIntEval
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::KodkodIntEval, 149
- KodkodPart2Impl
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 161
- MyVisitor
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::MyVisitor, 149

- KodkodPart
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 142
 - 381
- KodkodPart2
 - edu::mit::csail::sdg::squander::options::GlobalOptionsObj, 166
 - 381
- lastResult
 - edu::mit::csail::sdg::squander::engine::SquanderImpl, 631
 - 191
 - lit2rel
- lastSqImpl
 - edu::mit::csail::sdg::squander::Squander, 780
 - 145
- layout
 - LIT_FALSE
 - edu::mit::csail::sdg::squander::parser::JFSLParserException, 409
 - 563
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParserException, 539
 - 772
- lca
 - LIT_NULL
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 409
 - 790
- left
 - edu::mit::csail::sdg::squander::examples::equiv::Node, 539
 - 249
 - LIT_TRUE
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 368
 - 409
- LENGTH
 - edu::mit::csail::sdg::squander::serializer::special::ArraySer, 539
 - 581
 - litCnt
 - edu::mit::csail::sdg::squander::serializer::special::MapSer, 631
 - 589
 - edu::mit::csail::sdg::squander::serializer::special::ListSer, 596
 - 459
- Letter
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 409
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 627
 - 539
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 330
 - 749
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 767
 - 112
- Level
 - edu::mit::csail::sdg::squander::log::Log, 376
 - LOADING_JAVA_SCENE
- line
 - edu::mit::csail::sdg::squander::parser::JFSLParserException, 202
 - 563
 - LOADING_JIMPLE
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParserException, 203
 - 773
- list
 - loadingJavaScene
 - edu::mit::csail::sdg::squander::examples::javacol::TypeParameter, 197
 - 283
 - edu::mit::csail::sdg::squander::forge_ - examples::TopologicalSort, 372
 - loadOptions
 - edu::mit::csail::sdg::squander::options::ConfigLoader, 378
- lit2atom
 - 378

- LOCAL
- edu::mit::csail::sdg::squander::parser::JFSLParser, 454
- locals
- edu::mit::csail::sdg::squander::spec::ForgeScene, 631
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 640
 - edu::mit::csail::sdg::squander::spec::NameSpace, 692
- locations
- edu::mit::csail::sdg::squander::spec::Frame, 643, 644
- LOG
- edu::mit::csail::sdg::squander::log::Log, 376
- log
- edu::mit::csail::sdg::squander::log::Log, 376
- log_level
- edu::mit::csail::sdg::squander::options::GlobalOptions, 381
- Logging, 22
- logicalExpression
- edu::mit::csail::sdg::squander::parser::JFSLParser, 459
- logicalOp
- edu::mit::csail::sdg::squander::parser::JFSLParser, 459
- lowerBound
- edu::mit::csail::sdg::squander::spec::Frame, 643
- lowerBounds
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 145
 - edu::mit::csail::sdg::squander::spec::Frame, 644
- lowerCond
- edu::mit::csail::sdg::squander::spec::Frame, 643
- lst
- edu::mit::csail::sdg::squander::examples::javacol::ListTest, 273
 - edu::mit::csail::sdg::squander::examples::list::func2::ListTest, 290
 - edu::mit::csail::sdg::squander::examples::list::LinkedListTest, 301
- m
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 354
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 357
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 360
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 363
 - magic
 - edu::mit::csail::sdg::squander::engine::ISquander, 124, 125
 - edu::mit::csail::sdg::squander::engine::SquanderImpl, 190, 191
 - main
 - edu::mit::csail::sdg::squander::examples::bst::BalancedBST, 212
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 216
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest, 220
 - edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 225
 - edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest, 229
 - edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 234
 - edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFldTest, 239
 - edu::mit::csail::sdg::squander::examples::chess::ChessBoard, 243
 - edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan, 245
 - edu::mit::csail::sdg::squander::examples::equiv::Node, 248
 - edu::mit::csail::sdg::squander::examples::graph::HamiltonianMan, 268
 - edu::mit::csail::sdg::squander::examples::javacol::Collections, 270
 - edu::mit::csail::sdg::squander::examples::javacol::TypeParamsEx, 282
 - edu::mit::csail::sdg::squander::examples::list::func2::IntList, 287
 - edu::mit::csail::sdg::squander::examples::list::func::IntList, 294
 - edu::mit::csail::sdg::squander::examples::list::LinkedList, 296
 - edu::mit::csail::sdg::squander::examples::list::LinkedList_ind, 299
 - edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 314
 - edu::mit::csail::sdg::squander::examples::partitioning::Graph, 329
 - edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 342
 - edu::mit::csail::sdg::squander::examples::sort::Sort, 345
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 349
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 353

- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 356
- edu::mit::csail::sdg::squander::engine::ForgeConverter, 108
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 359
- edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 5216
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 362
- edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 226
- edu::mit::csail::sdg::squander::forge_ examples::BinarySearchTree, 367
- edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 235
- edu::mit::csail::sdg::squander::forge_ examples::TopologicalSort, 372
- edu::mit::csail::sdg::squander::spec::TypeChecker, 725
- max_squander
- edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 216
- main1
- edu::mit::csail::sdg::squander::examples::javacoll::TypeParamParent, 226
- edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 235
- main2
- edu::mit::csail::sdg::squander::examples::setpolymintset, 342
- edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 336
- main3
- edu::mit::csail::sdg::squander::examples::javacoll::TypeParamCache, 282
- edu::mit::csail::sdg::squander::engine::ForgeConverter, 112
- main4
- edu::mit::csail::sdg::squander::examples::javacoll::TypeParamEx, 283
- edu::mit::csail::sdg::squander::examples::graph2::Graph, 251
- make
- edu::mit::csail::sdg::squander::regressions::Tests, 565
- edu::mit::csail::sdg::squander::examples::graph::Graph, 257
- makeConst
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodDp, 150
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodDp::KodkodEval, 168
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodDp::KodkodEval::KodkodEval, 109
- maxInt
- makeForgeBounds
- edu::mit::csail::sdg::squander::engine::ForgeConverter, 108
- edu::mit::csail::sdg::squander::engine::ForgeConverter, 109
- makeHelper
- edu::mit::csail::sdg::squander::spec::MethodSpec, 677
- edu::mit::csail::sdg::squander::parser::JFSLLexer, 390
- makePure
- edu::mit::csail::sdg::squander::spec::MethodSpec, 677
- edu::mit::csail::sdg::squander::parser::JFSLLexer, 390
- map
- edu::mit::csail::sdg::squander::examples::javacoll::MapFast, 276
- edu::mit::csail::sdg::squander::spec::MethodSpec, 677
- edu::mit::csail::sdg::squander::examples::javacoll::TypeParamSequence, 283
- edu::mit::csail::sdg::squander::parser::JFSLLexer, 390
- edu::mit::csail::sdg::squander::utils::Counter< T >, 783
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 743
- edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 795
- METHOD
- mapToBoolean
- edu::mit::csail::sdg::squander::parser::JFSLLexer, 409
- edu::mit::csail::sdg::squander::parser::JFSLParser, 539
- mapToInt

- method
 - edu::mit::csail::sdg::squander::spec::JavaScene, 655, 657
 - edu::mit::csail::sdg::squander::spec::NameSpace, 691, 692
- METHOD_PARAMETERS
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 409
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 539
- methodArgs
 - edu::mit::csail::sdg::squander::spec::JavaScene, 655, 657
- methodName
 - edu::mit::csail::sdg::squander::spec::JMethod, 670
- methodParameters
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 459
- MethodSpec
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 676
- methodSpec
 - edu::mit::csail::sdg::squander::spec::JavaScene, 656
- mExponent
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
- mFloatingPointLiteral
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
- mFloatTypeSuffix
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
- mHexDigit
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 744
- mHexLiteral
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
- mIdentifier
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 744
- min
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 217
 - edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 226
 - edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 235
- min_bitwidth
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 381
- min_squander
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 217
 - edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 226
 - edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 235
- minAll
 - edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 336
- minBW
 - edu::mit::csail::sdg::squander::engine::Heap2Bounds, 121
- minInt
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 109
- minProc
 - edu::mit::csail::sdg::squander::forge_examples::BinarySearchTree, 368
- minRet
 - edu::mit::csail::sdg::squander::forge_examples::BinarySearchTree, 368
- mIntegerTypeSuffix
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
- MixedSqRoot
 - edu::mit::csail::sdg::squander::examples::numbers::MixedSqRoot, 324
- mJavaIDDigit
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 744
- mkFunc
 - edu::mit::csail::sdg::squander::spec::SqFunc, 714
- mLetter
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 391
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 744
- MockAddressBook
 - edu::mit::csail::sdg::squander::examples::mock::MockAddressBook, 305
- mOctalLiteral
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 744

edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 mod mT__132
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 758
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 modCond mT__133
 edu::mit::csail::sdg::squander::spec::Frame, 643
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 modifiable mT__134
 edu::mit::csail::sdg::squander::engine::SquanderResult, 210
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 edu::mit::csail::sdg::squander::spec::Frame, 643
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 MODIFIES mT__136
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 410
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 539
 mT__137
 modifies edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 146
 mT__138
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 459
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 mT__139
 mods edu::mit::csail::sdg::squander::spec::Frame, 645
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 modVal mT__140
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 146
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 ms mT__141
 edu::mit::csail::sdg::squander::examples::javacoll::TypeParamsEx, 283
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 393
 mT__142
 msg edu::mit::csail::sdg::squander::examples::javacoll::Str, 280
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 394
 mT__143
 mStringLiteral edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 394
 mT__144
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 744
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 394
 mT__127 mT__145
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 394
 mT__128 mT__146
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 394
 mT__129 mT__147
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 394
 mT__130 mT__148
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 392
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 394
 mT__131 mT__149

edu::mit::csail::sdg::squander::parser::JFSLLexer, 394	edu::mit::csail::sdg::squander::parser::JFSLLexer, 396
mT__150	mT__168
edu::mit::csail::sdg::squander::parser::JFSLLexer, 394	edu::mit::csail::sdg::squander::parser::JFSLLexer, 396
mT__151	mT__169
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__152	mT__170
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__153	mT__171
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__154	mT__172
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__155	mT__173
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__156	mT__174
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__157	mT__175
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__158	mT__176
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__159	mT__177
edu::mit::csail::sdg::squander::parser::JFSLLexer, 395	edu::mit::csail::sdg::squander::parser::JFSLLexer, 397
mT__160	mT__178
edu::mit::csail::sdg::squander::parser::JFSLLexer, 396	edu::mit::csail::sdg::squander::parser::JFSLLexer, 398
mT__161	mT__179
edu::mit::csail::sdg::squander::parser::JFSLLexer, 396	edu::mit::csail::sdg::squander::parser::JFSLLexer, 398
mT__162	mT__18
edu::mit::csail::sdg::squander::parser::JFSLLexer, 396	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 744
mT__163	mT__180
edu::mit::csail::sdg::squander::parser::JFSLLexer, 396	edu::mit::csail::sdg::squander::parser::JFSLLexer, 398
mT__164	mT__181
edu::mit::csail::sdg::squander::parser::JFSLLexer, 396	edu::mit::csail::sdg::squander::parser::JFSLLexer, 398
mT__165	mT__182
edu::mit::csail::sdg::squander::parser::JFSLLexer, 396	edu::mit::csail::sdg::squander::parser::JFSLLexer, 398
mT__166	mT__183
edu::mit::csail::sdg::squander::parser::JFSLLexer, 396	edu::mit::csail::sdg::squander::parser::JFSLLexer, 398
mT__167	mT__184

edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
398	745
mT__185	mT__22
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
398	745
mT__186	mT__23
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
398	745
mT__187	mT__24
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	745
mT__188	mT__25
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	745
mT__189	mT__26
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	745
mT__19	mT__27
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
744	745
mT__190	mT__28
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	745
mT__191	mT__29
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	745
mT__192	mT__30
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	746
mT__193	mT__31
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	746
mT__194	mT__32
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	746
mT__195	mT__33
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
399	746
mT__196	mTokens
edu::mit::csail::sdg::squander::parser::JFSLLexer,	edu::mit::csail::sdg::squander::parser::JFSLLexer,
400	400
mT__197	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
edu::mit::csail::sdg::squander::parser::JFSLLexer,	746
400	multiplicativeExpression
mT__198	edu::mit::csail::sdg::squander::parser::JFSLLexer,
edu::mit::csail::sdg::squander::parser::JFSLLexer,	460
400	multOp
mT__199	edu::mit::csail::sdg::squander::parser::JFSLLexer,
edu::mit::csail::sdg::squander::parser::JFSLLexer,	460
400	mUnicodeEscape
mT__20	edu::mit::csail::sdg::squander::parser::JFSLLexer,
edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,	460
744	edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer,
mT__21	746

- mutate
 edu::mit::csail::sdg::squander::serializer::Serializer, 576
- Mutation
 edu::mit::csail::sdg::squander::serializer::Serializer, 576
- mWS
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 400
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 746
- MyEnv
 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 635
- MyExprEvaluator
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 684
- myLog
 edu::mit::csail::sdg::squander::log::Log, 376
- mySet
 edu::mit::csail::sdg::squander::examples::setpoly::Set, 343
- myThisVar
 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 640
- MyVisitor
 edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider, 711
- n
 edu::mit::csail::sdg::squander::examples::partitioning::Graph, 330
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 350
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 354
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 357
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4_2, 360
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 364
- name
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodko, 156
 edu::mit::csail::sdg::squander::spec::JField, 663, 666
 edu::mit::csail::sdg::squander::spec::JMethod, 668
 edu::mit::csail::sdg::squander::spec::JType, 672
- NameSpace
 edu::mit::csail::sdg::squander::spec::NameSpace, 690
- newEdge
 edu::mit::csail::sdg::squander::examples::graph2::Graph, 252
 edu::mit::csail::sdg::squander::examples::graph::Graph, 257
 edu::mit::csail::sdg::squander::examples::graph::Graph_2, 262
- newInstance
 edu::mit::csail::sdg::squander::serializer::special::ArraySer, 580
- newJavaField
 edu::mit::csail::sdg::squander::serializer::special::DefaultObjSer, 583
 edu::mit::csail::sdg::squander::serializer::special::IObjSer, 585
- newLocalVar
 edu::mit::csail::sdg::squander::serializer::special::ListSer, 587
 edu::mit::csail::sdg::squander::serializer::special::MapSer, 589
 edu::mit::csail::sdg::squander::serializer::special::SetSer, 595
 edu::mit::csail::sdg::squander::serializer::special::StringSer, 598
- newObject
 edu::mit::csail::sdg::squander::utils::ReflectionUtils, 790
- newSpecField
 edu::mit::csail::sdg::squander::spec::JField, 666
- newThisVariable
 edu::mit::csail::sdg::squander::spec::ForgeScene, 627

- newUndirectedEdge
 edu::mit::csail::sdg::squander::examples::graph::Graph, 296
 257, 258
- next
 edu::mit::csail::sdg::squander::examples::javacoll::Collections, 342
 edu::mit::csail::sdg::squander::examples::list::LinkedList, 299
 edu::mit::csail::sdg::squander::examples::list::LinkedList_ind, 299
 edu::mit::csail::sdg::squander::examples::list::func::InOrder, 343
 edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 342
 edu::mit::csail::sdg::squander::examples::setpoly::SetIntSet, 343
 edu::mit::csail::sdg::squander::forge_ -
 examples::TopologicalSort, 373
- nextAtomForLiteral
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 164
- nextSolution
 edu::mit::csail::sdg::squander::engine::ForgeEval, 115
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::KodkodEval, 150
- Node
 edu::mit::csail::sdg::squander::examples::equiv::Node, 248
- node
 edu::mit::csail::sdg::squander::forge_ -
 examples::BinarySearchTree, 368
 edu::mit::csail::sdg::squander::forge_ -
 examples::TopologicalSort, 373
 edu::mit::csail::sdg::squander::spec::Source, 699, 700
- node2expr
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 142
- node2form
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 142
- node2int
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 143
- nodeInsts
 edu::mit::csail::sdg::squander::forge_ -
 examples::BinarySearchTree, 369
- nodes
 edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest, 222
 edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest, 231
 edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFldTest, 241
 edu::mit::csail::sdg::squander::examples::graph2::Graph, 252
 edu::mit::csail::sdg::squander::examples::graph::Graph, 258, 260
 edu::mit::csail::sdg::squander::examples::graph::Graph_2, 263, 264
- edu::mit::csail::sdg::squander::examples::list::LinkedList, 296
 edu::mit::csail::sdg::squander::examples::list::LinkedList_ind, 299
 edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 342
 edu::mit::csail::sdg::squander::examples::setpoly::SetIntSet, 343
 edu::mit::csail::sdg::squander::forge_ -
 examples::TopologicalSort, 373
 nonAbstractSpecFields
 edu::mit::csail::sdg::squander::spec::ForgeScene, 627
 NONE
 edu::mit::csail::sdg::squander::log::Log, 376
 Specification, 27
 nonnegs
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 143
 NONNULL_FORMAT
 edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider, 696
 nqueens
 edu::mit::csail::sdg::squander::examples::chess::ChessBoard, 243
 edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan, 246
 nqueens2
 edu::mit::csail::sdg::squander::examples::chess::ChessBoard, 243
 nqueens_int
 edu::mit::csail::sdg::squander::examples::chess::ChessBoard, 243
 nqueens_rel
 edu::mit::csail::sdg::squander::examples::chess::ChessBoard, 243
 ns
 edu::mit::csail::sdg::squander::spec::Source, 700
 edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider::MyVisi, 713
 NULL
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 410
 edu::mit::csail::sdg::squander::parser::JFSLParser, 539
 nullType
 edu::mit::csail::sdg::squander::spec::ForgeEnv, 618
 edu::mit::csail::sdg::squander::spec::ForgeScene, 628, 631

- edu::mit::csail::sdg::squander::spec::ForgeScene::MjEnv, 638
- edu::mit::csail::sdg::squander::spec::ForgeScene, 632
- Num
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4::Num, 361
 - edu::mit::csail::sdg::squander::spec::JavaScene, 657
- num
 - edu::mit::csail::sdg::squander::annotations::FreshObjects::ObjTypeParams, 100
 - edu::mit::csail::sdg::squander::forge_
 - examples::TopologicalSort, 373
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 112
- NUM_NODES
 - ObjAbsState
 - edu::mit::csail::sdg::squander::absstate::ObjAbsState, 84
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 218
 - objAtom
 - edu::mit::csail::sdg::squander::examples::bst::BST_
 - noParent, 227
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, 180
 - edu::mit::csail::sdg::squander::examples::bst::BST_
 - objForLit
 - noSpecFld, 236
- numEdges
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 628
 - edu::mit::csail::sdg::squander::examples::graph2::Graph
 - objLiteralsEquals
 - edu::mit::csail::sdg::squander::absstate::ObjTuple, 89
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 258
 - ObjSerFactory
 - edu::mit::csail::sdg::squander::examples::graph::Graph_
 - _2, 263
 - edu::mit::csail::sdg::squander::serializer::special::ObjSerFactory, 592
- numLiteralsFor
 - ObjTuple
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 628
 - edu::mit::csail::sdg::squander::absstate::ObjTuple, 87
- numNodes
 - ObjTupleSet
 - edu::mit::csail::sdg::squander::examples::graph2::Graph, 252
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 92
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 258
 - OctalEscape
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 410
 - edu::mit::csail::sdg::squander::examples::graph::Graph_
 - _2, 263
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 539
- nums
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 357
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 749
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 360
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 767
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 364
 - OctalLiteral
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 410
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 628, 631
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 539
- obj
 - OLD
 - edu::mit::csail::sdg::squander::absstate::ObjAbsState, 85
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 410
- obj2AbsState
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 539
 - edu::mit::csail::sdg::squander::absstate::AbstractState, 80
 - one
- obj2atom
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 109
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 133
 - OP_AND

- edu::mit::csail::sdg::squander::parser::JFSLLexerOP_GT
 410
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 411
- OP_BIT_AND_OR_INTERSECTION 541
- edu::mit::csail::sdg::squander::parser::JFSLLexerOP_IMPLIES
 410
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 411
- OP_BIT_NOT_OR_TRANSPOSE 541
- edu::mit::csail::sdg::squander::parser::JFSLLexerOP_INSTANCEOF
 410
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 411
- OP_BIT_OR 541
- edu::mit::csail::sdg::squander::parser::JFSLLexerOP_INTERSECTION
 410
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 411
- OP_BIT_XOR 541
- edu::mit::csail::sdg::squander::parser::JFSLLexerOP_LEQ
 410
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 411
- OP_CLOSURE 541
- edu::mit::csail::sdg::squander::parser::JFSLLexerOP_LT
 410
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 411
- OP_DIFFERENCE 541
- edu::mit::csail::sdg::squander::parser::JFSLLexerOP_MINUS
 411
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 412
- OP_DIVIDE 541
- edu::mit::csail::sdg::squander::parser::JFSLLexerOP_MINUS_OR_DIFFERENCE
 411
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 412
- OP_EQ 541
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 411 541
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 412
- OP_EQUIV 541
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 411 541
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 540 412
- OP_GEQ 541
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 411 541
- edu::mit::csail::sdg::squander::parser::JFSLLexer, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 541 412

- edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_NOT
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_NSET_SUBSET
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_OR
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_PLUS
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_PLUS_OR_UNION
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_RELATIONAL_COMPOSE
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_RELATIONAL_OVERRIDE
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_ALL
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_COMPREHENSION
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_EXISTS
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_LONE
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_NO
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_NUM
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_ONE
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_SOME
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_SUBSET
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SET_SUM
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SHL
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_SHR
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_TIMES
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
- OP_TRANSPOSE
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 542

- OP_UNION
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 414
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 544
- OP_USHR
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 414
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 544
- OPTIMIZING_BOUNDS_AND_FORMULA
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 203
- optimizingBoundsAndFormula
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 198
- options
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 367
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 678, 679
- out
 - edu::mit::csail::sdg::squander::forge_ - examples::TopologicalSort, 373
 - edu::mit::csail::sdg::squander::log::Log, 377
- overrideExpression
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 460
- owningType
 - edu::mit::csail::sdg::squander::spec::JField, 663, 666
- PACKAGE
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 414
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 544
- packageName
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 460
- PACKAGIN_ANALYSIS
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 203
- packagingAnalysis
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 198
- PARAMS
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 749
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 768
- params
 - edu::mit::csail::sdg::squander::spec::JMethod, 669, 670
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 759
- paramsMatch
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 791
- paramTypes
 - edu::mit::csail::sdg::squander::spec::JMethod, 669
- edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 369
- edu::mit::csail::sdg::squander::parser::JFSLParser, 460
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 349
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 353
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 356
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 359
- edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 363
- edu::mit::csail::sdg::squander::spec::Source, 699
- edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider, 710
- parseInt
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 736
- partitionDomains
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImp, 164
- partitions
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImp, 166
- parts
 - edu::mit::csail::sdg::squander::examples::partitioning::Graph, 330
- edu::mit::csail::sdg::squander::serializer::Serializer, 576
- edu::mit::csail::sdg::squander::serializer::Serializer, 578
- edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, 660
- POST
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 616
- post

[edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource](#), 353
[edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2](#), 681
[edu::mit::csail::sdg::squander::spec::Spec::SpecCase](#), [edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3](#), 707, 708, 356
[postOnly](#)
[edu::mit::csail::sdg::squander::spec::Spec::SpecCase](#), [edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4](#), 707, 359
[postSrc](#)
[edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource](#), [edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5](#), 681, 363
[PRE](#)
[edu::mit::csail::sdg::squander::spec::ForgeEnv](#), [edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree](#), 616, 217
[pre](#)
[edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource](#), [edu::mit::csail::sdg::squander::examples::bst::BST_noParent](#), 681, 682, 226
[edu::mit::csail::sdg::squander::spec::Spec::SpecCase](#), [edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld](#), 707, 708, 235
[printNQueens](#)
[edu::mit::csail::sdg::squander::examples::setpoly::BstIntSet](#), 339
[pre2cs](#)
[edu::mit::csail::sdg::squander::spec::MethodSpec](#), [edu::mit::csail::sdg::squander::examples::chess::ChessBoard](#), 679, 243
[predecessor](#)
[edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree](#), [edu::mit::csail::sdg::squander::utils::ReflectionUtils](#), 336, 791
[preOnly](#)
[edu::mit::csail::sdg::squander::spec::Spec::SpecCase](#), [edu::mit::csail::sdg::squander::engine::ForgeConverter](#), 707, 110
[preSrc](#)
[edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource](#), [edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImp](#), 681, 682, 165
[prev](#)
[edu::mit::csail::sdg::squander::examples::javacoll::Collections](#), [edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1](#), 270, 349
[edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2](#), 353
[primary](#)
[edu::mit::csail::sdg::squander::parser::JFSLParser](#), [edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3](#), 460, 356
[primitiveType](#)
[edu::mit::csail::sdg::squander::parser::JFSLParser](#), [edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4](#), 460, 359
[edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5](#), 363
[print](#)
[edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan](#), [edu::mit::csail::sdg::squander::examples::graph::HamiltonianMan](#), 246, 268
[edu::mit::csail::sdg::squander::spec::TypeChecker](#), [printUniverseStats](#), 725
[printBounds](#)
[edu::mit::csail::sdg::squander::engine::ForgeConverter](#), [edu::mit::csail::sdg::squander::engine::ForgeConverter](#), 109, 110
[printBoundsSummary](#)
[edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImp](#), [edu::mit::csail::sdg::squander::engine::ForgeConverter](#), 143, 110
[edu::mit::csail::sdg::squander::examples::TopologicalSort](#), 373
[printHLine](#)
[edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1](#), [edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImp](#), 349, 165

- processNext
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 165
- product
 edu::mit::csail::sdg::squander::absstate::ObjTuple, 89
 edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 95, 96
 edu::mit::csail::sdg::squander::spec::JType, 672
- program
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 146
 edu::mit::csail::sdg::squander::engine::SquanderResult, 209
 edu::mit::csail::sdg::squander::forge_
 examples::BinarySearchTree, 369
 edu::mit::csail::sdg::squander::forge_
 examples::TopologicalSort, 374
 edu::mit::csail::sdg::squander::spec::ForgeScene, 628, 632
- projection
 edu::mit::csail::sdg::squander::absstate::ObjTuple, 89
 edu::mit::csail::sdg::squander::spec::JType, 673
- projectionFrom
 edu::mit::csail::sdg::squander::spec::JType, 673
- projectionFromTo
 edu::mit::csail::sdg::squander::spec::JType, 673
- providers
 edu::mit::csail::sdg::squander::spec::CompositeSpecProvider, 608
- pst
 edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource, 682
- pstSrc
 edu::mit::csail::sdg::squander::spec::MethodSpec::CaseSource, 682
- PURE
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 414
 edu::mit::csail::sdg::squander::parser::JFSLParser, 544
- pure
 edu::mit::csail::sdg::squander::spec::MethodSpec, 679
- put
 edu::mit::csail::sdg::squander::examples::javacolor::ColorOp, 270
 edu::mit::csail::sdg::squander::utils::TwoWayMap<
 K, V >, 794
- putAll
 edu::mit::csail::sdg::squander::utils::TwoWayMap<
 K, V >, 794
- quantifiedExpression
 edu::mit::csail::sdg::squander::parser::JFSLParser, 460
- QUANTIFY
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 414
 edu::mit::csail::sdg::squander::parser::JFSLParser, 544
- quantStack
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::T, 155
 edu::mit::csail::sdg::squander::engine::SquanderEval, 176
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 185
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 687
- r1
 edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqR, 322
- range
 edu::mit::csail::sdg::squander::spec::JType, 673
- rbw
 edu::mit::csail::sdg::squander::engine::Heap2Bounds, 122
- reachableObjects
 edu::mit::csail::sdg::squander::engine::Heap2Bounds, 121
- recipientName
 edu::mit::csail::sdg::squander::examples::mock::EmailMessage, 304
- RED
 edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 337
 edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 336
- relationalExpression
 edu::mit::csail::sdg::squander::parser::JFSLParser, 461
- relationOp
 edu::mit::csail::sdg::squander::parser::JFSLParser, 461
- relationalUnaryExpression

edu::mit::csail::sdg::squander::parser::JFSLParser, 461
 relName
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkoImpl, 143
 reporter
 remove
 edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 96
 edu::mit::csail::sdg::squander::examples::javacol::Collections, 270
 edu::mit::csail::sdg::squander::examples::list::LinkedList, 296
 edu::mit::csail::sdg::squander::examples::setpoly::IntSet, 342
 edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 794
 removeAllIncomingEdges
 edu::mit::csail::sdg::squander::examples::graph::Graph, 258
 edu::mit::csail::sdg::squander::examples::graph::Graph_2, 263
 removeAllOutgoingEdges
 edu::mit::csail::sdg::squander::examples::graph::Graph, 258
 edu::mit::csail::sdg::squander::examples::graph::Graph_2, 263
 removeKey
 edu::mit::csail::sdg::squander::examples::javacol::Collections, 270
 removeNode_squander
 edu::mit::csail::sdg::squander::examples::bst::BalancedBST, 212
 edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 217
 edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 226
 edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 235
 replace
 edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 337
 replaceParamTypes
 edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider::MyVisitor, 712
 repOK
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 353
 repOk
 edu::mit::csail::sdg::squander::examples::bst::BalancedBST, 212
 edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 217
 edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 226
 edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 235
 edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 235
 edu::mit::csail::sdg::squander::examples::list::LinkedList, 382
 REQUIRES
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 414
 edu::mit::csail::sdg::squander::parser::JFSLParser, 544
 resolveField
 edu::mit::csail::sdg::squander::spec::TypeChecker, 726
 resolveType
 edu::mit::csail::sdg::squander::spec::TypeChecker, 726
 rest
 edu::mit::csail::sdg::squander::examples::list::func2::Cons, 286
 edu::mit::csail::sdg::squander::examples::list::func::Cons, 293
 restoreElem\$
 edu::mit::csail::sdg::squander::serializer::special::ArraySer, 580
 edu::mit::csail::sdg::squander::serializer::special::ListSer, 587
 edu::mit::csail::sdg::squander::serializer::special::MapSer, 589
 edu::mit::csail::sdg::squander::serializer::special::SetSer, 595
 restoreEmpty
 edu::mit::csail::sdg::squander::engine::SquanderResult, 209
 restoreJavaHeap
 edu::mit::csail::sdg::squander::engine::ISquanderResult, 127
 edu::mit::csail::sdg::squander::engine::SquanderResult, 209
 startLength
 edu::mit::csail::sdg::squander::serializer::special::ArraySer, 580
 edu::mit::csail::sdg::squander::serializer::special::SetSer, 595
 RESTORING_HEAP
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 203
 RESTORING_SF

- edu::mit::csail::sdg::squander::engine::SquanderReporter, 203
- restoringJavaHeap
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 198
- restoringSpecFields
 - run, 198
- RETURN_VAR
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 415
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 544
- RETURNS_FORMAT
 - edu::mit::csail::sdg::squander::spec::ReflectiveSpecProvider, 696
- returnType
 - edu::mit::csail::sdg::squander::spec::JMethod, 669, 670
- returnVar
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 209
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 618
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 628, 632
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 638
- reverse
 - edu::mit::csail::sdg::squander::spec::Tr, 716
- right
 - edu::mit::csail::sdg::squander::examples::equiv::Node, 249
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 369
- root
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 218
 - edu::mit::csail::sdg::squander::examples::bst::BSTSearchLTE
 - noParent, 227
 - noSpecFld, 236
 - edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 338
 - edu::mit::csail::sdg::squander::examples::setpoly::BstLdSem, 340
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 369
- rows
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 350
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 354
- Rule
 - selectors
- edu::mit::csail::sdg::squander::spec::Source, 698
- rule
 - edu::mit::csail::sdg::squander::spec::Source, 700
- run
 - edu::mit::csail::sdg::squander::forge_ - examples::TopologicalSort, 372
- runMin
 - edu::mit::csail::sdg::squander::forge_ - examples::BinarySearchTree, 367
- s1
 - edu::mit::csail::sdg::squander::examples::numbers::ImperativeSqR, 322
- sat_solver
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 382
- scene
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 731
- SCOLEMIZING
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 203
- scope
 - edu::mit::csail::sdg::squander::spec::NameSpace, 692
- search
 - edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan, 246
 - edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 337
- searchGTE
 - edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 337
- searchLTE
 - edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, 337
- searchStack
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 153
- ledSem
 - edu::mit::csail::sdg::squander::engine::SquanderEval, 171
- edu::mit::csail::sdg::squander::engine::SquanderEval2, 180
- edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 684
- selector
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 461

- edu::mit::csail::sdg::squander::spec::Frame, 645
- edu::mit::csail::sdg::squander::spec::JavaScene, 656
- self
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 209
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 258
- Serialization, 25
 - edu::mit::csail::sdg::squander::serializer::Serializer, 576
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 259
- serialize
 - edu::mit::csail::sdg::squander::serializer::AbstractHeap, 566, 567
 - edu::mit::csail::sdg::squander::serializer::IHeap, 574
 - edu::mit::csail::sdg::squander::serializer::Serializer, 576
 - edu::mit::csail::sdg::squander::options::ConfigLoader, 378
 - setBound
 - edu::mit::csail::sdg::squander::spec::JField, 664
 - setCallContext
 - edu::mit::csail::sdg::squander::engine::ForgeConverter, 110
 - setCaller
 - edu::mit::csail::sdg::squander::spec::JavaScene, 656
 - setCellValue
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 350
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 354
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 356
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 359
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 363
- serializeArray
 - edu::mit::csail::sdg::squander::serializer::Serializer, 576
- serializeClass
 - edu::mit::csail::sdg::squander::serializer::Serializer, 577
- serializedObjects
 - edu::mit::csail::sdg::squander::serializer::Serializer, 577, 578
- serializers
 - edu::mit::csail::sdg::squander::serializer::special::ObjSerFactory, 592
- serialVersionUID
 - edu::mit::csail::sdg::squander::examples::graph::Graph, 260
 - edu::mit::csail::sdg::squander::examples::graph::Graph - 2, 264
 - edu::mit::csail::sdg::squander::spec::ArityMismatchException, 600
 - edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, 650
 - edu::mit::csail::sdg::squander::spec::TypeCheckException, 734
 - edu::mit::csail::sdg::squander::options::ConfigLoader, 379
 - setClsSpecForSpecField
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 726
- set
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 461
 - edu::mit::csail::sdg::squander::examples::javacoll::Collections, 271
 - edu::mit::csail::sdg::squander::spec::JField, 664
 - edu::mit::csail::sdg::squander::examples::javacoll::SetTest, 279
 - setEmailAddress
 - edu::mit::csail::sdg::squander::examples::mock::AddressBook, 302
 - edu::mit::csail::sdg::squander::examples::mock::MockAddressBook, 309
- setAbsFun
 - edu::mit::csail::sdg::squander::spec::JField, 664
- setAdditiveExpression
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 461
 - edu::mit::csail::sdg::squander::examples::mock::SquanderAddressB, 309
- setAdditiveOp
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 461
 - setEnum
 - edu::mit::csail::sdg::squander::options::ConfigLoader, 379
- setArgs
 - setFieldValue

- edu::mit::csail::sdg::squander::utils::ReflectionUtils, 791
- setFrame
 - edu::mit::csail::sdg::squander::spec::JField, 664
- setFuncFlag
 - edu::mit::csail::sdg::squander::spec::JField, 664
- setInt
 - edu::mit::csail::sdg::squander::options::ConfigLoader, 379
- setMethod
 - edu::mit::csail::sdg::squander::spec::JavaScene, 656
- setObjState
 - edu::mit::csail::sdg::squander::absstate::AbstractState, 79
- setPreStateMode
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 618
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 639
- setQ
 - edu::mit::csail::sdg::squander::examples::numbers::Declaration, 318
 - edu::mit::csail::sdg::squander::examples::numbers::Imperative, 321
- setQuantOp
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 461
- setR
 - edu::mit::csail::sdg::squander::examples::numbers::Declaration, 319
 - edu::mit::csail::sdg::squander::examples::numbers::Imperative, 322
- setRoot
 - edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 217
 - edu::mit::csail::sdg::squander::examples::bst::BSTNode, noParent, 227
 - edu::mit::csail::sdg::squander::examples::bst::BSTNode, noSpecFld, 236
- setSource
 - edu::mit::csail::sdg::squander::parser::JFSLParserException, 563
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParserException, 773
- setSpec
 - edu::mit::csail::sdg::squander::spec::JMethod, 669
- setString
 - edu::mit::csail::sdg::squander::options::ConfigLoader, 379
- setSubs
- edu::mit::csail::sdg::squander::spec::ClassSpec, 604
- setToken
 - edu::mit::csail::sdg::squander::parser::JFSLParserException, 563
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParserException, 773
- setTreeAdaptor
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 462
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 759
- setTypeParams
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 726
- StandardExpression
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 462
- setUnaryOp
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 462
- setUp
 - edu::mit::csail::sdg::squander::examples::javacol::ListTest, 272
 - edu::mit::csail::sdg::squander::examples::javacol::MapTest, 275
 - edu::mit::csail::sdg::squander::examples::javacol::SetTest, 278
 - edu::mit::csail::sdg::squander::examples::list::func2::ListTest, 289
 - edu::mit::csail::sdg::squander::examples::list::LinkedListTest, 300
 - edu::mit::csail::sdg::squander::examples::mock::MockAddressBook, 303
 - edu::mit::csail::sdg::squander::examples::mock::TestAddressBook, 310
 - edu::mit::csail::sdg::squander::examples::mock::TestSquanderAddressBook, 312
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 462
- shiftOp
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 462
- sig
 - edu::mit::csail::sdg::squander::utils::ReflectionUtils, 791
- simpleName
 - edu::mit::csail::sdg::squander::spec::JType, 673
- singleTuple
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 96
- size

edu::mit::csail::sdg::squander::absstate::ObjTuples 146
 edu::mit::csail::sdg::squander::examples::chess::ChessBoardMan, 96
 edu::mit::csail::sdg::squander::examples::bst::BinarySearch, 217
 edu::mit::csail::sdg::squander::examples::bst::BST_-, 203
 edu::mit::csail::sdg::squander::engine::SquanderReporter, noParent, 227
 edu::mit::csail::sdg::squander::examples::bst::BST, 203
 edu::mit::csail::sdg::squander::examples::graph2::Graph, 204
 edu::mit::csail::sdg::squander::examples::graph::Graph, 252
 edu::mit::csail::sdg::squander::examples::graph::Graph_2, 263
 edu::mit::csail::sdg::squander::examples::list::func2::IntList, 287
 edu::mit::csail::sdg::squander::examples::list::func::IntList, 294
 edu::mit::csail::sdg::squander::examples::list::LinkedList, 296
 edu::mit::csail::sdg::squander::utils::TwoWayMap<K, V >, 795
 sizeExpression
 edu::mit::csail::sdg::squander::parser::JFSLParser, 462
 skolemizing
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 198
 solution
 edu::mit::csail::sdg::squander::engine::ForgeEval, 116
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::KodkodEval, 151
 edu::mit::csail::sdg::squander::examples::graph::HamiltonianMan, 268
 solutions
 edu::mit::csail::sdg::squander::engine::ForgeEval, 116
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::KodkodEval, 151
 solve
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 350
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 354
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 356
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 360
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 363
 solveAll
 edu::mit::csail::sdg::squander::annotations::Options, 101
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImp, 165
 edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 314
 edu::mit::csail::sdg::squander::examples::sort::Sort, 345
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 198
 edu::mit::csail::sdg::squander::examples::sort::Sort, 345
 edu::mit::csail::sdg::squander::spec::Source, 698
 edu::mit::csail::sdg::squander::parser::JFSLParserException, 563, 564
 edu::mit::csail::sdg::squander::spec::Source, 700
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParserException, 773
 edu::mit::csail::sdg::squander::spec::Spec, 702
 edu::mit::csail::sdg::squander::engine::SquanderImpl, 192
 edu::mit::csail::sdg::squander::spec::JMethod, 669, 670
 edu::mit::csail::sdg::squander::spec::Spec::SpecCase, 707
 edu::mit::csail::sdg::squander/specfile/parser/SpecFileLexer.java, 841
 edu::mit::csail::sdg::squander/specfile/parser/SpecFileParser.java, 842
 edu::mit::csail::sdg::squander/specfile/parser/SpecFileParserException, 843
 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileVisitor.java, 844
 SPECCASE

- edu::mit::csail::sdg::squander::parser::JFSLLexer, 415
- edu::mit::csail::sdg::squander::parser::JFSLParser, 544
- SpecCase
 - edu::mit::csail::sdg::squander::spec::Spec::SpecCase, 707
- specCase
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 462
- SPECFIELD
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 415
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 544
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 750
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 768
- specField
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 462
- specfield
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 759
- specFields
 - edu::mit::csail::sdg::squander::absstate::ObjAbsState, 85
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 604
 - edu::mit::csail::sdg::squander::spec::JavaScene, 656
- specFieldSources
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 605
- SPECFILE
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 750
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 768
- specfile
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 759
- SpecFileLexer
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 743
- SpecFileParser
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 757
- SpecFileParserException
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParserException, 772
- specialStateTransition
 - edu::mit::csail::sdg::squander::parser::JFSLParser::DFA42, 556
 - edu::mit::csail::sdg::squander::parser::JFSLParser::DFA69, 557
 - edu::mit::csail::sdg::squander::parser::JFSLParser::DFA77, 558
 - edu::mit::csail::sdg::squander::parser::JFSLParser::DFA78, 559
 - SPECIFICATION
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 415
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 545
 - Specification, 26
 - ConstRel, 27
 - DEC, 27
 - IDEN, 27
 - INC, 27
 - NONE, 27
 - UNIV, 27
 - specUnaryOp
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 463
 - sqlSt
 - edu::mit::csail::sdg::squander::examples::javacol::ListTest, 273
 - sqlMap
 - edu::mit::csail::sdg::squander::examples::javacol::MapTest, 276
 - sqlRoot
 - edu::mit::csail::sdg::squander::examples::numbers::DeclarativeSqlR, 319
 - edu::mit::csail::sdg::squander::examples::numbers::ISqRoot, 323
 - edu::mit::csail::sdg::squander::examples::numbers::MixedSqlRoot, 325
 - sqlSet
 - edu::mit::csail::sdg::squander::examples::javacol::SetTest, 279
 - Squander
 - edu::mit::csail::sdg::squander::Squander, 778
 - SquanderImpl
 - edu::mit::csail::sdg::squander::engine::SquanderImpl, 187
 - SquanderKodkod2Impl
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, 129
 - SquanderKodkodImpl
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 137
 - SquanderKodkodPart2Impl
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl, 159
 - SquanderKodkodPartImpl

- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPart2Impl.java, 163
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl.java, 862
- SquanderReporter
 - src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPartImpl.java, 195
 - edu::mit::csail::sdg::squander::engine::SquanderReporter, 863
- SquanderEval.java, src/edu/mit/csail/sdg/squander/engine/SquanderEval.java, 864
- SquanderResult
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 207
 - src/edu/mit/csail/sdg/squander/engine/SquanderEval2.java, 865
- square_root
 - src/edu/mit/csail/sdg/squander/engine/SquanderImpl.java, 315
 - edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 315
 - src/edu/mit/csail/sdg/squander/engine/SquanderReporter.java, 315
- square_root_finite
 - src/edu/mit/csail/sdg/squander/engine/SquanderResult.java, 315
 - edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 315
- square_root_mixed
 - src/edu/mit/csail/sdg/squander/forge_ - examples/BinarySearchTree.java, 869
 - src/edu/mit/csail/sdg/squander/forge_ - examples/TopologicalSort.java, 871
 - edu::mit::csail::sdg::squander::examples::numbers::Arithmetic, 315
- src
 - edu::mit::csail::sdg::squander::spec::TypeCheckException, 734
 - src/edu/mit/csail/sdg/squander/log/Log.java, 872
 - src/edu/mit/csail/sdg/squander/options/ConfigLoader.java, 873
 - src/edu/mit/csail/sdg/squander/options/GlobalOptions.java, 874
 - src/edu/mit/csail/sdg/squander/absstate/AbstractState.java, 874
 - src/edu/mit/csail/sdg/squander/absstate/FieldValue.java, 875
 - src/edu/mit/csail/sdg/squander/absstate/ObjAbsState.java, 876
 - src/edu/mit/csail/sdg/squander/absstate/ObjTuple.java, 878
 - src/edu/mit/csail/sdg/squander/absstate/ObjTupleSet.java, 879
 - src/edu/mit/csail/sdg/squander/absstate/ObjTupleSet.java, 850
 - src/edu/mit/csail/sdg/squander/annotations/Fresh.java, 880
 - src/edu/mit/csail/sdg/squander/annotations/FreshObjects.java, 881
 - src/edu/mit/csail/sdg/squander/annotations/Options.java, 882
 - src/edu/mit/csail/sdg/squander/serializer/IHeap.java, 883
 - src/edu/mit/csail/sdg/squander/engine/ForgeConverter.java, 883
 - src/edu/mit/csail/sdg/squander/engine/ForgeEval.java, 884
 - src/edu/mit/csail/sdg/squander/engine/Heap.java, 885
 - src/edu/mit/csail/sdg/squander/engine/Heap2Bounds.java, 886
 - src/edu/mit/csail/sdg/squander/engine/ISquander.java, 887
 - src/edu/mit/csail/sdg/squander/engine/ISquanderResult.java, 888
 - src/edu/mit/csail/sdg/squander/engine/ISquanderResult.java, 859
 - src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkod2Impl.java, 889
 - src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java, 890
 - src/edu/mit/csail/sdg/squander/serializer/Specializer.java, 890
 - src/edu/mit/csail/sdg/squander/serializer/Specializer.java, 861
 - src/edu/mit/csail/sdg/squander/serializer/special/ArraySer.java, 885
 - src/edu/mit/csail/sdg/squander/serializer/special/DefaultObjSer.java, 886
 - src/edu/mit/csail/sdg/squander/serializer/special/IObjSer.java, 887
 - src/edu/mit/csail/sdg/squander/serializer/special/ListSer.java, 888
 - src/edu/mit/csail/sdg/squander/serializer/special/MapSer.java, 889
 - src/edu/mit/csail/sdg/squander/serializer/special/ObjSerFactory.java, 890
 - src/edu/mit/csail/sdg/squander/serializer/special/SetSer.java, 891

- 891 src/edu/mit/csail/sdg/squander/spec/TypeChecker.java,
- src/edu/mit/csail/sdg/squander/serializer/special/StringSer.java, 920
- 892 src/edu/mit/csail/sdg/squander/spec/TypeCheckException.java,
- src/edu/mit/csail/sdg/squander/spec/ArityMismatchException.java, 921
- 893 src/edu/mit/csail/sdg/squander/spec/Visitor.java,
- src/edu/mit/csail/sdg/squander/spec/ClassSpec.java, 922
- 894 src/edu/mit/csail/sdg/squander/Squander.java, 923
- src/edu/mit/csail/sdg/squander/spec/CompositeSpecProvider.java, 924
- 895 src/edu/mit/csail/sdg/squander/Utils/Counter.java,
- src/edu/mit/csail/sdg/squander/spec/constant/ConstRel.java, 924
- 896 src/edu/mit/csail/sdg/squander/Utils/Predicate.java,
- src/edu/mit/csail/sdg/squander/spec/constant/ConstRelBound.java, 925
- 897 src/edu/mit/csail/sdg/squander/Utils/ReflectionUtils.java,
- src/edu/mit/csail/sdg/squander/spec/constant/ConstRelS.java, 926
- 898 src/edu/mit/csail/sdg/squander/Utils/TwoWayMap.java,
- src/edu/mit/csail/sdg/squander/spec/constant/ConstRelVisitor.java, 927
- 899 src/edu/mit/csail/sdg/squander/Utils/Utils.java, 928
- 900 edu::mit::csail::sdg::squander::examples::javacol::TypeParamsEx,
- src/edu/mit/csail/sdg/squander/spec/ForgeEnv.java, 283
- 901 StackElem
- src/edu/mit/csail/sdg/squander/spec/ForgeScene.java, 156
- 902 start
- src/edu/mit/csail/sdg/squander/spec/Frame.java, 156
- 903 edu::mit::csail::sdg::squander::engine::SquanderReporter,
- src/edu/mit/csail/sdg/squander/spec/FrameInference.java, 199
- 904 startedAnalysis
- src/edu/mit/csail/sdg/squander/spec/IncompatibleTypesException.java, 199
- 905 edu::mit::csail::sdg::squander::engine::SquanderReporter,
- src/edu/mit/csail/sdg/squander/spec/ISpecProvider.java, 199
- 906 State
- src/edu/mit/csail/sdg/squander/spec/JavaScene.java, 616
- 907 state
- src/edu/mit/csail/sdg/squander/spec/JField.java, 640
- 908 edu::mit::csail::sdg::squander::spec::ForgeEnv,
- src/edu/mit/csail/sdg/squander/spec/JMethod.java, 640
- 909 stats
- src/edu/mit/csail/sdg/squander/spec/JType.java, 115
- 910 edu::mit::csail::sdg::squander::engine::ForgeEval,
- src/edu/mit/csail/sdg/squander/spec/MethodSpec.java, 150
- 911 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::K
- src/edu/mit/csail/sdg/squander/spec/MyExprEvaluator.java, 150
- 912 state
- src/edu/mit/csail/sdg/squander/spec/NameSpace.java, 204
- 913 edu::mit::csail::sdg::squander::engine::SquanderReporter,
- src/edu/mit/csail/sdg/squander/spec/Null.java, 204
- 914 storePrimary
- src/edu/mit/csail/sdg/squander/spec/ReflectiveSpecProvider.java, 463
- 915 edu::mit::csail::sdg::squander::parser::JFSLParser,
- src/edu/mit/csail/sdg/squander/spec/Source.java, 463
- 916 storeRef
- src/edu/mit/csail/sdg/squander/spec/Spec.java, 463
- 917 storeSelectors
- src/edu/mit/csail/sdg/squander/spec/SpecFileSpecProvider.java, 463
- 918 edu::mit::csail::sdg::squander::parser::JFSLParser,
- src/edu/mit/csail/sdg/squander/spec/SqFunc.java, 463
- 919 storeWildcard
- src/edu/mit/csail/sdg/squander/spec/Tr.java, 463
- edu::mit::csail::sdg::squander::parser::JFSLParser,

- Str
 edu::mit::csail::sdg::squander::examples::javacoll::Str, 359
 280 Sudoku5
- str2lit
 edu::mit::csail::sdg::squander::spec::ForgeScene, 362
 632 SUPER_VAR
- stringExpr
 edu::mit::csail::sdg::squander::spec::ForgeEnv, 415
 618 edu::mit::csail::sdg::squander::parser::JFSLLexer,
 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 545
 639 edu::mit::csail::sdg::squander::parser::JFSLParser,
 supers
- StringLiteral
 edu::mit::csail::sdg::squander::spec::ClassSpec,
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 606
 415 synpred101_JFSL
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 545 463
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, JFSL_fragment
 750 edu::mit::csail::sdg::squander::parser::JFSLParser,
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 463
 768 synpred117_JFSL
- strings
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 463
 759 synpred117_JFSL_fragment
- stringType
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 edu::mit::csail::sdg::squander::spec::ForgeEnv, 464
 618 synpred118_JFSL
 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, edu::mit::csail::sdg::squander::parser::JFSLParser,
 639 464
- sublist
 synpred118_JFSL_fragment
 edu::mit::csail::sdg::squander::examples::list::func2::IntList, edu::mit::csail::sdg::squander::parser::JFSLParser,
 287 464
- subs
 synpred119_JFSL
 edu::mit::csail::sdg::squander::spec::ClassSpec, edu::mit::csail::sdg::squander::parser::JFSLParser,
 604, 606 464
- subsetOf
 synpred119_JFSL_fragment
 edu::mit::csail::sdg::squander::absstate::ObjTupleSet, edu::mit::csail::sdg::squander::parser::JFSLParser,
 96 464
- subTypes
 synpred120_JFSL
 edu::mit::csail::sdg::squander::spec::JavaScene, edu::mit::csail::sdg::squander::parser::JFSLParser,
 656 464
- successor
 synpred120_JFSL_fragment
 edu::mit::csail::sdg::squander::examples::rbt::RedBlackTree, edu::mit::csail::sdg::squander::parser::JFSLParser,
 337 464
- Sudoku1
 synpred13_JFSL
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, edu::mit::csail::sdg::squander::parser::JFSLParser,
 349 464
- Sudoku2
 synpred13_JFSL_fragment
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, edu::mit::csail::sdg::squander::parser::JFSLParser,
 353 464
- Sudoku3
 synpred26_JFSL
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, edu::mit::csail::sdg::squander::parser::JFSLParser,
 355 464
- Sudoku4
 synpred26_JFSL_fragment

edu::mit::csail::sdg::squander::parser::JFSLParser, T__128
 465
 synpred37_JFSL edu::mit::csail::sdg::squander::parser::JFSLLexer,
 415
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 465 545
 synpred37_JFSL_fragment T__129
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 465 415
 synpred56_JFSL edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 465 545
 synpred56_JFSL_fragment T__130
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 465 415
 synpred58_JFSL edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 465 545
 edu::mit::csail::sdg::squander::parser::JFSLParser, F__131
 465
 synpred58_JFSL_fragment edu::mit::csail::sdg::squander::parser::JFSLLexer,
 415
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 465 545
 synpred62_JFSL T__132
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 465 416
 synpred62_JFSL_fragment edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 465 545
 T__133
 synpred63_JFSL edu::mit::csail::sdg::squander::parser::JFSLLexer,
 416
 465
 synpred63_JFSL_fragment edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 466 545
 T__134
 synpred99_JFSL edu::mit::csail::sdg::squander::parser::JFSLLexer,
 416
 466
 synpred99_JFSL_fragment edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 466 545
 T__135
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 416
 466
 t1 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 546
 247 T__136 ChessBoardMan,
 edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 650 416
 t2 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 546
 247 T__137 ChessBoardMan,
 edu::mit::csail::sdg::squander::spec::IncompatibleTypesException, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 650 416
 T__127 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLParser,
 546
 415 T__138
 edu::mit::csail::sdg::squander::parser::JFSLParser, edu::mit::csail::sdg::squander::parser::JFSLLexer,
 545 416

- T__160
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 418
 edu::mit::csail::sdg::squander::parser::JFSLParser, 548
 T__171
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
- T__161
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 418
 edu::mit::csail::sdg::squander::parser::JFSLParser, 548
 T__172
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
- T__162
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 418
 edu::mit::csail::sdg::squander::parser::JFSLParser, 548
 T__173
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
- T__163
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 418
 edu::mit::csail::sdg::squander::parser::JFSLParser, 548
 T__174
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
- T__164
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 418
 edu::mit::csail::sdg::squander::parser::JFSLParser, 548
 T__175
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
- T__165
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
 edu::mit::csail::sdg::squander::parser::JFSLParser, 548
 T__176
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 420
- T__166
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
 edu::mit::csail::sdg::squander::parser::JFSLParser, 548
 T__177
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 420
- T__167
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
 edu::mit::csail::sdg::squander::parser::JFSLParser, 548
 T__178
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 420
- T__168
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
 edu::mit::csail::sdg::squander::parser::JFSLParser, 549
 T__179
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 420
- T__169
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
 edu::mit::csail::sdg::squander::parser::JFSLParser, 549
 T__18
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 750
- T__170
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 419
 T__180
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 768

- edu::mit::csail::sdg::squander::parser::JFSLLexerT__190
 420
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 T__181
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__191
 420
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 551
 T__182
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__192
 420
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 551
 T__183
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__193
 420
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 551
 T__184
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__194
 420
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 551
 T__185
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__195
 420
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 551
 T__186
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__196
 420
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 551
 T__187
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__197
 421
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 551
 T__188
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__198
 421
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 421
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 422
 551
 T__189
 edu::mit::csail::sdg::squander::parser::JFSLLexerT__199
 421
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 422
 550
 edu::mit::csail::sdg::squander::parser::JFSLLexer, 422
 551
 T__19
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexerT__20
 750
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 750
 768
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 750

- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[768](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [T__21](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[750](#)
- [T__32](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[768](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [T__22](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[770](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[750](#)
- [T__33](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[768](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[752](#)
- [T__23](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[770](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[750](#)
- [tab](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [edu::mit::csail::sdg::squander::utils::ReflectionUtils](#),
[792](#)
- [T__24](#)
- [task](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [edu::mit::csail::sdg::squander::engine::SquanderReporter](#),
[204](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [test1](#)
- [edu::mit::csail::sdg::squander::examples::javacol::TypeParamsTest](#),
[284](#)
- [T__25](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [edu::mit::csail::sdg::squander::examples::numbers::ArithmeticTest](#),
[316](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [edu::mit::csail::sdg::squander::examples::numbers::SqRootTest](#),
[326](#)
- [T__26](#)
- [edu::mit::csail::sdg::squander::examples::sort::SortTest](#),
[347](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [test2](#)
- [edu::mit::csail::sdg::squander::examples::numbers::ArithmeticTest](#),
[316](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [edu::mit::csail::sdg::squander::examples::numbers::SqRootTest](#),
[326](#)
- [T__27](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [edu::mit::csail::sdg::squander::examples::sort::SortTest](#),
[347](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [test3](#)
- [edu::mit::csail::sdg::squander::examples::numbers::ArithmeticTest](#),
[316](#)
- [T__28](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [edu::mit::csail::sdg::squander::examples::numbers::SqRootTest](#),
[326](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [edu::mit::csail::sdg::squander::examples::sort::SortTest](#),
[347](#)
- [T__29](#)
- [test4](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [edu::mit::csail::sdg::squander::examples::numbers::ArithmeticTest](#),
[316](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [test5](#)
- [edu::mit::csail::sdg::squander::examples::javacol::ListTest](#),
[272](#)
- [T__30](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer](#),
[751](#)
- [edu::mit::csail::sdg::squander::examples::javacol::SetTest](#),
[278](#)
- [edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser](#),
[769](#)
- [edu::mit::csail::sdg::squander::examples::mock::TestAddressBook](#),
[310](#)
- [T__31](#)

[testBindIfPresent](#)
[edu::mit::csail::sdg::squander::examples::mock::TestAddressSpecFldTest](#), 240
[310](#)
[testInsertNode_squander](#)

[testColor](#)
[edu::mit::csail::sdg::squander::examples::graph::GraphTest](#)
[221](#)
[265](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest](#), 230

[testContains](#)
[edu::mit::csail::sdg::squander::examples::javacoll::SetTest](#)
[279](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFldTest](#), 240

[testFindNode_squander](#)
[edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest](#)
[220](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest](#), 229
[edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFldTest](#), 239
[testMake](#)
[edu::mit::csail::sdg::squander::regressions::Tests](#), 565
[testMax_squander](#)
[edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest](#)
[221](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest](#), 230

[testFold](#)
[edu::mit::csail::sdg::squander::examples::list::LinkedListTest](#)
[300](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFldTest](#), 240

[testGet](#)
[edu::mit::csail::sdg::squander::examples::javacoll::ListTest](#)
[273](#)
[edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest](#)
[221](#)
[edu::mit::csail::sdg::squander::examples::javacoll::MapTest](#)
[275](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest](#), 230

[testGetAllNodes_squander](#)
[edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest](#)
[220](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest](#), 229
[edu::mit::csail::sdg::squander::examples::bst::BST_testPut](#)
[noSpecFldTest](#), 239
[edu::mit::csail::sdg::squander::examples::javacoll::MapTest](#), 276

[testGraph1](#)
[edu::mit::csail::sdg::squander::examples::graph2::GraphTest](#)
[253](#)
[edu::mit::csail::sdg::squander::examples::graph::GraphTest](#)
[265](#)
[edu::mit::csail::sdg::squander::examples::javacoll::ListTest](#), 273
[edu::mit::csail::sdg::squander::examples::javacoll::MapTest](#), 276

[testGraph2](#)
[edu::mit::csail::sdg::squander::examples::graph2::GraphTest](#)
[253](#)
[edu::mit::csail::sdg::squander::examples::graph::GraphTest](#)
[265](#)
[edu::mit::csail::sdg::squander::examples::javacoll::SetTest](#), 279
[edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest](#)
[221](#)

[testInsertKey_squander](#)
[edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest](#)
[220](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest](#), 229
[edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFldTest](#), 240
[edu::mit::csail::sdg::squander::examples::bst::BSTTests](#), 32
[noSpecFldTest](#), 239
[tests/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTreeTest.java](#)

[testInsertMix](#)
[edu::mit::csail::sdg::squander::examples::bst::BinarySearchTreeTest](#)
[220](#)
[edu::mit::csail::sdg::squander::examples::bst::BST_noParentTest](#), 229
[tests/edu/mit/csail/sdg/squander/examples/bst/BST_noParentTest.java](#), 931
[tests/edu/mit/csail/sdg/squander/examples/bst/BST_noSpecFldTest.java](#), 932

tests/edu/mit/csail/sdg/squander/examples/graph/GraphTest.java, 351
 933
 tests/edu/mit/csail/sdg/squander/examples/graph2/GraphTest.java, 934
 edu::mit::csail::sdg::squander::examples::graph::GraphTest,
 tests/edu/mit/csail/sdg/squander/examples/javacol/ListTest.java, 266
 935 THIS_VAR
 tests/edu/mit/csail/sdg/squander/examples/javacol/MapTest.java, 422
 937 edu::mit::csail::sdg::squander::parser::JFSLLexer,
 tests/edu/mit/csail/sdg/squander/examples/javacol/SetTest.java, 551
 938 edu::mit::csail::sdg::squander::parser::JFSLParser,
 tests/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsTest.java, 939
 edu::mit::csail::sdg::squander::spec::ForgeEnv,
 tests/edu/mit/csail/sdg/squander/examples/list/func2/ListTest.java, 619
 936 edu::mit::csail::sdg::squander::spec::ForgeScene,
 tests/edu/mit/csail/sdg/squander/examples/list/LinkedListTest.java, 629, 633
 940 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv,
 tests/edu/mit/csail/sdg/squander/examples/mock/MockAddressBookTest.java, 638
 941 THROW_VAR
 tests/edu/mit/csail/sdg/squander/examples/mock/TestAddressBook.java, 422
 942 edu::mit::csail::sdg::squander::parser::JFSLLexer,
 tests/edu/mit/csail/sdg/squander/examples/mock/TestSquanderAddressBook.java, 552
 943 edu::mit::csail::sdg::squander::parser::JFSLParser,
 tests/edu/mit/csail/sdg/squander/examples/numbers/ArithmeticTest.java, 944
 THROW_VAR
 edu::mit::csail::sdg::squander::parser::JFSLLexer,
 tests/edu/mit/csail/sdg/squander/examples/numbers/SqRootTest.java, 945
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 tests/edu/mit/csail/sdg/squander/examples/sort/SortTest.java, 552
 946 throwVar
 tests/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1Test.java, 619
 947 edu::mit::csail::sdg::squander::spec::ForgeEnv,
 tests/edu/mit/csail/sdg/squander/regressions/Tests.java, 629, 633
 948 edu::mit::csail::sdg::squander::spec::ForgeScene,
 tests/edu/mit/csail/sdg/squander/util/test/TestUtils.java, 639
 949 edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv,
 testSet times
 edu::mit::csail::sdg::squander::examples::javacol::ListTest, 204
 273 edu::mit::csail::sdg::squander::engine::SquanderReporter,
 testSize token
 edu::mit::csail::sdg::squander::examples::list::func2::LinkedListTest, 563, 564
 289 edu::mit::csail::sdg::squander::parser::JFSLParserException,
 testSublist edu::mit::csail::sdg::squander::specfile::parser::SpecFileParserException,
 edu::mit::csail::sdg::squander::examples::list::func2::ListTest, 773, 774
 289 tokenNames
 testSudoku1Small edu::mit::csail::sdg::squander::parser::JFSLParser,
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1Test, 351
 351 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser,
 testSudoku2Small 770
 edu::mit::csail::sdg::squander::examples::sudoku::TopologicalSort
 351 edu::mit::csail::sdg::squander::forge_
 testSudoku3Small examples::TopologicalSort, 371
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1Test,
 351 edu::mit::csail::sdg::squander::examples::graph2::Graph,
 testSudoku5Small 252

edu::mit::csail::sdg::squander::examples::graph::Graph, 350
 259
 edu::mit::csail::sdg::squander::examples::graph::Graph_2, 263
 toString 356
 edu::mit::csail::sdg::squander::absstate::AbstractState, 360
 79
 edu::mit::csail::sdg::squander::absstate::FieldValue, 363
 82
 edu::mit::csail::sdg::squander::absstate::ObjAbsState, 604
 85
 edu::mit::csail::sdg::squander::absstate::ObjTuple, 644
 89
 edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 664
 97
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 199
 edu::mit::csail::sdg::squander::examples::bst::BinarySearchTree, 218
 edu::mit::csail::sdg::squander::examples::bst::BST_noParent, 227
 edu::mit::csail::sdg::squander::examples::bst::BST_noSpecFld, 236
 edu::mit::csail::sdg::squander::examples::equiv::Node, 249
 edu::mit::csail::sdg::squander::examples::graph::Graph, 259
 edu::mit::csail::sdg::squander::examples::graph::Graph_2, 263
 edu::mit::csail::sdg::squander::examples::list::func2::Cons, 285
 edu::mit::csail::sdg::squander::examples::list::func2::Nil, 291
 edu::mit::csail::sdg::squander::examples::list::LinkedList, 297
 edu::mit::csail::sdg::squander::examples::list::LinkedList_ind, 299
 edu::mit::csail::sdg::squander::examples::mock::SquanderAddressBook, 309
 edu::mit::csail::sdg::squander::examples::partitioning::Domain, 328
 edu::mit::csail::sdg::squander::examples::partitioning::Graph, 330
 edu::mit::csail::sdg::squander::examples::partitioning::Item, 331
 edu::mit::csail::sdg::squander::examples::partitioning::TRANSLATING_FORGE, 334
 edu::mit::csail::sdg::squander::examples::setpoly::BstIntSet, 339
 edu::mit::csail::sdg::squander::examples::setpoly::SetIntSet, 343
 edu::mit::csail::sdg::squander::examples::sort::Sort, 346
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku1, 204
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku2, 204
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku3, 204
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku4, 204
 edu::mit::csail::sdg::squander::examples::sudoku::Sudoku5, 204
 edu::mit::csail::sdg::squander::spec::ClassSpec, 604
 edu::mit::csail::sdg::squander::spec::Frame, 644
 edu::mit::csail::sdg::squander::spec::JField, 664
 edu::mit::csail::sdg::squander::spec::Source, 699
 edu::mit::csail::sdg::squander::spec::Spec, 704
 edu::mit::csail::sdg::squander::spec::Spec::SpecCase, 708
 edu::mit::csail::sdg::squander::utils::ReflectionUtils, 791
 edu::mit::csail::sdg::squander::spec::Tr, 716
 TRACE
 edu::mit::csail::sdg::squander::log::Log, 376
 trace
 edu::mit::csail::sdg::squander::engine::ForgeEval, 115
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::Kodkod, 150
 edu::mit::csail::sdg::squander::log::Log, 377
 transformingProcedure
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 199
 edu::mit::csail::sdg::squander::spec::Source, 699
 translateSpecs
 edu::mit::csail::sdg::squander::spec::ClassSpec, 604
 edu::mit::csail::sdg::squander::spec::JavaScene, 657
 edu::mit::csail::sdg::squander::spec::MethodSpec, 678
 TRANSLATING_FORGE
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 204
 TRANSLATING_SPECS
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 204
 TRANSLATING_TO_BOOLEAN
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 204

- TRANSLATING_TO_CNF
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 259
 204 tuple
- TRANSLATING_TO_KODKOD
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 89, 90
 205 edu::mit::csail::sdg::squander::spec::JType,
 673
- translatingForge
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 200
 edu::mit::csail::sdg::squander::absstate::ObjTupleSet,
 97, 98
- translatingSpecs
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 200
 edu::mit::csail::sdg::squander::absstate::FieldValue,
 82
- translatingToBoolean
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 200
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 454
- translatingToCNF
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 200
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 466
- translatingToKodkod
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 200
 edu::mit::csail::sdg::squander::spec::JField,
 664, 666
- TRANSFORMING_PROCEDURE
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 205
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser,
 type2expr
- transpose
 edu::mit::csail::sdg::squander::spec::JType, 673
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl,
 147
- traverse
 edu::mit::csail::sdg::squander::engine::Heap2Bounds, 122
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 552
- traverseIntArray
 edu::mit::csail::sdg::squander::serializer::Serializer, 577
 TYPE_BOOLEAN
- traverseObjArray
 edu::mit::csail::sdg::squander::serializer::Serializer, 577
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 552
- TRAVERSING_HEAP
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 205
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 422
- traversingHeap
 edu::mit::csail::sdg::squander::engine::SquanderReporter, 200
 TYPE_CHAR
- trimQuotes
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor, N >, 775
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 553
- trueExpr
 edu::mit::csail::sdg::squander::spec::ForgeEnv, 619
 TYPE_DECLARATION
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 422
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 553
- trueRelation
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 146
 TYPE_DOUBLE
- tsp
 edu::mit::csail::sdg::squander::parser::JFSLParser,
 422

- edu::mit::csail::sdg::squander::parser::JFSLParserTypeDeclaration
 - 553
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 466
- TYPE_EXCEPTIONAL
 - edu::mit::csail::sdg::squander::spec::ReflectiveSpecParserDivideUnambiguous
 - 696
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 466
 - edu::mit::csail::sdg::squander::parser::JFSLLexerTypeForCls
 - 423
 - edu::mit::csail::sdg::squander::spec::ForgeEnv, 619
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 553
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 629
- TYPE_INT
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 423
 - edu::mit::csail::sdg::squander::spec::ForgeScene::MyEnv, 640
- edu::mit::csail::sdg::squander::parser::JFSLParserTypeName
 - 553
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 466
- TYPE_LONG
 - edu::mit::csail::sdg::squander::parser::JFSLLexerTypeParameters
 - 423
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 466
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 553
 - typeParameters2
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 467
- TYPE_PARAMETERS
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 423
 - typeParams
 - edu::mit::csail::sdg::squander::annotations::FreshObjects, 100
- TYPE_REF
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 423
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 605
 - TypeParamsEx
 - edu::mit::csail::sdg::squander::examples::javacol::TypeParamsEx, 282
- TYPE_SHORT
 - edu::mit::csail::sdg::squander::parser::JFSLLexerUNARY
 - 423
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 423
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 553
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 554
- typeBodyDeclaration
 - edu::mit::csail::sdg::squander::parser::JFSLParserUnaryExpression
 - 466
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 467
- typecheck
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 604
 - edu::mit::csail::sdg::squander::spec::MethodSpec, 678
 - UnicodeEscape
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, 423
- typechecked
 - edu::mit::csail::sdg::squander::spec::Source, 700
 - edu::mit::csail::sdg::squander::parser::JFSLParser, 554
- TypeChecker
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 724
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, 752
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, 770
- TypeCheckException
 - union
 - edu::mit::csail::sdg::squander::spec::TypeCheckException, 734
 - edu::mit::csail::sdg::squander::absstate::ObjTupleSet, 97

- edu::mit::csail::sdg::squander::spec::JType, 673
- UNIV
 - Specification, 27
- unsat_core
 - values
 - edu::mit::csail::sdg::squander::options::GlobalOptions, 382
- unsatCore
 - var
 - edu::mit::csail::sdg::squander::engine::ForgeEval, 115
 - edu::mit::csail::sdg::squander::engine::ISquanderResult, 127
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::KodkodEval, 151
 - edu::mit::csail::sdg::squander::engine::SquanderResult, 210
- upperBound
 - edu::mit::csail::sdg::squander::spec::Frame, 644
- upperBounds
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 147
 - edu::mit::csail::sdg::squander::spec::Frame, 645
- upperCond
 - edu::mit::csail::sdg::squander::spec::Frame, 644
- usedFields
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 605, 606
- usedFieldsAll
 - edu::mit::csail::sdg::squander::spec::ClassSpec, 605
- usedTypes
 - edu::mit::csail::sdg::squander::spec::ForgeScene, 629, 633
- Utils, 29
- val
 - edu::mit::csail::sdg::squander::examples::sudoku::Sudoku, 361
- validate
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 726
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 736
- vals
 - visitAmbiguous
 - edu::mit::csail::sdg::squander::examples::javacol::Map, 276
- value
 - edu::mit::csail::sdg::annotations::FuncField, 77
 - edu::mit::csail::sdg::squander::annotations::FreshyvisitArgument, 99
- edu::mit::csail::sdg::squander::examples::equiv::Node, 249
- edu::mit::csail::sdg::squander::forge_examples::TopologicalSort, 374
- edu::mit::csail::sdg::squander::utils::TwoWayMap< K, V >, 795
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::T, 156
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl, 168
- edu::mit::csail::sdg::squander::spec::ForgeScene, 633
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl, 147
- edu::mit::csail::sdg::squander::engine::Heap2Bounds, 147
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::T, 153, 154
- edu::mit::csail::sdg::squander::engine::SquanderEval, 171, 172
- edu::mit::csail::sdg::squander::engine::SquanderEval2, 180, 181
- edu::mit::csail::sdg::squander::spec::FrameInference, 646, 647
- edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 684, 685
- edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
- edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< N >, 776
- edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::T, 155
- edu::mit::csail::sdg::squander::engine::SquanderEval, 172
- edu::mit::csail::sdg::squander::engine::SquanderEval2, 182
- edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 685
- edu::mit::csail::sdg::squander::spec::Tr, 716
- edu::mit::csail::sdg::squander::spec::TypeChecker, 726
- edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
- edu::mit::csail::sdg::squander::spec::Tr, 716

edu::mit::csail::sdg::squander::spec::TypeChecker, 727
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
 visitArrayIntField
 edu::mit::csail::sdg::squander::serializer::AbstractHeapListener, 568
 edu::mit::csail::sdg::squander::serializer::ConsoleHeap, 570
 edu::mit::csail::sdg::squander::serializer::HeapListener, 572
 visitArrayLength
 edu::mit::csail::sdg::squander::serializer::AbstractHeapListener, 568
 edu::mit::csail::sdg::squander::serializer::ConsoleHeap, 571
 edu::mit::csail::sdg::squander::serializer::HeapListener, 572
 visitArrayRefField
 edu::mit::csail::sdg::squander::serializer::AbstractHeapListener, 569
 edu::mit::csail::sdg::squander::serializer::ConsoleHeap, 571
 edu::mit::csail::sdg::squander::serializer::HeapListener, 573
 visitArrayType
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 727
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
 visitAssignment
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 182
 visitBinary
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 727
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
 visitBoolBinExpr
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 182
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 685
 visitBooleanField
 edu::mit::csail::sdg::squander::serializer::AbstractHeapListener, 569
 edu::mit::csail::sdg::squander::serializer::ConsoleHeap, 571
 edu::mit::csail::sdg::squander::serializer::HeapListener, 573
 visitBooleanType
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
 visitCastExpression
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
 visitChain
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 visitClosure
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 182
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 685
 visitConditional
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 visitDec
 edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 610
 edu::mit::csail::sdg::squander::spec::constant::ConstRelVisitor< E >, 614
 visitDecimal
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 visitDiff
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 182
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 686
 edu::mit::csail::sdg::squander::serializer::HeapListener, 573
 visitBooleanType
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
 visitBracket
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
 visitCastExpression
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 737
 visitChain
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 visitClosure
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 182
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 685
 visitConditional
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 visitDec
 edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 610
 edu::mit::csail::sdg::squander::spec::constant::ConstRelVisitor< E >, 614
 visitDecimal
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 visitDiff
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 182
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 686

- visited
 edu::mit::csail::sdg::squander::engine::Heap2Bounds, 122
 edu::mit::csail::sdg::squander::engine::Heap2Bounds, 610
 edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 610
 edu::mit::csail::sdg::squander::spec::constant::ConstRelVisitor< E >, 614
- visitEquals
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 182
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 686
 edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 610
 edu::mit::csail::sdg::squander::spec::constant::ConstRelVisitor< E >, 614
- visitExists
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 183
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 686
 edu::mit::csail::sdg::squander::engine::SquanderEval, 173
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 183
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 686
- visitFalse
 edu::mit::csail::sdg::squander::spec::Tr, 717
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 edu::mit::csail::sdg::squander::spec::Tr, 718
 edu::mit::csail::sdg::squander::spec::TypeChecker, 729
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
- visitFieldDeclaration
 edu::mit::csail::sdg::squander::spec::Tr, 718
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 edu::mit::csail::sdg::squander::engine::SquanderEval, 174
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 183
- visitFieldRelation
 edu::mit::csail::sdg::squander::spec::Tr, 718
 edu::mit::csail::sdg::squander::spec::TypeChecker, 728
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 edu::mit::csail::sdg::squander::engine::SquanderEval, 174
 edu::mit::csail::sdg::squander::engine::SquanderEval2, 183
- visitForgeType
 edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl::Tr2KK, 155
 edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider::MyVisitor, 711
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< N >, 776
- visitFrame
 edu::mit::csail::sdg::squander::spec::Tr, 718
 edu::mit::csail::sdg::squander::spec::TypeChecker, 729
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
 edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider::MyVisitor, 711
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< N >, 776
- visitFuncField
 edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider::MyVisitor, 711
 edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< N >, 776
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 686
 edu::mit::csail::sdg::squander::spec::Tr, 718
 edu::mit::csail::sdg::squander::spec::TypeChecker, 729
- visitGlobalVariable
 edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 686
 edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 738
- visitIdent
 edu::mit::csail::sdg::squander::spec::Tr, 718
 edu::mit::csail::sdg::squander::spec::Tr, 718

- edu::mit::csail::sdg::squander::spec::TypeChecker, 729
- edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
- visitLocalVariable
 - edu::mit::csail::sdg::squander::engine::SquanderEval, 174
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, 183
 - edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 686
 - visitQuantification, 687
 - edu::mit::csail::sdg::squander::spec::Tr, 719
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 730
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
- visitMethodCall
 - edu::mit::csail::sdg::squander::spec::Tr, 718
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 729
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
 - visitRefField
 - edu::mit::csail::sdg::squander::serializer::AbstractHeapListener, 569
 - edu::mit::csail::sdg::squander::serializer::ConsoleHeap, 571
 - edu::mit::csail::sdg::squander::serializer::HeapListener, 573
 - visitRefType
 - edu::mit::csail::sdg::squander::spec::Tr, 719
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 730
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
- visitName
 - edu::mit::csail::sdg::squander::spec::Tr, 719
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 729
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
- visitNone
 - edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, 610
 - edu::mit::csail::sdg::squander::spec::constant::ConstRelVisitor< E >, 614
 - visitRelUnion
 - edu::mit::csail::sdg::squander::engine::SquanderEval, 174
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, 184
 - edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 687
- visitNull
 - edu::mit::csail::sdg::squander::spec::Tr, 719
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 730
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
 - visitReturn
 - edu::mit::csail::sdg::squander::spec::Tr, 719
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 730
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
- visitOld
 - edu::mit::csail::sdg::squander::spec::Tr, 719
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 730
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
 - visitSpecField
 - edu::mit::csail::sdg::squander::spec::SpecFileSpecProvider::MyVisitor< N >, 776
- visitParams
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< N >, 776
- visitPrimitive
 - edu::mit::csail::sdg::squander::engine::Heap2Bounds, 122
 - edu::mit::csail::sdg::squander::serializer::AbstractHeapListener, 569
 - edu::mit::csail::sdg::squander::serializer::ConsoleHeap, 571
 - edu::mit::csail::sdg::squander::serializer::HeapListener, 573
 - visitString
 - edu::mit::csail::sdg::squander::spec::Tr, 719
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 730
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739
- visitProduct
 - edu::mit::csail::sdg::squander::engine::SquanderEval, 174
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, 184
 - edu::mit::csail::sdg::squander::spec::MyExprEvaluator, 687
 - edu::mit::csail::sdg::squander::spec::Tr, 719
 - edu::mit::csail::sdg::squander::spec::TypeChecker, 730
 - edu::mit::csail::sdg::squander::spec::Visitor< N, M >, 739

- visitSubset
 - edu::mit::csail::sdg::squander::engine::SquanderEval, [174](#)
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, [184](#)
 - edu::mit::csail::sdg::squander::spec::MyExprEvaluator, [687](#)
- visitSuper
 - edu::mit::csail::sdg::squander::spec::Tr, [720](#)
 - edu::mit::csail::sdg::squander::spec::TypeChecker, [730](#)
 - edu::mit::csail::sdg::squander::spec::Visitor<N, M >, [740](#)
- visitThis
 - edu::mit::csail::sdg::squander::spec::Tr, [720](#)
 - edu::mit::csail::sdg::squander::spec::TypeChecker, [730](#)
 - edu::mit::csail::sdg::squander::spec::Visitor<N, M >, [740](#)
- visitThrow
 - edu::mit::csail::sdg::squander::spec::Tr, [720](#)
 - edu::mit::csail::sdg::squander::spec::TypeChecker, [731](#)
 - edu::mit::csail::sdg::squander::spec::Visitor<N, M >, [740](#)
- visitTrue
 - edu::mit::csail::sdg::squander::spec::Tr, [720](#)
 - edu::mit::csail::sdg::squander::spec::TypeChecker, [731](#)
 - edu::mit::csail::sdg::squander::spec::Visitor<N, M >, [740](#)
- visitTypeParams
 - edu::mit::csail::sdg::squander::spec::TypeChecker, [731](#)
- visitUnary
 - edu::mit::csail::sdg::squander::spec::Tr, [720](#)
 - edu::mit::csail::sdg::squander::spec::TypeChecker, [731](#)
 - edu::mit::csail::sdg::squander::spec::Visitor<N, M >, [740](#)
- visitUnion
 - edu::mit::csail::sdg::squander::engine::SquanderEval, [175](#)
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, [184](#)
 - edu::mit::csail::sdg::squander::spec::MyExprEvaluator, [687](#)
- visitUniv
 - edu::mit::csail::sdg::squander::spec::constant::ConstRel2Bound, [610](#)
 - edu::mit::csail::sdg::squander::spec::constant::ConstRelVisitor<E >, [614](#)
- visitVariable
 - edu::mit::csail::sdg::squander::engine::SquanderEval, [175](#)
 - edu::mit::csail::sdg::squander::engine::SquanderEval2, [184](#)
 - VOID
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, [423](#)
 - edu::mit::csail::sdg::squander::parser::JFSLParser, [554](#)
 - WARN
 - edu::mit::csail::sdg::squander::log::Log, [376](#)
 - warn
 - edu::mit::csail::sdg::squander::log::Log, [377](#)
 - wellformed
 - edu::mit::csail::sdg::squander::engine::kk::SquanderKodkod2Impl, [133](#)
 - wellformedPost
 - edu::mit::csail::sdg::squander::spec::Spec, [704](#)
 - wellformedPre
 - edu::mit::csail::sdg::squander::spec::Spec, [705](#)
 - width
 - edu::mit::csail::sdg::squander::forge_ - examples::TopologicalSort, [374](#)
 - writeToFile
 - edu::mit::csail::sdg::squander::utils::Utils, [798](#)
 - WS
 - edu::mit::csail::sdg::squander::parser::JFSLLexer, [423](#)
 - edu::mit::csail::sdg::squander::parser::JFSLParser, [554](#)
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileLexer, [752](#)
 - edu::mit::csail::sdg::squander::specfile::parser::SpecFileParser, [770](#)