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SYMTAB ;

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## Function:

SYMTAB prints the TSP symbol table, showing the characteristics of all the variables in a TSP program. It is useful primarily to programmers for debugging TSP programs.

## Usage:

SYMTAB can be used anywhere in the program; it will print out the names, locations, types, lengths, and file pointers for all the variables used up to that point in the program. A description of the table is given in the output section below.

## Example:

Placement of the SYMTAB command at the end of the run will cause all the variables of the run to be printed out:

```
NAME USER ;  
.  
    TSP program statements  
.  
SYMTAB ;  
STOP ;  
END ;  
.  
    TSP data section  
.  
END ;
```

## Output:

The symbol table printout has 6 items for each variable:

1. Variable name - you will see all the variables you have created, as well as all the @ variables which contain results of procedures. In addition, there are a large number of variables which begin L 0001, or F 0001, and so forth. These variables are the TSP program lines and the equations which are created by the GENR and SET commands.
2. Location - this is the address of the variable in the upper end of blank common in single precision words.

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3. Type - this is the variable type. Legal types are the following:

Type	Description
1	scalar or constant.
2	double precision time series (see OPTIONS DOUBLE).
3	time series.
4	parameter.
6	equation.
7	identity.
8	model (output of MODEL command).
9	text string (for FILE=, FORMAT=, and TITLE).
10	program variable (a command, DO, IF, or PROC information).
11	general matrix.
12	symmetric matrix.
13	triangular matrix.
14	diagonal matrix.
20	variable name list.

4. Length - this is the length of the variable in single precision words. The length includes two extra items for time series and matrices which hold dating and dimension information.

5. LDOC - length of documentation, if any (see the DOC command).

6. DB - a flag for storage on the current OUT databank(s).