


```

MM      MM      TTTTTTTTTT  HH      HH      HH      HH      MM      MM      AAAAAA      XX      XX      11
MM      MM      TTTTTTTTTT  HH      HH      HH      HH      MM      MM      AAAAAA      XX      XX      11
MMMM    MMMM    TT          HH      HH      HH      HH      MMMM  MMMM  AA      AA      XX      XX      1111
MMMM    MMMM    TT          HH      HH      HH      HH      MMMM  MMMM  AA      AA      XX      XX      1111
MM      MM      TT          HH      HH      HH      HH      MM      MM      AA      AA      XX  XX  11
MM      MM      TT          HH      HH      HH      HH      MM      MM      AA      AA      XX  XX  11
MM      MM      TT          HHHHHHHHHH  HHHHHHHHHH  MM      MM      AA      AA      XX  XX  11
MM      MM      TT          HHHHHHHHHH  HHHHHHHHHH  MM      MM      AA      AA      XX  XX  11
MM      MM      TT          HH      HH      HH      HH      MM      MM      AAAAAAAAAA  XX  XX  11
MM      MM      TT          HH      HH      HH      HH      MM      MM      AAAAAAAAAA  XX  XX  11
MM      MM      TT          HH      HH      HH      HH      MM      MM      AA      AA      XX  XX  11
MM      MM      TT          HH      HH      HH      HH      MM      MM      AA      AA      XX  XX  11
MM      MM      TT          HH      HH      HH      HH      MM      MM      AA      AA      XX  XX  111111
MM      MM      TT          HH      HH      HH      HH      MM      MM      AA      AA      XX  XX  111111

```

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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

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(2)	50	HISTORY	: Detailed Current Edit History
(3)	59	DECLARATIONS	
(4)	91	MTH\$HMAX1	

```

0000 1      .TITLE MTH$HMAX1      HMAX1 function
0000 2      .IDENT /1-002/      ; File: MTHHMAX1.MAR  EDIT: JCW1002
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```

```

FACILITY: MATH LIBRARY
++
ABSTRACT:
  This module contains MTH$HMAX1:
  Return the maximum of n H floating-point values.
--

```

```

VERSION: 1
HISTORY:
AUTHOR:
  Steven B. Lionel, 18-Jan-79: Version 1
MODIFIED BY:
  Jeffrey C. Wiener, 14-May-84: Version 1

```

MTH\$HMAX1
1-002

HMAX1 function
HISTORY ; Detailed Current Edit History

N 3

16-SEP-1984 01:37:15 VAX/VMS Macro V04-00
6-SEP-1984 11:25:06 [MTHRTL.SRC]MTHHMAX1.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 MTH$HMAX1
0000 54 :
0000 55 : 1-001 - Original. SBL 18-Jan-79
0000 56 : 1-002 - The code as written did not work. Fixed various references to AP
0000 57 : and changed a GTR to a GEQ. Also fixed some comments. JCW 14-May-1984
```

MTH\$
3-00

```
0000 59      .SBTTL DECLARATIONS
0000 60
0000 61 :
0000 62 : INCLUDE FILES:
0000 63 :     NONE
0000 64 :
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
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$HMAX1
0000 92
0000 93      :++
0000 94      : FUNCTIONAL DESCRIPTION:
0000 95      : Returns the maximum of n arguments, n is greater or equal to 1.
0000 96      :
0000 97      : Because the result can not be expressed in 64 bits, the
0000 98      : maximum of arguments 2 through n is returned as argument 1.
0000 99
0000 100
0000 101     : CALLING SEQUENCE:
0000 102     : CALL MTH$HMAX1 (Maximum.wh.r, {arg.rh.r})
0000 103
0000 104
0000 105
0000 106     : INPUT PARAMETERS:
0000 107     : The n input parameters are G floating-point
0000 108     : values and are call-by-reference.
0000 109
0000 110
0000 111     : IMPLICIT INPUTS:
0000 112     : NONE
0000 113
0000 114     : OUTPUT PARAMETERS:
0000 115     : The H floating output parameter is returned by reference.
0000 116
0000 117     : IMPLICIT OUTPUTS:
0000 118     : NONE
0000 119
0000 120     : COMPLETION CODES:
0000 121     : NONE
0000 122
0000 123     : SIDE EFFECTS:
0000 124     : Reserved Operand exception can occur.
0000 125
0000 126
0000 127     :--
0000 128
51  6C 0000 0000 129     .ENTRY MTH$HMAX1,      ^M<>
      51 9A 0002 130     MOVZBL (AP), R1      ; R1 = arg count
      8C D7 0005 131     DECL   R1          ; R1 = the actual number of parameters
50  6C D5 0007 132     TSTL  (AP)+      ; Arg count > 0 test and then bump AP 4
      8C D0 0009 133     MOVL  (AP), R0      ; save address of result
60  9C 70FD 000E 134     TSTL  (AP)+      ; AP -> first arg
      09 11 0012 135 1$: MOVH  @ (AP)+, (R0) ; (R0) = trial max
      8C D5 000C 136     BRB   3$          ; check arg count
60  00 BC 71FD 0014 137 2$: CMPH  @ (AP), (R0) ; if this arg is greater than trial max
      F3 18 0019 138     BGEQ  1$          ; then it becomes trial max
      8C D5 001B 139     TSTL  (AP)+      ; else ignore it
      F4 51 F5 001D 140 3$: SOBGTR R1, 2$ ; return if arg count exhausted
      04 0020 141     RET
      0021 142
      0021 143     .END

```

MTH\$HMAX1
Symbol table

HMAX1 function

D 4

16-SEP-1984 01:37:15
6-SEP-1984 11:25:06

VAX/VMS Macro V04-00
[MTHRTL.SRC]MTHHMAX1.MAR;1

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(4)

MTH\$HMAX1 00000000 RG 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	00000021 (33.)	01 (1.)	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	00:00:00.52
Command processing	118	00:00:00.56	00:00:03.76
Pass 1	70	00:00:00.41	00:00:01.82
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	39	00:00:00.31	00:00:01.86
Symbol table output	2	00:00:00.02	00:00:00.12
Psect synopsis output	2	00:00:00.02	00:00:00.03
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	262	00:00:01.43	00:00:08.12

The working set limit was 900 pages.
1481 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 1 non-local and 3 local symbols.
143 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\$:MTHHMAX1/OBJ=OBJ\$:MTHHMAX1 MSRC\$:MTHHMAX1/UPDATE=(ENH\$:MTHHMAX1)

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