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Identification

PL/I Implementation Dependent Definitions
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Purpose

A number of items in the PL/I language are implementation dependent. This section defines those items.

Implementation Dependent Items

The following items require implementation definitions.

- 1) The data character set will be the 128 character ASCII set, stored right adjusted in 9-bit bytes as defined in BC.2.01.
- 2) The internal representation of data in PL/I for the GE 645 is described in BP.2.01.
- 3) The defaults and maxima are:

<u>Type</u>	<u>Defaults</u>	<u>Maximum</u>
Float Binary	27 bits	63 bits
Float Decimal	8 digits	18 digits
Fixed Binary	17 bits	71 bits
Fixed Decimal	5 digits	21 digits
Bit String	—	36*2**18 bits
Character String	—	4*2**18 characters

- 4) The options-list of the ENVIRONMENT option is not yet specified.
- 5) The length of bit string assigned to v in UNSPEC (v) is:

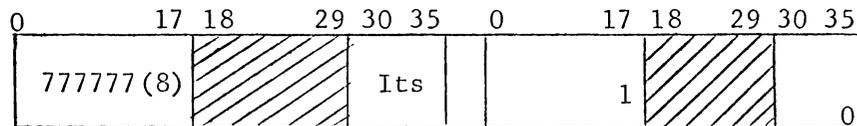
<u>Declared Type</u>	<u>Length</u>
Fixed Binary (p)	{ 36 if $p \leq 35$ 72 if $p > 35$
Fixed Decimal (p)	TRUNC (10*p/3)+ 1
Float Binary (p)	{ 36 if $p \leq 27$ 72 if $p > 27$
Float Decimal (p)	{ 36 if $p \leq 8$ 72 if $p > 8$
Character (p)	9*p
Pointer	72
Bit (p)	p

- 6) The default LINESIZE is 136 characters and the default pagesize is 54 lines. This gives a one inch margin top and bottom assuming 11 inch forms and 6 lines per inch.
- 7) The maximum length of character string of ONLOC is 63 characters.

8) The categories and code for ONCODE are:

- 1-69 Math Library (See Bennett Goldberg (GE) for further information)
- 70-120 I/O (See Dwight Pfenning (BTL) for further information)
- 150-170 Default ON CONDITIONS (see Dwight Pfenning (BTL) for further information)
- 200-201 Master Mode operation violation (see Dwight Pfenning (BTL) for further information)

9) The null pointer value is:



The segment numbered 777777(8) is a dummy and if any attempt to access it is made a fault will occur which will be handled by the fault handler.

- 10) The permitted maximum exponent of a floating-point number (for OVERFLOW) is 127.
- 11) The permitted maximum fixed-point number for FIXED-OVERFLOW is $\pm (2^{71} - 1)$.
- 12) The permitted minimum exponent of a floating-point number (for UNDERFLOW) is -128.
- 13) The subscript range is limited only by the limits on fixed point arithmetic. However, an aggregate is restricted to a single segment.
- 14) The default size for area is 1024 words and the maximum is 2^{18} . Both figures include the allocation overhead.
- 15) The default area for allocations begins at <free_>|[free_].
- 16) The standard input file SYSIN and output file SYSPRINT are defined to be the standard Multics input streams "user_input" and output stream "user_output" respectively.
- 17) During the execution of an ON-unit, the ON-unit current upon entry to the statically encompassing block at the time the ON was executed is reestablished. No specification is given for this situation in the PL/I manual.
- 18) The quantity N (page 32 of the PL/I manual) defined to be the largest number in the implementation is 71 bits.
- 19) The quantity S (page 34 of the PL/I manual) defined to be the precision of the result of bit string to arithmetic conversion is 73 bits.