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```
1 0001 0 MODULE LIB_SUBS ( ! General subroutines for LIBRARIAN
2 0002 0
3 0003 0     LANGUAGE (BLISS32),
4 0004 0     IDENT = 'V04-000'
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
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27 0027 1 *
28 0028 1 *****
29 0029 1
30 0030 1
31 0031 1 **
32 0032 1
33 0033 1 FACILITY: Library command processor
34 0034 1
35 0035 1 ABSTRACT:
36 0036 1
37 0037 1 The VAX/VMS librarian is invoked by DCL to process the LIBRARY
38 0038 1 command. It utilizes the librarian procedure set to perform
39 0039 1 the actual modifications to the library.
40 0040 1
41 0041 1 ENVIRONMENT:
42 0042 1
43 0043 1 VAX native, user mode.
44 0044 1
45 0045 1 --
46 0046 1
47 0047 1
48 0048 1 AUTHOR: Benn Schreiber, CREATION DATE: 21-June-1979
49 0049 1
50 0050 1 MODIFIED BY:
51 0051 1
52 0052 1 V01.01 Benn Schreiber 8-Nov-1979
53 0053 1 Add routine getfilnamdesc
54 0054 1 --
55 0055 1
56 0056 1
```

LIB_SUBS
V04-000

H 7
16-Sep-1984 02:04:43
14-Sep-1984 12:38:11

VAX-11 Bliss-32 V4.0-742
DISK\$VMMASTER:[LIBRAR.SRC]SUBS.B32;1 Page 2 (2)

```
: 58 0057 1 LIBRARY  
: 59 0058 1 'SYSS$LIBRARY:STARLET';  
: 60 0059 1 REQUIRE  
: 61 0060 1 'PREFIX';  
: 62 0244 1  
: 63 0245 1 EXTERNAL ROUTINE  
: 64 0246 1 lib$get_vm : ADDRESSING_MODE (GENERAL); !Allocate virtual memory  
: 65 0247 1 lib$free_vm : ADDRESSING_MODE (GENERAL); !Deallocate virtual memory
```

EXE

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LIE

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```

: 67      0248 1 GLOBAL ROUTINE lib_get_mem (bytes, retadr) =
: 68      0249 1
: 69      0250 1 allocate virtual memory
: 70      0251 1
: 71      0252 1 lib$get_vm (bytes, .retadr);

```

```

.TITLE LIB SUBS
.IDENT \V04-000\
.EXTRN LIB$GET_VM, LIB$FREE_VM
.PSECT $CODE$,NOWRT,2
.ENTRY LIB_GET_MEM, Save nothing
PUSHL RETADR
PUSHAB BYTES
CALLS #2, LIB$GET_VM
RET

```

```

: 0248
: 0252
:
:

```

: Routine Size: 16 bytes, Routine Base: \$CODE\$ + 0000

```

: 72      0253 1 GLOBAL ROUTINE lib_free_mem (bytes, address) =
: 73      0254 1
: 74      0255 1 deallocate virtual memory
: 75      0256 1
: 76      0257 1 lib$free_vm (bytes, address);

```

```

.ENTRY LIB_FREE_MEM, Save nothing
PUSHAB ADDRESS
PUSHAB BYTES
CALLS #2, LIB$FREE_VM
RET

```

```

: 0253
: 0257
:
:

```

: Routine Size: 16 bytes, Routine Base: \$CODE\$ + 0010

```

: 77      0258 1 GLOBAL ROUTINE lib_get_zmem (bytes, retadr) =
: 78      0259 2 BEGIN
: 79      0260 2
: 80      0261 2 Get zeroed memory
: 81      0262 2
: 82      0263 2 perform (lib_get_mem (.bytes, .retadr));
: 83      0264 2 CH$FILL (0, .bytes, ..retadr);
: 84      0265 2 RETURN true
: 85      0266 1 END;

```

003C 0000

.ENTRY LIB_GET_ZMEM, Save R2,R3,R4,R5

: 0258

EXE
Mod

STR
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OTS
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SYS
SYS

LIB SUBS
V04=000

J 7
16-Sep-1984 02:04:43
14-Sep-1984 12:38:11

VAX-11 Bliss-32 V4.0-742
DISK\$VMMASTER:[LIBRAR.SRC]SUBS.B32;1

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(3)

_82

			7E	04	AC	7D	00002	MOVQ	BYTES, -(SP)	:	0263
	D6		AF		02	FB	00006	CALLS	#2, LIB_GET_MEM	:	
			0E		50	E9	0000A	BLBC	STATUS, 1\$:	
			50	08	BC	D0	0000D	MOVL	@RETADR, R0	:	0264
04	AC		6E		00	2C	00011	MOVCS	#0, (SP), #0, BYTES, (R0)	:	
					60		00017			:	
			50		01	D0	00018	MOVL	#1, R0	:	0265
					04	0001B	1\$:	RET		:	0266

CLU
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; Routine Size: 28 bytes, Routine Base: \$CODE\$ + 0020

```
87 0267 1 GLOBAL ROUTINE find_list_width (fab, listingwidth) =
88 0268 2 BEGIN
89 0269 2
90 0270 2 : Determine the width of the listing line
91 0271 2 : FAB is the fab of the open file, width returned in listingwidth.
92 0272 2
93 0273 2 MAP
94 0274 2     fab : REF BBLOCK;
95 0275 2
96 0276 2 BIND
97 0277 2     namblk = .fab [fab$l_nam] : BBLOCK;           !NAM block
98 0278 2
99 0279 2 LOCAL
100 0280 2     devnamdesc : BBLOCK [dsc$c_s_bln],
101 0281 2     devnambuf : VECTOR [nam$c_maxrss, BYTE],
102 0282 2     devnambufdesc : BBLOCK [dsc$c_s_bln],
103 0283 2     devinfobuf : BBLOCK [dib$k_length],
104 0284 2     devinfodesc : BBLOCK [dsc$c_s_bln],
105 0285 2     devchan;
106 0286 2
107 0287 2 LITERAL
108 0288 2     ch_escape = %X '1B';           !ASCII <ESC>
109 0289 2     .listingwidth = 80;           !Assume default of 80
110 0290 2 IF (.fab [fab$l_dev] AND dev$m_spl) NEQ 0       !If device is spooled
111 0291 3 THEN BEGIN
112 0292 3     devnamdesc [dsc$w_length] = CH$FIND_CH (.namblk [nam$b_esl],
113 0293 3         .namblk [nam$l_esa], %ASCII ':')
114 0294 3         - .namblk [nam$l_esa];
115 0295 3     devnamdesc [dsc$a_pointer] = .namblk [nam$l_esa];
116 0296 3     END
117 0297 3 ELSE BEGIN           !Device is not spooled
118 0298 3     devnamdesc [dsc$w_length] = CH$FIND_CH (.namblk [nam$b_rsl],
119 0299 3         .namblk [nam$l_rsa], %ASCII ':')
120 0300 3         - .namblk [nam$l_rsa];
121 0301 3     devnamdesc [dsc$a_pointer] = .namblk [nam$l_esa];
122 0302 3     END;
123 0303 2 devnambufdesc [dsc$w_length] = nam$c_maxrss;
124 0304 2 devnambufdesc [dsc$a_pointer] = devnambuf;
125 0305 2 $TRNLOG (LOGNAM = devnamdesc, RSLLEN = devnambufdesc, RSLBUF = devnambufdesc);
126 0306 2 IF .devnambuf [0] EQL ch_escape           !Check for process permanent file
127 0307 3 THEN BEGIN
128 0308 3     devnambufdesc [dsc$w_length] = .devnambufdesc [dsc$w_length] - 4;
129 0309 3     devnambufdesc [dsc$a_pointer] = .devnambufdesc [dsc$a_pointer] + 4;
130 0310 3     END;
131 0311 2
132 0312 2 : Assign the device and then do a $GETCHN to get the width
133 0313 2
134 0314 3 IF $ASSIGN (DEVNAM = devnambufdesc, CHAN = devchan)
135 0315 3 THEN BEGIN
136 0316 3     devinfodesc [dsc$w_length] = dib$k_length;           !Set up descriptor for $GETCHN
137 0317 3     devinfodesc [dsc$a_pointer] = devinfobuf;
138 0318 4     IF $GETCHN (CHAN = .devchan, SCDBUF = devinfodesc)
139 0319 3     THEN .listingwidth = .devinfobuf [dib$w_devbufsiz];
140 0320 3     $DASSGN (CHAN = .devchan);           !Deassign channel
141 0321 3     END;
142 0322 2 RETURN true;
143 0323 1 END;           !Of find_list_width
```

							.EXTRN	SYS\$TRNLOG, SYS\$ASSIGN	
							.EXTRN	SYS\$GETCHN, SYS\$DASSGN	
							.ENTRY	FIND LIST_WIDTH, Save R2	: 0267
							MOVAB	-400(SP), -SP	: 0277
							MOVL	FAB, R0	: 0289
							MOVL	40(R0), R2	: 0290
							MOVZBL	#80, @LISTINGWIDTH	: 0292
							BBC	#6, 64(R0), 2\$	
							MOVZBL	11(R2), R0	
							LOCC	#58, R0, @12(R2)	
							BNEQ	1\$	
							CLRL	R1	
							SUBW3	12(R2), R1, DEVNAMDESC	: 0294
							BRB	4\$: 0295
							MOVZBL	3(R2), R0	: 0298
							LOCC	#58, R0, @4(R2)	
							BNEQ	3\$	
							CLRL	R1	
							SUBW3	4(R2), R1, DEVNAMDESC	: 0300
							MOVL	12(R2), DEVNAMDESC+4	: 0301
							MOVZBW	#255, DEVNAMBUFDDESC	: 0303
							MOVAB	DEVNAMBUF, DEVNAMBUFDDESC+4	: 0304
							CLRQ	-(SP)	: 0305
							CLRL	-(SP)	
							PUSHAB	DEVNAMBUFDDESC	
							PUSHAB	DEVNAMBUFDDESC	
							PUSHAB	DEVNAMDESC	
							CALLS	#6, SYS\$TRNLOG	
							CMPB	DEVNAMBUF, #27	: 0306
							BNEQ	5\$	
							SUBW2	#4, DEVNAMBUFDDESC	: 0308
							ADDL2	#4, DEVNAMBUFDDESC+4	: 0309
							CLRQ	-(SP)	: 0314
							PUSHAB	DEVCHAN	
							PUSHAB	DEVNAMBUFDDESC	
							CALLS	#4, SYS\$ASSIGN	
							BLBC	R0, 7\$: 0316
							MOVZBW	#116, DEVINFODESC	: 0317
							MOVAB	DEVINFOBUF, DEVINFODESC+4	: 0318
							PUSHAB	DEVINFODESC	
							CLRQ	-(SP)	
							CLRL	-(SP)	
							PUSHL	DEVCHAN	
							CALLS	#5, SYS\$GETCHN	
							BLBC	R0, 6\$: 0319
							MOVZWL	DEVINFOBUF+6, @LISTINGWIDTH	: 0320
							PUSHL	DEVCHAN	
							CALLS	#1, SYS\$DASSGN	: 0322
							MOVL	#1, R0	: 0323
							RET		

; Routine Size: 189 bytes, Routine Base: \$CODE\$ + 003C

LIB SUBS
V04=000

M 7
16-Sep-1984 02:04:43
14-Sep-1984 12:38.11

VAX-11 Bliss-32 V4.0-742
DISK\$VMMASTER:[LIBRAR.SRC]SUBS.B32;1 Page 7 (4)

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```

145 0324 1 GLOBAL ROUTINE getfilnamdesc (fab, filedesc) =
146 0325 2 BEGIN
147 0326 2 |**
148 0327 2 | FUNCTIONAL DESCRIPTION:
149 0328 2 |
150 0329 2 | This routine returns a string descriptor for a file.
151 0330 2 |
152 0331 2 | Inputs:
153 0332 2 |
154 0333 2 |     fab           Address of the fab
155 0334 2 |     filedesc     Address of string descriptor to store into
156 0335 2 |
157 0336 2 | Outputs:
158 0337 2 |
159 0338 2 |     filedesc is filled in. The strings tried are:
160 0339 2 |
161 0340 2 |         1) resultant name string
162 0341 2 |         2) expanded name string
163 0342 2 |         2) filename string
164 0343 2 |
165 0344 2 | --
166 0345 2 |
167 0346 2 MAP
168 0347 2     fab : REF BBLOCK,
169 0348 2     fi'iledesc : REF BBLOCK;
170 0349 2 |
171 0350 2 BIND
172 0351 2     nam = .fab [fab$_nam] : BBLOCK;
173 0352 2 |
174 0353 2 LOCAL
175 0354 2     nameptr;
176 0355 2 |
177 0356 2 IF (filedesc [dsc$_length] = .nam [nam$_rs]) NEQ 0 !If resultant name present
178 0357 2 THEN filedesc [dsc$_pointer] = .nam [nam$_rsa]
179 0358 2 ELSE IF (filedesc [dsc$_length] = .nam [nam$_es]) NEQ 0 !If expanded name present
180 0359 2 THEN filedesc [dsc$_pointer] = .nam [nam$_esa]
181 0360 2 ELSE BEGIN
182 0361 2     filedesc [dsc$_length] = .fab [fab$_fns]; !Use filename string
183 0362 2     filedesc [dsc$_pointer] = .fab [fab$_fna]; ! if all else fails
184 0363 2 END;
185 0364 2 |
186 0365 2 | Allocate memory and copy the filename to it
187 0366 2 |
188 0367 2 lib get_mem (.filedesc [dsc$_length], nameptr);
189 0368 2 CH$MOVE (.filedesc [dsc$_length], .filedesc [dsc$_pointer], .nameptr);
190 0369 2 filedesc [dsc$_pointer] = .nameptr;
191 0370 2 RETURN true
192 0371 1 END;

```

!Of getfilnamdesc

			007C 0000	.ENTRY	GETFILNAMDESC, Save R2,R3,R4,R5,R6	: 0324
5E		04	C2 0002	SUBL2	#4, SP	:
51	04	AC	7D 0005	MOVQ	FAB, R1	: 0351
50	28	A1	DO 0009	MOVL	40(R1), R0	:

