```
   SSSSSSSSSSS  UUU          UUU  MMM          MMM
   SSSSSSSSSSS  UUU          UUU  MMM          MMM
   SSSSSSSSSSS  UUU          UUU  MMM          MMM
SSS             UUU          UUU  MMMMMMM    MMMMMM
SSS             UUU          UUU  MMMMMMM    MMMMMM
SSS             UUU          UUU  MMMMMMM    MMMMMM
SSS             UUU          UUU  MMM MMM MMM MMM
SSS             UUU          UUU  MMM  MMM  MMM MMM
SSS             UUU          UUU  MMM   M   MMM MMM
   SSSSSSSSS    UUU          UUU  MMM       MMM MMM
   SSSSSSSSS    UUU          UUU  MMM       MMM MMM
   SSSSSSSSS    UUU          UUU  MMM       MMM MMM
            SSS UUU          UUU  MMM       MMM MMM
            SSS UUU          UUU  MMM       MMM MMM
            SSS UUU          UUU  MMM       MMM MMM
            SSS UUU          UUU  MMM       MMM MMM
            SSS UUU          UUU  MMM       MMM MMM
            SSS UUU          UUU  MMM       MMM MMM
SSSSSSSSSSS     UUUUUUUUUUUUUUUU  MMM       MMM MMM
SSSSSSSSSSS     UUUUUUUUUUUUUUUU  MMM       MMM MMM
SSSSSSSSSSS     UUUUUUUUUUUUUUUU  MMM       MMM MMM
SSSSSSSSSSS     UUUUUUUUUUUUUUUU  MMM       MMM MMM
```

```
DDDDDDDD      AAAAAA    TTTTTTTTTT    AAAAAA
DDDDDDDD      AAAAAA    TTTTTTTTTT    AAAAAA
DD      DD   AA      AA      TT      AA      AA
DD      DD   AA      AA      TT      AA      AA
DD      DD   AA      AA      TT      AA      AA
DD      DD   AA      AA      TT      AA      AA
DD      DD   AA      AA      TT      AA      AA
DD      DD   AAAAAAAAAA      TT      AAAAAAAAAA
DD      DD   AAAAAAAAAA      TT      AAAAAAAAAA
DD      DD   AA      AA      TT      AA      AA      ....
DD      DD   AA      AA      TT      AA      AA      ....
DDDDDDDD     AA      AA      TT      AA      AA      ....
DDDDDDDD     AA      AA      TT      AA      AA      ....


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) 49 DECLARATIONS
(3) 66 DATA

```
0000     1          .TITLE  DATA
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.                   *
0000     8 ;*  ALL RIGHTS RESERVED.                                                     *
0000     9 ;*                                                                           *
0000    10 ;*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED    *
0000    11 ;*  ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE   *
0000    12 ;*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER    *
0000    13 ;*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY    *
0000    14 ;*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY    *
0000    15 ;*  TRANSFERRED.                                                             *
0000    16 ;*                                                                           *
0000    17 ;*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE    *
0000    18 ;*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT   *
0000    19 ;*  CORPORATION.                                                             *
0000    20 ;*                                                                           *
0000    21 ;*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS    *
0000    22 ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                  *
0000    23 ;*                                                                           *
0000    24 ;*                                                                           *
0000    25 ;*****************************************************************************
0000    26 ;
0000    27 ;
0000    28 ;++
0000    29 ;
0000    30 ; Facility:
0000    31 ;
0000    32 ;       SUMSLP utility
0000    33 ;
0000    34 ; Environment:
0000    35 ;
0000    36 ;       User mode
0000    37 ;
0000    38 ; Author:
0000    39 ;
0000    40 ;       R. Newland      18-Apr-1979
0000    41 ;
0000    42 ; Modified by:
0000    43 ;
0000    44 ;       V03-001 BLS0278 Benn Schreiber          25-FEB-1984
0000    45 ;               Use fnm rather than dnm for SYS$ERROR
0000    46 ;
0000    47 ;--
```

DECLARATIONS

```
                     0000     49          .SBTTL  DECLARATIONS
                     0000     50 ;
                     0000     51 ;
                     0000     52          $CLIDEF                         ; Define CLI offsets
                     0000     53          $FABDEF                         ; RMS FAB definitions
                     0000     54          $RABDEF                         ; RMS RAB definitions
                     0000     55          $NAMDEF                         ; RMS NAM definitions
                     0000     56          $XABDEF                         ; RMS XAB definitions
                     0000     57          DEFSUMCBL                       ; SUM control block offsets
                     0000     58          DEFSSLGEN                       ; SUMSLP general definitions
                     0000     59 ;
                     0000     60 ;
0000000C             0000     61          FF = ^XC                        ; Form-feed character
                     0000     62 ;
                     0000     63 ;
                     0000     64          $GBLINI GLOBAL                  ; Force data allocation to be global
```

```
         0000          .SBTTL  DATA
         0000   ;
         0C00   ;
 00000000        .PSECT  SUM$RW_DATA, NOEXE, LONG
         0000   ;
         0000   $DEF   SUM$GL_CLIADDR  .BLKL   1            ; CLI call back address
         0004   $DEF   SUM$GQ_CMDLINE  .BLKQ   1            ; Command line descriptor
         000C   $DEF   SUM$GL_FLAGS    .BLKL   1            ; Control flags
         0010   $DEF   SUM$AT_AUDIT    .BLKB   16           ; Audit trail
00000021 0020                          .BLKB   1            ; Separator
         0021   $DEF   SUM$AT_LINENO   .BLKB   6            ; Line number
         0027   $DEF   SUM$AT_LINENE   .BLKB   1            ; Separator
         0028   $DEF   SUM$AT_BUFFER   .BLKB   SSL$BUFSZE        ; Buffer
         0127   ;
         0127   $DEF   SUM$AX_CBL      .BLKB   SUM_K_BLN ; SUM control block
         0144   $DEF   SUM$GL_UPDATES  .BLKL   1            ; Update files list address
         0148   ;
         0148   $DEF   SUM$AT_INPUTFN  .BLKB   SSL$FILSZE ; Input file name buffer
         0188   $DEF   SUM$AT_OUTPUFN  .BLKB   SSL$FILSZE ; Output file name buffer
         01C8   $DEF   SUM$AT_LISTFN   .BLKB   SSL$FILSZE ; List file name bufer
         0208   $DEF   SUM$AX_RHB      .BLKB   SSL$RHBSZE ; Record header buffer
         0214   $DEF   SUM$GW_PAGENO   .BLKW   1            ; Page number
         0216   $DEF   SUM$GW_PAGESZ   .BLKW   1            ; Page size
         0218   $DEF   SUM$GW_LINENO   .BLKW   1            ; Line number
         021A   ;
         021A   ;
         021A   ; RMS blocks
         021A   ;
         021A          .ALIGN  LONG
         021C   ;
         021C   SUM$AX_INPUTFAB::                           ; Input file FAB
         021C          $FAB    FAC = GET -
         021C                  NAM = SUM$AX_INPUTNAM -
         021C                  XAB = SUM$AX_INPUTXAB
         026C   ;
         026C   SUM$AX_INPUTXAB::                           ; Input file extended attribute block
         026C          $XABDAT                              ; for creation date/time
         0298   ;
         0298   SUM$AX_INPUTNAM::                           ; Input file NAM block
         0298          $NAM    ESA = SUM$AT_INPUTFN -
         0298                  ESS = SSL$FI[SZE -
         0298                  RSA = SUM$AT_INPUTFN -
         0298                  RSS = SSL$FI[SZE
         02F8   ;
         02F8   SUM$AX_INPUTRAB::                           ; Input file record access block
         02F8          $RAB    FAB = SUM$AX_INPUTFAB -
         02F8                  UBF = SUM$AT_BUFFER -
         02F8                  USZ = SSL$BUFSZE -
         02F8                  MBF = 4 -
         02F8                  ROP = RAH
         033C   ;
         033C   SUM$AX_OUTPUFAB::                           ; Output file FAB
         033C          $FAB    FAC = PUT -
         033C                  RAT = CR -
         033C                  FOP = OFP -
         033C                  NAM = SUM$AX_OUTPUNAM
         038C   ;
```

```
                     038C   123 SUM$AX_OUTPUNAM::                           ; Output file NAM block
                     038C   124         $NAM    ESA = SUM$AT_OUTPUFN -
                     038C   125                 ESS = SSL$FI[SZE -
                     038C   126                 RSA = SUM$AT_OUTPUFN -
                     038C   127                 RSS = SSL$FI[SZE -
                     038C   128                 RLF = SUM$AX_INPUTNAM
                     03EC   129 ;
                     03EC   130 SUM$AX_OUTPURAB::                           ; Output file record access block
                     03EC   131         $RAB    FAB = SUM$AX_OUTPUFAB -
                     03EC   132                 RBF = SUM$AT_BUFFER -
                     03EC   133                 MBF = 4 -
                     03EC   134                 ROP = WBH
                     0430   135 ;
                     0430   136 SUM$AX_LISTFAB::                           ; List file FAB
                     0430   137         $FAB    DNM = <.LIS> -
                     0430   138                 FAC = PUT -
                     0430   139                 RAT = CR -
                     0430   140                 FOP = OFP -
                     0430   141                 NAM = SUM$AX_LISTNAM
                     0480   142 ;
                     0480   143 SUM$AX_LISTNAM::                           ; List file NAM block
                     0480   144         $NAM    ESA = SUM$AT_LISTFN -
                     0480   145                 ESS = SSL$FI[SZE -
                     0480   146                 RSA = SUM$AT_LISTFN -
                     0480   147                 RSS = SSL$FI[SZE -
                     0480   148                 RLF = SUM$AX_INPUTNAM
                     04E0   149 ;
                     04E0   150 SUM$AX_LISTRAB::                           ; List file record access block
                     04E0   151         $RAB    FAB = SUM$AX_LISTFAB -
                     04E0   152                 MBF = 4 -
                     04E0   153                 ROP = WBH
                     0524   154 ;
                     0524   155 SUM$AX_TERMFAB::                           ; Terminal file FAB
                     0524   156         $FAB    FNM = <SYS$ERROR:> -
                     0524   157                 FAC = PUT -
                     0524   158                 RAT = CR
                     0574   159 ;
                     0574   160 SUM$AX_TERMRAB::                           ; Terminal file RAB
                     0574   161         $RAB    FAB = SUM$AX_TERMFAB
                     05B8   162 ;
                     05B8   163 ;
                     05B8   164 SUM$AQ_MSGDES::                           ; Message descriptor
000005C4'00000040    05B8   165         .LONG   64,SUM$AT_MSGBUF
                     05C0   166 ;
                     05C0   167 SUM$AW_MSGLEN::                           ; Return message length
        000005C2     05C0   168         .BLKW   1
        000005C4     05C2   169         .BLKW   1
                     05C4   170 ;
                     05C4   171 SUM$AT_MSGBUF::                           ; Message buffer
        00000604     05C4   172         .BLKB   64
                     0604   173 ;
                     0604   174 ; Title line
                     0604   175 ;
                     0604   176 SUM$GQ_TITLEDS::                          ; Descriptor to date/time
00000649'00000014    0604   177         .LONG   20,SUM$AT_TITLEDT
                     060C   178 ;
                     060C   179 SUM$AT_TITLE::
```

```
                                   0C  060C   180          .BYTE   FF
20'20'20'20'20'20'20'20'20'20'20'20'  060D   181          .BYTE   ^A/ /[60]
20'20'20'20'20'20'20'20'20'20'20'20'  0619
20'20'20'20'20'20'20'20'20'20'20'20'  0625
20'20'20'20'20'20'20'20'20'20'20'20'  0631
20'20'20'20'20'20'20'20'20'20'20'20'  063D
                                      0649   182 SUM$AT_TITLEDT::
                             0000065D  0649   183          .BLKB   20
53 20 31 31 2D 58 41 56 20 20 20 20   065D   184          .ASCII  /    VAX '1 SUMSLP V01.00/
30 30 2E 31 30 56 20 50 4C 53 4D 55   0669
20'20'20'20'20'20'20'20'20'20'20'20'  0675   185          .BYTE   ^A/ /[16]
                         20'20'20'20'  0681
                       20 65 67 61 50  0685   186          .ASCII  /Page /
                         20'20'20'20'  068A   187          .BYTE   ^A/ /[4]
                                      068E   188 SUM$AT_TITLEPN::
                             00000082  068E   189 SUM$K_TITLELN == .-SUM$AT_TITLE
                                      068E   190 ;
                                      068E   191 ;
                                      068E   192 ; Subtitle line
                                      068E   193 ;
                                      068E   194 SUM$GQ_SBTTLDS::                        ; Descriptor to date/time
                    000006D2'00000014  068E   195          .LONG   20,SUM$AT_SBTTLDT
                                      0696   196 ;
                                      0696   197 SUM$AT_SBTTL::
20'20'20'20'20'20'20'20'20'20'20'20'  0696   198          .BYTE   ^A/ /[60]
20'20'20'20'20'20'20'20'20'20'20'20'  06A2
20'20'20'20'20'20'20'20'20'20'20'20'  06AE
20'20'20'20'20'20'20'20'20'20'20'20'  06BA
20'20'20'20'20'20'20'20'20'20'20'20'  06C6
                                      06D2   199 SUM$AT_SBTTLDT::
                             000006E6  06D2   200          .BLKB   20
                         20'20'20'20'  06E6   201          .BYTE   ^A/ /[4]
                                      06EA   202 SUM$AT_SBTTLFS::
20'20'20'20'20'20'20'20'20'20'20'20'  06EA   203          .BYTE   ^A/ /[45]
20'20'20'20'20'20'20'20'20'20'20'20'  06F6
20'20'20'20'20'20'20'20'20'20'20'20'  0702
         20'20'20'20'20'20'20'20'20'  070E
                             00000081  0717   204 SUM$K_SBTTLLN == .-SUM$AT_SBTTL
                                      0717   205 ;
                                      0717   206 ;
                                      0717   207          .END
```

GE
Sy
BI
CL
CL
CL
DS
DS
DS
DS
FA
FA
FA
FA
FA
FI
HE
HE
IN
IN
LI
LI
LI
LI
OU
OU
RA
SI
SS
SS
SS
SS
SS
SS
SS
SS
SS
SS
SS
SS
SS
SS
SS
ST
SU
SU
SU
SU
SU
SU
SU
SU
SU
SU
SU
UP
UP

```
$$.TAB                          = 00000574 R      02
$$.TABEND                       = 000005B8 R      02
$$.TMP                          = 00000000
$$.TMPX                         = 00000004 R      03
$$.TMPX1                        = 0000000A
BIT...                          = 00000005
FAB$B_DNS                       = 00000035
FAB$B_FNS                       = 00000034
FAB$C_BID                       = 00000003
FAB$C_BLN                       = 00000050
FAB$C_SEQ                       = 00000000
FAB$C_VAR                       = 00000002
FAB$L_ALQ                       = 00000010
FAB$L_DNA                       = 00000030
FAB$L_FNA                       = 0000002C
FAB$L_FOP                       = 00000004
FAB$V_CHAN_MODE                 = 00000002
FAB$V_CR                        = 00000001
FAB$V_FILE_MODE                 = 00000004
FAB$V_GET                       = 00000001
FAB$V_LNM_MODE                  = 00000000
FAB$V_OFP                       = 0000001D
FAB$V_PUT                       = 00000000
FAB$W_GBC                       = 00000048
FF                              = 0000000C
NAM$B_ESS                       = 0000000A
NAM$B_NOP                       = 00000008
NAM$B_RSS                       = 00000002
NAM$C_BID                       = 00000002
NAM$C_BLN                       = 00000060
NAM$L_ESA                       = 0000000C
NAM$L_RSA                       = 00000004
RAB$B_RAC                       = 0000001E
RAB$C_BID                       = 00000001
RAB$C_BLN                       = 00000044
RAB$C_SEQ                       = 00000000
RAB$L_CTX                       = 00000018
RAB$L_ROP                       = 00000004
RAB$V_RAH                       = 00000009
RAB$V_WBH                       = 0000000A
SIZ...                          = 00000001
SSL$AULSZE                      = 00000018
SSL$AUTSZE                      = 00000010
SSL$BUFSZE                      = 000000FF
SSL$FILSZE                      = 00000040
SSL$LNOSZE                      = 00000006
SSL$RHBSZE                      = 0000000C
SUM$AQ_MSGDES                     000005B8 RG     02
SUM$AT_AUDIT                      00000010 RG     02
SUM$AT_BUFFER                     00000028 RG     02
SUM$AT_INPUTFN                    00000148 RG     02
SUM$AT_LINENE                     00000027 RG     02
SUM$AT_LINENO                     00000021 RG     02
SUM$AT_LISTFN                     000001C8 RG     02
SUM$AT_MSGBUF                     000005C4 RG     02
SUM$AT_OUTPUFN                    00000188 RG     02
SUM$AT_SBTTL                      00000696 RG     02
SUM$AT_SBTTLDT                    000006D2 RG     02
SUM$AT_SBTTLFS                    000006EA RG     02
SUM$AT_TITLE                      0000060C RG     02
SUM$AT_TITLEDT                    00000649 RG     02
SUM$AT_TITLEPN                    0000068E RG     02
SUM$AW_MSGLEN                     000005C0 RG     02
SUM$AX_CBL                        00000127 RG     02
SUM$AX_INPUTFAB                   0000021C RG     02
SUM$AX_INPUTNAM                   00000298 RG     02
SUM$AX_INPUTRAB                   000002F8 RG     02
SUM$AX_INPUTXAB                   0000026C RG     02
SUM$AX_LISTFAB                    00000430 RG     02
SUM$AX_LISTNAM                    00000480 RG     02
SUM$AX_LISTRAB                    000004E0 RG     02
SUM$AX_OUTPUFAB                   0000033C RG     02
SUM$AX_OUTPUNAM                   0000038C RG     02
SUM$AX_OUTPURAB                   000003EC RG     02
SUM$AX_RHB                        00000208 RG     02
SUM$AX_TERMFAB                    00000524 RG     02
SUM$AX_TERMRAB                    00000574 RG     02
SUM$GL_CLIADDR                    00000000 RG     02
SUM$GL_FLAGS                      0000000C RG     02
SUM$GL_UPDATES                    00000144 RG     02
SUM$GQ_CMDLINE                    00000004 RG     02
SUM$GQ_SBTTLDS                    0000068E RG     02
SUM$GQ_TITLEDS                    00000604 RG     02
SUM$GW_LINENO                     00000218 RG     02
SUM$GW_PAGENO                     00000214 RG     02
SUM$GW_PAGESZ                     00000216 RG     02
SUM$K_SBTTLLN                   = 00000081   G
SUM$K_TITLELN                   = 00000082   G
SUM_B_FLAGS                       0000001C
SUM_K_BLN                         0000001D
SUM_L_ISDATA                      00000004
SUM_L_STS                         00000000
SUM_M_AUDIT                     = 00000001
SUM_M_AUDITNEW                  = 00000002
SUM_M_DELETE                    = 00000010
SUM_M_SRCUPD                    = 00000004
SUM_M_SUBCLSH                   = 00000008
SUM_Q_AUDDS                       00000008
SUM_Q_FILESP                      00000010
SUM_V_AUDIT                     = 00000000
SUM_V_AUDITNEW                  = 00000001
SUM_V_DELETE                    = 00000004
SUM_V_SRCUPD                    = 00000002
SUM_V_SUBCLSH                   = 00000003
SUM_W_INSERT_NO                   0000001A
SUM_W_LINE_NO                     00000018
XAB$C_DAT                       = 00000012
XAB$C_DATLEN                    = 0000002C
XAB$L_NXT                       = 00000004
XAB$Q_EDT                       = 0000001C
```

Psect synopsis

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
ABS	0000001D (29.)	01 (1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
SUM$RW_DATA	00000717 (1815.)	02 (2.)	NOPIC USR CON REL LCL NOSHR NOEXE RD WRT NOVEC LONG
$RMSNAM	0000000E (14.)	03 (3.)	NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE

Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	34	00:00:00.07	00:00:00.36
Command processing	128	00:00:00.58	00:00:02.46
Pass 1	270	00:00:09.30	00:00:20.95
Symbol table sort	0	00:00:00.98	00:00:01.48
Pass 2	58	00:00:01.57	00:00:03.51
Symbol table output	13	00:00:00.11	00:00:00.12
Psect synopsis output	3	00:00:00.03	00:00:00.04
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	508	00:00:12.65	00:00:28.93

The working set limit was 1350 pages.
47097 bytes (92 pages) of virtual memory were used to buffer the intermediate code.
There were 40 pages of symbol table space allocated to hold 762 non-local and 0 local symbols.
207 source lines were read in Pass 1, producing 19 object records in Pass 2.
31 pages of virtual memory were used to define 26 macros.

Macro library statistics

Macro library name	Macros defined
_255DUA28:[SUM.OBJ]SUM.MLB;1	4
_255DUA28:[SYSLIB]STARLET.MLB;2	18
TOTALS (all libraries)	22

1009 GETS were required to define 22 macros.

There were no errors, warnings or information messages.

```
MACRO/LIS=LIS$:DATA/OBJ=OBJ$:DATA MSRC$:DATA/UPDATE=(ENH$:DATA)+LIB$:SUM/LIB
```

SUMSLP
MAP

SRTTRNMSG
LIS

DATA
LIS

SUMSHR
MAP

SUMDATA
LIS

UTLCHKCLI
LIS

SUM

SUM
MAP

SUMDEF
MAR

MAIN
LIS

SUMED
LIS

SUMEDIT
LIS

GETCMD
LIS