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This manual documents GnuCOBOL 2.2 Final, 7Sept2017 build.

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1. FileStat-Msgs

The FileStat-Msgs.cpy copybook contains an EVALUATE statement to translate the two-digit file status codes that may be generated by file I/O statements.

The copybook assumes that the file status data item name is "STATUS" and the error message data item is named "MSG". By using the COPY statement's REPLACING clause, however, you may use the data names you wish, as follows:

```
COPY FileStat-Msgs

REPLACING STATUS BY file-status-data-item-name

MSG BY error-message-data-item-name
```

Here's the FileStat-Msgs.cpy copybook:

```
EVALUATE STATUS
                                            , TO MSG
     WHEN OO MOVE 'SUCCESS
                                           , TO MSG
     WHEN 02 MOVE 'SUCCESS DUPLICATE
                                           , TO MSG
     WHEN 04 MOVE 'SUCCESS INCOMPLETE
     WHEN 05 MOVE 'SUCCESS OPTIONAL
                                            , TO MSG
                                           , TO MSG
     WHEN 07 MOVE 'SUCCESS NO UNIT
     WHEN 10 MOVE 'END OF FILE
                                          ' TO MSG
     WHEN 14 MOVE 'OUT OF KEY RANGE
                                           , TO MSG
     WHEN 21 MOVE 'KEY INVALID
                                           ' TO MSG
     WHEN 22 MOVE 'KEY EXISTS
                                           , TO MSG
                                           , TO MSG
     WHEN 23 MOVE 'KEY NOT EXISTS
     WHEN 30 MOVE 'PERMANENT ERROR
                                           , TO MSG
     WHEN 31 MOVE 'INCONSISTENT FILENAME
                                           , TO MSG
                                           , TO MSG
     WHEN 34 MOVE 'BOUNDARY VIOLATION
     WHEN 35 MOVE 'FILE NOT FOUND
                                           , TO MSG
     WHEN 37 MOVE 'PERMISSION DENIED
                                           , TO MSG
     WHEN 38 MOVE 'CLOSED WITH LOCK
                                            , TO MSG
     WHEN 39 MOVE 'CONFLICT ATTRIBUTE
                                           , TO MSG
                                           , TO MSG
     WHEN 41 MOVE 'ALREADY OPEN
                                           , TO MSG
     WHEN 42 MOVE 'NOT OPEN
     WHEN 43 MOVE 'READ NOT DONE
                                           , TO MSG
     WHEN 44 MOVE 'RECORD OVERFLOW
                                            , TO MSG
     WHEN 46 MOVE 'READ ERROR
                                           ' TO MSG
                                           , TO MSG
     WHEN 47 MOVE 'INPUT DENIED
                                           , TO MSG
     WHEN 48 MOVE 'OUTPUT DENIED
                                           , TO MSG
     WHEN 49 MOVE 'I/O DENIED
                                          ' TO MSG
     WHEN 51 MOVE 'RECORD LOCKED
     WHEN 52 MOVE 'END-OF-PAGE
                                            , TO MSG
     WHEN 57 MOVE 'I/O LINAGE
                                           ' TO MSG
     WHEN 61 MOVE 'FILE SHARING FAILURE
                                           , TO MSG
    WHEN 91 MOVE 'FILE NOT AVAILABLE
                                           , TO MSG
```

END-EVALUATE.

2. COBDUMP

COBDUMP is a useful little utility subroutine to produce a formatted hexadecimal and character dump of the data area passed to it.

If you follow the GnuCOBOL forums, you've undoubtedly heard about the CBL_OC_DUMP subroutine that was the winning entry in a GnuCOBOL programming contest. It's a great tool for producing data dumps, and it's now included in the official GnuCOBOL distributions.

For now though, I'll keep using my good ol' "COBDUMP" routine. It's been my travelling companion from COBOL job to COBOL job since 1971. Here it is, all tuned up for GnuCOBOL, with new tires and a fresh coat of paint.

In addition to general GnuCOBOL concepts, this program provides a useful demonstration of the following:

- Coding a GnuCOBOL subroutine
- Using "USAGE POINTER" data items
- Using the "ANY LENGTH" data item attribute
- Coding for an "OPTIONAL" subprogram argument
- Using the "NUMBER-OF-CALL-PARAMETERS" special register
- Using the "C\$PRINTABLE" built-in system subroutine

The program source and cross-reference listing, produced using the GnuCOBOL Interactive Compiler front-end (GCic.cbl, one of the sample programs included here), begins on the next page.

GNU COBOL 2.1 23NOV2013 Source Listing

2014/03/27 C:/Users/tda010/Documents/Programs/Samples/COBDUMP.cbl

```
_____
           >>SOURCE FORMAT IS FIXED
          IDENTIFICATION DIVISION.
          PROGRAM-ID. COBDUMP.
    4
          *> This is an OpenCOBOL subroutine that will generate a
    6
          *> formatted Hex/Char dump of a storage area. To use this
    7
          *> subroutine, simply CALL it as follows:
                                                                 **
    8
                                                                 **
          *>
          *> CALL "COBDUMP" USING <data-item>
   10
          *>
                              [ <length> ]
   11
          *>
                                                                 **
   12
          *> If specified, the <length> argument specifies how many
                                                                 **
          *> bytes of <data-item> are to be dumped. If absent, all of
          *> <data-item> will be dumped (i.e. LENGTH(<data-item>) will
   14
                                                                 **
          *> be assumed for <length>).
                                                                  **
   15
   16
   17
          *> >>> Note that the subroutine name MUST be specified in <<< **
   18
          *> >>> UPPERCASE
                                                              <<< **
   19
          *>
                                                                  **
          *> The dump is generated to STDERR, so you may pipe it to a
   21
           *> file when you execute your program using "2> file".
                                                                  **
   22
          *>
                                                                 **
                      GARY L. CUTLER
   23
          *> AUTHOR:
   25
          *> NOTE:
                         The author has a sentimental attachment to
   26
                         this subroutine - it's been around since 1971 **
          *>
   27
          *>
                         and it's been converted to and run on 10 dif- **
   28
          *>
                         ferent operating system/compiler environments **
   29
          *>
                                                                 **
   30
          *> DATE-WRITTEN: October 14, 1971
                                                                 **
   32
          *> DATE CHANGE DESCRIPTION
   33
   34
          *> ===== ========= **
          *> GC1071 Initial coding - Univac Dept. of Defense COBOL '68
   35
   36
          *> GC0577 Converted to Univac ASCII COBOL (ACOB) - COBOL '74
                                                                 **
   37
          *> GC1182 Converted to Univac UTS4000 COBOL - COBOL '74 w/
                                                                 **
                  SCREEN SECTION enhancements
   39
          *> GC0883 Converted to Honeywell/Bull COBOL - COBOL '74
   40
          *> GC0983 Converted to IBM VS COBOL - COBOL '74
   41
          *> GC0887 Converted to IBM VS COBOL II - COBOL '85
          *> GC1294 Converted to Micro Focus COBOL V3.0 - COBOL '85 w/
   42
   43
                   extensions
   44
          *> GCO703 Converted to Unisys Universal Compiling System (UCS) **
          *> COBOL (UCOB) - COBOL '85
   45
          *> GC1204 Converted to Unisys Object COBOL (OCOB) - COBOL 2002 **
   47
          *> GC0609 Converted to OpenCOBOL 1.1 - COBOL '85 w/ some COBOL **
   48
          *> 2002 features
          *> GCO410 Enhanced to make 2nd argument (buffer length)
```

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GNU COBOL 2.1 23NOV2013 Source Listing

2014/03/27

Line	Statem	ent	=======================================			age: 2
5	0	*>	optional		**	
5			CO211 Ported to IBM Enter	•	**	
5:	2	*> G	CO612 Updated for OpenCOE	OL 2.0	**	
		*>**	********	******	******	
5	4	ENV	IRONMENT DIVISION.			
5			FIGURATION SECTION.			
5		REP	OSITORY.			
5			FUNCTION ALL INTRINSIC.			
5			A DIVISION.			
5:			KING-STORAGE SECTION.			
6			WS-Addr-PTR		AGE POINTER.	
6		01	WS-Addr-NUM REDEFINES WS		an niver i ova	
6:				USA	AGE BINARY-LONG.	
6		01	IIC V44 CIID	IIC	CE DINADY CHAD	
6.		01	WS-Addr-SUB	USI	AGE BINARY-CHAR.	
6: 6:		01	WS-Addr-Value-NUM	IIC	AGE BINARY-LONG.	
6		01	WS-Addi-Value-NOM	051	GE BINARI-LUNG.	
6		01	WS-Buffer-Byte-CHR.			
6:		01	05 WS-Buffer-Byte-NUM	PII	AGE BINARY-CHAR.	
7			00 WB Builer Byte Non	ODI	de bivaiti diait.	
7		01	WS-Buffer-Length-NUM	IIS	AGE BINARY-LONG.	
7:		01	We build hengen non	051	ion binnin bond.	
7:		01	WS-Buffer-SUB	PIO	C 9(4) COMP-5.	
7						
7	5	01	WS-Hex-Digit-TXT VALUE '	0123456789ABCDEF		
7	6		05 WS-Hex-Digit-CHR		CURS 16 TIMES	
7	7		-	PIC	C X(1).	
7	8					
7	9	01	WS-Nibble-SUB	PIC	C 9(1) COMP-5.	
8	0					
8	1	01	WS-Nibble-Left-SUB	PIC	C 9(1) COMP-5.	
8:	2					
8	3	01	WS-Nibble-Right-SUB	PIC	C 9(1) COMP-5.	
8						
8		01	WS-Output-Detail-TXT.			
8			05 WS-OD-Addr-TXT.			
8'			10 WS-OD-Addr-Hex-CHR		CURS 8 TIMES PIC X.	
8			05 FILLER		C X(1).	
8:			05 WS-OD-Relative-Byte-N		C Z(3)9.	
9			05 FILLER		C X(1).	
9			05 WS-OD-Hex-TXT		CURS 16 TIMES.	
9:			10 WS-OD-Hex-1-CHR			
9: 9:			10 WS-OD-Hex-2-CHR 10 FILLER		CX.	
9			05 WS-OD-ASCII-Data-TXT.	PIC	, Λ.	
9			10 WS-OD-ASCII-CHR	nco	CURS 16 TIMES	
9'			TO WD GD ADOLL GIR		C X.	
9				110	, <u></u>	
3	•					

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```
C:/Users/tda010/Documents/Programs/Samples/COBDUMP.cbl
Line Statement
______
           01 WS-Output-SUB
                                                 PIC 9(2) COMP-5.
   99
  100
           >>SOURCE FORMAT IS FREE
  101
  102
           01 WS-Output-Header-1-TXT.
              05 VALUE '<-Addr-> Byte <-----> <---
  103
      - Char ---->' PIC X(80).
  104
  105
            01 WS-Output-Header-2-TXT.
               05 VALUE '----- --- ----
  106
      ======, PIC X(80).
           >>SOURCE FORMAT IS FIXED
  107
  108
  109
            LINKAGE SECTION.
            01 L-Buffer-TXT
                                                  PIC X ANY LENGTH.
  110
  111
  112
            01 L-Buffer-Length-NUM
                                                  USAGE BINARY-LONG.
  113
            PROCEDURE DIVISION USING L-Buffer-TXT,
  114
  115
                                  OPTIONAL L-Buffer-Length-NUM.
  116
            000-Main SECTION.
  117
                IF NUMBER-OF-CALL-PARAMETERS = 1
  118
                   MOVE LENGTH(L-Buffer-TXT) TO WS-Buffer-Length-NUM
  119
                   MOVE L-Buffer-Length-NUM TO WS-Buffer-Length-NUM
  120
               END-IF
  121
               MOVE SPACES TO WS-Output-Detail-TXT
  122
  123
                SET WS-Addr-PTR TO ADDRESS OF L-Buffer-TXT
  124
                PERFORM 100-Generate-Address
  125
               MOVE O TO WS-Output-SUB
                DISPLAY WS-Output-Header-1-TXT UPON SYSERR
  126
               DISPLAY WS-Output-Header-2-TXT UPON SYSERR
  127
  128
               PERFORM VARYING WS-Buffer-SUB FROM 1 BY 1
  129
                        UNTIL WS-Buffer-SUB > WS-Buffer-Length-NUM
  130
                   ADD 1 TO WS-Output-SUB
  131
                   IF WS-Output-SUB = 1
  132
                      MOVE WS-Buffer-SUB TO WS-OD-Relative-Byte-NUM
  133
                   END-IF
                   MOVE L-Buffer-TXT (WS-Buffer-SUB : 1)
  134
  135
                     TO WS-OD-ASCII-CHR (WS-Output-SUB)
  136
                        WS-Buffer-Byte-CHR
  137
                   DIVIDE WS-Buffer-Byte-NUM BY 16
  138
                      GIVING WS-Nibble-Left-SUB
  139
                       REMAINDER WS-Nibble-Right-SUB
  140
                   ADD 1 TO WS-Nibble-Left-SUB
  141
                          WS-Nibble-Right-SUB
                   MOVE WS-Hex-Digit-CHR (WS-Nibble-Left-SUB)
  142
  143
                     TO WS-OD-Hex-1-CHR (WS-Output-SUB)
  144
                   MOVE WS-Hex-Digit-CHR (WS-Nibble-Right-SUB)
  145
                     TO WS-OD-Hex-2-CHR (WS-Output-SUB)
```

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GNU COBOL 2.1 23NOV2013 Source Listing

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C:/Users/tda010/Documents/Programs/Samples/COBDUMP.cbl

```
_____
  146
                   IF WS-Output-SUB = 16
                      CALL "C$PRINTABLE" USING WS-OD-ASCII-Data-TXT
  148
                      DISPLAY WS-Output-Detail-TXT UPON SYSERR
  149
                      MOVE SPACES TO WS-Output-Detail-TXT
  150
                      MOVE O TO WS-Output-SUB
  151
                      SET WS-Addr-PTR UP BY 16
  152
                      PERFORM 100-Generate-Address
  153
                  END-IF
             END-PERFORM
  155
              IF WS-Output-SUB > 0
                  CALL "C$PRINTABLE" USING WS-OD-ASCII-Data-TXT
  156
  157
                   DISPLAY WS-Output-Detail-TXT UPON SYSERR
  158
               END-IF
               EXIT PROGRAM
  159
  160
          100-Generate-Address SECTION.
  161
  162
               MOVE 8 TO WS-Addr-SUB
  163
               MOVE WS-Addr-NUM TO WS-Addr-Value-NUM
  164
               MOVE ALL '0' TO WS-OD-Addr-TXT
  165
               PERFORM WITH TEST BEFORE UNTIL WS-Addr-Value-NUM = 0
  166
                   DIVIDE WS-Addr-Value-NUM BY 16
  167
                      GIVING WS-Addr-Value-NUM
  168
                      REMAINDER WS-Nibble-SUB
                   ADD 1 TO WS-Nibble-SUB
  169
                   MOVE WS-Hex-Digit-CHR (WS-Nibble-SUB)
  170
                   TO WS-OD-Addr-Hex-CHR (WS-Addr-SUB)
  171
  172
                   SUBTRACT 1 FROM WS-Addr-SUB
  173
               END-PERFORM
  174
```

GNU COBOL 2.1 23NOV2013 Cross-Reference Listing

2014/03/27

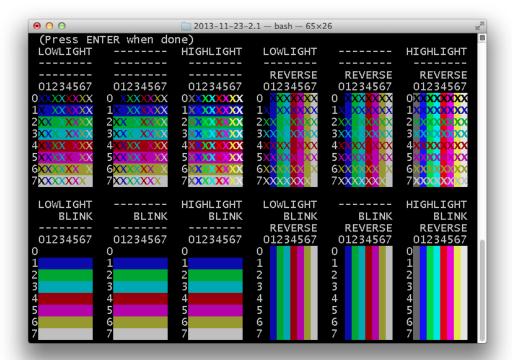
	C:/Use	rs/tda0	10/Documents/Pro	grams/Sampl	es/COE	BDUMP.cbl
PROGRAM-ID	Identifier/Register/Function	Defn	Where Defined	References		Page: 5
=======================================		=====			=====	
COBDUMP	000-Main	116	PROCEDURE			
COBDUMP	100-Generate-Address	161	PROCEDURE	124	152	
COBDUMP	L-Buffer-Length-NUM	112	LINKAGE	115	120	
COBDUMP	L-Buffer-TXT	110	LINKAGE	114	118	123
				134		
COBDUMP	NUMBER-OF-CALL-PARAMETERS		PROCEDURE	117		
COBDUMP	WS-Addr-NUM	61	WORKING-STORAGE	163		
COBDUMP	WS-Addr-PTR	60	WORKING-STORAGE	61	123*	151*
COBDUMP	WS-Addr-SUB	64	WORKING-STORAGE	162*	171	172
COBDUMP	WS-Addr-Value-NUM	66	WORKING-STORAGE	163*	165	166
				167*		
COBDUMP	WS-Buffer-Byte-CHR	68	WORKING-STORAGE	136		
COBDUMP	WS-Buffer-Byte-NUM	69	WORKING-STORAGE	137		
COBDUMP	WS-Buffer-Length-NUM	71	WORKING-STORAGE	118*	120*	129
COBDUMP	WS-Buffer-SUB	73	WORKING-STORAGE	128*	129	132
				134		
COBDUMP	WS-Hex-Digit-CHR	76	WORKING-STORAGE	142	144	170
COBDUMP	WS-Hex-Digit-TXT	75	WORKING-STORAGE			
COBDUMP	WS-Nibble-Left-SUB	81	WORKING-STORAGE	138*	140*	142
COBDUMP	WS-Nibble-Right-SUB	83	WORKING-STORAGE	139*	141*	144
COBDUMP	WS-Nibble-SUB	79	WORKING-STORAGE	168*	169*	170
COBDUMP	WS-OD-Addr-Hex-CHR	87	WORKING-STORAGE	171*		
COBDUMP	WS-OD-Addr-TXT	86	WORKING-STORAGE	164*		
COBDUMP	WS-OD-ASCII-CHR	96	WORKING-STORAGE	135*		
COBDUMP	WS-OD-ASCII-Data-TXT	95	WORKING-STORAGE	147C	156C	
COBDUMP	WS-OD-Hex-1-CHR	92	WORKING-STORAGE	143*		
COBDUMP	WS-OD-Hex-2-CHR	93	WORKING-STORAGE	145*		
COBDUMP	WS-OD-Hex-TXT	91	WORKING-STORAGE			
COBDUMP	WS-OD-Relative-Byte-NUM	89	WORKING-STORAGE	132*		
COBDUMP	WS-Output-Detail-TXT	85	WORKING-STORAGE	122*	148	149*
	•			157		
COBDUMP	WS-Output-Header-1-TXT	102	WORKING-STORAGE	126		
COBDUMP	WS-Output-Header-2-TXT	105	WORKING-STORAGE	127		
COBDUMP	WS-Output-SUB	99	WORKING-STORAGE	125*	130*	131
	•			135	143	145
				146	150*	155

3. Colors

Colors is a handy little GnuCOBOL utility program that will produce a screen showing all possible combinations of:

- FOREGROUND-COLOR
- BACKGROUND-COLOR
- BLINKING (or absence of BLINKING)
- HIGHLIGHT, LOWLIGHT or absence of either (i.e. "Normal")
- REVERSE-VIDEO

Here is a sample of the screen generated by this program:



The program source and cross-reference listing, produced using the GnuCOBOL Interactive Compiler front-end (GCic.cbl, one of the sample programs included here), begins on the next page.

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2014/03/27

C:/Users/tda010/Documents/Programs/Samples/colors.cbl

Line	Sta	atement														Page: 1
	===					=====	====	=====		:=====	===	:=====:	===			=======
	TDI	>>SOURCE														
		ENTIFICATION		TON.												
		GRAM-ID. col	lors.													
		TA DIVISION.														
		REEN SECTION.		aran or	min	ant on	о по:	DEADOIN		001 OD 7	D.F	ANTZ GODI				
		S-COLORTST-S	SCR BA	CKGRU	JND-	CULUR	O FU	REGRUUI	-עוו	CULUR 7	BL	LANK SCRI	ĽĽN	•		
		LINE 01.							_							
		COL 1 VALUE	, LOM	LIGHT			HIG.	HLIGHT	L	.OWLIGHT	-		HT	GHLIGH	т'.	
		LINE + 1.														
		COL 1 VALUE	,						-		-		-		-'.	
		LINE + 1.														
12	10	COL 1 VALUE	,							REVERSE		REVERSE	1	REVERS	Е'.	
		LINE + 1.														
14	10	COL 1 VALUE	'012	34567	01	234567	01	234567	C	1234567	C	1234567	0	123456	7'.	
15	05	LINE + 1.														
16	10	COL 1 VALUE	'0		0		0		0		0		0		' .	
17	05	LINE + 1.														
18	10	COL 1 VALUE	'1		1		1		1		1		1		٠.	
19	05	LINE + 1.														
20	10	COL 1 VALUE	,2		2		2		2		2		2		, .	
21	05	LINE + 1.														
		COL 1 VALUE	,3	1	3	2	3	3	3	4	3	5	3	6	, .	
		LINE + 1.	Ū	-	•	_	•	•	Ū	-	Ū	•	Ū	ŭ	•	
		COL 1 VALUE	, д		4		4		4		4		4		, .	
		LINE + 1.	-		-		•		-		-		•		•	
		COL 1 VALUE	, 5		5		5		5		5		5		, .	
		LINE + 1.	J		J		J		J		J		J		•	
		COL 1 VALUE	, 6		6		6		6		6		6		, .	
		LINE + 1.	O		O		O		O		O		O		•	
			, 7		7		7		7		7		7		, .	
		COL 1 VALUE	, 1		1		1		7		1		1		•	
		LINE + 1.		T T G 1 1 1 1						OUT TOUR				A111 T A11		
		COL 1 VALUE	, LOM	LIGHT			HIG	HLIGHT	L	.UWL1GH1	_		HT	GHLIGH	Τ΄.	
		LINE + 1.														
		COL 1 VALUE	,	BLINK		BLINK		BLINK		BLINK		BLINK		BLIN	К'.	
		LINE + 1.														
		COL 1 VALUE	,							REVERSE		REVERSE]	REVERS	Е'.	
		LINE + 1.														
38	10	COL 1 VALUE	' 012	34567	01	234567	01	234567	C	1234567	C	1234567	0	123456	7'.	
39	05	LINE + 1.														
40	10	COL 1 VALUE	,0		0		0		0		0		0		٠.	
41	05	LINE + 1.														
42	10	COL 1 VALUE	'1		1		1		1		1		1		٠.	
		LINE + 1.														
		COL 1 VALUE	,2		2		2		2		2		2		٠.	
		LINE + 1.														
		COL 1 VALUE	,3	7	3	8	3	9	3	10	3	11	3	12	, .	
		LINE + 1.	-		-	-	-	-	-	-	-	-	-	_	·	
		COL 1 VALUE	,4		4		4		4		4		4		, .	
		LINE + 1.	-		-		-		-		-		-		•	
10																

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```
GNU COBOL 2.1 23NOV2013 Source Listing 2014/03/27 C:/Users/tda010/Documents/Programs/Samples/colors.cbl
```

```
______
   50 10 COL 1 VALUE '5 5 5 5
                                                      5 5
   51 05 LINE + 1.
   52 10 COL 1 VALUE '6 6 6 6 6 6
   53 05 LINE + 1.
   53 05 LINE + 1.
54 10 COL 1 VALUE '7 7 7 7 7 7 7 7 .
   55 *> #1
   56 05 LINE 05.
   57 10 COL 2 BACKGROUND-COLOR O FOREGROUND-COLOR O LOWLIGHT VALUE 'X'.
   58 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 LOWLIGHT VALUE 'X'.
   59 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 LOWLIGHT VALUE 'X'.
   60 10 COL + 1 BACKGROUND-COLOR 0 FOREGROUND-COLOR 3 LOWLIGHT VALUE 'X'.
   61 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 LOWLIGHT VALUE 'X'.
   62 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 LOWLIGHT VALUE 'X'.
   63 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 LOWLIGHT VALUE 'X'.
   64 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 LOWLIGHT VALUE 'X'.
   65 05 LINE + 1.
   66 10 COL 2 BACKGROUND-COLOR 1 FOREGROUND-COLOR O LOWLIGHT VALUE 'X'.
   67 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 LOWLIGHT VALUE 'X'.
   68 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 LOWLIGHT VALUE 'X'.
   69 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 LOWLIGHT VALUE 'X'.
   70 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 LOWLIGHT VALUE 'X'.
   71 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 LOWLIGHT VALUE 'X'.
   72 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 LOWLIGHT VALUE 'X'.
   73 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 LOWLIGHT VALUE 'X'.
   74 05 LINE + 1.
   75 10 COL 2 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 LOWLIGHT VALUE 'X'.
   76 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 LOWLIGHT VALUE 'X'.
   77 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 LOWLIGHT VALUE 'X'.
   78 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 LOWLIGHT VALUE 'X'.
   79 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 LOWLIGHT VALUE 'X'.
   80 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 LOWLIGHT VALUE 'X'.
   81 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 LOWLIGHT VALUE 'X'.
   82 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 LOWLIGHT VALUE 'X'.
   83 05 LINE + 1.
   84 10 COL 2 BACKGROUND-COLOR 3 FOREGROUND-COLOR O LOWLIGHT VALUE 'X'.
   85 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 LOWLIGHT VALUE 'X'.
   86 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 LOWLIGHT VALUE 'X'.
   87 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 LOWLIGHT VALUE 'X'.
   88 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 LOWLIGHT VALUE 'X'.
   89 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 LOWLIGHT VALUE 'X'.
   90 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 LOWLIGHT VALUE 'X'.
   91 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 LOWLIGHT VALUE 'X'.
   92 05 LINE + 1.
   93 10 COL 2 BACKGROUND-COLOR 4 FOREGROUND-COLOR O LOWLIGHT VALUE 'X'.
   94 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 LOWLIGHT VALUE 'X'.
   95 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 LOWLIGHT VALUE 'X'.
   96 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 LOWLIGHT VALUE 'X'.
   97 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 LOWLIGHT VALUE 'X'.
   98 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 LOWLIGHT VALUE 'X'.
```

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C:/Users/tda010/Documents/Programs/Samples/colors.cbl ______ 99 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 LOWLIGHT VALUE 'X'. 100 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 LOWLIGHT VALUE 'X'. 101 05 LINE + 1. 102 10 COL 2 BACKGROUND-COLOR 5 FOREGROUND-COLOR 0 LOWLIGHT VALUE 'X'. 103 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 LOWLIGHT VALUE 'X'. 104 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 LOWLIGHT VALUE 'X'. 105 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 LOWLIGHT VALUE 'X'. 106 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 LOWLIGHT VALUE 'X'. 107 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 LOWLIGHT VALUE 'X'. 108 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 LOWLIGHT VALUE 'X'. 109 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 LOWLIGHT VALUE 'X'. 110 05 LINE + 1. 111 10 COL 2 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 LOWLIGHT VALUE 'X'. 112 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 LOWLIGHT VALUE 'X'. 113 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 LOWLIGHT VALUE 'X'. 114 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 LOWLIGHT VALUE 'X'. 115 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 LOWLIGHT VALUE 'X'. 116 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 LOWLIGHT VALUE 'X'. 117 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 LOWLIGHT VALUE 'X'. 118 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 LOWLIGHT VALUE 'X'. 119 05 LINE + 1. 120 10 COL 2 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 LOWLIGHT VALUE 'X'. 121 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 LOWLIGHT VALUE 'X'. 122 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 LOWLIGHT VALUE 'X'. 123 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 LOWLIGHT VALUE 'X'. 124 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT VALUE 'X'. 125 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT VALUE 'X'. 126 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT VALUE 'X'. 127 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 LOWLIGHT VALUE 'X'. 128 *> #2 129 05 LINE 05. 130 10 COL 12 BACKGROUND-COLOR O FOREGROUND-COLOR O VALUE 'X'. 131 10 COL + 1 BACKGROUND-COLOR 0 FOREGROUND-COLOR 1 VALUE 'X'. 132 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 VALUE 'X'. 133 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 VALUE 'X'. 134 10 COL + 1 BACKGROUND-COLOR 0 FOREGROUND-COLOR 4 VALUE 'X'. 135 10 COL + 1 BACKGROUND-COLOR 0 FOREGROUND-COLOR 5 VALUE 'X'. 136 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 VALUE 'X'. 137 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 VALUE 'X'. 138 05 LINE + 1. 139 10 COL 12 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 VALUE 'X'. 140 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 VALUE 'X'. 141 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 VALUE 'X'. 142 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 VALUE 'X'. 143 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 VALUE 'X'. 144 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 VALUE 'X'. 145 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 VALUE 'X'.

146 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 VALUE 'X'.

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147 05 LINE + 1.

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```
______
  148 10 COL 12 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 VALUE 'X'.
  149 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 VALUE 'X'.
  150 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 VALUE 'X'.
  151 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 VALUE 'X'.
  152 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 VALUE 'X'.
  153 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 VALUE 'X'.
  154 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 VALUE 'X'.
  155 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 VALUE 'X'.
  156 05 LINE + 1.
  157 10 COL 12 BACKGROUND-COLOR 3 FOREGROUND-COLOR O VALUE 'X'.
  158 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 VALUE 'X'.
  159 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 VALUE 'X'.
  160 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 VALUE 'X'.
  161 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 VALUE 'X'.
  162 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 VALUE 'X'.
  163 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 VALUE 'X'.
  164 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 VALUE 'X'.
  165 05 LINE + 1.
  166 10 COL 12 BACKGROUND-COLOR 4 FOREGROUND-COLOR O VALUE 'X'.
  167 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 VALUE 'X'.
  168 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 VALUE 'X'.
  169 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 VALUE 'X'.
  170 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 VALUE 'X'.
  171 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 VALUE 'X'.
  172 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 VALUE 'X'.
  173 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 VALUE 'X'.
  174 05 LINE + 1.
  175 10 COL 12 BACKGROUND-COLOR 5 FOREGROUND-COLOR 0 VALUE 'X'.
  176 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 VALUE 'X'.
  177 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 VALUE 'X'.
  178 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 VALUE 'X'.
  179 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 VALUE 'X'.
  180 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 VALUE 'X'.
  181 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 VALUE 'X'.
  182 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 VALUE 'X'.
  183 05 LINE + 1.
  184 10 COL 12 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 VALUE 'X'.
  185 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 VALUE 'X'.
  186 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 VALUE 'X'.
  187 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 VALUE 'X'.
  188 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 VALUE 'X'.
  189 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 VALUE 'X'.
  190 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 VALUE 'X'.
  191 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 VALUE 'X'.
  192 05 LINE + 1.
  193 10 COL 12 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 VALUE 'X'.
  194 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 VALUE 'X'.
  195 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 VALUE 'X'.
  196 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 VALUE 'X'.
```

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C:/Users/tda010/Documents/Programs/Samples/colors.cbl ______ 197 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 VALUE 'X'. 198 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 VALUE 'X'. 199 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 VALUE 'X'. 200 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 VALUE 'X'. 201 *> #3 202 05 LINE 05. 203 10 COL 22 BACKGROUND-COLOR O FOREGROUND-COLOR O HIGHLIGHT VALUE 'X'. 204 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 HIGHLIGHT VALUE 'X'. 205 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 HIGHLIGHT VALUE 'X'. 206 10 COL + 1 BACKGROUND-COLOR 0 FOREGROUND-COLOR 3 HIGHLIGHT VALUE 'X'. 207 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 HIGHLIGHT VALUE 'X'. 208 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 HIGHLIGHT VALUE 'X'. 209 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 HIGHLIGHT VALUE 'X'. 210 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 HIGHLIGHT VALUE 'X'. 211 05 LINE + 1. 212 10 COL 22 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 HIGHLIGHT VALUE 'X'. 213 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 HIGHLIGHT VALUE 'X'. 214 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 HIGHLIGHT VALUE 'X'. 215 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 HIGHLIGHT VALUE 'X'. 216 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 HIGHLIGHT VALUE 'X'. 217 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 HIGHLIGHT VALUE 'X'. 218 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 HIGHLIGHT VALUE 'X'. 219 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 HIGHLIGHT VALUE 'X'. 220 05 LINE + 1. 221 10 COL 22 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 HIGHLIGHT VALUE 'X'. 222 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 HIGHLIGHT VALUE 'X'. 223 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 HIGHLIGHT VALUE 'X'. 224 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 HIGHLIGHT VALUE 'X'. 225 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 HIGHLIGHT VALUE 'X'. 226 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 HIGHLIGHT VALUE 'X'. 227 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 HIGHLIGHT VALUE 'X'. 228 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 HIGHLIGHT VALUE 'X'. 229 05 LINE + 1. 230 10 COL 22 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 HIGHLIGHT VALUE 'X'. 231 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 HIGHLIGHT VALUE 'X'. 232 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 HIGHLIGHT VALUE 'X'. 233 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 HIGHLIGHT VALUE 'X'. 234 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 HIGHLIGHT VALUE 'X'. 235 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 HIGHLIGHT VALUE 'X'. 236 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 HIGHLIGHT VALUE 'X'. 237 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 HIGHLIGHT VALUE 'X'. 238 05 LINE + 1. 239 10 COL 22 BACKGROUND-COLOR 4 FOREGROUND-COLOR O HIGHLIGHT VALUE 'X'. 240 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 HIGHLIGHT VALUE 'X'. 241 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 HIGHLIGHT VALUE 'X'. 242 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 HIGHLIGHT VALUE 'X'. 243 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 HIGHLIGHT VALUE 'X'. 244 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 HIGHLIGHT VALUE 'X'. 245 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 HIGHLIGHT VALUE 'X'.

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```
______
  246 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 HIGHLIGHT VALUE 'X'.
  247 05 LINE + 1.
  248 10 COL 22 BACKGROUND-COLOR 5 FOREGROUND-COLOR 0 HIGHLIGHT VALUE 'X'.
  249 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 HIGHLIGHT VALUE 'X'.
  250 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 HIGHLIGHT VALUE 'X'.
  251 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 HIGHLIGHT VALUE 'X'.
  252 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 HIGHLIGHT VALUE 'X'.
  253 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 HIGHLIGHT VALUE 'X'.
  254 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 HIGHLIGHT VALUE 'X'.
  255 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 HIGHLIGHT VALUE 'X'.
  256 05 LINE + 1.
  257 10 COL 22 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 HIGHLIGHT VALUE 'X'.
  258 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 HIGHLIGHT VALUE 'X'.
  259 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 HIGHLIGHT VALUE 'X'.
  260 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 HIGHLIGHT VALUE 'X'.
  261 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 HIGHLIGHT VALUE 'X'.
  262 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 HIGHLIGHT VALUE 'X'.
  263 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 HIGHLIGHT VALUE 'X'.
  264 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 HIGHLIGHT VALUE 'X'.
  265 05 LINE + 1.
  266 10 COL 22 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 HIGHLIGHT VALUE 'X'.
  267 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 HIGHLIGHT VALUE 'X'.
  268 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 HIGHLIGHT VALUE 'X'.
  269 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 HIGHLIGHT VALUE 'X'.
  270 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 HIGHLIGHT VALUE 'X'.
  271 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 HIGHLIGHT VALUE 'X'.
  272 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 HIGHLIGHT VALUE 'X'.
  273 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 HIGHLIGHT VALUE 'X'.
  274 *> #4
  275 05 LINE 05.
  276 10 COL 32 BACKGROUND-COLOR O FOREGROUND-COLOR O LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  277 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  278 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  279 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  280 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  281 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  282 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  283 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  284 05 LINE + 1.
  285 10 COL 32 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  286 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  287 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  288 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  289 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  290 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  291 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  292 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  293 05 LINE + 1.
  294 10 COL 32 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
```

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_____ 295 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 296 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 297 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 298 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 299 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 300 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 301 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 302 05 LINE + 1. 303 10 COL 32 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 304 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 305 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 306 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 307 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 308 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 309 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 310 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 311 05 LINE + 1. 312 10 COL 32 BACKGROUND-COLOR 4 FOREGROUND-COLOR O LOWLIGHT REVERSE-VIDEO VALUE 'X'. 313 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 314 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 315 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 316 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 317 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 318 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 319 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 320 05 LINE + 1. 321 10 COL 32 BACKGROUND-COLOR 5 FOREGROUND-COLOR O LOWLIGHT REVERSE-VIDEO VALUE 'X'. 322 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 323 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 324 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 325 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 326 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 327 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 328 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 329 05 LINE + 1. 330 10 COL 32 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 331 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 332 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 333 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 334 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 335 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 336 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 337 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 338 05 LINE + 1. 339 10 COL 32 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 340 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 341 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 342 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 LOWLIGHT REVERSE-VIDEO VALUE 'X'. 343 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT REVERSE-VIDEO VALUE 'X'.

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```
______
  344 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  345 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  346 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 LOWLIGHT REVERSE-VIDEO VALUE 'X'.
  347 *> #5
  348 05 LINE 05.
  349 10 COL 42 BACKGROUND-COLOR O FOREGROUND-COLOR O REVERSE-VIDEO VALUE 'X'.
  350 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 REVERSE-VIDEO VALUE 'X'.
  351 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 REVERSE-VIDEO VALUE 'X'.
  352 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 REVERSE-VIDEO VALUE 'X'.
  353 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 REVERSE-VIDEO VALUE 'X'.
  354 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 REVERSE-VIDEO VALUE 'X'.
  355 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 REVERSE-VIDEO VALUE 'X'.
  356 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 REVERSE-VIDEO VALUE 'X'.
  357 05 LINE + 1.
  358 10 COL 42 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 REVERSE-VIDEO VALUE 'X'.
  359 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 REVERSE-VIDEO VALUE 'X'.
  360 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 REVERSE-VIDEO VALUE 'X'.
  361 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 REVERSE-VIDEO VALUE 'X'.
  362 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 REVERSE-VIDEO VALUE 'X'.
  363 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 REVERSE-VIDEO VALUE 'X'.
  364 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 REVERSE-VIDEO VALUE 'X'.
  365 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 REVERSE-VIDEO VALUE 'X'.
  366 05 LINE + 1.
  367 10 COL 42 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 REVERSE-VIDEO VALUE 'X'.
  368 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 REVERSE-VIDEO VALUE 'X'.
  369 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 REVERSE-VIDEO VALUE 'X'.
  370 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 REVERSE-VIDEO VALUE 'X'.
  371 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 REVERSE-VIDEO VALUE 'X'.
  372 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 REVERSE-VIDEO VALUE 'X'.
  373 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 REVERSE-VIDEO VALUE 'X'.
  374 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 REVERSE-VIDEO VALUE 'X'.
  375 05 LINE + 1.
  376 10 COL 42 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 REVERSE-VIDEO VALUE 'X'.
  377 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 REVERSE-VIDEO VALUE 'X'.
  378 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 REVERSE-VIDEO VALUE 'X'.
  379 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 REVERSE-VIDEO VALUE 'X'.
  380 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 REVERSE-VIDEO VALUE 'X'.
  381 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 REVERSE-VIDEO VALUE 'X'.
  382 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 REVERSE-VIDEO VALUE 'X'.
  383 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 REVERSE-VIDEO VALUE 'X'.
  384 05 LINE + 1.
  385 10 COL 42 BACKGROUND-COLOR 4 FOREGROUND-COLOR O REVERSE-VIDEO VALUE 'X'.
  386 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 REVERSE-VIDEO VALUE 'X'.
  387 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 REVERSE-VIDEO VALUE 'X'.
  388 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 REVERSE-VIDEO VALUE 'X'.
  389 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 REVERSE-VIDEO VALUE 'X'.
  390 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 REVERSE-VIDEO VALUE 'X'.
  391 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 REVERSE-VIDEO VALUE 'X'.
  392 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 REVERSE-VIDEO VALUE 'X'.
```

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```
_____
  394 10 COL 42 BACKGROUND-COLOR 5 FOREGROUND-COLOR O REVERSE-VIDEO VALUE 'X'.
  395 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 REVERSE-VIDEO VALUE 'X'.
  396 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 REVERSE-VIDEO VALUE 'X'.
  397 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 REVERSE-VIDEO VALUE 'X'.
  398 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 REVERSE-VIDEO VALUE 'X'.
  399 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 REVERSE-VIDEO VALUE 'X'.
  400 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 REVERSE-VIDEO VALUE 'X'.
  401 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 REVERSE-VIDEO VALUE 'X'.
  402 05 LINE + 1.
  403 10 COL 42 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 REVERSE-VIDEO VALUE 'X'.
  404 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 REVERSE-VIDEO VALUE 'X'.
  405 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 REVERSE-VIDEO VALUE 'X'.
  406 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 REVERSE-VIDEO VALUE 'X'.
  407 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 REVERSE-VIDEO VALUE 'X'.
  408 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 REVERSE-VIDEO VALUE 'X'.
  409 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 REVERSE-VIDEO VALUE 'X'.
  410 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 REVERSE-VIDEO VALUE 'X'.
  411 05 LINE + 1.
  412 10 COL 42 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 REVERSE-VIDEO VALUE 'X'.
  413 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 REVERSE-VIDEO VALUE 'X'.
  414 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 REVERSE-VIDEO VALUE 'X'.
  415 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 REVERSE-VIDEO VALUE 'X'.
  416 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 REVERSE-VIDEO VALUE 'X'.
  417 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 REVERSE-VIDEO VALUE 'X'.
  418 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 REVERSE-VIDEO VALUE 'X'.
  419 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 REVERSE-VIDEO VALUE 'X'.
  420 *> #6
  421 05 LINE 05.
  422 10 COL 52 BACKGROUND-COLOR O FOREGROUND-COLOR O HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  423 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  424 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  425 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  426 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  427 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  428 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  429 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  430 05 LINE + 1.
  431 10 COL 52 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  432 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  433 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  434 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  435 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  436 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  437 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  438 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  439 05 LINE + 1.
  440 10 COL 52 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  441 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
```

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_____ 442 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 443 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 444 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 445 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 446 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 447 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 448 05 LINE + 1. 449 10 COL 52 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 450 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 451 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 452 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 453 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 454 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 455 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 456 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 457 05 LINE + 1. 458 10 COL 52 BACKGROUND-COLOR 4 FOREGROUND-COLOR O HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 459 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 460 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 461 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 462 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 463 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 464 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 465 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 466 05 LINE + 1. 467 10 COL 52 BACKGROUND-COLOR 5 FOREGROUND-COLOR O HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 468 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 469 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 470 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 471 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 472 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 473 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 474 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 475 05 LINE + 1. 476 10 COL 52 BACKGROUND-COLOR 6 FOREGROUND-COLOR O HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 477 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 478 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 479 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 480 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 481 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 482 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 483 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 484 05 LINE + 1. 485 10 COL 52 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 486 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 487 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 488 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 489 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 HIGHLIGHT REVERSE-VIDEO VALUE 'X'. 490 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.

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```
______
  491 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  492 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 HIGHLIGHT REVERSE-VIDEO VALUE 'X'.
  493 *> #7
  494 05 LINE 17.
  495 10 COL O2 BACKGROUND-COLOR O FOREGROUND-COLOR O LOWLIGHT BLINK VALUE 'X'.
  496 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 LOWLIGHT BLINK VALUE 'X'.
  497 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 LOWLIGHT BLINK VALUE 'X'.
  498 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 LOWLIGHT BLINK VALUE 'X'.
  499 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 LOWLIGHT BLINK VALUE 'X'.
  500 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 LOWLIGHT BLINK VALUE 'X'.
  501 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 LOWLIGHT BLINK VALUE 'X'.
  502 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 LOWLIGHT BLINK VALUE 'X'.
  503 05 LINE + 1.
  504 10 COL 02 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 LOWLIGHT BLINK VALUE 'X'.
  505 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 LOWLIGHT BLINK VALUE 'X'.
  506 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 LOWLIGHT BLINK VALUE 'X'.
  507 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 LOWLIGHT BLINK VALUE 'X'.
  508 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 LOWLIGHT BLINK VALUE 'X'.
  509 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 LOWLIGHT BLINK VALUE 'X'.
  510 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 LOWLIGHT BLINK VALUE 'X'.
  511 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 LOWLIGHT BLINK VALUE 'X'.
  512 05 LINE + 1.
  513 10 COL 02 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 LOWLIGHT BLINK VALUE 'X'.
  514 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 LOWLIGHT BLINK VALUE 'X'.
  515 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 LOWLIGHT BLINK VALUE 'X'.
  516 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 LOWLIGHT BLINK VALUE 'X'.
  517 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 LOWLIGHT BLINK VALUE 'X'.
  518 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 LOWLIGHT BLINK VALUE 'X'.
  519 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 LOWLIGHT BLINK VALUE 'X'.
  520 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 LOWLIGHT BLINK VALUE 'X'.
  521 05 LINE + 1.
  522 10 COL 02 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 LOWLIGHT BLINK VALUE 'X'.
  523 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 LOWLIGHT BLINK VALUE 'X'.
  524 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 LOWLIGHT BLINK VALUE 'X'.
  525 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 LOWLIGHT BLINK VALUE 'X'.
  526 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 LOWLIGHT BLINK VALUE 'X'.
  527 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 LOWLIGHT BLINK VALUE 'X'.
  528 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 LOWLIGHT BLINK VALUE 'X'.
  529 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 LOWLIGHT BLINK VALUE 'X'.
  530 05 LINE + 1.
  531 10 COL 02 BACKGROUND-COLOR 4 FOREGROUND-COLOR O LOWLIGHT BLINK VALUE 'X'.
  532 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 LOWLIGHT BLINK VALUE 'X'.
  533 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 LOWLIGHT BLINK VALUE 'X'.
  534 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 LOWLIGHT BLINK VALUE 'X'.
  535 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 LOWLIGHT BLINK VALUE 'X'.
  536 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 LOWLIGHT BLINK VALUE 'X'.
  537 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 LOWLIGHT BLINK VALUE 'X'.
  538 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 LOWLIGHT BLINK VALUE 'X'.
  539 05 LINE + 1.
```

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```
______
  540 10 COL 02 BACKGROUND-COLOR 5 FOREGROUND-COLOR 0 LOWLIGHT BLINK VALUE 'X'.
  541 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 LOWLIGHT BLINK VALUE 'X'.
  542 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 LOWLIGHT BLINK VALUE 'X'.
  543 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 LOWLIGHT BLINK VALUE 'X'.
  544 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 LOWLIGHT BLINK VALUE 'X'.
  545 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 LOWLIGHT BLINK VALUE 'X'.
  546 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 LOWLIGHT BLINK VALUE 'X'.
  547 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 LOWLIGHT BLINK VALUE 'X'.
  549 10 COL 02 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 LOWLIGHT BLINK VALUE 'X'.
  550 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 LOWLIGHT BLINK VALUE 'X'.
  551 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 LOWLIGHT BLINK VALUE 'X'.
  552 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 LOWLIGHT BLINK VALUE 'X'.
  553 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 LOWLIGHT BLINK VALUE 'X'.
  554 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 LOWLIGHT BLINK VALUE 'X'.
  555 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 LOWLIGHT BLINK VALUE 'X'.
  556 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 LOWLIGHT BLINK VALUE 'X'.
  557 05 LINE + 1.
  558 10 COL O2 BACKGROUND-COLOR 7 FOREGROUND-COLOR O LOWLIGHT BLINK VALUE 'X'.
  559 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 LOWLIGHT BLINK VALUE 'X'.
  560 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 LOWLIGHT BLINK VALUE 'X'.
  561 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 LOWLIGHT BLINK VALUE 'X'.
  562 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT BLINK VALUE 'X'.
  563 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK VALUE 'X'.
  564 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK VALUE 'X'.
  565 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 LOWLIGHT BLINK VALUE 'X'.
  566 *> #8
  567 05 LINE 17.
  568 10 COL 12 BACKGROUND-COLOR O FOREGROUND-COLOR O BLINK VALUE 'X'.
  569 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 BLINK VALUE 'X'.
  570 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 BLINK VALUE 'X'.
  571 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 BLINK VALUE 'X'.
  572 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 BLINK VALUE 'X'.
  573 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 BLINK VALUE 'X'.
  574 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 BLINK VALUE 'X'.
  575 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 BLINK VALUE 'X'.
  576 05 LINE + 1.
  577 10 COL 12 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 BLINK VALUE 'X'.
  578 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 BLINK VALUE 'X'.
  579 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 BLINK VALUE 'X'.
  580 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 BLINK VALUE 'X'.
  581 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 BLINK VALUE 'X'.
  582 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 BLINK VALUE 'X'.
  583 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 BLINK VALUE 'X'.
  584 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 BLINK VALUE 'X'.
  585 05 LINE + 1.
  586 10 COL 12 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 BLINK VALUE 'X'.
  587 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 BLINK VALUE 'X'.
  588 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 BLINK VALUE 'X'.
```

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______ 589 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 BLINK VALUE 'X'. 590 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 BLINK VALUE 'X'. 591 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 BLINK VALUE 'X'. 592 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 BLINK VALUE 'X'. 593 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 BLINK VALUE 'X'. 594 05 LINE + 1. 595 10 COL 12 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 BLINK VALUE 'X'. 596 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 BLINK VALUE 'X'. 597 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 BLINK VALUE 'X'. 598 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 BLINK VALUE 'X'. 599 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 BLINK VALUE 'X'. 600 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 BLINK VALUE 'X'. 601 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 BLINK VALUE 'X'. 602 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 BLINK VALUE 'X'. 603 05 LINE + 1. 604 10 COL 12 BACKGROUND-COLOR 4 FOREGROUND-COLOR O BLINK VALUE 'X'. 605 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 BLINK VALUE 'X'. 606 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 BLINK VALUE 'X'. 607 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 BLINK VALUE 'X'. 608 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 BLINK VALUE 'X'. 609 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 BLINK VALUE 'X'. 610 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 BLINK VALUE 'X'. 611 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 BLINK VALUE 'X'. 612 05 LINE + 1. 613 10 COL 12 BACKGROUND-COLOR 5 FOREGROUND-COLOR 0 BLINK VALUE 'X'. 614 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 BLINK VALUE 'X'. 615 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 BLINK VALUE 'X'. 616 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 BLINK VALUE 'X'. 617 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 BLINK VALUE 'X'. 618 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 BLINK VALUE 'X'. 619 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 BLINK VALUE 'X'. 620 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 BLINK VALUE 'X'. 621 05 LINE + 1. 622 10 COL 12 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 BLINK VALUE 'X'. 623 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 BLINK VALUE 'X'. 624 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 BLINK VALUE 'X'. 625 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 BLINK VALUE 'X'. 626 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 BLINK VALUE 'X'. 627 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 BLINK VALUE 'X'. 628 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 BLINK VALUE 'X'. 629 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 BLINK VALUE 'X'. 630 05 LINE + 1. 631 10 COL 12 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 BLINK VALUE 'X'. 632 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 BLINK VALUE 'X'. 633 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 BLINK VALUE 'X'. 634 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 BLINK VALUE 'X'. 635 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 BLINK VALUE 'X'. 636 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 BLINK VALUE 'X'. 637 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 BLINK VALUE 'X'.

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```
638 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 BLINK VALUE 'X'.
  639 *> #9
  640 05 LINE 17.
  641 10 COL 22 BACKGROUND-COLOR O FOREGROUND-COLOR O HIGHLIGHT BLINK VALUE 'X'.
  642 10 COL + 1 BACKGROUND-COLOR 0 FOREGROUND-COLOR 1 HIGHLIGHT BLINK VALUE 'X'.
  643 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 HIGHLIGHT BLINK VALUE 'X'.
  644 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 HIGHLIGHT BLINK VALUE 'X'.
  645 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 HIGHLIGHT BLINK VALUE 'X'.
  646 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 HIGHLIGHT BLINK VALUE 'X'.
  647 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 HIGHLIGHT BLINK VALUE 'X'.
  648 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 HIGHLIGHT BLINK VALUE 'X'.
  649 05 LINE + 1.
  650 10 COL 22 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 HIGHLIGHT BLINK VALUE 'X'.
  651 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 HIGHLIGHT BLINK VALUE 'X'.
  652 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 HIGHLIGHT BLINK VALUE 'X'.
  653 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 HIGHLIGHT BLINK VALUE 'X'.
  654 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 HIGHLIGHT BLINK VALUE 'X'.
  655 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 HIGHLIGHT BLINK VALUE 'X'.
  656 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 HIGHLIGHT BLINK VALUE 'X'.
  657 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 HIGHLIGHT BLINK VALUE 'X'.
  658 05 LINE + 1.
  659 10 COL 22 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 HIGHLIGHT BLINK VALUE 'X'.
  660 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 HIGHLIGHT BLINK VALUE 'X'.
  661 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 HIGHLIGHT BLINK VALUE 'X'.
  662 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 HIGHLIGHT BLINK VALUE 'X'.
  663 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 HIGHLIGHT BLINK VALUE 'X'.
  664 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 HIGHLIGHT BLINK VALUE 'X'.
  665 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 HIGHLIGHT BLINK VALUE 'X'.
  666 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 HIGHLIGHT BLINK VALUE 'X'.
  667 05 LINE + 1.
  668 10 COL 22 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 HIGHLIGHT BLINK VALUE 'X'.
  669 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 HIGHLIGHT BLINK VALUE 'X'.
  670 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 HIGHLIGHT BLINK VALUE 'X'.
  671 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 HIGHLIGHT BLINK VALUE 'X'.
  672 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 HIGHLIGHT BLINK VALUE 'X'.
  673 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 HIGHLIGHT BLINK VALUE 'X'.
  674 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 HIGHLIGHT BLINK VALUE 'X'.
  675 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 HIGHLIGHT BLINK VALUE 'X'.
  676 05 LINE + 1.
  677 10 COL 22 BACKGROUND-COLOR 4 FOREGROUND-COLOR O HIGHLIGHT BLINK VALUE 'X'.
  678 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 HIGHLIGHT BLINK VALUE 'X'.
  679 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 HIGHLIGHT BLINK VALUE 'X'.
  680 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 HIGHLIGHT BLINK VALUE 'X'.
  681 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 HIGHLIGHT BLINK VALUE 'X'.
  682 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 HIGHLIGHT BLINK VALUE 'X'.
  683 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 HIGHLIGHT BLINK VALUE 'X'.
  684 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 HIGHLIGHT BLINK VALUE 'X'.
  685 05 LINE + 1.
  686 10 COL 22 BACKGROUND-COLOR 5 FOREGROUND-COLOR 0 HIGHLIGHT BLINK VALUE 'X'.
```

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```
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```
_____
  687 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 HIGHLIGHT BLINK VALUE 'X'.
  688 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 HIGHLIGHT BLINK VALUE 'X'.
  689 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 HIGHLIGHT BLINK VALUE 'X'.
  690 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 HIGHLIGHT BLINK VALUE 'X'.
  691 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 HIGHLIGHT BLINK VALUE 'X'.
  692 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 HIGHLIGHT BLINK VALUE 'X'.
  693 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 HIGHLIGHT BLINK VALUE 'X'.
  694 05 LINE + 1.
  695 10 COL 22 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 HIGHLIGHT BLINK VALUE 'X'.
  696 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 HIGHLIGHT BLINK VALUE 'X'.
  697 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 HIGHLIGHT BLINK VALUE 'X'.
  698 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 HIGHLIGHT BLINK VALUE 'X'.
  699 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 HIGHLIGHT BLINK VALUE 'X'.
  700 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 HIGHLIGHT BLINK VALUE 'X'.
  701 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 HIGHLIGHT BLINK VALUE 'X'.
  702 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 HIGHLIGHT BLINK VALUE 'X'.
  703 05 LINE + 1.
  704 10 COL 22 BACKGROUND-COLOR 7 FOREGROUND-COLOR O HIGHLIGHT BLINK VALUE 'X'.
  705 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 HIGHLIGHT BLINK VALUE 'X'.
  706 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 HIGHLIGHT BLINK VALUE 'X'.
  707 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 HIGHLIGHT BLINK VALUE 'X'.
  708 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 HIGHLIGHT BLINK VALUE 'X'.
  709 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 HIGHLIGHT BLINK VALUE 'X'.
  710 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 HIGHLIGHT BLINK VALUE 'X'.
  711 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 HIGHLIGHT BLINK VALUE 'X'.
  712 *> #10
  713 05 LINE 17.
  714 10 COL 32 BACKGROUND-COLOR O FOREGROUND-COLOR O LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  715 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  716 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  717 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  718 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  719 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  720 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  721 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  722 05 LINE + 1.
  723 10 COL 32 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  724 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  725 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  726 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  727 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  728 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  729 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  730 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  731 05 LINE + 1.
  732 10 COL 32 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  733 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  734 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  735 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
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GNU COBOL 2.1 23NOV2013 Source Listing
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2014/03/27 C:/Users/tda010/Documents/Programs/Samples/colors.cbl

736 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 737 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 738 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 740 05 LINE + 1. 741 10 COL 32 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 742 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 743 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 744 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 745 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 746 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 747 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 748 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 749 05 LINE + 1. 750 10 COL 32 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 751 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 752 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 753 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 754 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 755 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 756 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 757 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 758 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 759 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 750 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 LOWLIGHT	Line	Stateme	ent									Pag	ge: 16
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776 05 LINE + 1. 777 10 COL 32 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 778 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 779 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 780 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 781 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 782 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 783 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	774	10 COL	. + 1	BACKGROUND-COLOR	6	FOREGROUND-COL	OR 6	6	LOWLIGHT	BLINK	REVERSE-VIDEO	VALUE	Ϋ́Υ.
777 10 COL 32 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 778 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 779 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 780 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 781 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 782 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 783 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	775	10 COL	. + 1	BACKGROUND-COLOR	6	FOREGROUND-COL	OR	7	LOWLIGHT	BLINK	REVERSE-VIDEO	VALUE	Ϋ́Υ.
778 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 779 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 780 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 781 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 782 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 783 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	776	05 LIN	E + 1										
779 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 780 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 781 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 782 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 783 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	777	10 COL	. 32	BACKGROUND-COLOR	7	FOREGROUND-COL	OR (0	LOWLIGHT	BLINK	REVERSE-VIDEO	VALUE	Ϋ́Υ.
780 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 781 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 782 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 783 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	778	10 COL	. + 1	BACKGROUND-COLOR	7	FOREGROUND-COL	OR :	1	LOWLIGHT	BLINK	REVERSE-VIDEO	VALUE	Ϋ́Υ.
781 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 782 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 783 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	779	10 COL	. + 1	BACKGROUND-COLOR	7	FOREGROUND-COL	OR 2	2	LOWLIGHT	${\tt BLINK}$	REVERSE-VIDEO	VALUE	Ϋ́Υ.
782 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 783 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	780	10 COL	. + 1	BACKGROUND-COLOR	7	FOREGROUND-COL	OR 3	3	LOWLIGHT	${\tt BLINK}$	REVERSE-VIDEO	VALUE	Ϋ́Υ.
782 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 783 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	781	10 COL	. + 1	BACKGROUND-COLOR	7	FOREGROUND-COL	OR 4	4	LOWLIGHT	${\tt BLINK}$	REVERSE-VIDEO	VALUE	Ϋ́Υ.
784 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 LOWLIGHT BLINK REVERSE-VIDEO VALUE 'X'.	783	10 COL	. + 1	BACKGROUND-COLOR	7	FOREGROUND-COL	OR 6	6	LOWLIGHT	${\tt BLINK}$	REVERSE-VIDEO	VALUE	Ϋ́Υ.
	784	10 COL	. + 1	BACKGROUND-COLOR	7	FOREGROUND-COL	OR	7	LOWLIGHT	${\tt BLINK}$	REVERSE-VIDEO	VALUE	Ϋ́Υ.

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C:/Users/tda010/Documents/Programs/Samples/colors.cbl

```
_____
  785 *> #11
  786 05 LINE 17.
  787 10 COL 42 BACKGROUND-COLOR O FOREGROUND-COLOR O BLINK REVERSE-VIDEO VALUE 'X'.
  788 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 BLINK REVERSE-VIDEO VALUE 'X'.
  789 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 BLINK REVERSE-VIDEO VALUE 'X'.
  790 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 BLINK REVERSE-VIDEO VALUE 'X'.
  791 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 BLINK REVERSE-VIDEO VALUE 'X'.
  792 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 BLINK REVERSE-VIDEO VALUE 'X'.
  793 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 BLINK REVERSE-VIDEO VALUE 'X'.
  794 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 BLINK REVERSE-VIDEO VALUE 'X'.
  795 05 LINE + 1.
  796 10 COL 42 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 BLINK REVERSE-VIDEO VALUE 'X'.
  797 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 BLINK REVERSE-VIDEO VALUE 'X'.
  798 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 BLINK REVERSE-VIDEO VALUE 'X'.
  799 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 BLINK REVERSE-VIDEO VALUE 'X'.
  800 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 BLINK REVERSE-VIDEO VALUE 'X'.
  801 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 BLINK REVERSE-VIDEO VALUE 'X'.
  802 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 BLINK REVERSE-VIDEO VALUE 'X'.
  803 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 BLINK REVERSE-VIDEO VALUE 'X'.
  804 05 LINE + 1.
  805 10 COL 42 BACKGROUND-COLOR 2 FOREGROUND-COLOR 0 BLINK REVERSE-VIDEO VALUE 'X'.
  806 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 BLINK REVERSE-VIDEO VALUE 'X'.
  807 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 BLINK REVERSE-VIDEO VALUE 'X'.
  808 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 BLINK REVERSE-VIDEO VALUE 'X'.
  809 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 BLINK REVERSE-VIDEO VALUE 'X'.
  810 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 BLINK REVERSE-VIDEO VALUE 'X'.
  811 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 BLINK REVERSE-VIDEO VALUE 'X'.
  812 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 BLINK REVERSE-VIDEO VALUE 'X'.
  813 05 LINE + 1.
  814 10 COL 42 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 BLINK REVERSE-VIDEO VALUE 'X'.
  815 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 BLINK REVERSE-VIDEO VALUE 'X'.
  816 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 BLINK REVERSE-VIDEO VALUE 'X'.
  817 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 BLINK REVERSE-VIDEO VALUE 'X'.
  818 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 BLINK REVERSE-VIDEO VALUE 'X'.
  819 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 BLINK REVERSE-VIDEO VALUE 'X'.
  820 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 BLINK REVERSE-VIDEO VALUE 'X'.
  821 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 BLINK REVERSE-VIDEO VALUE 'X'.
  822 05 LINE + 1.
  823 10 COL 42 BACKGROUND-COLOR 4 FOREGROUND-COLOR O BLINK REVERSE-VIDEO VALUE 'X'.
  824 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 BLINK REVERSE-VIDEO VALUE 'X'.
  825 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 BLINK REVERSE-VIDEO VALUE 'X'.
  826 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 BLINK REVERSE-VIDEO VALUE 'X'.
  827 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 BLINK REVERSE-VIDEO VALUE 'X'.
  828 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 BLINK REVERSE-VIDEO VALUE 'X'.
  829 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 BLINK REVERSE-VIDEO VALUE 'X'.
  830 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 BLINK REVERSE-VIDEO VALUE 'X'.
  831 05 LINE + 1.
  832 10 COL 42 BACKGROUND-COLOR 5 FOREGROUND-COLOR O BLINK REVERSE-VIDEO VALUE 'X'.
  833 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 BLINK REVERSE-VIDEO VALUE 'X'.
```

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```
______
  834 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 BLINK REVERSE-VIDEO VALUE 'X'.
  835 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 BLINK REVERSE-VIDEO VALUE 'X'.
  836 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 BLINK REVERSE-VIDEO VALUE 'X'.
  837 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 BLINK REVERSE-VIDEO VALUE 'X'.
  838 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 BLINK REVERSE-VIDEO VALUE 'X'.
  839 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 BLINK REVERSE-VIDEO VALUE 'X'.
  840 05 LINE + 1.
  841 10 COL 42 BACKGROUND-COLOR 6 FOREGROUND-COLOR 0 BLINK REVERSE-VIDEO VALUE 'X'.
  842 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 BLINK REVERSE-VIDEO VALUE 'X'.
  843 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 BLINK REVERSE-VIDEO VALUE 'X'.
  844 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 BLINK REVERSE-VIDEO VALUE 'X'.
  845 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 BLINK REVERSE-VIDEO VALUE 'X'.
  846 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 BLINK REVERSE-VIDEO VALUE 'X'.
  847 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 BLINK REVERSE-VIDEO VALUE 'X'.
  848 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 BLINK REVERSE-VIDEO VALUE 'X'.
  849 05 LINE + 1.
  850 10 COL 42 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 BLINK REVERSE-VIDEO VALUE 'X'.
  851 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 BLINK REVERSE-VIDEO VALUE 'X'.
  852 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 BLINK REVERSE-VIDEO VALUE 'X'.
  853 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 BLINK REVERSE-VIDEO VALUE 'X'.
  854 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 BLINK REVERSE-VIDEO VALUE 'X'.
  855 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 BLINK REVERSE-VIDEO VALUE 'X'.
  856 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 BLINK REVERSE-VIDEO VALUE 'X'.
  857 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 BLINK REVERSE-VIDEO VALUE 'X'.
  858 *> #12
  859 05 LINE 17.
  860 10 COL 52 BACKGROUND-COLOR O FOREGROUND-COLOR O HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  861 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 1 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  862 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 2 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  863 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 3 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  864 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 4 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  865 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 5 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  866 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 6 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  867 10 COL + 1 BACKGROUND-COLOR O FOREGROUND-COLOR 7 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  868 05 LINE + 1.
  869 10 COL 52 BACKGROUND-COLOR 1 FOREGROUND-COLOR 0 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  870 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 1 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  871 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 2 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  872 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 3 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  873 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 4 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  874 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 5 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  875 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 6 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  876 10 COL + 1 BACKGROUND-COLOR 1 FOREGROUND-COLOR 7 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  877 05 LINE + 1.
  878 10 COL 52 BACKGROUND-COLOR 2 FOREGROUND-COLOR O HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  879 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 1 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  880 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 2 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  881 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 3 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
  882 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 4 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.
```

1 November 2017 Chapter 3 - Colors

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GNU COBOL 2.1 23NOV2013 Source Listing 2014/03/27 C:/Users/tda010/Documents/Programs/Samples/colors.cbl ______ 883 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 5 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 884 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 6 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 885 10 COL + 1 BACKGROUND-COLOR 2 FOREGROUND-COLOR 7 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 886 05 LINE + 1. 887 10 COL 52 BACKGROUND-COLOR 3 FOREGROUND-COLOR 0 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 888 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 1 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 889 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 2 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 890 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 3 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 891 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 4 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 892 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 5 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 893 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 6 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 894 10 COL + 1 BACKGROUND-COLOR 3 FOREGROUND-COLOR 7 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 895 05 LINE + 1. 896 10 COL 52 BACKGROUND-COLOR 4 FOREGROUND-COLOR O HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 897 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 1 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 898 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 2 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 899 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 3 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 900 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 4 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 901 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 5 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 902 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 6 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 903 10 COL + 1 BACKGROUND-COLOR 4 FOREGROUND-COLOR 7 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 904 05 LINE + 1. 905 10 COL 52 BACKGROUND-COLOR 5 FOREGROUND-COLOR O HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 906 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 1 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 907 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 2 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 908 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 3 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 909 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 4 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 910 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 5 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 911 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 6 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 912 10 COL + 1 BACKGROUND-COLOR 5 FOREGROUND-COLOR 7 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 913 05 LINE + 1. 914 10 COL 52 BACKGROUND-COLOR 6 FOREGROUND-COLOR O HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 915 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 1 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 916 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 2 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 917 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 3 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 918 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 4 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 919 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 5 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 920 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 6 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 921 10 COL + 1 BACKGROUND-COLOR 6 FOREGROUND-COLOR 7 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 922 05 LINE + 1. 923 10 COL 52 BACKGROUND-COLOR 7 FOREGROUND-COLOR 0 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 924 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 1 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 925 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 2 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 926 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 3 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 927 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 4 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.

928 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 5 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 929 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 6 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'. 930 10 COL + 1 BACKGROUND-COLOR 7 FOREGROUND-COLOR 7 HIGHLIGHT BLINK REVERSE-VIDEO VALUE 'X'.

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931 PROCEDURE DIVISION.

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932 000-Main SECTION.

933 DISPLAY S-COLORTST-SCR

934 STOP RUN

935 .

GNU COBOL 2.1 2	3NOV2013 Cross-Reference Listing				2014/03/27
	C:/Us	ers/tda	010/Documents/Pr	ograms/Sample	s/colors.cbl
PROGRAM-ID	Identifier/Register/Function	Defn	Where Defined	References	Page: 21
colors	000-Main	932	PROCEDURE		
colors	S-COLORTST-SCR	6	SCREEN	933	

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4. DAY-FROM-DATE

DAY-FROM-DATE is a user-defined function that accepts a single numeric "USAGE DISPLAY" argument $-\infty$ either a 7-digit Julian date in the form yyyyddd or an 8-digit Gregorian date in the form yyyymmdd. This argument may be supplied either as a PIC 9(n) USAGE DISPLAY data item (n=7 or 8) or as a 7- or 8-digit numeric literal.

The subroutine will determine if the supplied date is a valid date in the year range 0000 through 9999 and what day of the week that date fell on.

The value returned will be zero if the date argument was invalid or an integer in the range 1-7, representing Sunday through Saturday.

In addition to general GnuCOBOL concepts, this program provides a useful demonstration of the following:

- Coding a GnuCOBOL user-defined function
- Using the "ANY LENGTH" data item attribute
- Using the "RETURNING" option in a subprogram
- Using the "DATE-OF-INTEGER" intrinsic function
- Using the "C\$PARAMSIZE" built-in system subroutine

The program source and cross-reference listing, produced using the GnuCOBOL Interactive Compiler front-end (GCic.cbl, one of the sample programs included here), begins on the next page.

GNU COBOL 2.1 23NOV2013 Source Listing

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C:/Users/tda010/Documents/Programs/Samples/DAY-FROM-DATE.cbl

```
_____
          >>SOURCE FORMAT IS FIXED
         IDENTIFICATION DIVISION.
         FUNCTION-ID. DAY-FROM-DATE.
        *>********************
   4
         *> This GNU COBOL user-defined function converts a Gregorian or **
         *> Julian date into a numeric day of the week.
   7
         *>************************
   8
         *> Arguments:
   10
        *> Calendar-Date A PIC 9 data item or numeric literal which **
                          will be treated as a calendar date as fol- **
   11
         *>
   12
         *>
                          lows:
                                                              **
   13
                          7-digit value: Interpreted as a Julian date **
   14
         *>
                                      in the form yyyyddd **
  15
         *>
  16
                          8-digit value: Interpreted as a Gregorian **
   17
         *>
                                      date in the form yyyymmdd
   18
         *>
                                                              **
   19
         *> The result returned will be one of the following:
                                                              **
   20
          *>
   21
          *> 0: The supplied date is invalid
         *> 1:
   22
                The supplied date is a Sunday
         *> 2: The supplied date is a Monday
   23
         *> .
   25
   26
                                                              **
         *> .
   27
         *> 7: The supplied date is a Saturday
   28
          29
          ENVIRONMENT DIVISION.
         CONFIGURATION SECTION.
   30
         REPOSITORY.
   32
              FUNCTION ALL INTRINSIC.
         DATA DIVISION.
   33
         WORKING-STORAGE SECTION.
   34
   35
          01 WS-Input-Date-DT.
                                            PIC 9(4).
   36
              05 WS-ID-YYYY-NUM
                                            PIC 9(2).
   37
             05 WS-ID-MM-NUM
                                            PIC 9(2).
             05 WS-ID-DD-NUM
        01 WS-Y-NUM
   39
                                             BINARY-LONG.
   40
         01 WS-M-NUM
                                             BINARY-LONG.
         01 WS-Temp-NUM
   41
                                             BINARY-LONG.
          LINKAGE SECTION.
   42
   43
           01 L-Input-Date-DT
                                             PIC 9 ANY LENGTH.
          01 L-Output-Day-NUM
   44
                                             USAGE BINARY-LONG
   45
                                             SIGNED.
   46
          PROCEDURE DIVISION USING L-Input-Date-DT
   47
                       RETURNING L-Output-Day-NUM.
           000-Main SECTION.
   48
              CALL "C$PARAMSIZE" USING 1
```

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GNU COBOL 2.1 23NOV2013 Source Listing

2014/03/27

C:/Users/tda010/Documents/Programs/Samples/DAY-FROM-DATE.cbl

```
______
               EVALUATE RETURN-CODE
   50
              WHEN 7
   52
                    IF TEST-DAY-YYYYDDD(L-Input-Date-DT) > 0
                       MOVE O TO L-Output-Day-NUM
   53
   54
                       GOBACK
   55
                    END-IF
   56
                    MOVE DATE-OF-INTEGER(INTEGER-OF-DAY(L-Input-Date-DT))
   57
                     TO WS-Input-Date-DT
                WHEN 8
   59
                    IF TEST-DATE-YYYYMMDD(L-Input-Date-DT) > 0
   60
                       MOVE O TO L-Output-Day-NUM
   61
                       GOBACK
                    END-IF
   62
                    MOVE L-Input-Date-DT TO WS-Input-Date-DT
   63
   64
                WHEN OTHER
   65
                   MOVE 0 TO L-Output-Day-NUM
   66
                    GOBACK
   67
                END-EVALUATE
   68
           *> IF january OR february
           *> y = year - 1
*> m -
   69
   70
                 m = month + 10
   71
           *> ELSE
           *> y = year
*> m = month - 2
   72
   73
           *> END-IF
   74
   75
           *> For Gregorian calendar:
                 result = (day + y + y/4 - y/100 + y/400 + (31*m)/12) \mod 7
   76
   77
           *> (All divisions are integer divisions, discarding any remainder)
   78
                IF WS-ID-MM-NUM = 1 OR 2
   79
                   SUBTRACT 1 FROM WS-ID-YYYY-NUM GIVING WS-Y-NUM
                    ADD WS-ID-MM-NUM, 10 GIVING WS-M-NUM
   81
                ELSE.
   82
                   MOVE WS-ID-YYYY-NUM TO WS-Y-NUM
   83
                    SUBTRACT 2 FROM WS-ID-MM-NUM GIVING WS-M-NUM
                COMPUTE L-Output-Day-NUM =
   85
   86
                   WS-ID-DD-NUM
                  + WS-Y-NUM
   88
                  + INTEGER(WS-Y-NUM/4)
   89
                  - INTEGER(WS-Y-NUM/100)
   90
                 + INTEGER(WS-Y-NUM/400)
   91
                  + INTEGER((31*WS-M-NUM)/12)
   92
                DIVIDE L-Output-Day-NUM BY 7
   93
                   GIVING WS-Temp-NUM
   94
                    REMAINDER L-Output-Day-NUM
                ADD 1 TO L-Output-Day-NUM
   96
                GOBACK
   97
   98
```

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GNU COBOL 2.1 23NOV2013 Cross-Reference Listing

2014/03/27

	C:/Users/tda	1010/Doc	uments/Programs/	${\tt Samples/DAY-}$	-FROM-	DATE.cbl
PROGRAM-ID	Identifier/Register/Function	Defn	Where Defined	References		Page: 3
				========		======
DAY-FROM-DATE	000-Main	48	PROCEDURE			
DAY-FROM-DATE	L-Input-Date-DT	43	LINKAGE	46	52	56
				59	63	
DAY-FROM-DATE	L-Output-Day-NUM	44	LINKAGE	47	53*	60*
				65*	85*	92
				94*	95*	
DAY-FROM-DATE	RETURN-CODE		PROCEDURE	50		
DAY-FROM-DATE	WS-ID-DD-NUM	38	WORKING-STORAGE	86		
DAY-FROM-DATE	WS-ID-MM-NUM	37	WORKING-STORAGE	78	80	83
DAY-FROM-DATE	WS-ID-YYYY-NUM	36	WORKING-STORAGE	79	82	
DAY-FROM-DATE	WS-Input-Date-DT	35	WORKING-STORAGE	57*	63*	
DAY-FROM-DATE	WS-M-NUM	40	WORKING-STORAGE	*08	83*	91
DAY-FROM-DATE	WS-Temp-NUM	41	WORKING-STORAGE	93*		
DAY-FROM-DATE	WS-Y-NUM	39	WORKING-STORAGE	79*	82*	87
				88	89	90

5. GCic

This is MUCH more than a mere demonstration program —æ it's also a very practical utility! The "GCic" (GnuCOBOL Interactive Compiler) is a TUI (Textual User Interface) program that may be used as a full-screen interface to the "cobc" compiler. In addition, GCic can produce neat, concise and useful cross-reference listings of GnuCOBOL programs, showing not only where user-defined names and built-in registers and intrinsic functions are referenced, but also where user-defined data items ARE MODIFIED by program code!

The program is well documented (IMHO) and you should find it fairly easy to follow. The GCic.cbl program was written to work with a native Windows or Windows/MinGW build of GnuCOBOL as well as a Windows/Cygwin, UNIX or OS X build.

Source listings generated by GCic will show the original source code of your programs, with all indentation and comments preserved. Additionally, any COPYed code will be included in the listing immediately (in compressed form) following the COPY statement that triggered its inclusion into your program.

Cross-reference listings will show all user-defined data items and procedures as well as intrinsic function and special register references. In addition to showing the line numbers at which items were defined and referenced, those references that MODIFY the contents of the data item will have an asterisk appended to them.

In addition to general GnuCOBOL concepts, this program provides a useful demonstration of the following:

- Creating a GnuCOBOL compilation unit that consists of multiple programs
- Using CDF conditional compilation facilities
- Using the "SCREEN SECTION" and associated "ACCEPT" and "DISPLAY" statements
- Using "DECLARATIVES" to trap file I/O errors
- Using "FILE-STATUS"
- Using the "REPLACING" clause on a CDF "COPY" statement
- Using the following statements:
 - o "ACCEPT FROM COMMAND-LINE" statement
 - o "ACCEPT FROM DATE/TIME" statement
 - o "ACCEPT FROM ENVIRONMENT" statement
 - o "EXIT PERFORM" statement
 - o "EXIT SECTION" statement
 - o "INSPECT" statement
 - o "PERFORM FOREVER" statement
 - o "SEARCH ALL" statement
 - o "SET ENVIRONMENT" statement
 - o "SORT" statement
 - o "STRING" statement

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- o "UNSTRING" statement
- Using the following built-in subroutines:
 - o "C\$JUSTIFY" built-in system subroutine
 - o "C\$SLEEP" built-in system subroutine
 - o "CBL_CHANGE_DIR" built-in system subroutine
 - o "CBL_CHECK_FILE_EXIST" built-in system subroutine
 - o "CBL_DELETE_FILE" built-in system subroutine
 - o "SYSTEM" built-in system subroutine
- Using the following intrinsic functions:
 - o "CONCATENATE" intrinsic function
 - o "LENGTH" intrinsic function
 - o "LOWER-CASE" intrinsic function
 - o "NUMVAL" intrinsic function
 - o "TRIM" intrinsic function
 - o "UPPER-CASE" intrinsic function
- Using the "COB-CRT-STATUS, Special Registers" special register
- Programmatically producing a report destined for either portrait or landscape printing

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Here is a sample of the screen generated by this program:



The program source and cross-reference listing, produced using this program, begins on the next page.

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GNUCOBOL 2.2 20JUL2017 Source Listing

_____ >>SOURCE FORMAT IS FIXED *> CONFIGURATION SETTINGS: Set these switches before compiling: *> *> LINEDRAW Set to: 4 *> 0 To use spaces (no lines)
*> 1 To use the line-drawing characterset (PC codepage 437) 6 *> 2 To use conventional ASCII characters (+, -, |) 7 8 *> OSX USERS - To use the linedrawing characterset, 10 *> set your 'terminal' font to 'Lucida Console' 11 *> 12 *> OS Set to one of the following: 'CYGWIN' For a Windows/Cygwin version
'MINGW' For a Windows/MinGW version
'OSX' For a Macintosh OSX version
'UNIX' For a Unix/Linux version 13 *> *> 14 *> 15 *> 16 17 *> 'WINDOWS' For a Native Windows version 18 *> $\star\!\!>$ SELCHAR Set to the desired single character to be used as the red 19 'feature selected' character on the screen. SUGGESTIONS: '>', '*', '=', '+' 20 *> 21 *> 22 *> *> LPP Set to maximum printable lines per page when the listing
*> should be generated for LANDSCAPE orientation (can be over-23 24 *> 25 ridden at execution time using the GCXREF_LINES environment 26 variable. *> 27 *> *> LPPP Set to maximum printable lines per page when the listing 28 *> 29 should be generated for PORTRAIT orientation (can be overridden at execution time using the GCXREF_LINES_PORT 30 *> 31 environment variable. 32 *> 33 34 *>** Change the settings in the copy book const-set-1.cpy to reflect 35 your system set up. This notes are also present there. 36 *> This is to reduce the need to amend these every time a update 37 *> for GCic occurs. 39 *> 40 copy "const-set-1.cpy". 41 *> 42 43 *> END CONFIGURATION SETTINGS

______ Page: 1

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GNUCOBOL 2.2 20JUL2017 Source Listing

Line	Statement ====================================	Page: 2
45	IDENTIFICATION DIVISION.	
46	PROGRAM-ID. GCic.	
47	*>************************************	****
48	*> >NOTE< >NOTE< >NOTE< >NOTE< >NOTE<	**
49	*>	**
50	*> If this program is compiled with '-fdebugging-line', you	**
51	*> will need to pipe SYSERR to a text file when executing GCi	
52		**
53	*> (by adding the text '2> filename' to the end of the GCic	**
54	<pre>*> command). You may also need to press the ENTER key when *> GCic is finished.</pre>	**
	*> GOIC IS IIIISHEG. *>**********************************	
55 56		
56 57	*> This program provides a Textual User Interface (TUI) to th	
57	*> process of compiling and (optionally) executing a GNU COBO	
58	*> program.	**
59	*>	**
60	*> This programs execution syntax is as follows:	**
61	*>	**
62	<pre>*> GCic <program-path-and-filename> [<switch>]</switch></program-path-and-filename></pre>	**
63	*>	**
64	*> Once executed, a display screen will be presented showing	**
65	*> the compilation options that will be used. The user will	**
66	*> have the opportunity to change options, specify new ones	**
67	*> and specify any program execution arguments to be used if	**
68	*> you select the 'Execute' option. When you press the Enter	**
69	<pre>*> key the program will be compiled.</pre>	**
70	*>	**
71	*> The SCREEN SECTION contains an image of the screen.	**
72	*>	**
73	*> The '010-Parse-Args' section in the PROCEDURE DIVISION has	**
74	*> documentation on switches and their function.	**
75	*>***************	****
76	*>	**
77	*> AUTHOR: GARY L. CUTLER	**
78	*> Copyright (C) 2009-2017, Gary L. Cutler, GPL	**
79	*>	**
80	*> DATE-WRITTEN: June 14, 2009	**
81	*>	**
82	*>*************************************	****
83	*> DATE CHANGE DESCRIPTION	**
84	*> ===== ==============================	= **
85	*> GC0609 Don't display compiler messages file if compilation	**
86	*> GLC Is successful. Also don't display messages if the	**
87	*> output file is busy (just put a message on the	**
88	*> screen, leave the OC screen up & let the user fix	**
	· · · · · · · · · · · · · · · · · · ·	
89	*> the problem & resubmit.	**
90	*> GC0709 When 'EXECUTE' is selected, a 'FILE BUSY' error wil	
91	*> CLC still cause the (old) executable to be launched.	**
92	*> Also, the 'EXTRA SWITCHES' field is being ignored.	**
93	*> Changed the title bar to lowlighted reverse video &	
94	*> the message area to highlighted reverse-video.	**
95	*> GC0809 Add a SPACE in front of command-line args when	**
96	*> GLC executing users program. Add a SPACE after the	**

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GNUCOBOL 2.2 20JUL2017 Source Listing

Line	Statement	t 	/nome/vince/codoisrc/Codoi	Page: 3
97	*>		-ftraceall switch when building cobc command.	**
98	*>	GC0909	Convert to work on Cygwin/Linux as well as MinGW	**
99			Virtualized the key codes for S-F1 thru S-F7 as they	**
100	*>	GLC	differ depending upon whether PDCurses or NCurses is	
101	*>		being used.	**
102	*>	GC0410	Introduced the cross-reference and source listing	**
103	*>	GLC	features. Also fixed a bug in EXTRA switch proces-	**
104	*>		sing where garbage will result if more than the	**
105	*>		EXTRA switch is specified.	**
106	*>	GC1010	Corrected several problems reported by Vince Coen:	**
107	*>	GLC	 Listing/Xref wouldn't work if '-I' additional 	**
108	*>		cobc switch specified.	**
109	*>		2) Programs coded with lowercase reserved words did	**
110	*>		not get parsed properly when generating listing	**
111	*>		and/or xref reports.	**
112	*>		3) Reliance on a TEMP environment variable caused	**
113	*>		non-recoverable errors when generating listing	**
114	*>		and/or xref reports in a session that lacks a	**
115	*>		TEMP variable.	**
116	*>		As a result of this change, GCic no longer runs a	**
117	*>		second 'cobc' when generating listing and/or xref	**
118	*>		reports. A '-save-temps' (without '=dir') specified	**
119	*>		in the EXTRA options field will be ignored. A	**
120	*>		'-save-temps=dir' specified in the EXTRA options	**
121	*>		field will negate both the XREF and SOURCE opts,	**
122	*>		if specified.	**
123			Tailored for 29APR2011 version of GNU COBOL 2.0	**
124			Replaced all switches with configuration settings;	**
125	*>	GLC	Tailored for 11FEB2012 version of GNU COBOL 2.0;	**
126	*>		Reformatted screen layout to fit a 24x80 screen	**
127	*>		rather than a 25x81 screen and to accommodate shell	**
128	*>		environments having only F1-F12 (like 'terminal' in	**
129	*>		, ,,	**
130	*>		tions); Expanded both extra-options and runtime-	**
131	*>		8,,	**
132	*>		Added support for MF/IBM/BS2000 listing-control	**
133	*>		directives EJECT, SKIP1, SKIP2, SKIP3 (any of these in	**
134	*>	CC0212	copybooks will be ignored) Expand the source code record from 80 chars to 256	**
135 136	*>	GLC	to facilitate looking for "LINKAGE SECTION" in a	**
137	*>	GLC	free-format file.	**
138		CC1113	Edited to support the change of "OpenCOBOL" to "GNU	**
139	*>	GLC	COBOL"	**
140			Updated for 23NOV2013 version of GNU COBOL 2.1	**
141			Introduce a "Press ENTER to Close" action after run-	
142		GLC	ning the compiled program in the compiler window (F4)	
143			Remove the Blinking in meny screen as uncomfortable	**
144	*>	VBC	Update version printed to 2.2 30JUN2017.	**
145	*>		Move the system constant settings to a copy file	**
146	*>		const-set-1.cpy in case GCic is updated.	**
147	*>		Added SET ENVIRONMENT "COB_EXIT_WAIT" TO "O" to	**
148	*>		100-Initialization section.	**
149	*>	VC0717	Replaced compile param instrinsic=all with	**

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GNUCOBOL 2.2 20JUL2017 Source Listing

Line	Statement			Page: 4
150	*> VBC	intrinstics=ALL. Chang	ged mod detail inits for Gary	**
151	*>	from GCL to GLC.		**
152	*>	Update version printed	i to 2.2 20JUL2017.	**
153	*>	Should really get this	s from the compiler if avail?	**
154	*>****	******	*********	***
155	*>			
156	ENVIRONM	ENT DIVISION.		
157	CONFIGUR	ATION SECTION.		
158	REPOSITO	RY.		
159	FUNC	TION ALL INTRINSIC.		
160	INPUT-OU	TPUT SECTION.		
161	FILE-CON	TROL.		
162	GC1010 SELE	CT F-Cobc-Output-FILE	ASSIGN TO WS-Listing-Filename	-TXT
163		_	ORGANIZATION IS LINE SEQUENTI	AL.
164				
165	SELE	CT F-Source-Code-FILE	ASSIGN TO WS-File-Name-TXT	
166			ORGANIZATION IS LINE SEQUENTI	AL
167			FILE STATUS IS WS-FSM-Status-	CD.

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
                                                                                 2017/07/22
                                               /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
______
          DATA DIVISION.
  170
          FILE SECTION.
      FD F-Cobc-Output-FILE.
  171
           01 F-Cobc-Output-REC
                                                    PIC X(256).
  172
  173
        FD F-Source-Code-FILE.
  174
  175 GC0313 01 F-Source-Code-REC
                                                    PIC X(256).
  177
            WORKING-STORAGE SECTION.
  178
            COPY screenio.
       78 COB-COLOR-BLACK VALUE O.
       78 COB-COLOR-BLUE VALUE 1.
       78 COB-COLOR-GREEN VALUE 2.
       78 COB-COLOR-CYAN VALUE 3.
       78 COB-COLOR-RED VALUE 4.
       78 COB-COLOR-MAGENTA VALUE 5.
       78 COB-COLOR-YELLOW VALUE 6.
       78 COB-COLOR-WHITE VALUE 7.
       78 COB-SCR-OK VALUE O.
       78 COB-SCR-F1 VALUE 1001.
       78 COB-SCR-F2 VALUE 1002.
       78 COB-SCR-F3 VALUE 1003.
       78 COB-SCR-F4 VALUE 1004.
       78 COB-SCR-F5 VALUE 1005.
       78 COB-SCR-F6 VALUE 1006.
       78 COB-SCR-F7 VALUE 1007.
       78 COB-SCR-F8 VALUE 1008.
       78 COB-SCR-F9 VALUE 1009.
       78 COB-SCR-F10 VALUE 1010.
       78 COB-SCR-F11 VALUE 1011.
       78 COB-SCR-F12 VALUE 1012.
       78 COB-SCR-F13 VALUE 1013.
       78 COB-SCR-F14 VALUE 1014.
       78 COB-SCR-F15 VALUE 1015.
       78 COB-SCR-F16 VALUE 1016.
       78 COB-SCR-F17 VALUE 1017.
       78 COB-SCR-F18 VALUE 1018.
       78 COB-SCR-F19 VALUE 1019.
       78 COB-SCR-F20 VALUE 1020.
       78 COB-SCR-F21 VALUE 1021.
       78 COB-SCR-F22 VALUE 1022.
       78 COB-SCR-F23 VALUE 1023.
       78 COB-SCR-F24 VALUE 1024.
       78 COB-SCR-F25 VALUE 1025.
       78 COB-SCR-F26 VALUE 1026.
       78 COB-SCR-F27 VALUE 1027.
       78 COB-SCR-F28 VALUE 1028.
       78 COB-SCR-F29 VALUE 1029.
       78 COB-SCR-F30 VALUE 1030.
       78 COB-SCR-F31 VALUE 1031.
       78 COB-SCR-F32 VALUE 1032.
       78 COB-SCR-F33 VALUE 1033.
```

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

```
Line Statement
       78 COB-SCR-F34 VALUE 1034.
       78 COB-SCR-F35 VALUE 1035.
       78 COB-SCR-F36 VALUE 1036.
       78 COB-SCR-F37 VALUE 1037.
       78 COB-SCR-F38 VALUE 1038.
       78 COB-SCR-F39 VALUE 1039.
       78 COB-SCR-F40 VALUE 1040.
       78 COB-SCR-F41 VALUE 1041.
       78 COB-SCR-F42 VALUE 1042.
       78 COB-SCR-F43 VALUE 1043.
       78 COB-SCR-F44 VALUE 1044.
       78 COB-SCR-F45 VALUE 1045.
       78 COB-SCR-F46 VALUE 1046.
       78 COB-SCR-F47 VALUE 1047.
       78 COB-SCR-F48 VALUE 1048.
       78 COB-SCR-F49 VALUE 1049.
       78 COB-SCR-F50 VALUE 1050.
       78 COB-SCR-F51 VALUE 1051.
       78 COB-SCR-F52 VALUE 1052.
       78 COB-SCR-F53 VALUE 1053.
       78 COB-SCR-F54 VALUE 1054.
       78 COB-SCR-F55 VALUE 1055.
       78 COB-SCR-F56 VALUE 1056.
       78 COB-SCR-F57 VALUE 1057.
       78 COB-SCR-F58 VALUE 1058.
       78 COB-SCR-F59 VALUE 1059.
       78 COB-SCR-F60 VALUE 1060.
       78 COB-SCR-F61 VALUE 1061.
       78 COB-SCR-F62 VALUE 1062.
       78 COB-SCR-F63 VALUE 1063.
       78 COB-SCR-F64 VALUE 1064.
       78 COB-SCR-PAGE_UP VALUE 2001.
       78 COB-SCR-PAGE DOWN VALUE 2002.
       78 COB-SCR-KEY-UP VALUE 2003.
       78 COB-SCR-KEY-DOWN VALUE 2004.
       78 COB-SCR-ESC VALUE 2005.
       78 COB-SCR-PRINT VALUE 2006.
       78 COB-SCR-NO-FIELD VALUE 8000.
       78 COB-SCR-TIME-OUT VALUE 8001.
       78 COB-SCR-FATAL VALUE 9000.
       78 COB-SCR-MAX-FIELD VALUE 9001.
  179
  180 GC0712 01 WS-Compilation-Switches-TXT.
  181 GC0712 05 WS-CS-Args-TXT VALUE SPACES.
                                                   PIC X(76).
                                                    PIC X(76).
```

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GNUCOBOL 2.2 20JUL2017 Source Listing

				/home,	/vinc	e/cob	oolsrc/Cobol-Tools/oci	
Line	Stateme							Page: 7
	GC0712	==	======================================			X(9).		
	GC0712	05	WS-CS-Filenames-Table	-TXT REDEFINE				
193	GC0712		10 WS-CS-Filename-TXT				TIMES	
194	GC0712				PIC	X(9).		
195	GC0712	>>IF F	12 < 1					
196	GC0712	05	WS-CS-Config-NUM	VALUE 4	PIC	9(1).		
197	GC0712	>>ELIF	F12 > 7					
198	GC0712	05	WS-CS-Config-NUM	VALUE 4	PIC	9(1).		
199	GC0712	>>ELSE						
200	GC0712	05	WS-CS-Config-NUM	VALUE F12	PIC	9(1).		
	GC0712	>>END-	IF					
	GC0712		WS-CS-Extra-TXT VALUE					
	GC0712		10 WS-CS-Extra-H1-TXT			X(76)		
204	GC0712		10 WS-CS-Extra-H2-TXT		PIC	X(76)).	
			WS-CS-Switch-Defaults	S-TXT.		- 4.5		
	GC0712		10 VALUE F1				*> WS-CS-DEBUG-CHR	
	GC0712		10 VALUE F4				*> WS-CS-EXECUTE-CHR	
	GC0712		10 VALUE F8				*> WS-CS-FREE-CHR	
	GC0712		10 VALUE F3				*> WS-CS-LIBRARY-CHR	
	GC0712		10 VALUE F5				*> WS-CS-LISTING-CHR	
	GC0712		10 VALUE F6				*> WS-CS-NOFUNC-CHR	
	GC0712		10 VALUE F9				*> WS-CS-NOTRUNC-CHR	
	GC0712 GC0712		10 VALUE F2 10 VALUE F7				<pre>*> WS-CS-TRACEALL-CH *> WS-CS-WARNALL-CHR</pre>	ī
	GC0712	05	WS-CS-All-Switches-TX	T DENEETNES	PIC	9(1).	. *> WS-CS-WARNALL-CHR	
	GC0712	03	WD CD AII DWITCHES IN	WS-CS-Switcl	h-Dof	ם + רווב	-TYT	
	GC0712		10 WS-CS-DEBUG-CHR	WD OD DWICC		X(1).		
	GC0712		10 WS-CS-EXECUTE-CHR			X(1).		
	GC0712		10 WS-CS-FREE-CHR			X(1).		
	GC0712		10 WS-CS-LIBRARY-CHR			X(1).		
221	GC0712		10 WS-CS-LISTING-CHR			X(1).		
222	GC0712		10 WS-CS-NOFUNC-CHR		PIC	X(1).		
223	GC0712		10 WS-CS-NOTRUNC-CHR		PIC	X(1).		
224	GC0712		10 WS-CS-TRACEALL-CHE	l	PIC	X(1).		
225	GC0712		10 WS-CS-WARNALL-CHR		PIC	X(1).		
226								
227	GC0909	01 WS	-Cmd-TXT		PIC	X(512	2).	
228								
	GC0712	01 WS	-Cmd-Args-TXT		PIC	X(256	3).	
230	000740	04 110	G 1 F 1 G . GVD		DIG	w (4)		
	GC0712	01 WS	-Cmd-End-Quote-CHR		PIC	X(1).	•	
232	000710	04 110	C1 CIID		TICAC	ים סדו	IADV IONG	
	GC0712	OI MP.	-Cmd-SUB		USAG	tr DII/	NARY-LONG.	
234 235		01 WS	-Cobc-Cmd-TXT		DTC	X(256	3)	
236		OI WD	CODE CING TXT		ric	A (200		
237		01 WS	-Config-Fn-TXT		PTC	X(12)	1	
238		01 MD	00m112 1m 1V1		110	11(12)	•	
	GC1113	01 WS	-Delete-Fn-TXT		PIC	X(256	3).	
240	202220	3 - "D				(200	· / ·	
241		01 WS	-File-Name-TXT.					
242			WS-FN-CHR		OCCU	RS 25	6 TIMES	
243						X(1).		
						-		

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Line	Stateme	ent			/nome,	/vinc	ce/cobolsrc/Cobol-Tools/ocic/C	Page: 8
244								
245		01	WS-File-Status-Messag	e-TXT.				
246			05 VALUE 'Status Code			PIC	X(13).	
247			05 WS-FSM-Status-CD	•			9(2).	
248			05 VALUE ', Meaning:	,			X(11).	
249			05 WS-FSM-Msg-TXT				X(25).	
250							(20)	
		01	WS-Horizontal-Line-TX	Т		PIC	X(80).	
	GC0909							
253		01	WS-I-SUB			USAG	GE BINARY-LONG.	
254								
255		01	WS-J-SUB			USAG	GE BINARY-LONG.	
256								
257	GC1213	01	WS-Listing-CD VALUE F	5		PIC	9(1).	
258			J					
259	GC0712	01	WS-Listing-Filename-T	XТ		PIC	X(256).	
260			J					
261	GC1213	01	WS-Listing-TXT VALUE	SPACES		PIC	X(27).	
262			_					
263		01	WS-OC-Compile-DT			PIC	XXXX/XX/XXBXX/XX.	
264								
265	GC0712	>>II	F OS = 'CYGWIN'					
			WS-OS-Dir-CHR	VALUE		PIC	X(1).	
267	GC0712	78	WS-OS-Exe-Ext-CONST	VALUE	'.exe'.			
268	GC0712	78	WS-OS-Lib-Ext-CONST	VALUE	'.dll'.			
269	GC0712	78	WS-OS-Lib-Type-CONST	VALUE	'DLL)'.			
270	GC0712	01	WS-OS-Type-CD	VALUE	2	PIC	9(1).	
271	GC0712	>>EI	LIF OS = 'MINGW'					
272	GC0712	01	WS-OS-Dir-CHR	VALUE	, \ ,	PIC	X(1).	
273	GC0712	78	WS-OS-Exe-Ext-CONST	VALUE	'.exe'.			
274	GC0712	78	WS-OS-Lib-Ext-CONST	VALUE	'.dll'.			
275	GC0712	78	WS-OS-Lib-Type-CONST	VALUE	'DLL)'.			
			WS-OS-Type-CD	VALUE	5	PIC	9(1).	
			LIF OS = 'OSX'					
			WS-OS-Dir-CHR	VALUE		PIC	X(1).	
			WS-OS-Exe-Ext-CONST					
			WS-OS-Lib-Ext-CONST					
			WS-OS-Lib-Type-CONST					
			WS-OS-Type-CD	VALUE	4	PIC	9(1).	
			LIF OS = 'UNIX'				4.3	
	GC0712		WS-OS-Dir-CHR	VALUE		PIC	X(1).	
			WS-OS-Exe-Ext-CONST	VALUE				
	GC0712				'.so'.			
	GC0712		V I		'SO)'.	DIG	0(4)	
	GC0712		WS-OS-Type-CD	VALUE	3	PIC	9(1).	
			LIF OS = 'WINDOWS'	T7 A T TT	, \ ,	DTC	V(1)	
			WS-OS-Dir-CHR	VALUE		PIC	X(1).	
			WS-OS-Exe-Ext-CONST		'.exe'.			
			WS-OS-Lib-Ext-CONST		'.dll'. 'DLL)'.			
			V 1			DTC	9(1).	
	GC0712 GC0712		0.2	VALUE	T	PIC	J(1).	
	GC0712 GC0909	//Ľl	ו-טר 88 WS-OS-Windows-BOOL	WATITE	1 5			
250	G00303		OO MP OP MILIGOMP-DOOF	VALUE	1, 0.			

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Line	Statemen		Page: 9
297	GC0909	88 WS-OS-Cygwin-BOOL VALUE 2.	
298	GC0712	88 WS-OS-UNIX-BOOL VALUE 3, 4.	
299	GC0712	88 WS-OS-OSX-BOOL VALUE 4.	
300			
301	0	1 WS-OS-Type-FILLER-TXT.	
302		05 VALUE 'Windows'	PIC X(14).
303		05 VALUE 'Windows/Cygwin'	PIC X(14).
304		05 VALUE 'UNIX/Linux'	PIC X(14).
305		05 VALUE 'OSX'	PIC X(14).
306		O5 VALUE 'Windows/MinGW'	PIC X(14).
307	0	1 WS-OS-Types-TXT REDEFINES WS-OS-Type	-FILLER-TXT.
308		05 WS-OS-Type-TXT	OCCURS 5 TIMES
309			PIC X(14).
310			
311	0	1 WS-Output-Msg-TXT	PIC X(80).
312			
313		1 WS-Path-Delimiter-CHR	PIC X(1).
314			
315		1 WS-Prog-Extension-TXT	PIC X(256).
316			
317		1 WS-Prog-Folder-TXT	PIC X(256).
318			
	GC0712 0	•	OGGVDG OSO MINTO
	GC0712	05 WS-PFN-CHR	OCCURS 256 TIMES
	GC0712		PIC X(1).
322		I UC D N TVT	DTG V(24)
	GC0712 0	1 WS-Pgm-Nm-TXT	PIC X(31).
324 325		1 WS-Runtime-Switches-TXT.	
326		05 WS-RS-Compile-OK-CHR	PIC X(1).
327		88 WS-RS-Compile-OK-BOOL	VALUE 'Y'.
	GC0909	88 WS-RS-Compile-OK-Warn-BOOL	VALUE 'W'.
329		88 WS-RS-Compile-Failed-BOOL	VALUE 'N'.
	GC0609	05 WS-RS-Complete-CHR	PIC X(1).
	GC0609	88 WS-RS-Complete-BOOL	VALUE 'Y'.
	GC0609	88 WS-RS-Not-Complete-BOOL	VALUE 'N'.
	GC0712	05 WS-RS-Quote-CHR	PIC X(1).
	GC0712	88 WS-RS-Double-Quote-Used-BOOL	VALUE 'Y' FALSE 'N'.
	GC0809	05 WS-RS-IDENT-DIV-CHR	PIC X(1).
336	GC0809	88 WS-RS-1st-Prog-Complete-BOOL	VALUE 'Y'.
337	GC0809	88 WS-RS-More-To-1st-Prog-BOOL	VALUE 'N'.
338		05 WS-RS-No-Switch-Chgs-CHR	PIC X(1).
339		88 WS-RS-No-Switch-Changes-BOOL	VALUE 'Y'.
340		88 WS-RS-Switch-Changes-BOOL	VALUE 'N'.
341	GC0709	05 WS-RS-Output-File-Busy-CHR	PIC X(1).
342	GC0709	88 WS-RS-Output-File-Busy-BOOL	VALUE 'Y'.
343	GC0709	88 WS-RS-Output-File-Avail-BOOL	VALUE 'N'.
344	GC0809	05 WS-RS-Source-Record-Type-CHR	PIC X(1).
345	GC0809	88 WS-RS-Source-Rec-Linkage-BOOL	VALUE 'L'.
	GC0809	88 WS-RS-Source-Rec-Ident-BOOL	VALUE 'I'.
347	GC0712	88 WS-RS-Source-Rec-Ignored-BOOL	VALUE ''.
348		05 WS-RS-Switch-Error-CHR	PIC X(1).
349		88 WS-RS-Switch-Is-Bad-BOOL	VALUE 'Y'.

GNUCOBOL 2.2 20JUL2017	Source Listing	
		/home/vince/cobolsrc/Cobol-To

GNUCOBOL 2.2 20JUL2017		.2017 Source Listing	2017/07/22			
			/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl			
Line	Statement		Page: 10			
=====						
350		88 WS-RS-Switch-Is-Good-BOOL	VALUE 'N'.			
351						
352	01	WS-Tally-QTY	USAGE BINARY-LONG.			

```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

Line	State	ment	t		Page: 11
354		SC	CREEN SECTION.		
355		*>			
356		*>	Here is the layout of the GCic screen	ı.	
357		*>			
358		*>	The sample screen below shows how the	e screen would look if the LIM	VEDRAW
359		*>	configuration setting is set to a val	lue of 2	
360		*>			
361			The following sample screen layout sh	nows how the screen looks with	n line-drawing
362		*>	characters disabled.		
363		*>			
364		*>		4 5 6	7 8
365			12345678901234567890123456789012345678		
366					
367	01	*>	GCic (2011/07/11 08:52) - GNU COBOL V	V2.1 23NUV2013 Interactive Con	npilation .
368			Folder: E:\GNU COBOL\Samples		
369			Folder: E:\GNU CUBUL\Samples Filename: GCic.cbl		1
370 371	04	*/	Filename: GCIC.CDI +		
371			Set/Clr Switches Via F1-F9; Set Confi		
373			+		
374			F1 Assume WITH DEBUGGING MODE F6		
375	00	*>	F2 Procedure+Statement Trace F7	Fnable All Warnings	Config:
376				Source Is Free-Format	
377			F4 Execute If Compilation OK F9		
378			F5 >Produce Listing (Landscape)		i
379	13	*>+	+		· +
380	14	*>	Extra "cobc" Switches, If Any ("-save	e-temps=xxx" Prevents Listings	s):
381	15	*>+	+		+
382	16	*>	l		
383	17	*>			
384	18	*>+	+		+
385	19	*>	Program Execution Arguments, If Any:		
386					
387					
388	22	*>			
389			+		+
390			GCic Copyright (C) 2009-2017, Gary L.		
391		-			
392			12345678901234567890123456789012345678		
393			1 2 3	4 5 6	7 8
394		*>	If this program is mun on Hindors it	t must mun with andonoma 427 a	a+i+-d +-
395 396			If this program is run on Windows, it display the line-drawing characters.	- 0	
397			Windows/MinGW build, one could use the		
398			for display within a Windows console	-	
399			With a Windows/Cygwin build, set the		
400			'codepage:oem' (this cannot be done f		
401			have to use the 'Computer/Advanced Sy		
402			or Windows 7) function to define the	·	
403			Properties/Advanced/Environment Varia	3	I ,
404		*>	_		
405		*>	OSX users may use line drawing characteristics	cters in this and any GNU COBO	OL program
			•	·	

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Line	Statement	/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl Page: 12
406	<pre>*> simply by setting their 'termi</pre>	nal' application's font to "Lucida Console".
407		
408	·	
409		VALUE ''.
410		VALUE ''.
411		VALUE ''.
412		VALUE ''.
413	11	VALUE ''.
414		VALUE ''.
415		VALUE ''.
416		VALUE ''.
417	•	
418		VALUE X'DA'.
419		VALUE X'CO'.
420		VALUE X'BF'.
421		VALUE X'D9'.
422	11	VALUE X'C2'.
423		VALUE X'C1'.
424		VALUE X'C4'.
425		VALUE X'B3'.
426		
427		VALUE '+'.
428		VALUE '+'.
429		VALUE '+'.
430		VALUE '+'.
431		VALUE '+'.
432		VALUE '+'.
433		VALUE '-'.
434		VALUE ' '.
435		
436		
437		LANK SCREEN.
438		
439		
440		OR COB-COLOR-WHITE AUTO.
441	*>	
442		
443		D7.107
444		
445	FOREGROUND-COLOR COB-COLOR	
	GCO712 05 LINE 02 COL 01	VALUE LD-UL-Corner.
	•) FROM WS-Horizontal-Line-TXT.
448		VALUE LD-UR-Corner.
449		WALTER ID Worth Line
	GC0712 05 LINE 03 COL 01	VALUE LD-Vert-Line.
451 452		VALUE LD-Vert-Line.
		WALLE ID Worth Line
	GC0712 05 LINE 04 COL 01	VALUE ID-Vert-Line.
454		VALUE LD-Vert-Line.
455		VALUE ID-II-Corner
	GC0712 05 LINE 05 COL 01	VALUE LD-LL-Corner.
) FROM WS-Horizontal-Line-TXT. VALUE LD-LR-Corner.
458	05 COL 80	VALUE ED-ER-COINEI.

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GNUCOBOL 2.2 20JUL2017 Source Listing

Line	Statement						/hor	ne/vince/cobolsrc/Cobol-Tools/ocic/C F	Cic.cbl Page: 13
=====									
459	GC0712	OE T	INE C	7 (101	01		WALITE	LD-UL-Corner.	
	GC0712 GC0712	05 L	INE C			DIC V(CE)		WS-Horizontal-Line-TXT.	
	GC0712 GC0712	05			67	PIC X(65)		LD-Upper-T.	
	GC0712 GC0712	05				DTC V(10)		WS-Horizontal-Line-TXT.	
463 464		05			80	PIC A(12)		LD-UR-Corner.	
464		05		CUL	. 00		VALUE	LD-UK-COINEI.	
	GC0712	OE T	INE C	o ant	01		WALITE	LD-Vert-Line.	
	GC0712 GC0712	05 L	TIME (67			LD-Vert-Line.	
468		05			. 80			LD-Vert-Line.	
469		00		OUL	. 00		VALUE	LD Veit Line.	
	GC0712	05 T	INE C	a cnt	01		VALUE	LD-Vert-Line.	
	GC0712	05 L	11111		67			LD-Vert-Line.	
472		05			. 80			LD-Vert-Line.	
473		00		001			********	ID VOIO IIIIO.	
	GC0712	05 I.	INE 1	o cot	. 01		VALUE.	LD-Vert-Line.	
	GC0712	05			67			LD-Vert-Line.	
476		05			. 80			LD-Vert-Line.	
477				002			*****	22 1010 21101	
	GC0712	05 L	INE 1	1 COI	. 01		VALUE	LD-Vert-Line.	
	GC0712	05			67		VALUE	LD-Vert-Line.	
480		05			. 80			LD-Vert-Line.	
481									
482	GC0712	05 L	INE 1	2 COI	. 01		VALUE	LD-Vert-Line.	
483	GC0712	05		COI	67		VALUE	LD-Vert-Line.	
484		05		COI	. 80		VALUE	LD-Vert-Line.	
485									
486	GC0712	05 L	INE 1	3 COI	. 01		VALUE	LD-LL-Corner.	
487	GC0712	05		COI	02	PIC X(65)	FROM	WS-Horizontal-Line-TXT.	
488	GC0712	05		COI	67		VALUE	LD-Lower-T.	
489	GC0712	05		COI	68	PIC X(12)	FROM	WS-Horizontal-Line-TXT.	
490		05		COI	. 80		VALUE	LD-LR-Corner.	
491									
492	GC0712	05 L	INE 1					LD-UL-Corner.	
493	GC0712	05		COI	. 02	PIC X(78)	FROM	WS-Horizontal-Line-TXT.	
494		05		COI	. 80		VALUE	LD-UR-Corner.	
495									
	GC0712		INE 1					LD-Vert-Line.	
497		05		COI	. 80		VALUE	LD-Vert-Line.	
498									
	GC0712		INE 1					LD-Vert-Line.	
500		05		COI	. 80		VALUE	LD-Vert-Line.	
501									
	GC0712		INE 1			DTG W(TO)		LD-LL-Corner.	
	GC0712	05				PIC X(78)		WS-Horizontal-Line-TXT.	
504		05		COL	. 80		VALUE	LD-LR-Corner.	
505		0E T	TMP C	0 001	01		77 A T TTP	I D-III -Compon	
	GC0712		LINE 2			מבע שלפט׳		LD-UL-Corner.	
	GC0712	05 05				LIC V(19)		WS-Horizontal-Line-TXT.	
508		05		CUL	. 80		VALUE	LD-UR-Corner.	
509 510		OF T	TME	1 (10)	01		WALITE	ID-Wort-Line	
	GC0712	05 L	LINE 2		. 80			LD-Vert-Line. LD-Vert-Line.	
511		US		COL	. 00		VALUE	TD AGIC_TIME.	

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```
/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line Statement
                                             Page: 14
  05 COL 80
  515
  522 GC0712 O3 BACKGROUND-COLOR COB-COLOR-BLUE
              FOREGROUND-COLOR COB-COLOR-WHITE HIGHLIGHT.
  523
  524 GC0410
                05 LINE 01 COL 01 VALUE ' GCic ('.
  COL 24 VALUE ') GNUCOBOL 2.2 20JUL2017 ' &
  527 GC0410
                                    'Interactive Compilation
  528 VC0617 O3 BACKGROUND-COLOR COB-COLOR-RED
  529 GC0712 FOREGROUND-COLOR COB-COLOR-WHITE HIGHLIGHT.
  530 GC0712
               05 LINE 24 COL 01 PIC X(80) FROM WS-Output-Msg-TXT.
  531 *> LABELS
  533
              O3 BACKGROUND-COLOR COB-COLOR-BLACK
  534
               FOREGROUND-COLOR COB-COLOR-CYAN HIGHLIGHT.
  535
  536 GC0712
537 GC0712
538 GC0712
                05 LINE 06 COL 02 VALUE 'Set/Clr Switches Via F1-F9; ' &
                                     'Set Config Via F12; Enter Key ' &
                                     'Compiles; Esc Quits'.
  539 GC0712 O5 LINE 14 COL 02 VALUE 'Extra "cobc" Switches, If Any '&
  540 GC0712
                                     '("-save-temps=xxx" Prevents ' &
  541 GC0712
                                     'Listings):'.
  541 GC0712 O5 LINE 19 COL 02 VALUE 'Program Execution Arguments, ' &
  543 GC0712
                                     'If Any:'.
  544 GCO712 O3 BACKGROUND-COLOR COB-COLOR-BLACK
545 GCO712 FOREGROUND-COLOR COB-COLOR-WHITE HIGHLIGHT.
546 GCO712 O5 LINE O6 COL 23 VALUE 'F1'.
547 GCO712 O5 COL 26 VALUE 'F9'.
548 GCO712 O5 COL 45 VALUE 'F12'.
549 GCO712 O5 COL 50 VALUE 'ENTER'.
550 GCO712 O5 COL 70 VALUE 'ESC'.
  551 *>
          *> TOP SECTION BACKGROUND
  552
  553
  554
              O3 BACKGROUND-COLOR COB-COLOR-BLACK
              FOREGROUND-COLOR COB-COLOR-WHITE HIGHLIGHT.
  555
  558
           03 BACKGROUND-COLOR COB-COLOR-BLACK
  559
  564 GC0712
              05 LINE 03 COL 67 VALUE ': Compile '.
```

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2017/07/22 /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

```
Line Statement
                                                                   Page: 15
                      O5 LINE O4 COL 65 VALUE ': Quit '.
   566 *>
   567
               *> TOP SECTION PROGRAM INFO
   568
   569
                     O3 BACKGROUND-COLOR COB-COLOR-BLACK
                       FOREGROUND-COLOR COB-COLOR-WHITE HIGHLIGHT.
   570
   571 GC0712
                       05 LINE 03 COL 13 PIC X(66) FROM WS-Prog-File-Name-TXT.
   572 GC0712
                       05 LINE 04 COL 13 PIC X(66) FROM WS-Prog-Folder-TXT.
   573 *>
              *> MIDDLE LEFT SECTION F-KEYS
   574
   575
               *>
   576
                     O3 BACKGROUND-COLOR COB-COLOR-BLACK
                       FOREGROUND-COLOR COB-COLOR-WHITE HIGHLIGHT.
   577
   578 GC0712
                       O5 LINE O8 COL O3 VALUE 'F1'.

      578 GC0712
      05 LINE 08 COL 03 VALUE 'F1'.

      579 GC0712
      05 LINE 09 COL 03 VALUE 'F2'.

      580 GC0712
      05 LINE 10 COL 03 VALUE 'F3'.

      581 GC0712
      05 LINE 11 COL 03 VALUE 'F4'.

      582 GC0712
      05 LINE 12 COL 03 VALUE 'F5'.

   583
   588 *>
              *> MIDDLE LEFT SECTION SWITCHES
   589
   590
   591
                     O3 BACKGROUND-COLOR COB-COLOR-BLACK
                     FOREGROUND-COLOR COB-COLOR-RED HIGHLIGHT.
   592
   593 GC0712
                       05 LINE 08 COL 06 PIC X(1) FROM WS-CS-DEBUG-CHR.

      593 GC0712
      05 LINE 08 COL 06 PIC X(1) FROM WS-CS-DEBUG-CHR.

      594 GC0712
      05 LINE 09 COL 06 PIC X(1) FROM WS-CS-TRACEALL-CHR.

      595 GC0712
      05 LINE 10 COL 06 PIC X(1) FROM WS-CS-LIBRARY-CHR.

      596 GC0712
      05 LINE 11 COL 06 PIC X(1) FROM WS-CS-EXECUTE-CHR.

      597 GC0712
      05 LINE 12 COL 06 PIC X(1) FROM WS-CS-LISTING-CHR.

   598
   599 GC0712 05 LINE 08 COL 38 PIC X(1) FROM WS-CS-NOFUNC-CHR.
600 GC0712 05 LINE 09 COL 38 PIC X(1) FROM WS-CS-WARNALL-CHR.
601 GC0712 05 LINE 10 COL 38 PIC X(1) FROM WS-CS-FREE-CHR.
   602 GC0712
                       05 LINE 11 COL 38 PIC X(1) FROM WS-CS-NOTRUNC-CHR.
   603 *>
              *> MIDDLE LEFT SECTION BACKGROUND
   604
   605
   606
                     O3 BACKGROUND-COLOR COB-COLOR-BLACK
   607
                       FOREGROUND-COLOR COB-COLOR-GREEN HIGHLIGHT.
   608 GC0712
                       05 LINE 08 COL 07 VALUE 'Assume WITH DEBUGGING MODE'.
   614
```

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```
/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line Statement
                                                                                                                 Page: 16
    618 GC0712 O5 LINE 11 COL 39 VALUE 'No COMP/BINARY Truncation '.
    619 *>
                 *> MIDDLE RIGHT SECTION Text
    620
    621
   622
623
   623 FOREGROUND-COLOR COB-COLOR-BLACK
624 GC0712 O5 LINE 08 COL 69 VALUE 'Current'.
625 GC0712 O5 LINE 09 COL 69 VALUE 'Config:'.
626 *>
                *> MIDDLE RIGHT SECTION CONFIG FILE
    627
    628
                *>
   630 FOREGROUND-COLOR COB-COLOR-BLACK
631 GC0712 O5 LINE 10 COL 69 PIC X(10)
632 GC0712 FROM WS-CS-F47
                            FROM WS-CS-Filename-TXT (WS-CS-Config-NUM).
    633 *>
                *> FREE-FORM OPTIONS FIELDS
    634
    635
             03 BACKGROUND-COLOR COB-COLOR-BLACK
    636
   637 FOREGROUND-COLOR COB-COLOR-WHITE HIGHLIGHT.
638 GC0712 05 LINE 16 COL 03 PIC X(76) USING WS-CS-Extra-H1-TXT.
639 GC0712 05 LINE 17 COL 03 PIC X(76) USING WS-CS-Extra-H2-TXT.
640 GC0712 05 LINE 21 COL 03 PIC X(76) USING WS-CS-Arg-H1-TXT.
641 GC0712 05 LINE 22 COL 03 PIC X(76) USING WS-CS-Arg-H2-TXT.
```

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```
GNUCOBOL 2.2 20JUL2017 Source Listing 2017/07/22
```

```
/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line Statement
                                                                                                                                                       Page: 17
                            PROCEDURE DIVISION.
      644
                           645
                          *> Legend to procedure names:
      646
                          *> 00x-xxx All MAIN driver procedures
      647
                                                                                                                                                                    **
                       *> Oxx-xxx All GLOBAL UTILITY procedures
                       *> 1xx-xxx All INITIALIZATION procedures
      650
                       *> 2xx-xxx All CORE PROCESSING procedures
      651
                          *> 9xx-xxx All TERMINATION procedures
      652
                          653
                            DECLARATIVES.
                            000-File-Error SECTION.
      654
                             USE AFTER STANDARD ERROR PROCEDURE ON F-Source-Code-FILE.
      655
      656
                                      COPY FileStat-Msgs
      657
                                               REPLACING STATUS BY WS-FSM-Status-CD
      658
                                                                  MSG BY WS-FSM-Msg-TXT.
                 EVALUATE WS-FSM-Status-CD
                WHEN 00 MOVE 'SUCCESS DUPLICATE 'TO WS-FSM-Msg-TXT
WHEN 02 MOVE 'SUCCESS DUPLICATE 'TO WS-FSM-Msg-TXT
WHEN 04 MOVE 'SUCCESS INCOMPLETE 'TO WS-FSM-Msg-TXT
WHEN 05 MOVE 'SUCCESS OPTIONAL 'TO WS-FSM-Msg-TXT
WHEN 07 MOVE 'SUCCESS NO UNIT 'TO WS-FSM-Msg-TXT
WHEN 10 MOVE 'END OF FILE 'TO WS-FSM-Msg-TXT
WHEN 14 MOVE 'OUT OF KEY RANGE 'TO WS-FSM-Msg-TXT
WHEN 21 MOVE 'KEY INVALID 'TO WS-FSM-Msg-TXT
WHEN 22 MOVE 'KEY EXISTS 'TO WS-FSM-Msg-TXT
WHEN 23 MOVE 'KEY NOT EXISTS 'TO WS-FSM-Msg-TXT
WHEN 30 MOVE 'PERMANENT ERROR 'TO WS-FSM-Msg-TXT
WHEN 31 MOVE 'INCONSISTENT FILENAME 'TO WS-FSM-Msg-TXT
                 WHEN OO MOVE 'SUCCESS
                                                                                                   ' TO WS-FSM-Msg-TXT
               WHEN 31 MOVE 'INCONSISTENT FILENAME ' TO WS-FSM-Msg-TXT WHEN 34 MOVE 'BOUNDARY VIOLATION ' TO WS-FSM-Msg-TXT WHEN 35 MOVE 'FILE NOT FOUND ' TO WS-FSM-Msg-TXT WHEN 37 MOVE 'PERMISSION DENIED ' TO WS-FSM-Msg-TXT WHEN 38 MOVE 'CLOSED WITH LOCK ' TO WS-FSM-Msg-TXT WHEN 39 MOVE 'CONFLICT ATTRIBUTE ' TO WS-FSM-Msg-TXT WHEN 41 MOVE 'ALREADY OPEN ' TO WS-FSM-Msg-TXT WHEN 42 MOVE 'NOT OPEN ' TO WS-FSM-Msg-TXT WHEN 43 MOVE 'READ NOT DONE ' TO WS-FSM-Msg-TXT WHEN 44 MOVE 'RECORD OVERFLOW ' TO WS-FSM-Msg-TXT WHEN 46 MOVE 'READ ERROR ' TO WS-FSM-Msg-TXT WHEN 47 MOVE 'INPUT DENIED ' TO WS-FSM-Msg-TXT WHEN 48 MOVE 'OUTPUT DENIED ' TO WS-FSM-Msg-TXT WHEN 48 MOVE 'I/O DENIED ' TO WS-FSM-Msg-TXT WHEN 49 MOVE 'I/O DENIED ' TO WS-FSM-Msg-TXT WHEN 51 MOVE 'RECORD LOCKED ' TO WS-FSM-Msg-TXT WHEN 52 MOVE 'END-OF-PAGE ' TO WS-FSM-Msg-TXT WHEN 57 MOVE 'I/O LINAGE ' TO WS-FSM-Msg-TXT WHEN 57 MOVE 'FILE SHARING FAILURE ' TO WS-FSM-Msg-TXT WHEN 57 MOVE 'FILE SHARING FAILURE ' TO WS-FSM-Msg-TXT WHEN 61 MOVE 'FILE SHARING FAILURE ' TO WS-FSM-Msg-TXT
                 WHEN 31 MOVE 'INCONSISTENT FILENAME 'TO WS-FSM-Msg-TXT
                WHEN 57 MOVE 'I/O LINAGE 'TO WS-FSM-Msg-TXT
WHEN 61 MOVE 'FILE SHARING FAILURE 'TO WS-FSM-Msg-TXT
WHEN 91 MOVE 'FILE NOT AVAILABLE 'TO WS-FSM-Msg-TXT
END-EVALUATE
                 END-EVALUATE.
      659
                  MOVE SPACES TO WS-Output-Msg-TXT
      660
                                  IF WS-FSM-Status-CD = 35
                                    DISPLAY
      661
                                                       'File not found: "'
```

GCic for UNIX/Linux Copyright (C) 2009-2017, Gary L. Cutler, GPL Page: 17

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GNUCOBOL 2.2 20JUL2017 Source Listing

2017/07/22

```
/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line Statement
                                                                                                                                                         Page: 18
                                            TRIM(WS-File-Name-TXT, TRAILING)
     664
     665
                            ELSE
                               DISPLAY
     666
                                              'Error accessing file: "'
     667
     668
                   END-IF
                                               TRIM(WS-File-Name-TXT, TRAILING)
     669
     670
     671
     672
                     END DECLARATIVES.
     673
     674
                     000-Main SECTION.
     675
                            PERFORM 100-Initialization
     676
     677 GC0609 SET WS-RS-Not-Complete-BOOL TO TRUE
    678 GC0609 PERFORM UNTIL WS-RS-Complete-BOOL
679 GC0609 PERFORM 200-Let-User-Set-Switches
680 GC0609 PERFORM 210-Run-Compiler
681 GC0410 IF (WS-RS-Compile-OK-BOOL OR WS-RS-Compile-OK-Warn-BOOL)
682 GC0712 AND (WS-CS-LISTING-CHR > SPACE)
683 GC0712 DISPLAY S-Blank-SCR
684 GC0410 PERFORM 220-Make-Listing
685 GC0410 END-IF
686 GC0709 IF (WS-CS-EXECUTE-CHR NOT = SPACES)
687 GC0709 AND (WS-RS-Output-File-Avail-BOOL)
688 GC0609 PERFORM 230-Run-Program
689 GC0609 END-IF
690 GC0712 PERFORM 250-Autoload-Listing
691 GC0609 END-PERFORM
692 PERFORM 900-Terminate
693 * -- Control will NOT return
     678 GC0609 PERFORM UNTIL WS-RS-Complete-BOOL
     693
                      * -- Control will NOT return
```

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694

2017/07/22 /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

```
Line Statement
                                                                   Page: 19
         697
         *> Perform all program-wide initialization operations **
  698
         699
          100-Initialization SECTION.
  700
          *>***********************************
  701
         *> Make sure full screen-handling is in effect **
  702
          SET ENVIRONMENT 'COB_SCREEN_EXCEPTIONS' TO 'Y'
  703
             SET ENVIRONMENT 'COB_SCREEN_ESC' TO 'Y'
SET ENVIRONMENT "COB_EXIT_WAIT" TO "O".
  704
  705 VC0617
            SET ENVIRONMENT "COB_EXIT_WAIT"
  706
       707
         *> Get GCic Compilation Date/Time
  708
         MOVE WHEN-COMPILED (1:12) TO WS-OC-Compile-DT
  709
  710
             INSPECT WS-OC-Compile-DT
                REPLACING ALL '/' BY ':'
  711
  712
                AFTER INITIAL SPACE
  713
         714
         *> Convert WS-CS-All-Switches-TXT to Needed Alphanumeric Values**
  715
          *>***********************
  716
             INSPECT WS-CS-All-Switches-TXT
                REPLACING ALL 'O' BY SPACE
  717
                        ALL '1' BY SELCHAR
  718
  719 GC1213
                        ALL '2' BY SELCHAR
      *>******************
  720
  721
         *> Process filename (the only command-line argument) **
  722
         *>************************
  723 GC0712 ACCEPT WS-Cmd-Args-TXT FROM COMMAND-LINE
  724 GC0712 MOVE 1 TO WS-Cmd-SUB
  726 GC0712 MOVE WS-Cmd-Args-TXT(WS-Cmd-SUB:1)
727 GC0712 TO WS-Cmd-End-Quote-CHR
728 GC0712 ADD 1 TO WS-Cmd-SUB
729 GC0712 UNSTRING WS-Cmd-Args-TXT
730 GC0712 DELIMITED BY WS-Cmd-End-Quote-
  730 GC0712
                DELIMITED BY WS-Cmd-End-Quote-CHR
  731 GC0712
                   INTO WS-File-Name-TXT
  732 GC0712
                   WITH POINTER WS-Cmd-SUB
  733 GC0712 ELSE
  734 GC0712 UNSTRING WS-Cmd-Args-TXT
735 GC0712 DELIMITED BY ALL SPACES
736 GC0712 INTO WS-File-Name-TXT
737 CC0712 ULTH DOINTED WS-Cmd-SUB
  737 GC0712
                   WITH POINTER WS-Cmd-SUB
  738 GC0712 END-IF
  739
            IF WS-File-Name-TXT = SPACES
  740 GC0712
               DISPLAY 'No program filename was specified'
                PERFORM 900-Terminate
  741
         * ----- Control will NOT return
  742
  743
  744
         745
         *> Determine if 'Make A Library' feature should be forced 'ON' **
             PERFORM 240-Find-LINKAGE-SECTION
```

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2017/07/22 /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

```
Line Statement
                                                                                                                                                                                       Page: 20
                           *> Split 'WS-File-Name-TXT' into 'WS-Prog-Folder-TXT' and
      749
                  *> 'WS-Prog-File-Name-TXT'
      750
                         *>********************
      751
      752 GC0909 IF WS-OS-Cygwin-BOOL AND WS-File-Name-TXT (2:1) = ':'
753 GC0712 MOVE '\' TO WS-OS-Dir-CHR
      754 GC0909 END-IF
      755 GC0712 MOVE LENGTH(WS-File-Name-TXT) TO WS-I-SUB
      756 GC0712 PERFORM UNTIL WS-I-SUB = 0
757 GC0712 OR WS-FN-CHR (WS-I-SUB) = WS-OS-Dir-CHR
    757 GCO/12
758 SUBTRACT 1 F
759 END-PERFORM
760 IF WS-I-SUB = 0
761 MOVE SPACES
762 MOVE WS-File
763 ELSE
MOVE '*' TO
                                            SUBTRACT 1 FROM WS-I-SUB
                                      MOVE SPACES TO WS-Prog-Folder-TXT
                                             MOVE WS-File-Name-TXT TO WS-Prog-File-Name-TXT
                                           MOVE '*' TO WS-FN-CHR (WS-I-SUB)
      765
                                              UNSTRING WS-File-Name-TXT DELIMITED BY '*'
      766
                                                      INTO WS-Prog-Folder-TXT
      767
                                                                 WS-Prog-File-Name-TXT
      768 GC0712 MOVE WS-OS-Dir-CHR TO WS-FN-CHR (WS-I-SUB)
769 END-IF
      770
                                 IF WS-Prog-Folder-TXT = SPACES
                                             ACCEPT WS-Prog-Folder-TXT FROM ENVIRONMENT 'CD'
     771
772 GC0909
ELSE
773 GC0909
CALL 'CBL_CHANGE_DIR'
774 GC0909
USING TRIM(WS-Propression of the company of the
      771
                                                   USING TRIM(WS-Prog-Folder-TXT,TRAILING)
      776 GC0909 IF WS-OS-Cygwin-BOOL AND WS-File-Name-TXT (2:1) = ':'
      777 GC0712 MOV
778 GC0909 END-IF
                                            MOVE '/' TO WS-OS-Dir-CHR
                      *>************************
      779
                          *> Split 'WS-Prog-File-Name-TXT' into 'WS-Pgm-Nm-TXT' & **
      780
                          *> 'WS-Prog-Extension-TXT'
      781
      782
                         783 GC0712 MOVE LENGTH(WS-Prog-File-Name-TXT) TO WS-I-SUB
      784 GCO712 PERFORM UNTIL WS-I-SUB = 0
      785 GCO712 OR WS-PFN-CHR (WS-I-SUB) = '.'
     786 GC0712 SUBTRACT 1 FROM WS-I-SUB
787 GC0712 END-PERFORM
788 GC0712 IF WS-I-SUB = 0
789 GC0712 MOVE WS-Prog-File-Name-TXT TO WS-Pgm-Nm-TXT
790 GC0712 MOVE SPACES TO WS-Prog-Extension-TXT
791 GC0712 ELSE
702 GC0712 WS-PFN-CHR (WS-I-SUB)
     TU WS-Prog-Extension-TXT

TU WS-Prog-Extension-TXT

PLSE

792 GC0712 MOVE '*' TO WS-PFN-CHR (WS-I-SUB)

793 GC0712 UNSTRING WS-Prog-File-Name-TXT DELIMITED BY '*'

794 GC0712 INTO WS-Pgm-Nm-TXT

795 GC0712 WS-Prog-Fy+c--
                                   MOVE '.' TO WS-PFN-CHR (WS-I-SUB)
      797 GC0712 END-IF
      798
                 *> Build initial Line 24 Message
```

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/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

Line	Statement		Page: 21
=====			
801	GC0909	MOVE ALL LD-Horiz-Line TO WS-Horizontal-Line-TXT.	
802	GC0410	MOVE CONCATENATE(' GCic for '	
803	GC0410	<pre>TRIM(WS-OS-Type-TXT(WS-OS-Type-CD),Trailing)</pre>	
804	GC1213	' Copyright (C) 2009-2017, Gary L. '	
805	GC0410	'Cutler, GPL')	
806	GC0410	TO WS-Output-Msg-TXT.	
807	GC0909		

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

2017/07/22 /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

Line Statement Page: 22 810 *> Show the user the current switch settings and allow them to ** 811 *> be changed. 812 813 200-Let-User-Set-Switches SECTION. 814 SET WS-RS-Switch-Changes-BOOL TO TRUE PERFORM UNTIL WS-RS-No-Switch-Changes-BOOL 816 GC1213 EVALUATE WS-Listing-CD 817 GC1213 818 GC1213 819 GC1213 820 GC1213 WHEN O MOVE 'Listing Off' TO WS-Listing-TXT MOVE SPACE TO WS-CS-LISTING-CHR WHEN 1 MOVE 'Listing On (Landscape)' TO WS-Listing-TXT 821 GC1213 822 GC1213 MOVE SELCHAR TO WS-CS-LISTING-CHR WHEN 2 823 GC1213 824 GC1213 MOVE 'Listing On (Portrait)' TO WS-Listing-TXT
825 GC1213 MOVE SELCHAR TO WS-CS-LISTING826 GC1213 END-EVALUATE

ACCEPT 2 Gritering CCP TO WS-CS-LISTING-CHR 827 ACCEPT S-Switches-SCR 828 IF COB-CRT-STATUS > 0 829 EVALUATE COB-CRT-STATUS WHEN COB-SCR-F1 830 IF WS-CS-DEBUG-CHR = SPACE 831 832 GC0712 MOVE SELCHAR TO WS-CS-DEBUG-CHR 833 834 MOVE ' ' TO WS-CS-DEBUG-CHR 835 END-TF 836 GC0712 WHEN COB-SCR-F2 837 GC0712 IF WS-CS-TRACEALL-CHR = SPACE 838 GC0712 MOVE SELCHAR TO WS-CS-TRACEALL-CHR 839 GC0712 FLSE. 840 GC0712 MOVE ' ' TO WS-CS-TRACEALL-CHR 841 GC0712 END-IF WHEN COB-SCR-F3 842 IF WS-CS-LIBRARY-CHR = SPACE 843 GC0712 844 GC0712 MOVE SELCHAR TO WS-CS-LIBRARY-CHR 845 MOVE ' ' TO WS-CS-LIBRARY-CHR 846 GC0712 847 END-IF 848 WHEN COB-SCR-F4 849 IF WS-CS-EXECUTE-CHR = SPACE 850 GC0712 MOVE SELCHAR TO WS-CS-EXECUTE-CHR 851 852 MOVE ' ' TO WS-CS-EXECUTE-CHR 853 END-IF 854 GC0712 WHEN COB-SCR-F5 855 GC1213 ADD 1 TO WS-Listing-CD 856 GC1213 IF WS-Listing-CD > 2 857 GC1213 MOVE 0 TO WS-Listing-CD 858 GC1213 END-IF 859 GC0712 WHEN COB-SCR-F6 860 GC0712 IF WS-CS-NOFUNC-CHR = SPACE

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GNUCOBOL 2.2 20JUL2017 Source Listing

2017/07/22

/home/vince/cobolsrc/Cobol-Tools/ocic/GCic Page	Statement	ine S
1 age :====================================		
MOVE SELCHAR TO WS-CS-NOFUNC-CHR	GC0712	861 (
ELSE	GC0712	862 (
MOVE ' ' TO WS-CS-NOFUNC-CHR	GC0712	863 (
END-IF	GC0712	864 (
WHEN COB-SCR-F7	GC0712	865 (
IF WS-CS-WARNALL-CHR = SPACE	GC0712	866 (
MOVE SELCHAR TO WS-CS-WARNALL-CHR	GC0712	867 (
ELSE	GC0712	868 (
MOVE ' ' TO WS-CS-WARNALL-CHR	GC0712	869 (
END-IF	GC0712	870 (
WHEN COB-SCR-F8	GC0712	871 (
IF WS-CS-FREE-CHR = SPACE	GC0712	872 (
MOVE SELCHAR TO WS-CS-FREE-CHR	GC0712	873 (
ELSE	GC0712	874 (
MOVE ' ' TO WS-CS-FREE-CHR	GC0712	875 (
END-IF	GC0712	876 (
WHEN COB-SCR-F9	GC0712	877 (
IF WS-CS-NOTRUNC-CHR = SPACE	GC0712	878 (
MOVE SELCHAR TO WS-CS-NOTRUNC-CHR	GC0712	879 (
ELSE	GC0712	880 (
MOVE ' ' TO WS-CS-NOTRUNC-CHR	GC0712	881 (
END-IF	GC0712	882 (
WHEN COB-SCR-ESC		883
PERFORM 900-Terminate		884
Control will NOT return	*	885
WHEN COB-SCR-F12	GC0712	886 (
ADD 1 TO WS-CS-Config-NUM	GC0712	887 (
IF WS-CS-Config-NUM > 7	GC0712	888 (
MOVE 1 TO WS-CS-Config-NUM	GC0712	889 (
END-IF	GC0712	890 (
WHEN OTHER		891
MOVE 'An unsupported key was pressed'		892
TO WS-Output-Msg-TXT		893
END-EVALUATE		894
Ε	E	895
SET WS-RS-No-Switch-Changes-BOOL TO TRUE		896
-IF	E	897
FORM	END-F	898
		899

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

2017/07/22 /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

```
Line Statement
                                                                              Page: 24
           902
           *> Run the compiler using the switch settings we've prepared. **
  903
           904
           210-Run-Compiler SECTION.
  905
               MOVE SPACES TO WS-Cmd-TXT
  906
                             WS-Cobc-Cmd-TXT
  907
                             WS-Output-Msg-TXT
  908
              DISPLAY S-Switches-SCR
               MOVE 1 TO WS-I-SUB
  909
  910 GC0712 MOVE LOWER-CASE(WS-CS-Filename-TXT (WS-CS-Config-NUM))
  911 GC0712
                TO WS-Config-Fn-TXT
          912
           *> Build the 'cobc' command
  913
           914
  915 GC0909
             MOVE SPACES TO WS-Cobc-Cmd-TXT
  916 GC0909 STRING 'cobc -v -std='
  917 GC0909 TRIM(WS-Config-Fn-TXT,TRAILING)
  917 GCC9CC

918 GCC909 ','
919 GCC909 INTO WS-Cobc-Cmd-TXT
920 GCC909 WITH POINTER WS-I-SUB
921 IF WS-CS-LIBRARY-CHR NOT = ','
STRING '-m',
                       DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
  923
  924
                       WITH POINTER WS-I-SUB
  925
               ELSE
  926
                   STRING '-x '
  927
                       DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
  928
                       WITH POINTER WS-I-SUB
              END-IF
  929
  930
               IF WS-CS-DEBUG-CHR NOT = ' '
  931
                   STRING '-fdebugging-line'
  932
                       DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
  933
                       WITH POINTER WS-I-SUB
            END-IF
  934
               IF WS-CS-NOTRUNC-CHR NOT = ' '
  935
  936
                   STRING '-fnotrunc '
  937
                       DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
                       WITH POINTER WS-I-SUB
  938
           END-IF
  939
               IF WS-CS-TRACEALL-CHR NOT = ' '
  940
  940
941 GC0809
                STRING '-ftraceall '
  942
                      DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
  943
                       WITH POINTER WS-I-SUB
           END-IF
  944
  945 GC0712 IF WS-CS-NOFUNC-CHR NOT = , ,
              STRING '-fintrinsics=ALL '
DELIMITED SIZE INTO WS
  946 VC0717
947 GC0712
948 GC0712
                       DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
                       WITH POINTER WS-I-SUB
  949 GC0712 WITH PUINTER WS-1-SUB
949 GC0712 END-IF
950 GC0712 IF WS-CS-WARNALL-CHR NOT = ' '
  951 GC0712 STRING '-Wall '
  952 GC0712
                      DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
```

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2017/07/22 /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

Line	Stateme	8
	GC0712	WITH POINTER WS-I-SUB
954	GC0712	END-IF
	GC0712	IF WS-CS-FREE-CHR NOT = ' '
	GC0712	STRING '-free '
957	GC0712	DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
958	GC0712	WITH POINTER WS-I-SUB
959	GC0712	ELSE
960	GC0712	STRING '-fixed '
961	GC0712	DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
962	GC0712	WITH POINTER WS-I-SUB
963	GC0712	END-IF
964		
965	GC0712	MOVE O TO WS-Tally-QTY
966	GC0712	INSPECT WS-CS-Extra-TXT
967	GC0712	TALLYING WS-Tally-QTY FOR ALL '-save-temps'
968	GC0712	IF WS-CS-LISTING-CHR > SPACE
969	GC0712	AND WS-Tally-QTY > O
970	GC0712	MOVE SPACE TO WS-CS-LISTING-CHR *> Can't generate listing if -save-temps u
	sed	
971	GC0712	END-IF
972	GC0712	IF WS-CS-LISTING-CHR > SPACE
973	GC1010	STRING '-save-temps '
974	GC1010	DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
975	GC1010	WITH POINTER WS-I-SUB
976	GC1010	END-IF
977		
978	GC0709	IF WS-CS-Extra-TXT > SPACES
979	GC0709	STRING ' '
980	GC0709	TRIM(WS-CS-Extra-TXT,TRAILING)
981	GC0709	, ,
982	GC0709	DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
983	GC0709	WITH POINTER WS-I-SUB
984	GC0709	END-IF
985	GC0909	STRING TRIM(WS-Prog-File-Name-TXT,TRAILING)
986	GC0909	DELIMITED SIZE INTO WS-Cobc-Cmd-TXT
987	GC0909	WITH POINTER WS-I-SUB
988		>**************
989	*	> Prepare the compilation listing file **
990		>************
	GC1113	<pre>MOVE CONCATENATE(TRIM(WS-Pgm-Nm-TXT,Trailing),'.gclst')</pre>
	GC0712	TO WS-Listing-Filename-TXT
	GC0712	CALL 'CBL_DELETE_FILE' USING WS-Listing-Filename-TXT
994		>**************
995		> Now execute the 'cobc' command **
996		>*************
	GC0410	MOVE 'Compiling' TO WS-Output-Msg-TXT
	GC0410	DISPLAY S-Switches-SCR
	GC0609	SET WS-RS-Output-File-Avail-BOOL TO TRUE
1000		MOVE SPACES TO WS-Cmd-TXT
1001		STRING TRIM(WS-Cobc-Cmd-TXT,TRAILING)
	GC0712	' >' WS-Listing-Filename-TXT
	GC0712	' 2>&1'
1004		DELIMITED SIZE

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GNUCOBOL 2.2 20JUL2017 Source Listing

GNUCOBOL 2.2 20JUL2017 Source Listing 2017/07/22 /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl			
Line	Statement	Page: 26	
1005		INTO WS-Cmd-TXT	
1006	DEBUG D	DISPLAY WS-Cmd-TXT UPON SYSERR	
1007		CALL 'SYSTEM' USING TRIM(WS-Cmd-TXT,TRAILING)	
1008	GC0712	OPEN EXTEND F-Cobc-Output-FILE	
1009	GC0712	WRITE F-Cobc-Output-REC FROM SPACES	
1010	GC0712	IF RETURN-CODE = 0	
1011	GC0712	SET WS-RS-Compile-OK-BOOL TO TRUE	
1012	GC0712	MOVE 'Compilation Was Successful' TO WS-Output-Msg-TXT	
1013	GC0712	MOVE CONCATENATE('GNU COBOL', WS-Output-Msg-TXT)	
1014	GC0712	TO F-Cobc-Output-REC	
1015	GC0712	WRITE F-Cobc-Output-REC	
1016	GC0712	SET WS-RS-Complete-BOOL TO TRUE	
1017	GC0712	ELSE	
1018	GC0712	SET WS-RS-Compile-Failed-BOOL TO TRUE	
1019	GC0712	MOVE CONCATENATE(' Compilation Failed - See ',	
1020	GC0712	${\tt TRIM(WS-Listing-Filename-TXT,Trailing))}$	
1021	GC0712	TO WS-Output-Msg-TXT	
1022	GC0712	MOVE 'GNU COBOL Compilation HAS FAILED - See Above'	
1023	GC0712	TO F-Cobc-Output-REC	
1024	GC0712	WRITE F-Cobc-Output-REC	
	GC0712	END-IF	
1026	GC0712	CLOSE F-Cobc-Output-FILE	
	GC0712	DISPLAY S-Switches-SCR	
	GC0712	CALL 'C\$SLEEP' USING 2	
	GC0712	MOVE SPACES TO WS-Output-Msg-TXT	
1030		IF WS-RS-Compile-Failed-BOOL	
	GC0712	PERFORM 250-Autoload-Listing	
1032		PERFORM 900-Terminate	
		Control will not return	
1034		END-IF	
1035		•	

```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

Line	Statement	/ Home/ VInce/ Cobolsic/ Cobol-1001s/ Ocio	Page: 27
=====	========		=======
1037	*>**	****************	
1038	*> G	enerate a source + xref listing using 'LISTING' subroutine **	
1039	*>**	**************	
1040	GC0410 220	-Make-Listing SECTION.	
1041	GC0410	MOVE 'Generating listing' TO WS-Output-Msg-TXT	
1042	GC0410	DISPLAY S-Switches-SCR	
1043	GC0410	MOVE O TO RETURN-CODE	
1044	*>**	*****************	
1045	*> C:	reate the listing **	
1046	*>**	*****************	
1047	GC0410	MOVE SPACES TO WS-Output-Msg-TXT	
	GC0410	CALL 'LISTING' USING WS-Listing-Filename-TXT	
	GC0712	WS-File-Name-TXT	
	GC0712	WS-OS-Type-CD	
	GC1213	LPP	
	GC1213	LPPP	
	GC1213	WS-Listing-CD	
	GC0410	ON EXCEPTION	
	GC0410	MOVE 'LISTING module is not available'	
	GC0410	TO WS-Output-Msg-TXT	
	GC0410	MOVE 1 TO RETURN-CODE	
	GC0410	END-CALL	
	GC0410	IF RETURN-CODE = 0	
	GC0712	MOVE 'Source+Xref listing generated'	
	GC0712	TO WS-Output-Msg-TXT	
	GC0410	END-IF	
	GC0712	DISPLAY S-Switches-SCR	
	GC0712	CALL 'C\$SLEEP' USING 2	
	GC0712	PERFORM 250-Autoload-Listing	
1066	GC0410	•	

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

2017/07/22 /home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

```
Line Statement
                                                                   Page: 28
 1068
         1069
         *> Run the compiled program
 1072 GC0114 MOVE ' Preparing to run program ... press ENTER to close '
 1073 GC0114
             TO WS-Output-Msg-TXT
 1074 GC0114 DISPLAY S-Switches-SCR
 1075 GC0114 CALL 'C$SLEEP' USING 3
 1076 GC0909 MOVE SPACES TO WS-Cmd-TXT
 1077 GC0909 MOVE 1 TO WS-I-SUB
 1078
       *> If necessary, start with 'cobcrun' command
 1079
        *>*********************
 1080
 1081 GC0712 IF WS-CS-LIBRARY-CHR NOT = ' '
 1082
                STRING 'cobcrum ' DELIMITED SIZE
 1083
                      INTO WS-Cmd-TXT
 1084
                      WITH POINTER WS-I-SUB
 1085
             END-IF
 1086
         1087
         *> Add any necessary path prefix
 1088
        1089 GC0712 SET WS-RS-Double-Quote-Used-BOOL TO FALSE
 1090
             IF WS-Prog-Folder-TXT NOT = SPACES
 1091 GC0909
              IF WS-OS-Cygwin-BOOL AND WS-Prog-Folder-TXT (2:1) = ':'
 1092 GC0909
                  STRING '/cygdrive/'
 1093 GC0909
                       INTO WS-Cmd-TXT
 1094 GC0909
                       WITH POINTER WS-I-SUB
                  STRING LOWER-CASE(WS-Prog-Folder-TXT (1:1))
 1095 GC0909
 1096 GC0909
                      INTO WS-Cmd-TXT
 1097 GC0909
                       WITH POINTER WS-I-SUB
                 PERFORM
 1098 GC0909
 1099 GC0909
                       VARYING WS-J-SUB FROM 3 BY 1
 1100 GC0909
                       UNTIL WS-J-SUB > LENGTH(TRIM(WS-Prog-Folder-TXT))
                       IF WS-Prog-Folder-TXT (WS-J-SUB:1) = '\'
 1101 GC0909
 1102 GC0909
                          STRING '/'
 1103 GC0909
                             INTO WS-Cmd-TXT
 1104 GC0909
                             WITH POINTER WS-I-SUB
 1105 GC0909
                       ELSE
 1106 GC0909
                          STRING WS-Prog-Folder-TXT (WS-J-SUB:1)
                             INTO WS-Cmd-TXT
 1107 GC0909
 1108 GC0909
                             WITH POINTER WS-I-SUB
 1109 GC0909
                       END-IF
 1110 GC0909
                   END-PERFORM
 1111 GC0909
               ELSE
 1112 GC0410
                    STRING '"' TRIM(WS-Prog-Folder-TXT, TRAILING)
 1113 GC0909
                       INTO WS-Cmd-TXT
 1114 GC0909
                       WITH POINTER WS-I-SUB
 1115 GC0712
                    SET WS-RS-Double-Quote-Used-BOOL TO TRUE
 1116 GC0909
               END-IF
 1117 GC0712
               STRING WS-OS-Dir-CHR
                INTO WS-Cmd-TXT
 1118 GC0909
 1119 GC0909
                   WITH POINTER WS-I-SUB
```

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

```
Line Statement
                                                                          Page: 29
 1120 GC0909 ELSE
 1121 GC0909 IF WS-OS-Cygwin-BOOL OR WS-OS-UNIX-BOOL
                 STRING,./,
 1122 GC0900
1123 GC0909
1124 GC0909
1125 GC0909 END-IF
END-IF
 1122 GC0909
                         INTO WS-Cmd-TXT
                         WITH POINTER WS-I-SUB
 1128
         *> Insert program filename
         1129
 1130 GC0909 STRING TRIM(WS-Pgm-Nm-TXT,TRAILING)
 1131 GC0909 INTO WS-Cmd-TXT
1132 GC0909
                  WITH POINTER WS-I-SUB
 1134
         *> Insert proper extension
 1135
         *>********************
 1136 GC0712 IF WS-CS-LIBRARY-CHR = ', '
              IF WS-OS-Exe-Ext-CONST > ' '
 1137 GC0712
 1137 GC.
1138 GC0712
                      STRING WS-OS-Exe-Ext-CONST DELIMITED SPACE
 1139 GC0712
                         INTO WS-Cmd-TXT
 1140 GC0712
              END-IF
                         WITH POINTER WS-I-SUB
 1141 GC0712
 1142 GC0712 ELSE
              IF WS-OS-Lib-Ext-CONST > ' '
 1143 GC0712
 1144 GC0712 STRING WS-OS-Lib-Ext-CONST DELIMITED SPACE
1145 GC0712 INTO WS-Cmd-TXT
1146 GC0712 WITH POINTER WS-I-SUB
1147 GC0712 END-IF
 1148 GC0712 END-IF
 1149 GC0712 IF WS-RS-Double-Quote-Used-BOOL
 1150 GC0712 STRING '"' DELIMITED SIZE
 1151 GC0712 INTO WS-Cmd-TXT
1152 GC0712 WITH POINTER WS-
1153 GC0712 END-IF
1154 IF WS-CS-Args-TXT NOT =
                      WITH POINTER WS-I-SUB
               IF WS-CS-Args-TXT NOT = SPACES
 1154
 1154
1155 GC0809
                  STRING, TRIM(WS-CS-Args-TXT, TRAILING)
 1156
                      INTO WS-Cmd-TXT
 1157
                      WITH POINTER WS-I-SUB
              END-IF
 1158
 1159
          *>******************
 1160
          *> Run the program
          1161
 1162 GC0114 CALL X'E4'
1163 CALL 'SYSTEM' USING TRIM(WS-Cmd-TXT,TRAILING)
 1164 GC0712 MOVE SPACES TO WS-Output-Msg-TXT
 1165 GC0114 ACCEPT WS-Output-Msg-TXT(1:1) AT 0101
              PERFORM 900-Terminate
 1166
 1167
          * -- Control will NOT return
 1168
```

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

Line	Statement		Page: 30
1170	*>**	*****************	
1171	*> D	etermine if the program being compiled is a MAIN program **	
1172	*>**	*****************	
1173	240	-Find-LINKAGE-SECTION SECTION.	
1174		OPEN INPUT F-Source-Code-FILE	
1175	GC0712	MOVE ' ' TO WS-CS-LIBRARY-CHR	
1176		SET WS-RS-More-To-1st-Prog-BOOL TO TRUE	
1177		PERFORM UNTIL WS-RS-1st-Prog-Complete-BOOL	
1178		READ F-Source-Code-FILE AT END	
1179		CLOSE F-Source-Code-FILE	
1180		EXIT SECTION	
1181		END-READ	
1182	GC0712	CALL 'CHECKSRC'	
1183	GC0712	USING BY CONTENT F-Source-Code-REC	
1184	GC0712	BY REFERENCE WS-RS-Source-Record-Type-CHR	
1185		IF WS-RS-Source-Rec-Ident-BOOL	
1186		SET WS-RS-1st-Prog-Complete-BOOL TO TRUE	
1187		END-IF	
1188		END-PERFORM	
1189	GC0712	SET WS-RS-Source-Rec-Ignored-BOOL TO TRUE	
1190		PERFORM UNTIL WS-RS-Source-Rec-Linkage-BOOL	
1191		OR WS-RS-Source-Rec-Ident-BOOL	
1192		READ F-Source-Code-FILE AT END	
1193		CLOSE F-Source-Code-FILE	
1194		EXIT SECTION	
1195		END-READ	
1196	GC0712	CALL 'CHECKSRC'	
1197	GC0712	USING BY CONTENT F-Source-Code-REC	
1198	GC0712	BY REFERENCE WS-RS-Source-Record-Type-CHR	
1199		END-PERFORM	
1200		CLOSE F-Source-Code-FILE	
1201		IF WS-RS-Source-Rec-Linkage-BOOL	
1202	GC0712	MOVE SELCHAR TO WS-CS-LIBRARY-CHR	
1203		END-IF	
1204		•	

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Line Statement Page: 31

```
1207 GCO712*> Attempt to open the listing file as a command. This will - **
1208 GC1113*> if the user has associated filetype/extension 'gclst' with **
1209 GC0712*> an application - invoke the appropriate application to $\star \star$
1210 GC0712*> allow the user to view the listing.
1212 GC0712 250-Autoload-Listing SECTION.
1213 GC0712 EVALUATE TRUE
1214 GC0712 WHEN WS-OS-Windows-BOOL OR WS-OS-Cygwin-BOOL
1215 GC0712
1216 GC0712
1217 GC0712
                  MOVE SPACES TO WS-Cmd-TXT
                     STRING
                          'cmd /c '
1218 GC0712
                         TRIM(WS-Listing-Filename-TXT,TRAILING)
1219 GC0712
                         DELIMITED SIZE INTO WS-Cmd-TXT
               DELIMITED SIZE INTO NO COLL TRAILING)
CALL 'SYSTEM' USING TRIM(WS-Cmd-TXT,TRAILING)
1220 GC0712
1221 GC0712
                 WHEN WS-OS-OSX-BOOL
                 MOVE SPACES TO WS-Cmd-TXT
1222 GC0712
1223 GC0712
                     STRING
1224 GC0712
                         'open -t'
1225 GC0712
                         TRIM(WS-Listing-Filename-TXT,TRAILING)
1226 GC0712
                        DELIMITED SIZE INTO WS-Cmd-TXT
1227 GC0712
                     CALL 'SYSTEM' USING TRIM(WS-Cmd-TXT, TRAILING)
             END-EVALUATE
1228 GC0712
             *****************
1229 GC0712*>
1230 GC0712*>
              ** Since we had to do our own '-save-temps' when we
1231 GC0712*>
              ** compiled (in order to generate the cross-reference
1232 GC0712*> ** listing) we now need to clean up after ourselves.
1234 GC1112 DISPLAY S-Blank-SCR
1235 GC0712 IF WS-OS-Windows-BOOL
1236 GC0712 MOVE CONCATENATE('del ',TRIM(WS-Pgm-Nm-TXT,TRAILING))
1237 GC0712
1238 GC0712 ELSE
1239 GC0712
                   TO WS-Cmd-TXT
1239 GC0712 MOVE CONCATENATE('rm ',TRIM(WS-Pgm-Nm-TXT,TRAILING))
1240 GC0712 TO WS-Cmd-TYT
1241 GC0712 END-IF
1242 GC0712 CALL 'SYSTEM'
1243 GC0712
              USING CONCATENATE(TRIM(WS-Cmd-TXT,TRAILING),'.c')
1244 GC0712 CALL 'SYSTEM'
1245 GC0712 USING CON
1246 GC0712 CALL 'SYSTEM'
1247 GC0712 USING CON
1248 GC0712 CALL 'SYSTEM'
                USING CONCATENATE(TRIM(WS-Cmd-TXT,TRAILING),'.c.h')
              USING CONCATENATE(TRIM(WS-Cmd-TXT,TRAILING),'.c.1*.h')
1249 GC0712 USING CON
1250 GC0712 CALL 'SYSTEM'
              USING CONCATENATE(TRIM(WS-Cmd-TXT,TRAILING),'.i')
             USING CONCATENATE(TRIM(WS-Cmd-TXT,TRAILING),'.o')
1251 GC0712
1252
1253 GC0712
```

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

Line	Statement			Page: 3	32
	=======		=======================================		==
1255	*>*:	***************	*****		
1256	*>]	Display a message and halt the program	**		
1257	*>*:	***************	*****		
1258	900	O-Terminate SECTION.			
1259	GC0909	IF WS-Output-Msg-TXT > SPACES			
1260	GC0909	DISPLAY S-Switches-SCR			
1261	GC0909	CALL 'C\$SLEEP' USING 2			
1262	GC0909	END-IF			
1263		DISPLAY S-Blank-SCR			
1264		STOP RUN			
1265					
1266					
1267	ENI	PROGRAM GCic			

```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

Line	Statement	Page: 33				
=====						
1269	IDENTIFICATION DIVISION.	IDENTIFICATION DIVISION.				
1270	PROGRAM-ID. CHECKSRC.					
1271	*>*************************************	***				
1272	*> This subprogram will scan a line of source code it is given					
1273	*> looking for 'LINKAGE SECTION' or 'IDENTIFICATION DIVISION'.	**				
1274	*>	**				
1275	*> ****NOTE****	**				
1276	*>	**				
1277	*> These two strings must be found IN THEIR ENTIRETY within	**				
1278	*> the 1st 80 columns of program source records, and cannot	**				
1279	<pre>*> follow either a '*>' sequence OR a '*' in col 7.</pre>	**				
1280	*>**********************************	***				
1281	*> DATE CHANGE DESCRIPTION	**				
1282	*> ===== ==============================	**				
1283	*> GC0809 Initial coding.	**				
1284	*>***********************************	***				
1285	ENVIRONMENT DIVISION.					
1286	CONFIGURATION SECTION.					
1287	REPOSITORY.					
1288	FUNCTION ALL INTRINSIC.					
1289	DATA DIVISION.					
1290	WORKING-STORAGE SECTION.					
1291	01 WS-Compressed-Src-TXT.					
1292	05 WS-CS-CHR OCCURS 80 TIMES					
1293	PIC X(1).					
1294						
1295	01 WS-Runtime-Switches-TXT.					
1296	05 WS-RS-Found-SPACE-CHR PIC X(1).					
1297	88 WS-RS-Skipping-SPACE-BOOL VALUE 'Y'.					
1298	88 WS-RS-Not-Skipping-SPACE-BOOL VALUE 'N'.					
1299						
1300	01 WS-I-SUB USAGE BINARY-CHAR.					
1301						
1302	01 WS-J-SUB USAGE BINARY-CHAR.					
1303	LINKAGE SECTION.					
1304	01 L-Argument-1-TXT.					
1305	02 L-A1-CHR OCCURS 80 TIMES					
1306	PIC X(1).					
1307						
1308	01 L-Argument-2-CHR PIC X(1).					
1309	88 L-A2-LINKAGE-SECTION-BOOL VALUE 'L'.					
1310	88 L-A2-IDENT-DIVISION-BOOL VALUE 'I'.					
1311	88 L-A2-Nothing-Special-BOOL VALUE ' '.					

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/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl Line Statement Page: 34

```
1313 GCO712 PROCEDURE DIVISION USING BY VALUE
                                                 L-Argument-1-TXT
1314 GC0712
                              BY REFERENCE L-Argument-2-CHR.
           000-Main SECTION.
1316
                SET L-A2-Nothing-Special-BOOL TO TRUE
1317
                IF L-A1-CHR (7) = **
1318
                   GOBACK
                END-IF
1319
1320
         *>
1321
1322
          *> Compress multiple consecutive spaces
1323
                SET WS-RS-Not-Skipping-SPACE-BOOL TO TRUE
1324
                MOVE O TO WS-J-SUB
1325
1326
                MOVE SPACES TO WS-Compressed-Src-TXT
1327
                PERFORM VARYING WS-I-SUB FROM 1 BY 1
1328
                          UNTIL WS-I-SUB > 80
1329
                    IF L-A1-CHR (WS-I-SUB) = SPACE
1330
                        IF WS-RS-Not-Skipping-SPACE-BOOL
1331
                            ADD 1 TO WS-J-SUB
1332
                            MOVE UPPER-CASE(L-A1-CHR (WS-I-SUB))
1333
                              TO WS-CS-CHR (WS-J-SUB)
1334
                            SET WS-RS-Skipping-SPACE-BOOL TO TRUE
                        FND-TF
1335
                    ELSE
1336
1337
                        SET WS-RS-Not-Skipping-SPACE-BOOL TO TRUE
1338
                        ADD 1 TO WS-J-SUB
                        MOVE L-A1-CHR (WS-I-SUB) TO WS-CS-CHR (WS-J-SUB)
1339
1340
                    END-IF
                END-PERFORM
1341
1342
          *>
1343
          *> Scan the compressed source line
1344
1345
                PERFORM VARYING WS-I-SUB FROM 1 BY 1
                          UNTIL WS-I-SUB > 66
1346
1347
                    EVALUATE TRUE
                        WHEN WS-CS-CHR (WS-I-SUB) = '*'
1348
1349
                            IF WS-Compressed-Src-TXT (WS-I-SUB : 2) = '*>'
1350
                                GOBACK
1351
                           END-IF
                        WHEN (WS-CS-CHR (WS-I-SUB) = 'L') AND (WS-I-SUB < 66)
1352
1353
                            IF WS-Compressed-Src-TXT (WS-I-SUB : 15)
1354
                               = 'LINKAGE SECTION'
1355
                                SET L-A2-LINKAGE-SECTION-BOOL TO TRUE
1356
                                GOBACK
1357
                            FND-TF
                        WHEN (WS-CS-CHR (WS-I-SUB) = 'I') AND (WS-I-SUB < 58)
1358
                            IF WS-Compressed-Src-TXT (WS-I-SUB : 23)
1359
1360
                               = 'IDENTIFICATION DIVISION'
                                SET L-A2-IDENT-DIVISION-BOOL TO TRUE
1361
1362
                                GOBACK
                            END-IF
1363
1364
                    END-EVALUATE
```

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	/home/vince/cobolsrc/Cobol-	-Tools/ocic/GCic.cbl
Line	Statement	Page: 35
1265	END DEDECOM	
1365 1366	END-PERFORM *>	
1367 1368	<pre>*> If we get to here, we never found anything! *></pre>	
1369		
1309	T GUDACK	
1370	END PROGRAM CHECKSRC.	
1371	END PROGRAM CHECKSRC.	
1372	IDENTIFICATION DIVISION.	
1374	PROGRAM-ID. LISTING.	
1375	*>************************************	k *
1376		· · * *
1377		· · * *
1378	*>*************************************	
1379		**
1380		**
1381		**
1382		**
1383		**
1384	• •	**
1385	*>******************	
1386		**
1387		**
1388		* *
1389		* *
1390	*> GC0710 Handle duplicate data names (i.e. 'CORRESPONDING' or	**
1391		* *
1392		**
1393		**
1394		**
1395	_	**
1396	*> GC1213 Updated for 23NOV2013 version of GNU COBOL 2.1; Stop	**
1397	*> showing functions as if they were identifiers in the	
1398	*> xref listing; Flag all CALL argument references with	
1399	*> a "C" rather than "*" because they aren't necessari-	
1400		**
1401		* *
1402	*> GC0314 Fix problem where 1st char of 1st token on a line is	**
1403	*> lost if >>SOURCE MODE IS FREE is in effect and the	**
1404	<pre>*> 1st character is non-blank.</pre>	**
1405	*>*************************************	**
1406	ENVIRONMENT DIVISION.	
1407	CONFIGURATION SECTION.	
1408	REPOSITORY.	
1409	FUNCTION ALL INTRINSIC.	
1410	INPUT-OUTPUT SECTION.	
1411	FILE-CONTROL.	
1412	SELECT F-Expanded-Src-FILE ASSIGN TO WS-Expanded-Src-Fn-T	KT
1413	ORGANIZATION IS LINE SEQUENTIA	
1414	GCO712 SELECT F-Listing-FILE ASSIGN TO L-Listing-Fn-TXT	
1415	ORGANIZATION IS LINE SEQUENTIA	
1416	SELECT F-Original-Src-FILE ASSIGN TO L-Src-Fn-TXT	
1417	ORGANIZATION IS LINE SEQUENTIA	J.

GNUCOBOL 2.2 20JUL2017 Source Listing

				/home,	/vince/cobol	.src/Cobo	l-Tools/ocic/	GCic.cbl
Line	Stateme							Page: 36
		====	CELECT E Coopt Marsle ELLE	ASSIGN TO			========	======
1418 1419		ДΔТ	SELECT F-Sort-Work-FILE A DIVISION.	ASSIGN IU	DISK.			
1420			E SECTION.					
1421			F-Expanded-Src-FILE.					
1422			F-Expanded-Src-REC.					
1423		01	05 F-ES-1-CHR		PIC X.			
1424			05 F-ES-2-256-TXT-256		PIC X(256).			
		01	F-Expanded-Src2-REC.		1 20 11(200)			
	GC0712		05 F-ES-1-7-TXT		PIC X(7).			
	GC0712		05 F-ES-8-256-TXT		PIC X(249).			
1428								
1429	GC0712	FD	F-Listing-FILE.					
			F-Listing-96-REC		PIC X(96).			
			F-Listing-135-REC		PIC X(135).			
1432			F-Listing-REC		PIC X(135).			
1433			-					
1434		FD	F-Original-Src-FILE.					
1435		01	F-Original-Src-REC.					
1436	GC0410		05 F-OS-1-128-TXT.					
1437	GC0410		10 FILLER		PIC X(6).			
1438	GC0410		10 F-OS-7-CHR		PIC X(1).			
1439	GC0712		10 F-OS-8-72-TXT		PIC X(65).			
1440	GC0712		10 FILLER		PIC X(56).			
1441			05 F-OS-129-256-TXT		PIC X(128).			
1442								
1443		SD	F-Sort-Work-FILE.					
1444		01	F-Sort-Work-REC.					
1445			05 F-SW-Prog-ID-TXT		PIC X(15).			
1446			05 F-SW-Token-Uc-TXT		PIC X(32).			
1447			05 F-SW-Token-TXT		PIC X(32).			
1448			05 F-SW-Section-TXT		PIC X(15).			
1449			05 F-SW-Def-Line-NUM		PIC 9(6).			
1450			05 F-SW-Reference-TXT.		DTG 0(0)			
1451			10 F-SW-Ref-Line-NUM		PIC 9(6).			
1452			10 F-SW-Ref-Flag-CHR		PIC X(1).			
1453 1454		מחנז	VING_CTODACE CECTION					
			KING-STORAGE SECTION.		PIC X(86).			
1456	GC1Z13	OI	WS-Copyright-TXT		FIC A(00).			
1457		01	WS-Curr-CHR		PIC X(1).			
1458		O1	88 WS-Curr-Char-Is-Punct-BO	זר	VALUE '=',	,(, ,),		
1459			oo wb carr onar is rance bo	111		,/,, ,&,		
1460						',', '<'		
1461					, , ,>,,		,	
1462			88 WS-Curr-Char-Is-Quote-BO	OL	VALUE "',",			
1463			88 WS-Curr-Char-Is-X-BOOL		VALUE 'x',			
1464			88 WS-Curr-Char-Is-Z-BOOL		VALUE 'z',			
1465					,			
1466		01	WS-Curr-Division-TXT		PIC X(1).			
	GC1010		88 WS-CD-In-IDENT-DIV-BOOL		VALUE 'i',	'I', '?'		
	GC1010		88 WS-CD-In-ENV-DIV-BOOL		VALUE 'e',			
	GC1010		88 WS-CD-In-DATA-DIV-BOOL		VALUE 'd',			
	GC1010		88 WS-CD-In-PROC-DIV-BOOL		VALUE 'p',			
					•			

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Line	Statemen	ıt		/ Home/ VInce/ Cobolsic/ Cobol-1001s/ C	Page: 37
1471					
1472	0)1	WS-Curr-Line-NUM	PIC 9(6).	
1473					
1474	0)1	WS-Curr-Prog-ID-TXT.		
1475			05 FILLER	PIC X(12).	
1476			05 WS-CPI-13-15-TXT	PIC X(3).	
1477	GC0712		05 WS-CPI-16-CHR	PIC X(1).	
1478					
1479	0		WS-Curr-Section-TXT.		
1480			05 WS-CS-1-CHR	PIC X(1).	
1481			05 WS-CS-2-14-TXT.		
1482			10 FILLER	PIC X(10).	
1483			10 WS-CS-11-14-TXT	PIC X(3).	
1484			05 WS-CS-15-CHR	PIC X(1).	
1485		١	UG Garage Wards TVT	DIG *(10)	
1486) 1	WS-Curr-Verb-TXT	PIC X(12).	
1487 1488		١1	WS-Delim-TXT	PIC X(2).	
1489		1	WS-Delim-IXI	PIC X(2).	
1409)1	WS-Dummy-TXT	PIC X(1).	
1491		, 1	ws Duning TXI	110 K(1).	
1492)1	WS-Expanded-Src-Fn-TXT	PIC X(256).	
1493		-	We disputate bie in ini	110 11(200).	
1494)1	WS-Filename-TXT	PIC X(256).	
1495					
1496	GC1213 0)1	WS-Flags-TXT.		
1497	GC1213		05 WS-Suppress-FF-CHR	PIC X(1).	
1498					
1499	GC1213 0)1	WS-Formatted-DT	PIC 9999/99/99.	
1500					
1501)1	WS-Group-Indicators-TXT.		
1502			05 WS-GI-Prog-ID-TXT	PIC X(15).	
1503			05 WS-GI-Token-TXT	PIC X(32).	
1504			IIG II 3 1 D C	DIG W(400)	
1505)1	WS-Held-Reference-TXT	PIC X(100).	
1506		١1	LIC_T_CIID	IICACE DINADVI ONO	
1507 1508)1	WS-I-SUB	USAGE BINARY-LONG.	
1508		11	WS-J-SUB	USAGE BINARY-LONG.	
1510		, 1	WD 3 DOD	ODAGE DINART LONG.	
1511)1	WS-Lines-Left-NUM	USAGE BINARY-LONG.	
1512		-	We define a serie were	02.142 22.11.11	
1513)1	WS-Lines-Per-Page-NUM	USAGE BINARY-LONG.	
1514					
1515	0)1	WS-Lines-Per-Page-Env-TXT	PIC X(256).	
1516			_		
1517	GC1010 0)1	WS-Main-Module-Name-TXT	PIC X(256).	
1518					
1519)1	WS-Next-CHR	PIC X(1).	
1520			88 WS-Next-Char-Is-Quote-BOOL	VALUE '"', "'".	
1521					
1522)1	71		
1523			05 VALUE 'Windows'	PIC X(14).	

Chapter 5 - GCic

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GNOCOBOL 2.2 2030L2017 Boulce Listing		nzorr bource risting	/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl		
Line	Stateme			.======================================	Page: 38
1524			05 VALUE 'Windows/Cygwin'	PIC X(14).	
1525			05 VALUE 'UNIX/Linux'	PIC X(14).	
1526			05 VALUE 'OSX'	PIC X(14).	
1527			O5 VALUE 'Windows/MinGW'		
1528		01	WS-OS-Types-TXT REDEFINES WS-O		
1529			05 WS-OS-Type-TXT	PIC X(14)	
1530				OCCURS 5 TIMES .	
1531					
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1533		0.1	UG D N. TYT		
			WS-Page-No-TXT.	DIG V(c)	
1535	GC0712		05 WS-PN-Literal-TXT 05 WS-PN-Page-NUM	PIC X(6). PIC Z(3)9.	
1530			OS WS-FN-Fage-NOM	FIC Z(3)9.	
	GC1213	01	WS-Program-Path-TXT	PIC X(135).	
1539		Λ1	WS-Reserved-Words-TXT.		
1541		01	O5 VALUE '	, bic X(33).	
	GC1213		05 VALUE 'FABS	' PIC X(33).	
1543			O5 VALUE 'VACCEPT	, bic x(33).	
1544			05 VALUE ' ACCESS	, bic X(33).	
			O5 VALUE 'FACOS	, bic X(33).	
1546			05 VALUE ' ACTIVE-CLASS	, bic X(33).	UNIMPLEMENTED
1547			O5 VALUE 'VADD	' PIC X(33).	
1548			O5 VALUE ' ADDRESS	, bic X(33).	
1549			O5 VALUE ' ADVANCING	, PIC X(33).	
1550			O5 VALUE 'KAFTER	, bic X(33).	
1551			O5 VALUE ' ALIGNED	' PIC X(33).	UNIMPLEMENTED
1552			O5 VALUE ' ALL	' PIC X(33).	
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1556			O5 VALUE ' ALPHABETIC-LOWER	' PIC X(33).	
1557			05 VALUE 'ALPHABETIC-UPPER		
1558			05 VALUE ' ALPHANUMERIC	' PIC X(33).	
1559			05 VALUE , ALPHANUMERIC-EDITED		
1560			05 VALUE , ALSO	' PIC X(33).	
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1565			O5 VALUE ' ANY	, bic x(33).	
1566			O5 VALUE ' ANYCASE	' PIC X(33).	UNIMPLEMENTED
1567			O5 VALUE ' ARE	, bic x(33).	
1568			O5 VALUE ' AREA	, bic X(33).	
1569			O5 VALUE ' AREAS	, bic X(33).	
1570			05 VALUE ' ARGUMENT-NUMBER	, bic X(33).	
1571			O5 VALUE ' ARGUMENT-VALUE	' PIC X(33).	
1572			O5 VALUE ' ARITHMETIC	, bic X(33).	UNIMPLEMENTED
1573			05 VALUE ' AS	, bic X(33).	
1574			05 VALUE ' ASCENDING	, bic X(33).	
1575			05 VALUE ' ASCII	, PIC X(33).	
1576	GC1213		05 VALUE 'FASIN	' PIC X(33).	

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1578		O5 VALUE , AT	, bic x(33).	
	GC1213	O5 VALUE 'FATAN	, bic X(33).	
	GC0711	O5 VALUE ' ATTRIBUTE	' PIC X(33).	
1581		O5 VALUE ' AUTHOR	, bic X(33).	OBSOLETE
1582		O5 VALUE ' AUTO	' PIC X(33).	02202212
1583		05 VALUE ' AUTO-SKIP	, bic X(33).	
1584		O5 VALUE ' AUTOMATIC	, bic X(33).	
1585		O5 VALUE ' AUTOTERMINATE	, PIC X(33).	
1586		O5 VALUE ' AWAY-FROM-ZERO	, PIC X(33).	
1587		O5 VALUE ' B-AND	, PIC X(33).	UNIMPLEMENTED
1588		O5 VALUE ' B-NOT	, PIC X(33).	UNIMPLEMENTED
1589		O5 VALUE ' B-OR	, PIC X(33).	UNIMPLEMENTED
1590		O5 VALUE ' B-XOR	' PIC X(33).	UNIMPLEMENTED
1591		O5 VALUE ' BACKGROUND-COLOR	' PIC X(33).	
1592		05 VALUE ' BACKGROUND-COLOUR	' PIC X(33).	
1593		O5 VALUE ' BASED	' PIC X(33).	
1594		O5 VALUE ' BEEP	, PIC X(33).	
1595		O5 VALUE ' BEFORE	' PIC X(33).	
1596		05 VALUE ' BELL	' PIC X(33).	
1597		O5 VALUE ' BINARY	' PIC X(33).	
1598		O5 VALUE ' BINARY-C-LONG	' PIC X(33).	
1599		05 VALUE ' BINARY-CHAR	' PIC X(33).	
1600		O5 VALUE ' BINARY-DOUBLE	' PIC X(33).	
1601		O5 VALUE ' BINARY-INT	, bic x(33).	
1602		O5 VALUE ' BINARY-LONG	' PIC X(33).	
1603		O5 VALUE ' BINARY-LONG-LONG	' PIC X(33).	
1604		05 VALUE 'BINARY-SHORT	' PIC X(33).	
1605		O5 VALUE ' BIT	' PIC X(33).	UNIMPLEMENTED
1606		05 VALUE ' BLANK	' PIC X(33).	
1607		05 VALUE ' BLINK	' PIC X(33).	
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1609		05 VALUE , BOOLEAN	' PIC X(33).	UNIMPLEMENTED
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1611 1612		OS VALUE 'YBY	PIC X(33).	
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1614		05 VALUE 'MCO1	, bic x(33).	
1615		05 VALUE 'MCO2	, bic x(33).	
1616		05 VALUE 'MCO3	, bic x(33).	
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1618		05 VALUE 'MCO5	' PIC X(33).	
1619		05 VALUE 'MC06	, bic X(33).	
1620		05 VALUE 'MCO7	, bic X(33).	
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1622		05 VALUE 'MC09	, PIC X(33).	
1623		O5 VALUE 'MC10	, bic X(33).	
1624		O5 VALUE 'MC11	, bic X(33).	
1625		05 VALUE 'MC12	, PIC X(33).	
1626		O5 VALUE 'VCALL	, bic X(33).	
1627		O5 VALUE 'MCALL-CONVENTION	, bic X(33).	
1628		O5 VALUE 'VCANCEL	' PIC X(33).	
1629		O5 VALUE ' CAPACITY	, bic X(33).	UNIMPLEMENTED

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1630			, PIC X(33).	OBSOLETE
1631		O5 VALUE 'CENTER	, bic x(33).	UNIMPLEMENTED
1632		O5 VALUE ' CF	, bic X(33).	VIII 22
1633		05 VALUE , CH	, bic X(33).	
1634		O5 VALUE ' CHAIN	, bic X(33).	UNIMPLEMENTED
1635		O5 VALUE ' CHAINING	, bic X(33).	
	GC1213	05 VALUE 'FCHAR	, bic X(33).	
	GC1213	05 VALUE 'FCHAR-NATIONAL	, bic X(33).	UNIMPLEMENTED
1638		05 VALUE ' CHARACTER	, PIC X(33).	
1639		05 VALUE ' CHARACTERS	, bic x(33).	
1640		05 VALUE ' CLASS	, bic x(33).	
1641		05 VALUE ' CLASS-ID	, bic x(33).	UNIMPLEMENTED
1642	GC0711	O5 VALUE ' CLASSIFICATION	, bic X(33).	
1643		05 VALUE 'VCLOSE	, PIC X(33).	
1644	GC1213	05 VALUE 'FCOB-CRT-STATUS	, PIC X(33).	
1645		O5 VALUE ' CODE	' PIC X(33).	
1646		05 VALUE ' CODE-SET	' PIC X(33).	
1647		05 VALUE ' COL	' PIC X(33).	
1648		O5 VALUE ' COLLATING	' PIC X(33).	
1649		05 VALUE ' COLS	' PIC X(33).	
1650		O5 VALUE ' COLUMN	' PIC X(33).	
1651		05 VALUE ' COLUMNS	' PIC X(33).	
1652	GC1213	05 VALUE 'FCOMBINED-DATETIME	' PIC X(33).	
1653		O5 VALUE ' COMMA	' PIC X(33).	
1654		05 VALUE ' COMMAND-LINE	' PIC X(33).	
1655		05 VALUE 'VCOMMIT	' PIC X(33).	
1656		05 VALUE ' COMMON	' PIC X(33).	
1657		O5 VALUE ' COMMUNICATION	' PIC X(33).	OBSOLETE
1658		O5 VALUE ' COMP	' PIC X(33).	
1659		05 VALUE ' COMP-1	' PIC X(33).	
1660		05 VALUE ' COMP-2	' PIC X(33).	
1661		05 VALUE ' COMP-3	' PIC X(33).	
1662		05 VALUE ' COMP-4	, bic X(33).	
1663		05 VALUE ' COMP-5	' PIC X(33).	
1664		05 VALUE ' COMP-6	' PIC X(33).	
1665		O5 VALUE ' COMP-X	' PIC X(33).	
1666		O5 VALUE ' COMPUTATIONAL	' PIC X(33).	
1667		O5 VALUE ' COMPUTATIONAL-1	' PIC X(33).	
1668		05 VALUE ' COMPUTATIONAL-2	' PIC X(33).	
1669		05 VALUE ' COMPUTATIONAL-3	' PIC X(33).	
1670		O5 VALUE , COMPUTATIONAL-4	' PIC X(33).	
1671		O5 VALUE , COMPUTATIONAL-5	' PIC X(33).	
1672		O5 VALUE , COMPUTATIONAL-X	' PIC X(33).	
1673		O5 VALUE 'VCOMPUTE	' PIC X(33). ' PIC X(33).	
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		OF VALUE ACCONDITION	' PIC X(33). ' PIC X(33).	
1676 1677		05 VALUE 'KCONFIGURATION 05 VALUE 'MCONSOLE	, bic x(33).	
1678		O5 VALUE ' MCONSULE O5 VALUE ' CONSTANT	PIC X(33).	
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	GC0712	O5 VALUE ' CONTAINS O5 VALUE 'ACONTENT	, bic x(33).	
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1681 1682		O5 VALUE ' CONTROL	, bic x(33).	
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1683		05 VALUE , CONTROLS	' PIC X(33).	
	GC0711	O5 VALUE ' CONVERSION O5 VALUE 'KCONVERTING	' PIC X(33).	
1685 1686		O5 VALUE ' COPY	' PIC X(33). ' PIC X(33).	
1687		OS VALUE ' COPY	PIC X(33).	
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1688	GC1213	05 VALUE ' CORRESPONDING 05 VALUE 'FCOS	PIC X(33).	
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1690		05 VALUE ' CRT	PIC X(33).	
1691		05 VALUE ' CRT-UNDER	PIC X(33).	
1692 1693		05 VALUE 'MCSP	PIC X(33).	
1694		05 VALUE 'CURRENCY	PIC X(33).	
	GC1213	05 VALUE 'FCURRENCY-SYMBOL	PIC X(33).	
	GC1213	05 VALUE 'FCURRENT-DATE	PIC X(33).	
1697		05 VALUE ' CURSOR	PIC X(33).	
1698		OS VALUE , CYCLE	PIC X(33).	
1699		OS VALUE 'KDATA	PIC X(33).	
1700		O5 VALUE ' DATA-POINTER	PIC X(33).	UNIMPLEMENTED
1700		OS VALUE DATA FOINTEN	, bic x(33).	ON THE LEMENTED
1701		05 VALUE ' DATE-COMPILED	PIC X(33).	OBSOLETE
1702		OS VALUE ' DATE COMPTLED	PIC X(33).	OBSOLETE
	GC1213	O5 VALUE 'FDATE-OF-INTEGER	PIC X(33).	ODSOLETE
	GC1213	OS VALUE 'FDATE OF INTEGER	PIC X(33).	
1705		OS VALUE ' DATE-WRITTEN	PIC X(33).	OBSOLETE
1707		OS VALUE , DAY	, bic x(33).	ODDOLLIL
	GC1213	05 VALUE 'FDAY-OF-INTEGER	, bic x(33).	
1700		OS VALUE ' DAY-OF-WEEK	, bic x(33).	
	GC1213	O5 VALUE 'IDAY-TO-YYYYDDD	, bic x(33).	
1711		OS VALUE ' DE	, bic x(33).	
	GC0712	05 VALUE 'IDEBUG-CONTENTS	, bic x(33).	
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	GC0712	05 VALUE 'IDEBUG-LINE	, bic x(33).	
	GC0712	O5 VALUE 'IDEBUG-NAME	, bic x(33).	
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1719		O5 VALUE ' DEBUGGING	, bic x(33).	
1720		O5 VALUE ' DECIMAL-POINT	, bic x(33).	
1721		O5 VALUE ' DECLARATIVES	' PIC X(33).	
1722		O5 VALUE ' DEFAULT	' PIC X(33).	
1723		05 VALUE 'VDELETE	, bic x(33).	
1724		O5 VALUE ' DELIMITED	, bic x(33).	
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1728		O5 VALUE ' DESTINATION	' PIC X(33).	UNIMPLEMENTED
1729		O5 VALUE , DETAIL	, bic x(33).	7 <u></u>
	GC0711	O5 VALUE ' DISC	, bic x(33).	
1731		05 VALUE , DISK	, bic x(33).	
1732		O5 VALUE 'VDISPLAY	, bic x(33).	
	GC1213	05 VALUE 'FDISPLAY-OF	, bic x(33).	UNIMPLEMENTED
1734		O5 VALUE 'VDIVIDE	, bic x(33).	7 <u></u>
1735		O5 VALUE 'KDIVISION	PIC X(33).	
2.00			- 10 11(00).	

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1736		======================================	, PIC X(33).	
1737		05 VALUE ' DUPLICATES	, bic x(33).	
1738		O5 VALUE ' DYNAMIC	, bic x(33).	
	GC1213	05 VALUE 'FE	, bic x(33).	
1740		O5 VALUE ' EBCDIC	, bic X(33).	
	GC0712	O5 VALUE ' EC	, bic x(33).	
1742		O5 VALUE ' EGI	' PIC X(33).	OBSOLETE
1743		05 VALUE 'VELSE	, bic X(33).	02202212
1744		O5 VALUE ' EMI	, bic X(33).	OBSOLETE
1745		O5 VALUE ' EMPTY-CHECK	' PIC X(33).	
1746		O5 VALUE 'VENABLE	' PIC X(33).	OBSOLETE
1747	GC0710	O5 VALUE 'KEND	, PIC X(33).	
1748		O5 VALUE ' END-ACCEPT	, PIC X(33).	
1749		O5 VALUE ' END-ADD	, bic X(33).	
1750		O5 VALUE ' END-CALL	, PIC X(33).	
1751		O5 VALUE ' END-CHAIN	, PIC X(33).	UNIMPLEMENTED
1752		O5 VALUE ' END-COMPUTE	, PIC X(33).	
1753		O5 VALUE ' END-DELETE	, PIC X(33).	
1754		O5 VALUE ' END-DISPLAY	, PIC X(33).	
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1756		O5 VALUE ' END-EVALUATE	, PIC X(33).	
1757		O5 VALUE ' END-IF	, PIC X(33).	
1758		O5 VALUE ' END-MULTIPLY	, PIC X(33).	
1759		O5 VALUE ' END-OF-PAGE	, PIC X(33).	
1760		O5 VALUE ' END-PERFORM	, PIC X(33).	
1761		O5 VALUE ' END-READ	, PIC X(33).	
1762		05 VALUE ' END-RECEIVE	, PIC X(33).	OBSOLETE
1763		05 VALUE ' END-RETURN	, PIC X(33).	
1764		O5 VALUE ' END-REWRITE	, PIC X(33).	
1765		05 VALUE ' END-SEARCH	, PIC X(33).	
1766		05 VALUE ' END-START	, PIC X(33).	
1767		05 VALUE ' END-STRING	, bic X(33).	
1768		05 VALUE ' END-SUBTRACT	' PIC X(33).	
1769		05 VALUE ' END-UNSTRING	' PIC X(33).	
1770		O5 VALUE ' END-WRITE	' PIC X(33).	
1771		O5 VALUE 'VENTRY	' PIC X(33).	
1772		O5 VALUE ' ENTRY-CONVENTION	' PIC X(33).	UNIMPLEMENTED
1773		O5 VALUE 'KENVIRONMENT	' PIC X(33).	
1774		O5 VALUE ' ENVIRONMENT-NAME	, bic X(33).	
1775		O5 VALUE ' ENVIRONMENT-VALUE	' PIC X(33).	
1776		O5 VALUE ' EO	' PIC X(33).	UNIMPLEMENTED
1777		O5 VALUE ' EOL	' PIC X(33).	
1778		O5 VALUE ' EOP	' PIC X(33).	
1779		05 VALUE ' EOS	' PIC X(33).	
1780		O5 VALUE ' EQUAL	' PIC X(33).	
1781		05 VALUE 'KEQUALS	' PIC X(33).	
1782		05 VALUE ' ERASE	' PIC X(33).	
1783		O5 VALUE 'ERROR	' PIC X(33).	
1784		05 VALUE ' ESCAPE	' PIC X(33).	
1785		05 VALUE ' ESI	, bic x(33).	OBSOLETE
1786		O5 VALUE 'VEVALUATE	' PIC X(33).	
1787		O5 VALUE ' EXCEPTION	' PIC X(33).	
1788	GC1213	05 VALUE 'FEXCEPTION-FILE	' PIC X(33).	

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1791		O5 VALUE ' EXCEPTION LOCATION N	, bic x(33).	UNIMPLEMENTED
	GC1213	05 VALUE 'FEXCEPTION-STATEMENT	, bic X(33).	ONTIN EDILLINIED
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1795	dolllo	05 VALUE ' EXCLUSIVE	, bic X(33).	
1796		O5 VALUE 'VEXIT	, bic X(33).	
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1799		05 VALUE ' EXPANDS	, bic X(33).	UNIMPLEMENTED
1800		O5 VALUE ' EXTEND	, PIC X(33).	
1801		O5 VALUE ' EXTERNAL	, bic X(33).	
1802	GC1213	05 VALUE 'FFACTORIAL	, PIC X(33).	
1803		O5 VALUE ' FACTORY	, bic X(33).	UNIMPLEMENTED
1804		05 VALUE ' FALSE	, PIC X(33).	
1805		05 VALUE 'KFD	, PIC X(33).	
1806		05 VALUE 'KFILE	, PIC X(33).	
1807		05 VALUE ' FILE-CONTROL	, PIC X(33).	
1808		O5 VALUE ' FILE-ID	, bic X(33).	
1809	GC1113	O5 VALUE ' FILLER	' PIC X(33).	
1810		O5 VALUE ' FINAL	' PIC X(33).	
1811		05 VALUE ' FIRST	' PIC X(33).	
1812	GC0712	05 VALUE ' FLOAT-BINARY-128	, bic X(33).	UNIMPLEMENTED
1813	GC0712	05 VALUE ' FLOAT-BINARY-32	' PIC X(33).	UNIMPLEMENTED
1814	GC0712	05 VALUE ' FLOAT-BINARY-64	' PIC X(33).	UNIMPLEMENTED
1815		05 VALUE ' FLOAT-DECIMAL-16	' PIC X(33).	
1816		05 VALUE ' FLOAT-DECIMAL-34	' PIC X(33).	
1817		O5 VALUE ' FLOAT-EXTENDED	' PIC X(33).	UNIMPLEMENTED
	GC0712	O5 VALUE ' FLOAT-INFINITY	' PIC X(33).	UNIMPLEMENTED
1819		O5 VALUE ' FLOAT-LONG	' PIC X(33).	
	GC0712	O5 VALUE ' FLOAT-NOT-A-NUMBER	' PIC X(33).	UNIMPLEMENTED
1821		O5 VALUE ' FLOAT-SHORT	' PIC X(33).	
1822		05 VALUE ' FOOTING	' PIC X(33).	
1823		05 VALUE ' FOR	' PIC X(33).	
1824		05 VALUE ' FOREGROUND-COLOR	' PIC X(33).	
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1827	GC1213	05 VALUE 'FORMAT 05 VALUE 'FFORMATTED-CURRENT-DA		UNIMPLEMENTED UNIMPLEMENTED
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1832		05 VALUE 'MFORMFEED	, bic x(33).	ONTHELENENTED
	GC1213	05 VALUE 'FFRACTION-PART	, bic x(33).	
1834		05 VALUE 'VFREE	, bic X(33).	
1835		O5 VALUE ' FROM	, bic X(33).	
1836		O5 VALUE ' FULL	, bic x(33).	
1837		O5 VALUE ' FUNCTION	, bic x(33).	
	GC0712	05 VALUE 'KFUNCTION-ID	, bic x(33).	
1839		05 VALUE ' FUNCTION-POINTER	, bic x(33).	UNIMPLEMENTED
1840		O5 VALUE 'VGENERATE	' PIC X(33).	
1841		05 VALUE ' GET	, PIC X(33).	UNIMPLEMENTED

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1843		O5 VALUE ' GLOBAL	, bic x(33).	
1844		O5 VALUE 'VGO	, bic X(33).	
1845		O5 VALUE 'VGOBACK	, bic X(33).	
1846		O5 VALUE ' GREATER	, bic X(33).	
1847		O5 VALUE ' GROUP	' PIC X(33).	
1848		05 VALUE ' GROUP-USAGE	' PIC X(33).	UNIMPLEMENTED
1849		O5 VALUE ' HEADING	' PIC X(33).	
1850		O5 VALUE ' HIGH-VALUE	' PIC X(33).	
1851		O5 VALUE ' HIGH-VALUES	' PIC X(33).	
1852	GC1213	05 VALUE 'FHIGHEST-ALGEBRAIC	' PIC X(33).	
1853		O5 VALUE ' HIGHLIGHT	' PIC X(33).	
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2003		O5 VALUE ' OR	, bic X(33).	
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2010		O5 VALUE ' OTHER	, bic x(33).	
2011		O5 VALUE ' OUTPUT	, bic x(33).	
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2019		05 VALUE ' PARAGRAPH	' PIC X(33).	
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2029		05 VALUE ' POSITIVE	' PIC X(33).	INTERNET ENGINEED
2030		05 VALUE , PREFIXED	' PIC X(33).	UNIMPLEMENTED
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2040		O5 VALUE ' PROGRAM	, bic X(33).	
2041		O5 VALUE 'KPROGRAM-ID	, bic X(33).	
2042		O5 VALUE ' PROGRAM-POINTER	, bic X(33).	
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2045		O5 VALUE ' PROPERTY	, bic x(33).	UNIMPLEMENTED
2046		O5 VALUE ' PROTOTYPE	, bic X(33).	UNIMPLEMENTED
2047		O5 VALUE ' PURGE	, bic X(33).	OBSOLETE
2048		O5 VALUE ' QUEUE	, bic X(33).	OBSOLETE
2049		O5 VALUE ' QUOTE	, bic X(33).	
2050		O5 VALUE ' QUOTES	' PIC X(33).	
2051		O5 VALUE ' RAISE	' PIC X(33).	UNIMPLEMENTED
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2057		O5 VALUE 'VREADY	, bic x(33).	
2058		05 VALUE 'VRECEIVE	' PIC X(33).	OBSOLETE
2059		05 VALUE ' RECORD	, bic x(33).	ODDODLIL
2060		05 VALUE ' RECORDING	' PIC X(33).	
2061		O5 VALUE ' RECORDS	' PIC X(33).	
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2067		O5 VALUE ' RELATION	, bic X(33).	UNIMPLEMENTED
2068		O5 VALUE ' RELATIVE	' PIC X(33).	
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2071		O5 VALUE 'REMAINDER	' PIC X(33).	
2072		05 VALUE 'REMARKS	' PIC X(33).	OBSOLETE
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2074		05 VALUE 'KRENAMES	, bic X(33).	
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2085		O5 VALUE ' RETRY	' PIC X(33).	UNIMPLEMENTED
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2113		05 VALUE 'SEGMENT	, bic X(33).	OBSOLETE
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2118		05 VALUE 'SENTENCE	, bic X(33).	
2119		O5 VALUE ' SEPARATE	, bic X(33).	
2120		05 VALUE ' SEQUENCE	, bic X(33).	
2121		05 VALUE ' SEQUENTIAL	' PIC X(33).	
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2145		05 VALUE ' STANDARD-BINARY	' PIC X(33).	UNIMPLEMENTED
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2150		O5 VALUE ' STATEMENT	' PIC X(33).	UNIMPLEMENTED
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2162			SUB-QUEUE-1	, bic x(33).	OBSOLETE
2163		O5 VALUE 'S		, bic x(33).	OBSOLETE
2164		O5 VALUE 'S	•	, bic x(33).	OBSOLETE
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2169		O5 VALUE 'S		' PIC X(33).	UNIMPLEMENTED
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2171		O5 VALUE 'MS		, bic x(33).	
2172		O5 VALUE 'MS		, bic X(33).	
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2179		O5 VALUE 'MS		' PIC X(33).	
2180		O5 VALUE 'MS	SW3	' PIC X(33).	
2181		O5 VALUE 'MS		' PIC X(33).	
2182		O5 VALUE 'MS	SW5	' PIC X(33).	
2183		O5 VALUE 'MS	SW6	' PIC X(33).	
2184		O5 VALUE 'MS	SW7	' PIC X(33).	
2185		O5 VALUE 'MS	SW8	' PIC X(33).	
2186		O5 VALUE 'MS		' PIC X(33).	
2187		O5 VALUE 'MS	SWITCH-O	' PIC X(33).	
2188		O5 VALUE 'MS	SWITCH-1	' PIC X(33).	
2189		O5 VALUE 'MS	SWITCH-10	' PIC X(33).	
2190		O5 VALUE 'MS	SWITCH-11	' PIC X(33).	
2191		O5 VALUE 'MS	SWITCH-12	' PIC X(33).	
2192		O5 VALUE 'MS	SWITCH-13	' PIC X(33).	
2193		O5 VALUE 'MS	SWITCH-14	, PIC X(33).	
2194		O5 VALUE 'MS	SWITCH-15	, PIC X(33).	
2195		O5 VALUE 'MS	SWITCH-2	, PIC X(33).	
2196		O5 VALUE 'MS	SWITCH-3	, PIC X(33).	
2197		O5 VALUE 'MS	SWITCH-4	, PIC X(33).	
2198		O5 VALUE 'MS	SWITCH-5	, PIC X(33).	
2199		O5 VALUE 'MS	SWITCH-6	' PIC X(33).	
2200		O5 VALUE 'MS	SWITCH-7	' PIC X(33).	
2201		O5 VALUE 'MS	SWITCH-8	' PIC X(33).	
2202		O5 VALUE 'MS		' PIC X(33).	
2203		O5 VALUE 'S		' PIC X(33).	UNIMPLEMENTED
2204		O5 VALUE 'S	SYMBOLIC	' PIC X(33).	
2205		O5 VALUE 'S		' PIC X(33).	
2206			SYNCHRONISED	' PIC X(33).	
2207			SYNCHRONIZED	' PIC X(33).	
2208		05 VALUE 'MS		' PIC X(33).	
2209		05 VALUE 'MS		' PIC X(33).	
2210		O5 VALUE 'MS		' PIC X(33).	
2211		05 VALUE 'MS		' PIC X(33).	
2212		O5 VALUE 'MS	SYSLST	' PIC X(33).	

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		/hom	e/vince/cobolsrc/Cobol-	Tools/ocic/GCic.cbl
Line	Statement			Page: 51
2213		O5 VALUE 'MSYSOUT	, bic x(33).	
2214		05 VALUE 'SYSTEM-DEFAULT	' PIC X(33).	
2215		O5 VALUE ' TABLE	, bic X(33).	UNIMPLEMENTED
2216		O5 VALUE 'KTALLYING	, bic X(33).	
2217	GC1213	O5 VALUE 'FTAN	' PIC X(33).	
2218		O5 VALUE ' TAPE	' PIC X(33).	
2219		O5 VALUE ' TERMINAL	' PIC X(33).	OBSOLETE
2220		O5 VALUE 'VTERMINATE	' PIC X(33).	
2221		05 VALUE ' TEST	' PIC X(33).	
2222	GC1213	05 VALUE 'FTEST-DATE-YYYYMMDD	, bic X(33).	
2223	GC1213	05 VALUE 'FTEST-DAY-YYYYDDD	, bic X(33).	
2224	GC1213	05 VALUE 'FTEST-FORMATTED-DATETIME	' PIC X(33).	UNIMPLEMENTED
2225	GC1213	05 VALUE 'FTEST-NUMVAL	' PIC X(33).	
	GC1213	05 VALUE 'FTEST-NUMVAL-C	' PIC X(33).	
	GC1213	O5 VALUE 'FTEST-NUMVAL-F	' PIC X(33).	
2228		O5 VALUE ' TEXT	' PIC X(33).	OBSOLETE
2229		O5 VALUE ' THAN	' PIC X(33).	
2230		O5 VALUE ' THEN	' PIC X(33).	
2231		05 VALUE ' THROUGH	' PIC X(33).	
2232		O5 VALUE ' THRU	' PIC X(33).	
2233		O5 VALUE , TIME	' PIC X(33).	
	GC0711	O5 VALUE ' TIME-OUT	' PIC X(33).	
	GC0711	OF VALUE , TIMEOUT	' PIC X(33).	
2236		O5 VALUE , TIMES	' PIC X(33).	
2237 2238		O5 VALUE 'KTO O5 VALUE 'TOP	'PIC X(33). 'PIC X(33).	
2239		O5 VALUE ' TOWARD-GREATER	, bic x(33).	
2240		O5 VALUE ' TOWARD-LESSER	, bic x(33).	
2240		O5 VALUE ' TRAILING	, bic x(33).	
2241		O5 VALUE 'TRAILING-SIGN	, bic x(33).	UNIMPLEMENTED
2243		O5 VALUE 'VTRANSFORM	, bic X(33).	
	GC1213	O5 VALUE 'FTRIM	, bic x(33).	
2245		05 VALUE ' TRUE	, bic X(33).	
2246		O5 VALUE 'TRUNCATION	, bic X(33).	
2247		O5 VALUE ' TYPE	' PIC X(33).	
2248		O5 VALUE ' TYPEDEF	' PIC X(33).	UNIMPLEMENTED
2249		05 VALUE ' UCS-4	' PIC X(33).	UNIMPLEMENTED
2250		O5 VALUE ' UNDERLINE	' PIC X(33).	
2251		O5 VALUE ' UNIT	, bic X(33).	
2252		05 VALUE ' UNIVERSAL	' PIC X(33).	UNIMPLEMENTED
2253		05 VALUE 'VUNLOCK	' PIC X(33).	
2254		05 VALUE ' UNSIGNED	' PIC X(33).	
2255		05 VALUE ' UNSIGNED-INT	' PIC X(33).	
2256		05 VALUE ' UNSIGNED-LONG	' PIC X(33).	
2257		05 VALUE ' UNSIGNED-SHORT	' PIC X(33).	
2258		05 VALUE 'VUNSTRING	' PIC X(33).	
2259		O5 VALUE , UNTIL	, PIC X(33).	
2260		OF VALUE , UDDATE	' PIC X(33).	
2261		O5 VALUE , UPON	, PIC X(33).	
2262		O5 VALUE , UPDER	, PIC X(33).	
2263	GC1213	O5 VALUE ' UPPER O5 VALUE 'FUPPER-CASE	'PIC X(33). 'PIC X(33).	
2264		O5 VALUE ' USAGE	PIC X(33).	
2200		oo ander	110 A(00).	

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Line				/home/vince/cobolsrc/Cobol-T	Cools/ocic/GCic.cbl
2266	Line	Statement	·		
2267 GOOT11	=====				=======================================
2268	2266		05 VALUE 'VUSE	' PIC X(33).	
2268	2267	GC0711	05 VALUE ' USER	, PIC X(33).	
2270	2268		05 VALUE ' USER-DEFAULT	' PIC X(33).	
2271	2269		05 VALUE 'KUSING	, PIC X(33).	
2272	2270		05 VALUE ' UTF-16	, PIC X(33).	UNIMPLEMENTED
2273	2271		05 VALUE ' UTF-8	' PIC X(33).	UNIMPLEMENTED
2274	2272		05 VALUE ' VAL-STATUS	, PIC X(33).	UNIMPLEMENTED
2275 CGO712 O5 VALUE ' VALIDATE-STATUS PIC X(33) UNIMPLEMENTED	2273		O5 VALUE ' VALID		
2276 GCO712	2274		O5 VALUE ' VALIDATE	, PIC X(33).	UNIMPLEMENTED
2276 GCO712	2275		05 VALUE ' VALIDATE-STATUS	, PIC X(33).	UNIMPLEMENTED
2277	2276	GC0712	O5 VALUE 'AVALUE	' PIC X(33).	
2279	2277		O5 VALUE , VALUES	, PIC X(33).	
2280	2278	GC1213	O5 VALUE 'FVARIANCE	, PIC X(33).	
2281	2279		O5 VALUE 'KVARYING	, PIC X(33).	
2282	2280		O5 VALUE ' VDISABLE	, PIC X(33).	UNIMPLEMENTED
2283 GC1213	2281		O5 VALUE ' WAIT	, PIC X(33).	
2284	2282		O5 VALUE 'VWHEN	, PIC X(33).	
2286	2283	GC1213		, PIC X(33).	
2286	2284		O5 VALUE ' WITH	, PIC X(33).	
2287	2285		05 VALUE ' WORDS	, PIC X(33).	
2288 GC1213 O5 VALUE FYEAR-TO-YYYY PIC X(33) 2289 O5 VALUE YYYYMDD PIC X(33) 2290 O5 VALUE YYYYMDD PIC X(33) 2291 O5 VALUE YERO PIC X(33) 2292 O5 VALUE ZERO PIC X(33) 2293 O5 VALUE ZEROS PIC X(33) 2294 O5 VALUE ZEROS PIC X(33) 2295 O1 WS-Reserved-Word-Table-TXT REDEFINES WS-Reserved-Words-TXT 2296 GC1113 O5 WS-Reserved-Word-TXT OCCURS 754 TIMES 2297 ASCENDING KEY 2298 WS-RW-Word-TXT OCCURS 754 TIMES 2299 INDEXED WS-RW-Word-TXT 2299 INDEXED WS-RW-IDX 2300 10 WS-RW-Word-TXT PIC X(1) 2301 10 WS-RW-Word-TXT PIC X(1) 2302 2303 O1 WS-Runtime-Switches 2304 GC0710 O5 WS-RS-Duplicate-CHR PIC X(1) 2305 O5 WS-RS-In-Which-Pgm-CHR PIC X(1) 2306 88 WS-RS-In-Main-Module-BOOL VALUE M' 2307 88 WS-RS-In-Main-Module-BOOL VALUE M' 2308 O5 WS-RS-In-Main-Module-BOOL VALUE M' 2309 O5 WS-RS-Token-Ended-Sent-CHR PIC X(1) 2310 O5 WS-RS-Token-Ended-Sent-CHR PIC X(1) 2311 GC0710 O5 WS-RS-Verb-Has-Been-Found-CHR PIC X(1) 2312 2313 O1 WS-Saved-Section-TXT PIC X(15) 2314 2315 GC1213 O1 WS-Src-Dashes-TXT 2316 GC0712 O5 VALUE ALL PIC X(128) 2317 GC0712 O5 VALUE ALL PIC X(128) 2318 GC0712 O5 VALUE ALL PIC X(128) 2319 OC0712 O5 VALUE ALL PIC X(128) 2310 OC0712 O5 VALUE ALL PIC X(128) 2311 GC0712 O5 VALUE ALL PIC X(128) 2312 OC0712 O5 VALUE ALL PIC X(128) 2313 O1 WS-Src-Dashes-TXT PIC X(128) 2314 CC0712 O5 VALUE ALL PIC X(128) 2315 OC0712 O5 VALUE ALL PIC X(128) 2316 OC0712 O5 VALUE ALL PIC X(128) 2317 OC0712 O5 VALUE ALL PIC X(128) 2318 OC0712 O5 VALUE ALL PIC	2286		05 VALUE 'KWORKING-STORAGE		
2289	2287		05 VALUE 'VWRITE	, PIC X(33).	
2290	2288	GC1213	O5 VALUE 'FYEAR-TO-YYYY		
2291	2289		O5 VALUE ' YYYYDDD	' PIC X(33).	
2292	2290				
2293	2291		O5 VALUE ' ZERO	' PIC X(33).	
2294	2292		05 VALUE ' ZERO-FILL	' PIC X(33).	UNIMPLEMENTED
2295	2293		05 VALUE ' ZEROES		
2296 GC1113 O5 WS-Reserved-Word-TXT OCCURS 754 TIMES 2297 2298	2294		05 VALUE ' ZEROS	' PIC X(33).	
2297 2298 2299 300 301 301 301 302 303 301 302 303 301 303 304 305 305 305 305 307 308 308 308 308 308 309 309 309 309 309 309 309 309 309 309	2295	01		INES WS-Reserved-Words-TXT.	
WS-RW-Word-TXT 2299	2296	GC1113	05 WS-Reserved-Word-TXT 00	CCURS 754 TIMES	
INDEXED WS-RW-IDX.					
2300					
2301					
2302 2303					
2303 01 WS-Runtime-Switches. 2304 GC0710 05 WS-RS-Duplicate-CHR PIC X(1). 2305 05 WS-RS-In-Which-Pgm-CHR PIC X(1). 2306 88 WS-RS-In-Main-Module-BOOL VALUE 'M'. 2307 88 WS-RS-In-Copybook-BOOL VALUE 'C'. 2308 05 WS-RS-Last-Token-Ended-Sent-CHR PIC X(1). 2309 05 WS-RS-Processing-PICTURE-CHR PIC X(1). 2310 05 WS-RS-Token-Ended-Sentence-CHR PIC X(1). 2311 GC0710 05 WS-RS-Verb-Has-Been-Found-CHR PIC X(1). 2312 2313 01 WS-Saved-Section-TXT PIC X(15). 2314 2315 GC1213 01 WS-Src-Dashes-TXT. 2316 GC0712 05 VALUE '======' PIC X(128).			10 WS-RW-Word-TXT	PIC X(32).	
2304 GC0710					
2305					
2306			•		
2307 88 WS-RS-In-Copybook-BOOL VALUE 'C'. 2308 05 WS-RS-Last-Token-Ended-Sent-CHR PIC X(1). 2309 05 WS-RS-Processing-PICTURE-CHR PIC X(1). 2310 05 WS-RS-Token-Ended-Sentence-CHR PIC X(1). 2311 GC0710 05 WS-RS-Verb-Has-Been-Found-CHR PIC X(1). 2312 2313 01 WS-Saved-Section-TXT PIC X(15). 2314 2315 GC1213 01 WS-Src-Dashes-TXT. 2316 GC0712 05 VALUE '======' PIC X(7). 2317 GC0712 05 VALUE ALL '=' PIC X(128).			_		
2308					
2309					
2310					
2311 GC0710					
2312 2313					
2313		GC0710	05 WS-RS-Verb-Has-Been-Found-CHR	PIC X(1).	
2314 2315 GC1213 01 WS-Src-Dashes-TXT. 2316 GC0712 05 VALUE '======' PIC X(7). 2317 GC0712 05 VALUE ALL '=' PIC X(128).					
2315 GC1213 01 WS-Src-Dashes-TXT. 2316 GC0712 05 VALUE '=====' PIC X(7). 2317 GC0712 05 VALUE ALL '=' PIC X(128).		01	WS-Saved-Section-TXT	PIC X(15).	
2316 GC0712		a a.a.a.a.			
2317 GC0712				DTG V(T)	
2318		GC0712	Ob VALUE ALL '='	PIC X(128).	
	2318				

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Tino	C+ + + + + + + + + + + + + + + + + + +	-n+		/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line	Stateme			Page: 53
2319			WS-Src-Detail-Line-TXT.	
2320		V-	05 WS-SDL-Line-NUM	PIC ZZZZZ9.
2321			05 FILLER	PIC X(1).
2322			05 WS-SDL-Statement-TXT	PIC X(256).
2323				
		01	WS-Src-Hold-TXT	PIC X(256).
2325				• • • • •
2326		01	WS-Src-Line-NUM	PIC 9(6).
2327				
2328	GC1213	01	WS-Src-Lines-NUM	USAGE BINARY-LONG.
2329				
2330		01	WS-Src-SUB	USAGE BINARY-LONG.
2331				
2332		01	WS-Tally-QTY	USAGE BINARY-LONG.
2333			•	
2334		01	WS-Temp-10-Chars-TXT	PIC X(10).
2335			•	
2336		01	WS-Temp-32-Chars-1-TXT	PIC X(32).
2337			•	
2338	GC0711	01	WS-Temp-32-Chars-2-TXT	PIC X(32).
2339			-	
2340	GC0711	01	WS-Temp-32-Chars-3-TXT	PIC X(32).
2341			-	
2342	GC0712	01	WS-Temp-65-Chars-TXT	PIC X(65).
2343				
2344		01	WS-Temp-256-Chars-TXT	PIC X(256).
2345				
2346		01	WS-Today-DT	PIC 9(8).
2347				
2348		01	WS-Token-Curr-TXT	PIC X(32).
2349				
2350		01	WS-Token-Curr-Uc-TXT	PIC X(32).
2351				
2352		01	WS-Token-Prev-TXT	PIC X(32).
2353				
2354		01	WS-Token-Search-TXT	PIC X(32).
2355				(·)
2356		01	WS-Token-Type-CD	PIC X(1).
	GC0712		88 WS-TT-Token-Is-Argtype-BOOL	VALUE 'A'.
2358			88 WS-TT-Token-Is-E0F-B00L	VALUE HIGH-VALUES.
	GC1213		88 WS-TT-Token-Is-Function-BOOL	VALUE 'F'.
2360			88 WS-TT-Token-Is-Identifier-B00	
	GC0712		88 WS-TT-Token-Is-Keyword-BOOL	VALUE 'K', 'V', 'A'.
2362			88 WS-TT-Token-Is-Lit-Alpha-BOOL	
2363			88 WS-TT-Token-Is-Lit-Number-B00	
2364			88 WS-TT-Token-Is-Verb-BOOL	VALUE 'V'.
	GC1213		88 WS-TT-Token-Is-Reserved-Wd-BO	OL VALUE ' ', 'F'.
2366 2367		01	WS-Usernames-QTY	USAGE BINARY-LONG.
2368		ΟI	MD OBETHUMES_MIL	ODAGE DINARI-LUNG.
2369		01	WS-Version-TXT	PIC X(23).
2370		ΟI	MD AGIDION IVI	110 A(20).
2371		01	WS-Xref-Detail-Line-TXT.	
2011		V.1	Dougl Bind IAI.	

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			G	/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line	Stateme	nt		Page: 54
=====	======	====		
2372			05 WS-XDL-Prog-ID-TXT	PIC X(15).
2373			05 FILLER	PIC X(1).
2374			05 WS-XDL-Token-TXT	PIC X(32).
2375			05 FILLER	PIC X(1).
2376			05 WS-XDL-Def-Line-NUM	PIC ZZZZZ9.
2377			05 FILLER	PIC X(1).
2378			05 WS-XDL-Section-TXT	PIC X(15).
2379			05 FILLER	PIC X(1).
2380			05 WS-XDL-Reference-TXT	OCCURS 8 TIMES.
2381			10 WS-XDL-Ref-Line-NUM	PIC ZZZZZ9.
2382			10 WS-XDL-Ref-Flag-CHR	PIC X(1).
2383			10 FILLER	PIC X(1).
2384				
2385	GC1213	01	WS-Xref-Lines-Per-Rec-NUM	PIC 9(1).
2386				
2387		LINK	AGE SECTION.	
2388	GC0712	01	L-Listing-Fn-TXT	PIC X(256).
2389				
2390		01	L-Src-Fn-TXT	PIC X(256).
2391				
2392	GC0712	01	L-OS-Type-CD	PIC 9(1).
2393				
2394	GC1213	01	L-LPP-NUM	USAGE BINARY-LONG.
2395				
2396	GC1213	01	L-LPP-Port-NUM	USAGE BINARY-LONG.
2397				
2398	GC1213	01	L-Listing-CD	PIC 9(1).

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/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line Statement Page: 55

2400 GC0712 PROCEDURE DIVISION USING L-Listing-Fn-TXT 2401 GC0712 L-Src-Fn-TXT 2402 GC0712 L-OS-Type-CD 2403 GC1213 L-LPP-NUM 2404 GC1213 L-LPP-Port-NUM 2405 GC1213 L-Listing-CD. 2406 000-Main SECTION.

2407 PERFORM 100-Initialization

2408 GC0712 OPEN OUTPUT F-Listing-FILE

2409 GC0712 PERFORM 500-Produce-Source-Listing

2410 GC0712 SORT F-Sort-Work-FILE

2411 GC0712 ASCENDING KEY F-SW-Prog-ID-TXT

2412 GC0712 F-SW-Token-Uc-TXT 2413 GC0712 F-SW-Ref-Line-NUM
2414 GC0712 INPUT PROCEDURE 300-Tokenize-Source
2415 GC0712 OUTPUT PROCEDURE 400-Produce-Xref-Listing
2416 GC0712 CLOSE F-Listing-FILE GOBACK 2417 2418

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

```
Line Statement
                                                                                   Page: 56
 2420
           2421
           *> Perform all program-wide initialization operations **
 2424 GC1213 MOVE O TO WS-Page-NUM
 2425 GC1213 MOVE 'N' TO WS-Suppress-FF-CHR
 2426 GC1213 MOVE SPACES TO WS-Copyright-TXT
 2427 GC1213 STRING 'GCic for '
                                                   DELIMITED SIZE
 2428 GC1213
                WS-OS-Type-TXT(L-OS-Type-CD) DELIMITED SPACE
  2429 GC1213
                        ' Copyright (C) 2009-2017, Gary L. Cutler, GPL'
  2430 GC1213
                                                   DELIMITED SIZE
 2431 GC1213
                       INTO WS-Copyright-TXT
 2432 GC1213 MOVE 'GNUCOBOL 2.2 20JUL2017' TO WS-Version-TXT
  2433 MOVE TRIM(L-Src-Fn-TXT, Leading) TO L-Src-Fn-TXT
2434 GC1010 PERFORM VARYING WS-I-SUB FROM LENGTH(L-Src-Fn-TXT) BY -1 *> Locate last direct
     ory delimiter character so that the filename can be extracted
  2435 GC1010 UNTIL L-Src-Fn-TXT(WS-I-SUB:1) = '/' OR '\'
 2437 GC1010 END-PERFORM
2438 GC1010 IF WS-T-SID
  2436 GC1010
                                OR WS-I-SUB = 0
  2438 GC1010 IF WS-I-SUB = 0
2439 GC1010 MOVE UPPER-CASE(L-Src-Fn-TXT) TO WS-Main-Module-Name-TXT *> No directory d
      elimiter, whole thing is filename
  2440 GC1010 ELSE
  2441 GC1010 ADD 1 TO WS-I-SUB
                MOVE UPPER-CASE(L-Src-Fn-TXT(WS-I-SUB:))
 2442 GC1010 MOV
2443 GC1010 T
2444 GC1010 END-IF
                    TO WS-Main-Module-Name-TXT *> Extract filename
  2445 GC1213 IF L-Listing-CD = 1 *> LANDSCAPE
                MOVE 8 TO WS-Xref-Lines-Per-Rec-NUM
  2446 GC1213
               ACCEPT WS-Lines-Per-Page-Env-TXT
 2447 GC1213
 2448 GC1213 FROM ENV:
2449 GC1213 ELSE *> PORTRAIT
2450 GC1213 MOVE 3 TO WS-
2451 GC1213 ACCEPT WS-Lin
                        FROM ENVIRONMENT 'GCXREF_LINES'
               MOVE 3 TO WS-Xref-Lines-Per-Rec-NUM
                     ACCEPT WS-Lines-Per-Page-Env-TXT
  2452 GC1213
                        FROM ENVIRONMENT 'GCXREF_LINES_PORT'
  2453 GC1213 END-IF
  2454
              INSPECT L-Src-Fn-TXT REPLACING ALL '\' BY '/'
  2455
                MOVE L-Src-Fn-TXT TO WS-Program-Path-TXT
  2456
                CALL 'C$JUSTIFY' USING WS-Program-Path-TXT, 'Right'
  2457
                MOVE LENGTH(TRIM(L-Src-Fn-TXT, Trailing)) TO WS-I-SUB
  2458
                MOVE O TO WS-J-SUB
  2459
                PERFORM UNTIL L-Src-Fn-TXT(WS-I-SUB:1) = '/'
                          OR WS-I-SUB = O
  2460
                   SUBTRACT 1 FROM WS-I-SUB
  2461
           SUBTRACT
ADD
END-PERFORM
  2462
                    ADD 1 TO WS-J-SUB
  2463
  2464
                UNSTRING L-Src-Fn-TXT((WS-I-SUB + 1):WS-J-SUB)
  2465
                    DELIMITED BY '.'
                    INTO WS-Filename-TXT
 2466
  2467
                         WS-Dummy-TXT
  2468 GC1010
                STRING
  2469 GC1010
                      TRIM(WS-Filename-TXT, Trailing)
```

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Line	Statement	Page: 5	7
=====			=
2470	GC1010	'.i'	
2471	GC1010	DELIMITED SIZE	
2472	GC1010	INTO WS-Expanded-Src-Fn-TXT	
2473	GC1010	CALL 'CBL_CHECK_FILE_EXIST' USING WS-Expanded-Src-Fn-TXT	
2474	GC1010	WS-Temp-256-Chars-TXT	
2475	GC1010	IF RETURN-CODE NOT = 0	
2476	GC1010	GOBACK	
2477	GC1010	END-IF	
2478		IF WS-Lines-Per-Page-Env-TXT NOT = SPACES	
2479		MOVE NUMVAL(WS-Lines-Per-Page-Env-TXT)	
2480		TO WS-Lines-Per-Page-NUM	
2481		ELSE	
2482	GC1213	IF L-LISTING-CD = 1 *> LANDSCAPE	
2483	GC1213	MOVE L-LPP-NUM TO WS-Lines-Per-Page-NUM	
2484	GC1213	ELSE *> PORTRAIT	
2485	GC1213	MOVE L-LPP-Port-NUM TO WS-Lines-Per-Page-NUM	
2486	GC1213	END-IF	
2487		END-IF	
2488	GC1213	SUBTRACT 3 FROM WS-Lines-Per-Page-NUM *> FOR PAGE FOOTER	
2489		ACCEPT WS-Today-DT FROM DATE YYYYMMDD	
2490	GC1213	MOVE WS-Today-DT TO WS-Formatted-DT	
2491		MOVE '??????????' TO WS-Curr-Prog-ID-TXT	
2492		MOVE SPACES TO WS-Curr-Verb-TXT	
2493		WS-Held-Reference-TXT	
2494		•	

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```
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```

Line	Statement	, 10110, 111101, 001011110, 001011	Page: 58
=====			
2496	300)-Tokenize-Source SECTION.	
2497		OPEN INPUT F-Expanded-Src-FILE	
2498		MOVE SPACES TO F-Expanded-Src-REC	
2499		MOVE 256 TO WS-Src-SUB	
2500		MOVE O TO WS-Usernames-QTY	
2501		WS-Curr-Line-NUM	
2502		MOVE '?' TO WS-Curr-Division-TXT	
2503	GC0710	MOVE 'N' TO WS-RS-Verb-Has-Been-Found-CHR	
2504		PERFORM FOREVER	
2505		PERFORM 310-Get-Token	
2506		IF WS-TT-Token-Is-EOF-BOOL	
2507		EXIT PERFORM	
2508		END-IF	
2509		MOVE UPPER-CASE(WS-Token-Curr-TXT)	
2510		TO WS-Token-Curr-Uc-TXT	
2511	GC1010	IF WS-TT-Token-Is-Keyword-BOOL	
2512	GC1010	OR WS-TT-Token-Is-Reserved-Wd-BOOL	
2513	GC1010	MOVE WS-Token-Curr-Uc-TXT TO WS-Token-Curr-TXT	
2514	GC1010	END-IF	
2515		IF WS-TT-Token-Is-Verb-BOOL	
2516		MOVE WS-Token-Curr-Uc-TXT TO WS-Curr-Verb-TXT	
2517		WS-Token-Prev-TXT	
2518		IF WS-Held-Reference-TXT NOT = SPACES	
2519		MOVE WS-Held-Reference-TXT TO F-Sort-Work-REC	
2520		MOVE SPACES TO WS-Held-Reference-TXT	
2521		RELEASE F-Sort-Work-REC	
2522		END-IF	
2523		END-IF	
2524		EVALUATE TRUE	
2525		WHEN WS-CD-In-IDENT-DIV-BOOL	
2526		PERFORM 320-IDENTIFICATION-DIVISION	
2527		WHEN WS-CD-In-ENV-DIV-BOOL	
2528		PERFORM 330-ENVIRONMENT-DIVISION	
2529		WHEN WS-CD-In-DATA-DIV-BOOL	
2530		PERFORM 340-DATA-DIVISION	
2531		WHEN WS-CD-In-PROC-DIV-BOOL	
2532		PERFORM 350-PROCEDURE-DIVISION	
2533		END-EVALUATE	
2534 2535		<pre>IF WS-TT-Token-Is-Keyword-BOOL MOVE WS-Token-Curr-Uc-TXT TO WS-Token-Prev-TXT</pre>	
2536		END-IF	
2537		IF WS-RS-Token-Ended-Sentence-CHR = 'Y'	
2538		AND WS-Curr-Division-TXT NOT = 'I'	
2539		MOVE SPACES TO WS-Token-Prev-TXT	
2540		WS-Curr-Verb-TXT	
2541		END-IF	
2542			
2543		END-PERFORM	
2544		CLOSE F-Expanded-Src-FILE	
2545		<u>.</u>	
_0.10			

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```
2547
           310-Get-Token SECTION.
2548
          *>-- Position to 1st non-blank character
2549
               MOVE WS-RS-Token-Ended-Sentence-CHR
2550
                 TO WS-RS-Last-Token-Ended-Sent-CHR
               MOVE 'N' TO WS-RS-Token-Ended-Sentence-CHR
2551
2552
               PERFORM UNTIL F-Expanded-Src-REC(WS-Src-SUB : 1) NOT = SPACE
2553
                    IF WS-Src-SUB > 255
2554
                       READ F-Expanded-Src-FILE AT END
2555
                           IF WS-Held-Reference-TXT NOT = SPACES
2556
                               MOVE WS-Held-Reference-TXT TO F-Sort-Work-REC
2557
                                MOVE SPACES TO WS-Held-Reference-TXT
2558
                               RELEASE F-Sort-Work-REC
2559
                           END-IF
2560
                            SET WS-TT-Token-Is-EOF-BOOL TO TRUE
2561
                            MOVE O TO WS-Curr-Line-NUM
2562
                           EXIT SECTION
2563
                       END-READ
                       IF F-ES-1-7-TXT NOT = '#DEFLIT'
2564 GC0712
2565 GC0712
                           IF F-ES-1-CHR = '#'
2566 GC0712
                               PERFORM 311-Control-Record
2567 GC0712
2568 GC0712
                               PERFORM 312-Expanded-Src-Record
2569 GC0712
                           END-IF
2570 GC0712
                       END-IF
2571
                   ELSE
2572
                       ADD 1 TO WS-Src-SUB
                   END-IF
2573
              END-PERFORM
2574
         *>-- Extract token string
2575
2576
              MOVE F-Expanded-Src-REC(WS-Src-SUB : 1)
2577
                 TO WS-Curr-CHR
2578
               MOVE F-Expanded-Src-REC(WS-Src-SUB + 1: 1)
                 TO WS-Next-CHR
2579
               IF WS-Curr-CHR = '.'
2580
2581
                   ADD 1 TO WS-Src-SUB
2582
                   MOVE WS-Curr-CHR TO WS-Token-Curr-TXT
2583
                   MOVE SPACE TO WS-Token-Type-CD
                   MOVE 'Y' TO WS-RS-Token-Ended-Sentence-CHR
2584
2585
                   EXIT SECTION
               END-IF
2586
2587
               IF WS-Curr-Char-Is-Punct-BOOL
            AND WS-Curr-CHR = '='
AND WS-Curr-Division-TXT = 'P'
TO WS-Src-SUB
2588
2589
2590
2591
                   MOVE 'EQUALS' TO WS-Token-Curr-TXT
                   MOVE 'K'
2592
                             TO WS-Token-Type-CD
2593
                   EXIT SECTION
2594
               END-IF
               IF WS-Curr-Char-Is-Punct-BOOL *> So subscripts don't get flagged w/ '*'
2595
2596
              AND WS-Curr-CHR = '('
2597
              AND WS-Curr-Division-TXT = 'P'
2598
                   MOVE SPACES TO WS-Token-Prev-TXT
```

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```
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```

```
Line Statement
                                                                                      Page: 60
 2600
               IF WS-Curr-Char-Is-Punct-BOOL
                     ADD 1 TO WS-Src-SUB
  2601
  2602
                     MOVE WS-Curr-CHR TO WS-Token-Curr-TXT
  2603
                     MOVE SPACE TO WS-Token-Type-CD
              EXT
END-IF
 2604
                     EXIT SECTION
  2605
                IF WS-Curr-Char-Is-Quote-BOOL
  2606
  2607
                     ADD 1 TO WS-Src-SUB
                     UNSTRING F-Expanded-Src-REC
  2608
  2609
                         DELIMITED BY WS-Curr-CHR
  2610
                         INTO WS-Token-Curr-TXT
  2611
                         WITH POINTER WS-Src-SUB
                     IF F-Expanded-Src-REC(WS-Src-SUB : 1) = '.'
  2612
                         MOVE 'Y' TO WS-RS-Token-Ended-Sentence-CHR
  2613
  2614
                         ADD 1 TO WS-Src-SUB
  2615
                     END-IF
  2616
                     SET WS-TT-Token-Is-Lit-Alpha-BOOL TO TRUE
  2617
                     EXIT SECTION
  2618
                 END-IF
                 IF WS-Curr-Char-Is-X-BOOL AND WS-Next-Char-Is-Quote-BOOL
  2619
  2620
                     ADD 2 TO WS-Src-SUB
                     UNSTRING F-Expanded-Src-REC
  2621
                         DELIMITED BY WS-Next-CHR
  2622
  2623
                         INTO WS-Token-Curr-TXT
  2624
                         WITH POINTER WS-Src-SUB
  2625
                     IF F-Expanded-Src-REC(WS-Src-SUB : 1) = '.'
                         MOVE 'Y' TO WS-RS-Token-Ended-Sentence-CHR
  2626
  2627
                         ADD 1 TO WS-Src-SUB
  2628
  2629
                     SET WS-TT-Token-Is-Lit-Number-BOOL TO TRUE
  2630
                     EXIT SECTION
  2631
                 END-IF
  2632
                 IF WS-Curr-Char-Is-Z-BOOL AND WS-Next-Char-Is-Quote-BOOL
  2633
                     ADD 2 TO WS-Src-SUB
  2634
                     UNSTRING F-Expanded-Src-REC
  2635
                         DELIMITED BY WS-Next-CHR
  2636
                         INTO WS-Token-Curr-TXT
                         WITH POINTER WS-Src-SUB
  2637
  2638
                     IF F-Expanded-Src-REC(WS-Src-SUB : 1) = '.'
                         MOVE 'Y' TO WS-RS-Token-Ended-Sentence-CHR
  2639
  2640
                         ADD 1 TO WS-Src-SUB
  2641
                     END-IF
                     SET WS-TT-Token-Is-Lit-Alpha-BOOL TO TRUE
  2642
  2643
                     EXIT SECTION
  2644
               END-IF
                 IF WS-RS-Processing-PICTURE-CHR = 'Y'
  2645
  2646
                     UNSTRING F-Expanded-Src-REC
  2647
                         DELIMITED BY '. ' OR ' '
                         INTO WS-Token-Curr-TXT
  2648
                         DELIMITER IN WS-Delim-TXT
  2649
  2650
                         WITH POINTER WS-Src-SUB
  2651
                     IF WS-Delim-TXT = '. '
```

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```
Line Statement
                                                                                    Page: 61
                       MOVE 'Y' TO WS-RS-Token-Ended-Sentence-CHR
 2653
                        ADD 1 TO WS-Src-SUB
  2654
                    END-IF
  2655
                    IF UPPER-CASE(WS-Token-Curr-TXT) = 'IS'
  2656
                        MOVE SPACE TO WS-Token-Type-CD
  2657
                        EXIT SECTION
  2658
                        MOVE 'N' TO WS-RS-Processing-PICTURE-CHR
  2659
  2660
                         MOVE SPACE TO WS-Token-Type-CD
  2661
                         EXIT SECTION
  2662
                     END-IF
  2663
                END-IF
                 UNSTRING F-Expanded-Src-REC
  2664
                    DELIMITED BY '. ' OR ' ' OR '=' OR '(' OR ')' OR '*'
  2665
                                      OR '/' OR '&' OR ';' OR ',' OR '<'
  2666
  2667
                                       OR '>' OR ':'
  2668
                     INTO WS-Token-Curr-TXT
  2669
                     DELIMITER IN WS-Delim-TXT
  2670
                     WITH POINTER WS-Src-SUB
               IF WS-Delim-TXT = '. '
  2671
                    MOVE 'Y' TO WS-RS-Token-Ended-Sentence-CHR
  2672
  2673
                END-IF
                IF WS-Delim-TXT NOT = '. ' AND ' '
  2674
                    SUBTRACT 1 FROM WS-Src-SUB
  2675
                END-IF
  2676
  2677
           *>-- Classify Token
  2678
                 MOVE UPPER-CASE(WS-Token-Curr-TXT) TO WS-Token-Search-TXT
                 IF WS-Token-Search-TXT = 'EQUAL' OR 'EQUALS'
  2679
                    MOVE 'EQUALS' TO WS-Token-Curr-TXT
  2680
                    MOVE 'K'
  2681
                                 TO WS-Token-Type-CD
  2682
                    EXIT SECTION
              END-IF
  2683
  2684
                SEARCH ALL WS-Reserved-Word-TXT
  2685
                     WHEN WS-RW-Word-TXT (WS-RW-IDX) = WS-Token-Search-TXT
  2686
                        MOVE WS-RW-Type-CD (WS-RW-IDX) TO WS-Token-Type-CD
  2687 GC0710
                         IF WS-TT-Token-Is-Verb-BOOL
  2688 GC0710
                           MOVE 'Y' TO WS-RS-Verb-Has-Been-Found-CHR
  2689 GC0710
                         END-IF
  2690
                         EXIT SECTION
  2691
                END-SEARCH
  2692
           *>-- Not a reserved word, must be a user name
  2693
                 SET WS-TT-Token-Is-Identifier-BOOL TO TRUE
  2694
                 PERFORM 313-Check-For-Numeric-Token
  2695
                 IF WS-TT-Token-Is-Lit-Number-BOOL
  2696
                     IF (WS-RS-Last-Token-Ended-Sent-CHR = 'Y')
                     AND (WS-Curr-Division-TXT = 'D')
  2697
                        MOVE 'LEVEL #' TO WS-Token-Curr-TXT
  2698
  2699
                         MOVE 'K' TO WS-Token-Type-CD
  2700
                         EXIT SECTION
 2701
                     FLSE
  2702
                        EXIT SECTION
  2703
                    END-IF
  2704
                 FND-TF
```

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Line Statement

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/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl Line Statement Page: 63

```
2707 311-Control-Record SECTION.
          UNSTRING F-ES-2-256-TXT-256
2708
2709
                  DELIMITED BY '"'
2710
                  INTO WS-Temp-10-Chars-TXT
                      WS-Temp-256-Chars-TXT
2711
2712
                      WS-Dimmy-TXT
2721
                  SET WS-RS-In-Main-Module-BOOL TO TRUE
2722
                  IF WS-Saved-Section-TXT NOT = SPACES
                     MOVE WS-Saved-Section-TXT TO WS-Curr-Section-TXT
2723
2724
                  END-IF
2725
              ELSE
2726
                  SET WS-RS-In-Copybook-BOOL TO TRUE
2727
                  IF WS-Saved-Section-TXT = SPACES
                     MOVE WS-Curr-Section-TXT TO WS-Saved-Section-TXT
2728
                  FND-TF
2729
                  MOVE LENGTH(TRIM(WS-Temp-256-Chars-TXT,Trailing))
2730
2731
                    TO WS-I-SUB
2732
                  MOVE O TO WS-J-SUB
2733
                  PERFORM UNTIL WS-Temp-256-Chars-TXT(WS-I-SUB:1) = '/'
2734
                           OR WS-I-SUB = O
                     SUBTRACT 1 FROM WS-I-SUB
2735
2736
                     ADD
                           1 TO WS-J-SUB
                  END-PERFORM
2737
2738
                  UNSTRING WS-Temp-256-Chars-TXT((WS-I-SUB + 1):WS-J-SUB)
2739
                     DELIMITED BY '.'
2740
                      INTO WS-Filename-TXT
                          WS-Dummy-TXT
2741
                  MOVE '[' TO WS-CS-1-CHR
2742
2743
                  MOVE WS-Filename-TXT TO WS-CS-2-14-TXT
                  IF WS-CS-11-14-TXT NOT = SPACES
2744
2745
                     MOVE '...' TO WS-CS-11-14-TXT
2746
                  END-IF
2747
                  MOVE ']'
                               TO WS-CS-15-CHR
2748
              END-IF
2749
              MOVE SPACES TO F-Expanded-Src-REC *> Force another READ
2750
              MOVE 256 TO WS-Src-SUB
2751
```

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Line Statement

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=====	=====	
2753		312-Expanded-Src-Record SECTION.
2754	GC0314	<pre>IF F-Expanded-Src-REC(1:1) = SPACE</pre>
2755	GC0314	MOVE 2 TO WS-Src-SUB
2756	GC0314	ELSE
2757	GC0314	MOVE 1 TO WS-Src-SUB
2758	GC0314	END-IF
2759		IF WS-RS-In-Main-Module-BOOL
2760		ADD 1 To WS-Curr-Line-NUM
2761		END-IF
2762		

2803 2804

```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

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/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl Line Statement 2764 313-Check-For-Numeric-Token SECTION. MOVE WS-Token-Curr-TXT TO WS-Temp-32-Chars-1-TXT 2765 INSPECT WS-Temp-32-Chars-1-TXT 2766 2767 GC0711 CONVERTING '0123456789' TO SPACE 2768 GC0711 IF WS-Temp-32-Chars-1-TXT = SPACES CONVERTING '0123456789' TO SPACES *> Simple Unsigned Int eger 2769 SET WS-TT-Token-Is-Lit-Number-BOOL TO TRUE EXI END-IF 2770 EXIT SECTION 2771 2772 GC0711 MOVE SPACES TO WS-Temp-32-Chars-2-TXT
2773 GC0711 WS-Temp-32-Chars-3-TXT
2774 GC0711 WS-Dummy-TXT
2775 GC0711 UNSTRING WS-Temp-32-Chars-1-TXT 2776 GC0711 DELIMITED BY 'e' OR 'E' 2777 GC0711 INTO WS-Temp-32-Chars-2-TXT 2778 GC0711 WS-Temp-32-Chars-3-7 2779 GC0711 WS-Dummy-TXT 2780 GC0711 IF WS-Dummy-TXT NOT = SPACES WS-Temp-32-Chars-3-TXT *> More than one 'E' - Not Num 2781 GC0711 EXIT SECTION
2782 GC0711 END-IF
2783 GC0711 IF WS-Temp-32-Chars-2-TXT(1:1) = '+' OR '-' 2784 GC0711 MOVE SPACE TO WS-Temp-32-Chars-2-TXT(1:1)
2785 GC0711 END-IF
2786 GC0711 IF WS-Temp-32-Chars-3-TXT(1:1) = '+' OR '-'
2787 GC0711 MOVE SPACE TO WS-Temp-32-Chars-3-TXT(1:1)
2788 GC0711 END-IF
2789 MOVE O TO WS-Tally-QTY
2790 GC0711 INSPECT WS-Temp-32-Chars-2-TXT
2791 TALLYING WS-Tally-QTY FOR ALL '.'
2792 IF WS-Tally-QTY = 1
2793 GC0711 INSPECT WS-Temp-32-Chars-2-TXT REPLACING ALL '.' BY SPACE
2794 END-IF
2795 GC0711 INSPECT WS-Temp-32-Chars-3-TXT
2796 GC0711 INSPECT WS-Temp-32-Chars-3-TXT
2797 GC0711 IF WS-Tally-QTY = 1
2798 GC0711 INSPECT WS-Temp-32-Chars-3-TXT REPLACING ALL '.' BY SPACE
2799 GC0711 INSPECT WS-Temp-32-Chars-3-TXT REPLACING ALL '.' BY SPACE
2799 GC0711 INSPECT WS-Temp-32-Chars-3-TXT REPLACING ALL '.' BY SPACE
2799 GC0711 END-IF
2800 GC0711 END-IF
2800 GC0711 INSPECT WS-Temp-32-Chars-2-TXT SPACES AND WS-Temp-32-Chars-3-TXT SPACES
2801 SET WS-TT-Token-Is-Lit-Number-BOOL TO TRUE 2784 GC0711 MOVE SPACE TO WS-Temp-32-Chars-2-TXT(1:1) SET WS-TT-Token-Is-Lit-Number-BOOL TO TRUE 2801 2802 EXIT SECTION END-IF

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```
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```

		/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
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```
2806 320-IDENTIFICATION-DIVISION SECTION.
2807 GC0712 IF WS-TT-Token-Is-Argtype-BOOL
2808 GC0712 SET WS-TT-Token-Is-Reserved-Wd-BOOL TO TRUE
2809 GC0712 END-IF
2810 GC0710 MOVE 'N' TO WS-RS-Verb-Has-Been-Found-CHR
2811 IF WS-TT-Token-Is-Keyword-BOOL
2812 AND WS-Token-Curr-TXT = 'DIVISION'
2813 MOVE WS-Token-Prev-TXT TO WS-Curr-Division-TXT
2814 EXIT SECTION
2815 END-IF
2816 GC0712 IF WS-Token-Prev-TXT = 'PROGRAM-ID' OR 'FUNCTION-ID'
2817 MOVE SPACES TO WS-Token-Prev-TXT
2818 MOVE WS-Token-Curr-TXT TO WS-Curr-Prog-ID-TXT
2819 GC0712 IF WS-CPI-16-CHR NOT = SPACES
2820 MOVE '...' TO WS-CPI-13-15-TXT
2821 END-IF
2822 EXIT SECTION
2823 END-IF
2824 .
```

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Line	Stateme	nt Page: 67
=====		
2826		330-ENVIRONMENT-DIVISION SECTION.
2827	GC0712	IF WS-TT-Token-Is-Argtype-BOOL
2828	GC0712	SET WS-TT-Token-Is-Reserved-Wd-BOOL TO TRUE
2829	GC0712	END-IF
2830		IF WS-TT-Token-Is-Keyword-BOOL
2831		AND WS-Token-Curr-TXT = 'DIVISION'
2832		MOVE WS-Token-Prev-TXT TO WS-Curr-Division-TXT
2833		EXIT SECTION
2834		END-IF
2835		IF WS-TT-Token-Is-Keyword-B00L
2836		AND WS-Token-Curr-TXT = 'SECTION'
2837		MOVE WS-Token-Prev-TXT TO WS-Curr-Section-TXT
2838		EXIT SECTION
2839		END-IF
2840		IF WS-TT-Token-Is-Identifier-BOOL
2841	GC0712	<pre>IF WS-Token-Prev-TXT = 'FUNCTION'</pre>
2842	GC0712	PERFORM 360-Release-Def
2843	GC0712	ELSE
2844	GC0712	PERFORM 361-Release-Ref
2845	GC0712	END-IF
2846		END-IF
2847	GC1213	IF WS-TT-Token-Is-Function-BOOL
2848	GC1213	PERFORM 361-Release-Ref
2849	GC1213	END-IF
2850		

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
```

Line	Statement	7 nome/ vince/ cobols/c/cobol-1001s/0c1c/ Gold.cbi
2852	34	40-DATA-DIVISION SECTION.
	GC0712	IF WS-TT-Token-Is-Argtype-BOOL
	GC0712	SET WS-TT-Token-Is-Reserved-Wd-BOOL TO TRUE
2855	GC0712	END-IF
2856		IF WS-TT-Token-Is-Keyword-BOOL
2857		AND WS-Token-Curr-TXT = 'DIVISION'
2858		MOVE WS-Token-Prev-TXT TO WS-Curr-Division-TXT
2859		EXIT SECTION
2860		END-IF
2861		IF WS-TT-Token-Is-Keyword-BOOL
2862		AND WS-Token-Curr-TXT = 'SECTION'
2863		MOVE WS-Token-Prev-TXT TO WS-Curr-Section-TXT
2864		EXIT SECTION
2865		END-IF
2866		<pre>IF (WS-Token-Curr-TXT = 'PIC' OR 'PICTURE')</pre>
2867		AND (WS-TT-Token-Is-Keyword-BOOL)
2868		MOVE 'Y' TO WS-RS-Processing-PICTURE-CHR
2869		EXIT SECTION
2870		END-IF
	GC0710	
2872	GC0710	IF WS-TT-Token-Is-Reserved-Wd-BOOL AND WS-Token-Prev-TXT = 'LEVEL #'
	GC0710	MOVE SPACES TO WS-Token-Prev-TXT
	GC0710	EXIT SECTION
	GC0710	END-IF
2876		IF WS-TT-Token-Is-Identifier-BOOL
2877		EVALUATE WS-Token-Prev-TXT
2878		WHEN 'FD'
2879		PERFORM 360-Release-Def
2880		MOVE SPACES TO WS-Token-Prev-TXT
2881	GC1213	WHEN 'RD'
	GC1213	PERFORM 360-Release-Def
	GC1213	MOVE SPACES TO WS-Token-Prev-TXT
2884		WHEN 'SD'
2885		PERFORM 360-Release-Def
2886		MOVE SPACES TO WS-Token-Prev-TXT
2887		WHEN 'LEVEL #'
2888		PERFORM 360-Release-Def
2889		MOVE SPACES TO WS-Token-Prev-TXT
2890		WHEN 'INDEXED'
2891		PERFORM 360-Release-Def
2892		MOVE SPACES TO WS-Token-Prev-TXT
2893		WHEN 'USING'
2894		PERFORM 362-Release-Upd
2895		MOVE SPACES TO WS-Token-Prev-TXT
2896		WHEN 'INTO'
2897		PERFORM 362-Release-Upd
2898		MOVE SPACES TO WS-Token-Prev-TXT
2899		WHEN OTHER
2900	GC1213	<pre>IF WS-Token-Curr-TXT NOT = 'SUM'</pre>
2901	GC1213	PERFORM 361-Release-Ref
2902	GC1213	END-IF
		END-EVALUATE

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2017/07/22

/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl

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2904	EXIT	SECTION
2905	END-IF	
2906		

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2908 350-PROCEDURE-DIVISION SECTION.	Line	Statement	/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cb Page: 70
1990	2000	25/)_DDDCCDNIDE_NTVISION SECTION
2910			
2911			
2912 GCO710			
2913 GCO710			
2914 GCO710 MOVE '?' TO WS-Curr-Division-TXT 2915 GCO710 EXIT SECTION 2916 GCO710 EXIT SECTION 2917 IF WS-TT-Token-Is-Keyword-BOOL 2918 AND WS-Token-Curr-TXT = 'DIVISION' 2919 MOVE WS-Token-Prev-TXT TO WS-Curr-Division-TXT 2920 EXIT SECTION 2921 END-IF 2922 GCO313 IF WS-TT-Token-Is-Identifier-BOOL 2923 GCO313 AND WS-Curr-Verb-TXT = SPACES 2924 GCO313 AND WS-Curr-Verb-TXT = SPACES 2925 GCO313 AND WS-Curr-Verb-TXT = SPACES 2926 GCO313 PERFORM 350-Release-Def 2927 GCO313 EXIT SECTION 2928 GCO313 EXIT SECTION 2929 GCO313 EXIT SECTION 2929 GCO313 EXIT SECTION 2930 IF NOT WS-TT-Token-Is-Identifier-BOOL 2931 EXIT SECTION 2932 END-IF 2933 EVALUATE WS-Curr-Verb-TXT 2934 WHEN 'ACCEPT' 2936 WHEN 'ADD' 2937 PERFORM 351-ACCEPT 2938 WHEN 'ALLOCATE' 2939 PERFORM 351-ALLOCATE 2940 WHEN 'CALL' 2941 PERFORM 351-CALL 2942 WHEN 'CURPUTE' 2944 WHEN 'CALL' 2941 PERFORM 351-CALL 2942 WHEN 'CALL' 2944 WHEN 'CALL' 2945 PERFORM 351-GENERATE 2946 WHEN 'CALL' 2947 PERFORM 351-GENERATE 2948 GC1213 WHEN 'INITIALIZE' 2956 WHEN 'INITIALIZE' 2951 PERFORM 351-INITIALIZE 2952 GC1213 WHEN 'INITIALIZE 2953 WHEN 'INITIALIZE' 2954 WHEN 'INITIALIZE' 2955 PERFORM 351-INSPECT 2956 WHEN 'MULTIPLY'			
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2917			
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2955 PERFORM 351-INSPECT 2956 WHEN 'MOVE' 2957 PERFORM 351-MOVE 2958 WHEN 'MULTIPLY'			
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2958 WHEN 'MULTIPLY'			
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	2959		PERFURM 351-MULTIPLY

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2963		PERFORM 351-SET
2964		WHEN 'STRING'
2965		PERFORM 351-STRING
2966		WHEN 'SUBTRACT'
2967		PERFORM 351-SUBTRACT
2968	GC1213	WHEN 'TERMINATE'
2969	GC1213	PERFORM 351-GENERATE
2970		WHEN 'TRANSFORM'
2971		PERFORM 351-TRANSFORM
2972		WHEN 'UNSTRING'
2973		PERFORM 351-UNSTRING
2974		WHEN OTHER
2975		PERFORM 361-Release-Ref
2976		END-EVALUATE
2977		•

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Statement Stat	Page: 72
2980 EVALUATE WS-Token-Prev-TXT 2981 WHEN 'ACCEPT' 2982 PERFORM 362-Release-Upd 2983 MOVE SPACES TO WS-Token-Prev-TXT 2984 WHEN OTHER 2985 PERFORM 361-Release-Ref 2986 END-EVALUATE 2987 . 2988 351-ADD SECTION. 2990 EVALUATE WS-Token-Prev-TXT 2991 WHEN 'GIVING' 2992 PERFORM 362-Release-Upd 2993 WHEN 'TO' 2994 PERFORM 362-Release-Upd 2995 WHEN OTHER 2996 PERFORM 361-Release-Ref 2997 END-EVALUATE 2998 . 2999 . 3000 351-ALLOCATE SECTION. 3001 EVALUATE WS-Token-Prev-TXT 3002 WHEN 'ALLOCATE' 3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
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2994 PERFORM 362-Release-Upd 2995 WHEN OTHER 2996 PERFORM 361-Release-Ref 2997 END-EVALUATE 2998 . 2999 . 3000 351-ALLOCATE SECTION. 3001 EVALUATE WS-Token-Prev-TXT 3002 WHEN 'ALLOCATE' 3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
2995 WHEN OTHER 2996 PERFORM 361-Release-Ref 2997 END-EVALUATE 2998 . 2999 3000 351-ALLOCATE SECTION. 3001 EVALUATE WS-Token-Prev-TXT 3002 WHEN 'ALLOCATE' 3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
2996 PERFORM 361-Release-Ref 2997 END-EVALUATE 2998 . 2999 . 3000 351-ALLOCATE SECTION. 3001 EVALUATE WS-Token-Prev-TXT 3002 WHEN 'ALLOCATE' 3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
2997 END-EVALUATE 2998 . 2999 3000 351-ALLOCATE SECTION. 3001 EVALUATE WS-Token-Prev-TXT 3002 WHEN 'ALLOCATE' 3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
2998 . 2999 3000 351-ALLOCATE SECTION. 3001 EVALUATE WS-Token-Prev-TXT 3002 WHEN 'ALLOCATE' 3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
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3000 351-ALLOCATE SECTION. 3001 EVALUATE WS-Token-Prev-TXT 3002 WHEN 'ALLOCATE' 3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
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3002 WHEN 'ALLOCATE' 3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
3003 PERFORM 362-Release-Upd 3004 MOVE SPACES TO WS-Token-Prev-TXT	
3004 MOVE SPACES TO WS-Token-Prev-TXT	
SUUS WHEN 'RETURNING'	
2000 PERCON 200 Palacas Had	
3006 PERFORM 362-Release-Upd	
3007 WHEN OTHER	
3008 PERFORM 361-Release-Ref	
3009 END-EVALUATE	
3010 .	
3011	
3012 351-CALL SECTION.	
3013 EVALUATE WS-Token-Prev-TXT	
3014 WHEN 'RETURNING'	
3015 PERFORM 362-Release-Upd	
3016 WHEN 'GIVING'	
3017 PERFORM 362-Release-Upd	
3018 WHEN OTHER	
3019 GC1213 PERFORM 365-Release-Arg	
3020 END-EVALUATE	
3021 .	
3022	
3023 351-COMPUTE SECTION.	
3024 EVALUATE WS-Token-Prev-TXT	
3025 WHEN 'COMPUTE'	
3026 PERFORM 362-Release-Upd	
3027 WHEN OTHER	
3028 PERFORM 361-Release-Ref	
3029 END-EVALUATE	
3030 .	

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Line	Stateme	n†	/home/vince/cobolsrc/Cobol-Tools/ocic	
				Page: 73 ======
3031				
3032		351-DIVIDE SECTION.		
3033		EVALUATE WS-Token-Prev-TXT		
3034		WHEN 'INTO'		
3035		PERFORM 363-Set-Upd		
3036		MOVE F-Sort-Work-REC TO	WS-Held-Reference-TXT	
3037		WHEN 'GIVING'		
3038		IF WS-Held-Reference-TX	TT NOT = SPACES	
3039		MOVE WS-Held-Refere	ence-TXT To F-Sort-Work-REC	
3040		MOVE SPACES	To WS-Held-Reference-TXT	
3041			F-SW-Ref-Flag-CHR	
3042		RELEASE F-Sort-Work	r-REC	
3043		END-IF		
3044		PERFORM 362-Release-Upd	l	
3045		WHEN 'REMAINDER'		
3046		PERFORM 362-Release-Upd	l	
3047		WHEN OTHER		
3048		PERFORM 361-Release-Ref	•	
3049		END-EVALUATE		
3050				
3051				
3052		351-FREE SECTION.		
3053		PERFORM 362-Release-Upd		
3054				
3055		•		
	GC1213	351-GENERATE SECTION.		
	GC1213	PERFORM 362-Release-Upd		
	GC1213			
3059	401210	·		
3060		351-INITIALIZE SECTION.		
3061		EVALUATE WS-Token-Prev-TXT		
3062		WHEN 'INITIALIZE'		
3063		PERFORM 362-Release-Upd	1	
3064		WHEN 'REPLACING'		
3065		PERFORM 361-Release-Ref	•	
3066		END-EVALUATE		
3067				
3068		·		
	GC1213	351-INITIATE SECTION.		
	GC1213	PERFORM 362-Release-Upd		
	GC1213	THE SEET OF MOTORDS OF		
3072	401210	•		
3073		351-INSPECT SECTION.		
3074		EVALUATE WS-Token-Prev-TXT		
3075		WHEN 'INSPECT'		
3076		PERFORM 364-Set-Ref		
3077		MOVE SPACES TO WS-Held-	-Reference-TXT	
3078		MOVE SPACES TO WS-Token		
3079		WHEN 'TALLYING'	110, 141	
3080		PERFORM 362-Release-Upd	1	
3081		MOVE SPACES TO WS-Token		
3082		WHEN 'REPLACING'	I I I OV I A I	
3083		IF WS-Held-Reference-TX	T NOT = SPACES	
5005		II. MP HEIM-WEIGIGE-IV	I NOI - DINOED	

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/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line Statement
                                                                              Page: 74
_____
                      MOVE WS-Held-Reference-TXT TO F-Sort-Work-REC
 3085
                      MOVE SPACES TO WS-Held-Reference-TXT MOVE '*' TO F-SW-Ref-Flag-CHR
 3086
 3087
                      RELEASE F-Sort-Work-REC
                  END-IF
 3088
             MOVE SPACES T
WHEN 'CONVERTING'
                  MOVE SPACES TO WS-Token-Prev-TXT
 3089
 3090
                IF WS-Held-Reference-TXT NOT = SPACES
 3091
 3092
                       MOVE WS-Held-Reference-TXT TO F-Sort-Work-REC
                       MOVE SPACES TO WS-Held-Reference-TXT
 3093
 3094
                       MOVE '*'
                                         TO F-SW-Ref-Flag-CHR
 3095
                       RELEASE F-Sort-Work-REC
 3096
                   END-IF
                   MOVE SPACES TO WS-Token-Prev-TXT
 3097
             WHEN OTHER
 3098
 3099
                   PERFORM 361-Release-Ref
 3100
               END-EVALUATE
 3101
 3102
       351-MOVE SECTION.
 3103
               EVALUATE WS-Token-Prev-TXT
 3104
 3105
               WHEN 'TO'
                   PERFORM 362-Release-Upd
 3106
          PERFORM
WHEN OTHER
PERFORM
 3107
 3108
                PERFORM 361-Release-Ref
 3109
                END-EVALUATE
 3110
 3111
          351-MULTIPLY SECTION.
 3112
           EVALUATE WS-Token-Prev-TXT
 3113
 3114
               WHEN 'BY'
 3115
                  PERFORM 363-Set-Upd
 3116
                   MOVE F-Sort-Work-REC TO WS-Held-Reference-TXT
           WHEN 'GIVING'
 3117
 3118
                 MOVE WS-Held-Reference-TXT TO F-Sort-Work-REC
                   MOVE SPACES TO WS-Held-Reference-TXT
 3119
 3120
                                        F-SW-Ref-Flag-CHR
 3121
                  RELEASE F-Sort-Work-REC
             PERFORN
WHEN OTHER
                   PERFORM 362-Release-Upd
 3122
 3123
 3124
                  PERFORM 361-Release-Ref
 3125
               END-EVALUATE
 3126
 3127
 3128
          351-PERFORM SECTION.
           EVALUATE WS-Token-Prev-TXT
 3129
 3130
              WHEN 'VARYING'
          PERFORM
MOVE SPA
WHEN 'AFTER'
 3131
                   PERFORM 362-Release-Upd
 3132
                   MOVE SPACES TO WS-Token-Prev-TXT
 3133
               PERFORM 362-Release-Upd
 3134
                  MOVE SPACES TO WS-Token-Prev-TXT
 3135
               WHEN OTHER
 3136
```

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			_	/home/vince/cobolsrc/Cobol-Tools/ocic	/GCic.cbl
Line	Stateme	ent			Page: 75
3137			PERFORM 361-Release-Ref		
3138			END-EVALUATE		
3139					
3140					
3141		351-	-SET SECTION.		
3142			EVALUATE WS-Token-Prev-TXT		
3143			WHEN 'SET'		
3144			PERFORM 362-Release-Upd		
3145			WHEN OTHER		
3146			PERFORM 361-Release-Ref		
3147			END-EVALUATE		
3148					
3149					
3150		351-	STRING SECTION.		
3151			EVALUATE WS-Token-Prev-TXT		
3152			WHEN 'INTO'		
3153			PERFORM 362-Release-Upd		
3154			WHEN 'POINTER'		
3155			PERFORM 362-Release-Upd		
3156			WHEN OTHER		
3157			PERFORM 361-Release-Ref		
3158			END-EVALUATE		
3159			•		
3160					
3161		351-	-SUBTRACT SECTION.		
3162			EVALUATE WS-Token-Prev-TXT		
3163			WHEN 'GIVING'		
3164			PERFORM 362-Release-Upd		
3165			WHEN 'FROM'		
3166			PERFORM 362-Release-Upd		
3167			WHEN OTHER		
3168			PERFORM 361-Release-Ref		
3169			END-EVALUATE		
3170			•		
3171					
			TERMINATE SECTION.		
	GC1213		PERFORM 362-Release-Upd		
	GC1213		•		
3175		054	mp Avgrony gramtov		
3176		351-	TRANSFORM SECTION.		
3177			EVALUATE WS-Token-Prev-TXT		
3178			WHEN 'TRANSFORM'		
3179			PERFORM 362-Release-Upd	mym	
3180			MOVE SPACES TO WS-Token-Pr	ev-TXT	
3181			WHEN OTHER		
3182			PERFORM 361-Release-Ref		
3183			END-EVALUATE		
3184			•		
3185		254	INGEDING GROWTON		
3186		351-	-UNSTRING SECTION.		
3187			EVALUATE WS-Token-Prev-TXT		
3188			WHEN 'INTO'		
3189			PERFORM 362-Release-Upd		

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Line	Statement			/home/vince/cobolsrc/Cobol-Tools/ocic/	Page: 76
			===:		
3190)	WHEN 'DELIMITER'			
3191	•	PERFORM 362-Release-Upd			
3192	!	WHEN 'COUNT'			
3193	}	PERFORM 362-Release-Upd			
3194	ŧ	WHEN 'POINTER'			
3195	i	PERFORM 362-Release-Upd			
3196	;	WHEN 'TALLYING'			
3197	•	PERFORM 362-Release-Upd			
3198	3	WHEN OTHER			
3199		PERFORM 361-Release-Ref			
3200		END-EVALUATE			
3201		•			
3202					
3203		O-Release-Def SECTION.		T. G W. 1. DEG	
3204		MOVE SPACES		F-Sort-Work-REC	
3205		MOVE WS-Curr-Prog-ID-TXT		F-SW-Prog-ID-TXT	
3206		MOVE WS-Token-Curr-Uc-TXT		F-SW-Token-Uc-TXT	
3207		MOVE WS-Token-Curr-TXT		F-SW-Token-TXT	
3208		MOVE WS-Curr-Section-TXT		F-SW-Section-TXT	
3209		MOVE WS-Curr-Line-NUM		F-SW-Def-Line-NUM	
3210		MOVE 0 RELEASE F-Sort-Work-REC	10	F-SW-Ref-Line-NUM	
3211 3212		RELEASE F-SOFT-WORK-REC			
3212		•			
3213		-Release-Ref SECTION.			
3214		PERFORM 364-Set-Ref			
3216		RELEASE F-Sort-Work-REC			
3217		ILLELADE I DOI'C WOI'R ILLO			
3218		•			
3219		P-Release-Upd SECTION.			
3220		PERFORM 363-Set-Upd			
3221		RELEASE F-Sort-Work-REC			
3222					
3223					
3224		B-Set-Upd SECTION.			
3225	i	MOVE SPACES	TO	F-Sort-Work-REC	
3226	;	MOVE WS-Curr-Prog-ID-TXT	TO	F-SW-Prog-ID-TXT	
3227	•	MOVE WS-Token-Curr-Uc-TXT	TO	F-SW-Token-Uc-TXT	
3228	3	MOVE WS-Token-Curr-TXT	TO	F-SW-Token-TXT	
3229)	MOVE WS-Curr-Section-TXT	TO	F-SW-Section-TXT	
3230)	MOVE WS-Curr-Line-NUM	TO	F-SW-Ref-Line-NUM	
3231	•	MOVE '*'	TO	F-SW-Ref-Flag-CHR	
3232	!				
3233	}				
3234	364	-Set-Ref SECTION.			
3235		MOVE SPACES		F-Sort-Work-REC	
3236		MOVE WS-Curr-Prog-ID-TXT		F-SW-Prog-ID-TXT	
3237		MOVE WS-Token-Curr-Uc-TXT		F-SW-Token-Uc-TXT	
3238		MOVE WS-Token-Curr-TXT		F-SW-Token-TXT	
3239		MOVE WS-Curr-Section-TXT		F-SW-Section-TXT	
3240		MOVE WS-Curr-Line-NUM	TO	F-SW-Ref-Line-NUM	
3242	!				
3241 3242		•			

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Line	Statement		/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl Page: 77
3243	GC1213 365	-Release-Arg SECTION.	
3244	GC1213	PERFORM 366-Set-Arg	
3245	GC1213	RELEASE F-Sort-Work-REC	
3246	GC1213	•	
3247			
3248	GC1213 366	-Set-Arg SECTION.	
3249	GC1213	MOVE SPACES	TO F-Sort-Work-REC
3250	GC1213	MOVE WS-Curr-Prog-ID-TXT	TO F-SW-Prog-ID-TXT
3251	GC1213	MOVE WS-Token-Curr-Uc-TXT	TO F-SW-Token-Uc-TXT
3252	GC1213	MOVE WS-Token-Curr-TXT	TO F-SW-Token-TXT
3253	GC1213	MOVE WS-Curr-Section-TXT	TO F-SW-Section-TXT
3254	GC1213	MOVE WS-Curr-Line-NUM	TO F-SW-Ref-Line-NUM
3255	GC1213	MOVE 'C'	TO F-SW-Ref-Flag-CHR
3256	GC1213	•	

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Line	Statement ======			Page: 78 ========
3259	400)-Produce-Xref-L	isting SECTION.	
3260		MOVE SPACES	TO WS-Xref-Detail-Line-TXT	
3261			WS-Group-Indicators-TXT	
3262		MOVE O	TO WS-I-SUB	
3263			WS-Lines-Left-NUM	
3264	GC0710	MOVE 'N'	TO WS-RS-Duplicate-CHR	
3265		PERFORM FOREVE		
3266		RETURN F-S	ort-Work-FILE AT END	
3267	GC1213	IF WS-	<pre>%ref-Detail-Line-TXT NOT = SPACES</pre>	
3268	GC1213	PEI	RFORM 410-Generate-Report-Line	
3269	GC1213	END-IF	•	
3270	GC1213	MOVE SI	PACES TO WS-Xref-Detail-Line-TXT	
3271	GC1213	PERFORI	410-Generate-Report-Line	
3272	GC1213		ΓIL WS-Lines-Left-NUM = 0	
3273	GC1213	MOVE '	Y' TO WS-Suppress-FF-CHR	
3274	GC1213		420-Generate-Xref-Footer	
3275		EXIT P	ERFORM	
3276		END-RETURN		
3277		IF F-SW-Pro	og-ID-TXT NOT = WS-GI-Prog-ID-TXT	
3278			ken-Uc-TXT NOT = WS-GI-Token-TXT	
3279	GC0710	MOVE '	N' TO WS-RS-Duplicate-CHR	
3280		IF WS-	<pre>Xref-Detail-Line-TXT NOT = SPACES</pre>	
3281		PE	RFORM 410-Generate-Report-Line	
3282		END-IF	-	
3283		IF F-S	W-Prog-ID-TXT NOT = WS-GI-Prog-ID-TXT	
3284	GC1213	MO	VE SPACES TO WS-Xref-Detail-Line-TXT	
3285	GC1213	PE	RFORM 410-Generate-Report-Line	
3286	GC1213		UNTIL WS-Lines-Left-NUM = 0	
3287		END-IF		
3288		MOVE F	-SW-Prog-ID-TXT TO WS-GI-Prog-ID-TXT	
3289		MOVE F	-SW-Token-Uc-TXT TO WS-GI-Token-TXT	
3290		END-IF		
3291	GC0710	IF F-SW-To	ken-Uc-TXT = WS-GI-Token-TXT	
3292	GC0710	AND F-SW-De	ef-Line-NUM NOT = SPACES	
3293	GC0710	AND WS-Xre	f-Detail-Line-TXT NOT = SPACES	
3294	GC0710	MOVE '	Y' TO WS-RS-Duplicate-CHR	
3295	GC0710	PERFOR	M 410-Generate-Report-Line	
3296	GC0710	MOVE O	TO WS-I-SUB	
3297	GC0710	MOVE F	-SW-Prog-ID-TXT TO WS-XDL-Prog-ID-TXT	
3298	GC0710		(Duplicate Definition), TO WS-XDL-Token-TXT	
3299	GC0710	MOVE F	-SW-Section-TXT TO WS-XDL-Section-TXT	
3300	GC0710	MOVE F	-SW-Def-Line-NUM TO WS-XDL-Def-Line-NUM	
3301	GC0710	EXIT P	ERFORM CYCLE	
	GC0710	END-IF		
	GC0710		ken-Uc-TXT = WS-GI-Token-TXT	
	GC0710		ef-Line-NUM = SPACES	
	GC0710		Ouplicate-CHR = 'Y'	
3306	GC0710		N' TO WS-RS-Duplicate-CHR	
	GC0710		M 410-Generate-Report-Line	
	GC0710		TO WS-I-SUB	
	GC0710		-SW-Prog-ID-TXT TO WS-XDL-Prog-ID-TXT	
3310	GC0710	MOVE '	(Duplicate References), TO WS-XDL-Token-TXT	

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Line	Statement		Page: 79
=====	======================================	PND TP	=========
	GC0710	END-IF	
3312		IF WS-Xref-Detail-Line-TXT = SPACES	
3313		MOVE F-SW-Prog-ID-TXT TO WS-XDL-Prog-ID-TXT	
3314		MOVE F-SW-Token-TXT TO WS-XDL-Token-TXT	
3315		MOVE F-SW-Section-TXT TO WS-XDL-Section-TXT	
3316		IF F-SW-Def-Line-NUM NOT = SPACES	
3317		MOVE F-SW-Def-Line-NUM TO WS-XDL-Def-Line-NUM	
3318		END-IF	
3319		END-IF	
3320		<pre>IF F-SW-Reference-TXT > '000000'</pre>	
3321		ADD 1 TO WS-I-SUB	
3322		<pre>IF WS-I-SUB > WS-Xref-Lines-Per-Rec-NUM</pre>	
3323		PERFORM 410-Generate-Report-Line	
3324		MOVE 1 TO WS-I-SUB	
3325		END-IF	
3326		MOVE F-SW-Ref-Line-NUM	
3327		TO WS-XDL-Ref-Line-NUM (WS-I-SUB)	
3328		MOVE F-SW-Ref-Flag-CHR	
3329		TO WS-XDL-Ref-Flag-CHR (WS-I-SUB)	
3330		END-IF	
3331		END-PERFORM	
3332		IF WS-Xref-Detail-Line-TXT NOT = SPACES	
3333		PERFORM 410-Generate-Report-Line	
3334		END-IF	
3335			

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```
GNUCOBOL 2.2 20JUL2017 Source Listing
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Line Statement ### Acquaint | To ware |
Acquaint |
Acquain 3350 GC1213 3351 GC1213 3352 GC1213 3353 GC1213 3354 GC1213 3355 GC1213 3356 GC1213 3357 GC1213 3358 GC1213 3359 GC1213 3360 GC1213 3361 GC1213 3362 GC1213 3363 GC1213 3364 GC1213 3365 GC1213 3366 GC1213 F-Listing-135-REC(72:1) F-Listing-135-REC(/2:1)
WRITE F-Listing-135-REC BEFORE 1 *> Page Header Line #4 ELSE *> PORTRAIT

MOVE WS-Version-TXT

TO F-Listing-96-REC

MOVE 'Cross-Reference Listing'

TO F-Listing-96-REC(25:23)

MOVE WS-Formatted-DT

TO F-Listing-96-REC(87:10)

WRITE F-Listing-96-REC BEFORE 1 *> Page Header Line #1

MOVE WS-Program-Path-TXT(40:96)

TO F-Listing-96-REC

WRITE F-Listing-96-REC BEFORE 1 *> Page Header Line #2

MOVE 'PROGRAM-ID Identifier/Register/Function' &

' Defn Where Defined References'

TO F-Listing-96-REC

MOVE WS-Page-No-TXT

TO F-Listing-96-REC BEFORE 1 *> Page Header Line #3

MOVE ALL '=' TO F-Listing-96-REC

MOVE SPACE TO F-Listing-96-REC(49:1)

F-Listing-96-REC(49:1) 3367 GC1213 3368 GC1213 3369 GC1213 3370 GC1213 3371 GC1213 3372 GC1213 3373 GC1213 3374 GC1213 3375 GC1213 3376 GC1213 3377 GC1213 3378 GC1213 3379 GC1213 3380 GC1213 3381 GC1213 3382 GC1213 3383 GC1213 3384 GC1213 3385 GC1213 3386 GC1213 3387 GC1213 3388 GC1213 F-Listing-96-REC(56:1)

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Line		rome/vince/cobols/c/cobol-loois/ocic/cocc.cbl
3389	GC1213	F-Listing-96-REC(72:1)
	GC1213	<u> </u>
	GC1213	END-IF
3392	GC1213	COMPUTE WS-Lines-Left-NUM = WS-Lines-Per-Page-NUM - 4
3393		END-IF
	GC1213	IF L-Listing-CD = 1 *> LANDSCAPE
	GC1213	WRITE F-Listing-135-REC FROM WS-Xref-Detail-Line-TXT
	GC1213	BEFORE 1
	GC1213	ELSE *> PORTRAIT
	GC1213	WRITE F-Listing-96-REC FROM WS-Xref-Detail-Line-TXT
	GC1213	BEFORE 1
	GC1213	END-IF
3401	401210	MOVE SPACES TO WS-Xref-Detail-Line-TXT
3402		MOVE O TO WS-I-SUB
3403		SUBTRACT 1 FROM WS-Lines-Left-NUM
3404		boblished I from the brief between
		20-Generate-Xref-Footer SECTION.
	GC1213 4	IF L-Listing-CD = 1 *> LANDSCAPE
	GC1213	WRITE F-Listing-135-REC FROM SPACES BEFORE 1 *> Footer Line #1
	GC1213	MOVE ALL '='
	GC1213	TO F-Listing-135-REC
	GC1213	WRITE F-Listing-135-REC BEFORE 1 *> Footer Line #2
		G
	GC1213 GC1213	MOVE WS-Copyright-TXT
	GC1213	TO F-Listing-135-REC
	GC1213	MOVE WS-Page-No-TXT TO F-Listing-135-REC(126:10)
	GC1213	IF WS-Suppress-FF-CHR = 'Y'
	GC1213	WRITE F-Listing-135-REC BEFORE 1 *> Footer Line #3
	GC1213	ELSE
	GC1213	WRITE F-Listing-135-REC BEFORE PAGE *> Footer Line #3
	GC1213	WRITE F-Listing-135-REC FROM SPACES BEFORE 1 *> Spaces After FF Charac
3413	ter	while P bisting 155 tale Phon SPACES BEFORE 1 */ Spaces After PF Charac
3/120	GC1213	END-IF
	GC1213	ELSE *> PORTRAIT
	GC1213	WRITE F-Listing-96-REC FROM SPACES BEFORE 1 *> Footer Line #1
	GC1213	MOVE ALL '='
	GC1213	TO F-Listing-96-REC
	GC1213	WRITE F-Listing-96-REC BEFORE 1 *> Footer Line #2
	GC1213	MOVE WS-Copyright-TXT
	GC1213	TO F-Listing-96-REC
	GC1213	MOVE WS-Page-No-TXT
	GC1213	TO F-Listing-96-REC(87:10)
	GC1213	IF WS-Suppress-FF-CHR = 'Y'
	GC1213	WRITE F-Listing-96-REC BEFORE 1 *> Footer Line #3
	GC1213	ELSE
	GC1213	WRITE F-Listing-96-REC BEFORE PAGE *> Footer Line #3
	GC1213	WRITE F-Listing-96-REC FROM SPACES BEFORE 1 *> Spaces After FF Charact
0-10-1	er	"" phaces witel it dilatact
3435	GC1213	END-IF
	GC1213	END-IF
	GC1213	
0-101	301210	

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```
/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl
Line Statement
                                                                                                                                          Page: 82
   {\tt 3439} \qquad \qquad {\tt 500-Produce-Source-Listing SECTION.}
   3440
                  OPEN INPUT F-Original-Src-FILE
  3441
                                             F-Expanded-Src-FILE
  3448 EXIT PERFORM

3449 END-READ

3450 GC0712 IF F-ES-1-7-TXT NOT = '#DEFLIT'

3451 GC0712 PERFORM 510-Control-Reco

3453 GC0712 ELSE

3454 GC0712 PERFORM 520-Expanded-Src

3455 GC0712 END-IF

3456 GC0712 END-IF

3457 END-PERFORM

3458 CLOSE F-Original-Src-FILE

3459 F-Expanded-Src-FILE

3460 .
```

PERFORM 510-Control-Record

PERFORM 520-Expanded-Src-Record

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Line	Statement	Page: 83
=====		
3462	510-Control-Record SECTION.	
3463	UNSTRING F-ES-2-256-TXT-256	
3464	DELIMITED BY '"'	
3465	INTO WS-Temp-10-Chars-TXT	
3466	WS-Temp-256-Chars-TXT	
3467	WS-Dummy-TXT	
3468	GC1010 IF UPPER-CASE(TRIM(WS-Temp-256-Chars-TXT,Trailing)) =	
3469	GC1010 TRIM(WS-Main-Module-Name-TXT) *> Main Pgm	
3470	SET WS-RS-In-Main-Module-BOOL TO TRUE	
3471	IF WS-Src-Line-NUM > 0	
3472	READ F-Expanded-Src-FILE END-READ	
3473	END-IF	
3474	ELSE *> COPY	
3475	SET WS-RS-In-Copybook-BOOL TO TRUE	
3476	END-IF	
3477		

```
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Line =====	Stateme	7 nome/vince/cobols/c/cobol-1001s/ocic/gcic.co. Page: 84
3479		520-Expanded-Src-Record SECTION.
3480		IF WS-RS-In-Main-Module-BOOL
3481		ADD 1 To WS-Curr-Line-NUM
	GC0712	READ F-Original-Src-FILE AT END CONTINUE END-READ
3483		ADD 1 TO WS-Src-Line-NUM
3484		MOVE SPACES TO WS-Src-Detail-Line-TXT
3485		MOVE WS-Src-Line-NUM TO WS-SDL-Line-NUM
	GC1213	MOVE F-Original-Src-REC TO WS-SDL-Statement-TXT
	GC0712	MOVE LOWER-CASE(TRIM(F-OS-8-72-TXT, LEADING))
	GC0712	TO WS-Temp-65-Chars-TXT
	GC0712	INSPECT WS-Temp-65-Chars-TXT REPLACING ALL '.' BY SPACE
	GC0712	EVALUATE TRUE
	GC0712	WHEN F-OS-7-CHR = '/'
	GC1213	MOVE SPACES TO WS-Src-Detail-Line-TXT
	GC1213	PERFORM 530-Generate-Source-Line
	GC1213	UNTIL WS-Lines-Left-NUM = 0
	GC0712	WHEN WS-Temp-65-Chars-TXT = "eject"
	GC1213	MOVE SPACES TO WS-Src-Detail-Line-TXT
	GC1213	PERFORM 530-Generate-Source-Line
	GC1213	UNTIL WS-Lines-Left-NUM = 0
	GC0712	EXIT SECTION
	GC0712	WHEN WS-Temp-65-Chars-TXT = "skip1"
	GC0712	MOVE SPACES TO WS-Src-Detail-Line-TXT
	GC0712	PERFORM 530-Generate-Source-Line
	GC0712	EXIT SECTION
	GC0712	WHEN WS-Temp-65-Chars-TXT = "skip2"
	GC0712	MOVE SPACES TO WS-Src-Detail-Line-TXT
	GC0712	PERFORM 530-Generate-Source-Line 2 TIMES
	GC0712	EXIT SECTION
	GC0712	WHEN WS-Temp-65-Chars-TXT = "skip3"
	GC0712	MOVE SPACES TO WS-Src-Detail-Line-TXT
	GC0712	PERFORM 530-Generate-Source-Line 3 TIMES
	GC0712	EXIT SECTION
	GC0712	END-EVALUATE
3513		PERFORM 530-Generate-Source-Line
3514		ELSE
3515		IF F-Expanded-Src-REC NOT = SPACES
3516		MOVE SPACES TO WS-Src-Detail-Line-TXT
	GC1213	MOVE F-Expanded-Src-REC
3518		TO WS-SDL-Statement-TXT
	GC0712	MOVE LOWER-CASE(TRIM(F-OS-8-72-TXT, LEADING))
	GC0712	TO WS-Temp-65-Chars-TXT
	GC0712	INSPECT WS-Temp-65-Chars-TXT
	GC0712	REPLACING ALL '.' BY SPACE
3523	GC0712	EVALUATE TRUE
	GC0712	WHEN WS-Temp-65-Chars-TXT = "eject"
	GC0712	MOVE O TO WS-Lines-Left-NUM
	GC0712	EXIT SECTION
	GC0712	WHEN WS-Temp-65-Chars-TXT = "skip1"
	GC0712	MOVE SPACES TO WS-Src-Detail-Line-TXT
	GC0712	PERFORM 530-Generate-Source-Line
	GC0712	EXIT SECTION
3000	300112	

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Line	Statement	Page: 85
======	=========	(WDW 119 Ft OF FWF I . I OH
3531	GC0712	WHEN WS-Temp-65-Chars-TXT = "skip2"
3532	GC0712	MOVE SPACES TO WS-Src-Detail-Line-TXT
3533	GC0712	PERFORM 530-Generate-Source-Line 2 TIMES
3534	GC0712	EXIT SECTION
3535	GC0712	WHEN WS-Temp-65-Chars-TXT = "skip3"
3536	GC0712	MOVE SPACES TO WS-Src-Detail-Line-TXT
3537	GC0712	PERFORM 530-Generate-Source-Line 3 TIMES
3538	GC0712	EXIT SECTION
3539	GC0712	END-EVALUATE
3540		PERFORM 530-Generate-Source-Line
3541		END-IF
3542		END-IF
3543		

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```
3545 530-Generate-Source-Line SECTION.
 3546 GC1213 MOVE 1 TO WS-Src-Lines-NUM
IF WS-SDL-Statement-TXT(129:128) > SPACES
                        ADD 1 TO WS-Src-Lines-NUM
                  END-IF
3550 GC1213
 3551 GC1213 ELSE
                                          *> PORTRATT
3552 GC1213 IF WS-SDL-Statement-TXT(90:167) > SPACES
3553 GC1213 ADD 1 TO WS-Src-Lines-NUM
3554 GC1213 IF WS-SDL-Statement-TXT(17
3555 GC1213 ADD 1 TO WS-Src-Lines-
3556 GC1213 END-IF
3557 GC1213 END-IF
                            IF WS-SDL-Statement-TXT(179:78) > SPACES
                                 ADD 1 TO WS-Src-Lines-NUM
 3558 GC1213 END-IF
 3559 GC1213 IF WS-Lines-Left-NUM < WS-Src-Lines-NUM
                  IF WS-Page-Num > 0 *> Don't print footer before page 1
 3560 GC1213
 3561 GC1213
                           IF L-Listing-CD = 1 *> LANDSCAPE
 3562 GC1213
                                 IF WS-Src-Lines-NUM = 2
 3563 GC1213
                                      WRITE F-Listing-135-REC FROM SPACES BEFORE 1 *> Blank Line
                                 END-IF
 3564 GC1213
 3565 GC1213
                                 WRITE F-Listing-135-REC FROM SPACES BEFORE 1 *> Footer Line #1
 3566 GC1213
                                 MOVE ALL '='
 3567 GC1213
                                   TO F-Listing-135-REC
 3568 GC1213
                                 WRITE F-Listing-135-REC BEFORE 1 *> Footer Line #2
 3569 GC1213
                                 MOVE WS-Copyright-TXT
 3570 GC1213
                                   TO F-Listing-135-REC
                                 MOVE WS-Page-No-TXT
 3571 GC1213
 3572 GC1213
                                   TO F-Listing-135-REC(126:10)
 3573 GC1213
                                 WRITE F-Listing-135-REC BEFORE PAGE *> Footer Line #3
 3574 GC1213
                                 WRITE F-Listing-135-REC FROM SPACES BEFORE 1 *> Spaces After FF Ch
aracter

3575 GC1213 ELSE *> PORTRAIT

3576 GC1213 EVALUATE WS-Src-Lines-NUM

3577 GC1213 WHEN 1 *> Need no extra blank line

3578 GC1213 CONTINUE

3579 GC1213 WHEN 2 *> Need 1 extra blank line

3580 GC1213 WRITE F-Listing-96-REC FROM SF

3581 GC1213 WRITE F-Listing-96-REC FROM SF

3582 GC1213 WRITE F-Listing-96-REC FROM SF

WRITE F-Listing-96-REC FROM SF
      aracter
                                 WHEN 1 *> Need no extra blank lines
                                     WRITE F-Listing-96-REC FROM SPACES BEFORE 1
                                 WHEN 3 *> Need 2 extra blank lines
                                     WRITE F-Listing-96-REC FROM SPACES BEFORE 1
                                      WRITE F-Listing-96-REC FROM SPACES BEFORE 1
                   WRITE F-LISTING-96
END-EVALUATE
WRITE F-Listing-96-REC
MOVE ALL '='
TO F-Listing-96-REC
WRITE F-Listing-96-REC
MOVE WS-Copyright-TXT
 3584 GC1213
 3585 GC1213
                                 WRITE F-Listing-96-REC FROM SPACES BEFORE 1 *> Footer Line #1
 3586 GC1213
 3587 GC1213
 3588 GC1213
                                WRITE F-Listing-96-REC BEFORE 1 *> Footer Line #2
 3589 GC1213
 3590 GC1213
                                  TO F-Listing-96-REC
 3591 GC1213
                                MOVE WS-Page-No-TXT
3592 GC1213
                                 TO F-Listing-96-REC(87:10)
                                 WRITE F-Listing-96-REC BEFORE PAGE *> Footer Line #3
 3593 GC1213
 3594 GC1213
                                 WRITE F-Listing-96-REC FROM SPACES BEFORE 1 *> Spaces After FF Cha
```

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	_	/home/vince/cobolsrc/Cobol-Tools/oci	
Line	Statement		Page: 87
	GC1213	END-IF	
	GC1213	END-IF	
	GC1213	ADD 1 TO WS-Page-NUM	
	GC1213	MOVE 'Page:' TO WS-PN-Literal-TXT	
	GC1213	MOVE WS-Page-NUM TO WS-PN-Page-NUM	
	GC1213	CALL 'C\$JUSTIFY' USING WS-PN-Page-NUM, 'Left'	
	GC1213	CALL 'C\$JUSTIFY' USING WS-Page-No-TXT, 'Right'	
	GC1213	IF L-Listing-CD = 1 *> LANDSCAPE	
	GC1213	MOVE WS-Version-TXT	
	GC1213	TO F-Listing-135-REC	
	GC1213	MOVE 'Source Listing'	
	GC1213	TO F-Listing-135-REC(25:14)	
3607	GC1213	MOVE WS-Formatted-DT	
3608	GC1213	TO F-Listing-135-REC(126:10)	
3609	GC1213	WRITE F-Listing-135-REC BEFORE 1 *> Page Header Line #1	
3610	GC1213	MOVE WS-Program-Path-TXT	
3611	GC1213	TO F-Listing-135-REC	
3612	GC1213	WRITE F-Listing-135-REC BEFORE 1 *> Page Header Line #2	
3613	GC1213	MOVE 'Line Statement'	
3614	GC1213	TO F-Listing-135-REC	
3615	GC1213	MOVE WS-Page-No-TXT	
3616	GC1213	TO F-Listing-135-REC(126:10)	
	GC1213	WRITE F-Listing-135-REC BEFORE 1 *> Page Header Line #3	
	GC1213	MOVE WS-Src-Dashes-TXT	
	GC1213	TO F-Listing-135-REC	
	GC1213	WRITE F-Listing-135-REC BEFORE 1 *> Page Header Line #4	
	GC1213	ELSE *> PORTRAIT	
	GC1213	MOVE WS-Version-TXT	
	GC1213	TO F-Listing-96-REC	
	GC1213	MOVE 'Source Listing'	
	GC1213	TO F-Listing-96-REC(25:14)	
	GC1213	MOVE WS-Formatted-DT	
	GC1213 GC1213	TO F-Listing-96-REC(87:10)	
	GC1213	<pre>WRITE F-Listing-96-REC BEFORE 1 *> Page Header Line #1 MOVE WS-Program-Path-TXT(40:96)</pre>	
	GC1213	TO F-Listing-96-REC	
	GC1213	WRITE F-Listing-96-REC BEFORE 1 *> Page Header Line #2	
	GC1213	MOVE 'Line Statement'	
	GC1213	TO F-Listing-96-REC	
	GC1213	MOVE WS-Page-No-TXT	
	GC1213	TO F-Listing-96-REC(87:10)	
3636	GC1213	WRITE F-Listing-96-REC BEFORE 1 *> Page Header Line #3	
	GC1213	MOVE WS-Src-Dashes-TXT	
3638	GC1213	TO F-Listing-96-REC	
3639	GC1213	WRITE F-Listing-96-REC BEFORE 1 *> Page Header Line #4	
3640	GC1213	END-IF	
3641	GC1213	COMPUTE WS-Lines-Left-NUM = WS-Lines-Per-Page-NUM - 4	
3642	GC1213	END-IF	
3643	GC1213	IF L-Listing-CD = 1 *> LANDSCAPE	
	GC1213	EVALUATE WS-Src-Lines-NUM	
3645	GC1213	WHEN 1	
	GC1213	MOVE WS-Src-Detail-Line-TXT TO F-Listing-135-REC	
3647	GC1213	WRITE F-Listing-96-REC BEFORE 1	

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/home/vince/cobolsrc/Cobol-Tools/ocic/GCic.cbl Line Statement _____ 3648 GC1213 SUBTRACT 1 FROM WS-Lines-Left-NUM WHEN 2 3649 GC1213 3650 GC1213 MOVE WS-SDL-Statement-TXT TO WS-Src-Hold-TXT 3651 GC1213 3652 GC1213 3653 GC1213 MOVE WS-Src-Detail-Line-TXT TO F-Listing-135-REC MOVE WS-S
WRITE F-I
MOVE SPAC
MOVE WS-S
MOVE WS-S
WRITE F-I
SUBTRACT
END-EVALUATE WRITE F-Listing-135-REC BEFORE 1 *> Prints chars 1-128 of stmnt MOVE SPACES TO WS-Src-Detail-Line-TXT 3654 GC1213 MOVE WS-Src-Hold-TXT(129:128) TO WS-SDL-Statement-TXT 3655 GC1213 MOVE WS-Src-Detail-Line-TXT TO F-Listing-135-REC 3656 GC1213 WRITE F-Listing-135-REC BEFORE 1 *> Prints chars 129-256 of stmnt 3657 GC1213 SUBTRACT 2 FROM WS-Lines-Left-NUM 3658 GC1213 3659 GC1213 ELSE *> PORTRAIT 3660 GC1213 EVALUATE WS-Src-Lines-NUM 3661 GC1213 WHEN 1 *> Print only chars 1-89 of stmnt 3662 GC1213 WRITE F-Listing-96-REC FROM WS-Src-Detail-Line-TXT 3663 GC1213 BEFORE 1 3664 GC1213 SUBTRACT 1 FROM WS-Lines-Left-NUM MOVE WS-SDL-Statement-TXT TO WS-Src-Hold-TXT WRITE F-Listing-96-REC FROM US 2 3665 GC1213 WHEN 2 *> Print only chars 1-89 and 90-178 of text MOVE WS-Src-Hold-TXT(90:89) TO WS-Src-WRITE F-Listing-96-RFC FROM WS-Src-BEFORE 1

MOVE SPACES TO WS-Src-Detail-Line-TXT MOVE WS-Src-Hold-TXT(90:89) TO WS-Src-WRITE F-Listing-96-RFC FROM THE SEFORE 1 3666 GC1213 3667 GC1213 WRITE F-Listing-96-REC FROM WS-Src-Detail-Line-TXT 3668 GC1213 3669 GC1213 3670 GC1213 MOVE WS-Src-Hold-TXT(90:89) TO WS-SDL-Statement-TXT WRITE F-Listing-96-REC FROM WS-Src-Detail-Line-TXT 3671 GC1213 3672 GC1213 SUBTRACT 2 FROM WS-Lines-Left-NUM 3673 GC1213 3674 GC1213 WHEN 3 *> Print chars 1-89, 90-178 and 179-256 of stmnt MOVE WS-SDL-Statement-TXT TO WS-Src-Hold-TXT 3675 GC1213 WRITE F-Listing-96-REC FROM WS-Src-Detail-Line-TXT
BEFORE 1
MOVE SPACES TO WS-Src-Detail-Line-TXT
MOVE WS-Src-Hold-TXT(90:89) TO WS-SDL-Statement-TXT
WRITE F-Listing-96-REC FROM WS-Src-Detail-Line-TXT
BEFORE 1
MOVE SPACES TO WS-Src-Detail-Line-TXT
MOVE WS-Src-Hold-TXT(179:78) TO WS-SDL-Statement-TXT
WRITE F-Listing-96-REC FROM WS-Src-Detail-Line-TXT
BEFORE 1
SUBTRACT 3 FROM WS-Lines-Left-NUM 3676 GC1213 WRITE F-Listing-96-REC FROM WS-Src-Detail-Line-TXT 3677 GC1213 3678 GC1213 3679 GC1213 3680 GC1213 3681 GC1213 3682 GC1213 3683 GC1213 3684 GC1213 3685 GC1213 3686 GC1213 SUBTRACT 3 FROM WS-Lines-Left-NUM END-EVALUATE 3687 GC1213 3688 GC1213 END-IF 3689 MOVE SI MOVE SPACES TO WS-Src-Detail-Line-TXT 3690 3691 END PROGRAM LISTING. 3692

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CHECKSRC	000-Main		PROCEDURE	=======	=====	======
CHECKSRC	L-A1-CHR		LINKAGE	1317	1329	1332
				1339		
CHECKSRC	L-A2-IDENT-DIVISION-BOOL	1310	LINKAGE	1361*		
CHECKSRC	L-A2-LINKAGE-SECTION-BOOL	1309	LINKAGE	1355*		
CHECKSRC	L-A2-Nothing-Special-BOOL	1311	LINKAGE	1316*		
CHECKSRC	L-Argument-1-TXT	1304	LINKAGE	1313		
CHECKSRC	L-Argument-2-CHR	1308	LINKAGE	1314		
CHECKSRC	WS-Compressed-Src-TXT	1291	WORKING-STORAGE	1326*	1349	1353
				1359		
CHECKSRC	WS-CS-CHR	1292	WORKING-STORAGE	1333*	1339*	1348
				1352	1358	
CHECKSRC	WS-I-SUB	1300	WORKING-STORAGE	1327*	1328	1329
				1332	1339	1345*
				1346	1348	1349
				1352	1352	1353
				1358	1358	1359
CHECKSRC	WS-J-SUB	1302	WORKING-STORAGE	1325*	1331*	1333
				1338*	1339	
CHECKSRC	WS-RS-Found-SPACE-CHR		WORKING-STORAGE			
CHECKSRC	WS-RS-Not-Skipping-SPACE-BOOL		WORKING-STORAGE		1330	1337*
CHECKSRC	WS-RS-Skipping-SPACE-BOOL		WORKING-STORAGE			
CHECKSRC	WS-Runtime-Switches-TXT	1295	WORKING-STORAGE			

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PROGRAM-ID	Identifier/Register/Function	/nome	<pre>/vince/cobolsrc/ Where Defined</pre>	References	Page: 90
GCic	000-File-Error		PROCEDURE		
GCic	000-Main		PROCEDURE		
GCic	100-Initialization		PROCEDURE	676	
GCic	200-Let-User-Set-Switches		PROCEDURE	679	
GCic	210-Run-Compiler		PROCEDURE	680	
GCic	220-Make-Listing		PROCEDURE	684	
GCic	230-Run-Program		PROCEDURE	688	
GCic	240-Find-LINKAGE-SECTION		PROCEDURE	747	
GCic	250-Autoload-Listing		PROCEDURE	690 1031	1065
GCic	900-Terminate		PROCEDURE	692 741	884
doic	Joo Telminate	1200	THOOLDON	1032 1166	001
GCic	COB-COLOR-BLACK	178	[screenio]		534
doic	OOD COLOIT BLACK	170	[Screento]	544 554	559
				569 576	591
				606 622	629
				636	029
GCic	COB-COLOR-BLUE	170	[screenio]		
GCic	COB-COLOR-CYAN		[screenio]		
GCic			[screenio]		607
GCIC	COB-COLOR-GREEN	1/0	[screento]	623	607
00÷ -	COD COLOD MACENTA	170	Г		
GCic	COB-COLOR-MAGENTA		[screenio]		
GCic	COB-COLOR-RED		[screenio]		500
GCic	COB-COLOR-WHITE	178	[screenio]		529
				545 555	570
aa.	GOD GOLOD WELLOW	470	г	577 630	637
GCic	COB-COLOR-YELLOW		[screenio]		
GCic	COB-SCR-ESC		[screenio]		
GCic	COB-SCR-F1		[screenio]		
GCic	COB-SCR-F10		[screenio]		
GCic	COB-SCR-F11		[screenio]		
GCic	COB-SCR-F12		[screenio]		
GCic	COB-SCR-F13		[screenio]		
GCic	COB-SCR-F14		[screenio]		
GCic	COB-SCR-F15		[screenio]		
GCic	COB-SCR-F16		[screenio]		
GCic	COB-SCR-F17		[screenio]		
GCic	COB-SCR-F18	178	[screenio]		
GCic	COB-SCR-F19	178	[screenio]		
GCic	COB-SCR-F2	178	[screenio]		
GCic	COB-SCR-F20		[screenio]		
GCic	COB-SCR-F21	178	[screenio]		
GCic	COB-SCR-F22		[screenio]		
GCic	COB-SCR-F23	178	[screenio]		
GCic	COB-SCR-F24		[screenio]		
GCic	COB-SCR-F25		[screenio]		
GCic	COB-SCR-F26		[screenio]		
GCic	COB-SCR-F27		[screenio]		
GCic	COB-SCR-F28	178	[screenio]		
GCic	COB-SCR-F29	178	[screenio]		
GCic	COB-SCR-F3	178	[screenio]		
GCic	COB-SCR-F30	178	[screenio]		
GCic	COB-SCR-F31	178	[screenio]		
GCic	COB-SCR-F32	178	[screenio]		

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GCic	COB-SCR-F33	- 178	[screenio	 		
GCic	COB-SCR-F34	178	[screenio]		
GCic	COB-SCR-F35	178	[screenio			
GCic	COB-SCR-F36	178	[screenio			
GCic	COB-SCR-F37	178	[screenio			
GCic	COB-SCR-F38	178	[screenio			
GCic	COB-SCR-F39	178	[screenio			
GCic	COB-SCR-F4	178	[screenio	848		
GCic	COB-SCR-F40	178	[screenio]		
GCic	COB-SCR-F41	178	[screenio			
GCic	COB-SCR-F42	178	[screenio			
GCic	COB-SCR-F43	178	[screenio			
GCic	COB-SCR-F44	178	[screenio]		
GCic	COB-SCR-F45	178	[screenio]		
GCic	COB-SCR-F46	178	[screenio]		
GCic	COB-SCR-F47	178	[screenio]		
GCic	COB-SCR-F48	178	[screenio]		
GCic	COB-SCR-F49	178	[screenio			
GCic	COB-SCR-F5	178	[screenio	854		
GCic	COB-SCR-F50	178	[screenio]		
GCic	COB-SCR-F51	178	[screenio]		
GCic	COB-SCR-F52	178	[screenio			
GCic	COB-SCR-F53	178	[screenio]		
GCic	COB-SCR-F54	178	[screenio]		
GCic	COB-SCR-F55	178	[screenio]		
GCic	COB-SCR-F56	178]		
GCic	COB-SCR-F57	178	[screenio]		
GCic	COB-SCR-F58	178	[screenio]		
GCic	COB-SCR-F59	178	[screenio]		
GCic	COB-SCR-F6	178	[screenio	859		
GCic	COB-SCR-F60	178	[screenio]		
GCic	COB-SCR-F61	178	[screenio]		
GCic	COB-SCR-F62	178	[screenio]		
GCic	COB-SCR-F63	178	[screenio]		
GCic	COB-SCR-F64	178	[screenio]		
GCic	COB-SCR-F7	178	[screenio	865		
GCic	COB-SCR-F8	178	[screenio	871		
GCic	COB-SCR-F9	178	[screenio] 877		
GCic	COB-SCR-FATAL	178	[screenio]		
GCic	COB-SCR-KEY-DOWN	178	[screenio]		
GCic	COB-SCR-KEY-UP		[screenio]		
GCic	COB-SCR-MAX-FIELD	178	[screenio]		
GCic	COB-SCR-NO-FIELD	178	[screenio]		
GCic	COB-SCR-OK	178	[screenio]		
GCic	COB-SCR-PAGE_DOWN	178	[screenio]		
GCic	COB-SCR-PAGE_UP		[screenio			
GCic	COB-SCR-PRINT		[screenio			
GCic	COB-SCR-TIME-OUT		[screenio]		
GCic	F-Cobc-Output-FILE	171	FILE	162	1008	1026
GCic	F-Cobc-Output-REC	172	FILE	1009	1014*	1015
				1023*	1024	
GCic	F-Source-Code-FILE	174	FILE	165	655	1174
				1178	1179	1192

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				1193	1200	
GCic	F-Source-Code-REC	175	FILE	1183C	1197C	
GCic	F1		WORKING-STORAGE	206		
GCic	F12		WORKING-STORAGE	200		
GCic	F2		WORKING-STORAGE	213		
GCic	F3		WORKING-STORAGE	209		
GCic	F4		WORKING-STORAGE	207		
GCic	F5		WORKING-STORAGE	210	257	
GCic	F6		WORKING-STORAGE	211		
GCic	F7		WORKING-STORAGE	214		
GCic	F8		WORKING-STORAGE	208		
GCic	F9		WORKING-STORAGE	212		
GCic	LD-Horiz-Line	133	SCREEN	801		
GCic	LD-LL-Corner		SCREEN	456	486	502
dOTC	TO TE COLUEI	420	DOIGEN	516	400	502
CC: a	LD-Lower-T	420	CCDEEN			
GCic			SCREEN	488	400	F04
GCic	LD-LR-Corner	430	SCREEN	458	490	504
				518		
GCic	LD-UL-Corner	427	SCREEN	446	460	492
				506		
GCic	LD-Upper-T	431	SCREEN	462		
GCic	LD-UR-Corner	429	SCREEN	448	464	494
				508		
GCic	LD-Vert-Line	434	SCREEN	450	451	453
				454	466	467
				468	470	471
				472	474	475
				476	478	479
				480	482	483
				484	496	497
				499	500	510
				511	513	514
GCic	LPP		PROCEDURE	1051C	010	011
GCic	LPPP		PROCEDURE	1051C		
GCic	RETURN-CODE		PROCEDURE	1010	1043*	1057*
dolc	ILLIOITH CODE		TIGOLDOIGL	1059	10-10-1	10014
GCic	S-Blank-SCR	/127	SCREEN	683	1234	1263
GCic	S-Switches-SCR		SCREEN	827*	908	998
GCIC	5-5WICCHES-5CK	439	SCREEN			
				1027	1042	1063
aa: -	GEI GHAD		DDOGEDINE	1074	1260	005
GCic	SELCHAR		PROCEDURE	719	822	825
				832	838	844
				850	861	867
				873	879	1202
GCic	WS-Cmd-Args-TXT	229	WORKING-STORAGE	723*	725	726
				729	734	
GCic	WS-Cmd-End-Quote-CHR	231	WORKING-STORAGE	727*	730	
GCic	WS-Cmd-SUB	233	WORKING-STORAGE	724*	725	726
				728*	732*	737*
GCic	WS-Cmd-TXT	227	WORKING-STORAGE	905*	1000*	1005*
				1007C	1076*	1083*
				1093*	1096*	1103*

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			1123*	1131*	1139*
			1145*	1151*	1156*
			1163C	1215*	1219*
			1220C	1222*	1226*
			1227C	1237*	1240*
			1243C	1245C	1247C
			1249C	1251C	
GCic	WS-Cobc-Cmd-TXT	235 WORKING-STORAG	E 906*	915*	919*
			923*	927*	932*
			937*	942*	947*
			952*	957*	961*
			974*	982*	986*
			1001		
GCic	WS-Compilation-Switches-TXT	180 WORKING-STORAG	E		
GCic	WS-Config-Fn-TXT	237 WORKING-STORAG	911*	917	
GCic	WS-CS-All-Switches-TXT	215 WORKING-STORAG	Ε		
GCic	WS-CS-Arg-H1-TXT	182 WORKING-STORAG	E 640*		
GCic	WS-CS-Arg-H2-TXT	183 WORKING-STORAG	E 641*		
GCic	WS-CS-Args-TXT	181 WORKING-STORAG	E 1154	1155	
GCic	WS-CS-Config-NUM	200 WORKING-STORAG	632	887*	888
	3		889*	910	
GCic	WS-CS-DEBUG-CHR	217 WORKING-STORAG	593	831	832*
			834*	930	
GCic	WS-CS-EXECUTE-CHR	218 WORKING-STORAG	E 596	686	849
			850*	852*	
GCic	WS-CS-Extra-H1-TXT	203 WORKING-STORAG	E 638*		
GCic	WS-CS-Extra-H2-TXT	204 WORKING-STORAG			
GCic	WS-CS-Extra-TXT	202 WORKING-STORAG		980	
GCic	WS-CS-Filename-TXT	193 WORKING-STORAG		910	
GCic	WS-CS-Filenames-Table-TXT	192 WORKING-STORAG			
GCic	WS-CS-Filenames-TXT	184 WORKING-STORAG			
GCic	WS-CS-FREE-CHR	219 WORKING-STORAG		872	873*
			875*	955	
GCic	WS-CS-LIBRARY-CHR	220 WORKING-STORAG		843	844*
			846*	921	1081
			1136	1175*	1202*
GCic	WS-CS-LISTING-CHR	221 WORKING-STORAG		682	819*
			822*	825*	968
			970*	972	
GCic	WS-CS-NOFUNC-CHR	222 WORKING-STORAG		860	861*
			863*	945	
GCic	WS-CS-NOTRUNC-CHR	223 WORKING-STORAG		878	879*
			881*	935	0.0
GCic	WS-CS-Switch-Defaults-TXT	205 WORKING-STORAG		000	
GCic	WS-CS-TRACEALL-CHR	224 WORKING-STORAG		837	838*
	00 1111121 01111		840*	940	300.
GCic	WS-CS-WARNALL-CHR	225 WORKING-STORAG		866	867*
	00		869*	950	501 .
GCic	WS-Delete-Fn-TXT	239 WORKING-STORAG		550	
GCic	WS-File-Name-TXT	241 WORKING-STORAG		663	668
2010	AP LITE MANIE IVI	Z-I WOLKING-BIORAG.	731*	736*	739
			731* 752	736* 755	739 762
				755 776	
			765	110	1049C

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GCic	WS-File-Status-Message-TXT	245	WORKING-STORAGE			
GCic	WS-FN-CHR		WORKING-STORAGE	757	764*	768*
GCic	WS-FSM-Msg-TXT	249	WORKING-STORAGE	658*	658*	658*
				658*	658*	658*
				658*	658*	658*
				658*	658*	658*
				658*	658*	658*
				658*	658*	658*
				658*	658*	658*
				658*	658*	658*
				658*	658*	658*
aa:	UG FGW G	0.47	LIODIZING GMODAGE	658*	658*	658*
GCic	WS-FSM-Status-CD		WORKING-STORAGE	167	658	660
GCic	WS-Horizontal-Line-TXT	251	WORKING-STORAGE	447	457	461
				463	487	489
				493	503	507
aa: -	ild I dilb	050	LIODIZING GEODAGE	517	801*	757
GCic	WS-I-SUB	253	WORKING-STORAGE	755*	756	757 764
				758	760	764
				768	783*	784
				785	786	788
				792	796	909*
				920* 933*	924* 938*	928* 943*
				933* 948*	953*	943* 958*
				962*	975*	983*
				902* 987*	1077*	1084*
				1094*	1077*	1104*
				1108*	1114*	1119*
				1124*	1132*	1140*
				1146*	1152*	1157*
GCic	WS-J-SUB	255	WORKING-STORAGE	1099*	1100	1101
4020	0 202		"O'WILING DIOWIGE	1106		
GCic	WS-Listing-CD	257	WORKING-STORAGE	816	855*	856
				857*	1053C	
GCic	WS-Listing-Filename-TXT	259	WORKING-STORAGE	162	992*	993C
	G			1002	1020	1048C
				1218	1225	
GCic	WS-Listing-TXT	261	WORKING-STORAGE	613	818*	821*
	_			824*		
GCic	WS-OC-Compile-DT	263	WORKING-STORAGE	525	709*	
GCic	WS-OS-Cygwin-BOOL	297	WORKING-STORAGE	752	776	1091
				1121	1214	
GCic	WS-OS-Dir-CHR	284	WORKING-STORAGE	753*	757	768
				777*	1117	
GCic	WS-OS-Exe-Ext-CONST	285	WORKING-STORAGE	1137	1138	
GCic	WS-OS-Lib-Ext-CONST		WORKING-STORAGE	1143	1144	
GCic	WS-OS-Lib-Type-CONST		WORKING-STORAGE	611		
GCic	WS-OS-OSX-BOOL		WORKING-STORAGE	1221		
GCic	WS-OS-Type-CD		WORKING-STORAGE	803	1050C	
GCic	WS-OS-Type-FILLER-TXT		WORKING-STORAGE	307		
GCic	WS-OS-Type-TXT		WORKING-STORAGE	803		
GCic	WS-OS-Types-TXT	307	WORKING-STORAGE			

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GCic	WS-OS-UNIX-BOOL	298 WORKING-STORAGE	1121	=======
GCic	WS-OS-Windows-BOOL	296 WORKING-STORAGE	1214 1235	
GCic	WS-Output-Msg-TXT	311 WORKING-STORAGE	530 659*	806*
doic	wo dadpad hog ini	off worming broman	893* 907*	997*
			1012* 1013	1021*
			1029* 1041*	1047*
			1056* 1061*	1073*
			1164* 1165*	1259
GCic	WS-Path-Delimiter-CHR	313 WORKING-STORAGE	1104" 1100"	1203
GCic	WS-PFN-CHR	320 WORKING-STORAGE	785 792*	796*
GCic	WS-Pgm-Nm-TXT	323 WORKING-STORAGE	789* 794*	991
GOIC	WI IMI IMI C	323 WORKING STORAGE	1130 1236	1239
GCic	WS-Prog-Extension-TXT	315 WORKING-STORAGE	790* 795*	1233
GCic	WS-Prog-File-Name-TXT	319 WORKING-STORAGE	571 762*	767*
GCIC	WB-F10g-F11e-Name-1X1	319 WURKING-STURAGE	783 789	793
				193
aa: -	UC Davin Falling TVT	247 HODELING GEODAGE	985	700
GCic	WS-Prog-Folder-TXT	317 WORKING-STORAGE	572 761*	766*
			770 771*	774C
			1090 1091	1095
			1100 1101	1106
			1112	
GCic	WS-RS-1st-Prog-Complete-BOOL	336 WORKING-STORAGE	1177 1186*	
GCic	WS-RS-Compile-Failed-BOOL	329 WORKING-STORAGE	1018* 1030	
GCic	WS-RS-Compile-OK-BOOL	327 WORKING-STORAGE	681 1011*	
GCic	WS-RS-Compile-OK-CHR	326 WORKING-STORAGE		
GCic	WS-RS-Compile-OK-Warn-BOOL	328 WORKING-STORAGE	681	
GCic	WS-RS-Complete-BOOL	331 WORKING-STORAGE	678 1016*	
GCic	WS-RS-Complete-CHR	330 WORKING-STORAGE		
GCic	WS-RS-Double-Quote-Used-BOOL	334 WORKING-STORAGE	1089* 1115*	1149
GCic	WS-RS-IDENT-DIV-CHR	335 WORKING-STORAGE		
GCic	WS-RS-More-To-1st-Prog-BOOL	337 WORKING-STORAGE	1176*	
GCic	WS-RS-No-Switch-Changes-BOOL	339 WORKING-STORAGE	815 896*	
GCic	WS-RS-No-Switch-Chgs-CHR	338 WORKING-STORAGE		
GCic	WS-RS-Not-Complete-BOOL	332 WORKING-STORAGE	677*	
GCic	WS-RS-Output-File-Avail-BOOL	343 WORKING-STORAGE	687 999*	
GCic	WS-RS-Output-File-Busy-BOOL	342 WORKING-STORAGE		
GCic	WS-RS-Output-File-Busy-CHR	341 WORKING-STORAGE		
GCic	WS-RS-Quote-CHR	333 WORKING-STORAGE		
GCic	WS-RS-Source-Rec-Ident-BOOL	346 WORKING-STORAGE	1185 1191	
GCic	WS-RS-Source-Rec-Ignored-BOOL	347 WORKING-STORAGE	1189*	
GCic	WS-RS-Source-Rec-Linkage-BOOL	345 WORKING-STORAGE	1190 1201	
GCic	WS-RS-Source-Record-Type-CHR	344 WORKING-STORAGE	1184C 1198C	
GCic	WS-RS-Switch-Changes-BOOL	340 WORKING-STORAGE	814*	
GCic	WS-RS-Switch-Error-CHR	348 WORKING-STORAGE		
GCic	WS-RS-Switch-Is-Bad-B00L	349 WORKING-STORAGE		
GCic	WS-RS-Switch-Is-Good-BOOL	350 WORKING-STORAGE		
GCic	WS-Runtime-Switches-TXT	325 WORKING-STORAGE		
GCic	WS-Tally-QTY	352 WORKING-STORAGE	965* 967*	969

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PROGRAM-ID	Identifier/Register/Function	Defn	Where Defined	Reference	S	Page: 96
LISTING	000-Main		PROCEDURE			
LISTING	100-Initialization	2423	PROCEDURE	2407		
LISTING	300-Tokenize-Source	2496	PROCEDURE	2414		
LISTING	310-Get-Token	2547	PROCEDURE	2505		
LISTING	311-Control-Record	2707	PROCEDURE	2566		
LISTING	312-Expanded-Src-Record	2753	PROCEDURE	2568		
LISTING	313-Check-For-Numeric-Token	2764	PROCEDURE	2694		
LISTING	320-IDENTIFICATION-DIVISION	2806	PROCEDURE	2526		
LISTING	330-ENVIRONMENT-DIVISION	2826	PROCEDURE	2528		
LISTING	340-DATA-DIVISION	2852	PROCEDURE	2530		
LISTING	350-PROCEDURE-DIVISION		PROCEDURE	2532		
LISTING	351-ACCEPT		PROCEDURE	2935		
LISTING	351-ADD		PROCEDURE	2937		
LISTING	351-ALLOCATE		PROCEDURE	2939		
LISTING	351-CALL		PROCEDURE	2941		
LISTING	351-COMPUTE		PROCEDURE	2943		
LISTING	351-DIVIDE		PROCEDURE	2945		
LISTING	351-FREE		PROCEDURE	2947	0050	0000
LISTING	351-GENERATE		PROCEDURE	2949	2953	2969
LISTING	351-INITIALIZE 351-INITIATE		PROCEDURE PROCEDURE	2951		
LISTING	351-INITIATE 351-INSPECT		PROCEDURE	2955		
LISTING LISTING	351-INSPECT 351-MOVE		PROCEDURE	2955 2957		
LISTING	351-MULTIPLY		PROCEDURE	2959		
LISTING	351-PERFORM		PROCEDURE	2961		
LISTING	351-SET		PROCEDURE	2963		
LISTING	351-STRING		PROCEDURE	2965		
LISTING	351-SUBTRACT		PROCEDURE	2967		
LISTING	351-TERMINATE		PROCEDURE			
LISTING	351-TRANSFORM		PROCEDURE	2971		
LISTING	351-UNSTRING		PROCEDURE	2973		
LISTING	360-Release-Def	3203	PROCEDURE	2842	2879	2882
				2885	2888	2891
				2926		
LISTING	361-Release-Ref	3214	PROCEDURE	2844	2848	2901
				2975	2985	2996
				3008	3028	3048
				3065	3099	3108
				3124	3137	3146
				3157	3168	3182
				3199		
LISTING	362-Release-Upd	3219	PROCEDURE	2894	2897	2982
				2992	2994	3003
				3006	3015	3017
				3026	3044	3046
				3053	3057	3063
				3070	3080	3106
				3122	3131	3134
				3144	3153	3155
				3164	3166	3173
				3179	3189	3191
LISTING	363-Set-Upd	3004	PROCEDURE	3193 3035	3195 3115	3197 3220
PIDIING	ooo ber opa	5224	1 1000100101	5055	3113	0220

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GNUCOBOL 2.2 20	OJUL2017 Cross-Reference Listing	/homo	/vince/cobolsrc/0	Cobol -Too		017/07/22
PROGRAM-ID	Identifier/Register/Function	Defn	Where Defined	Reference		Page: 97
LISTING	364-Set-Ref	3234	PROCEDURE	3076	3215	
LISTING	365-Release-Arg	3243	PROCEDURE	3019		
LISTING	366-Set-Arg	3248	PROCEDURE	3244		
LISTING	400-Produce-Xref-Listing	3259	PROCEDURE	2415		
LISTING	410-Generate-Report-Line	3337	PROCEDURE	3268	3271	3281
	-			3285	3295	3307
				3323	3333	
LISTING	420-Generate-Xref-Footer	3405	PROCEDURE	3274	3339	
LISTING	500-Produce-Source-Listing	3439	PROCEDURE	2409		
LISTING	510-Control-Record	3462	PROCEDURE	3452		
LISTING	520-Expanded-Src-Record	3479	PROCEDURE	3454		
LISTING	530-Generate-Source-Line	3545	PROCEDURE	3446	3493	3497
				3502	3506	3510
				3513	3529	3533
				3537	3540	
LISTING	F-ES-1-7-TXT	1426	FILE	2564	3450	
LISTING	F-ES-1-CHR	1423	FILE	2565	3451	
LISTING	F-ES-2-256-TXT-256	1424	FILE	2708	3463	
LISTING	F-ES-8-256-TXT	1427	FILE			
LISTING	F-Expanded-Src-FILE	1421	FILE	1412	2497	2544
	•			2554	3441	3444
				3459	3472	
LISTING	F-Expanded-Src-REC	1422	FILE	2498*	2552	2576
	•			2578	2608	2612
				2621	2625	2634
				2638	2646	2664
				2749*	2754	3515
				3517		
LISTING	F-Expanded-Src2-REC	1425	FILE			
LISTING	F-Listing-135-REC	1431	FILE	3347*	3349*	3351*
	-			3352	3354*	3355
				3358*	3360*	3361
				3362*	3363*	3364
				3365	3366	3367
				3395	3407	3409*
				3410	3412*	3414*
				3416	3418	3419
				3563	3565	3567*
				3568	3570*	3572*
				3573	3574	3604*
				3606*	3608*	3609
				3611*	3612	3614*
				3616*	3617	3619*
				3620	3646*	3651*
				3652	3655*	3656
LISTING	F-Listing-96-REC	1430	FILE	3370*	3372*	3374*
				3375	3377*	3378
				3381*	3383*	3384
				3385*	3386*	3387
				3388	3389	3390
				3398	3422	3424*
				3425	3427*	3429*
				3431	3433	3434

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			3580	3582	3583
			3585	3587*	3588
			3590*	3592*	3593
			3594	3623*	3625*
			3627*	3628	3630*
			3631	3633*	3635*
			3636	3638*	3639
			3647	3662	3667
			3671	3676	3680
			3684		
LISTING	$F extsf{-} extsf{Listing-FILE}$	1429 FILE	1414	2408	2416
LISTING	F-Listing-REC	1432 FILE			
LISTING	F-Original-Src-FILE	1434 FILE	1416	3440	3458
			3482		
LISTING	F-Original-Src-REC	1435 FILE	3486		
LISTING	F-0S-1-128-TXT	1436 FILE			
LISTING	F-0S-129-256-TXT	1441 FILE			
LISTING	F-OS-7-CHR	1438 FILE	3491		
LISTING	F-OS-8-72-TXT	1439 FILE	3487	3519	
LISTING	F-Sort-Work-FILE	1443 FILE	1418	2410	3266
LISTING	F-Sort-Work-REC	1444 FILE	2519*	2521	2556*
			2558	3036	3039*
			3042	3084*	3087
			3092*	3095	3116
			3118*	3121	3204*
			3211	3216	3221
			3225*	3235*	3245
			3249*		
LISTING	F-SW-Def-Line-NUM	1449 FILE	3209*	3292	3300
			3304	3316	3317
LISTING	F-SW-Prog-ID-TXT	1445 FILE	2411	3205*	3226*
			3236*	3250*	3277
			3283	3288	3297
			3309	3313	
LISTING	F-SW-Ref-Flag-CHR	1452 FILE	3041*	3086*	3094*
			3120*	3231*	3255*
			3328		
LISTING	F-SW-Ref-Line-NUM	1451 FILE	2413	3210*	3230*
			3240*	3254*	3326
LISTING	F-SW-Reference-TXT	1450 FILE	3320		
LISTING	F-SW-Section-TXT	1448 FILE	3208*	3229*	3239*
			3253*	3299	3315
LISTING	F-SW-Token-TXT	1447 FILE	3207*	3228*	3238*
			3252*	3314	
LISTING	F-SW-Token-Uc-TXT	1446 FILE	2412	3206*	3227*
			3237*	3251*	3278
I TOMING	T T	0000 7 7777157	3289	3291	3303
LISTING	L-Listing-CD	2398 LINKAGE	2405	2445	2482
			3345	3394	3406
			3547	3561	3602
			3643		
LISTING	L-Listing-Fn-TXT	2388 LINKAGE	1414	2400	
LISTING	L-LPP-NUM	2394 LINKAGE	2403	2483	

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PROGRAM-ID	Identifier/Register/Function	Defn		Referenc		Page: 99
LISTING	L-LPP-Port-NUM		LINKAGE	2404	2485	
LISTING	L-OS-Type-CD	2392	LINKAGE	2402	2428	
LISTING	L-Src-Fn-TXT	2390	LINKAGE	1416	2401	2433
				2433*	2434	2435
				2439	2442	2455
				2457	2459	2464
LISTING	RETURN-CODE		PROCEDURE	2475		
LISTING	WS-CD-In-DATA-DIV-BOOL	1469	WORKING-STORAGE	2529		
LISTING	WS-CD-In-ENV-DIV-BOOL	1468	WORKING-STORAGE	2527		
LISTING	WS-CD-In-IDENT-DIV-BOOL	1467	WORKING-STORAGE	2525		
LISTING	WS-CD-In-PROC-DIV-BOOL	1470	WORKING-STORAGE	2531		
LISTING	WS-Copyright-TXT	1455	WORKING-STORAGE	2426*	2431*	3411
	10 0			3426	3569	3589
LISTING	WS-CPI-13-15-TXT	1476	WORKING-STORAGE	2820*		
LISTING	WS-CPI-16-CHR	1477	WORKING-STORAGE	2819		
LISTING	WS-CS-1-CHR	1480	WORKING-STORAGE	2742*		
LISTING	WS-CS-11-14-TXT	1483	WORKING-STORAGE	2744	2745*	
LISTING	WS-CS-15-CHR		WORKING-STORAGE	2747*		
LISTING	WS-CS-2-14-TXT		WORKING-STORAGE	2743*		
LISTING	WS-Curr-Char-Is-Punct-BOOL		WORKING-STORAGE	2587	2595	2600
LISTING	WS-Curr-Char-Is-Quote-BOOL		WORKING-STORAGE	2606		
LISTING	WS-Curr-Char-Is-X-BOOL		WORKING-STORAGE	2619		
LISTING	WS-Curr-Char-Is-Z-BOOL		WORKING-STORAGE	2632		
LISTING	WS-Curr-CHR		WORKING-STORAGE	2577*	2580	2582
DIDIING	ND GUIT GIRV	1101	WOIMITH'S DIGITION	2588	2596	2602
				2609	2000	2002
LISTING	WS-Curr-Division-TXT	1466	WORKING-STORAGE	2502*	2538	2589
		1100		2597	2697	2813*
				2832*	2858*	2914*
				2919*	2000	2011.
LISTING	WS-Curr-Line-NUM	1472	WORKING-STORAGE	2501*	2561*	2720*
DIDIING	WD CULL LING NOW	1112	WOIMILING DIGIMIGE	2760*	3209	3230
				3240	3254	3481*
LISTING	WS-Curr-Prog-ID-TXT	1474	WORKING-STORAGE	2491*	2818*	3205
DIDIING	WD GUIT TIOG ID TAT	11/1	WOIMITING DIGITAL	3226	3236	3250
LISTING	WS-Curr-Section-TXT	1479	WORKING-STORAGE	2723*	2728	2837*
DIDIING	WB GUII BECGION INI	1110	WOIMITING DIGITAL	2863*	2909	2910*
				3208	3229	3239
				3253	0220	0200
LISTING	WS-Curr-Verb-TXT	1486	WORKING-STORAGE	2492*	2516*	2540*
LIDIING	WD GUII VEID IXI	1400	WOINTING DIGITAL	2924	2933	20101
LISTING	WS-Delim-TXT	1488	WORKING-STORAGE	2649*	2651	2669*
LIDIING	WD Delim IXI	1400	WOILKING DIGITAGE	2671	2674	20004
LISTING	WS-Dummy-TXT	1490	WORKING-STORAGE	2467*	2712*	2741*
LIBIING	ws buildy 1x1	1430	WOILKING STOILAGE	2774*	2779*	2780
				3467*	2110	2100
LISTING	WS-Expanded-Src-Fn-TXT	1400	WORKING-STORAGE	1412	2472*	2473C
LISTING	WS-Filename-TXT		WORKING-STORAGE	2466*	2472*	2740*
PIDIING	"P I II GHOME IVI	1734	WOINTING DIGHAGE	2743	2703	21707
LISTING	WS-Flags-TXT	1/106	WORKING-STORAGE	2170		
LISTING	WS-Formatted-DT		WORKING-STORAGE	2490*	3350	3373
PIDITING	MP LOTHERCEA DI	1433	ADMUDIC DULINION	3607	3626	5513
LISTING	WS-GI-Prog-ID-TXT	1502	WORKING-STORAGE	3277	3283	3288*
PIDIING	"O OI 1108 ID IVI	1002	WOINTING DIVINGE	0211	0200	J200*

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PROGRAM-ID	Identifier/Register/Function	/home/vince/cobolsre Defn Where Defined	References	Page: 100
LISTING	WS-GI-Token-TXT	1503 WORKING-STORA		
LISTING	WS-Group-Indicators-TXT	1501 WORKING-STORA		
LISTING	WS-Held-Reference-TXT	1505 WORKING-STORA		l8 2519
			2520* 255	
			2557* 303	36* 3038
			3039 304	10* 3077*
			3083 308	3085*
			3091 309	92 3093*
			3116* 311	l8 3119*
LISTING	WS-I-SUB	1507 WORKING-STORA	E 2434* 243	35 2436
			2438 244	11* 2442
			2457* 245	59 2460
			2461 246	34 2717*
			2720 273	31* 2733
			2734 273	35 2738
			3262* 329	96* 3308*
			3321* 332	22 3324*
			3327 332	29 3402*
LISTING	WS-J-SUB	1509 WORKING-STORA	E 2458* 246	62* 2464
			2732* 273	36* 2738
LISTING	WS-Lines-Left-NUM	1511 WORKING-STORA	E 3263* 327	72 3286
			3338 339	92* 3403
			3447 349	94 3498
			3525* 355	59 3641*
			3648 365	3664
			3673 368	36
LISTING	WS-Lines-Per-Page-Env-TXT	1515 WORKING-STORA	E 2447* 245 2479	51* 2478
LISTING	WS-Lines-Per-Page-NUM	1513 WORKING-STORA	E 2480* 248	33* 2485*
	G		2488 339	3641
LISTING	WS-Main-Module-Name-TXT	1517 WORKING-STORA	E 2439* 244	13* 2719
			3469	
LISTING	WS-Next-Char-Is-Quote-BOOL	1520 WORKING-STORA	E 2619 263	32
LISTING	WS-Next-CHR	1519 WORKING-STORA		
LISTING	WS-OS-Type-FILLER-TXT	1522 WORKING-STORA	E 1528	
LISTING	WS-OS-Type-TXT	1529 WORKING-STORA	E 2428	
LISTING	WS-OS-Types-TXT	1528 WORKING-STORA	ξE	
LISTING	WS-Page-No-TXT	1534 WORKING-STORA	E 3344C 335	59 3382
	<u> </u>		3413 342	28 3571
			3591 360 3634	01C 3615
LISTING	WS-Page-NUM	1532 WORKING-STORA		10* 3342
TIDIING	up rake non	TOOL WOULDING DIURA	3560 359	
LISTING	WS-PN-Literal-TXT	1535 WORKING-STORA		97* 3599 98*
LISTING	WS-PN-Page-NUM	1536 WORKING-STORA		13C 3599*
			3600C	
LISTING	WS-Program-Path-TXT	1538 WORKING-STORA	3376 361	56C 3353 LO 3629
LISTING	WS-Reserved-Word-Table-TXT	2295 WORKING-STORA		
LISTING	WS-Reserved-Word-TXT	2296 WORKING-STORA		
LISTING	WS-Reserved-Words-TXT	1540 WORKING-STORA		
LISTING	WS-RS-Duplicate-CHR	2304 WORKING-STORA	E 3264* 327	79* 3294*

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PROGRAM-ID	Identifier/Register/Function	/nome Defn	<pre>/vince/cobolsrc/C Where Defined ====================================</pre>	obo1-100 Reference	es P	age: 101
				3305	3306*	
LISTING	WS-RS-In-Copybook-BOOL	2307	WORKING-STORAGE	2726*	3475*	
LISTING	WS-RS-In-Main-Module-BOOL	2306	WORKING-STORAGE	2721* 3480	2759	3470*
LISTING	WS-RS-In-Which-Pgm-CHR	2305	WORKING-STORAGE	0100		
LISTING	WS-RS-Last-Token-Ended-Sent-CHR	2308	WORKING-STORAGE	2550*	2696	
LISTING	WS-RS-Processing-PICTURE-CHR	2309	WORKING-STORAGE	2645	2659*	2868*
LISTING	WS-RS-Token-Ended-Sentence-CHR	2310	WORKING-STORAGE	2537	2549	2551*
				2584*	2613*	2626*
				2639*	2652*	2672*
LISTING	WS-RS-Verb-Has-Been-Found-CHR		WORKING-STORAGE	2503*	2688*	2810*
LISTING	WS-Runtime-Switches		WORKING-STORAGE	0605	0000	
LISTING	WS-RW-IDX		WORKING-STORAGE	2685	2686	
LISTING LISTING	WS-RW-Type-CD WS-RW-Word-TXT		WORKING-STORAGE WORKING-STORAGE	2686 2298	2685	
LISTING	WS-Rw-word-IXI WS-Saved-Section-TXT		WORKING-STORAGE	2722	2723	2727
LIBITING	wb bavea bection ixi	2010	WOILKING DIOITAGE	2728*	2120	2121
LISTING	WS-SDL-Line-NUM	2320	WORKING-STORAGE	3485*		
LISTING	WS-SDL-Statement-TXT	2322	WORKING-STORAGE	3486*	3518*	3548
				3552	3554	3650
				3654*	3666	3670*
				3675	3679*	3683*
LISTING	WS-Src-Dashes-TXT		WORKING-STORAGE	3618	3637	
LISTING	WS-Src-Detail-Line-TXT	2319	WORKING-STORAGE	3445*	3484*	3492*
				3496*	3501*	3505*
				3509*	3516*	3528*
				3532*	3536*	3646
				3651 3662	3653* 3667	3655 3669*
				3671	3676	3678*
				3680	3682*	3684
				3689*	0002	0001
LISTING	WS-Src-Hold-TXT	2324	WORKING-STORAGE	3650*	3654	3666*
				3670	3675*	3679
				3683		
LISTING	WS-Src-Line-NUM	2326	WORKING-STORAGE	3442* 3485	3471	3483*
LISTING	WS-Src-Lines-NUM	2328	WORKING-STORAGE	3546*	3549*	3553*
LIDIING	WD DIC LINES NOW	2020	WOUNTING DIGITAGE	3555*	3559	3562
				3576	3644	3660
LISTING	WS-Src-SUB	2330	WORKING-STORAGE	2499*	2552	2553
				2572*	2576	2578
				2581*	2590*	2601*
				2607*	2611*	2612
				2614*	2620*	2624*
				2625	2627*	2633*
				2637*	2638	2640*
				2650*	2653*	2670*
				2675	2750*	2755*
LISTING	WG-Suppress-FF-CHD	1/07	WORKING-STORAGE	2757* 2425*	3972*	3415
TTOITING	WS-Suppress-FF-CHR	1497	MOWNTING-DITMYOR	2425* 3430	3273*	J 1 10
LISTING	WS-Tally-QTY	2332	WORKING-STORAGE	2789*	2791*	2792
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PROGRAM-ID	Identifier/Register/Function	Defn Where		Reference		age: 102
LISTING	WS-Temp-10-Chars-TXT		NG-STORAGE	2796* 2710*	2797 2714	2715*
LISTING	WS-Temp-256-Chars-TXT	2344 WORKI	NG-STORAGE	2717 2474C 2730 3466*	3465* 2711* 2733 3468	2718 2738
LISTING LISTING	WS-Temp-32-Chars-1-TXT WS-Temp-32-Chars-2-TXT		NG-STORAGE NG-STORAGE	2765* 2772* 2784*	2768 2777* 2800	2775 2783
LISTING	WS-Temp-32-Chars-3-TXT	2340 WORKI	NG-STORAGE	2773* 2787*	2778* 2800	2786
LISTING	WS-Temp-65-Chars-TXT	2342 WORKI	NG-STORAGE	3488* 3504 3524 3535	3495 3508 3527	3500 3520* 3531
LISTING LISTING	WS-Today-DT WS-Token-Curr-TXT		NG-STORAGE NG-STORAGE	2489* 2509 2591* 2623* 2655 2680* 2812 2836 2866 3207 3252	2490 2513* 2602* 2636* 2668* 2698* 2818 2857 2900 3228	2582* 2610* 2648* 2678 2765 2831 2862 2918 3238
LISTING	WS-Token-Curr-Uc-TXT	2350 WORKI	NG-STORAGE	2510* 2535 3227	2513 2912 3237	2516 3206 3251
LISTING	WS-Token-Prev-TXT	2352 WORKI	NG-STORAGE	2517* 2598* 2817* 2841 2872 2880* 2898* 2923 2983* 3004* 3033 3078* 3097* 3129 3142 3177	2535* 2813 2832 2858 2873* 2883* 2892* 2913 2927* 2990 3013 3061 3081* 3104 3132* 3151 3180*	2539* 2816 2837 2863 2877 2886* 2895* 2919 2980 3001 3024 3074 3089* 3113 3135* 3162 3187
LISTING LISTING	WS-Token-Search-TXT WS-Token-Type-CD		NG-STORAGE NG-STORAGE	2678* 2583* 2656* 2686*	2679 2592* 2660* 2699*	2685 2603* 2681*
LISTING LISTING LISTING	WS-TT-Token-Is-Argtype-B00L WS-TT-Token-Is-E0F-B00L WS-TT-Token-Is-Function-B00L	2358 WORKI	NG-STORAGE NG-STORAGE NG-STORAGE	2807 2506 2847	2827 2560*	2853

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		/home	/vince/cobolsrc/		•	-
PROGRAM-ID	Identifier/Register/Function	Defn	Where Defined	Reference	s 	Page: 103
LISTING	WS-TT-Token-Is-Identifier-BOOL	2360	WORKING-STORAGE	2693*	2840	2876
				2922	2930	
LISTING	WS-TT-Token-Is-Keyword-BOOL	2361	WORKING-STORAGE	2511	2534	2811
				2830	2835	2856
				2861	2867	2917
LISTING	WS-TT-Token-Is-Lit-Alpha-BOOL	2362	WORKING-STORAGE	2616*	2642*	:
LISTING	WS-TT-Token-Is-Lit-Number-BOOL	2363	WORKING-STORAGE	2629*	2695	2769*
				2801*		
LISTING	WS-TT-Token-Is-Reserved-Wd-BOOL	2365	WORKING-STORAGE	2512	2808*	2828*
				2854*	2871	
LISTING	WS-TT-Token-Is-Verb-BOOL	2364	WORKING-STORAGE	2515	2687	
LISTING	WS-Usernames-QTY	2367	WORKING-STORAGE	2500*		
LISTING	WS-Version-TXT	2369	WORKING-STORAGE	2432*	3346	3369
				3603	3622	
LISTING	WS-XDL-Def-Line-NUM	2376	WORKING-STORAGE	3300*	3317*	:
LISTING	WS-XDL-Prog-ID-TXT	2372	WORKING-STORAGE	3297*	3309*	3313*
LISTING	WS-XDL-Ref-Flag-CHR	2382	WORKING-STORAGE	3329*		
LISTING	WS-XDL-Ref-Line-NUM	2381	WORKING-STORAGE	3327*		
LISTING	WS-XDL-Reference-TXT	2380	WORKING-STORAGE			
LISTING	WS-XDL-Section-TXT	2378	WORKING-STORAGE	3299*	3315*	:
LISTING	WS-XDL-Token-TXT	2374	WORKING-STORAGE	3298*	3310*	3314*
LISTING	WS-Xref-Detail-Line-TXT	2371	WORKING-STORAGE	3260*	3267	3270*
				3280	3284*	3293
				3312	3332	3395
				3398	3401*	:
LISTING	WS-Xref-Lines-Per-Rec-NUM	2385	WORKING-STORAGE	2446*	2450*	3322

6. STREAMIO

STREAMIO is a utility I created to assist with handling stream I/O functions. I've used it to construct a number of useful little command-line utilities.

Usage of this subroutine is completely documented in the program comments. The program COPY's a copybook named STREAMIOcb, the format of which is described in the program comments.

Both STREAMIO.cbl and STREAMIOcb.cpy are included in the "samples" directory of any pre-built distributions of GnuCOBOL that I have created.

In addition to general GnuCOBOL concepts, this program provides a useful demonstration of the following:

- Coding a GnuCOBOL subroutine
- Using the "REPLACING" clause on a CDF "COPY" statement
- Using hexadecimal alphanumeric literals
- Using the following statements:
 - o "ACCEPT FROM ENVIRONMENT" statement
 - o "INSPECT" statement
 - o "STRING" statement
- Using the following built-in subroutines:
 - o "C\$PARAMSIZE" built-in system subroutine
 - o "CBL_CLOSE_FILE" built-in system subroutine
 - o "CBL_DELETE_FILE" built-in system subroutine
 - o "CBL_EXIT_PROC" built-in system subroutine
 - o "CBL_OPEN_FILE" built-in system subroutine
 - o "CBL_READ_FILE" built-in system subroutine
 - o "CBL_WRITE_FILE" built-in system subroutine
- Using the following intrinsic functions:
 - o "RANDOM" intrinsic function
 - o "TRIM" intrinsic function

First, here is the STREAMIOcb.cpy copybook:

```
05 SCB-Handle-NUM
                                      PIC X(4) COMP-X.
05 SCB-Mode-CD
                                     PIC X(1).
                                     VALUE 'I', 'i'.
  88 SCB-MODE-Input-BOOL
                                     VALUE '0', 'o'.
  88 SCB-MODE-Output-BOOL
  88 SCB-MODE-Both-BOOL
                                     VALUE 'B', 'b'.
05 SCB-Function-CD
                                    PIC X(2).
  88 SCB-Func-CLOSE-BOOL
                                     VALUE 'C', 'c'.
  88 SCB-Func-DELETE-BOOL
                                     VALUE 'D ', 'd '.
  88 SCB-Func-OPEN-BOOL
                                     VALUE '0 ', 'o '.
  88 SCB-Func-READ-BOOL
                                     VALUE 'R ', 'r '.
  88 SCB-Func-READ-Delim-BOOL
                                     VALUE 'RD', 'rd',
  'rD', 'Rd'.
88 SCB-Func-WRITE-BOOL VALUE 'W', 'w'.
88 SCB-Func-WRITE-Delim-BOOL VALUE 'WD', 'wd',
                                          'rD', 'Rd'.
                                            'wD', 'Wd'.
                                     PIC X(1).
05 SCB-Delimiter-Mode-CD
                                     VALUE 'U', 'u'.
  88 SCB-DELIM-Unix-BOOL
  88 SCB-DELIM-Windows-BOOL
                                     VALUE 'W', 'w'.
                                     PIC X(8) COMP-X.
05 SCB-Offset-NUM
05 SCB-Error-Routine-PTR
                                     USAGE PROGRAM-POINTER.
05 SCB-Error-Routine-NUM REDEFINES SCB-Error-Routine-PTR
                                     USAGE BINARY-LONG.
05 SCB-Return-CD
                                      USAGE BINARY-LONG.
05 SCB-Filename-TXT
                                      PIC X(256).
```

The program source and cross-reference listing, produced using the GnuCOBOL Interactive Compiler front-end (GCic.cbl, one of the sample programs included here), begins on the next page.

GNU COBOL 2.1 23NOV2013 Source Listing 2014/03/27 C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl

```
_____
           >>SOURCE FORMAT IS FIXED
           IDENTIFICATION DIVISION.
           PROGRAM-ID. STREAMIO.
    4
           *>*************************
           *> Author: Gary L. Cutler
    6
           *>
    7
           *> This routine centralizes all bytestream file I/O functions **
           *> into one routine. The manner in which this routine is
    8
           *> CALLed is as follows:
   10
           *>
                       CALL "STREAMIO" USING control-block [ , arg2 ]
   11
           *>
                                                                      **
   12
           *>
                                                                      **
           *> where 'control-block' is defined by the "STREAMIOcb.cpy"
           *> copybook and 'arg2' will vary, depending upon the function
   14
                                                                      **
           *> specified in the control block.
                                                                      **
   15
   16
   17
           *> The STREAMIO routine has an advantage over the various
   18
           *> "CBL_xxxxxx_FILE" routines in that:
                                                                      **
   19
                                                                      **
           *>
           *> 1. It automates the establishment and on-going adjustment of **
   21
                 the file-offset value in such a way as to simplify the
   22
           *>
                 sequential processing of a bytestream file (you may still **
   23
           *>
                specify a file-offset manually on each read or write, if **
               you wish)
   25
           *>
                                                                      **
   26
           *> 2. It auto-detects the size of the I/O buffer you supply to
                                                                      **
   27
           *>
               STREAMIO, using that as the byte-count of all read and
   28
           *>
                 write operations.
   29
           *>
                                                                      **
           *> 3. Not only does it support the raw input and output of data **
   30
          *> that the CBL_READ_FILE and CBL_WRITE_FILE routines do,
   32
          *>
               but on input it is also capable of delivering just a
   33
          *>
                 single newline-delimited or carriage-return/newline de-
   34
           *>
                limited record to the caller.
                                                                      **
   35
           *> 4. On output, STREAMIO can optionally append either a new-
   36
   37
           *>
                 line or carriage-return/newline sequence (your choice) to **
          *>
                 the end of every record it writes.
   39
           *> 5. STREAMIO can automatically generate filenames for output **
   40
   41
           *>
               files if you wish, simplifying the process of creating
                                                                      **
   42
           *>
                 scratch or work files.
   43
           *>
                                                                      **
   44
           *> 6. The STREAMIO routine also allows you to (optionally) re-
   45
                 gister a general error-handling routine to be given con-
                trol should a fatal error be detected with STREAMIO.
   47
           *>
                This routine can be "turned on" and "turned off" at will. **
   48
           *>
```

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```
______
                 *> The control block format is as follows. This structure must **
               *> be defined under an 01-level data item of your creation and **
               *> should be INITIALIZEd before any items within it are used. **
               *>
     53
                                                                      PIC X(4) COMP-X.
                *> 05 SCB-Handle-NUM
             *> 05 SCB-Handle-NUM PIC X(4) COMP-X.

*> 05 SCB-Mode-CD PIC X(1).

*> 88 SCB-Mode-Input-BOOL VALUE 'I', 'i'.

*> 88 SCB-Mode-Output-BOOL VALUE 'O', 'o'.

*> 88 SCB-Mode-Both-BOOL VALUE 'B', 'b'.

*> 05 SCB-Function-CD PIC X(2).
     55
     56
     57
             *> 05 SCB-Function-CD PIC X(2). **

*> 88 SCB-Func-CLOSE-BOOL VALUE 'C', 'c'. **

*> 88 SCB-Func-DELETE-BOOL VALUE 'D', 'd'. **

*> 88 SCB-Func-OPEN-BOOL VALUE 'O', 'o'. **

*> 88 SCB-Func-READ-BOOL VALUE 'R', 'r'. **

*> 88 SCB-Func-READ-Delim-BOOL VALUE 'R', 'r'. **

*> 88 SCB-Func-READ-Delim-BOOL VALUE 'R', 'r'. **

*> 88 SCB-Func-WRITE-BOOL VALUE 'W', 'rd', **

*> 88 SCB-Func-WRITE-Delim-BOOL VALUE 'W', 'w'. **

*> 88 SCB-Func-WRITE-Delim-BOOL VALUE 'W', 'wd', **

*> 05 SCB-Delimiter-Mode-CD PIC X(1). **

*> 88 SCB-Delim-Unix-BOOL VALUE 'U', 'u'. **

*> 88 SCB-Delim-Windows-BOOL VALUE 'W', 'w'. **

*> 05 SCB-Offset-NUM PIC X(8) COMP-X. **

*> 05 SCB-Error-Routine-PTR USAGE PROGRAM-POINTER. **

*> 05 SCB-Error-Routine-PTR **
              *> 05 SCB-Function-CD
     59
                                                                    PIC X(2).
     60
     61
     62
     63
     64
     65
     66
     67
     68
     69
     70
     71
     72
               *> 05 SCB-Error-Routine-NUM REDEFINES SCB-Error-Routine-PTR **
     74
     75
                                              USAGE BINARY-LONG.
                *>
                                                                                                         **
                                                                       USAGE BINARY-LONG.
     76
                *> 05 SCB-Return-CD
                *> 05 SCB-Filename-TXT
     77
                                                                       PIC X(256).
     78
                *>
     79
                *> Such a structure is defined for your use using the copybook **
               *> "STREAMIOcb.cpy" (you may also define your own, provided it **
     81
               *> conforms to the above layout).
     82
     83
                *> SCB-Handle-NUM
     85
                 *>
     86
                 *> Serves as a file handle to the file once it has been opened **
                *> (via the "SCB-Func-OPEN-BOOL" function).
     88
     89
                 *>-----**
     90
                 *> SCB-Mode-CD
     91
     92
                *> Prior to calling "STREAMIO" for the first time for a file,
     93
                *> the appropriate subordinate level-88 must be set to TRUE to **
     94
               *> select an I/O mode. You may also simply move one of the **
               *> string values listed on the level-88 items to "SCB-Mode-CD". **
     96
     97
```

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GNU COBOL 2.1 23NOV2013 Source Listing

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```
______
           *> SCB-Function-CD
  101
           *>
  102
           *> The appropriate subordinate level-88 must be set to TRUE to **
  103
           *> select a function you'd like to execute against a file. You **
  104
           *> may also simply move one of the string values listed on the **
           *> level-88 items to "SCB-Function-CD".
  105
  106
           *>
                                                                       **
  107
           *> Available functions are as follows:
  108
           *>
                                                                       **
  109
           *> SCB-Func-OPEN-BOOL
                                                                       **
  110
                                                                       **
           *>
  111
                   This must be the function specified the first time you
                   call STREAMIO for any given file. It opens the file & **
  112
           *>
                   makes it available for use according to the
           *>
  113
  114
                   "SCB-Mode-CD" specification.
           *>
  115
  116
           *> The filename being opened must be specified in the
                                                                       **
  117
           *>
                   "SCB-Filename-TXT" field.
                                                                       **
  118
           *>
  119
           *>
                 The SCB-Offset-NUM field will be initialized to ZERO.
                                                                       **
  120
           *>
                  If "arg2" is specified in conjunction with this funct-
  121
           *>
  122
                  ion, it will be ignored.
  123
           *>
                                                                       **
           *> SCB-Func-CLOSE-BOOL
  124
                                                                       **
  125
           *>
  126
           *>
                   This function should be the one specified the LAST time **
  127
           *>
                   you call STREAMIO against a specific file. After this **
  128
           *>
                   function has been executed, you'll have to re-open the **
  129
                 file if you wish to use it with STREAMIO again.
  130
           *>
           *>
  131
                 The SCB-Handle-NUM item will be reset to ZERO.
                                                                       **
  132
           *>
                                                                       **
  133
                   If "arg2" is specified in conjunction with this funct-
  134
           *>
                   ion, it will be ignored.
                                                                       **
  135
           *>
                                                                       **
  136
           *> SCB-Func-DELETE-BOOL
  137
           *>
                   This function will delete the file specified in the
                                                                       **
  138
                 control block (see SCB-Filename-TXT).
  139
           *>
                                                                       **
  140
           *>
                This function should not be performed against a file that is open.
  141
           *>
                                                                       **
  142
           *>
                                                                       **
  143
           *>
                 If "arg2" is specified in conjunction with this funct-
  144
  145
          *>
                   ion, it will be ignored.
                                                                       **
  146
           *>
                                                                       **
  147
           *> SCB-Func-READ-BOOL
```

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 $2014/03/27 \\ \texttt{C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl}$

Line	Statement	c., osers, tadoro, becaments, riograms, r	Page: 4
148	*>		**
149	*>	This function invokes a standard CBL_READ_FILE against	**
150	*>	the file specified in the control block (see	**
151	*>	SCB-Filename-TXT).	**
152	*>		**
153	*>	The buffer into which you wish to read data must be	**
154	*>	supplied as "arg2". The size of that buffer, in bytes,	**
155	*>	will define the "byte-count" value supplied to the	**
156	*>	CBL_READ_FILE subroutine. The buffer data item will be	**
157	*>	set to SPACES before the read takes place.	**
158	*>		**
159	*>	If the file-offset value (SCB-Offset-NUM) is greater	**
160	*>	than the size of the file, a "no more data" return code	**
161	*>	(01) will be passed back in SCB-Return-CD and the	**
162	*>	buffer will have been set to SPACES.	**
163	*>		**
164	*>	At the conclusion of a successful SCB-Func-READ-BOOL,	**
165	*>	the value of SCB-Offset-NUM will have been automati-	**
166	*>	cally incremented by the byte-count size of "arg2".	**
167	*>		**
168	*>	SCB-Func-WRITE-BOOL	**
169			**
170		This function invokes a standard CBL_WRITE_FILE against	**
171		the file specified in the control block (see	**
172		SCB-Filename-TXT).	**
173			**
174		The buffer from which data will be written to the file	**
175		must be supplied as "arg2". The size of that buffer,	**
176		in bytes, will define the "byte-count" value supplied	**
177		CBL_WRITE_FILE subroutine. The buffer data will be	**
178		written to the file-offset position defined by the	**
179		SCB-Offset-NUM value. You may specify "arg2" either	**
180		as an actual alphanumeric data item or as an alpha-	**
181		numeric literal.	**
182		To the file offert well (COD Offert NUM) is successful.	**
183		If the file-offset value (SCB-Offset-NUM) is greater	**
184		than the size of the file, a "no more data" return code	
185		will be passed back in SCB-Return-CD and the buffer	**
186		will have been set to SPACES.	**
187		At the constraint of a successful CCD Fune UDITE DOOL	**
188		At the conclusion of a successful SCB-Func-WRITE-BOOL	**
189		operation, the value of SCB-Offset-NUM will have been	**
190 191		automatically incremented by the byte-count size of	**
		"arg2".	
192 193		SCB-Func-READ-Delim-BOOL	**
		SOD LAME METH DETINI_DOOR	**
194 195		SCB-Func-READ-Delim-BOOL bahaves like the SCB-FUNC-	**
		READ function, with the following behavioral dif-	**
196	*/	THERE THICCION, WITH THE TOTTOWING BEHAVIORAL CIT-	TT

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C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl ______ 197 ferences: 198 *> 1. When data is read from the file, only that data read ** 199 *> up to BUT NOT INCLUDING an end-of-line delimiter 200 sequence (either a LF or CRLF) will be retained in 201 *> 202 *> the buffer - the remainder of the buffer from the end-of-line sequence onward will be reset to SPACES. ** 203 *> 204 *> The file-offset value (SCB-Offset-NUM) will be in- ** 205 cremented ONLY by the amount of data transferred up ** 206 *> to AND INCLUDING the end-of-line sequence. 207 *> ** 208 *> 2. When data is read from the file and an end-of-line 209 *> delimiter sequence (either a LF or a CRLF) cannot be ** 210 *> found within the buffer, the assumption is made that ** the record is too long to fit within the buffer. In $\ast\ast$ *> 211 212 these instances, an SCB-Return-CD value of 02 will ** 213 *> be returned and the SCB-Offset-NUM value will be 214 *> incremented past the next end-of-line sequence in 215 *> the file (this will involve at least one additional ** 216 *> call to CBL_READ_FILE to locate that eol sequence, 217 *> but any additional such reads will be done internal- ** 218 *> ly to STREAMIO and will be entirely transparent to 219 *> the caller of STREAMIO. ** DO NOT USE the Streamio-READ-Delim function if the 221 *> 222 *> possibility exists that linefeed (X"OA") or carriage-** 223 *> return (X"OD") characters could exist as actual data ** 224 *> characters in the file. ** 225 *> ** 226 *> SCB-Func-WRITE-Delim-BOOL ** 227 228 *> SCB-Func-WRITE-Delim-BOOL acts like the Streamio-229 *> FUNC-WRITE function, with the following difference: ** 230 *> ** After the specified data is written to the file, an 231 232 *> end-of-line sequence will also be written to the file. 233 *> The file-offset value (SCB-Value) will be incremented 234 by the byte-count size of the data PLUS the size of the ** 235 end-of-line sequence. One of two possible end-of-line ** *> 236 sequences must be specified using the value of SCB-237 *> Delimter-Mode. 238 239 *>-----** 240 *> SCB-Delimiter-Mode-CD 241 242

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*> This data item is needed only when issuing the Streamio-

*> FUNC-WRITE-Delim function. In those circumstances, this

*> item defines what end-of-line delimiter sequence is to be

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243

244

245

**

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C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl

```
______
         *> If SCB-Delim-Unix-BOOL is true, a linefeed character will
  248
  249
          *> be written.
                                                                    **
  250
  251
          *> If SCB-Delim-Windows-BOOL is true, a carriage-return and
  252
          *> linefeed sequence will be written.
  253
          *>
          *>-----**
  255
          *> SCB-Offset-NUM
          *>-----
  256
  257
          *>
  258
           *> This data item specifies the next relative byte number with- **
  259
          *> in the file where the next read or write will start.
  260
  261
          *> SCB-Offset-NUM is automatically set to 0 (the first byte) **
  262
          *> when the file is opened, and is automatically incremented as **
  263
          *> the file is read or written via STREAMIO.
  264
           *>
  265
           *> You may also manually set this value as desired before any
  266
           *> call to STREAMIO.
  267
          *>
  268
  269
           *> SCB-Error-Routine-PTR
  270
           *>-
  271
           *>
  272
           *> To specify a general error-handling routine for handling
           *> STREAMIO failures, Create the routine and define an entry-
  273
           *> name for it via the ENTRY statement. Then use the following **
  274
  275
          *> to set that routine up as the error handler:
  276
  277
          *>
                SET SCB-Error-Routine-PTR TO ENTRY "entry-name"
                                                                   **
  278
          *>
                                                                    **
  279
          *> To "turn off" the error-routine:
                                                                    **
  280
  281
          *>
                SET SCB-Error-Routine-PTR TO NULL
  282
          *>
          *> If a fatal error occurs (any error not marked with a ">" in **
  284
          *> the SCB-Return-CD discussion), the error routine you spe-
  285
          *> cified (if any) will be set up as an exit routine via the
  286
          *> CBL_EXIT_PROC subroutine; the STREAMIO routine will then is- **
  287
           *> sue a STOP RUN to intentionally trigger your error routine. **
  288
           *> You will not be able to recover your program once your error **
          *> routine triggers. If you wish to be able to recover from **
  289
  290
          *> fatal STREAMIO errors, you should NOT use the SCB-Error-
          *> Routine feature but instead you should explicitly test the **
  292
          *> SCB-Return-CD value after every call to STREAMIO.
  293
          *>
  294
          *> A default error routine is defined by the "STREAMIOError.cpy"**
```

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```
_____
          *> copybook.
          *>-----
  297
  298
          *> SCB-Return-CD
  299
  300
           *>
          *> The following are the possible SCB-Return-CD values. The **
  301
           *> ones marked with a ">" will NOT trigger an error-routine, if **
  302
          *> one is currently registered via SCB-Error-Routine-PTR.
  304
          *>
  305
          *> 12 I/O error writing to file
                                                                     **
  306
          *> 11 File does not exist
                                                                     **
  307
               10 File already OPEN or already CLOSEd
          *> > 02 READ-Delim was truncated
  308
  309
          *> > 01 No more data is available from the current
  310
                 SCB-Offset-NUM
  311
         *> > 00 OK - the operation was successful
  312
         *> -1 Invalid SCB-Function-CD
         *>
  313
               -2 Invalid SCB-Mode-CD
  314
               -3 CBL_xxxxx_FILE routine rejected operation
  315
               -4 Invalid delimiter mode specified (Not U/W)
  316
  317
  318
           *> SCB-Filename-TXT
  319
           *>----**
  320
           *>
  321
           *> This is the name of the file you wish to access.
  322
  323
           *> If you are planning on reading the file, the file MUST exist **
          *> at the time the SCB-Func-OPEN-BOOL is executed.
  324
  325
  326
          *> If you are planning on writing to the file, the file need **
          *> exist when the SCB-Func-OPEN-BOOL is issued.
  327
                                                                     **
  328
           *>
                                                                     **
  329
           *> In general, the contents of SCB-Filename-TXT should re-
  330
           *> flect the complete path to the file as well as the name of
                                                                     **
  331
           *> the file itself, unless the file is contained in whatever
                                                                     **
  332
           *> directory is current at the time the SCB-Func-OPEN-BOOL is
  333
  334
                                                                     **
          *>
  335
           *> The following special values may be used for
                                                                     **
  336
           *> SCB-Filename-TXT:
  337
  338
          *> SPACES If the filename is SPACES, a filename will be created **
  339
         *> automatically for you in whatever directory is de- **
  340
                  fined by the TEMP environment variable. If there IS **
         *> no TEMP variable defined, the "/tmp" folder will be **

*> assumed. The filename will be STREAMIO-nnnnnnnn.dat **

*> where "nnnnnnn" is a random number. **
  341
  342
  343
```

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C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl

```
_____
  344
                 If you specify only a dot (period) as the filename,
        *>
  346
                the behavior will be the same as with a value of
                                                             **
        *>
  347
                SPACES except there will be no ".dat" at the end of **
  348
         *>
                 the generated filename.
  349
         *>
         350
        351
  352
  353
  354
  355
  356
  357
  358
  359
        *>********************
  360
        ENVIRONMENT DIVISION.
  361
  362
         CONFIGURATION SECTION.
  363
          REPOSITORY.
  364
              FUNCTION ALL INTRINSIC.
        DATA DIVISION.
  365
         WORKING-STORAGE SECTION.
  366
                                            PIC X(1) COMP-X.
  367
         01 WS-Access-Mode-CD
                                            PIC X(4) COMP-X.
  368
         01 WS-Arg-Length-NUM
                                           PIC X(256).
  369
         01 WS-Buffer-TXT
         01 WS-Delim-Buffer-TXT
01 WS-Env-Temp-TXT
  370
                                            PIC X(2).
                                            PIC X(256).
  371
         01 WS-Slash-CHR
                                           PIC X(1).
  372
         01 WS-Tally-NUM
  373
                                           USAGE BINARY-LONG.
         01 WS-8-Digit-NUM
                                           PIC 9(8).
  375
         01 WS-256-Byte-TXT
                                           PIC X(256).
         LINKAGE SECTION.
  376
  377
          01 L-StreamIO-Control-Block-TXT.
  378
              COPY STREAMIOcb
                 REPLACING LEADING ==SCB-== BY ==L-SCB-==.
  379
      05 L-SCB-Handle-NUM PIC X(4) COMP-X.
      05 L-SCB-Mode-CD PIC X(1).
      88 L-SCB-MODE-Input-BOOL VALUE 'I' 'i'.
      88 L-SCB-MODE-Output-BOOL VALUE 'O' 'o'.
      88 L-SCB-MODE-Both-BOOL VALUE 'B' 'b'.
      05 L-SCB-Function-CD PIC X(2).
      88 L-SCB-Func-CLOSE-BOOL VALUE 'C ' 'c '.
      88 L-SCB-Func-DELETE-BOOL VALUE 'D ' 'd '.
      88 L-SCB-Func-OPEN-BOOL VALUE 'O ' 'o '.
      88 L-SCB-Func-READ-BOOL VALUE 'R ' 'r '.
      88 L-SCB-Func-READ-Delim-BOOL VALUE 'RD' 'rd'
      'rD' 'Rd'.
      88 L-SCB-Func-WRITE-BOOL VALUE 'W ' 'w '.
```

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```
GNU COBOL 2.1 23NOV2013 Source Listing
```

```
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```

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```
______
       88 L-SCB-Func-WRITE-Delim-BOOL VALUE 'WD' 'wd'
       'wD' 'Wd'.
       05 L-SCB-Delimiter-Mode-CD PIC X(1).
       88 L-SCB-DELIM-Unix-BOOL VALUE 'U' 'u'.
       88 L-SCB-DELIM-Windows-BOOL VALUE 'W' 'w'.
       05 L-SCB-Offset-NUM PIC X(8) COMP-X.
       05 L-SCB-Error-Routine-PTR USAGE PROGRAM-POINTER.
       05 L-SCB-Error-Routine-NUM REDEFINES L-SCB-Error-Routine-PTR
       USAGE BINARY-LONG.
       05 L-SCB-Return-CD USAGE BINARY-LONG.
       05 L-SCB-Filename-TXT PIC X(256).
  380
                                                     PIC X ANY LENGTH.
             01 L-Arg2-TXT
  381
            PROCEDURE DIVISION USING L-StreamIO-Control-Block-TXT,
  382
                                    L-Arg2-TXT.
            000-Main SECTION.
  383
                MOVE 00 TO L-SCB-Return-CD
  384
  385
                EVALUATE TRUE
  386
                    WHEN L-SCB-Func-CLOSE-BOOL
  387
                        PERFORM 030-Validate-Handle-NonZero
  388
                        PERFORM 200-CLOSE
  389
                    WHEN L-SCB-Func-DELETE-BOOL
  390
                       CALL "CBL_DELETE_FILE" USING L-SCB-Filename-TXT
  391
                    WHEN L-SCB-Func-OPEN-BOOL
  392
                        PERFORM 020-Validate-Handle-Zero
  393
                        PERFORM 100-OPEN
                    WHEN L-SCB-Func-READ-BOOL
  394
  395
                        PERFORM 030-Validate-Handle-NonZero
  396
                        PERFORM 400-READ
  397
                    WHEN L-SCB-Func-READ-Delim-BOOL
  398
                        PERFORM 030-Validate-Handle-NonZero
                        PERFORM 500-READ-Delim
  399
  400
                    WHEN L-SCB-Func-WRITE-BOOL
  401
                        PERFORM 030-Validate-Handle-NonZero
  402
                        PERFORM 300-WRITE
  403
                    WHEN L-SCB-Func-WRITE-Delim-BOOL
  404
                        EVALUATE TRUE
  405
                            WHEN L-SCB-Delim-Unix-BOOL
  406
                                PERFORM 030-Validate-Handle-NonZero
  407
                                PERFORM 300-WRITE
  408
                                MOVE 1 TO WS-Arg-Length-NUM
  409
                                MOVE X"OA" TO WS-Delim-Buffer-TXT
  410
                            WHEN L-SCB-Delim-Windows-BOOL
  411
                                PERFORM 030-Validate-Handle-NonZero
  412
                                PERFORM 300-WRITE
  413
                                MOVE 2 TO WS-Arg-Length-NUM
                                MOVE X"ODOA" TO WS-Delim-Buffer-TXT
  414
                           WHEN OTHER
  415
  416
                                MOVE -4 TO L-SCB-Return-CD
  417
                                PERFORM 099-ERROR-Return
```

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GNU COBOL 2.1 23NOV2013 Source Listing C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl _____ END-EVALUATE 418 CALL "CBL_WRITE_FILE" USING L-SCB-Handle-NUM 420 L-SCB-Offset-NUM 421 WS-Arg-Length-NUM 422 423 WS-Delim-Buffer-TXT PERFORM 040-Check-WRITE-SCB-Return-CD 424 425 ADD WS-Arg-Length-NUM TO L-SCB-Offset-NUM WHEN OTHER 427 MOVE -1 TO L-SCB-Return-CD 428 PERFORM 099-ERROR-Return 429 END-EVALUATE 430 GOBACK 431 020-Validate-Handle-Zero SECTION. 432 IF L-SCB-Handle-NUM NOT = ZERO 433 434 MOVE 10 TO L-SCB-Return-CD 435 PERFORM 099-ERROR-Return 436 END-IF 437 438 030-Validate-Handle-NonZero SECTION. IF L-SCB-Handle-NUM = ZERO439 440 MOVE 10 TO L-SCB-Return-CD PERFORM 099-ERROR-Return 441 END-IF 442 443 444 040-Check-WRITE-SCB-Return-CD SECTION. 445 IF RETURN-CODE < 0 MOVE -3 TO L-SCB-Return-CD 446 447 PERFORM 099-ERROR-Return END-IF 448 449 IF RETURN-CODE = 30450 MOVE 12 TO L-SCB-Return-CD 451 PERFORM 099-ERROR-Return 452 MOVE 00 TO L-SCB-Return-CD 453 454 050-Check-READ-SCB-Return-CD SECTION. 455 456 IF RETURN-CODE < 0 457 MOVE -3 TO L-SCB-Return-CD 458 PERFORM 099-ERROR-Return END-IF 459 460 IF RETURN-CODE = 10 461 MOVE 01 TO L-SCB-Return-CD 462 GOBACK 463 END-IF 464 MOVE 00 TO L-SCB-Return-CD

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060-Identify-TEMP SECTION.

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C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl _____ ACCEPT WS-Env-Temp-TXT FROM ENVIRONMENT "TEMP" 467 EVALUATE TRUE 469 WHEN WS-Env-Temp-TXT (1:1) = "/"470 MOVE "/" TO WS-Slash-CHR WHEN WS-Env-Temp-TXT (2:1) = ":" 471 MOVE "\" TO WS-Slash-CHR 472 WHEN OTHER 473 MOVE "/tmp" TO WS-Env-Temp-TXT 474 MOVE "/" TO WS-Slash-CHR END-EVALUATE 476 477 478 099-ERROR-Return SECTION. 479 IF L-SCB-Error-Routine-NUM NOT = 0 CALL "CBL_EXIT_PROC" USING O, L-SCB-Error-Routine-PTR 480 481 482 END-IF 483 GOBACK 484 100-OPEN SECTION. 485 486 IF (L-SCB-Mode-Input-BOOL OR L-SCB-Mode-Both-BOOL) 487 AND (L-SCB-Filename-TXT = SPACES OR LOW-VALUES) 488 MOVE 11 TO L-SCB-Return-CD 489 PERFORM 099-ERROR-Return 490 EVALUATE TRUE 491 WHEN L-SCB-Filename-TXT = SPACES OR LOW-VALUES 492 493 PERFORM 060-Identify-TEMP 494 MOVE SPACES TO L-SCB-Filename-TXT COMPUTE 495 496 WS-8-Digit-NUM = RANDOM(SECONDS-PAST-MIDNIGHT) * 100000000 497 498 END-COMPUTE 499 STRING 500 TRIM(WS-Env-Temp-TXT, TRAILING) 501 WS-Slash-CHR "STREAMIO-" 502 WS-8-Digit-NUM 503 504 ".dat" 505 DELIMITED BY SIZE 506 INTO L-SCB-Filename-TXT 507 WHEN L-SCB-Filename-TXT(1:1) = "." 508 PERFORM 060-Identify-TEMP 509 IF L-SCB-Filename-TXT(2:1) = SPACE 510 MOVE SPACES TO WS-256-Byte-TXT ELSE 511 MOVE L-SCB-Filename-TXT TO WS-256-Byte-TXT 512 513 END-IF 514 MOVE SPACES TO L-SCB-Filename-TXT

COMPUTE WS-8-Digit-NUM =

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C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl _____ RANDOM(SECONDS-PAST-MIDNIGHT) * 100000000 516 517 TRIM(WS-Env-Temp-TXT, TRAILING) 518 519 WS-Slash-CHR 520 "STREAMIO-" 521 WS-8-Digit-NUM TRIM(WS-256-Byte-TXT, TRAILING) 522 523 DELIMITED BY SIZE 524 INTO L-SCB-Filename-TXT END-EVALUATE 525 EVALUATE TRUE 526 527 WHEN L-SCB-Mode-Input-BOOL 528 MOVE 1 TO WS-Access-Mode-CD 529 WHEN L-SCB-Mode-Output-BOOL 530 MOVE 2 TO WS-Access-Mode-CD 531 WHEN L-SCB-Mode-Both-BOOL 532 MOVE 3 TO WS-Access-Mode-CD 533 WHEN OTHER MOVE -2 TO L-SCB-Return-CD 534 535 PERFORM 099-ERROR-Return 536 END-EVALUATE CALL "CBL_OPEN_FILE" USING TRIM(L-SCB-Filename-TXT,TRAILING) 537 538 WS-Access-Mode-CD 539 540 0 L-SCB-Handle-NUM 541 542 IF RETURN-CODE = 35 543 MOVE 11 TO L-SCB-Return-CD PERFORM 099-ERROR-Return 544 545 END-IF IF RETURN-CODE < 0 546 547 MOVE -2 TO L-SCB-Return-CD PERFORM 099-ERROR-Return 548 549 END-IF 550 MOVE 00 TO L-SCB-Return-CD MOVE O TO L-SCB-Offset-NUM 551 552 200-CLOSE SECTION. 553 554 CALL "CBL_CLOSE_FILE" USING L-SCB-Handle-NUM 555 IF RETURN-CODE < 0 556 MOVE -2 TO L-SCB-Return-CD PERFORM 099-ERROR-Return 557 558 END-IF MOVE 00 TO L-SCB-Return-CD 559 560 MOVE 0 TO L-SCB-Handle-NUM 561 300-WRITE SECTION. 562 563 CALL "C\$PARAMSIZE" USING 2

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MOVE RETURN-CODE TO WS-Arg-Length-NUM

```
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```

C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl

```
______
                CALL "CBL_WRITE_FILE" USING L-SCB-Handle-NUM
  565
                                           L-SCB-Offset-NUM
  567
                                           WS-Arg-Length-NUM
  568
                                           0
  569
                                           L-Arg2-TXT
  570
                PERFORM 040-Check-WRITE-SCB-Return-CD
                ADD WS-Arg-Length-NUM TO L-SCB-Offset-NUM
  571
  572
           400-READ SECTION.
  573
                CALL "C$PARAMSIZE" USING 2
  574
                MOVE RETURN-CODE TO WS-Arg-Length-NUM
  575
  576
                MOVE SPACES TO L-Arg2-TXT(1:WS-Arg-Length-NUM)
  577
                CALL "CBL_READ_FILE" USING L-SCB-Handle-NUM
                                          {\tt L-SCB-Offset-NUM}
  578
  579
                                          WS-Arg-Length-NUM
  580
  581
                                          L-Arg2-TXT
                PERFORM 050-Check-READ-SCB-Return-CD
  582
  583
                ADD WS-Arg-Length-NUM TO L-SCB-Offset-NUM
  584
  585
             500-READ-Delim SECTION.
  586
                CALL "C$PARAMSIZE" USING 2
  587
                MOVE RETURN-CODE TO WS-Arg-Length-NUM
                MOVE SPACES TO L-Arg2-TXT(1:WS-Arg-Length-NUM)
  588
                CALL "CBL_READ_FILE" USING L-SCB-Handle-NUM
  589
  590
                                          L-SCB-Offset-NUM
  591
                                          WS-Arg-Length-NUM
  592
  593
                                          L-Arg2-TXT
                PERFORM 050-Check-READ-SCB-Return-CD
  594
                MOVE O TO WS-Tally-NUM
  595
  596
                INSPECT L-Arg2-TXT(1:WS-Arg-Length-NUM)
  597
                    TALLYING WS-Tally-NUM FOR ALL X"OA"
  598
                IF WS-Tally-NUM = 0 *> No LF found - return truncated data and position past n
      ext LF (if any)
                    IF L-Arg2-TXT(WS-Arg-Length-NUM:1) = X"OD"
  599
  600
                        MOVE SPACE TO L-Arg2-TXT(WS-Arg-Length-NUM:1)
  601
  602
                    ADD WS-Arg-Length-NUM TO L-SCB-Offset-NUM
  603
                    MOVE 02 TO L-SCB-Return-CD
  604
                    MOVE 256 TO WS-Arg-Length-NUM
                    PERFORM UNTIL 0 = 1
  605
  606
                        MOVE SPACES TO WS-Buffer-TXT
                        CALL "CBL_READ_FILE" USING L-SCB-Handle-NUM
  607
  608
                                                  L-SCB-Offset-NUM
  609
                                                  WS-Arg-Length-NUM
  610
  611
                                                  WS-Buffer-TXT
                        IF RETURN-CODE < 0
  612
```

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C:/Users/tda010/Documents/Programs/Samples/STREAMIO.cbl _____ MOVE -3 TO L-SCB-Return-CD 613 PERFORM 099-ERROR-Return 614 FND-TF 615 616 IF RETURN-CODE = 10 617 GOBACK 618 END-IF MOVE O TO WS-Tally-NUM 619 INSPECT WS-Buffer-TXT 620 621 TALLYING WS-Tally-NUM FOR ALL X"OA" 622 IF WS-Tally-NUM = 0ADD 256 TO L-SCB-Offset-NUM 623 624 ELSE 625 MOVE O TO WS-Tally-NUM 626 INSPECT WS-Buffer-TXT 627 TALLYING WS-Tally-NUM FOR CHARACTERS BEFORE INITIAL X"OA" 628 629 ADD WS-Tally-NUM, 1 TO L-SCB-Offset-NUM 630 GOBACK 631 END-IF 632 END-PERFORM 633 *> There is (at least) one LF in the buffer 634 MOVE O TO WS-Tally-NUM INSPECT L-Arg2-TXT(1:WS-Arg-Length-NUM) 635 TALLYING WS-Tally-NUM 636 FOR CHARACTERS BEFORE INITIAL X"OA" 637 638 ADD WS-Tally-NUM, 1 TO L-SCB-Offset-NUM 639 IF WS-Tally-NUM > 1 640 IF L-Arg2-TXT(WS-Tally-NUM:1) = X"OD" 641 COMPUTE WS-Arg-Length-NUM = 642 WS-Arg-Length-NUM - WS-Tally-NUM 643 644 + 1 ELSE. 645 646 COMPUTE WS-Arg-Length-NUM = 647 WS-Arg-Length-NUM - WS-Tally-NUM 648 649 ADD 1 TO WS-Tally-NUM 650 END-IF 651 MOVE SPACES 652 TO L-Arg2-TXT(WS-Tally-NUM:WS-Arg-Length-NUM) 653 ELSE 654 MOVE SPACES 655 TO L-Arg2-TXT(1:WS-Arg-Length-NUM) 656 END-IF

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END-IF

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PROGRAM-ID	Identifier/Register/Function	Defn	O/Documents/Pr Where Defined	l :	References	3	Page: 15
STREAMIO	======================================		PROCEDURE	== :			
STREAMIO	020-Validate-Handle-Zero	432	PROCEDURE		392		
STREAMIO	030-Validate-Handle-NonZero		PROCEDURE		387	395	398
					401	406	411
STREAMIO	040-Check-WRITE-SCB-Return-CD	444	PROCEDURE		424	570	
STREAMIO	050-Check-READ-SCB-Return-CD	455	PROCEDURE		582	594	
STREAMIO	060-Identify-TEMP	466	PROCEDURE		493	508	
STREAMIO	099-ERROR-Return	478	PROCEDURE		417	428	435
					441	447	451
					458	489	535
					544	548	557
					614		
STREAMIO	100-OPEN	485	PROCEDURE		393		
STREAMIO	200-CLOSE	553	PROCEDURE		388		
STREAMIO	300-WRITE	562	PROCEDURE		402	407	412
STREAMIO	400-READ	573	PROCEDURE		396		
STREAMIO	500-READ-Delim	585	PROCEDURE		399		
STREAMIO	L-Arg2-TXT	380	LINKAGE		382	569C	576*
	9				581C	588*	593C
					599	600*	640
					652*	655*	
STREAMIO	L-SCB-DELIM-Unix-BOOL	379	[STREAMIOcb]	405		
STREAMIO	L-SCB-DELIM-Windows-BOOL	379	[STREAMIOcb]	410		
STREAMIO	L-SCB-Delimiter-Mode-CD	379	[STREAMIOcb]			
STREAMIO	L-SCB-Error-Routine-NUM	379	[STREAMIOcb]	479		
STREAMIO	L-SCB-Error-Routine-PTR	379	[STREAMIOcb]	379	480C	
STREAMIO	L-SCB-Filename-TXT	379	[STREAMIOcb]	390C	487	492
					494*	506*	507
					509	512	514*
					524*	537C	
STREAMIO	L-SCB-Func-CLOSE-BOOL	379	[STREAMIOcb]	386		
STREAMIO	L-SCB-Func-DELETE-BOOL	379	[STREAMIOcb]	389		
STREAMIO	L-SCB-Func-OPEN-BOOL	379	[STREAMIOcb]	391		
STREAMIO	L-SCB-Func-READ-BOOL	379	[STREAMIOcb]	394		
STREAMIO	L-SCB-Func-READ-Delim-BOOL	379	[STREAMIOcb]	397		
STREAMIO	L-SCB-Func-WRITE-BOOL	379	[STREAMIOcb]	400		
STREAMIO	L-SCB-Func-WRITE-Delim-BOOL		[STREAMIOcb]	403		
STREAMIO	L-SCB-Function-CD		[STREAMIOcb]			
STREAMIO	L-SCB-Handle-NUM	379	[STREAMIOcb]	419C	433	439
					541C	554C	560*
					565C	577C	589C
					607C		
STREAMIO	L-SCB-MODE-Both-BOOL	379	[STREAMIOcb]	486	531	
STREAMIO	L-SCB-Mode-CD		[STREAMIOcb]			
STREAMIO	L-SCB-MODE-Input-BOOL		[STREAMIOcb]	486	527	
STREAMIO	L-SCB-MODE-Output-BOOL		[STREAMIOcb]	529		
STREAMIO	L-SCB-Offset-NUM	379	[STREAMIOcb]	420C	425*	551*
					566C	571*	578C
					583*	590C	602*

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PROGRAM-ID	Identifier/Register/Function	Defn	O/Documents/Progr Where Defined	References	S/SIRE	Page: 16
=========			==========	608C 638*	623*	629*
STREAMIO	L-SCB-Return-CD	379	[STREAMIOcb]	384*	416*	427*
				434*	440*	446*
				450*	453*	457*
				461*	464*	488*
				534*	543*	547*
				550*	556*	559*
				603*	613*	
STREAMIO	L-StreamIO-Control-Block-TXT	377	LINKAGE	381		
STREAMIO	RETURN-CODE		PROCEDURE	445	449	456
				460	542	546
				555	564	575
				587	612	616
STREAMIO	WS-256-Byte-TXT		WORKING-STORAGE	510*	512*	522
STREAMIO	WS-8-Digit-NUM	374	WORKING-STORAGE	496* 521	503	515*
STREAMIO	WS-Access-Mode-CD	367	WORKING-STORAGE	528* 538C	530*	532*
STREAMIO	WS-Arg-Length-NUM	368	WORKING-STORAGE	408*	413*	421C
				425	564*	567C
				571	575*	576
				579C	583	587*
				588	591C	596
				599	600	602
				604*	609C	635
				641*	642	646*
				647	652	655
STREAMIO	WS-Buffer-TXT	369	WORKING-STORAGE	606*	611C	
STREAMIO	WS-Delim-Buffer-TXT		WORKING-STORAGE	409*	414*	423C
STREAMIO	WS-Env-Temp-TXT	371	WORKING-STORAGE	467*	469	471
				474*	500	518
STREAMIO	WS-Slash-CHR	372	WORKING-STORAGE	470*	472*	475*
				501	519	
STREAMIO	WS-Tally-NUM	373	WORKING-STORAGE	595*	597*	598
				619*	621*	622
				625*	627*	629
				634*	636*	638
				639	640	643
				648	649*	652

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