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Identification

How to Create and Use a Compiler which has been Described
in TMGL
R. Fenichel

Purpose

This section describes the means by which a TMGL program is transformed into a compiler running under CTSS. The use of the resulting compiler is also described.

Creating a TMGL-described Compiler

Suppose you have written a TMGL program which describes a compiler for the FRED language. Here is how to make up a FRED compiler:

1. Type your program into CTSS. Call this ASCII file FRED TMGL.
2. Link to the TMGL compiler, TMGL SAVED, in T269 CMFL01.
3. Compile FRED TMGL by typing

```
r tmgl fred
```

This will cause two files to be produced, FRED BCD and FRED BSA.

4. FRED BCD is a slightly non-canonical ASCII (i.e., it may include both tab and delete characters) file containing line-numbered source listings and a cross-referenced symbol table. It is probably quite long, and it probably should be RQASCIed.
5. FRED BSA is a slightly non-canonical ASCII version of a BEFAP version of the driving tables you want. Link to AS6 SAVED in T269 CMFL01 and type

```
r as6 fred bsa fred fap
```

```
befap fred
```

6. Now you have your driving tables, FRED BSS, and you need only combine them with TMG SAVED, the TMG interpreter. Link to the interpreter in T269 CMFL01 and type

```
restor tmg
```

```
use fred
```

```
save fred
```

7. FRED SAVED is your new FRED compiler.

Summary of Links Required to Create Compiler

TMGL	SAVED	T269	CMFL01
AS6	SAVED		
TMG	SAVED		
ASCII	RQUEST	M1416	2962

Summary of Commands Required to Create Compiler

```
eda fred tmgl
r tmgl fred
rqasci fred bcd
r as6 fred bsa fred fap
befap fred
restor tmg
use fred
save fred
```

Summary of Garbage Files Produced Along the Way to Compiler

```
fred bss (not necessarily garbage - fewer tracks to keep
          this than FRED SAVED)
fred symtb
fred fap
fred bsa
```

Using a TMGL-described Compiler

Suppose you want to use your FRED compiler to compile a program named SAM which you have written in the FRED language. Here is how to get your program SAM compiled:

1. Type your program in to CTSS. Call this ASCII file SAM FRED.
2. Utilize your compiler by typing

```
r fred sam
```

This will cause two files to be produced, SAM BCD and SAM BSA.

3. SAM BCD is the slightly non-canonical ASCII listing file produced by your compiler.
4. SAM BSA is the slightly non-canonical ASCII file which is the primary output of your compiler.