```
MMM       MMM TTTTTTTTTTTTTTT HHH        HHH RRRRRRRRRRRR  TTTTTTTTTTTTTTT LLL
MMM       MMM TTTTTTTTTTTTTTT HHH        HHH RRRRRRRRRRR   TTTTTTTTTTTTTTT LLL
MMM       MMM TTTTTTTTTTTTTTT HHH        HHH RRRRRRRRRRR   TTTTTTTTTTTTTTT LLL
MMMMMM MMMMMM        TTT      HHH        HHH RRR      RRR         TTT      LLL
MMMMMM MMMMMM        TTT      HHH        HHH RRR      RRR         TTT      LLL
MMMMMM MMMMMM        TTT      HHH        HHH RRR      RRR         TTT      LLL
MMM MMM   MMM        TTT      HHH        HHH RRR      RRR         TTT      LLL
MMM MMM   MMM        TTT      HHH        HHH RRR      RRR         TTT      LLL
MMM MMM   MMM        TTT      HHH        HHH RRR      RRR         TTT      LLL
MMM       MMM        TTT      HHHHHHHHHHHHHH RRRRRRRRRRRR         TTT      LLL
MMM       MMM        TTT      HHHHHHHHHHHHHH RRRRRRRRRRRR         TTT      LLL
MMM       MMM        TTT      HHH        HHH RRR   RRR           TTT      LLL
MMM       MMM        TTT      HHH        HHH RRR   RRR           TTT      LLL
MMM       MMM        TTT      HHH        HHH RRR   RRR           TTT      LLL
MMM       MMM        TTT      HHH        HHH RRR      RRR         TTT      LLL
MMM       MMM        TTT      HHH        HHH RRR      RRR         TTT      LLL
MMM       MMM        TTT      HHH        HHH RRR      RRR         TTT      LLLLLLLLLLLLLL
MMM       MMM        TTT      HHH        HHH RRR      RRR         TTT      LLLLLLLLLLLLLL
MMM       MMM        TTT      HHH        HHH RRR      RRR         TTT      LLLLLLLLLLLLLL
```

```
MM        MM  TTTTTTTTTT  HH      HH    SSSSSSSS    IIIIII      GGGGGGGG  NN        NN
MM        MM  TTTTTTTTTT  HH      HH    SSSSSSSS    IIIIII      GGGGGGGG  NN        NN
MMMM    MMMM      TT      HH      HH  SS              II      GG         NN        NN
MMMM    MMMM      TT      HH      HH  SS              II      GG         NN        NN
MM  MM  MM        TT      HH      HH  SS              II      GG         NNNN      NN
MM  MM  MM        TT      HH      HH  SS              II      GG         NNNN      NN
MM        MM      TT      HHHHHHHHHH    SSSSSS        II      GG         NN  NN    NN
MM        MM      TT      HHHHHHHHHH    SSSSSS        II      GG         NN  NN    NN
MM        MM      TT      HH      HH          SS      II      GG  GGGGGG  NN    NNNN
MM        MM      TT      HH      HH          SS      II      GG  GGGGGG  NN    NNNN
MM        MM      TT      HH      HH          SS      II      GG      GG  NN      NN
MM        MM      TT      HH      HH          SS      II      GG      GG  NN      NN
MM        MM      TT      HH      HH  SSSSSSSS    IIIIII      GGGGGG    NN      NN
MM        MM      TT      HH      HH  SSSSSSSS    IIIIII      GGGGGG    NN      NN
```

```
LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLL      IIIIII      SSSSSSSS
```

MTH$SIGN
1-002
C 10
SIGN function   16-SEP-1984 01:48:50 VAX/VMS Macro V04-00   Page 1
                     6-SEP-1984 11:26:54 [MTHRTL.SRC]MTHSIGN.MAR;1   (1)

M1
1-

```
0000      1          .TITLE   MTH$SIGN        SIGN function
0000      2          .IDENT   /1-002/         ; File: MTHSIGN.MAR
0000      3
0000      4   ;
0000      5   ;*******************************************************************
0000      6   ;*                                                                 *
0000      7   ;*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                        *
0000      8   ;*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.         *
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0000     23   ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.        *
0000     24   ;*                                                                 *
0000     25   ;*                                                                 *
0000     26   ;*******************************************************************
0000     27
0000     28
0000     29   ; FACILITY: MATH LIBRARY
0000     30   ;++
0000     31   ; ABSTRACT:
0000     32   ;        This module contains routine MTH$SIGN
0000     33   ;
0000     34   ;
0000     35   ;--
0000     36   ;
0000     37   ; VERSION: 0
0000     38   ;
0000     39   ; HISTORY:
0000     40   ;
0000     41   ; AUTHOR:
0000     42   ;        Jonathan M. Taylor, 14-JUL-77: Version 0
0000     43   ;
0000     44   ; MODIFIED BY:
0000     45   ;
0000     46   ;
0000     47   ;
```

MTH$SIGN
1-002

D 10

SIGN function   16-SEP-1984 01:48:50   VAX/VMS Macro V04-00   Page 2
HISTORY ; Detailed Current Edit History 6-SEP-1984 11:26:54   [MTHRTL.SRC]MTHSIGN.MAR;1   (2)

```
0000    49              .SBTTL  HISTORY          ; Detailed Current Edit History
0000    50
0000    51
0000    52 ; Edit History for Version 0 of MTH$SIGN
0000    53 ;
0000    54 ; 0-3   - Remove MTH$FLAG_JACKET.  TNH 5-July-78
0000    55 ; 1-001 - Update version number and copyright notice.  JBS 16-NOV-78
0000    56 ; 1-002 - Add "_" to the PSECT directive.  JBS 22-DEC-78
```

MTH$SIGN 1-002

SIGN function
DECLARATIONS

E 10

16-SEP-1984 01:48:50   VAX/VMS Macro V04-00   Page 3
6-SEP-1984 11:26:54   [MTHRTL.SRC]MTHSIGN.MAR;1   (3)

M
1

```
0000        58            .SBTTL   DECLARATIONS
0000        59
0000        60 ;
0000        61 ; INCLUDE FILES:
0000        62 ;      oerr.mar
0000        63 ;
0000        64
0000        65 ;
0000        66 ; EXTERNAL SYMBOLS:
0000        67 ;      NONE
0000        68 ;
0000        69
0000        70
0000        71 ; MACROS:
0000        72 ;      NONE
0000        73 ;
0000        74
0000        75 ;
0000        76 ; PSECT DECLARATIONS:
00000000    77            .PSECT  _MTH$CODE        PIC, SHR, LONG, EXE, NOWRT
0000        78
0000        79 ;
0000        80 ; EQUATED SYMBOLS:
0000        81 ;      NONE
0000        82 ;
0000        83
0000        84 ;
0000        85 ; OWN STORAGE:
0000        86 ;      NONE
0000        87 ;
```

```
                        0000    89              .SBTTL  MTH$SIGN
                        0000    90
                        0000    91 ;++
                        0000    92 ; FUNCTIONAL DESCRIPTION:
                        0000    93 ;       Return arg1 with sign of arg2.
                        0000    94 ;
                        0000    95 ;
                        0000    96 ; CALLING SEQUENCE:
                        0000    97 ;       Transfer_of_sign.wf.v = MTH$SIGN (arg1.rf.r, arg2.rf.r)
                        0000    98 ;
                        0000    99 ;
                        0000   100 ;
                        0000   101 ; INPUT PARAMETERS:
                        0000   102 ;       The two parameters are single-precision floating-point values
                        0000   103 ;       and are call-by-reference.
                        0000   104 ;
                        0000   105 ;
                        0000   106 ; IMPLICIT INPUTS:
                        0000   107 ;       NONE
                        0000   108 ;
                        0000   109 ; OUTPUT PARAMETERS:
                        0000   110 ;       NONE
                        0000   111 ;
                        0000   112 ; IMPLICIT OUTPUTS:
                        0000   113 ;       NONE
                        0000   114 ;
                        0000   115 ; COMPLETION CODES:
                        0000   116 ;       NONE
                        0000   117 ;
                        0000   118 ; SIDE EFFECTS:
                        0000   119 ;       Reserved Operand exception can occur.
                        0000   120 ;
                        0000   121 ;
                        0000   122 ;--
                        0000   123
                0000    0000   124              .ENTRY  MTH$SIGN,       ^M<>
                        0002   125
  50    04 BC    50     0002   126              MOVF    @4(AP), R0      ; R0 = arg1
         09    19       0006   127              BLSS    NEGARG          ; branch if negative arg1
                        0008   128
                        0008   129 ; arg1 is non-negative, check sign of arg2
                        0008   130 ;
     08 BC    53        0008   131              TSTF    @8(AP)
        03    18        000B   132              BGEQ    EXIT            ; both args positive, nothing to do
                        000D   133 NEGATE:
  50    50    52        000D   134              MNEGF   R0, R0          ; negate arg1
                        0010   135 EXIT:
              04        0010   136              RET
                        0011   137
                        0011   138 ; arg1 is negative, check sign of arg2
                        0011   139 ;
                        0011   140 NEGARG:
     08 BC    53        0011   141              TSTF    @8(AP)
        F7    18        0014   142              BGEQ    NEGATE          ; arg2 positive negate arg1
              04        0016   143              RET
                        0017   144
                        0017   145
```

```
0017   146          .END
```

H 10

MTH$SIGN   SIGN function   16-SEP-1984 01:48:50   VAX/VMS Macro V04-00   Page   6
Symbol table   6-SEP-1984 11:26:54   [MTHRTL.SRC]MTHSIGN.MAR;1   (4)

```
EXIT        00000010 R    01
MTH$SIGN    00000000 RG   01
NEGARG      00000011 R    01
NEGATE      0000000D R    01
```

```
                          +-------------------+
                          ! Psect synopsis !
                          +-------------------+


PSECT name                    Allocation        PSECT No.  Attributes
----------                    ----------        ---------  ----------
.  ABS  .                     00000000 (    0.)  00 (   0.)  NOPIC  USR   CON   ABS   LCL NOSHR NOEXE NORD   NOWRT NOVEC BYTE
_MTH$CODE                     00000017 (   23.)  01 (   1.)    PIC  USR   CON   REL   LCL   SHR   EXE   RD   NOWRT NOVEC LONG
```

```
                          +---------------------------+
                          ! Performance indicators !
                          +---------------------------+


Phase                 Page faults   CPU Time       Elapsed Time
-----                 -----------   --------       ------------
Initialization             30      00:00:00.08     00:00:00.85
Command processing        112      00:00:00.54     00:00:04.19
Pass 1                     67      00:00:00.44     00:00:02.12
Symbol table sort           0      00:00:00.00     00:00:00.00
Pass 2                     42      00:00:00.35     00:00:01.47
Symbol table output         2      00:00:00.01     00:00:00.07
Psect synopsis output       2      00:00:00.02     00:00:00.02
Cross-reference output      0      00:00:00.00     00:00:00.00
Assembler run totals      257      00:00:01.44     00:00:08.72
```

The working set limit was 750 pages.
1414 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 4 non-local and 0 local symbols.
146 source lines were read in Pass 1, producing 10 object records in Pass 2.
0 pages of virtual memory were used to define 0 macros.

```
                          +------------------------------+
                          ! Macro library statistics !
                          +------------------------------+


Macro library name                        Macros defined
------------------                        --------------
_$255$DUA28:[SYSLIB]STARLET.MLB;2               0
```

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS$:MTHSIGN/OBJ=OBJ$:MTHSIGN MSRC$:MTHSIGN/UPDATE=(ENH$:MTHSIGN)

MTHJMIN0
LIS

MTHMSG
LIS

MTHIMIN0
LIS

MTHMAX1
LIS

MTHJIDNNT
LIS

MTHMSGDEF
LIS

MTHJIHNNT
LIS

MTHSGN
LIS

MTHJMAX0
LIS

MTHMOD
LIS

MTHSIGNAL
LIS

MTHSQRTR2
LIS

MTHJNINT
LIS

MTHSINCOS
LIS

MTHSQRT
LIS

MTHININT
LIS

MTHRANDOM
LIS

MTHJIGNNT
LIS

MTHMIN1
LIS

MTHJISIGN
LIS

MTHSIGN
LIS

MTHSINH
LIS