


```

MM      MM      TTTTTTTTTT  HH      HH      HH      HH      IIIIII      NN      NN      TTTTTTTTTT
MM      MM      TTTTTTTTTT  HH      HH      HH      HH      IIIIII      NN      NN      TTTTTTTTTT
MMMM    MMMM      TT          HH      HH      HH      HH      II          NN      NN      TT
MMMM    MMMM      TT          HH      HH      HH      HH      II          NN      NN      TT
MM      MM      TT          HH      HH      HH      HH      II          NNNN     NN      TT
MM      MM      TT          HH      HH      HH      HH      II          NNNN     NN      TT
MM      MM      TT          HHHHHHHHHH  HHHHHHHHHH  II          NN      NN      TT
MM      MM      TT          HHHHHHHHHH  HHHHHHHHHH  II          NN      NN      TT
MM      MM      TT          HH      HH      HH      HH      II          NN      NNNN     TT
MM      MM      TT          HH      HH      HH      HH      II          NN      NNNN     TT
MM      MM      TT          HH      HH      HH      HH      II          NN      NN      TT
MM      MM      TT          HH      HH      HH      HH      IIIIII     NN      NN      TT
MM      MM      TT          HH      HH      HH      HH      IIIIII     NN      NN      TT

```

```

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
LLLLLLLLLLLL  IIIIII      SSSSSSSS
LLLLLLLLLLLL  IIIIII      SSSSSSSS

```

MTHSHINT
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- FLOATING TRUNCATION

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(4)	95	MTHSHINT	H to H truncation
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MTH
2-
07:
000
EDI
000
000
67/
000
B2:
000
000
C6:
000
250
000
000
4B:
000
67:
000
000
E5:
000
7A:
000
000
AC:
000
FA:
000
000
6C:
000
A3:
000
000
E5:
000
DD:
000
000
FF:
000
36:
000
000
F5:
000
82:

```

0000 1 .TITLE MTHSHINT - FLOATING TRUNCATION
0000 2 .IDENT /1-005/ ; File: MTHSHINT.MAR EDIT: JAW1005
0000 3
0000 4
0000 5 :*****
0000 6 :*
0000 7 :* COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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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 MTHSHINT:
0000 33 : Return truncated H floating argument.
0000 34 :
0000 35 :
0000 36 :--
0000 37 :
0000 38 : VERSION: 1
0000 39 :
0000 40 : HISTORY:
0000 41 :
0000 42 : AUTHOR:
0000 43 : Steven B. Lionel, 18-Jan-79: Version 1
0000 44 :
0000 45 : MODIFIED BY:
0000 46 :
0000 47 :
0000 48 :

```

MTH
2-C
00C
00C
76E
00C
38C
00C
00C
7AE
00C
254
00C
5F9
92C
7AE
5EC
AE7
4B4
298
E56
2CE
OAC
628
FES
ED6
47E
BES
CEE
00C
59F
00C
00C
844
001
85E
C2E
90E
F84
731
5FE

MTHSHINT
1-005

N 1
- FLOATING TRUNCATION HISTORY ; Detailed Current Edit History 16-SEP-1984 01:36:26 VAX/VMS Macro V04-00
6-SEP-1984 11:25:00 [MTHRTL.SRC]MTHSHINT.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 1 of MTHSHINT
0000 54 :
0000 55 : 1-001 - Original. SBL 18-Jan-79
0000 56 : 1-002 - Add a JSB entry point. JBS 16-AUG-1979
0000 57 : 1-003 - Change JSB entry to _R8 to reflect code to disable IV.
0000 58 : SBL 26-Sept-1979
0000 59 : 1-004 - Changed RET in JSB routine to RSB. 11-FEB-81
0000 60 : 1-005 - Mask all bits except IV when restoring PSW. JAW 14-Jul-1981
0000 61 :
```

MTH
2-C
DDA
48C
00C
065

```
0000 63      .SBTTL  DECLARATIONS
0000 64
0000 65 :
0000 66 : INCLUDE FILES:
0000 67 :     NONE
0000 68 :
0000 69 :
0000 70 :
0000 71 : EXTERNAL SYMBOLS:
0000 72 :     NONE
0000 73 :
0000 74 :
0000 75 :
0000 76 : MACROS:
0000 77 :
0000 78 :     $PSLDEF                ; PSL macros
0000 79 :
0000 80 :
0000 81 :
0000 82 : PSECT DECLARATIONS:
0000 83 :     .PSECT  _MTH$CODE     PIC, SHR, LONG, EXE, NOWRT
0000 84 :
0000 85 :
0000 86 : EQUATED SYMBOLS:
0000 87 :     NONE
0000 88 :
0000 89 :
0000 90 :
0000 91 : OWN STORAGE:
0000 92 :     NONE
0000 93 :
```

```

0000 95 .SBTTL MTHSHINT H to H truncation
0000 96
0000 97 :++
0000 98 : FUNCTIONAL DESCRIPTION:
0000 99 :
0000 100 : Returns the argument with all zeroes to the right of the decimal
0000 101 : point.
0000 102 :
0000 103 : Because the result can not be expressed in 64 bits, it is
0000 104 : returned as the first argument with the input parameter
0000 105 : displaced to the second argument, in accordance with
0000 106 : the system standard.
0000 107 :
0000 108 : CALLING SEQUENCE:
0000 109 :
0000 110 : CALL MTHSHINT (truncation.wh.r, arg.rh.r)
0000 111 :
0000 112 : INPUT PARAMETERS:
0000 113 :
0000 114 : The input argument is a H floating-point value
0000 115 : and is call-by-reference.
0000 116 :
0000 117 : IMPLICIT INPUTS:
0000 118 :
0000 119 : NONE
0000 120 :
0000 121 : OUTPUT PARAMETERS:
0000 122 :
0000 123 : The output argument is an H floating-point value
0000 124 : and is returned by reference.
0000 125 :
0000 126 : IMPLICIT OUTPUTS:
0000 127 :
0000 128 : NONE
0000 129 :
0000 130 : COMPLETION CODES:
0000 131 :
0000 132 : NONE
0000 133 :
0000 134 : SIDE EFFECTS:
0000 135 :
0000 136 : Reserved Operand exception can occur.
0000 137 :
0000 138 :--
0000 139 : .ENTRY MTHSHINT, ^M<>
04 BC 08 00 08 BC 74FD 0002 140 : EMOBH @8(AP), #0, #1, @4(AP), @4(AP)
04 BC 000A
04 BC 08 BC 04 BC 63FD 000C 141 : SUBH3 @4(AP), @8(AP), @4(AP) ; first arg gets fraction
04 000C 142 : RET ; @4(AP) = integer_part(arg)
04 0014 143

```

```

0015 145 .SBTTL MTHSHINT_R8 JSB entry point
0015 146
0015 147 :++
0015 148 : FUNCTIONAL DESCRIPTION:
0015 149 :
0015 150 : Returns the argument with all zeroes to the right of the decimal
0015 151 : point.
0015 152 :
0015 153 : CALLING SEQUENCE:
0015 154 :
0015 155 : truncation.wh.v = JSB MTHSHINT_R8 (arg.rh.v)
0015 156 :
0015 157 : INPUT PARAMETERS:
0015 158 :
0015 159 : The input argument is a H floating-point value
0015 160 : and is call-by-value.
0015 161 :
0015 162 : IMPLICIT INPUTS:
0015 163 :
0015 164 : NONE
0015 165 :
0015 166 : OUTPUT PARAMETERS:
0015 167 :
0015 168 : The output argument is an H floating-point value
0015 169 : and is returned by value in registers R0-R3.
0015 170 :
0015 171 : IMPLICIT OUTPUTS:
0015 172 :
0015 173 : NONE
0015 174 :
0015 175 : COMPLETION CODES:
0015 176 :
0015 177 : NONE
0015 178 :
0015 179 : SIDE EFFECTS:
0015 180 :
0015 181 : Reserved Operand exception can occur.
0015 182 :
0015 183 :--
0015 184 MTHSHINT R8::
0015 185 MOVPSL R8 ; Argument in R0-R3
0017 186 BICPSW #PSL$M_IV ; Save PSL
0019 187 EMODH R0, #0, #1, R4, R4 ; Clear IV
0020 188 SUBH3 R4, R0, R0 ; R4-R7 gets fraction
0025 189 BICW #^C<PSL$M_IV>, R8 ; R0-R3 = integer part(arg)
002A 190 BISPSW R8 ; Clear all but IV
002C 191 RSB ; Restore IV to previous state
002D 192
002D 193 .END

```

```

54 54 08 00 58 DC
50 50 54 74FD 20 B9
58 FFDF 8F AA 50 63FD 0019
58 88 0020 188
0025 189
002A 190
002C 191
002D 192
002D 193

```

MTH\$HINT
Symbol table

- FLOATING TRUNCATION

E 2

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MTH
2-0

MTH\$HINT 00000000 RG 02
MTH\$HINT_R8 00000015 RG 02
PSL\$M_IV = 00000020

! Psect synopsis !

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NGSHR NOEXE NORD NOWRT NOVEC BYTE
\$ABSS	00000000 (0.)	01 (1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
_MTH\$CODE	00000020 (45.)	02 (2.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

! Performance indicators !

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.10	00:00:00.79
Command processing	118	00:00:00.50	00:00:02.74
Pass 1	119	00:00:00.97	00:00:04.67
Symbol table sort	0	00:00:00.02	00:00:00.02
Pass 2	47	00:00:00.48	00:00:01.49
Symbol table output	2	00:00:00.02	00:00:00.02
Psect synopsis output	2	00:00:00.02	00:00:00.16
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	319	00:00:02.13	00:00:09.95

The working set limit was 900 pages.
4109 bytes (9 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 41 non-local and 0 local symbols.
193 source lines were read in Pass 1, producing 13 object records in Pass 2.
8 pages of virtual memory were used to define 7 macros.

! Macro library statistics !

Macro library name	Macros defined
_\$255\$DUA28:[SYSLIB]STARLET.MLB;2	4

98 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

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

MTHSIGN LIS

MTHFLOOR LIS

MTHSIGN LIS

MTHMINI LIS

MTHLOG LIS

MTHHTAN LIS

MTHIDNNT LIS

MTHIHNT LIS

MTHHSORT LIS

MTHIMAX0 LIS

MTHHINT LIS

MTHHSINH LIS

MTHHTANH LIS

MTHHINT LIS

MTHMAX1 LIS

MTHHSINCO LIS

MTHMOD LIS

MTHIGNNT LIS