


```

LL      IIIIII  BBBB8888  LL      EEEEEEEEE  NN      NN
LL      IIIIII  BBBB8888  LL      EEEEEEEEE  NN      NN
LL      II      BB      BB  LL      EE      NN      NN
LL      II      BB      BB  LL      EE      NN      NN
LL      II      BB      BB  LL      EE      NNNN   NN
LL      II      BBBB8888  LL      EE      NNNN   NN
LL      II      BBBB8888  LL      EEEEEEE   NN  NN  NN
LL      II      BB      BB  LL      EEEEEEE   NN  NN  NN
LL      II      BB      BB  LL      EE      NN      NNNN
LL      II      BB      BB  LL      EE      NN      NNNN
LL      II      BB      BB  LL      EE      NN      NN
LLLLLLLL  IIIIII  BBBB8888  LLLLLLLLL  EEEEEEEEE  NN      NN
LLLLLLLL  IIIIII  BBBB8888  LLLLLLLLL  EEEEEEEEE  NN      NN

```

```

LL      IIIIII  SSSSSSSS
LL      IIIIII  SSSSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SSSSSS
LL      II      SSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LLLLLLLL  IIIIII  SSSSSSSS
LLLLLLLL  IIIIII  SSSSSSSS

```

4-1
.....

LIB\$LEN
Table of contents

; Return length of string

N 2

16-SEP-1984 00:12:30 VAX/VMS Macro V04-00

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(2)	49	HISTORY	; Detailed Current Edit History
(3)	69	DECLARATIONS	
(4)	99	LIB\$LEN -	Return length of string as INTEGER*4 value

LI
1-


```

0000 1 .TITLE LIB$LEN ; Return length of string
0000 2 .IDENT 71-006/ ; File: LIB$LEN.MAR Edit: RKR1006
0000 3
0000 4
0000 5 *****
0000 6 *
0000 7 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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0000 24 *
0000 25 *
0000 26 *****
0000 27
0000 28
0000 29 FACILITY: General Utility Library
0000 30 ++
0000 31 ABSTRACT:
0000 32
0000 33 Return length of a string as an INTEGER*4 value.
0000 34
0000 35 --
0000 36
0000 37 VERSION: 0
0000 38
0000 39 HISTORY:
0000 40
0000 41 AUTHOR:
0000 42 Thomas N. Hastings, 6-Aug-77: Version 0
0000 43
0000 44 MODIFIED BY:
0000 45
0000 46
0000 47

```



```
0000 49 .SBTTL HISTORY ; Detailed Current Edit History
0000 50
0000 51
0000 52 : Edit History for Version 0
0000 53 :
0000 54 : 0-3 - return word TNH 16-SEP-77
0000 55 : 1-001 - Update version number and copyright date, and correct
0000 56 : the comment of the INDENT line about the file name.
0000 57 : The last edit number of version 0 was 4. JBS 16-NOV-78
0000 58 : 1-002 - Add "" to PSECT directive. JBS 21-DEC-78
0000 59 : 1-003 - Return current length of VS class string. SBL 22-Dec-1980
0000 60 : 1-004 - Enhance to recognize additional classes of string descriptors
0000 61 : by invoking LIB$ANALYZE_SDESC_R3 to extract length and address
0000 62 : of 1st data byte from descriptor. RKR 22-MAY-1981
0000 63 : 1-005 - Add special-case code to process string descriptors that
0000 64 : "read" like fixed string descriptors. RKR 7-OCT-1981.
0000 65 : 1-006 - Redirect jsb's from LIB$ANALYZE_SDESC_R3 to
0000 66 : LIB$ANALYZE_SDESC_R2. Remove R3 from entry mask.
0000 67 : RKR 18-NOV-1981.
```

```
0000 69      .SBTTL  DECLARATIONS
0000 70
0000 71  :
0000 72  : INCLUDE FILES: NONE
0000 73  :
0000 74  :
0000 75  : EXTERNAL SYMBOLS:
0000 76  :
0000 77      .DSABL  GBL      ; Explicit externals only
0000 78      .EXTRN  LIB$ANALYZE_SDESC_R2 ; Extract length and addr of
0000 79      ; 1st data byte of string
0000 80
0000 81  :
0000 82  : MACROS:
0000 83  :
0000 84      $DSCDEF      ; fields within a descriptor
0000 85
0000 86  :
0000 87  : PSECT DECLARATIONS:
0000 88  :
00000000 89      .PSECT  _LIB$CODE PIC,SHR,LONG,EXE,NOWRT
0000 90  :
0000 91  : EQUATED SYMBOLS: NONE
0000 92  :
0000 93  :
0000 94  :
0000 95  : OWN STORAGE:
0000 96  :
0000 97
```



```

0000 99      .SBTTL LIB$LEN - Return length of string as INTEGER*4 value
0000 100
0000 101    :++
0000 102    : FUNCTIONAL DESCRIPTION:
0000 103    :
0000 104    : Return the length of the string argument as an INTEGER*4 value.
0000 105    :
0000 106    : CALLING SEQUENCE:
0000 107    :
0000 108    : String_len.wlu.v = LIB$LEN (string.rt.dx)
0000 109    :
0000 110    :
0000 111    : INPUT PARAMETERS:
0000 112    :
00000004 0000 113    : STRING = 4 ; String passed by descriptor.
0000 114    :
0000 115    : IMPLICIT INPUTS:
0000 116    : NONE
0000 117    :
0000 118    : OUTPUT PARAMETERS:
0000 119    : NONE
0000 120    :
0000 121    : IMPLICIT OUTPUTS:
0000 122    : NONE
0000 123    :
0000 124    : FUNCTION VALUE:
0000 125    :
0000 126    : STRING_LEN.wlu.v The current length of the string
0000 127    : argument.
0000 128    :
0000 129    : SIDE EFFECTS:
0000 130    : NONE
0000 131    :
0000 132    :--
0000 133
0000 134
0000 135
0004 0000 136    .ENTRY LIB$LEN, ^M<R2> ; entry mask
50 04 AC D0 0002 137    MOVL STRING(AP), R0 ; address of string descriptor
02 03 A0 91 0006 138    CMPB DSC$B_CLASS(R0), #DSC$K_CLASS_D ; read like fixed ?
05 1A 000A 139    BGTRU 1$ ; no
50 04 BC 3C 000C 140    MOVZWL @STRING(AP), R0 ; length to ouput register
04 0010 141    RET
0011 142
00000000'GF 16 0011 143 1$: JSB G^LIB$ANALYZE_SDESC_R2 ; Extract: length->R1, addr->R2
50 51 3C 0017 144    MOVZWL R1, R0 ; length to ouput register
04 001A 145    RET
001B 146    .END ; End of module LIB$LEN

```

LIB\$LEN
Symbol table

; Return length of string

F 3

16-SEP-1984 00:12:30
6-SEP-1984 11:08:23

VAX/VMS Macro V04-00
[LIBRTL.SRC]LIBLEN.MAR;1

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(4)

DSC\$B_CLASS = 00000003
DSC\$K_CLASS_D = 00000002
LIB\$ANALYZE_SDESC_R2 ***** X 00
LIB\$LEN 00000000 RG 02
STRING = 00000004

+-----+
! Psect synopsis !
+-----+

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
\$ABSS	00000000 (0.)	01 (1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
_LIB\$CODE	0000001B (27.)	02 (2.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	30	00:00:00.04	00:00:01.12
Command processing	113	00:00:00.29	00:00:04.02
Pass 1	131	00:00:01.12	00:00:08.72
Symbol table sort	0	00:00:00.12	00:00:00.28
Pass 2	39	00:00:00.31	00:00:02.39
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	3	00:00:00.01	00:00:00.01
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	320	00:00:01.92	00:00:16.88

The working set limit was 1050 pages.
7650 bytes (15 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 134 non-local and 1 local symbols.
146 source lines were read in Pass 1, producing 13 object records in Pass 2.
8 pages of virtual memory were used to define 7 macros.

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

Macro library name Macros defined

_ \$255\$DUA28:[SYSLIB]STARLET.MLB;2 4

190 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS\$:LIBLEN/OBJ=OBJ\$:LIBLEN MSRC\$:LIBLEN/UPDATE=(ENH\$:LIBLEN)

