

Artificial Intelligence Project--RLE and MIT Computation Center  
Memo 23--Trace-Printing for Compiled Programs

by

Robert Brayton

The compiler now has a tracing feature which is equivalent to the TRACLIS feature of the interpreter. COMPILE MODE is a function of one argument which must be either TRACE or NORMAL. When the triplet

```
COMPILEMODE (TRACE) ()
```

is given, subsequent COMDEF statements will cause the functions mentioned to be redefined and compiled. Each function is redefined so that it will print its arguments when it is entered and print its value when it is exited. The printing for each function is controlled by a free variable which has the same name as the function. These variables are set to "1" by the function TRACK and set to "0" by the function UNTRACK. TRACK and UNTRACK have one argument which is a list of names of functions. Only those functions which were compiled when the system was in TRACE-mode can be given as arguments to TRACK and UNTRACK. Other functions will cause an error.

Thus, if F1 and F2 are two functions which were compiled in TRACE-mode

```
TRACK ((F1,F2)) ()
```

will cause the free variables F1 and F2 to be set to "1". Subsequently, when either of the functions F1 or F2 is entered, the arguments are printed and when either of these functions is exited, the value is printed. The triplet

```
UNTRACK ((F1)) ()
```

will cause this printing to be turned off (the free variable F1 is set to "0"). However, the trace-printing for the function F2 will

still continue until the triplet

UNTRACK ((F2)) ()

is given.

The system is put in NORMAL-mode by the triplet

COMPILEMODE (NORMAL) ()

Functions compiled in this mode cannot be tracked.

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