```
MMM          MMM  TTTTTTTTTTTTTTT  HHH          HHH  RRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
MMM          MMM  TTTTTTTTTTTTTTT  HHH          HHH  RRRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
MMM          MMM  TTTTTTTTTTTTTTT  HHH          HHH  RRRRRRRRRRRR    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       HHHHHHHHHHHHHHH  RRRRRRRRRRR         TTT         LLL
MMM       MMM           TTT       HHHHHHHHHHHHHHH  RRRRRRRRRRRR        TTT         LLL
MMM       MMM           TTT       HHHHHHHHHHHHHHH  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         LLL
MMM       MMM           TTT       HHH          HHH  RRR         RRR     TTT         LLLLLLLLLLLLLLL
MMM       MMM           TTT       HHH          HHH  RRR         RRR     TTT         LLLLLLLLLLLLLLL
MMM       MMM           TTT       HHH          HHH  RRR         RRR     TTT         LLLLLLLLLLLLLLL
```

**FILE**ID**MTHIIGNNT

```
MM      MM  TTTTTTTTTT  HH      HH    IIIIII      IIIIII     GGGGGGGG  NN      NN  NN      NN  TTTTTTTTTT
MM      MM  TTTTTTTTTT  HH      HH    IIIIII      IIIIII     GGGGGGGG  NN      NN  NN      NN  TTTTTTTTTT
MMMM  MMMM      TT      HH      HH      II          II     GG          NN      NN  NN      NN      TT
MMMM  MMMM      TT      HH      HH      II          II     GG          NN      NN  NN      NN      TT
MM  MM  MM      TT      HH      HH      II          II     GG          NNNN    NN  NNNN    NN      TT
MM  MM  MM      TT      HH      HH      II          II     GG          NNNN    NN  NNNN    NN      TT
MM      MM      TT      HHHHHHHHHH      II          II     GG          NN  NN  NN  NN  NN  NN      TT
MM      MM      TT      HHHHHHHHHH      II          II     GG          NN  NN  NN  NN  NN  NN      TT
MM      MM      TT      HH      HH      II          II     GG  GGGGGG  NN    NNNN  NN    NNNN      TT
MM      MM      TT      HH      HH      II          II     GG  GGGGGG  NN    NNNN  NN    NNNN      TT
MM      MM      TT      HH      HH      II          II     GG      GG  NN      NN  NN      NN      TT      ....
MM      MM      TT      HH      HH      II          II     GG      GG  NN      NN  NN      NN      TT      ....
MM      MM      TT      HH      HH    IIIIII      IIIIII     GGGGGG    NN      NN  NN      NN      TT      ....
MM      MM      TT      HH      HH    IIIIII      IIIIII     GGGGGG    NN      NN  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
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

Table of contents

```
0000     1          .TITLE  MTH$IIGNNT - Nearest Integer
0000     2          .IDENT  /1-002/         ; File: MTHIIGNNT.MAR
0000     3
0000     4 ;
0000     5 ;****************************************************************************
0000     6 ;*                                                                          *
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0000    24 ;*                                                                          *
0000    25 ;*                                                                          *
0000    26 ;****************************************************************************
0000    27 ;
0000    28
0000    29 ;
0000    30 ; FACILITY: MATH LIBRARY
0000    31 ;++
0000    32 ; ABSTRACT:
0000    33 ;
0000    34 ;       Return nearest integer of a G REAL*8 to a INTEGER*2.
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, 05-Feb-79: Version 1
0000    44 ;
0000    45 ; MODIFIED BY:
0000    46 ;
0000    47 ;
0000    48 ;
```

```
0000     50          .SBTTL  HISTORY          ; Detailed Current Edit History
0000     51
0000     52
0000     53 ; Edit History for Version 1 of MTH$IIGNNT
0000     54 ;
0000     55 ; 1-001 - Original.  SBL 05-Feb-79
0000     56 ; 1-002 - Use CVTRGL.  SBL 21-Aug-1979
```

```
                        .SBTTL  DECLARATIONS

;
; INCLUDE FILES:
;

;
; EXTERNAL SYMBOLS:
;

;
; MACROS:
;

;
; PSECT DECLARATIONS:
;
00000000                .PSECT  _MTH$CODE       PIC, SHR, LONG, EXE, NOWRT

;
; EQUATED SYMBOLS:
;

;
; OWN STORAGE:
;
```

```
                                84          .SBTTL  MTH$IIGNNT - return nearest integer as INTEGER*2
                                85
                                86 ;++
                                87 ; FUNCTIONAL DESCRIPTION:
                                88 ;
                                89 ; Returns the nearest integer (rounded away from zero) of a G
                                90 ; REAL*8 to a INTEGER*2 as a function value.
                                91 ;
                                92 ; CALLING SEQUENCE:
                                93 ;
                                94 ;       nearest_int.ww.v = MTH$IIGNNT (arg.rg.r)
                                95 ;
                                96 ;
                                97 ; INPUT PARAMETERS:
00000004                        98 ;       arg = 4         ; G floating argument
                                99 ;
                               100 ; IMPLICIT INPUTS:
                               101 ;       NONE
                               102 ;
                               103 ; OUTPUT PARAMETERS:
                               104 ;       NONE
                               105 ;
                               106 ; IMPLICIT OUTPUTS:
                               107 ;       NONE
                               108 ;
                               109 ; FUNCTION VALUE:
                               110 ;       nearest_integer - The integer nearest to arg, rounded
                               111 ;                         away from zero.
                               112 ;
                               113 ; SIDE EFFECTS:
                               114 ;       Reserved operand, Integer overflow exceptions.
                               115 ;
                               116 ;--
                               117
                               118
                               119
                      4000     120 .ENTRY  MTH$IIGNNT,     ^M<IV>
50    04 BC             4BFD   121 CVTRGL  @arg(AP), R0             ; R0 = rounded arg
   50    50                F7   122 CVTLW   R0, R0                  ; R0 = word result
                           04   123 RET
                               124
                               125
                               126 .END
```

```
ARG             = 00000004
MTH$IIGNNT        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 | 0000000B ( 11.) | 01 ( 1.) | PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG |

### Performance indicators

| Phase | Page faults | CPU Time | Elapsed Time |
|---|---|---|---|
| Initialization | 31 | 00:00:00.09 | 00:00:01.29 |
| Command processing | 147 | 00:00:00.60 | 00:00:03.92 |
| Pass 1 | 77 | 00:00:00.39 | 00:00:02.34 |
| Symbol table sort | 0 | 00:00:00.00 | 00:00:00.00 |
| Pass 2 | 38 | 00:00:00.29 | 00:00:01.32 |
| Symbol table output | 1 | 00:00:00.01 | 00:00:00.02 |
| Psect synopsis output | 2 | 00:00:00.02 | 00:00:00.19 |
| Cross-reference output | 0 | 00:00:00.00 | 00:00:00.00 |
| Assembler run totals | 298 | 00:00:01.41 | 00:00:09.09 |

```
The working set limit was 750 pages.
1215 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 2 non-local and 0 local symbols.
126 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$:MTHIIGNNT/OBJ=OBJ$:MTHIIGNNT MSRC$:MTHIIGNNT/UPDATE=(ENH$:MTHIIGNNT)
```

MTHIISIGN
LIS

MTHHFLOOR
LIS

MTHHSIGN
LIS

MTHHMIN
LIS

MTHHLOG
LIS

MTHHTAN
LIS

MTHIIONNT
LIS

MTHIIHNNT
LIS

MTHHSQRT
LIS

MTHIMAX0
LIS

MTHHNINT
LIS

MTHHSINH
LIS

MTHHTANH
LIS

MTHHINT
LIS

MTHHMAX1
LIS

MTHHSINCO
LIS

MTHHMOD
LIS

MTHIIGNNT
LIS