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NON-PRINTING COMPILER

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Abstract: A non-printing program which
reduces parts of the LISP
1.5 interpreter and preprocesses
compiler (point-out and label's
option) is described.

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The listing of the LAP code produced by the LISP 1.5 compiler is quite often a nuisance. Therefore, the compiler has been modified to give the user the option of suppressing the printout. Three of the functions which make up the compiler have been rewritten: compile, com1, and com2. The execution of these functions accounts for only a small fraction of the time spent in compiling; therefore, we feel justified in interpreting these functions, rather than compiling and executing them as subroutines. This course of action avoids the difficulties of reassigning upper memory to the compiler and permanent list structures (this problem would arise because the new functions are longer than the functions they replace).

The new compiler is called by an expression of the form compiler(x;s), where s is the list of functions to be compiled. If x is NIL, then only the first line (identification) and LAP symbol table for the program will be printed. If x is not NIL, then the entire LAP assembly will be listed. Thus, compiler(PRINT;functionlist) is equivalent to compile(functionlist).

The function exciser is offered to simplify the task of eliminating all traces of the compiler from memory. Exciser(x) is identical to excise(x), except that exciser also removes the definitions of the EXPR-functions compiler, com1, and com2.

These functions are listed on the next page.

```
(LAMBDA (Y) (MAPLIST (DEFINE Y) (FUNCTION (LAMBDA (X)
  (REMPROP (CAR X) (QUOTE SUBR))
))))((
```

```
(COMPILE (LAMBDA (X L) (MAPLIST L (FUNCTION (LAMBDA (J)
  (COM1 (CAR J) (GET (CAR J) (QUOTE-EXPR))
  (GET (CAR J) (QUOTE-EXPR))
  )
))))))
```

```
(COM1 (LAMBDA (N A B) PROG2
  (COND
    (A (COM2 (QUOTE SUBR) (LENGTH (CADR A)) A N))
    (B (COM2 (QUOTE FSUBR) (LENGTH (CADR B)) B N))
    ((OR (GET N (QUOTE SUBR)) (GET N (QUOTE FSUBR)))) (PROG2
      (PRINT N) (PRINT (QUOTE $$$ IS ALREADY DEFINED$))
    ))
    (T (PROG2 (PRINT N) (PRINT (QUOTE $$$ IS UNDEFINED$))))
  )
  N
))
```

```
(COM2 (LAMBDA (TYPE LENGTH EXP NAME) (PROG (LISTING)
  (SETQ LISTING (PHASE2 (PASSONE NAME EXP) NAME))
  (COND (X (PROG2 (TERPRI) (PROG2 (TERPRI) (TERPRI))))))
  (PRINT (LIST NAME TYPE LENGTH))
  (COND (X (PROG2 (MAP (CAR LISTING)
    (FUNCTION (LAMBDA (J) (PRINT (CAR J))))
  ) (TERPRI) )))
  (LAP (CONS (LIST NAME TYPE LENGTH) (CAR LISTING)) (CADR LISTING))
  (REMPROP NAME (QUOTE EXPR))
  (REMPROP NAME (QUOTE FSUBR))
  (RETURN NAME)
)))
```

```
)
```

```
DEFINE((
```

```
(EXCISE (LAMBDA (X) (PROG ()
  (REMPROP COMPILER EXPR)
  (REMPROP COM1 EXPR)
  (REMPROP COM2 EXPR)
  (RETURN (EXCISE X))
)))
```

```
)
```