```
RRRRRRRRRRR      UUU          UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF   FFFFFFFFFFFFFFF
RRRRRRRRRRRR     UUU          UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF   FFFFFFFFFFFFFFF
RRRRRRRRRRRR     UUU          UUU  NNN         NNN     000000000     FFFFFFFFFFFFFFF   FFFFFFFFFFFFFFF
RRR          RRR UUU          UUU  NNN         NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNN         NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNN         NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNNNNN      NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNNNNN      NNN  000          000 FFF               FFF
RRR          RRR UUU          UUU  NNNNNN      NNN  000          000 FFF               FFF
RRRRRRRRRRR      UUU          UUU  NNN   NNN   NNN  000          000 FFFFFFFFFFF       FFFFFFFFFFF
RRRRRRRRRRRR     UUU          UUU  NNN   NNN   NNN  000          000 FFFFFFFFFFF       FFFFFFFFFFF
RRRRRRRRRRRR     UUU          UUU  NNN   NNN   NNN  000          000 FFFFFFFFFFF       FFFFFFFFFFF
RRR   RRR        UUU          UUU  NNN       NNNNNN 000          000 FFF               FFF
RRR   RRR        UUU          UUU  NNN       NNNNNN 000          000 FFF               FFF
RRR   RRR        UUU          UUU  NNN       NNNNNN 000          000 FFF               FFF
RRR      RRR     UUU          UUU  NNN          NNN 000          000 FFF               FFF
RRR      RRR     UUU          UUU  NNN          NNN 000          000 FFF               FFF
RRR      RRR     UUU          UUU  NNN          NNN 000          000 FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN          NNN    000000000     FFF               FFF
```

```
_$2

Sym
---
NDX
NDX
NUM
NUM
OPE
OUT
PAC
PAC
PAC
PAC
PAC
PAC
PAC
PAD
PAG
PAG
PAG
PAG
PAG
PAG
PAG
PER
PUT
RCO
RIN

RLI
RNO
RNO
RTY
SAV
STR
STR
STR
STR
STR
STR

STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
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STR
STR
```

```
  GGGGGGGG  LL          NN       NN  MM       MM
  GGGGGGGG  LL          NN       NN  MM       MM
GG          LL          NN       NN  MMMM   MMMM
GG          LL          NN       NN  MMMM   MMMM
GG          LL          NNNN     NN  MM  MM  MM
GG          LL          NNNN     NN  MM  MM  MM
GG          LL          NN  NN   NN  MM      MM
GG          LL          NN  NN   NN  MM      MM
GG  GGGGGG  LL          NN    NNNN  MM      MM
GG  GGGGGG  LL          NN    NNNN  MM      MM
GG      GG  LL          NN      NN  MM      MM      ....
GG      GG  LL          NN      NN  MM      MM      ....
  GGGGGG    LLLLLLLLLL  NN      NN  MM      MM      ....
  GGGGGG    LLLLLLLLLL  NN      NN  MM      MM      ....


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
```

```
;  1          0001  0 MODULE glnm (    IDENT = 'V04-000'
;  2        P 0002  0                  %BLISS32[, ADDRESSING_MODE (EXTERNAL    = LONG_RELATIVE,
;  3          0003  0                                             NONEXTERNAL = LONG_RELATIVE)]
;  4          0004  0                  ) =
;  5          0005  1 BEGIN
;  6          0006  1 !
;  7          0007  1 !*****************************************************************************
;  8          0008  1 !*                                                                           *
;  9          0009  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                 *
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; 19          0019  1 !*                                                                           *
; 20          0020  1 !*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE   *
; 21          0021  1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT   *
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; 25          0025  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                  *
; 26          0026  1 !*                                                                           *
; 27          0027  1 !*                                                                           *
; 28          0028  1 !*****************************************************************************
; 29          0029  1 !
; 30          0030  1 !++
; 31          0031  1 ! FACILITY:     DSR (Digital Standard RUNOFF) / DSRPLUS
; 32          0032  1 !
; 33          0033  1 ! ABSTRACT:     Get a list of numbers
; 34          0034  1 !
; 35          0035  1 ! ENVIRONMENT:  Transportable
; 36          0036  1 !
; 37          0037  1 ! AUTHOR:       R.W.Friday       CREATION DATE: May, 1978
; 38          0038  1 !
; 39          0039  1
```

```
;    41          0040  1 %SBTTL 'Revision History'
;    42          0041  1 !
;    43          0042  1 ! MODIFIED BY:
;    44          0043  1 !
;    45          0044  1 !       004     RER00004        Ron Randall     07-Mar-1983
;    46          0045  1 !               Global edit of all modules. Updated module names, idents,
;    47          0046  1 !               copyright dates. Changed require files to BLISS library.
;    48          0047  1 !
;    49          0048  1 !--
;    50          0049  1
```

```
;    52          0050  1 %SBTTL 'Module Level Declarations'
;    53          0051  1
;    54          0052  1 !
;    55          0053  1 ! TABLE OF CONTENTS:
;    56          0054  1 !
;    57          0055  1 ! INCLUDE FILES:
;    58          0056  1 !
;    59          0057  1 LIBRARY 'NXPORT:XPORT';                 ! XPORT Library
;    60          0058  1 REQUIRE 'REQ:RNODEF';                   ! RUNOFF variant definitions
;    61          0189  1
;    62        U 0190  1 %IF DSRPLUS %THEN
;    63        U 0191  1 LIBRARY 'REQ:DPLLIB';                   ! DSRPLUS BLISS Library
;    64          0192  1 %ELSE
;    65          0193  1 LIBRARY 'REQ:DSRLIB';                   ! DSR BLISS Library
;    66          0194  1 %FI
;    67          0195  1
;    68          0196  1 !
;    69          0197  1 ! EXTERNAL REFERENCES:
;    70          0198  1 !
;    71          0199  1 EXTERNAL
;    72          0200  1     IRA : FIXED_STRING,
;    73          0201  1     KHAR,
;    74          0202  1     NMLST : NUMBER_LIST;
;    75          0203  1
;    76          0204  1 EXTERNAL ROUTINE
;    77          0205  1     GETNUM,
;    78          0206  1     RSKIPS;
;    79          0207  1
```

```
;    81          0208  1 GLOBAL ROUTINE GLNM (COUNT) : NOVALUE =
;    82          0209  1
;    83          0210  1 !++
;    84          0211  1 ! FUNCTIONAL DESCRIPTION:
;    85          0212  1 !
;    86          0213  1 !       Calls GETNUM to pick up "count" numbers, at most.
;    87          0214  1 ! Stops when a character is encountered that is not a comma,
;    88          0215  1 ! and GETNUM has previously returned a null value.
;    89          0216  1 !
;    90          0217  1 ! FORMAL PARAMETERS:
;    91          0218  1 !
;    92          0219  1 !       'COUNT' specifies the maximum number of numbers wanted.
;    93          0220  1 !
;    94          0221  1 ! IMPLICIT INPUTS:      None
;    95          0222  1 !
;    96          0223  1 ! IMPLICIT OUTPUTS:     None
;    97          0224  1 !
;    98          0225  1 ! ROUTINE VALUE:
;    99          0226  1 ! COMPLETION CODES:     None
;   100          0227  1 !
;   101          0228  1 ! SIDE EFFECTS:         None
;   102          0229  1 !--
;   103          0230  1
;   104          0231  2     BEGIN
;   105          0232  2     LOCAL
;   106          0233  2         GETNUM_RESULT,
;   107          0234  2         KOUNT,
;   108          0235  2         NUMBER_SIGN,
;   109          0236  2         NUMBER_VALUE,
;   110          0237  2         NUMBER_LENGTH;
;   111          0238  2
;   112          0239  2     NMLST_COUNT = 0;
;   113          0240  2     !If COUNT is greater than zero, then the list can be that long,
;   114          0241  2     !at most.  If COUNT is less than or equal to zero, pick up as many
;   115          0242  2     !numbers as space is reserved for.
;   116          0243  2
;   117          0244  2     IF  .COUNT GTR 0
;   118          0245  2     THEN
;   119          0246  2         KOUNT = .COUNT
;   120          0247  2     ELSE
;   121          0248  2         KOUNT = NMLST_MAXSIZE;
;   122          0249  2
;   123          0250  2     INCR I FROM 1 TO .KOUNT DO
;   124          0251  3         BEGIN
;   125          0252  3         GETNUM_RESULT = GETNUM (IRA, NUMBER_VALUE, NUMBER_SIGN, NUMBER_LENGTH);
;   126          0253  3         RSKIPS (IRA);                               !Skip spaces and tabs trailing a number.
;   127          0254  3
;   128          0255  3         IF  .GETNUM_RESULT
;   129          0256  3         THEN
;   130          0257  4             BEGIN                                   !Number was ok.
;   131          0258  4
;   132          0259  4             IF  .NUMBER_LENGTH EQL 0
;   133          0260  4             THEN
;   134          0261  5                 BEGIN
;   135          0262  5
;   136          0263  5                 IF  .KHAR EQL %C','
;   137          0264  5                 THEN
```

```
;  138     0265  6                    BEGIN                                   !It really is a null number, not the end of the list
;  139     0266  6                    NMLST_COUNT = .I;
;  140     0267  6                    NMLST_VALUE (.I) = 0;
;  141     0268  6                    NMLST_DESCR (.I) = NM_NULL;
;  142     0269  6                    KCNS ();                                !Skip the ','
;  143     0270  6                    END
;  144     0271  6                !No more numbers in the list.
;  145     0272  5                ELSE
;  146     0273  5                    RETURN;
;  147     0274  5
;  148     0275  5                END
;  149     0276  4            ELSE
;  150     0277  5                BEGIN                                       !Not a null number
;  151     0278  5                RSKIPS (IRA);                               !Skip trailing spaces and tabs.
;  152     0279  5
;  153     0280  5                IF  (.KHAR EQL %C',') AND
;  154     0281  6                    (.I NEQ .KOUNT)                         !Don't skip any characters after the last item in the list
;  155     0282  5                THEN
;  156     0283  5                    KCNS ();                                !Skip trailing comma.
;  157     0284  5
;  158     0285  5                NMLST_COUNT = .I;
;  159     0286  5                NMLST_VALUE (.I) = .NUMBER_VALUE;
;  160     0287  6                NMLST_DESCR (.I) = (IF .NUMBER_SIGN EQL 1
;  161     0288  6                THEN NM_PLUS ELSE IF .NUMBER_SIGN EQL -1
;  162     0289  5                    THEN NM_MINUS ELSE NM_UNSIGNED);
;  163     0290  5                END
;  164     0291  5
;  165     0292  4            END
;  166     0293  3        ELSE
;  167     0294  4            BEGIN                                           !Number in error.
;  168     0295  4            RSKIPS (IRA);                                   !Skip trailing spaces and tabs.
;  169     0296  4
;  170     0297  4            IF  (.KHAR EQL %C',') AND
;  171     0298  5                (.I NEQ .KOUNT)                 !Don't skip any characters after the last item in the list
;  172     0299  4            THEN
;  173     0300  4                KCNS ();                                    !Skip trailing comma.
;  174     0301  4
;  175     0302  4            NMLST_COUNT = .I;
;  176     0303  4            NMLST_VALUE (.I) = .NUMBER_VALUE;
;  177     0304  4            NMLST_DESCR (.I) = NM_BAD;
;  178     0305  3            END;
;  179     0306  3
;  180     0307  2        END;
;  181     0308  2
;  182     0309  1    END;                                                    !End of GLNM


                                    .TITLE  GLNM
                                    .IDENT  \V04-000\

                                    .EXTRN  IRA, KHAR, NMLST
                                    .EXTRN  GETNUM, RSKIPS, RINTES

                                    .PSECT  $CODE$,NOWRT,2

                        01FC 00000  .ENTRY  GLNM, Save R2,R3,R4,R5,R6,R7,R8     ; 0208
    58 00000000G   EF   9E 00002    MOVAB   RSKIPS, R8                          ;
```

```
                    57 00000000G   EF   9E 00009         MOVAB   KHAR, R7                                ;
                    56 00000000G   EF   9E 00010         MOVAB   NMLST, R6                               ;
                    55 00000000G   EF   9E 00017         MOVAB   IRA+12, R5                              ;
                    5E                 0C   C2 0001E         SUBL2   #12, SP                             ;
                                       66   D4 00021         CLRL    NMLST                               ; 0239
                               04      AC   D5 00023         TSTL    COUNT                               ; 0244
                                       06   15 00026         BLEQ    1$                                  ;
                    53         04      AC   D0 00028         MOVL    COUNT, KOUNT                        ; 0246
                                       03   11 0002C         BRB     2$                                  ;
                    53                 28   D0 0002E 1$:     MOVL    #40, KOUNT                          ; 0248
                                       52   D4 00031 2$:     CLRL    I                                   ; 0250
                                       4C   11 00033         BRB     7$                                  ;
                                       5E   DD 00035 3$:     PUSHL   SP                                  ; 0252
                               08      AE   9F 00037         PUSHAB  NUMBER_SIGN                         ;
                               10      AE   9F 0003A         PUSHAB  NUMBER_VALUE                        ;
                               F4      A5   9F 0003D         PUSHAB  IRA                                 ;
          00000000G  EF                04   FB 00040         CALLS   #4, GETNUM                          ;
                    54                 50   D0 00047         MOVL    R0, GETNUM_RESULT                   ;
                               F4      A5   9F 0004A         PUSHAB  IRA                                 ; 0253
                    68                 01   FB 0004D         CALLS   #1, RSKIPS                          ;
                    03                 54   E8 00050         BLBS    GETNUM_RESULT, 4$                   ; 0255
                                     0080   31 00053         BRW     15$                                 ;
                                       6E   D5 00056 4$:     TSTL    NUMBER_LENGTH                       ; 0259
                                       29   12 00058         BNEQ    8$                                  ;
                    2C                 67   D1 0005A         CMPL    KHAR, #44                           ; 0263
                                       01   13 0005D         BEQL    5$                                  ;
                                            04 0005F         RET                                         ;
                    66                 52   D0 00060 5$:     MOVL    I, NMLST                            ; 0266
                                     6642   D4 00063         CLRL    NMLST[I]                            ; 0267
                                 00A0 C642   D4 00066         CLRL    NMLST+160[I]                        ; 0268
                                       65   D5 0006B         TSTL    IRA+12                              ; 0269
                                       09   14 0006D         BGTR    6$                                  ;
                    67         00G     8F   9A 0006F         MOVZBL  #RINTES, KHAR                       ;
                    65                 01   CE 00073         MNEGL   #1, IRA+12                          ;
                                       5C   11 00076         BRB     14$                                 ;
                    67         F8      B5   9A 00078 6$:     MOVZBL  @IRA+4, KHAR                        ;
                               F8      A5   D6 0007C         INCL    IRA+4                               ;
                                       65   D7 0007F         DECL    IRA+12                              ;
                                       51   11 00081 7$:     BRB     14$                                 ; 0263
                               F4      A5   9F 00083 8$:     PUSHAB  IRA                                 ; 0278
                    68                 01   FB 00086         CALLS   #1, RSKIPS                          ;
                    2C                 67   D1 00089         CMPL    KHAR, #44                           ; 0280
                                       1B   12 0008C         BNEQ    10$                                 ;
                    53                 52   D1 0008E         CMPL    I, KOUNT                            ; 0281
                                       16   13 00091         BEQL    10$                                 ;
                                       65   D5 00093         TSTL    IRA+12                              ; 0283
                                       09   14 00095         BGTR    9$                                  ;
                    67         00G     8F   9A 00097         MOVZBL  #RINTES, KHAR                       ;
                    65                 01   CE 0009B         MNEGL   #1, IRA+12                          ;
                                       09   11 0009E         BRB     10$                                 ;
                    67         F8      B5   9A 000A0 9$:     MOVZBL  @IRA+4, KHAR                        ;
                               F8      A5   D6 000A4         INCL    IRA+4                               ;
                                       65   D7 000A7         DECL    IRA+12                              ;
                    66                 52   D0 000A9 10$:    MOVL    I, NMLST                            ; 0285
                  6642         08      AE   D0 000AC         MOVL    NUMBER_VALUE, NMLST[I]              ; 0286
                    01         04      AE   D1 000B1         CMPL    NUMBER_SIGN, #1                     ; 0287
                                       05   12 000B5         BNEQ    11$                                 ;
```

```
                                50              02  D0 000B7          MOVL    #2, R0                                          ;
                                                12  11 000BA          BRB     13$                                             ;
                         FFFFFFFF   8F      04  AE  D1 000BC 11$:     CMPL    NUMBER_SIGN, #-1                                ; 0288
                                                05  12 000C4          BNEQ    12$                                             ;
                                50              03  D0 000C6          MOVL    #3, R0                                          ;
                                                03  11 000C9          BRB     13$                                             ;
                                50              01  D0 000CB 12$:     MOVL    #1, R0                                          ;
                             00A0 C642          50  D0 000CE 13$:     MOVL    R0, NMLST+160[I]                                ; 0287
                                                34  11 000D4 14$:     BRB     18$                                             ; 0257
                                        F4      A5  9F 000D6 15$:     PUSHAB  IRA                                             ; 0295
                                68              01  FB 000D9          CALLS   #1, RSKIPS                                      ;
                                2C              67  D1 000DC          CMPL    KHAR, #44                                       ; 0297
                                                1B  12 000DF          BNEQ    17$                                             ;
                                53              52  D1 000E1          CMPL    I, KOUNT                                        ; 0298
                                                16  13 000E4          BEQL    17$                                             ;
                                                65  D5 000E6          TSTL    IRA+12                                          ; 0300
                                                09  14 000E8          BGTR    16$                                             ;
                                67      00G     8F  9A 000EA          MOVZBL  #RINTES, KHAR                                   ;
                                65              01  CE 000EE          MNEGL   #1, IRA+12                                      ;
                                                09  11 000F1          BRB     17$                                             ;
                                67      F8      B5  9A 000F3 16$:     MOVZBL  @IRA+4, KHAR                                    ;
                                        F8      A5  D6 000F7          INCL    IRA+4                                           ;
                                                65  D7 000FA          DECL    IRA+12                                          ;
                                66              52  D0 000FC 17$:     MOVL    I, NMLST                                        ; 0302
                              6642      08      AE  D0 000FF          MOVL    NUMBER_VALUE, NMLST[I]                          ; 0303
                             00A0 C642          04  D0 00104          MOVL    #4, NMLST+160[I]                                ; 0304
        FF25                52              01  53  F1 0010A 18$:     ACBL    KOUNT, #1, I, 3$                                ; 0250
                                                04  00110              RET                                                     ; 0309

; Routine Size:  273 bytes,    Routine Base:  $CODE$ + 0000


;  183          0310  1
;  184          0311  1 END                                                 !End of module
;  185          0312  0 ELUDOM



;                                    PSECT SUMMARY

;       Name                    Bytes                           Attributes

;  $CODE$                        273  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                                 Library Statistics

;                                          --------- Symbols ---------      Pages       Processing
;       File                               Total     Loaded   Percent      Mapped      Time

;  _$255$DUA28:[SYSLIB]XPORT.L32;1           590          0         0         252        00:00.1
;  _$255$DUA28:[RUNOFF.SRC]DSRLIB.L32;1     1248         20         1          86        00:00.3
```

```
;                                       COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:GLNM/OBJ=OBJ$:GLNM MSRC$:GLNM/UPDATE=(ENH$:GLNM)

; Size:          273 code + 0 data bytes
; Run Time:        00:06.5
; Elapsed Time:    00:17.8
; Lines/CPU Min:    2893
; Lexemes/CPU-Min: 17731
; Memory Used:  79 pages
; Compilation Complete
```