


```

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

```

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

HISTORY ; Detailed Current Edit History
DECLARATIONS
MTH\$IMAX1, MTH\$JMAX1, MTH\$AMAX1

```
0000 1 .TITLE MTH$MAX1 IMAX1 JMAX1, and AMAX1 functions
0000 2 .IDENT /1-002/ ; File: MTHMAX1
0000 3
0000 4
0000 5 *****
0000 6 *
0000 7 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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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 maximum value functions which take
0000 33 floating-point values as arguments.
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, 12-JUL-77: Version 0
0000 44
0000 45 MODIFIED BY:
0000 46
0000 47
0000 48
```

MTHSMAX1
1-002

IMAX1 JMAX1 and AMAX1 functions H 6
HISTORY ; Detailed Current Edit History 16-SEP-1984 01:46:42 VAX/VMS Macro V04-00
6-SEP-1984 11:26:38 [MTHRTL.SRC]MTHMAX1.MAR;1

Page (2)

```
0000 50 .SBTTL HISTORY ; Detailed Current Edit History
0000 51
0000 52
0000 53 : Edit History for Version 0 of MTHMAX1
0000 54 :
0000 55 : 0-4 - Remove MTHSFLAG JACKET. TNH 26-July-78
0000 56 : 0-5 - Fix access violation. TNH 16-Aug-78
0000 57 : 1-001 - Update version number and 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
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$IMAX1, MTH$JMAX1, MTH$AMAX1
0000 92
0000 93      :++
0000 94      : FUNCTIONAL DESCRIPTION:
0000 95      : Call routine MAXF to compute the maximum of n arguments, n is
0000 96      : greater than or equal to 1.
0000 97      : Return result converted to the proper type.
0000 98      :
0000 99      :
0000 100     :
0000 101     : CALLING SEQUENCE:
0000 102     : Maximum.wv.v =MTH$IMAX1 ({arg.rf.r})
0000 103     : Maximum.wl.v =MTH$JMAX1 ({arg.rf.r})
0000 104     : Maximum.wf.v =MTH$AMAX1 ({arg.rf.r})
0000 105     :
0000 106     :
0000 107     :
0000 108     : INPUT PARAMETERS:
0000 109     : The n parameters are single-precision floating-point values
0000 110     : and are call-by-reference.
0000 111     :
0000 112     :
0000 113     : IMPLICIT INPUTS:
0000 114     : NONE
0000 115     :
0000 116     : OUTPUT PARAMETERS:
0000 117     : NONE
0000 118     :
0000 119     : IMPLICIT OUTPUTS:
0000 120     : NONE
0000 121     :
0000 122     : COMPLETION CODES:
0000 123     : NONE
0000 124     :
0000 125     : SIDE EFFECTS:
0000 126     : Reserved Operand and Integer Overflow exceptions can occur.
0000 127     :
0000 128     :
0000 129     :--
0000 130
0000 131
0000 132
0000 133
50  11 4000 0000 134      .ENTRY  MTH$IMAX1,      ^M<IV>
50  50 10 0002 135      BSB    MAXF          ; R0 = max arg
50  50 49 0004 136      CVTFW  RO, RO       ; INTEGER*2 it
50  50 04 0007 137      RET
50  09 4000 0008 138
50  50 10 000A 139      .ENTRY  MTH$JMAX1,      ^M<IV>
50  50 4A 000C 140      BSB    MAXF          ; R0 = max arg
50  50 04 000F 141      CVTFL  RO, RO       ; INTEGER*4 it
0000 0010 142      RET
0000 0010 143
0000 0010 144      .ENTRY  MTH$AMAX1,      ^M<>
0000 0012 145      BSB    MAXF          ; R0 = max arg
0000 0014 146      RET
0000 0015 147

```

```
0015 148 :+
0015 149 : MAXF returns the largest of the REAL*4 args.
0015 150 :-
0015 151 :
0015 152 MAXF:
51 6C 9A 0015 153 MOVZBL (AP), R1 ; R1 = number of args
      8C D5 0018 154 TSTL (AP)+ ; Ap -> first arg adr
50 9C 50 001A 155 1$: MOVF @(AP)+, R0 ; get trial max
      08 11 001D 156 BRB 3$ ; check arg count
50 00 BC 51 001F 157 2$: CMPF @0(AP),R0 ; if this arg is greater then trial max
      F5 14 0023 158 BGTR 1$ ; then it becomes trial max
      8C D5 0025 159 TSTL (AP)+ ; else ignore it
      F5 51 F5 0027 160 3$: SOBGTR R1, 2$ ; check arg count
      05 002A 161 RSB
      002B 162
      002B 163
      002B 164 .END
```


MTH\$MAX1
Symbol table

IMAX1 JMAX1, and AMAX1 functions

L 6

16-SEP-1984 01:46:42
6-SEP-1984 11:26:38

VAX/VMS Macro V04-00
[MTHRTL.SRC]MTHMAX1.MAR;1

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(4)

MAXF	00000015	R	01
MTH\$AMAX1	00000010	RG	01
MTH\$IMAX1	00000000	RG	01
MTH\$JMAX1	00000008	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	0000002B (43.)	01 (1.)	PIC	USR	CON	REL	LCL	SHR	EXE	RD	NOWRT	NOVEC	LONG

! Performance indicators !

Phase	Page faults	CPU Time	Elapsed Time
Initialization	34	00:00:00.08	00:00:01.10
Command processing	152	00:00:00.47	00:00:03.88
Pass 1	65	00:00:00.40	00:00:01.71
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	43	00:00:00.34	00:00:01.39
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	2	00:00:00.02	00:00:00.10
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	300	00:00:01.33	00:00:08.19

The working set limit was 900 pages.
 1770 bytes (4 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 3 local symbols.
 164 source lines were read in Pass 1, producing 16 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\$:MTHMAX1/OBJ=OBJ\$:MTHMAX1 MSRC\$:MTHMAX1/UPDATE=(ENH\$:MTHMAX1)

The image displays a grid of 144 terminal windows, arranged in 12 rows and 12 columns. Each window shows the output of a different system utility. The windows are organized into several groups, with some windows in a group sharing a common title. The titles of the visible windows are as follows:

- Row 1: 12 windows with various titles.
- Row 2: 12 windows, including 'MTHMINO LIS' (col 2), 'MTHMSG LIS' (col 4), and 'MTHMINO LIS' (col 12).
- Row 3: 12 windows, including 'MTHMINO LIS' (col 1), 'MTHJDMNT LIS' (col 2), 'MTHMAXI LIS' (col 4), and 'MTHMINO LIS' (col 12).
- Row 4: 12 windows, including 'MTHJDMNT LIS' (col 1), 'MTHJDMNT LIS' (col 2), 'MTHMSGDEF LIS' (col 4), and 'MTHMINO LIS' (col 12).
- Row 5: 12 windows, including 'MTHJDMNT LIS' (col 1), 'MTHJDMNT LIS' (col 2), 'MTHSGN LIS' (col 4), and 'MTHMINO LIS' (col 12).
- Row 6: 12 windows, including 'MTHJDMNT LIS' (col 1), 'MTHJDMNT LIS' (col 2), 'MTHMAXO LIS' (col 4), 'MTHMOD LIS' (col 5), and 'MTHMINO LIS' (col 12).
- Row 7: 12 windows, including 'MTHMINO LIS' (col 1), 'MTHMINO LIS' (col 2), 'MTHMINO LIS' (col 3), 'MTHMINO LIS' (col 4), 'MTHMINO LIS' (col 5), 'MTHMINO LIS' (col 6), 'MTHMINO LIS' (col 7), 'MTHMINO LIS' (col 8), 'MTHMINO LIS' (col 9), 'MTHMINO LIS' (col 10), 'MTHMINO LIS' (col 11), and 'MTHMINO LIS' (col 12).
- Row 8: 12 windows, including 'MTHMINO LIS' (col 1), 'MTHMINO LIS' (col 2), 'MTHMINO LIS' (col 3), 'MTHJINT LIS' (col 4), 'MTHMINO LIS' (col 5), 'MTHMINO LIS' (col 6), 'MTHMINO LIS' (col 7), 'MTHMINO LIS' (col 8), 'MTHMINO LIS' (col 9), 'MTHMINO LIS' (col 10), 'MTHMINO LIS' (col 11), and 'MTHMINO LIS' (col 12).
- Row 9: 12 windows, including 'MTHMINO LIS' (col 1), 'MTHMINO LIS' (col 2), 'MTHMINO LIS' (col 3), 'MTHMINO LIS' (col 4), 'MTHRANDOM LIS' (col 5), 'MTHMINO LIS' (col 6), 'MTHMINO LIS' (col 7), 'MTHMINO LIS' (col 8), 'MTHMINO LIS' (col 9), 'MTHMINO LIS' (col 10), 'MTHMINO LIS' (col 11), and 'MTHMINO LIS' (col 12).
- Row 10: 12 windows, including 'MTHMINO LIS' (col 1), 'MTHJIGNT LIS' (col 2), 'MTHMINO LIS' (col 3), 'MTHMINO LIS' (col 4), 'MTHMINO LIS' (col 5), 'MTHMINO LIS' (col 6), 'MTHMINO LIS' (col 7), 'MTHMINO LIS' (col 8), 'MTHMINO LIS' (col 9), 'MTHMINO LIS' (col 10), 'MTHMINO LIS' (col 11), and 'MTHMINO LIS' (col 12).
- Row 11: 12 windows, including 'MTHMINO LIS' (col 1), 'MTHMINO LIS' (col 2), 'MTHMINO LIS' (col 3), 'MTHMINO LIS' (col 4), 'MTHMINO LIS' (col 5), 'MTHMINO LIS' (col 6), 'MTHMINO LIS' (col 7), 'MTHMINO LIS' (col 8), 'MTHMINO LIS' (col 9), 'MTHMINO LIS' (col 10), 'MTHMINO LIS' (col 11), and 'MTHMINO LIS' (col 12).
- Row 12: 12 windows, including 'MTHMINO LIS' (col 1), 'MTHMINO LIS' (col 2), 'MTHJISGN LIS' (col 3), 'MTHMINO LIS' (col 4), 'MTHMINO LIS' (col 5), 'MTHMINO LIS' (col 6), 'MTHMINO LIS' (col 7), 'MTHMINO LIS' (col 8), 'MTHMINO LIS' (col 9), 'MTHMINO LIS' (col 10), 'MTHMINO LIS' (col 11), and 'MTHMINO LIS' (col 12).