



```

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

```

(2) 50  
(3) 60  
(4) 91

HISTORY ; Detailed Current Edit History  
DECLARATIONS  
MTH\$DSIGN



```

0000 1      .TITLE MTH$DSIGN      ; Double Precision Transfer of Sign
0000 2      .IDENT /1-002/      ; File: MTHDSIGN.MAR
0000 3
0000 4
0000 5 :*****
0000 6 :*
0000 7 :*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
0000 8 :*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.
0000 9 :*  ALL RIGHTS RESERVED.
0000 10 :*
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0000 20 :*  CORPORATION.
0000 21 :*
0000 22 :*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
0000 23 :*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0000 24 :*
0000 25 :*
0000 26 :*****
0000 27
0000 28
0000 29 : FACILITY: MATH LIBRARY
0000 30 :++
0000 31 : ABSTRACT:
0000 32 :   This module contains routine MTH$DSIGN:
0000 33 :   Return arg1 with sign of arg2.
0000 34 :
0000 35 :
0000 36 :--
0000 37
0000 38 : VERSION: 0
0000 39
0000 40 : HISTORY:
0000 41
0000 42 : AUTHOR:
0000 43 :   Jonathan M. Taylor, 14-JUL-77: Version 0
0000 44
0000 45 : MODIFIED BY:
0000 46
0000 47
0000 48

```

MTH\$DSIGN  
1-002

DSIGN function  
HISTORY ;

K 11

16-SEP-1984 01:20:18 VAX/VMS Macro V04-00  
6-SEP-1984 11:22:32 [MTHRTL.SRC]MTH\$DSIGN.MAR;1

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(2)

```
0000 50      .SBTTL HISTORY          ; Detailed Current Edit History
0000 51
0000 52
0000 53 : Edit History for Version 0 of MTH$DSIGN
0000 54 :
0000 55 : 0-3 - Remove MTH$FLAG JACKET. TNH 5-July-78
0000 56 : 1-001 - Added a TITLE statement, updated version number and
0000 57 :      copyright notice. JBS 16-NOV-78
0000 58 : 1-002 - Add '_' to the PSECT directive. JBS 22-DEC-78
```

```
0000 60      .SBTTL  DECLARATIONS
0000 61
0000 62 ::
0000 63 :: INCLUDE FILES:
0000 64 ::   oerr.mar
0000 65 ::
0000 66
0000 67 ::
0000 68 :: EXTERNAL SYMBOLS:
0000 69 ::   NONE
0000 70 ::
0000 71
0000 72 ::
0000 73 :: MACROS:
0000 74 ::   NONE
0000 75 ::
0000 76
0000 77 ::
0000 78 :: PSECT DECLARATIONS:
0000 79 ::   .PSECT  _MTH$CODE      PIC, SHR, LONG, EXE, NOWRT
00000000
0000 80
0000 81 ::
0000 82 :: EQUATED SYMBOLS:
0000 83 ::   NONE
0000 84 ::
0000 85
0000 86 ::
0000 87 :: OWN STORAGE:
0000 88 ::   NONE
0000 89 ::
```



```

0000 91      .SBTTL MTH$DSIGN
0000 92
0000 93      :++
0000 94      : FUNCTIONAL DESCRIPTION:
0000 95      :   Return the value of arg1 with the sign of arg2.
0000 96      :
0000 97      :
0000 98      : CALLING SEQUENCE:
0000 99      :   NONE
0000 100     :   Transfer_of_sign.wd.v = MTH$DSIGN (arg1.rd.r, arg2.rd.r)
0000 101     :
0000 102     :
0000 103     : INPUT PARAMETERS:
0000 104     :   The two input parameters are double-precision floating-point
0000 105     :   values and are call-by-reference.
0000 106     :
0000 107     :
0000 108     : IMPLICIT INPUTS:
0000 109     :   NONE
0000 110     :
0000 111     : OUTPUT PARAMETERS:
0000 112     :   NONE
0000 113     :
0000 114     : IMPLICIT OUTPUTS:
0000 115     :   NONE
0000 116     :
0000 117     : COMPLETION CODES:
0000 118     :   NONE
0000 119     :
0000 120     : SIDE EFFECTS:
0000 121     :   Reserved Operand exceptions can occur.
0000 122     :
0000 123     :
0000 124     :--
0000 125
0000 126
0000 127     .TITLE MTH$DSIGN      DSIGN function
0000 128
0000 129     .ENTRY MTH$DSIGN,    ^M<>
0002 130
50  04 BC 70 0002 131     MOVD    @4(AP), R0      ; R0/R1 = arg1
   09 19 0006 132     BLSS    NEGARG      ; branch if negative arg1
0008 133
0008 134     ; arg1 is non-negative, check sign of arg2
0008 135     :
   08 BC 73 0008 136     TSTD    @8(AP)
   03 18 000B 137     BGEQ    EXIT          ; exit if both args are positive
000D 138     NEGATE:
50  50 72 000D 139     MNEGD   R0, R0      ; negate arg1
   04 0010 140     EXIT:
   0011 141     RET
   0011 142
   0011 143     ; arg1 is negative, check sign of arg2
   0011 144     :
   0011 145     NEGARG:
   08 BC 73 0011 146     TSTD    @8(AP)
   F7 18 0014 147     BGEQ    NEGATE      ; negate arg1 if arg2 positive

```

MTHSDSIGN  
1-002

DSIGN function  
MTHSDSIGN

N 11

16-SEP-1984 01:20:18 VAX/VMS Macro V04-00  
6-SEP-1984 11:22:32 [MTHRTL.SRC]MTHSDSIGN.MAR;1

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(4)

04	0016	148	RET
	0017	149	
	0017	150	
	0017	151	.END



MTH\$DSIGN  
Symbol table

DSIGN function

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16-SEP-1984 01:20:18  
6-SEP-1984 11:22:32

VAX/VMS Macro V04-00  
[MTHRTL.SRC]MTHDSIGN.MAR;1

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(4)

EXIT	00000010	R	01
MTH\$DSIGN	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	34	00:00:00.09	00:00:00.37
Command processing	112	00:00:00.49	00:00:02.82
Pass 1	67	00:00:00.39	00:00:01.81
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	40	00:00:00.33	00:00:01.86
Symbol table output	2	00:00:00.02	00:00:00.02
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	259	00:00:01.36	00:00:06.90

The working set limit was 900 pages.  
 1453 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.  
 151 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\$:MTHDSIGN/OBJ=OBJ\$:MTHDSIGN MSRC\$:MTHDSIGN/UPDATE=(ENH\$:MTHDSIGN)



MTHCASH LIS

MTHADMINI LIS

MTHLOG LIS

MTHDSINCO LIS

MTHDATANH LIS

MTHDINT LIS

MTHDSORT LIS

MTHDCONJG LIS

MTHDINT LIS

MTHMAXI LIS

MTHDSIGN LIS

MTHDIMP LIS

MTHMOD LIS

MTHDSINH LIS

MTHDEXP LIS

MTHDFLOOR LIS

MTHDPROD LIS