```
LLL                 000000000          GGGGGGGGGGGG    IIIIIIIII      NNN           NNN
LLL                 000000000          GGGGGGGGGGGG    IIIIIIIII      NNN           NNN
LLL                 000000000          GGGGGGGGGGGG    IIIIIIIII      NNN           NNN
LLL              000      000    GGG                      III         NNN           NNN
LLL              000      000    GGG                      III         NNN           NNN
LLL              000      000    GGG                      III         NNNNNN        NNN
LLL              000      000    GGG                      III         NNNNNN        NNN
LLL              000      000    GGG                      III         NNNNNN        NNN
LLL              000      000    GGG                      III         NNN   NNN     NNN
LLL              000      000    GGG                      III         NNN   NNN     NNN
LLL              000      000    GGG                      III         NNN   NNN     NNN
LLL              000      000    GGG  GGGGGGGGG           III         NNN     NNNNNN
LLL              000      000    GGG  GGGGGGGGG           III         NNN     NNNNNN
LLL              000      000    GGG  GGGGGGGGG           III         NNN     NNNNNN
LLL              000      000    GGG        GGG           III         NNN           NNN
LLL              000      000    GGG        GGG           III         NNN           NNN
LLLLLLLLLLLLLL        000000000       GGGGGGGGG       IIIIIIIII      NNN           NNN
LLLLLLLLLLLLLL        000000000       GGGGGGGGG       IIIIIIIII      NNN           NNN
LLLLLLLLLLLLLL        000000000       GGGGGGGGG       IIIIIIIII      NNN           NNN
```

LOG
V04

```
LL          IIIIII   BBBBBBBB   HH      HH    000000      UU        UU   RRRRRRR
LL          IIIIII   BBBBBBBB   HH      HH    000000      UU        UU   RRRRRRR
LL            II     BB    BB   HH      HH   00      00   UU        UU   RR       RR
LL            II     BB    BB   HH      HH   00      00   UU        UU   RR       RR
LL            II     BB    BB   HH      HH   00      00   UU        UU   RR       RR
LL            II     BB    BB   HH      HH   00      00   UU        UU   RR       RR
LL            II     BBBBBBBB   HHHHHHHHHH   00      00   UU        UU   RRRRRRR
LL            II     BBBBBBBB   HHHHHHHHHH   00      00   UU        UU   RRRRRRR
LL            II     BB    BB   HH      HH   00      00   UU        UU   RR  RR
LL            II     BB    BB   HH      HH   00      00   UU        UU   RR  RR
LL            II     BB    BB   HH      HH   00      00   UU        UU   RR       RR    ....
LLLLLLLLLL  IIIIII   BBBBBBBB   HH      HH    000000     UUUUUUUUUU  RR       RR    ::::
LLLLLLLLLL  IIIIII   BBBBBBBB   HH      HH    000000     UUUUUUUUUU  RR       RR    ....
```

```
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
```

LIB$HOUR_OF_DAY
V04-000

G 12

; Find numeric hour of day

16-SEP-1984 02:05:38   VAX/VMS Macro V04-00   Page   1
5-SEP-1984 01:46:06   [LOGIN.SRC]LIBHOUR.MAR;1   (1)

LOG
V04.

```
0000    1            .TITLE  LIB$HOUR_OF_DAY        ; Find numeric hour of day
0000    2            .IDENT  'V04-000'
0000    3   ;
0000    4   ;*******************************************************************
0000    5   ;*                                                                 *
0000    6   ;*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                        *
0000    7   ;*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.         *
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0000   20   ;*                                                                 *
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0000   22   ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.        *
0000   23   ;*                                                                 *
0000   24   ;*                                                                 *
0000   25   ;*******************************************************************
0000   26   ;
0000   27   ;
0000   28   ; FACILITY: Language-independent support library
0000   29   ;++
0000   30   ; ABSTRACT:
0000   31   ;
0000   32   ;
0000   33   ;--
0000   34   ;
0000   35   ; VERSION: 1
0000   36   ;
0000   37   ; HISTORY:
0000   38   ;
0000   39   ; AUTHOR:
0000   40   ;
0000   41   ;       Herb Jacobs           November 1981
0000   42   ;
```

LIBSHOUR_OF_DAY
V04-000

H 12

; Find numeric hour of day   16-SEP-1984 02:05:38   VAX/VMS Macro V04-00   Page 2
HISTORY ; Detailed Current Edit History 5-SEP-1984 01:46:06 [LOGIN.SRC]LIBHOUR.MAR;1   (2)

LOG
V04

```
0000    44              .SBTTL  HISTORY           ; Detailed Current Edit History
0000    45
0000    46 ; EDIT HISTORY:
0000    47 ;
0000    48 ; 1-001 -
```

LIB$HOUR_OF_DAY
V04-000

; Find numeric hour of day
DECLARATIONS

I 12

16-SEP-1984 02:05:38   VAX/VMS Macro V04-00   Page 3
5-SEP-1984 01:46:06   [LOGIN.SRC]LIBHOUR.MAR;1   (3)

LOG
V04

```
0000      50              .SBTTL  DECLARATIONS
0000      51
0000      52      ;
0000      53      ; INCLUDE FILES:
0000      54      ;
0000      55
0000      56      ;
0000      57      ; EXTERNAL SYMBOLS:
0000      58      ;
0000      59
0000      60      ;
0000      61      ; MACROS:
0000      62      ;
0000      63
0000      64      ;
0000      65      ; PSECT DECLARATIONS:
0000      66      ;
0000      67
00000000  68              .PSECT  _LIB$CODE           PIC, SHR, LONG, EXE, NOWRT
0000      69
0000      70      ;
0000      71      ; EQUATED SYMBOLS:
0000      72      ;
0000      73
```

LIB$HOUR_OF_DAY   ; Find numeric hour of day   16-SEP-1984 02:05:38 VAX/VMS Macro V04-00   Page 4
V04-000   LIB$HOUR_OF_DAY -   5-SEP-1984 01:46:06 [LOGIN.SRC]LIBHOUR.MAR;1   (4)

J 12

```
                               0000    75              .SBTTL  LIB$HOUR_OF_DAY -
                               0000    76
                               0000    77  ;++
                               0000    78  ; FUNCTIONAL DESCRIPTION:
                               0000    79  ;
                               0000    80  ;     This routine returns the numeric hour of the day for an input time
                               0000    81  ;     value.  If the input value is ommited, the current hour of the day
                               0000    82  ;     at this time is returned.  Midnite is considered 0, highest hour is
                               0000    83  ;     23.
                               0000    84  ;
                               0000    85  ; CALLING SEQUENCE:
                               0000    86  ;
                               0000    87  ;     ret = LIB$HOUR_OF_DAY   ( time_64_bit_Q, output_hour_L)
                               0000    88  ;
                               0000    89  ; INPUT PARAMETERS:
                               0000    90  ;
                               0000    91  ;     time_64_bit_Q - Address of a quadword representing time or 0
                               0000    92  ;
                               0000    93  ; IMPLICIT INPUTS:
                               0000    94  ;
                               0000    95  ;     If time_64_bit_Q is 0, then the current system time is used.
                               0000    96  ;
                               0000    97  ; OUTPUT PARAMETERS:
                               0000    98  ;
                               0000    99  ;     output_hour_L  - Address of a longword to recieve the hour
                               0000   100  ;
                               0000   101  ; IMPLICIT OUTPUTS:
                               0000   102  ;
                               0000   103  ;     NONE
                               0000   104  ;
                               0000   105  ; COMPLETION CODES:
                               0000   106  ;
                               0000   107  ;     SS$_NORMAL        - success
                               0000   108  ;
                               0000   109  ; SIDE EFFECTS:
                               0000   110  ;
                               0000   111  ;     NONE
                               0000   112  ;
                               0000   113  ;--
                               0000   114              .entry -
                      0000     0000   115  lib$hour_of_day,^M<>
       50   00000000'8F  D0    0002   116              movl    #Lib$_invarg,r0 ; assume error
                  6C   02  91    0009   117              cmpb    #2,(ap)         ; are there at least 2 arguments
                       36  1A   000C   118              bgtru   100$            ; branch if not
              51   04 AC  D0    000E   119              movl    4(ap),r1        ; get address of quadword time
                       0F  12   0012   120              bneq    20$             ; branch if specified
              51       7E  7E   0014   121              movaq   -(sp),r1        ; area to recieve time in, r1 addr of area
                           17   0017   122              $gettim_s (r1)          ; get current time
                  21  50  E9    0020   123              blbc    r0,100$         ; branch if error
                  50  61  7D    0023   124  20$:        movq    (r1),r0         ; get the time
  51  50  50  23C34600 8F 7B    0026   125              ediv    #60*10*1000*1000,r0,r0,r1 ; get the time in minutes
                  51       D4    002F   126              clrl    r1              ; time in minutes from 1858 is only 32 bits
          51  50  50  3C  7B    0031   127              ediv    #60,r0,r0,r1    ; time in hours into r0
                  51       D4    0036   128              clrl    r1              ; again only 32 bits
          51  50  50  18  7B    0038   129              ediv    #24,r0,r0,r1    ; r0 number of days, r1 hour of day
              08 BC  51  D0    003D   130              movl    r1,a8(ap)       ; store the hour number
                  50  01  D0    0041   131              movl    #1,r0           ; set success
```

```
04  0044   132 100$:   ret                         ; exit, clean stack if needed
    0045   133
    0045   134           .end
```

L 12

LIB$HOUR_OF_DAY   ; Find numeric hour of day   16-SEP-1984 02:05:38 VAX/VMS Macro V04-00   Page 6
Symbol table   5-SEP-1984 01:46:06   [LOGIN.SRC]LIBHOUR.MAR;1   (4)

```
LIB$HOUR_OF_DAY  00000000 RG   01
LIB$_INVARG      ******** X     01
SYS$GETTIM       ******** GX    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
_LIB$CODE                     00000045 (   69.)  01 (  1.)  PIC    USR  CON  REL  LCL  SHR    EXE    RD    NOWRT  NOVEC  LONG
```

```
                              +----------------------------+
                              ! Performance indicators !
                              +----------------------------+

Phase                 Page faults   CPU Time       Elapsed Time
-----                 -----------   --------       ------------
Initialization             29       00:00:00.05    00:00:00.77
Command processing        107       00:00:00.42    00:00:02.86
Pass 1                    113       00:00:00.36    00:00:02.86
Symbol table sort           0       00:00:00.00    00:00:00.00
Pass 2                     40       00:00:00.20    00:00:01.71
Symbol table output         1       00:00:00.01    00:00:00.01
Psect synopsis output       2       00:00:00.01    00:00:00.01
Cross-reference output      0       00:00:00.00    00:00:00.00
Assembler run totals      294       00:00:01.05    00:00:08.22
```

The working set limit was 1050 pages.
1797 bytes (4 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 3 non-local and 2 local symbols.
134 source lines were read in Pass 1, producing 14 object records in Pass 2.
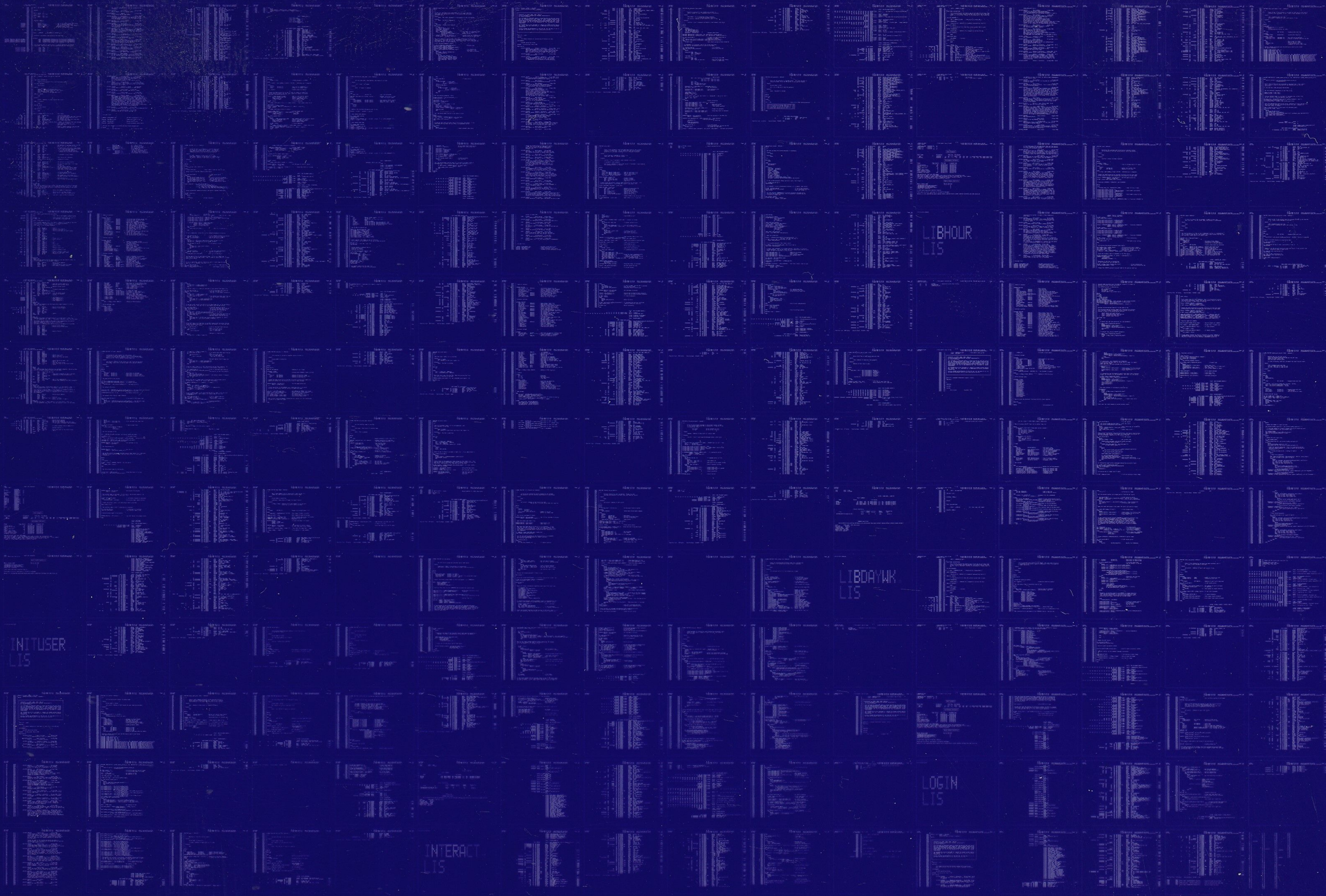2 pages of virtual memory were used to define 2 macros.

```
                              +------------------------------+
                              ! Macro library statistics !
                              +------------------------------+

Macro library name                          Macros defined
------------------                          --------------
_$255$DUA28:[LOGIN.OBJ]LOGIN.MLB;1                0
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                    0
_$255$DUA28:[SYSLIB]STARLET.MLB;2                 2
TOTALS (all libraries)                            2
```

12 GETS were required to define 2 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:LIBHOUR/OBJ=OBJ$:LIBHOUR MSRC$:LIBHOUR/UPDATE=(ENH$:LIBHOUR)+EXECML$/LIB+LIB$:LOGIN/LIB

LIBHOUR
LIS

LIBDAYWK
LIS

INITUSER
LIS

LOGIN
LIS

INTERACT
LIS