# SYMTAB

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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.

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).