```
SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

101               JOB   FORTRAN COMPILER -- ARITH PHASE SIX -- PHASE 38
102               CTL   6611
103         *
104         * OPTIMIZATION OF TEMPORARY STORAGE AREAS TAKES PLACE.
105         * THESE AREAS ARE ASSIGNED DEFINITE LOCATIONS IN STORAGE.
106         *
107         * ON ENTRY X1 IS AT THE BOTTOM OF THE BOTTOMMOST ASSIGNMENT
108         * STATEMENT IN LOW CORE, X2 IS AT THE AT THE BOTTOM OF THE
109         * BOTTOMMOST ASSIGNMENT STATEMENT IN HIGH CORE, AND X3 IS
110         * THE BOTTOM OF THE BOTTOM OF THE BOTTOMMOST STATEMENT IN
111         * HIGH CORE THAT IS NEITHER AN ASSIGNMENT NOR IF STATEMENT.
112         *
113         X1      EQU   89                                                0089
114         X2      EQU   94                                                0094
115         X3      EQU   99                                                0099
116         *
117         * STUFF IN THE RESIDENT AREA
118         *
119         GLOBER  EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR          0184
120         IMOD    EQU   690  INTEGER MODULUS -- NUMBER OF DIGITS          0690
121         MANTIS  EQU   692  FLOATING POINT MANTISSA DIGITS               0692
122         *
123               EXT00   SNAPSH, LOADNX, CDOVLY                                      MACRO
124         SNAPSH  EQU   333                                               0333      GEN
125         PHASLD  EQU   381                                               0381      GEN
126         SNAPEX  EQU   564                                               0564      GEN
127         LOADNX  EQU   700   CARD OVERLAY UNLESS NOP                    0700      GEN
128         CDOVLY  EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE     0700      GEN
129         TPREAD  EQU   704   LOAD OVERLAY FROM TAPE                      0704      GEN
130         TPERR   EQU   728                                               0728      GEN
131         *
132               EXT03   START, TOP OF PASE 3                                        MACRO
133         BEGIN3  EQU   838                                               0838      GEN
134         TOP3    EQU   2600                                              2600      GEN
135         *
136         PHAS38  LDPH  ARITH SIX,LOADAD,BEGN38,,,38                                MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]      GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                         GEN
            *                                                                     GEN
            * LOAD A BLOCK                                                       GEN
            *                                                                     GEN
137         )6J003  EQU   110  PHASE ID                                     0110      GEN
138         )6K003  EQU   700  LOAD NEXT PHASE                              0700      GEN
139         )6L003  EQU   704  TAPE READ INSTRUCTION                        0704      GEN
140         )6M003  EQU   728  TAPE ERROR HANDLER                           0728      GEN
            *                                                                     GEN
141               ORG   201                                                   0201
142         PHAS38  EQU   *&1                                                0201      GEN
143               LCA   )9J003,)6J003                                     7  0201  L 252 110   GEN      1   252     110
144               BCE   )6K003,)6K003,1      Q: LOADING FROM CARDS?       8  0208  B 700 700 1 GEN      1   700     700
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

145            BCE   )6K003,)6L003&4,0    Q: LOADING FROM AUTOCODER TAPE?     8  0216  B 700 708 0 GEN     1   700     708
146            RTW   1,LOADAD             READ THE BLOCK                      8  0224  L %U1 838 R GEN     1   %U1     838
147            BER   )6M003               Q: TAPE ERROR?                      5  0232  B 728 L     GEN     1   728
148            CS    BEGN38,)9R003        ENTER THE BLOCK                     7  0237  / 838 256   GEN     2   838     256
149         )9J003 DCW   @ARITH SIX@          PHASE ID                        9  0252              GEN     2
150            DC    #1                                                       1  0253              GEN     2
151            DC    @38@          PHASE NUMBER                               2  0255              GEN     2
152         )9R003 DCW   @}@                                                  1  0256              GEN     2
153            XFR   PHAS38                                                        B 201                 3   201
154         *
155            ORG   BEGIN3                                                        0838
156         LOADAD EQU   *&1                                                    0838
157    838  BEGN38 BCE   DONE,X2,.                                           8  0838  B S51 094 .         4  1251     094
158    846         SBR   SX2,0&X2                                            7  0846  H N31 0!0           4  2531     000+2
159    853         MN    0&X3                                                4  0853  D 0?0               4   000+3
160    857         MN                                                        1  0857  D                   4
161    858         SAR   SX3                                                4  0858  Q N34               4  2534
162    862         SBR   SX1,0&X1                                           7  0862  H N37 0|0           4  2537     000+1
163    869         MCW   86,S86                                            7  0869  M 086 N66           4   086    2566
164    876         MCW   MANTIS,NUMWID                                     7  0876  M 692 N40           5   692    2540
165    883         MN    KPZERO,NUMWID-2                                   7  0883  D N41 N38           5  2541    2538
166    890         A     KP2,NUMWID  WASN'T THIS DONE A LONG TIME AGO?       7  0890  A N42 N40           5  2542    2540
167    897         C     NUMWID,IMOD                                       7  0897  C N40 690           5  2540     690
168    904         BL    *&8                                               5  0904  B 916 T             5   916
169    909         MCW   IMOD,NUMWID  NUMWID IS MAX(IMOD,MANTIS&4)         7  0909  M 690 N40           6   690    2540
170    916  LOOP   C     X2,SX3                                            7  0916  C 094 N34           6   094    2534
171    923         BE    ALMOST                                            5  0923  B S21 S             6  1221
172    928         MCW   WORK,WORK-1  FILL WORK WITH RECORD MARKS          7  0928  M M94 M93           6  2494    2493
173    935  GETLES BCE   GOTLES,2&X2,<                                     8  0935  B 959 0!2 <         6   959     002+2
174    943         SBR   X2                                                4  0943  H 094               6   094
175    947         BCE   ENDSTM,1&X2,}                                     8  0947  B S10 0!1 } GMARK   7  1210     001+2
176    955         B     GETLES                                            4  0955  B 935               7   935
177    959  GOTLES MN    4&X2,W3                                           7  0959  D 0!4 N45           7   004+2  2545
178    966         MN                                                      1  0966  D                   7
179    967         MCW   KZERO                                             4  0967  M N46               7  2546
180    971         BWZ   ZONEX3,4&X2,2                                    8  0971  V |16 0!4 2         7  1016     004+2
181    979         A     KP100,W3                                          7  0979  A N49 N45           7  2549    2545
182    986         BWZ   ZONEX3,4&X2,S                                    8  0986  V |16 0!4 S         8  1016     004+2
183    994         A     KP100,W3                                          7  0994  A N49 N45           8  2549    2545
184  1 001         BWZ   ZONEX3,4&X2,K                                    8  1001  V |16 0!4 K         8  1016     004+2
185  1 009         A     KP100,W3                                          7  1009  A N49 N45           8  2549    2545
186  1 016  ZONEX3 MCW   W3,X3  4&X2 & &100*ZONE TO X3                     7  1016  M N45 099           8  2545     099
187  1 023         A     X3                                                4  1023  A 099               9   099
188  1 027         A     W3,X3  TIMES 3                                    7  1027  A N45 099           9  2545     099
189  1 034         BCE   GOTASG,5&X2,#                                     8  1034  B |60 0!5 #         9  1060     005+2
190  1 042         MCW   WRKBOT&X3,X1                                      7  1042  M SI1 089           9  1291+3   089
191  1 049         MCW   RM,WRKMID&X1                                      7  1049  M N50 LS8           9  2550    2328+1
192  1 056         B     NOTASG                                            4  1056  B |89               9  1089
193  1 060  GOTASG MCM   WRKMID&1                                          4  1060  P L29              10  2329
194  1 064         SAR   X1                                                4  1064  Q 089              10   089
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195  1 068          MA    A13671,X1                                         7  1068  # N53 089           10  2553     089
196  1 075          MCW   *-6,WRKMID&X1                                     7  1075  M |75 LS8           10  1075    2328+1
197  1 082          MCW   X1,WRKBOT&X3                                     7  1082  M 089 SI1           10   089    1291+3
198  1 089  NOTASG  ZA    X1,W7-4                                           7  1089  ? 089 N56           10   089    2556
199  1 096          M     NUMWID,W7                                         7  1096  @ N40 N60           11  2540    2560
200  1 103          SW    W7-4                                              4  1103  , N56               11  2556
201  1 107          MN    W7,4&X2  CONVERT W7 TO MACHINE ADDRESS            7  1107  D N60 0!4           11  2560     004+2
202  1 114          MN                                                      1  1114  D                   11
203  1 115          MN                                                      1  1115  D                   11
204  1 116          SAR   *&4                                              4  1116  Q /23               11  1123
205  1 120          MCW   0,X3                                             7  1120  M 000 099           11   000     099
206  1 127          MCW   KZERO                                            4  1127  M N46               12  2546
207  1 131          A     X3                                                4  1131  A 099               12   099
208  1 135          MZ    ZONES&X3,4&X2                                     7  1135  Y MI8 0!4           12  2498+3   004+2
209  1 142          CW                                                      1  1142  )                   12
210  1 143          SBR   *&7                                              4  1143  H /53               12  1153
211  1 147          MZ    ZONES-1&X3,0                                      7  1147  Y MI7 000           12  2497+3   000
212  1 154          CW    W7-4                                              4  1154  ) N56               12  2556
213  1 158          MA    86,4&X2                                           7  1158  # 086 0!4           13   086     004+2
214  1 165          C     X1,W3B                                            7  1165  C 089 N63           13   089    2563
215  1 172          BH    NOTBIG                                            5  1172  B /99 U             13  1199
216  1 177          MCW   X1,W3B                                           7  1177  M 089 N63           13   089    2563
217  1 184          MCW   4&X2,S86                                         7  1184  M 0!4 N66           13   004+2  2566
218  1 191          BWZ   BIGTST,S86,2  UNDER 4K?                  V3M4   8  1191  V O03 N66 2         14  2603    2566
219  1 199  NOTBIG  SBR   X2,3&X2                                         7  1199  H 094 0!3           14   094     003+2
220  1 206          B     GETLES                                            4  1206  B 935               14   935
221          *
222          * END OF STATEMENT.
223          *
224  1 210  ENDSTM  SBR   X2,4&X2                                         7  1210  H 094 0!4           14   094     004+2
225  1 217          B     LOOP                                              4  1217  B 916               14   916
226          *
227          * ALMOST DONE
228          *
229  1 221  ALMOST  MCW   SX2,X3                                          7  1221  M N31 099           14  2531     099
230  1 228          MCW   SX1,X1                                          7  1228  M N37 089           15  2537     089
231  1 235          C     0&X1                                            4  1235  C 0|0               15   000+1
232  1 239          C                                                     1  1239  C                   15
233  1 240          SAR   X1                                              4  1240  Q 089               15   089
234  1 244          MCW   S86,86                                          7  1244  M N66 086           15  2566     086
235          *
236  1 251  DONE    BSS   SNAPSH,D                                        5  1251  B 333 D             15   333
237  1 270          B     LOADNX                                          4  1256  B 700               15   700
238          *
239          * PROGRAM IS TOO BIG
240          *
241  1 274  TOOBIG  BW    NOTBIG,PRINTD                                   8  1260  V /99 M95 1         16  1199    2495
242  1 282          CS    332                                             4  1268  / 332               16   332
243  1 286          CS                                                    1  1272  /                   16
244  1 287          MCW   ERROR2,270                                      7  1273  M O02 270           16  2602     270
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
245  1 294          W                                                          1  1280  2                   16
246  1 295          SW    GLOBER,PRINTD                                        7  1281  , 184 M95           16   184    2495
247  1 302          B     NOTBIG                                               4  1288  B /99               16  1199
248          *
249  1 305  WRKBOT  EQU   *                                                    1291
250  1 355          DCW   @                                                 @  50  1341                      18
251                 ORG   2329                                                      2329
252  2 328  WRKMID  EQU   *                                                    2328
253  2 378          DCW   @                                                 @  50  2378                      20
254  2 428          DC    @                                                 @  50  2428                      22
255  2 478          DC    @                                                 @  50  2478                      24
256  2 494  WORK    DC    @               |@                                  16  2494                      24
257  2 495  PRINTD  DC    @ @  WM MEANS *TOO BIG* MESSAGE HAS BEEN PRINTED     1  2495                      24
258  2 497  KB9     DCW   @ 9@                                                 2  2497                      24
259  2 498  ZONES   EQU   *&1                                                  2498
260  2 528          DCW   @9Z9R9I99ZZZRZIZ9RZRRRIR9IZIRIII@                   31  2528                      25
261  2 531  SX2     DCW   #3                                                   3  2531                      25
262  2 534  SX3     DCW   #3                                                   3  2534                      25
263  2 537  SX1     DCW   #3                                                   3  2537                      26
264  2 540  NUMWID  DCW   #3                                                   3  2540                      26
265  2 541  KPZERO  DCW   @?@                                                  1  2541                      26
266  2 542  KP2     DCW   &2                                                   1  2542                      26
267  2 545  W3      DCW   #3                                                   3  2545                      26
268  2 546  KZERO   DCW   0                                                    1  2546                      26
269  2 549  KP100   DCW   &100                                                3  2549                      26
270  2 550  RM      DCW   @|@                                                  1  2550                      27
271  2 553  A13671  DSA   13671                                              3  2553  W7A                 27 13671
272  2 560  W7      DCW   #7                                                   7  2560                      27
273  2 563  W3B     DCW   #3                                                   3  2563                      27
274  2 566  S86     DCW   #3                                                   3  2566                      27
275  2 609  ERROR2  DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@              36  2602                      28
276  2 610  BIGTST  BWZ   TOOBIG,S86-2,2  UNDER 1K?                    V3M4   8  2603  V S60 N64 2         29  1260    2564
277  2 618          BIN   NOTBIG,                                       V3M4   5  2611  B /99               29  1199
278  2 623  GMWM    DCW   @}@                                                  1  2616              GMARK  29
279                 XFR   BEGN38                                                     B 838               30   838
280          CLRME  CLRA  BEGN38,GMWM                                                                MACRO
             *      CLRA  CLRBOT,CLRTOP[,ORG,GMWMAD]                                                 GEN
             *                                                                                       GEN
             * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                                     GEN
             *                                                                                       GEN
281                 ORG   201                                                       0201
             *                                                                                       GEN
             * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                               GEN
             *                                                                                       GEN
282          CLRME  EQU   *&1                                                   0201                GEN
283          )0J004 CS    GMWM         CLEAR FROM CLRTOP                        4  0201  / O16          GEN     31  2616
284                 SBR   )0J004&3                                              4  0205  H 204          GEN     31   204
285                 SBR   )0L004&6                                              4  0209  H 250          GEN     31   250
286                 C     )0J004&3,)0M004   DOWN TO CLRBOT & X00?               7  0213  C 204 261      GEN     31   204     261
287                 BU    )0J004                                               5  0220  B 201 /        GEN     31   201
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
            *                                                                           GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                     GEN
            *                                                                           GEN
288         )0K004 C     )0L004&6,)0N004                                   7  0225  C 250 264   GEN     31   250     264
289                BU    )0L004                                            5  0232  B 244 /     GEN     31   244
290                CS    LOADNX,)0Q004  LOAD THE NEXT BLOCK AT 1           7  0237  / 700 271   GEN     32   700     271
291         )0L004 LCA   )0P004,0-0     CLEAR WITH BLANK AND WORD MARK    7  0244  L 265 000   GEN     32   265     000
292                SBR   )0L004&6                                          4  0251  H 250       GEN     32   250
293                B     )0K004                                            4  0255  B 225       GEN     32   225
294         )0M004 DSA   )0R004         CLRBOT & X00 - 1                  3  0261  899         GEN     32   899
295         )0N004 DSA   BEGN38         CLRBOT                            3  0264  838         GEN     32   838
296         )0P004 DCW   #1                                                1  0265              GEN     32
297                DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP     5  0270              GEN     32
298         )0Q004 DCW   @}@                                               1  0271              GEN     33
299                ORG   BEGN38&X00                                              0900
300         )0R004 EQU   *           CLRBOT & X00 - 1                        0899              GEN
301                XFR   CLRME                                                   B 201               34   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J004	0201: 0	)0K004	0225: 0	)0L004	0244: 0	)0M004	0261: 0	)0N004	0264: 0	)0P004	0265: 0
)0Q004	0271: 0	)0R004	0899: 0	)6J003	0110: 0	)6K003	0700: 0	)6L003	0704: 0	)6M003	0728: 0
)9J003	0252: 0	)9R003	0256: 0	A13671	2553: 0	ALMOST	1221: 0	BEGIN3	0838: 0	BEGN38	0838: 0
BIGTST	2603: 0	CDOVLY	0700: 0	CLRME	0201: 0	DONE	1251: 0	ENDSTM	1210: 0	ERROR2	2602: 0
GETLES	0935: 0	GLOBER	0184: 0	GMWM	2616: 0	GOTASG	1060: 0	GOTLES	0959: 0	IMOD	0690: 0
KB9	2497: 0	KP100	2549: 0	KP2	2542: 0	KPZERO	2541: 0	KZERO	2546: 0	LOADAD	0838: 0
LOADNX	0700: 0	LOOP	0916: 0	MANTIS	0692: 0	NOTASG	1089: 0	NOTBIG	1199: 0	NUMWID	2540: 0
PHAS38	0201: 0	PHASLD	0381: 0	PRINTD	2495: 0	RM	2550: 0	S86	2566: 0	SNAPEX	0564: 0
SNAPSH	0333: 0	SX1	2537: 0	SX2	2531: 0	SX3	2534: 0	TOOBIG	1260: 0	TOP3	2600: 0
TPERR	0728: 0	TPREAD	0704: 0	W3	2545: 0	W3B	2563: 0	W7	2560: 0	WORK	2494: 0
WRKBOT	1291: 0	WRKMID	2328: 0	X1	0089: 0	X2	0094: 0	X3	0099: 0	ZONES	2498: 0
ZONEX3	1016: 0										

UNREFERENCED SYMBOLS

CDOVLY KB9 PHASLD SNAPEX TOP3 TPERR TPREAD