```
BBBBBBBBBBBB        AAAAAAAAA        SSSSSSSSSSS  RRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
BBBBBBBBBBBB        AAAAAAAAA        SSSSSSSSSSS  RRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
BBBBBBBBBBBB        AAAAAAAAA        SSSSSSSSSSS  RRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
BBB         BBB   AAA         AAA   SSS          RRR         RRR         TTT        LLL
BBB         BBB   AAA         AAA   SSS          RRR         RRR         TTT        LLL
BBB         BBB   AAA         AAA   SSS          RRR         RRR         TTT        LLL
BBB         BBB   AAA         AAA   SSS          RRR         RRR         TTT        LLL
BBB         BBB   AAA         AAA   SSS          RRR         RRR         TTT        LLL
BBB         BBB   AAA         AAA   SSS          RRR         RRR         TTT        LLL
BBBBBBBBBBBB      AAA         AAA     SSSSSSSSS  RRRRRRRRRRR             TTT        LLL
BBBBBBBBBBBB      AAA         AAA     SSSSSSSSS  RRRRRRRRRRR             TTT        LLL
BBBBBBBBBBBB      AAA         AAA     SSSSSSSSS  RRRRRRRRRRR             TTT        LLL
BBB         BBB   AAAAAAAAAAAAAAA           SSS  RRR   RRR               TTT        LLL
BBB         BBB   AAAAAAAAAAAAAAA           SSS  RRR   RRR               TTT        LLL
BBB         BBB   AAAAAAAAAAAAAAA           SSS  RRR   RRR               TTT        LLL
BBB         BBB   AAA         AAA           SSS  RRR      RRR            TTT        LLL
BBB         BBB   AAA         AAA           SSS  RRR   RRR               TTT        LLL
BBB         BBB   AAA         AAA           SSS  RRR      RRR            TTT        LLL
BBBBBBBBBBBB      AAA         AAA   SSSSSSSSSSS     RRR         RRR      TTT        LLLLLLLLLLLLLLL
BBBBBBBBBBBB      AAA         AAA   SSSSSSSSSSS     RRR         RRR      TTT        LLLLLLLLLLLLLLL
BBBBBBBBBBBB      AAA         AAA   SSSSSSSSSSS     RRR         RRR      TTT        LLLLLLLLLLLLLLL
```

```
BBBBBBBB      AAAAAA      SSSSSSSS    CCCCCCCC  HH      HH  RRRRRRRR
BBBBBBBB      AAAAAA      SSSSSSSS    CCCCCCCC  HH      HH  RRRRRRRR
BB      BB   AA      AA  SS          CC        HH      HH  RR      RR
BB      BB   AA      AA  SS          CC        HH      HH  RR      RR
BB      BB   AA      AA  SS          CC        HH      HH  RR      RR
BB      BB   AA      AA  SS          CC        HH      HH  RR      RR
BBBBBBBB     AA      AA    SSSSSS    CC        HHHHHHHHHH  RRRRRRRR
BBBBBBBB     AA      AA    SSSSSS    CC        HHHHHHHHHH  RRRRRRRR
BB      BB   AAAAAAAAAA          SS  CC        HH      HH  RR  RR
BB      BB   AAAAAAAAAA          SS  CC        HH      HH  RR  RR
BB      BB   AA      AA          SS  CC        HH      HH  RR    RR        ....
BB      BB   AA      AA          SS  CC        HH      HH  RR    RR        ....
BBBBBBBB     AA      AA  SSSSSSSS      CCCCCCCC  HH      HH  RR      RR      ....
BBBBBBBB     AA      AA  SSSSSSSS      CCCCCCCC  HH      HH  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
```

```
;     1          0001  0 MODULE BAS$CHR (                    ! return unsigned byte as 1 char string
;     2          0002  0                 IDENT = '1-004'     ! File: BASCHR.B32
;     3          0003  0                 ) =
;     4          0004  1 BEGIN
;     5          0005  1
;     6          0006  1 !
;     7          0007  1 !*****************************************************************************
;     8          0008  1 !*                                                                           *
;     9          0009  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                 *
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;    23          0023  1 !*                                                                           *
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;    25          0025  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                  *
;    26          0026  1 !*                                                                           *
;    27          0027  1 !*                                                                           *
;    28          0028  1 !*****************************************************************************
;    29          0029  1 !
;    30          0030  1
;    31          0031  1 !++
;    32          0032  1 ! FACILITY: BASIC support library
;    33          0033  1 !
;    34          0034  1 ! ABSTRACT:
;    35          0035  1 !
;    36          0036  1 !       Return unsigned byte integer as a one byte string
;    37          0037  1 !
;    38          0038  1 ! ENVIRONMENT: User mode, AST level or not or mixed
;    39          0039  1 !
;    40          0040  1 ! AUTHOR: R. Will,  CREATION DATE: 23-Feb-79
;    41          0041  1 !
;    42          0042  1 ! MODIFIED BY:
;    43          0043  1 !
;    44          0044  1 !       R. Will, 23-Feb-79: VERSION 01
;    45          0045  1 ! 01    - original
;    46          0046  1 ! 1-002 - Change FILL_CHAR to STR$K_FILL_CHAR.  JBS 09-APR-1979
;    47          0047  1 ! 1-003 - Rename from BAS$CHAR to BAS$CHR.  RW 21-MAY-79
;    48          0048  1 ! 1-004 - String cleanup.  Don't use $STR$ macros.  26-Oct-79
;    49          0049  1 !--
;    50          0050  1 !<BLF/PAGE>
```

```
;    52          0051  1 !
;    53          0052  1 ! SWITCHES:
;    54          0053  1 !
;    55          0054  1
;    56          0055  1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
;    57          0056  1
;    58          0057  1 !
;    59          0058  1 ! LINKAGES:
;    60          0059  1 !
;    61          0060  1
;    62          0061  1 REQUIRE 'RTLIN:STRLNK';                 ! Use require file with string linkage
;    63          0246  1
;    64          0247  1 !
;    65          0248  1 ! TABLE OF CONTENTS:
;    66          0249  1 !
;    67          0250  1
;    68          0251  1 FORWARD ROUTINE
;    69          0252  1     BAS$CHR : NOVALUE;                  ! Return integer as one char string
;    70          0253  1
;    71          0254  1 !
;    72          0255  1 ! INCLUDE FILES:
;    73          0256  1 !
;    74          0257  1
;    75          0258  1 REQUIRE 'RTLIN:RTLPSECT';               ! Declare PSECTS code
;    76          0353  1
;    77          0354  1 !
;    78          0355  1 ! MACROS: NONE
;    79          0356  1 !
;    80          0357  1
;    81          0358  1 !
;    82          0359  1 ! EQUATED SYMBOLS: NONE
;    83          0360  1 !
;    84          0361  1
;    85          0362  1 !
;    86          0363  1 ! PSECT DECLARATIONS
;    87          0364  1 !
;    88          0365  1
;    89          0366  1 DECLARE_PSECTS (BAS);
;    90          0367  1
;    91          0368  1 !
;    92          0369  1 ! OWN STORAGE: NONE
;    93          0370  1 !
;    94          0371  1
;    95          0372  1 !
;    96          0373  1 ! EXTERNAL REFERENCES
;    97          0374  1
;    98          0375  1 EXTERNAL ROUTINE STR$COPY_R_R8 : STR$JSB_COPY_R;        ! copy to dest string
;    99          0376  1 !
```

```
;  101     0377  1 GLOBAL ROUTINE BAS$CHR (                          ! integer to a 1 char string
;  102     0378  1                         DEST_DESC,                ! Pointer to dest str desc
;  103     0379  1                         INTEGER) : NOVALUE =      ! Pointer to integer value
;  104     0380  1 !++
;  105     0381  1 ! FUNCTIONAL DESCRIPTION:
;  106     0382  1 !
;  107     0383  1 !       Return unsigned byte integer \should this be signed, error if neg\
;  108     0384  1 !       as a one byte 8-bit ASCII string according to the semantics of the
;  109     0385  1 !       destination string.  Range of input byte is 0 through 255.
;  110     0386  1 !       Since output string is first argument, this can be called as either
;  111     0387  1 !       a subroutine of two arguments, or a string function of one argument.
;  112     0388  1 !
;  113     0389  1 ! FORMAL PARAMETERS:
;  114     0390  1 !
;  115     0391  1 !       DEST_DESC.wt.dx         pointer to destination string descriptor
;  116     0392  1 !       INTEGER.rbu.v           value of ASCII integer
;  117     0393  1 !
;  118     0394  1 ! IMPLICIT INPUTS:
;  119     0395  1 !
;  120     0396  1 !       NONE
;  121     0397  1 !
;  122     0398  1 ! IMPLICIT OUTPUTS:
;  123     0399  1 !
;  124     0400  1 !       NONE
;  125     0401  1 !
;  126     0402  1 ! ROUTINE VALUES:
;  127     0403  1 ! COMPLETION CODES:
;  128     0404  1 !
;  129     0405  1 !       NONE
;  130     0406  1 !
;  131     0407  1 ! SIDE EFFECTS:
;  132     0408  1 !
;  133     0409  1 !       This routine JSBs to STR$COPY$R_R8 and therefore may signal any
;  134     0410  1 !       of its errors or return any of its statuses.  It may also
;  135     0411  1 !       allocate or deallocate space for the destination string, and
;  136     0412  1 !       lock that string from being written for a period of time.
;  137     0413  1 !
;  138     0414  1 !--
;  139     0415  1
;  140     0416  2     BEGIN
;  141     0417  2
;  142     0418  2     MAP
;  143     0419  2         DEST_DESC: REF BLOCK [8, BYTE],
;  144     0420  2         INTEGER  : BYTE;
;  145     0421  2
;  146     0422  2     STR$COPY_R_R8 (DEST_DESC [0,0,0,0], 1, INTEGER);    ! create the string
;  147     0423  2     RETURN;
;  148     0424  1     END;                            !End of BAS$CHR


                                                                .TITLE  BAS$CHR
                                                                .IDENT  \1-004\

                                                                .EXTRN  STR$COPY_R_R8

                                                                .PSECT  _BAS$CODE,NOWRT,  SHR,  PIC,2
```

```
                          01FC 00000          .ENTRY  BAS$CHR, Save R2,R3,R4,R5,R6,R7,R8      ; 0377
                52        08   AC  9E 00002  MOVAB   INTEGER, R2                            ; 0422
                51             01  D0 00006  MOVL    #1, R1                                 ;
                50        04   AC  D0 00009  MOVL    DEST_DESC, R0                          ;
                   00000000G   00  16 0000D  JSB     STR$COPY_R_R8                          ;
                               04  04 00013  RET                                            ; 0424

; Routine Size:  20 bytes,    Routine Base:  _BAS$CODE + 0000
```

```
;  150          0425  1 END                           !End of module
;  151          0426  0 ELUDOM



;                                  PSECT SUMMARY
;
;
;       Name                    Bytes                           Attributes
;
;  _BAS$CODE                      20  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(2)



;                                   COMMAND QUALIFIERS

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

; Size:         20 code + 0 data bytes
; Run Time:        00:02.5
; Elapsed Time:    00:06.6
; Lines/CPU Min:   10183
; Lexemes/CPU-Min: 32605
; Memory Used:  23 pages
; Compilation Complete
```

BASCLOSE
LIS

BASCONCAT
LIS

BASCTRLO
LIS

BASCHANGE
LIS

BASCTRLC
LIS

BASCHAIN
LIS

BASCOPYFD
LIS

BASCHR
LIS

BASCMPAPP
LIS

BASCUTOUT
LIS

BASCCPOS
LIS