```
LLL                 IIIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR   TTTTTTTTTTTTTTTT   LLL
LLL                 IIIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR   TTTTTTTTTTTTTTTT   LLL
LLL                 IIIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR   TTTTTTTTTTTTTTTT   LLL
LLL                    III       BBB      BBB   RRR      RRR          TTT         LLL
LLL                    III       BBB      BBB   RRR      RRR          TTT         LLL
LLL                    III       BBB      BBB   RRR      RRR          TTT         LLL
LLL                    III       BBB      BBB   RRR      RRR          TTT         LLL
LLL                    III       BBB      BBB   RRR      RRR          TTT         LLL
LLL                    III       BBBBBBBBBBBB   RRRRRRRRRRRR          TTT         LLL
LLL                    III       BBBBBBBBBBBB   RRRRRRRRRRRR          TTT         LLL
LLL                    III       BBBBBBBBBBBB   RRRRRRRRRRRR          TTT         LLL
LLL                    III       BBB      BBB   RRR   RRR             TTT         LLL
LLL                    III       BBB      BBB   RRR   RRR             TTT         LLL
LLL                    III       BBB      BBB   RRR   RRR             TTT         LLL
LLL                    III       BBB      BBB   RRR      RRR          TTT         LLL
LLL                    III       BBB      BBB   RRR      RRR          TTT         LLL
LLL                    III       BBB      BBB   RRR      RRR          TTT         LLL
LLLLLLLLLLLLLLLL    IIIIIIIIII   BBBBBBBBBBBB   RRR      RRR          TTT         LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLLL    IIIIIIIIII   BBBBBBBBBBBB   RRR      RRR          TTT         LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLLL    IIIIIIIIII   BBBBBBBBBBBB   RRR      RRR          TTT         LLLLLLLLLLLLLLL
```

```
LL            IIIIII  BBBBBBBB   CCCCCCCC HH    HH    AAAAAA   RRRRRRRR
LL            IIIIII  BBBBBBBB   CCCCCCCC HH    HH    AAAAAA   RRRRRRRR
LL              II    BB    BB  CC        HH    HH   AA    AA  RR     RR
LL              II    BB    BB  CC        HH    HH   AA    AA  RR     RR
LL              II    BB    BB  CC        HH    HH   AA    AA  RR     RR
LL              II    BB    BB  CC        HH    HH   AA    AA  RR     RR
LL              II    BBBBBBBB  CC        HHHHHHHHHH AA    AA  RRPRRRR
LL              II    BBBBBBBB  CC        HHHHHHHHHH AA    AA  RRRRRRRR
LL              II    BB    BB  CC        HH    HH   AAAAAAAAAA RR  RR
LL              II    BB    BB  CC        HH    HH   AAAAAAAAAA RR  RR
LL              II    BB    BB  CC        HH    HH   AA    AA  RR     RR
LL              II    BB    BB  CC        HH    HH   AA    AA  RR     RR    ....
LLLLLLLLLL    IIIIII  BBBBBBBB   CCCCCCCC HH    HH   AA    AA  RR     RR    ....
LLLLLLLLLL    IIIIII  BBBBBBBB   CCCCCCCC HH    HH   AA    AA  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 LIB$CHAR (
    2    0002  0
    3    0003  0          IDENT = '1-007'          ! File: LIBCHAR.B32 Edit: RKR1007
    4    0004  0
    5    0005  0              ) =
    6    0006  1 BEGIN
    7    0007  1 !
    8    0008  1 !*******************************************************************
    9    0009  1 !*                                                                 *
   10    0010  1 !*    COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                      *
   11    0011  1 !*    DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.       *
   12    0012  1 !*    ALL RIGHTS RESERVED.                                         *
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   16    0016  1 !*    INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER *
   17    0017  1 !*    COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY *
   18    0018  1 !*    OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY *
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   20    0020  1 !*                                                                 *
   21    0021  1 !*    THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE *
   22    0022  1 !*    AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT *
   23    0023  1 !*    CORPORATION.                                                 *
   24    0024  1 !*                                                                 *
   25    0025  1 !*    DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS *
   26    0026  1 !*    SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.      *
   27    0027  1 !*                                                                 *
   28    0028  1 !*                                                                 *
   29    0029  1 !*******************************************************************
   30    0030  1 !
   31    0031  1 !
   32    0032  1 !++
   33    0033  1 ! FACILITY:  General Library Support
   34    0034  1 !
   35    0035  1 ! ABSTRACT:
   36    0036  1 !
   37    0037  1 !        Return a byte-length integer (FORTRAN INTEGER*1) as a
   38    0038  1 !        one-character string.
   39    0039  1 !
   40    0040  1 ! ENVIRONMENT:  VAX-11 User Mode
   41    0041  1 !
   42    0042  1 ! AUTHOR: Tomas N. Hastings, 06-AUG-1977
   43    0043  1 !
   44    0044  1 ! MODIFIED BY:
   45    0045  1 !
   46    0046  1 ! 1-001 - Update version number and copyright notice.  The edit number
   47    0047  1 !         on version 0 was 3.  JBS 16-NOV-1978
   48    0048  1 ! 1-002 - Add " " to PSECT directives.  JBS 21-DEC-1978
   49    0049  1 ! 1-003 - Translate to BLISS and handle a dynamic result string
   50    0050  1 !         correctly.  JBS 20-MAR-1979
   51    0051  1 ! 1-004 - Change LIB$S and OTS$S to STR$.  JBS 21-MAY-1979
   52    0052  1 ! 1-005 - Change call to STR$COPY.  JBS 16-JUL-1979
   53    0053  1 ! 1-006 - Use handler to translate error codes.  RW  22-Jan-1980
   54    0054  1 ! 1-007 - Redirect copy call from STR$COPY_R to LIB$SCOPY_R_DX6.  This
   55    0055  1 !         eliminates the need for a handler and the need to change
   56    0056  1 !         STR$ statuses to LIB$ statuses.
   57    0057  1 !         RKR 26-MAY-1981
```

LIB$CHAR
1-007

G 15
16-Sep-1984 00:39:10   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:38:27   [LIBRTL.SRC]LIBCHAR.B32;1

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```
;   58        0058 1 !--
;   59        0059 1
;   60        0060 1 !<BLF/PAGE>
```

LIB$CHAR
1-007

H 15
16-Sep-1984 00:39:10   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:38:27   [LIBRTL.SRC]LIBCHAR.B32;1

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       (2)

```
   62      0061   1 !
   63      0062   1 ! SWITCHES:
   64      0063   1 !
   65      0064   1
   66      0065   1 SWITCHES ADDRESSING_MODE
   67      0066   1                 (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
   68      0067   1
   69      0068   1 !
   70      0069   1 ! LINKAGES:
   71      0070   1 !
   72      0071   1 REQUIRE 'RTLIN:STRLNK';             ! Linkage to LIB$SCOPY_R_DX6
   73      0256   1 !
   74      0257   1 ! TABLE OF CONTENTS:
   75      0258   1 !
   76      0259   1
   77      0260   1 FORWARD ROUTINE
   78      0261   1     LIB$CHAR;                       ! Make a 1-char string
   79      0262   1
   80      0263   1 !
   81      0264   1 ! INCLUDE FILES:
   82      0265   1 !
   83      0266   1
   84      0267   1 REQUIRE 'RTLIN:RTLPSECT';           ! Macros for defining psects
   85      0362   1
   86      0363   1 !
   87      0364   1 ! MACROS:
   88      0365   1 !
   89      0366   1 !     NONE
   90      0367   1 !
   91      0368   1 ! EQUATED SYMBOLS:
   92      0369   1 !
   93      0370   1 !     NONE
   94      0371   1 !
   95      0372   1 ! PSECTS:
   96      0373   1 !
   97      0374   1 DECLARE_PSECTS (LIB);               ! Declare psects for LIB$ facility
   98      0375   1 !
   99      0376   1 ! OWN STORAGE:
  100      0377   1 !
  101      0378   1 !     NONE
  102      0379   1 !
  103      0380   1 ! EXTERNAL REFERENCES:
  104      0381   1 !
  105      0382   1
  106      0383   1 EXTERNAL ROUTINE
  107      0384   1     LIB$SCOPY_R_DX6 : STRING_JSB;              ! Copy string
```

LIB$CHAR
1-007

I 15
16-Sep-1984 00:39:10   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:38:27   [LIBRTL.SRC]LIBCHAR.B32;1

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        (3)

```
  109    0385  1   GLOBAL ROUTINE LIB$CHAR (              ! Make a 1-char string
  110    0386  1
  111    0387  1       RESULT_STR,                       ! Descriptor of result string
  112    0388  1       BYTE_INTEGER                      ! Byte to make up the string
  113    0389  1
  114    0390  1                      ) : =
  115    0391  1
  116    0392  1   !++
  117    0393  1   !  FUNCTIONAL DESCRIPTION:
  118    0394  1   !
  119    0395  1   !       Return unsigned byte integer (FORTRAN INTEGER*1) as a
  120    0396  1   !       one-character 8 bit ASCII string.  The range of the input
  121    0397  1   !       integer is 0 to 255.  Since the output string is the first
  122    0398  1   !       argument, this can be considered as either a subroutine with
  123    0399  1   !       two parameters or a string function with one.
  124    0400  1   !
  125    0401  1   !  FORMAL PARAMETERS:
  126    0402  1   !
  127    0403  1   !       RESULT_STR.wt.dx          Address of the descriptor into which
  128    0404  1   !                                 the one-character string is written.
  129    0405  1   !       BYTE_INTEGER.rbu.r        The byte to put in that string.
  130    0406  1   !
  131    0407  1   !  IMPLICIT INPUTS:
  132    0408  1   !
  133    0409  1   !       NONE
  134    0410  1   !
  135    0411  1   !  IMPLICIT OUTPUTS:
  136    0412  1   !
  137    0413  1   !       NONE
  138    0414  1   !
  139    0415  1   !  COMPLETION CODES:
  140    0416  1   !
  141    0417  1   !       SS$_NORMAL       Procedure successfully completed
  142    0418  1   !       LIB$_STRTRU      Success, but source string truncated
  143    0419  1   !       LIB$_INSVIRMEM   Insufficient virtual memory
  144    0420  1   !       LIB$_INVSTRDES   Invalid string descriptor
  145    0421  1   !       LIB$_FATERRLIB   Fatal error in library
  146    0422  1   !
  147    0423  1   !  SIDE EFFECTS:
  148    0424  1   !
  149    0425  1   !       May allocate a little space for the result string.
  150    0426  1   !
  151    0427  1   !--
  152    0428  1
  153    0429  2       BEGIN
  154    0430  2
  155    0431  2       RETURN (LIB$SCOPY_R_DX6 (1, .BYTE_INTEGER, .RESULT_STR)) ;
  156    0432  2
  157    0433  1       END;                                      ! end of LIB$CHAR


                                         .TITLE   LIB$CHAR
                                         .IDENT   \1-007\

                                         .EXTRN   LIB$SCOPY_R_DX6

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

LIB$CHAR
1-007
J 15
16-Sep-1984 00:39:10   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:38:27   [LIBRTL.SRC]LIBCHAR.B32;1
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```
                          007C 00000          .ENTRY  LIB$CHAR, Save R2,R3,R4,R5,R6      ; 0385
          52      04  AC  DO 00002            MOVL    RESULT_STR, R2                     ; 0431
          51      08  AC  DO 00006            MOVL    BYTE_INTEGER, R1
          50          01  DO 0000A            MOVL    #1, R0
          00000000G   00  16 0000D            JSB     LIB$SCOPY_R_DX6
                          04 00013            RET                                        ; 0433
```

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

```
; 158      0434 1
; 159      0435 1 END                                        ! end of module LIB$CHAR
; 160      0436 1
; 161      0437 0 ELUDOM
```

;   PSECT SUMMARY

;   Name   Bytes   Attributes

; _LIB$CODE   20 NOVEC,NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)

;   COMMAND QUALIFIERS

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

; Size: 20 code + 0 data bytes
; Run Time: 00:01.7
; Elapsed Time: 00:09.5
; Lines/CPU Min: 15514
; Lexemes/CPU-Min: 46437
; Memory Used: 21 pages
; Compilation Complete

RTLMACMAR
MAR

LIBASCEBC
LIS

LIBASTINP
LIS

RTLMACB32
REQ

STRMACROS
REQ

LIBBINTRE
LIS

RTLODBG
REQ

LIBDEF
FOR

LIBANASTR
LIS

LIBASNMBX
LIS

LIBBBCCI
LIS

LIBCHAR
LIS

LIBABUPCA
LIS

LIBADDX
LIS

RTLPSECT
REQ

SIGDEF
FOR

LIBASCTIM
LIS

LIBTABMAC
MAR

LIBATTACH
LIS

STRLNK
REQ

LIBA2EREV
LIS

LIBBBSSI
LIS

LIBCALLG
LIS

LIBCLICAL
LIS

LIBADDP
LIS