

APPENDIX A -- Computer Listings

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(On the listing, the left most column of numbers are sequence numbers created by the listing program and are not part of the listings. The listings were printed on a computer printer with the wrong character chain mounted. The errorous characters corrected--however the original card deck is the correct source. The unprintable character EOL (Ø.8-2) is denoted by ~~/~~.)

A.1	Terminal Program	320
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APPENDIX B --Keypunch Rules & Formats Up-dates

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ASSEMBLER LISTING OF EVQS TERMINAL SYSTEM

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1 ***** ASSEMBLER LISTING OF EVQS TERMINAL SYSTEM
2 $ CSECT ORDER IN LISTING
3 * MACROS
4 * DSECTS
5 * CSECTS EVQS
6 * EVQSINITL
7 * EVQFILES
8 * EVQASIGN
9 * EVQEND
10 * EVQTYOUT
11 * EVQQUERY
12 * EVQSCAN
13 * EVQIF
14 * EVQREGOR
15 * EVQFBITS
16 * EVQBST
17 * EVQBCN
18 * END CARD
19 * EVQERR
20 *
21 * END CARD
22 * SECOND BATCH
23 ** LAST SET OF CORRECTIONS ENTERED ON JULY 5, 1973 AND
24 ** NOT DEBUGGED
25 ** MACRO'S ARE ENTERED AT THE BEGINNING OF EACH COMPILE RUN
26 * PUNCH COLUMNS ARE 1,12,20
27 * MACRO
28 * Saver &SAVE=SAVEA NEXT HIGHER SAVE AREA
29 * DS OH
30 * GNAM STM 14,12,12(13)
31 * ST 13,&SAVE+4
32 * LA 13,&SAVE
33 * MEND
34 * MACRO
35 * BVALUE &LEN,&ADR,&REG LEN OF PARM,ADR OF CHAR,REG FOR RES
36 * * LENGTH OF PARM,ADR OF CHARS, REG FOR RESULT
37 * GNAM PACK PACKED(8),1(&LEN,&ADR)
38 * CVB &REG,PACKED
39 * MEND
40 * MACRO
41 * BEGIN &BASE=BR1 BASE REGISTER
42 * GNAM TITLE 'CSECT &NAM'
43 * CSECT
44 * LR &BASE,15
45 * USING &NAM,&BASE
46 * USING ADRLIST,COMBASE
47 * USING DCBLIST,DCBASE
48 * USING QUESLIST,QUESBASE
49 * USING QTLIST,REG2
50 * MEND
51 * MACRO
52 * DOIO &DCB,&AREA FILE,RECORD
53 * GNAM L 1,&DCB A(DCB) IN REG1
54 * LA 0,&AREA A(RECORD) IN REG0
55 * L 15,4810,1 A(PUT ROUTINE) IN REG.15
56 * BALR 14,15

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A.1 Terminal Program

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ASSEMBLER LISTING OF EVQS TERMINAL SYSTEM

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56      MEND
57      MACRO
58      ODCB      &DDNAME=&, &LRECL=80, &BLKSIZE=80, &RECFM=F, &EODAD=1
59      *      ONLY RECFM=F OR FB ALLOWED - ALL ELSE LEAVES DCB FIELDS ZEROED
60      &NAM      DC      A(0,0,0,0,0,1,16384,1,&EODAD)
61      AIF ('&RECFM' EQ 'F').F
62      AIF ('&RECFM' EQ 'FB').FB
63      OC      F'0'      RECFM, BLKSIZE, LRECL
64      DC      CL8'&DDNAME'      ON DD CARO
65      DC      X'02005050'      OR ON VOLUME VTOC
66      DC      A(1,1,0,0,1,1,1,0,1,0,1)
67      MEXIT
68      .FB      DC      BL1'10010000', XL3'00'      RECFM=FB
69      .REST      .REST
70      .F      DC      BL1'10000000', XL3'00'      RECFM=F
71      .REST      DC      CL8'&DDNAME'
72      DC      X'02005050'
73      DC      A(1,1,&BLKSIZE,0,1,1,1,&LRECL,1,0,1)
74      MEND
75      MACRO
76      &NAM      EOF      &DCB,&EODAD,&REG=(REG2,REG3)      FILE,A(EOF ROUTINE)
77      LA      &REG(1),&EODAD      REG(1) HAS A(EODAD)
78      *      MAYBE USED BEFORE OR AFTER OPENING OF FILE
79      *      EODAD FILLER USES REG2 & REG3 UNLESS OTHERWISE
80      L      &REG(2),&DCB      REG(2) HAS A(DCB)
81      ST      &REG(1),32(&REG(2))      STORE A(EODAD) IN DCB
82      MEND
83      MACRO
84      &NAM      EPCVAL      &REG,&LOC,&LEN
85      *      REG BINARY VALUE IS IN LOC TO PUT RESULT, LEN OF RESULT
86      &NAM      CVD      &REG,PACKED
87      UNPK      &LOC(&LEN),PACKED
88      DI      &LOC,&LEN-1,X'FO'
89      MEND
90      EJECT
91      *
92      REG2      EQU      2      EQU'S
93      REG3      EQU      3      WORK REG
94      REG4      EQU      4      WORK
95      REG5      EQU      5      WORK
96      COMBASE      EQU      6      BASE-ADRLIST
97      DCBASE      EQU      7      BASE-DCBLIST
98      QUESBASE      EQU      8      BASE-QUESLIST
99      CHAR      EQU      9      CHAR BEING PROCESSED
100     CNT      EQU      10     COUNTER
101     BR1      EQU      11     FUNCTION ROUTINE BASE REG
102     BASE      EQU      12     MAIN ROUTINE BASE REG
103     BR      EQU      15     BRANCH/WORK REG
104     *      COMMAND ACCESS LIST FOR SYNTAX PARSER
105     ADRLIST      DSECT      REG6 - COMBASE AS BASE
106     NUML      DS      F      A(NO. OF KEY INITIALS)
107     LETS      DS      F      A(LETTERS)
108     RETNS      DS      F      A(PLACES OF ACTIVE RETNS)
109     OFSTS      DS      F      A(VIRTUAL OFFSETS OF A(RETNS))
110     ADRS      DS      F      A(LIST OF RETURNS)

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

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```

111 GOROUT DS F (PROCESSING ROUTINE)
112 * DCB REFERENCE LIST REGT-DCBASE AS BASE
113 DCBLIST DSECT XL24
114 DEFFILES DS F
115 PARMA DS F
116 PRNTS DS F
117 SCNS DS F
118 WKS DS F
119 DS F
120 *
121 QLIST DSECT USED WITH REG2 20-L16 LENGTH
122 QLOC DS F
123 QLFN DS F
124 QFS DS F
125 QNUM DS F
126 *
127 Q01 DS F
128 Q02 DS F
129 Q03 DS F
130 QUESLIST DSECT
131 * QUESTION
132 QTAB DS F
133 QSTORE DS F
134 ACTIVE DS F
135 PTYPE DS F
136 TFCHK DS F
137 WORKA DS F
138 * DCB LIST
139 SYSIN DS F
140 SYSPRINT DS F
141 MASPRT DS F
142 SCANF DS F
143 WORKIN DS F
144 WORKOUT DS F
145 *
146 PARM DS F
147 PARML DS F
148 KEYIN DS F
149 SAVEA DS F
150 BRSAVE DS F
151 ACARD DS F
152 ACARDI DS F
153 CARD DC X.FF
154 CL80 DC F
155 COMSROUT DS F
156 ALDCI DS F
157 ALDC2 DS F
158 ACOL2 DS F
159 ACOL1 DS F
160 OUT DS F
161 MSG DS F
162 ERR DS F
163 LKA DS F
164 *
165 TO ALLOW MANIPULATING STATE
166 XL300
167 OF
168 CL10 CL44
169 ERROR FIELD OF MSG CARD
170 SYNTAX PARSE MSG CARD
171 GENERAL PURPOSE CARD IMAGE
172 CL80
173 F
174 A(1ST LETTER OF 2ND ROUTINE) COMM 2
175 A(1ST LETTER OF 1ST ROUTINE) COMM 1
176 START OF PARM FOR COMMAND 2
177 F
178 START OF PARM FOR COMMAND 1
179 F
180 A(COM5) - SYNTAX PARSE
181 MARKER- END OF CARD
182 3X.FF
183 DC
184 CL80
185 COMMAND INPUT CARD
186 MARKER-BEGIN CARD
187 X.FF
188 ACARDI
189 ACARD
190 ACARD
191 BR SAVE AREA
192 F
193 MAIN SAVE AREA
194 18F
195 LOCATION OF RETURNS FLAG
196 F
197 LENGTH OF PARM
198 2F
199 A(PARMS TO BE PASSED)
200 2F
201 COMMAND DATA
202 F
203 DS F
204 WORKOUT
205 F
206 DS F
207 WORKIN
208 F
209 DS F
210 SCANF
211 F
212 DS F
213 MASPRT
214 F
215 DS F
216 SYSPRINT
217 F
218 DS F
219 SYSIN
220 F
221 DS F
222 DCB LIST
223 200F
224 DS F
225 WORK SPACE FOR WORK LISTS
226 10F
227 DS F
228 PAGE/FORM TO BE CHECKED
229 F
230 DS F
231 PAGES TO BE CHECKED)=5 (IN TFCHK)
232 GENERAL FLAGS
233 D
234 DS F
235 A(START OF FREE STORAGE))SYSIN
236 ENOUGH TO HANDLE 20 QUESTIONS
237 400
238 DS F
239 DATA TABLE
240 QUESTION
241 BASE - QUESBASE
242 TRANSLATIONS (POINTS TO LIST IN WORKA)
243 UNUSED
244 IF (HAS OFFSET OF TEST IN IFLIST)
245 FOR ROUTINES
246 QUESTION NUMBER
247 32 FLAGS
248 LENGTH
249 LOC FROM BEGINNING OF CARDIN
250 20-L16 LENGTH
251 USED WITH REG2
252 FOR QUESTION J THEN REG2=A(QTAB+(4-1)*16)
253 WORK SPACE
254 3F
255 DS F
256 WORK FILES 1-5
257 4F
258 DS F
259 WORK FILES 2-5
260 2F
261 DS F
262 PRINT FILES
263 SPACE FOR INVOKING PARAH ADR
264 5F
265 DS F
266 DEFAULT FILES
267 XL24
268 DS F
269 DCB REFERENCE LIST REGT-DCBASE AS BASE
270 DSECT
271 DEFFILES DS F
272 PARMA DS F
273 PRNTS DS F
274 SCNS DS F
275 WKS DS F
276 DS F
277 *
278 QLIST DSECT USED WITH REG2 20-L16 LENGTH
279 QLOC DS F
280 QLFN DS F
281 QFS DS F
282 QNUM DS F
283 *
284 FOR ROUTINES
285 IF (HAS OFFSET OF TEST IN IFLIST)
286 UNUSED
287 TRANSLATIONS (POINTS TO LIST IN WORKA)
288 QUESBASE
289 DATA TABLE
290 ENOUGH TO HANDLE 20 QUESTIONS
291 400
292 DS F
293 A(START OF FREE STORAGE))SYSIN
294 GENERAL FLAGS
295 D
296 DS F
297 PAGES TO BE CHECKED)=5 (IN TFCHK)
298 10F
299 DS F
300 WORK SPACE FOR WORK LISTS
301 200F
302 DS F
303 DCB LIST
304 F
305 DS F
306 SYSIN
307 F
308 DS F
309 SYSPRINT
310 F
311 DS F
312 MASPRT
313 F
314 DS F
315 SCANF
316 F
317 DS F
318 WORKIN
319 F
320 DS F
321 WORKOUT
322 *
323 145
324 146
325 PARM
326 DS F
327 PARML
328 DS F
329 KEYIN
330 DS F
331 SAVEA
332 DS F
333 BRSAVE
334 DS F
335 ACARD
336 DS F
337 ACARDI
338 DS F
339 CARD
340 DC CL80
341 MARKER-BEGIN CARD
342 COMMAND INPUT CARD
343 MARKER- END OF CARD
344 3X.FF
345 DS F
346 A(COM5) - SYNTAX PARSE
347 START OF PARM FOR COMMAND 1
348 F
349 START OF PARM FOR COMMAND 2
350 F
351 A(1ST LETTER OF 1ST ROUTINE) COMM 1
352 A(1ST LETTER OF 2ND ROUTINE) COMM 2
353 F
354 CL80
355 GENERAL PURPOSE CARD IMAGE
356 CL30
357 SYNTAX PARSE MSG CARD
358 ERROR FIELD OF MSG CARD
359 CL10 CL44
360 OF
361 XL300

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ASSEMBLER LISTING OF EVQS TERMINAL SYSTEM

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166 LK DC X.00 SYNTAX PARSER STATE
167 RESMSG DS C. SCAN MSG CARD
168 ZCNT DS ZL4,CL30
169 RES DS CL5,C.1,CL5,CL35
170 MODPAT DS CL11
171 * FSWH PARM LIST
172 FDCB DS F. (ASCAN DGB)
173 H.11. PATTERN LENGTH
174 H.80. DATA LENGTH
175 A(KEY) DS A(PATTERN)
176 A(OUT) DS A(DATA)
177 XLB TRACK ON
178 CL11 PATTERN
179 CL80 ASSIGN MSG LINE
180 DD
181 PL8 USED TO CONVERT HEX TO EBCDIC
182 RCNT DC F.01
183 CL80 HIGHEST USED RANGE
184 CL80 RESP. RANGES TO BE SCANNED
185 ANALYSIS LINE
186 CL80 2CL80,2CL69
187 1BF 2ND LEVEL SAVE AREA
188 1BF 3RD LEVEL SAVE AREA
189 P. A(DCBLIST) - BASE REG. TO BE LOADED IN DCBASE
190 CL14 SPACES TO BE USED TO BLANK LINES
191 DS NUMBER OF TESTS
192 DS CL160 CONDITIONAL WORK LISTS
193 DS 20F. TAB SETTINGS, TAB LENGTH
194 EJECT
195 BEGIN BASE=BASE
196 STM 14,12,12(13)
197 * ALLOCATE
198 GETMAIN R,LV=4088
199 LR QUESTRASE,1
200 ST 13,SAVEA+4
201 LA 13,SAVEA
202 CALL EVQFILES
203 CALL EVOINITL
204 MVC COMSHOUT,=A(COMS)
205 EOP SYSIN,LINE
206 DDIO SYSPRINT,BGMHODING
207 L REG2,SYSLN
208 REG2,INPTDEC8+8
209 ST REG2,CARD
210 LA REG2,INPTDEC8+12
211 CNOP 0,4 PROPER ALIGNMENT
212 BAL 1,*+24 READ MACRO
213 DC F.01,AL2(128,80),3A(0)
214 L 15,8(1,0)
215 L 15,48(0,15)
216 BALR 14,15
217 CHECK INPTDEC8
218 MVI MKK,X.00
219 CL1 CARD,C.01
220 BNE RDT1RD
221 MVI MKK,X.FF
222 LAI CHAR,CARD-1

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

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MVC BRSAVE=A(COLON)

MVC ALOC1,ACARD

MVC ALOC1,ALOC1

LA REG2,COLON

BALR 14,REG2

MVC ALOC1,ALOC2

MVC ALOC1,ACOL2

LA 14,L2

L CHAR,ACOL1

CHAR,ONE

CLT O(CHAR),X,FF

B,ERROR1

CLT O(CHAR),C,FF

BC 8,E2

CLT O(CHAR),C,FF

BC 8,E2

CLT O(CHAR),C,FF

BC 6,BLK

MVI O(CHAR),X,FF

CHAR,ONE

ST CHAR,ALOC2

14

CALC A(ROUTINE)

L CHAR,ALOC1

REG3,ZERO

REG3,O(CHAR)

L REG3,ALPHA

BR,ZERO

IC

S

L BR,ZERO

IC REG3,COMA

LA REG3,COMA

BR,REG3

LA REG2,COMS

CLR REG2,BR

L BR,O(BR)

BALR 14,BR

MVC ALOC1,ACOL2

MVC ALOC1,ALOC2

L CHAR,ACOL2

L BR,BRSAVE

BR

ALOC2,ACARD

CLC ACOL1,ACARD

BC B,COMERR

MVC BRSAVE,=A(RO)

L 15,L2

L 13,SAVEA+4

LR 12,QUESTBASE

LM 14,11,12(13)

NEED REG2 FOR FREEMAIN SINCE SAVE AREA IS IN CORE FREED

FREE MAIN

PR 14

R,LV=4088,A=(12)

COLON A

BLK

E2

L2

E2

ERROR1

ERR1

FINE

LOAD OFFSET IN COMA

BR,COMT(REG3)

BR,ZERO

IC

S

L BR,ZERO

IC REG3,COMA

LA REG3,COMA

BR,REG3

LA REG2,COMS

CLR REG2,BR

L BR,O(BR)

BALR 14,BR

MVC ALOC1,ACOL2

MVC ALOC1,ALOC2

L CHAR,ACOL2

L BR,BRSAVE

BR

ALOC2,ACARD

CLC ACOL1,ACARD

BC B,COMERR

MVC BRSAVE,=A(RO)

L 15,L2

L 13,SAVEA+4

LR 12,QUESTBASE

LM 14,11,12(13)

NEED REG2 FOR FREEMAIN SINCE SAVE AREA IS IN CORE FREED

FREE MAIN

PR 14

R,LV=4088,A=(12)

EXIT SEQUENCE

NO COLONS ON INPUT CARD

ROUTINE

COLON LOCATION

END OF INPUT

STORE A(1) IN ACOL2

NO LEADING BLANK

MARKS END OF EACH COMMAND

CALC A(ROUTINE)

LOAD OFFSET IN COMA

BR,COMT(REG3)

BR,ZERO

IC

S

L BR,ZERO

IC REG3,COMA

LA REG3,COMA

BR,REG3

LA REG2,COMS

CLR REG2,BR

L BR,O(BR)

BALR 14,BR

MVC ALOC1,ACOL2

MVC ALOC1,ALOC2

L CHAR,ACOL2

L BR,BRSAVE

BR

ALOC2,ACARD

CLC ACOL1,ACARD

BC B,COMERR

MVC BRSAVE,=A(RO)

L 15,L2

L 13,SAVEA+4

LR 12,QUESTBASE

LM 14,11,12(13)

NEED REG2 FOR FREEMAIN SINCE SAVE AREA IS IN CORE FREED

FREE MAIN

PR 14

R,LV=4088,A=(12)

EXIT SEQUENCE

NO COLONS ON INPUT CARD

ROUTINE

COLON LOCATION

END OF INPUT

STORE A(1) IN ACOL2

NO LEADING BLANK

MARKS END OF EACH COMMAND

CALC A(ROUTINE)

LOAD OFFSET IN COMA

BR,COMT(REG3)

BR,ZERO

IC

S

L BR,ZERO

IC REG3,COMA

LA REG3,COMA

BR,REG3

LA REG2,COMS

CLR REG2,BR

L BR,O(BR)

BALR 14,BR

MVC ALOC1,ACOL2

MVC ALOC1,ALOC2

L CHAR,ACOL2

L BR,BRSAVE

BR

ALOC2,ACARD

CLC ACOL1,ACARD

BC B,COMERR

MVC BRSAVE,=A(RO)

L 15,L2

L 13,SAVEA+4

LR 12,QUESTBASE

LM 14,11,12(13)

NEED REG2 FOR FREEMAIN SINCE SAVE AREA IS IN CORE FREED

FREE MAIN

PR 14

R,LV=4088,A=(12)

EXIT SEQUENCE

NO COLONS ON INPUT CARD

ROUTINE

COLON LOCATION

END OF INPUT

STORE A(1) IN ACOL2

NO LEADING BLANK

MARKS END OF EACH COMMAND

CALC A(ROUTINE)

LOAD OFFSET IN COMA

BR,COMT(REG3)

BR,ZERO

IC

S

L BR,ZERO

IC REG3,COMA

LA REG3,COMA

BR,REG3

LA REG2,COMS

CLR REG2,BR

L BR,O(BR)

BALR 14,BR

MVC ALOC1,ACOL2

MVC ALOC1,ALOC2

L CHAR,ACOL2

L BR,BRSAVE

BR

ALOC2,ACARD

CLC ACOL1,ACARD

BC B,COMERR

MVC BRSAVE,=A(RO)

L 15,L2

L 13,SAVEA+4

LR 12,QUESTBASE

LM 14,11,12(13)

NEED REG2 FOR FREEMAIN SINCE SAVE AREA IS IN CORE FREED

FREE MAIN

PR 14

R,LV=4088,A=(12)

EXIT SEQUENCE

NO COLONS ON INPUT CARD

ROUTINE

COLON LOCATION

END OF INPUT

STORE A(1) IN ACOL2

NO LEADING BLANK

MARKS END OF EACH COMMAND

CALC A(ROUTINE)

LOAD OFFSET IN COMA

BR,COMT(REG3)

BR,ZERO

IC

S

L BR,ZERO

IC REG3,COMA

LA REG3,COMA

BR,REG3

LA REG2,COMS

CLR REG2,BR

L BR,O(BR)

BALR 14,BR

MVC ALOC1,ACOL2

MVC ALOC1,ALOC2

L CHAR,ACOL2

L BR,BRSAVE

BR

ALOC2,ACARD

CLC ACOL1,ACARD

BC B,COMERR

MVC BRSAVE,=A(RO)

L 15,L2

L 13,SAVEA+4

LR 12,QUESTBASE

LM 14,11,12(13)

NEED REG2 FOR FREEMAIN SINCE SAVE AREA IS IN CORE FREED

FREE MAIN

PR 14

R,LV=4088,A=(12)

EXIT SEQUENCE

NO COLONS ON INPUT CARD

ROUTINE

COLON LOCATION

END OF INPUT

STORE A(1) IN ACOL2

NO LEADING BLANK

MARKS END OF EACH COMMAND

CALC A(ROUTINE)

LOAD OFFSET IN COMA

BR,COMT(REG3)

BR,ZERO

IC

S

L BR,ZERO

IC REG3,COMA

LA REG3,COMA

BR,REG3

LA REG2,COMS

CLR REG2,BR

L BR,O(BR)

BALR 14,BR

MVC ALOC1,ACOL2

MVC ALOC1,ALOC2

L CHAR,ACOL2

L BR,BRSAVE

BR

ALOC2,ACARD

CLC ACOL1,ACARD

BC B,COMERR

MVC BRSAVE,=A(RO)

L 15,L2

L 13,SAVEA+4

LR 12,QUESTBASE

LM 14,11,12(13)

NEED REG2 FOR FREEMAIN SINCE SAVE AREA IS IN CORE FREED

FREE MAIN

PR 14

R,LV=4088,A=(12)

EXIT SEQUENCE

NO COLONS ON INPUT CARD

ROUTINE

COLON LOCATION

END OF INPUT

STORE A(1) IN ACOL2

NO LEADING BLANK

MARKS END OF EACH COMMAND

CALC A(ROUTINE)

LOAD OFFSET IN COMA

BR,COMT(REG3)

BR,ZERO

IC

S

L BR,ZERO

IC REG3,COMA

LA REG3,COMA

BR,REG3

LA REG2,COMS

CLR REG2,BR

L BR,O(BR)

BALR 14,BR

MVC ALOC1,ACOL2

MVC ALOC1,ALOC2

L CHAR,ACOL2

L BR,BRSAVE

BR

ALOC2,ACARD

CLC ACOL1,ACARD

BC B,COMERR

MVC BRSAVE,=A(RO)

L 15,L2

L 13,SAVEA+4

LR 12,QUESTBASE

LM 14,11,12(13)

NEED REG2 FOR FREEMAIN SINCE SAVE AREA IS IN CORE FREED

FREE MAIN

PR 14

R,LV=4088,A=(12)

EXIT SEQUENCE

NO COLONS ON INPUT CARD

ROUTINE

COLON LOCATION

END OF INPUT

STORE A(1) IN ACOL2

NO LEADING BLANK

MARKS END OF EACH COMMAND

CALC A(ROUTINE)

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

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276 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
277 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
278 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
279 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
280 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
281 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
282 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
283 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
284 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
285 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
286 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
287 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
288 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
289 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
290 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
291 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
292 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
293 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
294 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
295 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
296 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
297 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
298 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
299 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
300 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
301 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
302 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
303 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
304 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
305 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
306 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
307 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
308 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
309 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
310 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
311 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
312 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
313 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
314 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
315 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
316 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
317 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
318 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
319 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
320 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
321 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
322 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
323 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
324 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
325 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
326 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
327 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
328 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
329 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
330 *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *

```

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

```

331      L      CHAR,ACOLL
332      MWC     PARML,ZERO
333      A      CHAR,ONE
334      BC      15,CTN
335      *      RETURN,SEQ
336      TM      HKK,X'FF'
337      BO      EEL
338      ST      14,GOSAVE
339      L      14,GOSAVE
340      BALR    14,BR
341      BC      15,EEL
342      DS      15,CTN
343      CLT     0(CHAR),C
344      BC      8,NEXT
345      TM      LK,X'2F'
346      BC      4,OTHERS
347      CLT     0(CHAR),X'FF'
348      BC      8,BACK
349      CLT     0(CHAR),C
350      BCT     8,NEXT
351      L      REG3,LETS
352      L      REG3,LETS
353      L      REG2,NUML
354      L      REG2,0(0,REG2)
355      AR      REG2,REG3
356      A      5,ONEM
357      L      REG4,ONEM
358      CLC     0(1,REG2),0(CHAR)
359      BC      8,TITLEF
360      BXR     REG2,LOOP
361      MVC     MSG(8D),MSG1
362      MVC     ERR,0(CHAR)
363      MVC     SYS,PRINT,MSG
364      DOJ     SYS,PRINT,MSG
365      DC      CLBO,PARAMETER KEYWORD NOT VALID**
366      MCG1
367      MVC     ERR,0(CHAR)
368      MVC     MSG(8D),MSG2
369      DOJ     SYS,PRINT,MSG
370      MVI     LK,X'00'
371      B      EEL
372      DC      CLBO,COMMAND FORMAT IMPROPER **
373      MVI     LK,X'04'
374      L      REG3,RETN
375      AR      REG3,REG2
376      ST      REG3,KEYIN
377      A      REG2,ONSTS
378      BR,ZERO
379      IC      BR,0(REG2)
380      A      BR,ADRS
381      BC      15,NEXT
382      *
383      OTHERS
384      L      REG2,LKAT
385      L      REG2,STATES(REG2)
386      BR      REG2
  
```

KEYIN HAS AIRETNS FLAGS
BR HAS A AIROUTINE RETN 11

IN STATE X*04
COMMAND FORMAT IMPROPER **

IDENTIFY 1ST LETTER OF KEYWORD
NUML IS AIND. OF LETTERS
REG2 HAS NO. OF LETTERS

END OF COMMAND
BR FOR STATES 0

SKIP BLANKS

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

PAGE

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<KEY> LK=X*04
CLT 0(CHAR),C*
BC 6,S2A
L CNT,ZERO

ST CHAR,PARM
HVI LK,X*08
BC 15,NEXT
CLT 0(CHAR),C*
BC 6,S2B

<KEY>
L REG2,KEYIN
TM 0(REG2),X*08
BC 8,ERROR

L BR,0(BR)
BALR 14,BR
HVI LK,X*00
BC 15,NEXT

CLT 0(CHAR),X*FF
BC 6,NEXT
L REG2,KEYIN
TM 0(REG2),X*08

BC 8,ERROR
L BR,0(BR)
BALR 14,BR
BC 15,BACK

<KEY> LK=X*08
CLT 0(CHAR),X*FF
BC 8,S3A
CLT 0(CHAR),C*

BC 6,S3A
L REG2,KEYIN
TM 0(REG2),X*04
BC 8,ERROR

ST CNT,PARML
L BR,4(BR)
BALR 14,BR
HVI LK,X*00

CLT 0(CHAR),X*FF
BC 15,NEXT
CLT 0(CHAR),C*
BC 6,S3B

L CNT,ZERO
MV L PARML,X*00
ST CHAR,PARM
HVI LK,X*0C

BC 15,NEXT
V CNT,ONE
DC 15,NEXT

<KEY> =
<KEY> = (<STR>)

ST CHAR B4 STR

<KEY> = <STR>

<KEY> = (<STR>)

CLT 0(CHAR),C*
BC 8,S4DA
CLT 0(CHAR),X*FF

<KEY> = (<STR>)

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ASSEMBLER LISTING OF EVQS TERMINAL SYSTEM

<<KEY>=<STR>-<STR>

CHK RETN 3 ACTIVE

<<KEY>=<STR>-

CHK RETN 4 ACTIVE

ST CHAR B4 <STR>

<<KEY>=<STR>...

END OF COMMAND

<<KEY>=<STR> LETTERS

INDICATE 2ND PARAM RCVD FOR FORM 4

CONSTANTS

S4AB

BC 6,S4AB
TM PARML,X*FO
ST CNT,PARML

S4AA

BC 15,S4AA
L REG2,KEYIN
TM 0,REG2,X*02
BC 8,ERROR
L BALR,REG2,0(,DR)

S4AC

ST CHAR,PARM
L CNT,ZERO
BC 15,NEXT
CL 0(CHAR),C*--

S4B

BC 6,S4B
L REG2,KEYIN
TM 0,REG2,X*01
BC 8,ERROR

S4C

ST CNT,PARML+4
MVC PARM+4,PARM
MVI PARML,X*FF
L CNT,ZERO

S4D

CL 0(CHAR),C*
BC 6,S4E
TM PARML,X*FF
MVI PARML,X*FF
BC 15,NEXT

S4DA

TM PARML,X*FF
BC 15,NEXT
MVI LK,X*DO
BC 15,S4AB

S4E

NI PARML,X*FO
BC 15,NEXT
A CNT,ONE

STATES

DC A(S1)
DC A(S2)
DC A(S3)
DC A(S4)

*EVOINITL

LIDRG
BEGIN

INITIALIZE JUNK

BLKS,C*
BLKS+1(143),BLKS

LA REG2,CARD-1
MVI 0(REG2),X*FF

MVC 8(13,REG2),X*FFFFFFF

A REG2,X*FF

ST REG2,ACARD

A REG2,X*FF

ST REG2,ACARD

MVC LKA,X*FF

MVC RESMSG(39),BLKS

MVC FILELN(80),FILELN

XC ACTIVE,ACTIVE

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ASSEMBLER LISTING OF EVQS TERMINAL SYSTEM

551	B	AREST	
552	LA	REG2, SCNS	
553	LA	REG3, SCANS	
554	LA	REG3, SCANS	
555	B	AREST	
556	LA	REG5, FILELN+46	
557	LA	REG2, WORKOUT	
558	LA	REG3, MASPRTN	
559	LA	REG5, FILELN+58	
560	L	REG4, PARM	
561	MVC	O(1, REG5), I(1, REG4)	
562	CLT	I(1, REG4), C(1, T)	
563	BNE	AZ	
564	MVC	O(4, REG3), PRNTS	
565	BR	14	
566	CLT	I(1, REG4), C(1, P)	
567	MVC	O(4, REG3), PRNTS+4	
568	BR	14	
569	BVALUE	1, REG4, REG5	
570	L	REG4, =F(0)	
571	M	REG4, =F(0)	
572	AR	REG2, REG5	
573	MVC	O(4, REG3), O(1, REG2)	
574	BR	14	
575	BR	14	
576	SAVER	SAVE=SAVE2	
577	DOIO	SYSPRINT, FILELN	
578	L	13, SAVE2+4	
579	RETURN	13, 12	
580	DC	A(ANUM, ALTS, ARETNS, AOFSTS, ADDR5, AGO)	
581	AND4	F(5)	
582	ALTS	C(10PS)	
583	ARETNS	4X(04, X(08	
584	AOFSTS	FL(1, 0, 4, 8, 12, 0	
585	ADDR5	A(QUES, 12, 02, P2, S2)	
586	LTRG	EJECT	
587	EJECT	EJECT	
588	BEGIN	SAVER	
589	SAVER	SAVE=SAVE2	
590	CLC	WORKIN, MASPRTN	
591	DE	CPFLNG	
592	OPEN	(MASPRTN, OUTPUT)	
593	LA	1, MASPRTN	
594	MVI	MASPRTN, X(6F)	
595	SVC	19	
596	LA	1, WORKIN	
597	MVI	WORKIN, X(80	
598	SVC	19	
599	EUF	WORKIN, EQ1	
600	EX	CNT, CNT	
601	DOIO	WORKIN, OUT	
602	DOIO	MASPRTN, OUT	
603	A	CNT, E(1, T)	
604	B	EO2	
605	DOIO	SYSPRINT, BLKS	

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

606	CVD	CNT,PACKED	
607	UNPK	PACKED,LMS1	
608	DI	LMS1+3,X,FOI	
609	DOIO	SYSPRINT,LMS1	
610	LA	1,WORKIN	
611	SVC	20	
612	MVI	WORKIN,X,00	
613	CLC	MASPRINT,SCANF	
614	DB	EQIA	
615	LA	1,MASPRINT	
616	MVI	MASPRINT,X,80	
617	SVC	19	
618	MVI	MASPRINT,X,00	
619	L	13,SAVE2+4	
620	RETURN	(14,12)	
621	DOIO	SYSPRINT,CPLMG	
622	RETURN	(14,12)	
623	L	13,SAVE2+4	
624	CPLMG DC	CLB0, INPUT/PRINT UNITS ASSIGNED THE SAME FILE	
625	DC	2L4,0, CLB0, RECORDS PRINTED	
626	LTRG		
627	BEIN		
628	SAVER	SAVE=SAVE3	
630	LA	REG2,QTAB	
631	ST	REG2,TOUP	
632	LA	REG3,WORKA	
633	ST	REG3,TOUP+4	
634	LA	REG3,IFLIST	
635	ST	REG3,TOUP+8	
636	L	REG3,IFNUM	
637	MVI	TOUP+12,X,80	
638	LA	1,TOUP	
639	CALL	EVOPORT,10=8	
640	L	13,SAVE3+4	
641	RETURN	(14,12)	
642	OS	2F	
643	DC	A(OUT2)	
644	OS	2F	
645	DC	A(OUT2)	
646	DS	2F	
647	OUTZ	X,80,AL3(OUTZ)	
648	DC	F,0	
649	BEIN		
650	LA	COMBASE,QRVCOMS	
651	BR	REG2,COMSRUT	
652	DC	REG2	
653	QRVCOMS	A(OYNUM, QVLETS, QVRTN, QVOFTS, QVADR, QVGO)	
654	QVLETS	F,4	
655	QVRTN	C,FPIN	
656	QVADR	FL1,6,6,6,6	
657	QVOFTS	FL1,0,4,12,20	
658	QVGO	BR	
659	QVMSG	DC	
660	DYNAMK	CL20, MEMBER REQUESTED	
		2CL8, CL4, DOES NOT EXIST (NO SUCH QUERY NAME)	


```

716 *
717 *
718 L REG4,PAR4
719 EX REG3,SMOVE
720 BR 14
721 MVC 0(0,REG2),1(REG4)
722 *
723 SR3 L REG3,RCNT
724 A REG3,=F'10'
725 ST REG3,RCNT
726 MVT 5(REG3),X,FF
727 BC 15,SREST
728 LA REG2,KEY+3
729 BC 15,SREST
730 SR4 L REG2,RCNT
731 A REG2,=F'10'
732 ST REG2,RCNT
733 L REG3,PAR4+4
734 A REG3,=F'1'
735 L REG4,PAR4+4
736 EX REG3,SMOVE
737 A REG2,=F'5'
738 L REG3,PAR4
739 A REG3,=F'1'
740 L REG4,PAR4
741 EX REG3,SMOVE
742 BR 14
743 *
744 SNUM DC F'5'
745 SLETS DC C'FRCPC'
746 SRETNS DC X'0407040404'
747 SOFSTS DC X'0004101418'
748 * NAMING CONVENTION
749 * OTHERS
750 DS F
751 DC A(SF2)
752 DC A(SR2)
753 DC A(SR3)
754 DC A(SR4)
755 DC A(SL2)
756 DC A(SP2)
757 DC A(SC2)
758 SCOMS DC A(SNUM,SLETS,SRETNS,SOFSTS,SAORS,SGC)
759 SGR SAYER
760 CLC WORKOUT,SCANF
761 BE SCFLNG
762 MVC FDCB+4(20),INTS
763 OPEN WORKOUT
764 MVT WORKOUT,X,BF
765 LA 1,WORKOUT
766 SVC 19
767 MVT REG5+5,C'-'
768 LA REG2,KEY+8
769 ST REG2,FDCB+8
770 LA REG2,OUT

```

```

771 ST      REG2,MBB-4
772 MVC      FDCB,SCAMF
773 LA       LA,FDCB
774 LA       REG2,RVALS-10
775 CL       REG2,RCNT
776 BH       GOLDBP
777 *         NO RESP. NO. SPECIFIED
778 MVC      MBB,=F'0'
779 CL       CNT,=F'0'
780 LA       LA,FDCB
781 LINK      EP=FSAM
782 CLC      MBB,=F'0'
783 BE        SGO2NO
784 A        CNT,=F'1'
785 D010     WORKOUT,OUT
786 B        SGO2
787 MVC      RES(46),BLKS
788 CVD      CNT,PACKED
789 UNPK     PACKED,ZCNT
790 ZCNT+3,X,FO
791 D010     SYSPRINT,RESMSG
792 B        SFLINE
793 *         SFLINE
794 GOLNOP
795 A        REG2,=F'10'
796 L        CNT,SZRO
797 MVC      MBB,SZRO
798 CL       REG2,RCNT
799 BH       SFLINE
800 L        REG3,=F'5'
801 LA       LA,REG4,KEY+7
802 MVC      KEY+9(5),0(REG2)
803 M00PAT,KEY
804 MVC      CL
805 DNE      LI
806 LA       LA,FDCB
807 LINK      EP=FSAM
808 CLC      MBB,SZRO
809 BE        SGO2NO
810 D010     WORKOUT,OUT
811 A        CNT,=F'1'
812 LA       LA,FDCB
813 LA       LA,FDCB
814 LINK      EP=FSAM
815 CLC      MBB,SZRO
816 BH       SFLINE
817 MVI      0(REG4),X,FF
818 A        REG4,=F'-1'
819 ACT       REG3,LI
820 CLC      MBB,SZRO
821 BH       SFLINE
822 IF NONE OF LEFT PARTIONS OF 1ST NUMBER MATCH THEN REJECTED
823 *         RX * GOULD BE TROUBLE IF NO RESP. NUMBERS ARE 40,000 AND
824 *         RANGE IS 41,000-52,000
825 *         MVC      RES,0(REG2)

```

RANGE OF RESP NO.'S

NOTHING IN RANGE

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

926 MVC RESMSG(35),NONMSG
 927 MVC RES+6(5),5(REG2)
 928 DDIO SYSPRINT,NONMSG
 929 B GOLDFP
 930 OS CL35- NO RECORDS IN THE RANGE
 931 * SLP2
 932 CLC OUT(11),MODPAT
 933 DNL L3
 934 LA L,FDCB
 935 LINK EP=FSAM
 936 CLC MOD,SZRD
 937 BE NON
 938 SLP2
 939 MVC MODPAT+3(5),5(REG2)
 940 CLC OUT(11),MODPAT
 941 BH NON
 942 *
 943 A) CNT,F.1
 944 DDIO WORKOUT,OUT 1
 945 LA L,FDCB
 946 LINK EP=FSAM
 947 CLC MOD,SZRD
 948 BNE L4
 949 *

WRITE UP TO END NUMBER

PRINT STATISTICS

MVC RES,0(REG2)

MVC RES+6(5),5(REG2)

MVC ZDNT+4(30),SM5G1

CVD CNT,PACKED

UNPK PACKED,CNT

DI ZDNT+3,X,F0

DDIO SYSPRINT,RESMSG

B GOLDFP

CLC SYSPRINT,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

DDIO SYSPRINT,SCFLYG

B SFINE2

SCFLMG DC CL80, SCAN UNIT + OUTPUT UNIT ARE ASSIGNED THE SAME FILE.

DC CL30, RECORDS FOUND IN THE RANGE

DC H.11, PATTERN LENGTH

DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

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DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

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SVC 20

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DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

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L1,WORKOUT

SVC 20

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DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

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MV1 WORKOUT,X.00

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DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

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B SFINE2

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DC CL30, RECORDS FOUND IN THE RANGE

DC H.11, PATTERN LENGTH

DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

DDIO SYSPRINT,SCFLYG

B SFINE2

SCFLMG DC CL80, SCAN UNIT + OUTPUT UNIT ARE ASSIGNED THE SAME FILE.

DC CL30, RECORDS FOUND IN THE RANGE

DC H.11, PATTERN LENGTH

DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

DDIO SYSPRINT,SCFLYG

B SFINE2

SCFLMG DC CL80, SCAN UNIT + OUTPUT UNIT ARE ASSIGNED THE SAME FILE.

DC CL30, RECORDS FOUND IN THE RANGE

DC H.11, PATTERN LENGTH

DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

DDIO SYSPRINT,SCFLYG

B SFINE2

SCFLMG DC CL80, SCAN UNIT + OUTPUT UNIT ARE ASSIGNED THE SAME FILE.

DC CL30, RECORDS FOUND IN THE RANGE

DC H.11, PATTERN LENGTH

DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

DDIO SYSPRINT,SCFLYG

B SFINE2

SCFLMG DC CL80, SCAN UNIT + OUTPUT UNIT ARE ASSIGNED THE SAME FILE.

DC CL30, RECORDS FOUND IN THE RANGE

DC H.11, PATTERN LENGTH

DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

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DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

DDIO SYSPRINT,SCFLYG

B SFINE2

SCFLMG DC CL80, SCAN UNIT + OUTPUT UNIT ARE ASSIGNED THE SAME FILE.

DC CL30, RECORDS FOUND IN THE RANGE

DC H.11, PATTERN LENGTH

DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

BE SFINE2

CLC MASPRINT,WORKOUT

BE SFINE2

L1,WORKOUT

SVC 20

MV1 WORKOUT,X.00

L 13,SAVE2

RETURN 11,121

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DC H.80, DATA LENGTH

DC XLB.00

DC XL11,FFFFFFFFFFFFFFFFFFFFFFFF

L1,WORKOUT

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

```

881      L
882      IFCONST  LA  BR1,REG2STRE
883      L          REG3,COMSROUT
884      BR         REG3
885      REG3
886      A(IFNM,IFLT,IFRTN,IFOFST,IFADR,IFTG0)
887      F.9
888      C.GNTP,FAOXH
889      X.08040704070C08080808
890      A(FTG,IFN2,IF3,IFT4,TP2,TQ2,TQ3,TQ4)
891      A(FT1,FT2,IFAL,IFOL,IFX1,IFX2,IFX3,IFT4)
892      FLL.0,0,52,12,16,32,40,44,48,52)
893      LEAVE REG2,ALONE-HAS BASE FOR QLIST
894      BR1,IS
895      EVQUTALLY, BR1
896      COMBASE, ILYCOMS
897      REG2, REG2STRE
898      ACTIVE, X.08, SKIP IF HOLD FLAG SET
899      ILYHODST
900      TYPE, F.0
901      ACTIVE (8), ACTIVE
902      XC
903      XC
904      XC
905      XC
906      XC
907      XC
908      XC
909      XC
910      XC
911      XC
912      XC
913      XC
914      XC
915      XC
916      XC
917      XC
918      XC
919      XC
920      XC
921      XC
922      XC
923      XC
924      XC
925      XC
926      XC
927      XC
928      XC
929      XC
930      XC
931      XC
932      XC
933      XC
934      XC
935      XC

```

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ASSEMBLER LISTING OF EVOS TERMINAL SYSTEM

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```

936 CVD REG3,PACKED
937 UNPK PACKED,IFNMSG
938 DI IFNMSG+3,X*F0
939 REG3,IFLIST(REG3)
940 MVI LA REG3,IFLIST(REG3)
941 DI TINTFG,X*80
942 TM TINTFG,X*40
943 B0 IF14A
944 L REG4,IFNUM
945 LA REG4,IFLIST(REG4)
946 L REG3,PARM
947 A REG3,F.1
948 GLI REG3,IFC.S
949 BNE IF13B
950 DI O(REG4),X*04
951 BR BR
952 CLI O(REG3),C.G
953 BCR B.14
954 CLI O(REG3),C.D
955 BCR B.14
956 CLI O(REG3),C.A
957 BNE IF13C
958 XI O(REG4),X*03
959 BR BR
960 CLI O(REG3),C.X
961 BNE IF13D
962 LR REG4,REG3
963 A REG4,F.8
964 ST REG4,IFNUM
965 ST REG4,IFNUM
966 DI O(REG4),X*01
967 BCR B.14
968 BVALUE 2,REG3,REG3
969 L REG5,F.1
970 SLL REG5,O(REG3)
971 REG5,F.1
972 REG5,F.1
973 ST REG5,4(REG4)
974 BR BR
975 TM TINTFG,X*80
976 IF14A
977 DI TINTFG,X*40
978 B IF13
979 XI TINTFG,X*40
980 L REG3,PARM+4
981 BVALUE 2,REG3,REG3
982 L REG4,PARM
983 BVALUE 2,REG4,REG4
984 L CNT,F.1
985 SLL CNT,O(REG3)
986 SRL CNT,1(O)
987 XR TINT
988 OR 1,CNT
989 A REG3,F.1
990 CLR REG3,REG4
991 IFTC
992 SLL CNT,1(O)
993 EXIT AFTER LAST BIT OR'ED
994 SHIFT OF NEXT BIT

```

CNT HAS LOWEST BIT ON

LOW OF RANGE

H1 OF RANGE

TEST=(XX-XX) RANGE OF BITS

BIT TO BE TURNED ON

PARM LEN IS 2

XOR FUNCTION

AND FUNCTION

OR FUNCTION (DEFAULT)

GO OPTION (DEFAULT)

STOP OPTION

FILL FLAG