IDENTIFICATION

PRODUCT CODE: MAINDEC-8/E-D0AB

PRODUCT NAME: PDP-8/E INSTRUCTION TEST 1

DATE CREATED: MAY 10, 1971

MAINTAINER: DIAGNOSTIC GROUP

AUTHOR: ED FORTMILLER

1.   ABSTRACT

        THIS IS A DIAGNOSTIC PROGRAM FOR TESTING THE AND, TAD,
        OPERATE, AND BASIC MQ, INSTRUCTIONS OF THE PDP-8/E ONLY.

2.   REQUIREMENTS

2.1   EQUIPMENT

        A PDP-8/E EQUIPPED WITH TELETYPE,

2.2   STORAGE

        THIS PROGRAM USES LOCATIONS 0000-5314. THE BINARY LOADER MUST
        BE STORED IN THE LAST MEMORY PAGE.

2.3   PRELIMINARY PROGRAMS
        ----

3.   LOADING PROCEDURE

3.1   METHOD

        THE STANDARD BINARY LOADER IS USED.

4.   STARTING PROCEDURE

4.1   CONTROL SWITCH SETTINGS

        SR=7777

4.2   STARTING ADDRESS

        0200

4.3   OPERATOR ACTION
        ----

        1. SET SR TO 200 AND PRESS LOAD ADDRESS.

        2. SET SR TO 7777 AND PUSH CLEAR AND CONTINUE

        3. PROGRAM WILL HALT. MA=147

        4. IF AC IS NOT EQUAL TO 0000 AN ERROR HAS OCCURRED.

        5. PUSH CONTINUE. PROGRAM WILL RUN UNTIL STOPPED OR UNTIL
            AN ERROR IS ENCOUNTERED.

5.   OPERATING PROCEDURE

        SAME AS SECTION 4.

6.   ERRORS

6.1   ERROR HALTS AND DESCRIPTION

        SEE LISTING.

6.2   ERROR RECOVERY

        IF IT IS DESIRED TO LOOP ON THE TEST CAUSING THE ERROR, REPLACE
        THE OPERATE INSTRUCTION(S) PRECEDING THE HLT WITH A JMP TO THE
        BEGINNING OF THE TEST.

7.   RESTRICTIONS

7.1   STARTING RESTRICTIONS: NONE

7.2   OPERATING RESTRICTIONS: NONE
        ----

8.   MISCELLANEOUS

8.1   EXECUTION TIME

        THE TELETYPE BELL RINGS AT THE END OF 1440 PROGRAM PASSES
        WHICH IS APPROXIMATELY EVERY 5 SECONDS.

9.   PROGRAM DESCRIPTION

     THE PROGRAM CONSISTS OF MANY INDIVIDUAL TESTS. IN MOST CASES
     EACH TEST CHECKS ONLY ONE FUNCTION AND USES PREVIOUSLY TEST-
     ED FUNCTIONS AS A BASIS FOR THE TEST. THE PROGRAM COUNTER
     ACTION IS STRICTLY SEQUENTIAL EXCEPT FOR SKIPS. THE ONLY JMP
     INSTRUCTIONS USED ARE AT THE BEGINNING AND END OF THE PROGRAM.
     THE SEQUENCE OF TESTING IS AS FOLLOWS:

     1. TEST ALL OPERATE FUNCTIONS INDIVIDUALLY EXCEPT FOR ROTATES.

     2. TEST "TAD" INSTRUCTION.

     3. TEST ROTATE FUNCTIONS.

     4. TEST "BSW" INSTRUCTION.

     5. GROUP 1 OPERATE INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.

     6. GROUP 2 OPERATE INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.

     7. MQ INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.

     8. TEST "AND" INSTRUCTION.

     THE TELETYPE BELL RINGS APPROXIMATELY EVERY 5 SECONDS.

10. LISTING

/PDP-8/E INSTRUCTION TEST 1 MAINDEC-8E-D0AB
/COPYRIGHT 1970, 1971, DIGITAL EQUIPMENT CORP., MAYNARD, MASS.   01754
/TAPE 1

```
        7002        BSW=7002                        /SWAP BYTES IN AC
        7401        NOPE=7401                       /NOP
        7601        CLAE=7601                       /CLEAR AC
        7421        MQL=7421                        /LOAD MQ FROM AC THEN CLEAR AC
        7501        MQA=7501                        /INCLUSIVE OR, MQ AND AC
        7621        CAM=7621                        /CLEAR AC AND MQ
        7521        SWP=7521                        /SWAP AC AND MQ
        7701        ACL=7701                        /LOAD AC FROM MQ, CLEAR MQ

        0000        *0
0000    0000                    0
0001    5001                    JMP 1
0002    0002                    0002
0003    0003                    0003
0004    0000                    0
0005    0000                    0000
0006    7402        HALT,       HLT
0007    7000        NOOP,       NOP
0010    0000                    0

                                /CONSTANTS AND VARIABLES
        0020        *20
0020    0000        K0000,      0000
0021    0001        K0001,      0001
0022    0002        K0002,      0002
0023    0003        K3,         3
0024    0004        K0004,      0004
0025    0006        K6,         6
0026    0010        K0010,      0010
0027    0014        K14,        14
0030    0020        K0020,      0020
0031    0030        K30,        30
0032    0040        K0040,      0040
0033    0060        K60,        60
0034    0100        K0100,      0100
0035    0140        K140,       140
0036    0200        K0200,      0200
0037    0300        K300,       300
0040    0400        K0400,      0400
0041    0600        K600,       600
0042    1000        K1000,      1000
0043    1234        K1234,      1234
0044    1400        K1400,      1400
0045    2000        K2000,      2000
0046    3000        K3000,      3000
0047    3312        K3312,      3312
0050    4000        K4000,      4000
0051    7717        K7717,      7717
0052    7776        K7776,      7776
0053    7775        K7775,      7775
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0054  7773        K7773,   7773
0055  7767        K7767,   7767
0056  7757        K7757,   7757
0057  7737        K7737,   7737
0060  7177        K7177,   7177
0061  7677        K7677,   7677
0062  7577        K7577,   7577
0063  7377        K7377,   7377
0064  6777        K6777,   6777
0065  5777        K5777,   5777
0066  3777        K3777,   3777
0067  7777        K7777,   7777
0070  5252        K5252,   5252
0071  2525        K2525,   2525
0072  6000        K6000,   6000
0073  7000        K7000,   7000
0074  7400        K7400,   7400
0075  7600        K7600,   7600
0076  7740        K7740,   7740
0077  7760        K7760,   7760
0100  7770        K7770,   7770
0101  7774        K7774,   7774


0102  0007        K0007,   0007
0103  0067        K0067,   0067
0104  0017        K0017,   0017
0105  0037        K0037,   0037
0106  0077        K0077,   0077
0107  0177        K0177,   0177
0110  0377        K0377,   0377
0111  0777        K0777,   0777
0112  1777        K1777,   1777
0113  7700        K7700,   7700
0114  5225        K5225,   5225
0115  2552        K2552,   2552
0116  0770        K0770,   0770
0117  7007        K7007,   7007
0120  0207        BEL,     0207
0121  5140        BLCNT,   -2640
0122  5140        BLCON,   -2640



      0144        *144
                  /TAD,CLA,HLT,TEST
0144  1067        START,   TAD K7777
0145  7200                 CLA
0146  7402                 HLT          /AC SHOULD=0
                                        /SET SR TO 7777, CONTINUE
                  /SKIP TEST
0147  7410                 SKP
0150  7402                 HLT          /SKP FAILED
                  /SZA TEST 1
0151  7200                 CLA
```

```
        0152  7440          SZA
        0153  7402          HLT           /SZA SHOULD HAVE SKIPPED
                                          /AC SHOULD EQUAL ZERO

        0154  7450          SNA
        0155  7410          SKP
        0156  7402          HLT           /SNA SHOULD NOT HAVE SKIPPED
                                          /AC SHOULD EQUAL ZERO

                      /SZA TEST 2
        0157  7200          CLA
        0160  1050          TAD K4000
        0161  7440          SZA
        0162  7410          SKP
        0163  7402          HLT           /SZA SHOULD NOT HAVE SKIPPED
                                          /AC SHOULD EQUAL 4000

        0164  7450          SNA
        0165  7402          HLT           /SNA SHOULD HAVE SKIPPED
                                          /AC SHOULD EQUAL 4000


                      /SZA TEST 3
        0166  7200          CLA
        0167  1045          TAD K2000
        0170  7440          SZA
        0171  7410          SKP
        0172  7402          HLT           /SZA SHOULD NOT HAVE SKIPPED
                                          /AC SHOULD EQUAL 2000

        0173  7450          SNA
        0174  7402          HLT           /SNA SHOULD HAVE SKIPPED
        0175  7000          NOP           /AC SHOULD EQUAL 2000
        0176  7000          NOP
        0177  7410          SKP           /SKIP OVER JMP START.


        0200          *200
        0200  5144      BEGIN,  JMP START  /BEGINNING OF INSTRUCTION TEST 1.
                      /SZA TEST 4
        0201  7200          CLA
        0202  1042          TAD K1000
        0203  7440          SZA
        0204  7410          SKP
        0205  7402          HLT           /SZA SHOULD NOT HAVE SKIPPED
                                          /AC SHOULD EQUAL 1000

        0206  7450          SNA
        0207  7402          HLT           /SNA SHOULD HAVE SKIPPED
                                          /AC SHOULD EQUAL 10000

                      /SZA TEST 5
        0210  7200          CLA
        0211  1040          TAD K0400
        0212  7440          SZA
        0213  7410          SKP
        0214  7402          HLT           /SZA SHOULD NOT HAVE SKIPPED
                                          /AC SHOULD EQUAL 0400

        0215  7450          SNA
        0216  7402          HLT           /SNA SHOULD HAVE SKIPPED
                                          /AC SHOULD EQUAL 0400

                      /SZA TEST 6
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```
          0217  7200           CLA
          0220  1036           TAD K0200
          0221  7440           SZA
          0222  7410           SKP
          0223  7402           HLT            /SZA SHOULD NOT HAVE SKIPPED
                                              /AC SHOULD EQUAL 0200

          0224  7450           SNA
          0225  7402           HLT            /SNA SHOULD HAVE SKIPPED
                                              /AC SHOULD EQUAL 0200
                        /SZA TEST 7
          0226  7200           CLA
          0227  1034           TAD K0100
          0230  7440           SZA
          0231  7410           SKP
          0232  7402           HLT            /SZA SHOULD NOT HAVE SKIPPED
                                              /AC SHOULD EQUAL 0100

          0233  7450           SNA
          0234  7402           HLT            /SNA SHOULD HAVE SKIPPED
                                              /AC SHOULD EQUAL 0100


                        /SZA TEST 8
          0235  7200           CLA
          0236  1032           TAD K0040
          0237  7440           SZA
          0240  7410           SKP
          0241  7402           HLT            /SZA SHOULD NOT HAVE SKIPPED
                                              /AC SHOULD EQUAL 0040

          0242  7450           SNA
          0243  7402           HLT            /SNA SHOULD HAVE SKIPPED
                                              /AC SHOULD EQUAL 0040
                        /SZA TEST 9
          0244  7200           CLA
          0245  1030           TAD K0020
          0246  7440           SZA
          0247  7410           SKP
          0250  7402           HLT            /SZA SHOULD NOT HAVE SKIPPED
                                              /AC SHOULD EQUAL 0020

          0251  7450           SNA
          0252  7402           HLT            /SNA SHOULD HAVE SKIPPED
                                              /AC SHOULD EQUAL 0020
                        /SZA TEST 10
          0253  7200           CLA
          0254  1026           TAD K0010
          0255  7440           SZA
          0256  7410           SKP
          0257  7402           HLT            /SZA SHOULD NOT HAVE SKIPPED
                                              /AC SHOULD EQUAL 0010

          0260  7450           SNA
          0261  7402           HLT            /SNA SHOULD HAVE SKIPPED
                                              /AC SHOULD EQUAL 0010
                        /SZA TEST 11
          0262  7200           CLA
          0263  1024           TAD K0004
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0264   7440              SZA
0265   7410              SKP
0266   7402              HLT           /SZA SHOULD NOT HAVE SKIPPED
                                       /AC SHOULD EQUAL 0004

0267   7450              SNA
0270   7402              HLT           /SNA SHOULD HAVE SKIPPED
                                       /AC SHOULD EQUAL 0004


                         /SZA TEST 12
0271   7200              CLA
0272   1022              TAD K0002
0273   7440              SZA
0274   7410              SKP
0275   7402              HLT           /SZA SHOULD NOT HAVE SKIPPED
                                       /AC SHOULD EQUAL 0002

0276   7450              SNA
0277   7402              HLT           /SNA SHOULD HAVE SKIPPED
                                       /AC SHOULD EQUAL 0002


                         /SZA TEST 13
0300   7200              CLA
0301   1021              TAD K0001
0302   7440              SZA
0303   7410              SKP
0304   7402              HLT           /SZA SHOULD NOT HAVE SKIPPED
                                       /AC SHOULD EQUAL 0001

0305   7450              SNA
0306   7402              HLT           /SNA SHOULD HAVE SKIPPED
                                       /AC SHOULD EQUAL 0001

                         /SPA TEST 1
0307   7200              CLA
0310   1066              TAD K3777
0311   7510              SPA
0312   7402              HLT           /SPA SHOULD HAVE SKIPPED
                                       /AC SHOULD EQUAL 3777


                         /SPA TEST 2
0313   7200              CLA
0314   1050              TAD K4000
0315   7510              SPA
0316   7410              SKP
0317   7402              HLT           /SPA SHOULD NOT HAVE SKIPPED
                                       /AC SHOULD EQUAL 4000

                         /SMA TEST 1
0320   7200              CLA
0321   1066              TAD K3777
0322   7500              SMA
0323   7410              SKP
0324   7402              HLT           /SMA SHOULD NOT HAVE SKIPPED
                                       /AC SHOULD EQUAL 3777


                         /SMA TEST 2
0325   7200              CLA
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          0326  1050              TAD K4000
          0327  7500              SMA
          0330  7402              HLT          /SMA SHOULD HAVE SKIPPED
                                               /AC SHOULD EQUAL 4000

                        /CMA TEST 1
          0331  7200              CLA
          0332  1067              TAD K7777
          0333  7040              CMA
          0334  7440              SZA
          0335  7402              HLT          /CMA DID NOT COMPLEMENT AC
                                               /AC SHOULD EQUAL 0000

                        /CMA -  TAD TEST 1
          0336  7200              CLA
          0337  1071              TAD K2525
          0340  7040              CMA
          0341  7450              SNA
          0342  7402              HLT          /TAD OR CMA ERROR
                                               /AC SHOULD EQUAL 5252

          0343  1071              TAD K2525
          0344  7040              CMA
          0345  7440              SZA
          0346  7402              HLT          /TAD OR CMA ERROR
                                               /AC SHOULD EQUAL 0000

                        /CMA -  TAD TEST 2
          0347  7200              CLA
          0350  1070              TAD K5252
          0351  7040              CMA
          0352  7450              SNA
          0353  7402              HLT          /TAD OR CMA ERROR
                                               /AC SHOULD EQUAL 2525

          0354  1070              TAD K5252
          0355  7040              CMA
          0356  7440              SZA
          0357  7402              HLT          /TAD OR CMA ERROR
                                               /AC SHOULD EQUAL 0000


                        /CMA - TAD TEST 3
          0360  7200              CLA
          0361  1067              TAD K7777
          0362  7040              CMA
          0363  7440              SZA
          0364  7402              HLT          /TAD OR CMA ERROR
                                               /AC SHOULD EQUAL 0000

                        /IAC TEST 1
          0365  7200              CLA
          0366  7001              IAC
          0367  7440              SZA
          0370  7410              SKP
          0371  7402              HLT          /IAC DID NOT INCREMENT
                                               /AC SHOULD EQUL 0001

                        /IAC TEST 2
          0372  7200              CLA
          0373  1067              TAD K7777
          0374  7001              IAC
```

```
          0375  7440              SZA
          0376  7402              HLT              /IAC DID NOT INCREMENT
                                                   /AC SHOULD EQUAL 0000
                         /IAC TEST 3
          0377  7200              CLA
          0400  1101              TAD K7774
          0401  7001              IAC
          0402  7001              IAC
          0403  7001              IAC
          0404  7001              IAC
          0405  7440              SZA
          0406  7402              HLT              /IAC NOT INCREMENTING
                                                   /AC SHOULD EQUAL 0000
                         /SZL TEST 1
          0407  7200              CLA
          0410  7100              CLL              /CLEAR LINK
          0411  7004              RAL              /CLEAR LINK SAFETY
          0412  7430              SZL
          0413  7402              HLT              /SZL SHOULD HAVE SKIPPED
                                                   /LINK SHOULD EQUAL ZERO


                         /SZL TEST 2
          0414  7200              CLA
          0415  7100              CLL              /CLEAR LINK
          0416  7020              CML              /COMPLEMENT LINK
          0417  1050              TAD K4000
          0420  7004              RAL              /SET LINK SAFETY
          0421  7430              SZL
          0422  7410              SKP
          0423  7402              HLT              /SZL SHOULD NOT HAVE SKIPPED
                                                   /LINK SHOULD EQUAL ONE
                         /SNL TEST 1
          0424  7200              CLA
          0425  7100              CLL              /CLEAR LINK
          0426  7004              RAL              /CLEAR LINK SAFETY
          0427  7420              SNL
          0430  7410              SKP
          0431  7402              HLT              /SNL SHOULD NOT HAVE SKIPPED
                                                   /LINK SHOULD EQUAL ZERO


                         /SNL TEST 2
          0432  7200              CLA
          0433  7100              CLL              /CLEAR LINK
          0434  7020              CML              /COMPLEMENT LINK
          0435  1050              TAD K4000
          0436  7004              RAL              /SET LINK SAFETY
          0437  7420              SNL
          0440  7402              HLT              /SNL SHOULD HAVE SKIPPED
                                                   /LINK SHOULD EQUAL ONE


                         /CLL TEST 1
          0441  7200              CLA
          0442  1050              TAD K4000
```

```
       0443   7004            RAL             /SET LINK
       0444   7420            SNL
       0445   5252            JMP CLL11               /CANNOT SET LINK WITH RAL
                                              /TRY A CML
       0446   7100    CLL1,   CLL
       0447   7430            SZL
       0450   7402            HLT             /CLL DID NOT CLEAR LINK
                                              /LINK SHOULD EQUAL ONE
       0451   5256            JMP .+5
       0452   7020    CLL11,  CML             /SET LINK
       0453   7420            SNL
       0454   7402            HLT             /CANNOT SET LINK WITH
                                              /RAL OR CML. CANNOT
                                              /PERFORM CLL TEST 1
       0455   5246            JMP CLL1

                      /CML TEST 1
       0456   7100    CMLT1,  CLL
       0457   7430            SZL
       0460   7402            HLT             /CLL DID NOT CLEAR LINK
       0461   7020            CML
       0462   7420            SNL
       0463   7402            HLT             /CML DID NOT SET LINK
       0464   7020            CML
       0465   7430            SZL
       0466   7402            HLT             /CML DID NOT RESET LINK
                      /CLA TEST 1 (OPERATE GROUP 2)
       0467   7200            CLA
       0470   1067            TAD K7777
       0471   7600            7600
       0472   7440            SZA
       0473   7402            HLT             /CLA (7600) DID NOT CLEAR AC
                                              /AC SHOULD EQUAL 0000
                      /OSR TEST 1
       0474   7200            CLA
       0475   7404            OSR
       0476   7040            CMA
       0477   7440            SZA
       0500   7402            HLT             /OSR DID NOT SET AC TO 7777
                                              /AC SHOULD=0


                      /NOP TEST 1 (OPERATE GROUP 1)

       0501   7200            CLA
       0502   7100            CLL             /AC AND LINK EQUAL ZERO
       0503   7000            7000            /TEST INSTRUCTION
       0504   7450            SNA
       0505   7430            SZL
       0506   7402            HLT             /NOP FAILURE
                                              /AC AND LINK SHOULD BE ZERO

                      /NOP TEST 2 (OPERATE GROUP 2)

       0507   7200            CLA
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```
          0510   7100              CLL             /AC AND LINK EQUAL ZERO
          0511   7400              7400            /TEST INSTRUCTION
          0512   7450              SNA
          0513   7430              SZL
          0514   7402              HLT             /NOP FAILURE
                                                   /AC AND LINK SHOULD BE ZERO

                          /TAD TEST 1
          0515   7200              CLA
          0516   1066              TAD K3777              /OPERAND 1
          0517   1050              TAD K4000              /OPERAND 2
          0520   7040              CMA
          0521   7440              SZA
          0522   7402              HLT             /TAD ERROR
                                                   /AC SHOULD EQUAL 0000

                          /TAD TEST 2
          0523   7200              CLA
          0524   1065              TAD K5777              /OPERAND 1
          0525   1045              TAD K2000              /OPERAND 2
          0526   7040              CMA
          0527   7440              SZA
          0530   7402              HLT             /TAD ERROR
                                                   /AC SHOULD EQUAL 0000

                          /TAD TEST 3
          0531   7200              CLA
          0532   1064              TAD K6777              /OPERAND 1
          0533   1042              TAD K1000              /OPERAND 2
          0534   7040              CMA
          0535   7440              SZA
          0536   7402              HLT             /TAD ERROR
                                                   /AC SHOULD EQUAL 0000

                          /TAD TEST 4
          0537   7200              CLA
          0540   1063              TAD K7377              /OPERAND 1
          0541   1040              TAD K0400              /OPERAND 2
          0542   7040              CMA
          0543   7440              SZA
          0544   7402              HLT             /TAD ERROR
                                                   /AC SHOULD EQUAL 0000

                          /TAD TEST 5
          0545   7200              CLA
          0546   1062              TAD K7577              /OPERAND 1
          0547   1036              TAD K0200              /OPERAND 2
          0550   7040              CMA
          0551   7440              SZA
          0552   7402              HLT             /TAD ERROR
                                                   /AC SHOULD EQUAL 0000


                          /TAD TEST 6
          0553   7200              CLA
          0554   1061              TAD K7677              /OPERAND 1
          0555   1034              TAD K0100              /OPERAND 2
          0556   7040              CMA
          0557   7440              SZA
          0560   7402              HLT             /TAD ERROR
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                                                        /AC SHOULD EQUAL 0000
                                /TAD TEST 7
        0561  7200                      CLA
        0562  1057                      TAD K7737               /OPERAND 1
        0563  1032                      TAD K0040               /OPERAND 2
        0564  7040                      CMA
        0565  7440                      SZA
        0566  7402                      HLT            /TAD ERROR
                                                        /AC SHOULD EQUAL 0000
                                /TAD TEST 8
        0567  7200                      CLA
        0570  1056                      TAD K7757               /OPERAND 1
        0571  1030                      TAD K0020               /OPERAND 2
        0572  7040                      CMA
        0573  7440                      SZA

        0574  7402                      HLT            /TAD ERROR
                                                        /AC SHOULD EQUAL 0000
                                /TAD TEST 9
        0575  7200                      CLA
        0576  1055                      TAD K7767               /OPERAND 1
        0577  1026                      TAD K0010               /OPERAND 2
        0600  7040                      CMA
        0601  7440                      SZA
        0602  7402                      HLT            /TAD ERROR
                                                        /AC SHOULD EQUAL 0000


                                /TAD TEST 10
        0603  7200                      CLA
        0604  1054                      TAD K7773               /OPERAND 1
        0605  1024                      TAD K0004               /OPERAND 2
        0606  7040                      CMA
        0607  7440                      SZA
        0610  7402                      HLT            /TAD ERROR
                                                        /AC SHOULD EQUAL 0000
                                /TAD TEST 11
        0611  7200                      CLA
        0612  1053                      TAD K7775               /OPERAND 1
        0613  1022                      TAD K0002               /OPERAND 2
        0614  7040                      CMA
        0615  7440                      SZA
        0616  7402                      HLT            /TAD ERROR
                                /TAD TEST 12
        0617  7200                      CLA
        0620  1052                      TAD K7776               /OPERAND 1
        0621  1021                      TAD K0001               /OPERAND 2
        0622  7040                      CMA
        0623  7440                      SZA
        0624  7402                      HLT            /TAD ERROR
                                                        /AC SHOULD EQUAL 0000
                                /TAD TEST 13
        0625  7200                      CLA
        0626  7100                      CLL
        0627  1050                      TAD K4000               /OPERAND 1
```

```
              0630  1050            TAD K4000             /OPERAND 2
              0631  7430            SZL
              0632  7440            SZA
              0633  7402            HLT              /TAD ERROR, AC SHOULD EQUAL 0000
                                                    /LINK SHOULD BE EQUAL ONE,


                           /TAD TEST 14
              0634  7200            CLA
              0635  7100            CLL
              0636  1072            TAD K6000             /OPERAND 1
              0637  1045            TAD K2000             /OPERAND 2
              0640  7430            SZL
              0641  7440            SZA
              0642  7402            HLT              /TAD ERROR, AC SHOULD EQUAL 0000
                                                    /LINK SHOULD EQUAL ONE
                           /TAD TEST 15
              0643  7200            CLA
              0644  7100            CLL
              0645  1073            TAD K7000             /OPERAND 1
              0646  1042            TAD K1000             /OPERAND 2
              0647  7430            SZL
              0650  7440            SZA
              0651  7402            HLT              /TAD ERROR, AC SHOULD EQUAL 0000
                                                    /LINK SHOULD EQUAL ONE
                           /TAD TEST 16
              0652  7200            CLA
              0653  7100            CLL
              0654  1074            TAD K7400             /OPERAND 1
              0655  1040            TAD K0400             /OPERAND 2
              0656  7430            SZL
              0657  7440            SZA
              0660  7402            HLT              /TAD ERROR, AC SHOULD EQUAL 0000
                                                    /LINK SHOULD EQUAL ONE
                           /TAD TEST 17
              0661  7200            CLA
              0662  7100            CLL
              0663  1075            TAD K7600             /OPERAND 1
              0664  1036            TAD K0200             /OPERAND 2
              0665  7430            SZL
              0666  7440            SZA
              0667  7402            HLT              /TAD ERROR, AC SHOULD EQUAL 0000
                                                    /LINK SHOULD EQUAL ONE
                           /TAD TEST 18
              0670  7200            CLA
              0671  7100            CLL
              0672  1113            TAD K7700             /OPERAND 1
              0673  1034            TAD K0100             /OPERAND 2
              0674  7430            SZL
              0675  7440            SZA
              0676  7402            HLT              /TAD ERROR, AC SHOULD EQUAL 0000
                                                    /LINK SHOULD EQUAL ONE
                           /TAD TEST 19
              0677  7200            CLA
              0700  7100            CLL
```

```
0701  1076              TAD K7740              /OPERAND 1
0702  1032              TAD K0040              /OPERAND 2
0703  7430              SZL
0704  7440              SZA
0705  7402              HLT                    /TAD ERROR. AC SHOULD EQUAL 0000
                                               /LINK SHOULD EQUAL ONE
                /TAD TEST 20
0706  7200              CLA
0707  7100              CLL
0710  1077              TAD K7760              /OPERAND 1
0711  1030              TAD K0020              /OPERAND 2
0712  7430              SZL
0713  7440              SZA
0714  7402              HLT                    /TAD ERROR. AC SHOULD EQUAL 0000
                                               /LINK SHOULD EQUAL ONE
                /TAD TEST 21
0715  7200              CLA
0716  7100              CLL
0717  1100              TAD K7770              /OPERAND 1
0720  1026              TAD K0010              /OPERAND 2
0721  7430              SZL
0722  7440              SZA                    /TAD ERROR AC SHOULD EQUAL 0000
0723  7402              HLT                    /LINK SHOULD EQUAL ONE

                /TAD TEST 22
0724  7200              CLA
0725  7100              CLL
0726  1101              TAD K7774              /OPERAND 1
0727  1024              TAD K0004              /OPERAND 2
0730  7430              SZL
0731  7440              SZA
0732  7402              HLT                    /TAD ERROR. AC SHOULD EQUAL 0000
                                               /LINK SHOULD EQUAL ONE
                /TAD TEST 23
0733  7200              CLA
0734  7100              CLL
0735  1052              TAD K7776              /OPERAND 1
0736  1022              TAD K0002              /OPERAND 2
0737  7430              SZL
0740  7440              SZA
0741  7402              HLT                    /TAD ERROR. AC SHOULD EQUAL 0000
                                               /LINK SHOULD EQUAL ONE


                /TAD TEST 24
0742  7200              CLA
0743  7100              CLL
0744  1067              TAD K7777              /OPERAND 1
0745  1021              TAD K0001              /OPERAND 2
0746  7430              SZL
0747  7440              SZA
0750  7402              HLT                    /TAD ERROR, AC SHOULD EQUAL 0000
                                               /LINK SHOULD EQUAL ONE
```

```
                    /TAD TEST 25
      0751  7200          CLA
      0752  7100          CLL
      0753  7020          CML
      0754  1050          TAD K4000           /OPERAND 1
      0755  1050          TAD K4000           /OPERAND 2
      0756  7420          SNL
      0757  7440          SZA
      0760  7402          HLT                 /TAD ERROR. AC SHOULD EQUAL 0000
                                              /LINK SHOULD EQUAL ZERO
                    /TAD TEST 26
      0761  7200          CLA
      0762  7100          CLL
      0763  1066          TAD K3777           /OPERAND 1
      0764  1045          TAD K2000           /OPERAND 2
      0765  1045          TAD K2000           /OPERAND 3
      0766  7040          CMA
      0767  7420          SNL
      0770  7440          SZA
      0771  7402          HLT                 /TAD ERROR. AC SHOULD EQUAL 0000
                                              /LINK SHOULD EQUAL ZERO
                    /TAD TEST 27
      0772  7200          CLA
      0773  7100          CLL
      0774  1065          TAD K5777      /OPERAND 1
      0775  1042          TAD K1000      /OPERAND 2
      0776  1042          TAD K1000      /OPERAND 3
      0777  7040          CMA
      1000  7420          SNL
      1001  7440          SZA       /TAD ERROR AC SHOULD EQUAL 0000
      1002  7402          HLT       /LINK SHOULD EQUAL ZERO


                    /TAD TEST 28
      1003  7200          CLA
      1004  7100          CLL
      1005  1064          TAD K6777           /OPERAND 1
      1006  1040          TAD K0400           /OPERAND 2
      1007  1040          TAD K0400           /OPERAND 3
      1010  7040          CMA
      1011  7420          SNL
      1012  7440          SZA
      1013  7402          HLT                 /TAD ERROR. AC SHOULD EQUAL 0000
                                              /LINK SHOULD EQUAL ZERO
                    /TAD TEST 29
      1014  7200          CLA
      1015  7100          CLL
      1016  1063          TAD K7377           /OPERAND 1
      1017  1036          TAD K0200           /OPERAND 2
      1020  1036          TAD K0200           /OPERAND 3
      1021  7040          CMA
      1022  7420          SNL
      1023  7440          SZA
      1024  7402          HLT                 /TAD ERROR. AC SOULD EQUAL 0000
                                              /LINK SHOULD EQUAL ZERO
```

```
                              /TAD TEST 30
        1025    7200            CLA
        1026    7100            CLL
        1027    1062            TAD K7577                  /OPERAND 1
        1030    1034            TAD K0100                  /OPERAND 2
        1031    1034            TAD K0100                  /OPERAND 3
        1032    7040            CMA
        1033    7420            SNL
        1034    7440            SZA
        1035    7402            HLT                /TAD ERROR. AC SHOULD EQUAL 0000
                                                  /LINK SHOULD EQUAL ZERO
                              /TAD TEST 31
        1036    7200            CLA
        1037    7100            CLL
        1040    1061            TAD K7677                  /OPERAND 1
        1041    1032            TAD K0040                  /OPERAND 2
        1042    1032            TAD K0040                  /OPERAND 3
        1043    7040            CMA
        1044    7420            SNL
        1045    7440            SZA
        1046    7402            HLT                /TAD ERROR. AC SHOULD EQUAL 0000
                                                  /LINK SHOULD EQUAL ZERO


                              /TAD TEST 32
        1047    7200            CLA
        1050    7100            CLL
        1051    1057            TAD K7737                  /OPERAND 1
        1052    1030            TAD K0020                  /OPERAND 2
        1053    1030            TAD K0020                  /OPERAND 3
        1054    7040            CMA
        1055    7420            SNL
        1056    7440            SZA
        1057    7402            HLT                /TAD ERROR. AC SHOULD EQUAL 0000
                                                  /LINK SHOULD EQUAL ZERO
                              /TAD TEST 33
        1060    7200            CLA
        1061    7100            CLL
        1062    1056            TAD K7757                  /OPERAND 1
        1063    1026            TAD K0010                  /OPERAND 2
        1064    1026            TAD K0010                  /OPERAND 3
        1065    7040            CMA
        1066    7420            SNL
        1067    7440            SZA
        1070    7402            HLT                /TAD ERROR. AC SHOULD EQUAL 0000
                                                  /LINK SHOULD EQUAL ZERO
                              /TAD TEST 34
        1071    7200            CLA
        1072    7100            CLL
        1073    1055            TAD K7767                  /OPERAND 1
        1074    1024            TAD K0004                  /OPERAND 2
        1075    1024            TAD K0004                  /OPERAND 3
        1076    7040            CMA
        1077    7420            SNL
        1100    7440            SZA
```

```
            1101  7402          HLT                    /TAD ERROR. AC SHOULD EQUAL 0000
                                                       /LINK SHOULD EQUAL ZERO

                        /TAD TEST 35
            1102  7200          CLA
            1103  7100          CLL
            1104  1054          TAD K7773                /OPERAND 1
            1105  1022          TAD K0002                /OPERAND 2
            1106  1022          TAD K0002                /OPERAND 3
            1107  7040          CMA
            1110  7420          SNL
            1111  7440          SZA
            1112  7402          HLT                    /TAD ERROR. AC SHOULD EQUAL 0000
                                                       /LINK SHOULD EQUAL ZERO


                        /TAD TEST 36
            1113  7200          CLA
            1114  7100          CLL
            1115  1053          TAD K7775                /OPERAND 1
            1116  1021          TAD K0001                /OPERAND 2
            1117  1021          TAD K0001                /OPERAND 3
            1120  7040          CMA
            1121  7420          SNL
            1122  7430          SZL
            1123  7402          HLT                    /TAD ERROR. AC SHOULD EQUAL 0000
                                                       /LINK SHOULD EQUAL ZERO


                        /TAD TEST 37              /10;MB, CR.
            1124  7200          CLA
            1125  7100          CLL
            1126  1021          TAD K0001          /0+1=1
            1127  1023          TAD K3             /1+3=4
            1130  1054          TAD K7773          /4+7773=7777
            1131  7040          CMA                /0
            1132  7420          SNL
            1133  7440          SZA
            1134  7402          HLT                /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                        /TAD TEST 38.             /9; MB, CR.
            1135  7200          CLA
            1136  7100          CLL
            1137  1022          TAD K0002          /0+2=2
            1140  1025          TAD K6             /2+6=10
            1141  1055          TAD K7767          /10+7767=7777
            1142  7040          CMA                /0
            1143  7420          SNL
            1144  7440          SZA
            1145  7402          HLT                /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                        /TAD TEST 39.             /8; MB, CR.
            1146  7200          CLA
            1147  7100          CLL
            1150  1024          TAD K0004          /0+4=4
            1151  1027          TAD K14            /4+14=20
```

```
              1152  1056            TAD K7757        /20+7757=7777
              1153  7040            CMA              /0
              1154  7420            SNL
              1155  7440            SZA
              1156  7402            HLT              /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                         /TAD TEST 40.             /7; MB, CR.
              1157  7200            CLA
              1160  7100            CLL
              1161  1026            TAD K0010        /0+10=10
              1162  1031            TAD K30          /10+30=40
              1163  1057            TAD K7737        /40+7737=7777
              1164  7040            CMA              /0
              1165  7420            SNL
              1166  7440            SZA
              1167  7402            HLT              /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                         /TAD TEST 41.             /6; MB,CR
              1170  7200            CLA
              1171  7100            CLL
              1172  1030            TAD K0020        /0+20=20
              1173  1033            TAD K60          /20+60=100
              1174  1061            TAD K7677        /100+7677=7777
              1175  7040            CMA              /0
              1176  7420            SNL
              1177  7440            SZA
              1200  7402            HLT              /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                         /TAD TEST 42.             /5; MB, CR.
              1201  7200            CLA
              1202  7100            CLL
              1203  1032            TAD K0040        /0+40=40
              1204  1035            TAD K140         /40+140=200
              1205  1062            TAD K7577        /200+7577=7777
              1206  7040            CMA              /0
              1207  7420            SNL
              1210  7440            SZA              /
              1211  7402            HLT              /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                         /TAD TEST 43.             /4; MB, CR.
              1212  7200            CLA
              1213  7100            CLL
              1214  1034            TAD K0100        /0+100=100
              1215  1037            TAD K300         /100+300=400
              1216  1063            TAD K7377        /400+7377=7777
              1217  7040            CMA              /0
              1220  7420            SNL
              1221  7440            SZA
              1222  7402            HLT              /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                         /TAD TEST 44.             /3; MB, CR.
              1223  7200            CLA
              1224  7100            CLL
              1225  1036            TAD K0200        /0+200=200
              1226  1041            TAD K600         /200+600=1000
```

```
      1227  1064          TAD K6777        /1000+6777=7777
      1230  7040          CMA              /0
      1231  7420          SNL
      1232  7440          SZA
      1233  7402          HLT              /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                    /TAD TEST 45.          /2; MB, CR.
      1234  7200          CLA
      1235  7100          CLL              /
      1236  1040          TAD K0400        /0+400=400
      1237  1044          TAD K1400        /400+1400=2000
      1240  1065          TAD K5777        /2000+5777=7777
      1241  7040          CMA              /0
      1242  7420          SNL
      1243  7440          SZA
      1244  7402          HLT              /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                    /TAD TEST 46    /1; MB, CR.
      1245  7200          CLA
      1246  7100          CLL
      1247  1042          TAD K1000        /0+1000=1000
      1250  1046          TAD K3000        /1000+3000=4000
      1251  1066          TAD K3777        /4000+3777=7777
      1252  7040          CMA              /0
      1253  7420          SNL
      1254  7440          SZA
      1255  7402          HLT              /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                    /TAD TEST 47           /0; MB, CR
      1256  7200          CLA
      1257  7100          CLL
      1260  1045          TAD K2000        /0+2000=2000
      1261  1072          TAD K6000        /2000+6000=1 0000
      1262  7430          SZL
      1263  7440          SZA
      1264  7402          HLT              /TAD ERROR. LINK SHOULD = 1. AC SHOULD = 0000.

                    /TAD TEST 48.
      1265  7200          CLA
      1266  7100          CLL
      1267  1067          TAD K7777        /0+7777=7777
      1270  1021          TAD K0001        /7777+1=1 0000
      1271  7430          SZL
      1272  7440          SZA              /
      1273  7402          HLT              /TAD ERROR. LINK SHOULD = 1. AC SHOULD = 0000.

                    /TAD TEST 49.          /10; AC, MB, CR.
      1274  7200          CLA
      1275  7100          CLL
      1276  1023          TAD K3           /0+3=3
      1277  1023          TAD K3           /3+3=6
      1300  1100          TAD K7770        /6+7770=7776
      1301  1021          TAD K0001        /7776+1=7777
      1302  7040          CMA              /0
```

```
          1303  7420              SNL
          1304  7440              SZA
          1305  7402              HLT                   /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                        /TAD TEST 50.        /9; AC, MB, CR.
          1306  7200              CLA
          1307  7100              CLL
          1310  1025              TAD K6            /0+6=6
          1311  1025              TAD K6            /6+6=14
          1312  1077              TAD K7760         /14+7760=7774
          1313  1023              TAD K3            /7774+3=7777
          1314  7040              CMA               /0
          1315  7420              SNL
          1316  7440              SZA
          1317  7402              HLT                   /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                        /TAD TEST 51.        /8; AC, MB, CR.
          1320  7200              CLA
          1321  7100              CLL
          1322  1027              TAD K14           /0+14=14
          1323  1027              TAD K14           /14+14=30
          1324  1076              TAD K7740         /30+7740=7770
          1325  1102              TAD K0007         /7770+7=7777
          1326  7040              CMA               /0
          1327  7420              SNL
          1330  7440              SZA
          1331  7402              HLT                   /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                        /TAD TEST 52.        /7; AC, MB, CR.
          1332  7200              CLA
          1333  7100              CLL
          1334  1031              TAD K30           /0+30=30
          1335  1031              TAD K30           /30+30=60
          1336  1051              TAD K7717         /60+7717=7777
          1337  7040              CMA               /0
          1340  7420              SNL
          1341  7440              SZA
          1342  7402              HLT                   /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                        /TAD TEST 53.        /6; AC, MB,CR.
          1343  7200              CLA
          1344  7100              CLL
          1345  1033              TAD K60
          1346  1033              TAD K60           /60+60=140
          1347  1075              TAD K7600         /140+7600=7740
          1350  1105              TAD K0037         /7740+37=7777
          1351  7040              CMA               /0
          1352  7420              SNL
          1353  7440              SZA
          1354  7402              HLT                   /TAD ERROR. AC AND LINK SHOULD BE ZERO.

                        /TAD TEST 54.        /5; AC, MB, CR
          1355  7200              CLA
          1356  7100              CLL
```

```
        1357  1035           TAD K140
        1360  1035           TAD K140          /140+140=300
        1361  1074           TAD K7400         /300+7400=7700
        1362  1106           TAD K0077         /7700+77=7777
        1363  7040           CMA               /0
        1364  7420           SNL
        1365  7440           SZA
        1366  7402           HLT               /TAD ERROR, AC AND LINK SHOULD BE ZERO.

                    /TAD TEST 55.         /4; AC, MB, CR.
        1367  7200           CLA
        1370  7100           CLL
        1371  1037           TAD K300          /0+300=300
        1372  1037           TAD K300          /300+300=600
        1373  1060           TAD K7177         /600+7177=7777
        1374  7040           CMA               /0
        1375  7420           SNL
        1376  7440           SZA
        1377  7402           HLT               /TAD ERROR, AC AND LINK SHOULD BE ZERO.

                    /TAD TEST 56.         /3; AC, MB, CR.
        1400  7200           CLA
        1401  7100           CLL
        1402  1041           TAD K600          /0+600=600
        1403  1041           TAD K600          /600+600=1400
        1404  1072           TAD K6000         /1400+6000=7400
        1405  1110           TAD K0377         /7400+377=7777
        1406  7040           CMA
        1407  7420           SNL
        1410  7440           SZA
        1411  7402           HLT               /TAD ERROR, AC AND LINK SHOULD BE ZERO.

                    /TAD TEST 57.         /2; AC, MB, CR.
        1412  7200           CLA
        1413  7100           CLL
        1414  1044           TAD K1400         /0+1400=1400
        1415  1044           TAD K1400         /1400+1400=3000
        1416  1050           TAD K4000         /3000+4000=7000
        1417  1111           TAD K0777         /7000+777=7777
        1420  7040           CMA               /0
        1421  7420           SNL
        1422  7440           SZA
        1423  7402           HLT               /TAD ERROR, AC AND LI K SHOULD BE ZERO.

                    /TAD TEST 58.         /1; AC, MB, CR.
        1424  7200           CLA
        1425  7100           CLL
        1426  1046           TAD K3000         /0+3000=3000
        1427  1046           TAD K3000         /3000+3000=6000
        1430  1112           TAD K1777         /6000+1777=7777
        1431  7040           CMA               /0
        1432  7420           SNL
        1433  7440           SZA
        1434  7402           HLT               /TAD ERROR, AC AND LINK SHOULD BE ZERO
```

```
                          /TAD TEST 59.           /0; AC, MB, CR.
        1435  7200              CLA
        1436  7100              CLL              /
        1437  1072              TAD K6000        /0+6000=6000
        1440  1072              TAD K6000        /6000+6000=1 4000
        1441  1066              TAD K3777        /1 4000+3777=1 7777
        1442  7040              CMA              /1 0000
        1443  7430              SZL
        1444  7440              SZA
        1445  7402              HLT              /TAD ERROR. LINK SHOULD BE 1. AC SHOULD BE ZERO.

                          /TAD TEST 60.           /
        1446  7200              CLA
        1447  7100              CLL
        1450  1067              TAD K7777        /0+7777=7777
        1451  1067              TAD K7777        /7777+7777=1 7776
        1452  1021              TAD K0001        /1 7776+1=1 7777
        1453  7040              CMA              /1 0000
        1454  7430              SZL
        1455  7440              SZA
        1456  7402              HLT              /TAD ERROR. LINK SHOULD BE 1. AC SHOULD BE ZERO.


                          /RAR TEST 1
        1457  7200              CLA
        1460  7100              CLL
        1461  1021              TAD K0001                /ROTATE PATTERN
        1462  7010              RAR
        1463  7420              SNL
        1464  7402              HLT              /RAR FAILED. LINK DROPPED A BIT
                                                /LINK SHOULD EQUAL A ONE
                          /RAR TEST 2
        1465  7200              CLA
        1466  7100              CLL
        1467  1020              TAD K0000                /ROTATE PATTERN
        1470  7010              RAR
        1471  7440              SZA
        1472  7402              HLT              /RAR FAILED.   AC PICKED UP A BIT
                                                /A ONE IN AC EQUALS THE PICKED UP BIT
                          /RAR TEST 3
        1473  7200              CLA
        1474  7100              CLL
        1475  1020              TAD K0000                /ROTATE PATTERN
        1476  7010              RAR
        1477  7430              SZL
        1500  7402              HLT              /RAL FAILED. LINK PICKED UP A BIT
                                                /LINK SHOULD EQUAL ZERO


                          /RAR TEST 4
        1501  7200              CLA
        1502  7100              CLL
        1503  7020              CML
        1504  1020              TAD K0000                /ROTATE PATTERN
```

```
       1505  7010           RAR
       1506  7430           SZL
       1507  7402           HLT            /RAR LINK PICKED UP A BIT
                                           /LINK SHOULD EQUAL ZERO
                     /RAR TEST 5
       1510  7200           CLA
       1511  7100           CLL
       1512  7020           CML
       1513  1067           TAD K7777           /ROTATE PATTERN
       1514  7010           RAR
       1515  7040           CMA
       1516  7440           SZA
       1517  7402           HLT            /RAR FAILED AC DROPPED A BIT
                                           /A ONE IN AC EQUALS THE DROPPED BIT
                     /RAR TEST 6
       1520  7200           CLA
       1521  7100           CLL
       1522  7020           CML
       1523  1020           TAD K0000           /ROTATE PATTERN
       1524  7010           RAR
       1525  1066           TAD K3777
       1526  7040           CMA
       1527  7450           SNA
       1530  7430           SZL
       1531  7402           HLT            /RAR FAILED AC AND LINK
                                           /SHOULD EQUAL 0000

                     /RAR TEST 7
       1532  7200           CLA
       1533  7100           CLL
       1534  1050           TAD K4000           /ROTATE PATTERN
       1535  7010           RAR
       1536  1065           TAD K5777
       1537  7040           CMA
       1540  7450           SNA
       1541  7430           SZL
       1542  7402           HLT            /RAR FAILED AC AND LINK SHOULD
                                           /EQUAL 0000


                     /RAR TEST 8
       1543  7200           CLA
       1544  7100           CLL
       1545  1045           TAD K2000           /ROTATE PATTERN
       1546  7010           RAR
       1547  1064           TAD K6777
       1550  7040           CMA
       1551  7450           SNA
       1552  7430           SZL
       1553  7402           HLT            /RAR FAILED AC AND LINK SHOULD
                                           /EQUAL 0000
                     /RAR TEST 9
       1554  7200           CLA
       1555  7100           CLL
       1556  1042           TAD K1000           /ROTATE PATTERN
```

```
                1557  7010            RAR
                1560  1063            TAD K7377
                1561  7040            CMA
                1562  7450            SNA
                1563  7430            SZL
                1564  7402            HLT           /RAR FAILED AC AND LINK SHOULD
                                                   /EQUAL 0000

                            /RAR TEST 10
                1565  7200            CLA
                1566  7100            CLL
                1567  1040            TAD K0400           /ROTATE PATTERN
                1570  7010            RAR
                1571  1062            TAD K7577
                1572  7040            CMA
                1573  7450            SNA
                1574  7430            SZL
                1575  7402            HLT           /RAR FAILED AC AND LINK
                                                   /SHOULD EQUAL 0000


                            /RAR TEST 11
                1576  7200            CLA
                1577  7100            CLL
                1600  1036            TAD K0200           /ROTATE PATTERN
                1601  7010            RAR
                1602  1061            TAD K7677
                1603  7040            CMA
                1604  7450            SNA
                1605  7430            SZL
                1606  7402            HLT           /RAR FAILED AC AND LINK
                                                   /EQUAL 0000

                            /RAR TEST 12
                1607  7200            CLA
                1610  7100            CLL
                1611  1034            TAD K0100           /ROTATE PATTERN
                1612  7010            RAR
                1613  1057            TAD K7737
                1614  7040            CMA
                1615  7450            SNA
                1616  7430            SZL
                1617  7402            HLT           /RAR FAILED AC AND LINK
                                                   /SHOULD EQUAL 0000
                            /RAR TEST 13
                1620  7200            CLA
                1621  7100            CLL
                1622  1032            TAD K0040           /ROTATE PATTERN
                1623  7010            RAR
                1624  1056            TAD K7757
                1625  7040            CMA
                1626  7450            SNA
                1627  7430            SZL
                1630  7402            HLT           /RAR FAILED AC AND LINK
```

                                        /SHOULD EQUAL 0000

                        PAUSE

                        /INSTRUCTION TEST 1
                        /TAPE 2
                        /RAR TEST 14
        1631 7200   CLA
        1632 7100   CLL
        1633 1030   TAD K0020   /ROTATE PATTERN
        1634 7010   RAR
        1635 1055   TAD K7767
        1636 7040   CMA
        1637 7450   SNA
        1640 7430   SZL
        1641 7402   HLT   /RAR FAILED AC AND LINK
                                                /SHOULD EQUAL 0000
                        /RAR TEST 15
        1642 7200   CLA
        1643 7100   CLL
        1644 1026   TAD K0010   /ROTATE PATTERN
        1645 7010   RAR
        1646 1054   TAD K7773
        1647 7040   CMA
        1650 7450   SNA
        1651 7430   SZL
        1652 7402   HLT   /RAR FAILED AC AND LINK
                                                /SHOULD EQUAL 0000
                        /RAR TEST 16
        1653 7200   CLA
        1654 7100   CLL
        1655 1024   TAD K0004   /ROTATE PATTERN
        1656 7010   RAR
        1657 1053   TAD K7775
        1660 7040   CMA
        1661 7450   SNA
        1662 7430   SZL
        1663 7402   HLT   /RAR FAILED AC AND LINK
                                                /SHOULD EQUAL 0000
                        /RAR TEST 17
        1664 7200   CLA
        1665 7100   CLL
        1666 1022   TAD K0002   /ROTATE PATTERN
        1667 7010   RAR
        1670 1052   TAD K7776
        1671 7040   CMA
        1672 7450   SNA
        1673 7430   SZL
        1674 7402   HLT   /RAR FAILED AC AND LINK
                                                /SHOULD EQUAL 0000

```
                        /RAR TEST 18
        1675  7200              CLA
        1676  7100              CLL
        1677  1021              TAD K0001         /ROTATE PATTERN
        1700  7010              RAR
        1701  1067              TAD K7777
        1702  7040              CMA
        1703  7450              SNA
        1704  7420              SNL
        1705  7402              HLT               /RAR FAILED AC AND LINK
                                                  /SHOULD EQUAL 0000

                        /RTR TEST 1
        1706  7200              CLA
        1707  7100              CLL
        1710  1022              TAD K0002         /ROTATE PATTERN
        1711  7012              RTR
        1712  7420              SNL
        1713  7402              HLT               /RTR FAILED LINK DROPPED
                                                  /A BIT LINK SHOULD EQUAL A ONE

                        /RTR TEST 2
        1714  7200              CLA
        1715  7100              CLL
        1716  1020              TAD K0000         /ROTATE PATTERN
        1717  7012              RTR
        1720  7440              SZA
        1721  7402              HLT               /RTR FAILED AC PICKED UP A BIT
                                                  /A ONE IN AC EQUALS THE PICKED UP BIT

                        /RTR TEST 3
        1722  7200              CLA
        1723  7100              CLL
        1724  1020              TAD K0000         /ROTATE PATTERN
        1725  7012              RTR
        1726  7430              SZL
        1727  7402              HLT               /RTR LINK PICKED UP A BIT
                                                  /LINK SHOULD EQUAL ZERO

                        /RTR TEST 4
        1730  7200              CLA
        1731  7100              CLL
        1732  7020              CML
        1733  1020              TAD K0000         /ROTATE PATTERN
        1734  7012              RTR
        1735  7430              SZL
        1736  7402              HLT               /RTR LINK PICKED UP A BIT
                                                  /LINK SHOULD EQUAL ZERO


                        /RTR TEST 5
        1737  7200              CLA
        1740  7100              CLL
        1741  7020              CML
        1742  1067              TAD K7777         /ROTATE PATTERN
        1743  7012              RTR
        1744  7040              CMA
        1745  7440              SZA
```

```
        1746  7402              HLT              /RTR AC DROPPED A BIT A ONE IN
                                                 /AC EQUALS THE DROPPED BIT
                        /RTR TEST 6
        1747  7200              CLA
        1750  7100              CLL
        1751  7020              CML
        1752  1020              TAD K0000        /ROTATE PATTERN
        1753  7012              RTR
        1754  1065              TAD K5777
        1755  7040              CMA
        1756  7450              SNA
        1757  7430              SZL
        1760  7402              HLT              /RTR FAILED AC AND LINK
                                                 /SHOULD EQUAL 0000
                        /RTR TEST 7
        1761  7200              CLA
        1762  7100              CLL
        1763  1050              TAD K4000        /ROTATE PATTERN
        1764  7012              RTR
        1765  1064              TAD K6777
        1766  7040              CMA
        1767  7450              SNA
        1770  7430              SZL
        1771  7402              HLT              /RTR FAILED AC AND LINK
                                                 /SHOULD EQUAL 0000
                        /RTR TEST 8
        1772  7200              CLA
        1773  7100              CLL
        1774  1045              TAD K2000        /ROTATE PATTERN
        1775  7012              RTR
        1776  1063              TAD K7377
        1777  7040              CMA
        2000  7450              SNA
        2001  7430              SZL
        2002  7402              HLT              /RTR FAILED AC AND LINK
                                                 /SHOULD EQUAL 0000

                        /RTR TEST 9
        2003  7200              CLA
        2004  7100              CLL
        2005  1042              TAD K1000        /ROTATE PATTERN
        2006  7012              RTR
        2007  1062              TAD K7577
        2010  7040              CMA
        2011  7450              SNA
        2012  7430              SZL
        2013  7402              HLT              /RTR FAILED AC AND LINK
                                                 /SHOULD EQUAL 0000
                        /RTR TEST 10
        2014  7200              CLA
        2015  7100              CLL
        2016  1040              TAD K0400        /ROTAATE PATTERN
        2017  7012              RTR
        2020  1061              TAD K7677
```

```
        2021   7040              CMA
        2022   7450              SNA
        2023   7430              SZL
        2024   7402              HLT         /RTR FAILED AC AND LINK
                                             /SHOULD EQUAL 0000
                          /RTR TEST 11
        2025   7200              CLA
        2026   7100              CLL
        2027   1036              TAD K0200          /ROTATE PATTERN
        2030   7012              RTR
        2031   1057              TAD K7737
        2032   7040              CMA
        2033   7450              SNA
        2034   7430              SZL
        2035   7402              HLT         /RTR FAILED AC AND LINK
                                             /SHOULD EQUAL 0000
                          /RTR TEST 12
        2036   7200              CLA
        2037   7100              CLL
        2040   1034              TAD K0100          /ROTATE PATTERN
        2041   7012              RTR
        2042   1056              TAD K7757
        2043   7040              CMA
        2044   7450              SNA
        2045   7430              SZL
        2046   7402              HLT         /RTR FAILED AC AND LINK
                                             /SHOULD EQUAL 0000


                          /RTR TEST 13
        2047   7200              CLA
        2050   7100              CLL
        2051   1032              TAD K0040          /ROTATE PATTERN
        2052   7012              RTR
        2053   1055              TAD K7767
        2054   7040              CMA
        2055   7450              SNA
        2056   7430              SZL
        2057   7402              HLT         /RTR FAILED AC AND LINK
                                             /SHOULD EQUAL 0000
                          /RTR TEST 14
        2060   7200              CLA
        2061   7100              CLL
        2062   1030              TAD K0020          /ROTATE PATTERN
        2063   7012              RTR
        2064   1054              TAD K7773
        2065   7040              CMA
        2066   7450              SNA
        2067   7430              SZL
        2070   7402              HLT         /RTR FAILED AC AND LINK
                                             /SHOULD EQUAL 0000
                          /RTR TEST 15
        2071   7200              CLA
        2072   7100              CLL
        2073   1026              TAD K0010          /ROTATE PATTERN
```

```
2074  7012          RTR
2075  1053          TAD K7775
2076  7040          CMA
2077  7450          SNA
2100  7430          SZL
2101  7402          HLT              /RTR FAILED AC AND LINK
                                     /SHOULD EQUAL 0000

            /RTR TEST 16
2102  7300          CLA CLL
2103  1024          TAD K0004        /ROTATE PATTERN
2104  7012          RTR
2105  1052          TAD K7776
2106  7040          CMA
2107  7450          SNA
2110  7430          SZL
2111  7402          HLT              /RTR FAILED  AC AND LINK
                                     /SHOULD EQUAL 0000


            /RTR TEST 17
2112  7200          CLA
2113  7100          CLL
2114  1022          TAD K0002              /ROTATE PATTERN
2115  7012          RTR
2116  7450          SNA
2117  7420          SNL
2120  7402          HLT              /RTR FAILED, AC SHOULD EQUAL
                                     /0000, LINK SHOULD EQUAL ONE
            /RTR TEST 18
2121  7200          CLA
2122  7100          CLL
2123  1021          TAD K0001              /ROTATE PATTERN
2124  7012          RTR
2125  1066          TAD K3777
2126  7040          CMA
2127  7450          SNA
2130  7430          SZL
2131  7402          HLT              /RTR FAILED, AC AND LINK
                                     /SHOULD BE ZERO
            /RAL TEST 1
2132  7200          CLA
2133  7100          CLL
2134  1050          TAD K4000              /ROTATE PATTERN
2135  7004          RAL
2136  7430          SZL
2137  7440          SZA
2140  7402          HLT              /RAL FAILED, AC SHOULD EQUAL 0000
                                     /LINK SHOULD EQUAL ONE.
            /RAL TEST 2
2141  7200          CLA
2142  7100          CLL
2143  1020          TAD K0000              /ROTATE PATTERN
2144  7004          RAL
2145  7420          SNL
2146  7440          SZA
```

```
2147  7402              HLT                   /RAL FAILED, AC SHOULD EQUAL 0000
                                              /LINK SHOULD EQUAL ZERO


                /RAL TEST 3
2150  7200              CLA
2151  7100              CLL
2152  7020              CML
2153  1020              TAD K0000              /ROTATE PATTERN, LINK=1
2154  7004              RAL
2155  7430              SZL
2156  7402              HLT                   /RAL FAILURE, AC SHOULD EQUAL 0001
                                              /LINK SHOULD EQUAL ZERO
                /RAL TEST 4
2157  7200              CLA
2160  7100              CLL
2161  7020              CML
2162  1067              TAD K7777              /ROTATE PATTERN, LINK=1
2163  7004              RAL
2164  7040              CMA
2165  7440              SZA
2166  7402              HLT                   /RAL FAILURE, LINK SHOULD EQUAL ONE
                                              /AC SHOULD EQUAL 0000
                /RAL TEST 5
2167  7200              CLA
2170  7100              CLL
2171  1045              TAD K2000              /ROTATE PATTERN
2172  7004              RAL
2173  1066              TAD  K3777
2174  7040              CMA
2175  7450              SNA
2176  7430              SZL
2177  7402              HLT                   /RAL FAILURE, AC SHOULD EQUAL 0000
                                              /LINK SHOULD EQUAL ONE
                /RAL TEST 6
2200  7200              CLA
2201  7100              CLL
2202  1042              TAD K1000              /ROTATE PATTERN
2203  7004              RAL
2204  1065              TAD K5777
2205  7040              CMA
2206  7440              SZA
2207  7402              HLT                   /RAL FAILURE, AC SHOULD EQUAL 0000
                                              /LINK SHOULD EQUAL ZERO


                /RAL TEST 7
2210  7200              CLA
2211  7100              CLL
2212  1040              TAD K0400              /ROTATE PATTERN
2213  7004              RAL
2214  1064              TAD K6777
2215  7040              CMA
2216  7450              SNA
2217  7430              SZL
```

```
        2220  7402              HLT              /RAL FAILURE. AC SHOULD EQUAL 0000
                                                 /LINK SHOULD EQUAL ZERO

                        /RAL TEST 8
        2221  7200              CLA
        2222  7100              CLL
        2223  1036              TAD K0200              /ROTATE PATTERN
        2224  7004              RAL
        2225  1063              TAD K7377
        2226  7040              CMA
        2227  7450              SNA
        2230  7430              SZL              /RAL FAILURE AC SHOULD EQUAL 0000
        2231  7402              HLT              /LINK SHOULD EQUAL ZERO
                        /RAL TEST 9
        2232  7200              CLA
        2233  7100              CLL
        2234  1034              TAD K0100        /ROTATE PATTERN
        2235  7004              RAL
        2236  1062              TAD K7577
        2237  7040              CMA
        2240  7450              SNA
        2241  7430              SZL              /RAL FAILURE AC SHOULD EQUAL 0000
        2242  7402              HLT              /LINK SHOULD EQUAL ZERO


                        /RAL TEST 10
        2243  7200              CLA
        2244  7100              CLL
        2245  1032              TAD K0040              /ROTATE PATTERN
        2246  7004              RAL
        2247  1061              TAD K7677
        2250  7040              CMA
        2251  7450              SNA
        2252  7430              SZL              /RAL FAILURE AC SHOULD EQUAL 0000
        2253  7402              HLT              /LINK SHOULD EQUAL A ZERO
                        /RAL TEST 11
        2254  7200              CLA
        2255  7100              CLL
        2256  1030              TAD K0020              /ROTATE PATTERN
        2257  7004              RAL
        2260  1057              TAD K7737
        2261  7040              CMA
        2262  7450              SNA
        2263  7430              SZL              /RAL FAILURE AC SHOULD EQUAL 0000
        2264  7402              HLT              /LINK SHOULD EQUAL A ZERO
                        /RAL TEST 12
        2265  7200              CLA
        2266  7100              CLL
        2267  1026              TAD K0010              /ROTATE PATTTERN
        2270  7004              RAL
        2271  1056              TAD K7757
        2272  7040              CMA
        2273  7450              SNA
        2274  7430              SZL              /RAL FAILURE AC SHOULD EQUAL 0000
        2275  7402              HLT              /LINK SHOULD EQUAL A ZERO
```

```
                              /RAL TEST 13
        2276  7200                CLA
        2277  7100                CLL
        2300  1024                TAD K0004        /ROTATE PATTERN
        2301  7004                RAL
        2302  1055                TAD K7767
        2303  7040                CMA
        2304  7450                SNA
        2305  7430                SZL              /RAL FAILED AC SHOULD EQUAL 0000
        2306  7402                HLT              /LINK SHOULD EQUAL A ZERO
                              /RAL TEST 14
        2307  7200                CLA
        2310  7100                CLL
        2311  1022                TAD K0002        /ROTATE PATTERN
        2312  7004                RAL
        2313  1054                TAD K7773
        2314  7040                CMA
        2315  7450                SNA
        2316  7430                SZL              /RAL FAILED AC SHOULD EQUAL 0000
        2317  7402                HLT              /LINK SHOULD EQUAL A ZERO
                              /RAL TEST 15
        2320  7200                CLA
        2321  7100                CLL
        2322  1021                TAD K0001        /ROTATE PATTERN
        2323  7004                RAL
        2324  1053                TAD K7775
        2325  7040                CMA
        2326  7450                SNA
        2327  7430                SZL              /RAL FAILED AC SHOULD EQUAL 0000
        2330  7402                HLT              /LINK SHOULD EQUAL ZERO
                              /RAL TEST 16
        2331  7200                CLA
        2332  7100                CLL
        2333  7020                CML
        2334  7004                RAL
        2335  1052                TAD K7776
        2336  7040                CMA
        2337  7450                SNA
        2340  7430                SZL
        2341  7402                HLT              /RAL FAILED AC SHOULD EQUAL 0000
                                                   /LINK SHOULD EQUAL ZERO


                              /RTL TEST 1
        2342  7200                CLA
        2343  7100                CLL
        2344  1045                TAD K2000
        2345  7006                RTL
        2346  7420                SNL
        2347  7402                HLT              /RTL LINK DROPPED A BIT
                                                   /LINK SHOULD EQUAL A ONE
                              /RTL TEST 2
        2350  7200                CLA
```

```
          2351  7100              CLL
          2352  1020              TAD K0000              /ROTATE PATTERN
          2353  7006              RTL
          2354  7440              SZA
          2355  7402              HLT               /RTL AC PICKED UP A BIT
                                                    /A ONE IN AC EQUALS THE PICKED UP
                        /RTL TEST 3
          2356  7200              CLA
          2357  7100              CLL
          2360  1020              TAD K0000              /ROTATE PATTERN
          2361  7006              RTL
          2362  7430              SZL
          2363  7402              HLT               /RTL LINK PICKED UP A BIT
                                                    /LINK SHOULD EQUAL ZERO
                        /RTL TEST 4
          2364  7200              CLA
          2365  7100              CLL
          2366  7020              CML
          2367  1020              TAD K0000              /ROTATE PATTERN
          2370  7006              RTL
          2371  7430              SZL
          2372  7402              HLT               /RTL FAILURE. LINK PICKED UP A BIT
                                                    /LINK SHOULD EQUAL A ZERO


                        /RTL TEST 5
          2373  7200              CLA
          2374  7100              CLL
          2375  7020              CML
          2376  1067              TAD K7777              /ROTATE PATTERN
          2377  7006              RTL
          2400  7040              CMA
          2401  7440              SZA
          2402  7402              HLT               /RTL FAILURE. DROPPED A BIT
                        /RTL TEST 6
          2403  7200              CLA
          2404  7100              CLL
          2405  1050              TAD K4000              /ROTATE PATTERN
          2406  7006              RTL
          2407  1052              TAD K7776
          2410  7040              CMA
          2411  7450              SNA
          2412  7430              SZL
          2413  7402              HLT               /RTL FAILED AC AND LINK SHOULD EQUAL 0000
                        /RTL TEST 7
          2414  7200              CLA
          2415  7100              CLL
          2416  1045              TAD K2000              /ROTATE PATTERN
          2417  7006              RTL
          2420  7450              SNA
          2421  7420              SNL
          2422  7402              HLT               /RTL FAILED AC AND LINK SHOULD
                                                    /EQUAL 0000
                        /RTL TEST 8
          2423  7200              CLA
```

```
                  2424    7100              CLL
                  2425    1042              TAD K1000              /ROTATE PATTERN
                  2426    7006              RTL
                  2427    1066              TAD K3777
                  2430    7040              CMA
                  2431    7450              SNA
                  2432    7430              SZL
                  2433    7402              HLT           /RTL FAILED AC AND LINK SHOULD
                                                          /EQUAL 0000


                          /RTL TEST 9
                  2434    7200              CLA
                  2435    7100              CLL
                  2436    1040              TAD K0400              /ROTATE PATTERN
                  2437    7006              RTL
                  2440    1065              TAD K5777
                  2441    7040              CMA
                  2442    7450              SNA
                  2443    7430              SZL
                  2444    7402              HLT           /RTL FAILED AC AND LINK SHOULD
                                                          /EQUAL ZERO
                          /RTL TEST 10
                  2445    7200              CLA
                  2446    7100              CLL
                  2447    1036              TAD K0200              /ROTATE PATTERN
                  2450    7006              RTL
                  2451    1064              TAD K6777
                  2452    7040              CMA
                  2453    7450              SNA
                  2454    7430              SZL
                  2455    7402              HLT           /RTL FAILED AC AND LINK SHOULD
                                                          /EQUAL 0000
                          /RTL TEST 11
                  2456    7200              CLA
                  2457    7100              CLL
                  2460    1034              TAD K0100              /ROTATE PATTERN
                  2461    7006              RTL
                  2462    1063              TAD K7377
                  2463    7040              CMA
                  2464    7450              SNA
                  2465    7430              SZL
                  2466    7402              HLT           /RTL FAILED AC AND LINK SHOULD
                                                          /EQUAL 0000
                          /RTL TEST 12
                  2467    7200              CLA
                  2470    7100              CLL
                  2471    1032              TAD K0040              /ROTATE PATTERN
                  2472    7006              RTL
                  2473    1062              TAD K7577
                  2474    7040              CMA
                  2475    7450              SNA
                  2476    7430              SZL
                  2477    7402              HLT           /RTL FAILED AC AND LINK SHOULD
                                                          /EQUAL 0000
```

```
                    /RTL TEST 13
2500  7200          CLA
2501  7100          CLL
2502  1030          TAD K0020             /ROTATE PATTERN
2503  7006          RTL
2504  1061          TAD K7677
2505  7040          CMA
2506  7450          SNA
2507  7430          SZL
2510  7402          HLT                   /RTL FAILED AC AND LINK SHOULD
                                          /EQUAL 0000
                    /RTL TEST 14
2511  7200          CLA
2512  7100          CLL
2513  1026          TAD K0010             /ROTATE PATTERN
2514  7006          RTL
2515  1057          TAD K7737
2516  7040          CMA
2517  7450          SNA
2520  7430          SZL
2521  7402          HLT                   /RTL FAILED AC AND LINK SHOULD
                    /RTL TEST 15
2522  7200          CLA
2523  7100          CLL
2524  1024          TAD K0004             /ROTATE PATTERN
2525  7006          RTL
2526  1056          TAD K7757
2527  7040          CMA
2530  7450          SNA
2531  7430          SZL
2532  7402          HLT                   /RTL FAILED AC AND LINK SHOULD
                                          /EQUAL 0000
                    /RTL TEST 16
2533  7200          CLA
2534  7100          CLL
2535  1022          TAD K0002             /ROTATE PATTERN
2536  7006          RTL
2537  1055          TAD K7767
2540  7040          CMA
2541  7450          SNA
2542  7430          SZL
2543  7402          HLT                   /RTL FAILED AC AND LINK
                                          /SHOULD EQUAL 0000


                    /RTL TEST 17
2544  7200          CLA
2545  7100          CLL
2546  1021          TAD K0001             /ROTATE PATTERN
2547  7006          RTL
2550  1054          TAD K7773
2551  7040          CMA
2552  7450          SNA
```

```
          2553  7430          SZL
          2554  7402          HLT           /RTL FAILED AC AND LINK
                                            /SHOULD EQUAL 0000
                        /RTL TEST 18
          2555  7200          CLA
          2556  7100          CLL
          2557  7020          CML
          2560  7006          RTL
          2561  1053          TAD K7775
          2562  7040          CMA
          2563  7450          SNA
          2564  7430          SZL
          2565  7402          HLT           /RTL FAILED AC AND LINK
                                            /SHOULD EQUAL 0000


                        /BSW TEST 1
          2566  7200          CLA
          2567  7100          CLL
          2570  7040          CMA           /AC=7777
          2571  7002          BSW           /SWAP BYTES AC SHOULD EQUAL 7777
          2572  7040          CMA
          2573  7420          SNL           /DID LINK SET?
          2574  7440          SZA
          2575  7402          HLT           /BSW FAILED
                                            /AC AND LINK SHOULD=0000
                        /BSW TEST 2
          2576  7200          CLA
          2577  7100          CLL
          2600  7020          CML           /LINK=1
          2601  7002          BSW           /SWAP BYTES AC SHOULD EQUAL 0000
          2602  7450          SNA
          2603  7420          SNL
          2604  7402          HLT           /BSW CAUSED THE LINK
                                            /TO ROTATE
                        /BSW TEST 3
          2605  7200          CLA
          2606  7100          CLL
          2607  1113          TAD K7700      /AC=7700
          2610  7002          BSW           /SWAP BYTES AC SHOULD EQUAL 0077
          2611  1113          TAD K7700      /AC=7777
          2612  7040          CMA           /AC=0000
          2613  7420          SNL
          2614  7440          SZA
          2615  7402          HLT           /BSW FAILED AC AND LINK
                                            /SHOULD=0000
                        /BSW TEST 4
          2616  7200          CLA
          2617  7100          CLL
          2620  1106          TAD K0077      /AC=0077
          2621  7002          BSW           /SWAP BYTES AC SHOULD EQUAL 7700
          2622  1106          TAD K0077      /AC=7777
          2623  7040          CMA
          2624  7420          SNL
          2625  7440          SZA
```

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                  2626   7402            HLT                    /BSW FAILED AC AND LINK
                                                               /SHOULD=0000
                                  /BSW TEST 5
                  2627   7300            CLA CLL
                  2630   1116            TAD      K0770
                  2631   7002            BSW                    /SWAP BYTES AC SHOULD EQUAL 7007
                  2632   1116            TAD      K0770
                  2633   7040            CMA
                  2634   7420            SNL
                  2635   7440            SZA
                  2636   7402            HLT                    /BSW FAILED AC AND LINK
                                                               /SHOULD EQUAL 0000
                                  /BSW TEST 6
                  2637   7320            CLA CLL CML
                  2640   1117            TAD      K7007
                  2641   7002            BSW                    /SWAP BYTES AC SHOULD EQUAL 0770
                  2642   1117            TAD      K7007
                  2643   7040            CMA
                  2644   7430            SZL
                  2645   7440            SZA
                  2646   7402            HLT                    /BSW FAILED AC
                                                               /SHOULD EQUAL 0000 AND LINK=1
                                  /BSW TEST 7
                  2647   7200            CLA
                  2650   7100            CLL
                  2651   1114            TAD K5225              /AC=5225
                  2652   7002            BSW                    /SWAP BYTES AC SHOULD EQUAL 2552
                  2653   1114            TAD K5225              /AC=7777
                  2654   7040            CMA
                  2655   7420            SNL
                  2656   7440            SZA
                  2657   7402            HLT                    /BSW FAILED AC AND LINK
                                                               /SHOULD=0000
                                  /BSW TEST 8
                  2660   7200            CLA
                  2661   7100            CLL
                  2662   1115            TAD K2552              /AC=2552
                  2663   7002            BSW                    /SWAP BYTES AC SHOULD EQUAL 5225
                  2664   1115            TAD K2552              /AC=7777
                  2665   7040            CMA
                  2666   7420            SNL
                  2667   7440            SZA
                  2670   7402            HLT                    /BSW FAILED AC AND LINK
                                                               /SHOULD=0000


                                  /GROUP 1 OPERATE TEST 1
                  2671   7200            CLA           /CLEAR AC
                  2672   7100            CLL           /CLEAR LINK
                  2673   7040            CMA           /AC EQUALS 7777
                  2674   7020            CML           /LINK EQUALS ONE
                  2675   7300            CLA CLL       /TEST COMBINATION
                  2676   7420            SNL
                  2677   7440            SZA
                  2700   7402            HLT           /CLA CLL FAILED. LINK SHOULD BE 0
```

```
                                                        /AC SHOULD EQUAL 0000
                                /GROUP 1 OPERATE TEST 2
        2701   7200                     CLA             /AC EQUALS 0000
        2702   1071                     TAD K2525               /AC EQUALS 2525
        2703   7240                     CLA CMA         /TEST COMBINATION
        2704   7040                     CMA
        2705   7440                     SZA
        2706   7402                     HLT             /CLA CMA ERROR. AC SHOULD
                                                        /BE 0000
                                /GROUP 1 OPERATE TEST 3
        2707   7200                     CLA
        2710   7100                     CLL
        2711   7040                     CMA             /AC=7777 LINK=1
        2712   7140                     CLL CMA         /TEST COMBINATION
        2713   7420                     SNL
        2714   7440                     SZA
        2715   7402                     HLT             /CLL CMA FAILED. AC AND LINK
                                                        /SHOULD BE ZERO
                                /GROUP 1 OPERATE TEST 4
        2716   7100                     CLL
        2717   7020                     CML             /LINK=1
        2720   7200                     CLA
        2721   7040                     CMA             /AC=7777
        2722   7340                     CLA CMA CLL     /TEST COMBINATION
        2723   7040                     CMA
        2724   7420                     SNL
        2725   7440                     SZA
        2726   7402                     HLT             /CLA CMA CLL FAILED. AC AND
                                                        /LINK SHOULD BE ZERO


                                /GROUP 1 OPERATE TEST 5
        2727   7200                     CLA
        2730   7100                     CLL             /LINK=0
        2731   7040                     CMA             /AC=7777
        2732   7220                     CLA CML         /TEST COMBINATION
        2733   7430                     SZL
        2734   7440                     SZA
        2735   7402                     HLT             /CLA CML FAILED. AC SHOULD EQUAL
                                                        /0000. LINK SHOULD BE A ONE
                                /GROUP 1 OPERATE TEST 6
        2736   7100                     CLL
        2737   7020                     CML             /LINK=1
        2740   7120                     CLL CML         /TEST COMBINATION
        2741   7420                     SNL
        2742   7402                     HLT             /CLL CML FAILED
                                                        /LINK SHOULD BE A ONE
                                /GROUP 1 OPERATE TEST 7
        2743   7100                     CLL             /LINK=0
        2744   7120                     CLL CML         /TEST COMBINATION
        2745   7420                     SNL
        2746   7402                     HLT             /CLL CML FAILED.
                                                        /LINK SHOULD BE A ONE
                                /GROUP 1 OPERATE TEST 8
        2747   7120                     CLL CML         /LINK=1
```

```
          2750  7240              CLA CMA           /AC=7777
          2751  7320              CLA CLL CML       /TEST COMBINATION
          2752  7430              SZL
          2753  7440              SZA
          2754  7402              HLT               /CLA CLL CML FAILED. LINK SHOULD
                                                    /BE 1, AC SHOULD BE ZERO
                         /GROUP 1 OPERATE TEST 9
          2755  7340              CLA CLL CMA       /LINK=0, AC=7777
          2756  7320              CLA CLL CML       /TEST COMBINATION
          2757  7430              SZL
          2760  7440              SZA
          2761  7402              HLT               /CLA CLL CML FAILED. LINK  SHOULD
                                                    /BE 1, AC SHOULD BE ZERO


                         /GROUP 1 OPERATE TEST 10
          2762  7340              CLA CLL CMA       /AC=7777, LINK=0
          2763  7060              CMA CML           /TEST COMBINATION
          2764  7430              SZL
          2765  7440              SZA
          2766  7402              HLT               /CMA CML FAILED. AC SHOULD BE
                                                    /0000 LINK SHOULD EQUAL ONE.
                         /GROUP 1 OPERATE TEST 11
          2767  7300              CLA CLL           /AC AND LINK=0
          2770  1071              TAD K2525                   /AC=2525
          2771  7340              CLA CMA CLL       /TEST COMBINATION
          2772  7040              CMA
          2773  7420              SNL
          2774  7440              SZA
          2775  7402              HLT               /CLA CMA CML FAILED. AC SHOULD BE
                                                    /0000, LINK SHOULD EQUAL ZERO
                         /GROUP 1 OPERATE TEST 12
          2776  7300              CLL CLA           /AC AND LINK=0
          2777  1071              TAD K2525                   /AC=2525
          3000  7160              CLL CMA CML       /TEST COMBINATION
          3001  1071              TAD K2525
          3002  7040              CMA
          3003  7430              SZL
          3004  7440              SZA
          3005  7402              HLT               /CLL CMA CML FAILED. AC SHOULD BE
                                                    /0000. LINK SHOULD EQUAL ONE
                         /GROUP 1 OPERATE TEST 13
          3006  7300              CLA CLL
          3007  7020              CML               /AC=0000, LINK=1
          3010  7160              CLL CMA CML       /TEST COMBINATION
          3011  7040              CMA
          3012  7430              SZL
          3013  7440              SZA
          3014  7402              HLT               /CLL CMA CML FAILED. AC SHOULD
                                                    /BE 0000, LINK SHOULD BE ONE


                         /GROUP 1 OPERATE TEST 14
          3015  7300              CLA CLL
          3016  1071              TAD K2525                   /AC=2525, LINK=0
```

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        3017  7360              CLA CLL CMA CML /TEST COMBINATION
        3020  7040              CMA
        3021  7430              SZL
        3022  7440              SZA
        3023  7402              HLT             /CLA CLL CMA CML FAILED. AC SHOULD
                                               /BE 0000 LINK SHOULD EQUAL ONE.
                       /GROUP 1 OPERATE TEST 15
        3024  7320              CLA CLL CML
        3025  1070              TAD K5252               /AC=5252, LINK=1
        3026  7360              CLA CLL CMA CML /TEST COMBINATION
        3027  7040              CMA
        3030  7430              SZL
        3031  7440              SZA
        3032  7402              HLT             /CLA CLL CMA CML FAILED. AC SHOULD
                                               /BE 000, LINK SHOULD EQUAL ONE
                       /GROUP 1 OPERATE TEST 16
        3033  7200              CLA
        3034  1071              TAD K2525               /AC=2525
        3035  7201              CLA IAC         /TEST COMBINATION
        3036  1052              TAD K7776
        3037  7040              CMA
        3040  7440              SZA
        3041  7402              HLT             /CLA IAC FAILED
                                               /AC SHOULD EQUAL 0000
                       /GROUP 1 OPERATE TEST 17
        3042  7320              CLL CML CLA
        3043  1052              TAD K7776               /AC=7776, LINK=1
        3044  7101              CLL IAC         /TEST COMBINATION
        3045  7040              CMA
        3046  7420              SNL
        3047  7440              SZA
        3050  7402              HLT             /CLL IAC FAILED. AC AND LINK
                                               /SHOULD EQUAL ZERO


                       /GROUP 1 OPERATE TEST 18
        3051  7320              CLA CLL CML
        3052  1071              TAD K2525               /AC=2525 LINK=1
        3053  7301              CLA CLL IAC     /TEST COMBINATION
        3054  1052              TAD K7776
        3055  7040              CMA
        3056  7420              SNL
        3057  7440              SZA
        3060  7402              HLT             /CLA CLL IAC FAILED. AC AND LINK
                                               /SHOULD BE ZERO
                       /GROUP 1 OPERATE TEST 19
        3061  7300              CLA CLL         /AC=0 LINK=0
        3062  7041              CMA IAC         /TEST COMBINATION
        3063  7430              SZL
        3064  7440              SZA
        3065  7402              HLT             /CMA IAC FAILED. AC SHOULD EQUAL
                                               /0000. LINK SHOULD EQUAL ONE
                       /GROUP 1 OPERATE TEST 20
        3066  7300              CLA CLL
        3067  1071              TAD K2525                       /AC=2525 LINK=0
```

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                3070   7241          CLA CMA IAC       /TEST COMBINATION
                3071   7430          SZL
                3072   7440          SZA
                3073   7402          HLT               /CLA CMA IAC FAILED. AC SHOULD
                                                       /EQUAL 0000. LINK SHOULD BE ONE.
                       /GROUP 1 OPERATE TEST 21
                3074   7320          CLL CLA CML       /AC=0000 LINK=1
                3075   1021          TAD K0001                  /AC=0001
                3076   7141          CLL CMA IAC       /TEST COMBINATION
                3077   7040          CMA
                3100   7420          SNL
                3101   7440          SZA
                3102   7402          HLT               /CLL CMA IAC FAILED. AC SHOULD BE
                                                       /0000 LINK SHOULD BE 0
                       /GROUP 1 OPERATE TEST 22
                3103   7320          CLA CLL CML
                3104   1071          TAD K2525                  /AC=2525 LINK=1
                3105   7341          CLA CLL CMA IAC  /TEST COMBINATION
                3106   7430          SZL
                3107   7440          SZA
                3110   7402          HLT               /CLA CLL CMA IAC FAILED. AC SHOULD BE
                                                       /0000. LINK SHOULD BE ONE


                       /GROUP 1 OPERATE TEST 23
                3111   7300          CLA CLL
                3112   1070          TAD K5252                  /AC=5252 LINK=0
                3113   7341          CLA CLL CMA IAC  /TEST COMBINATION
                3114   7430          SZL
                3115   7440          SZA
                3116   7402          HLT               /CLA CLL CMA IAC FAILED AC SHOULD
                                                       /BE 0000. LINK SHOULD BE ONE
                       /GROUP 1 OPERATE TEST 24
                3117   7300          CLA CLL
                3120   1052          TAD K7776                  /AC=7776 LINK=0
                3121   7021          CML IAC           /TEST COMBINATION
                3122   7040          CMA
                3123   7430          SZL
                3124   7440          SZA
                3125   7402          HLT               /CML IAC FAILED AC SHOULD BE
                                                       /0000. LINK SHOULD BE ONE
                       /GROUP 1 OPERATE TEST 25
                3126   7320          CLA CLL CML
                3127   1052          TAD K7776                  /AC =7776 LINK=1
                3130   7021          CML IAC           /TEST COMBINATION
                3131   7040          CMA
                3132   7420          SNL
                3133   7440          SZA
                3134   7402          HLT               /CML IAC FAILED. AC SHOULD BE
                                                       /0000. LINK SHOULD BE ZERO
                       /GROUP 1 OPERATE TEST 26
                3135   7300          CLA CLL
                3136   1071          TAD K2525                  /AC=2525 LINK=0
                3137   7221          CLA CML IAC       /TEST COMBINATION
                3140   1052          TAD K7776
```

```
3141   7040           CMA
3142   7430           SZL
3143   7440           SZA
3144   7402           HLT           /CLA CML IAC FAILED. AC SHOULD BE
                                    /0000. LINK SHOULD EQUAL ONE
              /GROUP 1 OPERATE TEST 27
3145   7520           CLA CLL CML       /AC=0000 LINK=1
3146   1052           TAD K7776              /AC=7776
3147   7121           CLL CML IAC       /TEST COMBINATION
3150   7040           CMA
3151   7430           SZL
3152   7440           SZA
3153   7402           HLT           /CLL CML IAC FAILURE. AC SHOULD BE
                                    /0000. LINK SHOULD EQUAL ONE.


              /GROUP 1 OPERATE TEST 28
3154   7300           CLA CLL
3155   1052           TAD K7776              /AC=7776 LINK=0
3156   7121           CLL CML IAC       /TEST COMBINATION
3157   7040           CMA
3160   7430           SZL
3161   7440           SZA
3162   7402           HLT           /CLL CML IAC FAILED. AC SHOULD
                                    /BE 0000. LINK SHOULD BE ONE
              /GROUP 1 OPERATE TEST 29
3163   7300           CLA CLL
3164   1071           TAD K2525              /AC=2525. LINK=0
3165   7321           CLA CLL CML IAC /TEST COMBINATION
3166   1052           TAD K7776
3167   7040           CMA
3170   7430           SZL
3171   7440           SZA
3172   7402           HLT           /CLA CLL CML IAC FAILED. AC SHOULD
                                    /BE 0000. LINK SHOULD BE ONE
              /GROUP 1 OPERATE TEST 30
3173   7320           CLA CLL CML
3174   1071           TAD K2525              /AC=2525 LINK=1
3175   7321           CLA CLL CML IAC /TEST COMBINATION
3176   1052           TAD K7776
3177   7040           CMA
3200   7430           SZL
3201   7440           SZA
3202   7402           HLT           /CLA CLL CML IAC FAILED. AC SHOULD
                                    /BE 0000. LINK SHOULD BE ONE


              /GROUP 1 OPERATE TEST 31
3203   7300           CLA CLL
3204   1021           TAD K0001              /AC=0001 LINK=0
3205   7061           CMA CML IAC       /TEST COMBINATION
3206   7040           CMA
3207   7430           SZL
3210   7440           SZA
3211   7402           HLT           /CMA CML IAC FAILED. AC SHOULD
```

```
                                               /BE 0000. LINK SHOULD BE ONE
                          /GROUP 1 OPERATE TEST 32
        3212  7320               CLA CLL CML
        3213  1021               TAD K0001                /AC=0001 LINK=1
        3214  7061               CMA CML IAC      /TEST COMBINATION
        3215  7040               CMA
        3216  7420               SNL
        3217  7440               SZA
        3220  7402               HLT                      /CMA CML IAC FAILURE. AC SHOULD BE
                                                          /0000. LINK SHOULD BE ZERO
                          /GROUP 1 OPERATE TEST 33
        3221  7300               CLA CLL          /AC=0000 LINK=0
        3222  1071               TAD K2525                   /AC=2525
        3223  7261               CLA CMA CML IAC  /TEST COMBINATION
        3224  7420               SNL
        3225  7430               SZL
        3226  7402               HLT                      /CLA CMA CML IAC FAILED. AC SHOULD
                                                          /BE 0000. LINK SHOULD BE ZERO
                          /GROUP 1 OPERATE TEST 34
        3227  7320               CLA CLL CML
        3230  1071               TAD K2525                   /AC=2525 LINK=1
        3231  7261               CLA CMA CML IAC  /TEST COMBINATION
        3232  7430               SZL
        3233  7440               SZA
        3234  7402               HLT                      /CLA CMA CML IAC FAILED. AC SHOULD
                                                          /BE 0000. LINK SHOULD BE ONE


                          /GROUP 1 OPERATE TEST 35
        3235  7300               CLA CLL
        3236  1021               TAD K0001                /AC=0001 LINK=0
        3237  7161               CLL CMA CML IAC  /TEST COMBINATION
        3240  7040               CMA
        3241  7430               SZL
        3242  7440               SZA
        3243  7402               HLT                      /CLL CMA CML IAC FAILED. AC SHOULD BE
                                                          /0000. LINK SHOULD BE ONE
                          /GROUP 1 OPERATE TEST 36
        3244  7320               CLA CLL CML
        3245  1021               TAD K0001                /AC=0001 LINK=1
        3246  7161               CLL CMA CML IAC  /TEST COMBINATION
        3247  7040               CMA
        3250  7430               SZL
        3251  7440               SZA
        3252  7402               HLT                      /CLL CMA CML IAC FAILED. AC SHOULD BE
                                                          /0000. LINK SHOULD BE ONE
                          /GROUP 1  OPERATE TEST 37
        3253  7300               CLA CLL
        3254  1071               TAD K2525                   /AC=2525 LINK=0
        3255  7361               CLA CLL CMA CML IAC      /TEST COMBINATION
        3256  7420               SNL
        3257  7440               SZA
        3260  7402               HLT                      /CLA CLL CMA CML IAC FAILURE AC AND
                                                          /LINK SHOULD EQUAL ZERO
                          /GROUP 1 OPERATE TEST 38
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3261  7360              CLA CMA CLL CML /AC=7777 LINK=1
3262  7210              CLA RAR         /TEST COMBINATION
3263  1066              TAD K3777
3264  7040              CMA
3265  7420              SNL
3266  7440              SZA
3267  7402              HLT             /CLA RAR FAILED, LINK AND
                                        /AC SHOULD EQUAL ZERO


            /GROUP 1 OPERATE TEST 39
3270  7360              CLA CMA CLL CML /AC=7777 LINK=1
3271  7204              CLA RAL         /TEST COMBINATION
3272  1052              TAD K7776
3273  7040              CMA
3274  7420              SNL
3275  7440              SZA
3276  7402              HLT             /CLA RAL FAILED LINK AND
                                        /AC SHOULD EQUAL ZERO
            /GROUP 1 OPERATE TEST 40
3277  7360              CLA CMA CLL CML /AC=7777 LINK =1
3300  7212              CLA RTR         /TEST COMBINATION
3301  1065              TAD K5777
3302  7040              CMA
3303  7420              SNL
3304  7440              SZA
3305  7402              HLT             /CLA RTR FAILED, AC AND
                                        /LINK SHOULD BE ZERO
            /GROUP 1 OPERATE TEST 41
3306  7360              CLA CMA CLL CML /AC-7777, LINK=1
3307  7206              CLA RTL         /TEST COMBINATION
3310  1053              TAD K7775
3311  7040              CMA
3312  7420              SNL
3313  7440              SZA
3314  7402              HLT             /CLA RTL FAILED, AC AND LINK
                                        /SHOULDBE ZERO
            /GROUP 1 OPERATE TEST 42
3315  7320              CLA CLL CML
3316  1032              TAD K0040               /AC=0040 LINK=1
3317  7110              CLL RAR         /TEST COMBINATION
3320  1056              TAD K7757
3321  7040              CMA
3322  7420              SNL
3323  7440              SZA
3324  7402              HLT             /CLL RAR FAILED, AC AND LINK
                                        /SHOULD BE ZERO


            /GROUP 1 OPERATE TEST 43
3325  7320              CLA CLL CML
3326  1032              TAD K0040               /AC=0040 LINK=1
3327  7104              CLL RAL         /TEST COMBINATION
3330  1061              TAD K7677
3331  7040              CMA
```

```
3332  7420           SNL
3333  7440           SZA
3334  7402           HLT                    /CLL RAL FAILED. AC AND LINK
                                            /SHOULD BE ZERO
              /GROUP 1 OPERATE TEST 44
3335  7320           CLA CLL CML
3336  1032           TAD K0040                  /AC=0040 LINK=1
3337  7112           CLL RTR        /TEST COMBINATION
3340  1055           TAD K7767
3341  7040           CMA
3342  7420           SNL
3343  7440           SZA
3344  7402           HLT                    /CLL RTR FAILED. AC AND LINK
                                            /SHOULD BE ZERO
              /GROUP 1 OPERATE  TEST 45
3345  7320           CLA CLL CML
3346  1032           TAD K0040                  /AC=0040 LINK=1
3347  7106           CLL RTL        /TEST COMBINATION
3350  1062           TAD K7577
3351  7040           CMA
3352  7420           SNL
3353  7440           SZA
3354  7402           HLT                    /CLL RTL FAILED. AC AND LINK
                                            /SHOULD BE ZERO
              /GROUP 1 OPERATE TEST 46
3355  7360           CLA CLL CML CMA /AC=7777 LINK=1
3356  7310           CLL CLA RAR    /TEST COMBINATION
3357  7420           SNL
3360  7440           SZA
3361  7402           HLT                    /CLL CLA RAR FAILED AC AND
                                            /LINK SHOULD BE ZERO


              /GROUP 1 OPERATE TEST 47
3362  7360           CLA CMA CLL CML /AC=7777 LINK=1
3363  7304           CLL CLA RAL    /TEST COMBINATION
3364  7420           SNL
3365  7430           SZL
3366  7402           HLT                    /CLL CLA  RAL FAILED. AC AND
                                            /LINK SHOULD BE ZERO
              /GROUP 1 OPERATE TEST 48
3367  7360           CLA CMA CLL CML /AC=7777 LINK=1
3370  7312           CLA CLL RTR    /TEST COMBINATION
3371  7420           SNL
3372  7440           SZA
3373  7402           HLT                    /CLA CLL RTL FAILED. AC AND
                                            /LINK SHOULD BE ZERO
              /GROUP 1 OPERATE TEST 49
3374  7360           CLA CMA CLL CML /AC=7777 LINK=1
3375  7306           CLA CLL RTL    /TEST COMBINATION
3376  7420           SNL
3377  7440           SZA
3400  7402           HLT                    /CLA CLL RTL FAILED. AC AND
                                            /LINK SHOULD EQUAL ZERO
              /GROUP 1 OPERATE TEST 50
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```
              3401  7300           CLA CLL        /AC=0000 LINK=0
              3402  7030           CML RAR        /TEST COMBINATION
              3403  1066           TAD K3777
              3404  7040           CMA
              3405  7420           SNL
              3406  7440           SZA
              3407  7402           HLT            /CML RAR FAILED. AC AND LINK
                                                  /SHOULD BE ZERO


              /GROUP 1 OPERATE TEST 51
              3410  7300           CLA CLL        /AC=0000 LINK =0
              3411  7024           CML RAL        /TEST COMBINATION
              3412  1052           TAD K7776
              3413  7040           CMA
              3414  7420           SNL
              3415  7440           SZA
              3416  7402           HLT            /CML RAL FAILED. AC AND LINK
                                                  /SHOULD BE ZERO.
              /GROUP 1 OPERATE TEST 52
              3417  7300           CLA CLL        /AC=0000 LINK=0
              3420  7032           CML RTR        /TEST COMBINATION
              3421  1065           TAD K5777
              3422  7040           CMA
              3423  7420           SNL
              3424  7440           SZA
              3425  7402           HLT            /CML RTR FAILED. AC AND LINK
                                                  /SHOULD EQUAL ZERO
              /GROUP 1 OPERATE TEST 53
              3426  7300           CLA CLL        /AC=0000 LINK=0
              3427  7026           CML RTL        /TEST COMBINATION
              3430  1053           TAD K7775
              3431  7040           CMA
              3432  7420           SNL
              3433  7440           SZA
              3434  7402           HLT            /CML RTL FAILED. AC AND LINK
                                                  /SHOULD EQUAL ZERO
              /GROUP 1 OPERATE TEST 54
              3435  7300           CLA CLL
              3436  1070           TAD K5252                /AC=5252 LINK=0
              3437  7230           CLA CML RAR    /TEST COMBINATION
              3440  1066           TAD K3777
              3441  7040           CMA
              3442  7420           SNL
              3443  7440           SZA
              3444  7402           HLT            /CLA CML RAR FAILED. AC AND
              PAUSE


              /INSTRUCTION TEST - 1
              /GROUP 1 OPERATE TEST 55
              /TAPE 3
              3445  7300           CLA CLL
              3446  1070           TAD K5252                /AC=5252 LINK=0
              3447  7224           CLA CML RAL    /TEST COMBINATION
```

```
        3450  1052              TAD K7776
        3451  7040              CMA
        3452  7420              SNL
        3453  7440              SZA
        3454  7402              HLT                 /CLA CML RAL FALED. AC AND
                                                    /LINK SHOULD BE ZERO
                        /GROUP 1 OPERATE TEST 56
        3455  7300              CLA CLL
        3456  1070              TAD K5252                      /AC=5252 LINK=0
        3457  7232              CLA CML RTR         /TEST COMBINATION
        3460  1065              TAD K5777
        3461  7040              CMA
        3462  7420              SNL
        3463  7440              SZA
        3464  7402              HLT                 /CLA CML RTR FAILED. AC AND
                                                    /LINK SHOULD BE ZERO
                        /GROUP 1 OPERATE TEST 57
        3465  7300              CLA CLL
        3466  1070              TAD K5252                      /AC=5252 LINK=0
        3467  7226              CLA CML RTL         /TEST COMBINATION
        3470  1053              TAD K7775
        3471  7040              CMA
        3472  7420              SNL
        3473  7440              SZA
        3474  7402              HLT                 /CLA CML RTL FAILED, AC AND
                                                    /LINK SHOULD EQUAL ZERO
                        /GROUP 1 OPERATE TEST 58
        3475  7300              CLA CLL             /AC=0000 LINK=0
        3476  7130              CLL CML RAR         /TEST COMBINATION
        3477  7004              RAL
        3500  7430              SZL
        3501  7440              SZA
        3502  7402              HLT                 /CLL CML RAR FAILED. AC SHOULD
                                                    /BE 0000 LINK SHOULD BE 1


                        /GROUP 1 OPERATE TEST 59
        3503  7320              CLA CLL CML         /AC=0000 LINK=1
        3504  7130              CLL CML RAR         /TEST COMBINATION
        3505  7004              RAL
        3506  7430              SZL
        3507  7440              SZA
        3510  7402              HLT                 /CLL CML RAR FAILED. AC SHOULD BE
                                                    /0000. LINK SHOULD BE A ONE
                        /GROUP 1 OPERATE TEST 60
        3511  7300              CLA CLL             /AC=0000 LINK=0
        3512  7124              CLL CML RAL         /TEST COMBINATION
        3513  7010              RAR
        3514  7430              SZL
        3515  7440              SZA
        3516  7402              HLT                 /CLL CML RAL FAILED. AC SHOULD
                                                    /EQUAL 0000. LINK SHOULD BE ONE
                        /GROUP 1 OPERATE TEST 61
        3517  7320              CLA CLL CML         /AC=0000 LINK=1
        3520  7124              CLL CML RAL         /TEST COMBINATION
```

```
          3521   7010              RAR
          3522   7430              SZL
          3523   7440              SZA
          3524   7402              HLT              /CLL CML RAL FAILED. AC SHOULD
                                                    /EQUAL 0000, LINK SHOULD BE ONE
                          /GROUP 1 OPERATE TEST 62
          3525   7300              CLA CLL          /AC=0000 LINK=0
          3526   7132              CLL CML RTR      /TEST COMBINATION
          3527   7006              RTL
          3530   7430              SZL
          3531   7440              SZA
          3532   7402              HLT              /CLL CML RTR FAILED. AC SHOULD
                                                    /BE 0000, LINK SHOULD BE ONE


                          /GROUP 1 OPERATE TEST 63
          3533   7320              CLA CLL CML      /AC=0000 LINK=1
          3534   7132              CLL CML RTR      /TEST COMBINATION
          3535   7006              RTL
          3536   7430              SZL
          3537   7440              SZA
          3540   7402              HLT              /CLL CML RTR FAILED. AC SHOULD
                                                    /BE 0000 LINK SHOULD BE ONE.
                          /GROUP 1 OPERATE TEST 64
          3541   7300              CLA CLL          /AC=0000 LINK=0
          3542   7126              CLL CML RTL      /TEST COMBINATION
          3543   7012              RTR
          3544   7430              SZL
          3545   7440              SZA
          3546   7402              HLT              /CLL CML RTL FAILED. AC SHOULD
                                                    /BE 0000, LINK SHOULD BE A ONE
                          /GROUP 1 OPERATE TEST 65
          3547   7320              CLA CLL CML      /AC=0000 LINK=1
          3550   7126              CLL CML RTL      /TEST COMBINATION
          3551   7012              RTR
          3552   7430              SZL
          3553   7440              SZA
          3554   7402              HLT              /CLL CML RTL FAILED. AC SHOULD
                                                    /BE 0000. LINK SHOULD BE A ONE.
                          /GROUP 1 OPERATE TEST 66
          3555   7300              CLA CLL
          3556   1070              TAD K5252                    /AC=5252 LINK=0
          3557   7330              CLA CLL CML RAR  /TEST COMBINATION
          3560   7004              RAL
          3561   7430              SZL
          3562   7440              SZA
          3563   7402              HLT              /CLA CLL CML RAR FAILED. AC SHOULD
                                                    /BE 0000, LINK SHOULD BE ONE
                          /GROUP 1 OPERATE TEST 67
          3564   7320              CLA CLL CML
          3565   1071              TAD K2525                    /AC=2525 LINK=1
          3566   7330              CLA CLL CML RAR  /TEST COMBINATION
          3567   7004              RAL
          3570   7430              SZL
          3571   7440              SZA
```

```
        3572  7402           HLT              /CLA CLL CML RAR FAILED. AC SHOULD
                                             /BE 0000, LINK SHOULD BE ONE


                        /GROUP 1 OPERATE TEST 68
        3573  7300           CLA CLL
        3574  1071           TAD K2525              /AC=2525 LINK=0
        3575  7324           CLA CLL CML RAL /TEST COMBINATION
        3576  7010           RAR
        3577  7430           SZL
        3600  7440           SZA
        3601  7402           HLT              /CLA CLL CML RAL FAILED. AC SHOULD
                                             /BE 0000, LINK SHOULD BE ONE
                        /GROUP 1 OPERATE TEST 69
        3602  7320           CLA CLL CML
        3603  1070           TAD K5252              /AC=5252 LINK=1
        3604  7324           CLA CLL CML RAL /TEST COMBINATION
        3605  7010           RAR
        3606  7430           SZL
        3607  7440           SZA
        3610  7402           HLT              /CLA CLL CML RAL FAILED. AC SHOULD
                                             /BE 0000 LINK SHOULD BE A ONE
                        /GROUP 1 OPERATE TEST 70
        3611  7300           CLA CLL
        3612  1071           TAD K2525              /AC=2525 LINK=0
        3613  7332           CLA CLL CML RTR /TEST COMBINATION
        3614  7006           RTL
        3615  7430           SZL
        3616  7440           SZA
        3617  7402           HLT              /CLA CLL CML RTR FAILED. AC SHOULD
                                             /BE 0000, LINK SHOULD BE A ONE


                        /GROUP 1 OPERATE TEST 71
        3620  7320           CLA CLL CML
        3621  1070           TAD K5252              /AC=5252 LINK=1
        3622  7332           CLA CLL CML RTR /TEST COMBINATION
        3623  7006           RTL
        3624  7430           SZL
        3625  7440           SZA
        3626  7402           HLT              /CLA CLL CML RTR FAILED. AC SHOULD
                                             /BE 0000, LINK SHOULD BE A ONE
                        /GROUP 1 OPERATE TEST 72
        3627  7300           CLL CLA
        3630  1071           TAD K2525              /AC=2525 LINK=0
        3631  7326           CLA CLL CML RTL /TEST COMBINATION
        3632  7012           RTR
        3633  7430           SZL
        3634  7440           SZA
        3635  7402           HLT              /CLA CLL CML RTL FAILED. AC SHOULD
                                             /BE 0000, LINK SHOULD BE A ZERO
                        /GROUP 1 OPERATE TEST 73
        3636  7320           CLL CLA CML
        3637  1070           TAD K5252              /AC=5252 LINK=1
        3640  7326           CLA CLL CML RTL /TEST COMBINATION
```

```
3641  7012              RTR
3642  7430              SZL
3643  7440              SZA
3644  7402              HLT              /CLA CLL CML RTL FAILED. AC SHOULD
                                        /BE 0000, LINK SHOULD BE A ONE
                /GROUP 1 OPERATE TEST 74
3645  7300              CLA CLL
3646  1067              TAD K7777                /TEST PATTERN
3647  7041              CIA              /AC EQUALS 0001
3650  1052              TAD K7776
3651  7040              CMA
3652  7420              SNL
3653  7440              SZA              /CIA FAILED AC SHOULD EQUAL 0000
3654  7402              HLT              /LINK SHOULD EQUAL A ZERO
                /GROUP 1 OPERATE TEST 75
3655  7300              CLA CLL
3656  1052              TAD K7776                /TEST PATTERN
3657  7041              CIA              /AC EQUALS 0002
3660  1053              TAD K7775
3661  7040              CMA
3662  7420              SNL
3663  7440              SZA              /CIA FAILED AC SHOULD EQUAL 0000
3664  7402              HLT              /LINK SHOULD EQUAL A ZERO


                /GROUP 1 OPERATE TEST 76
3665  7300              CLA CLL
3666  1101              TAD K7774                /TEST PATTERN
3667  7041              CIA              /AC EQUALS 0004
3670  1054              TAD K7773
3671  7040              CMA
3672  7420              SNL
3673  7440              SZA              /CIA FAILED AC SHOULD EQUAL 0000
3674  7402              HLT              /LINK SHOULD EQUAL ZERO
                /GROUP 1 OPERATE TEST 77
3675  7300              CLA CLL
3676  1100              TAD K7770                /TEST PATTERN
3677  7041              CIA              /AC EQUALS 0010
3700  1055              TAD K7767
3701  7040              CMA
3702  7420              SNL
3703  7440              SZA
3704  7402              HLT              /CIA FAILED AC SHOULD EQUAL 0000
                /GROUP 1 OPERATE TEST 78
3705  7300              CLA CLL
3706  1077              TAD K7760                /TEST PATTERN
3707  7041              CIA              /AC EQUALS 0020
3710  1056              TAD K7757
3711  7040              CMA
3712  7420              SNL
3713  7440              SZA
3714  7402              HLT              /CIA FAILED AC SHOULD EQUAL 0000
                                        /LINK SHOULD EQUAL ZERO
                /GROUP 1 OPERATE TEST 79
3715  7300              CLA CLL
```

```
            3716  1076           TAD K7740              /TEST PATTERN
            3717  7041           CIA
            3720  1057           TAD K7737              /AC EQUALS 0040
            3721  7040           CMA
            3722  7420           SNL
            3723  7440           SZA
            3724  7402           HLT             /CIA FAILED AC SHOULD EQUAL 0000
                                                /LINK SHOULD EQUAL ZERO


                          /GROUP 1 OPERATE TEST 80
            3725  7300           CLA CLL
            3726  1113           TAD K7700                /TEST PATTERN
            3727  7041           CIA             /AC EQUALS 0100
            3730  1061           TAD K7677
            3731  7040           CMA
            3732  7420           SNL
            3733  7440           SZA
            3734  7402           HLT             /CIA FAILED A SHOULD EQUAL 0000
                                                /LINK SHOULD EQUAL ZERO
                          /GROUP 1 OPERATE TEST 81
            3735  7300           CLA CLL
            3736  1075           TAD K7600                /TEST PATTERN
            3737  7041           CIA             /AC EQUALS 0200
            3740  1062           TAD K7577
            3741  7040           CMA
            3742  7420           SNL
            3743  7440           SZA
            3744  7402           HLT             /CIA FAILED AC SHOULD EQUAL 0000
                                                /LINK SHOULD EQUAL ZERO
                          /GROUP 1 OPERATE TEST 82
            3745  7300           CLA CLL
            3746  1074           TAD K7400                /TEST PATTERN
            3747  7041           CIA             /AC EQUALS 0400
            3750  1063           TAD K7377
            3751  7040           CMA
            3752  7420           SNL
            3753  7440           SZA
            3754  7402           HLT             /CIA FAILED AC SHOULD EQUAL 0000
                                                /LINK SHOULD EQUAL ZERO


                          /GROUP 1 OPERATE TEST 83
            3755  7300           CLA CLL
            3756  1073           TAD K7000                /TEST PATTERN
            3757  7041           CIA             /AC EQUALS 1000
            3760  1064           TAD K6777
            3761  7040           CMA
            3762  7420           SNL
            3763  7440           SZA
            3764  7402           HLT             /CIA FAILED AC SHOULD EQUAL 0000
                                                /LINK SHOULD EQUAL ZERO
                          /GROUP 1 OPERATE TEST 84
            3765  7300           CLA CLL
            3766  1072           TAD K6000                /TEST PATTERN
```

```
3767  7041              CIA              /AC EQUALS 2000
3770  1065              TAD K5777
3771  7040              CMA
3772  7420              SNL
3773  7440              SZA
3774  7402              HLT              /CIA FAILED AC SHOULD EQUAL 0000
                                         /LINK SHOULD EQUAL ZERO
                /GROUP 1 OPERATE TEST 85
3775  7300              CLA CLL
3776  1050              TAD K4000                 /TEST PATTERN
3777  7041              CIA              /AC EQUALS 4000
4000  1066              TAD K3777
4001  7040              CMA
4002  7420              SNL
4003  7440              SZA
4004  7402              HLT              /CIA FALED AC SHOULD EQUUA 000
                                         /LINK SHOULD EQUALL ZERO
                /GROUP 1 OPERATE TEST 86
4005  7300              CLA CLL
4006  1020              TAD K0000                 /TEST PATTERN
4007  7041              CIA              /AC EQUALS 0000, LINK EQUALS A ONE
4010  7450              SNA
4011  7420              SNL
4012  7402              HLT              /CIA FAILED AC SHOULD EQUAL 0000
                                         /LINK SHOULD EQUAL A ONE


                /GROUP OPERATE TEST 87
4013  7340              CLA CMA CLL      /AC=7777,L=0
4014  7311              CLA CLL IAC RAR  /AC=0,L=1
4015  7430              SZL
4016  7440              SZA
4017  7402              HLT              /ERROR; LINC NOT SET OR
                                         /AC NOT 0

                /GROUP 1 OPERATE TEST 88
4020  7360              CLA CMA CLL CML  /AC=7777,L=1
4021  7305              CLA CLL IAC RAL  /AC=2,L=0
4022  7430              SZL
4023  7402              HLT              /ERROR; LINC NOT 0
4024  7041              CMA IAC
4025  1022              TAD K0002
4026  7440              SZA
4027  7402              HLT              /ERROR AC NOT=2

                /GROUP 1 OPERATE TEST 89
4030  7320              CLA CLL CML      /AC=0,L=1
4031  7313              CLA CLL IAC RTR  /AC=4000,L=0
4032  7430              SZL
4033  7402              HLT              /ERROR; LINC NOT 0
4034  7500              SMA
4035  7402              HLT              /ERROR; AC NOT 4000

                /GROUP 1 OPERATE TEST 90
4036  7360              CLA CMA CLL CML            /AC=7777,L=1
```

```
      4037  7307              CLA CLL IAC RTL          /AC=4,LINC=0
      4040  7430              SZL
      4041  7402              HLT             /ERROR; LINC NOT 0
      4042  7041              CMA IAC
      4043  1024              TAD K0004
      4044  7440              SZA
      4045  7402              HLT             /ERROR; AC NOT 4

                  /GROUP 1 OPERATE TEST 91
      4046  7300              CLA CLL         /AC=0, L=0
      4047  7331              CLA CLL CML IAC RAR      /AC=4000, L=1
      4050  7520              SMA SNL
      4051  7402              HLT             /ERROR; AC NOT 4000 OR
                                             /LINC NOT 1


                  /GROUP 1 OPERATE TEST 92
      4052  7300              CLA CLL         /AC=0,L=0
      4053  7345              CLA CMA CLL IAC RAL      /AC=0001,L=0
      4054  7430              SZL
      4055  7402              HLT             /LINC NOT=0
      4056  7041              CMA IAC
      4057  1021              TAD K0001
      4060  7440              SZA
      4061  7402              HLT             /AC NOT 0001

                  /GROUP 1 OPERATE TEST 93
      4062  7360              CLA CMA CLL CML         /AC=7777,L=1
      4063  7373              CLA CMA CLL CML IAC RTR /AC=0,L=0
      4064  7440              SZA
      4065  7402              HLT             /ERROR;
      4066  7430              SZL
      4067  7402              HLT             /ERROR;

                  /GROUP 1 OPERATE TEST 94
      4070  7332              CLA CLL CML RTR         /L=0 AC=2000
      4071  7006              RTL                     /L=1 AC=0000
      4072  7430              SZL
      4073  7440              SZA
      4074  7402              HLT                     /CLA CLL CML RTR OR RTL FAILED

                  /GROUP 1 OPERATE TEST 95
      4075  7360              CLA CMA CLL CML
      4076  7342              CLA CLL CMA BSW/AC=7777 LINK=0
      4077  7040              CMA
      4100  7420              SNL
      4101  7440              SZA
      4102  7402              HLT             /7742 FAILED

                  /GROUP 1 OPERATE TEST 96
      4103  7360              CLA CMA CLL CML
      4104  7303              CLA CLL IAC BSW /AC=0100 LINK=0
      4105  1061              TAD     K7677   /AC=7777
      4106  7040              CMA             /AC=0000
```

```
              4107   7420            SNL
              4110   7440            SZA
              4111   7402            HLT              /7703 FAILED

                     /GROUP 1 OPERATE TEST 97
              4112   7360            CLA CMA CLL CML
              4113   7343            CLA CLL CMA IAC BSW      /AC=0000 LINK=1
              4114   7430            SZL
              4115   7440            SZA
              4116   7402            HLT              /7743 FAILED

                     /GROUP 1 OPERATE TEST 98
              4117   7360            CLA CMA CLL CML
              4120   7363            CLA CLL CMA CML IAC BSW /AC=0000 LINK=0
              4121   7420            SNL
              4122   7440            SZA
              4123   7402            HLT              /7763 FAILED

                     /GROUP 1 OPERATE TEST 99
              4124   7300            CLA CLL
              4125   1043            TAD      K1234
              4126   7063            CMA CML IAC BSW          /AC=4465 L=1
              4127   1047            TAD      K3312
              4130   7040            CMA
              4131   7430            SZL
              4132   7440            SZA
              4133   7402            HLT              /7063 FAILED

                     /GROUP 1 OPERATE TEST 100
              4134   7332            CLA CLL CML RTR          /AC=2000 L=1
              4135   7063            CMA CML IAC BSW          /AC=0060 L=1
              4136   1051            TAD      K7717           /AC=7777 L=1
              4137   7040            CMA
              4140   7430            SZL
              4141   7440            SZA
              4142   7402            HLT                      /7063 FAILED



                     /GROUP 2 OPERATE TEST 1
              4143   7240            CLA CMA          /AC=7777
              4144   7700            CLA SMA          /TEST COMBINATION
              4145   7402            HLT              /CLA SMA DID NOT SKIP
                                                     /AC SHOULD BE 0000
              4146   7440            SZA
              4147   7402            HLT              /CLA SMA DID NOT CLEAR AC
                                                     /AC SHOULD BE 0000
                     /GROUP 2 OPERATE TEST 2
              4150   7240            CLA CMA          /AC=7777
              4151   7640            CLA SZA          /TEST COMBINATION
              4152   7440            SZA
              4153   7402            HLT              /CLA SZA SKIPPED OR AC NOT
                                                     /CLEARED TO 0000
                     /GROUP 2 OPERATE TEST 3
              4154   7240            CLA CMA          /AC=7777
```

```
4155  7540          SMA SZA         /TEST COMBINATION
4156  7402          HLT             /SMA SZA SHOULD HAVE SKIPPED
                                    /AC SHOULD EQUAL 7777

            /GROUP 2 OPERATE TEST 4
4157  7200          CLA             /AC=0000
4160  7540          SMA SZA         /TEST COMBINATION
4161  7402          HLT             /SMA SZA SHOULD HAVE SKIPPED
                                    /AC SHOULD EQUAL 0000

            /GROUP 2 OPERATE TEST 5
4162  7200          CLA
4163  1066          TAD K3777               /AC=3777
4164  7540          SMA SZA         /TEST COMBINATION
4165  7450          SNA
4166  7402          HLT             /SMA SZA SHOULD NOT HAVE SKPPED
                                    /AC SHOULD EQUAL 3777


            /GROUP 2 OPERATE TEST 6
4167  7240          CLA CMA         /AC=7777
4170  7740          CLA SMA SZA     /TEST COMBINATION
4171  7402          HLT             /CLA SMA SZA SHOULD HAVE SKIPPED
                                    /AC SHOULD BE 0000

4172  7440          SZA
4173  7402          HLT             /AC WAS NOT CLEARED
                                    /AC SHOULD BE 0000

            /GROUP 2 OPERATE TEST 7
4174  7200          CLA             /AC=0000
4175  7740          CLA SMA SZA     /TEST COMBINATION
4176  7402          HLT             /CLA SMA SZA SHOULD HAVE SKIPPED
                                    /AC SHOULD BE 0000

4177  7440          SZA
4200  7402          HLT             /AC WAS NOT CLEARED
                                    /AC SHOULD BE 0000

            /GROUP 2 OPERATE TEST 8
4201  7200          CLA
4202  1066          TAD K3777               /AC=3777
4203  7740          CLA SMA SZA     /TEST COMBINATION
4204  7440          SZA
4205  7402          HLT             /SMA SZA DID NOT SKIP OR AC
                                    /NOT CLEARED TO 0000

            /GROUP 2 OPERATE TEST 9
4206  7300          CLL CLA         /LINK=0
4207  1070          TAD K5252               /AC=5252
4210  7620          CLA SNL         /TEST COMBINATION
4211  7440          SZA
4212  7402          HLT             /SNL SKIPPED OR AC NOT CLEARED
                                    /AC AND LINK SHOULD EQUAL ZERO


            /GROUP 2 OPERATE TEST 10
4213  7320          CLA CLL CML
4214  1071          TAD K2525               /AC=2525   LINK=1
4215  7620          CLA SNL         /TEST COMBINATION
4216  7402          HLT             /SNL DID NOT SKIP
```

```
                                                    /LINK SHOULD EQUAL ONE
        4217  7440              SZA
        4220  7402              HLT              /CLA SNL DID NOT CLEAR AC
                                                 /AC SHOULD EQUAL 0000

                      /GROUP 2 OPERATE TEST 11
        4221  7300              CLA CLL          /AC=0000  LINK=0
        4222  7520              SMA SNL          /TEST COMBINATION
        4223  7440              SZA
        4224  7402              HLT              /SMA SNL SKIPPED. AC AND LINK
                                                 /SHOULD EQUAL ZERO
                      /GROUP 2 OPERATE TEST 12
        4225  7320              CLA CLL CML      /AC=0000  LINK=1
        4226  7520              SMA SNL          /TEST COMBINATION
        4227  7402              HLT              /SNL SHOULD HAVE SKIPPED. LINK = 1
                      /GROUP 2 OPERATE TEST 13
        4230  7300              CLA CLL
        4231  1050              TAD K4000              /AC=4000  LINK=0
        4232  7520              SMA SNL          /TEST COMBINATION
        4233  7402              HLT              /SMA SHOULD HAVE SKIPPED
                                                 /AC=4000
                      /GROUP 2 OPERATE TEST 14
        4234  7320              CLA CLL CML
        4235  1050              TAD K4000              /AC=4000  LINK=1
        4236  7520              SMA SNL          /TEST COMBINATION
        4237  7402              HLT              /SMA SNL SHOULD HAVE SKIPPED
                                                 /AC=4000  LINK=1


                      /GROUP 2 OPERATE TEST 15
        4240  7300              CLA CLL          /AC=0000  LINK=0
        4241  7720              CLA SMA SNL      /TEST COMBINATION
        4242  7440              SZA
        4243  7402              HLT              /SMA SNL SKIPPED. AC AND LINK
                                                 /SHOULD BE ZERO
                      /GROUP 2 OPERATE TEST 16
        4244  7320              CLA CLL CML      /AC=0000  LINK=1
        4245  7720              CLA SMA SNL      /TEST COMBINATION
        4246  7402              HLT              /SNL SHOULD HAVE SKIPPED
                                                 /LINK=1
        4247  7440              SZA
        4250  7402              HLT              /CLA SMA SNL DID NOT CLEAR AC
                                                 /AC SHOULD EQUAL ZERO
                      /GROUP 2 OPERATE TEST 17
        4251  7300              CLA CLL
        4252  1050              TAD K4000              /AC=4000  LINK=0
        4253  7720              CLA SMA SNL      /TEST COMBINATION
        4254  7402              HLT              /SMA SHOULD HAVE SKIPPED
                                                 /AC SHOULD EQUAL 0000  LINK=0
        4255  7440              SZA
        4256  7402              HLT              /CLA SMA SNL DID NOT CLEAR AC
                                                 /AC SHOULD EQUAL 0000
                      /GROUP 2 OPERATE TEST 18
        4257  7320              CLA CLL CML
        4260  1050              TAD K4000              /AC=4000 LINK=1
```

```
            4261  7720              CLA SMA SNL        /TEST COMBINATION
            4262  7402              HLT                /CLA SMA SNL SHOULD HAVE SKIPPED
                                                       /AC SHOULD BE 0000    LINK=1

            4263  7440              SZA
            4264  7402              HLT                /CLA SMA SNL DID NOT CLEAR AC
                                                       /AC SHOULD BE 0000  LINK=1
                         /GROUP 2 OPERATE TEST 19
            4265  7300              CLA CLL            /AC=0000 LINK=0
            4266  7460              SZA SNL            /TEST COMBINATION
            4267  7402              HLT                /SZA SNL DID NOT SKIP
                                                       /AC=0000
                         /GROUP 2 OPERATE TEST 20
            4270  7320              CLL CLA CML        /AC=0000  LINK=1
            4271  7460              SZA SNL            /TEST COMBINATION
            4272  7402              HLT                /SZA SNL DID NOT SKIP
                                                       /AC=0000  LINK=1


                         /GROUP 2 OPERATE TEST 21
            4273  7300              CLA CLL
            4274  1040              TAO K0400                 /AC=0400  LINK=0
            4275  7460              SZA SNL            /TEST COMBINATION
            4276  7450              SNA
            4277  7402              HLT                /SZA SNL SKIPPED
                                                       /AC=0400 LINK=0
                         /GROUP 2 OPERATE TEST 22
            4300  7320              CLA CLL CML
            4301  1032              TAO K0040                 /AC=0040 LINK=1
            4302  7460              SZA SNL            /TEST COMBINATION
            4303  7402              HLT                /SZA SNL SHOULD HAVE SKIPPED
                                                       /LINK=1
                         /GROUP 2 OPERATE TEST 23
            4304  7300              CLA CLL            /AC=0000  LINK=0
            4305  7660              CLA SZA SNL        /TEST COMBINATION
            4306  7402              HLT                /CLA SZA SNL SHOULD HAVE SKIPPED
                                                       /AC AND LINK SHOULD EQUAL ZERO
            4307  7440              SZA
            4310  7402              HLT                /CLA SZA SNL DID NOT CLEAR AC
                                                       /AC SHOULD BE 0000
                         /GROUP 2 OPERATE TEST 24
            4311  7320              CLA CLL CML        /AC=0000  LINK=1
            4312  7660              CLA SZA SNL        /TEST COMBINATION
            4313  7402              HLT                /CLA SZA SNL SHOULD HAVE SKIPPED
                                                       /AC=0000  LINK=1
            4314  7440              SZA
            4315  7402              HLT                /CLA SZA SNL DID NOT CLEAR AC
                                                       /AC SHOULD EQUAL 0000
                         /GROUP 2 OPERATE TEST 25
            4316  7320              CLA CLL CML
            4317  1036              TAO K0200                 /AC=0200  LINK=1
            4320  7660              CLA SZA SNL                /TEST COMBINATION OR
            4321  7402              HLT                /CLA SZA SNL SHOULD HAVE SKIPPED
                                                       /LINK=1
            4322  7440              SZA
            4323  7402              HLT                /CLA SZA SNL DID NOT CLEAR AC
```

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                                                    /AC SHOULD EQUAL 0000
                                /GROUP 2 OPERATE TEST 26
        4324  7300                      CLA CLL
        4325  1045                      TAD K2000                /AC=2000  LINK=0
        4326  7660                      CLA SZA SNL      /TEST COMBINATION
        4327  7440                      SZA
        4330  7402                      HLT              /CLA SZA SNL FAILED. AC AND
                                                        /LINK SHOULD EQUAL ZERO


                                /GROUP 2 OPERATE TEST 27
        4331  7300                      CLA CLL          /AC=0000  LINK=0
        4332  7560                      SMA SZA SNL      /TEST COMBINATION
        4333  7402                      HLT              /SMA SZA SNL SHOULD HAVE SKIPPED
                                                        /AC=0000  LINK=0
                                /GROUP 2 OPERATE TEST 28
        4334  7320                      CLA CLL CML
        4335  1066                      TAD K3777                /AC=3777  LINK=1
        4336  7560                      SMA SZA SNL      /TEST COMBINATION
        4337  7402                      HLT              /SMA SZA SNL SHOULD HAVE SKIPPED
                                                        /AC=3777  LINK=1
                                /GROUP 2 OPERATE TEST 29
        4340  7300                      CLA CLL
        4341  1050                      TAD K4000                /AC=4000  LINK=0
        4342  7560                      SMA SZA SNL      /TEST COMBINATION
        4343  7402                      HLT              /SMA SZA SNL SHOULD HAVE SKIPPED
                                                        /AC=4000  LINK=0
                                /GROUP 2 OPERATE TEST 30
        4344  7300                      CLA CLL
        4345  1066                      TAD K3777                /AC=3777  LINK=0
        4346  7560                      SMA SZA SNL      /TEST COMBINATION
        4347  7450                      SNA
        4350  7402                      HLT              /SMA SZA SNL SHOULD NOT HAVE
                                                        /SKIPPED. AC=3777  LINK=0


                                /GROUP 2 OPERATE TEST 31
        4351  7300                      CLA CLL          /AC=0000  LINK=0
        4352  7760                      CLA SMA SZA SNL /TEST COMBINATION
        4353  7402                      HLT              /CLA SMA SZA SNL SHOULD HAVE SKIPPED
                                                        /AC SHOULD EQUAL 0000
        4354  7440                      SZA
        4355  7402                      HLT              /AC NOT ZERO AFTER CLA SMA SZA SNL
                                                        /AC SHOULD BE 0000 LINK=0
                                /GROUP 2 OPERATE TEST 32
        4356  7320                      CLA CLL CML
        4357  1066                      TAD K3777                /AC=3777  LINK=1
        4360  7760                      CLA SMA SZA SNL /TEST COMBINATION
        4361  7402                      HLT              /CLA SMA SZA SNL DID NOT SKIP
                                                        /AC SHOULD BE 0000  LINK=1
        4362  7440                      SZA
        4363  7402                      HLT              /CLA SMA SZA SNL DID NOT CLEAR AC
                                                        /AC SHOULD EQUAL 0000  LINK=1
                                /GROUP 2 OPERATE TEST 33
        4364  7300                      CLA CLL
```

```
        4365  1050            TAD K4000                   /AC=4000  LINK=0
        4366  7760            CLA SMA SZA SNL /TEST COMBINATION
        4367  7402            HLT                 /CLA SMA SZA SNL SHOULD HAVE SKIPPED
                                                 /AC SHOULD BE 0000. LINK=0
        4370  7440            SZA
        4371  7402            HLT                 /CLA SMA SZA SNL DID NOT CLEAR AC
                                                 /AC SHOULD EQUAL 0000
                    /GROUP 2 OPERATE TEST 34
        4372  7300            CLA CLL
        4373  1066            TAD K3777                    /AC=3777  LINK=0
        4374  7760            CLA SMA SZA SNL /TEST COMBINATION
        4375  7440            SZA
        4376  7402            HLT                 /CLA SMA SZA SNL FAILED, AC
                                                 /SHOULD BE ZERO. LINK=0
                    /GROUP 2 OPERATE TEST 35
        4377  7300            CLA CLL             /AC=0000  LINK=0
        4400  7410            SKP                 /TEST INSTRUCTION
        4401  7402            HLT                 /SKIP FAILED
                                                 /AC AND LINK EQUAL ZERO
                    /GROUP 2 OPERATE TEST 36
        4402  7320            CLA CLL CML         /AC=0000  LINK=1
        4403  7410            SKP                 /TEST INSTRUCTION
        4404  7402            HLT                 /SKIP FAILED
                                                 /AC=0000  LINK=1


                    /GROUP 2 OPERATE TEST 37
        4405  7320            CLA CLL CML
        4406  1066            TAD K3777                    /AC=3777  LINK=1
        4407  7410            SKP                 /TEST INSTRUCTION
        4410  7402            HLT                 /SKIP FAILED
                                                 /AC=3777  LINK=1
                    /GROUP 2 OPERATE TEST 38
        4411  7300            CLA CLL
        4412  1066            TAD K3777                    /AC=3777  LINK=0
        4413  7410            SKP                 /TEST INSTRUCTION
        4414  7402            HLT                 /SKIP FAILED
                                                 /AC=3777  LINK=0
                    /GROUP 2 OPERATE TEST 39
        4415  7200            CLA
        4416  1066            TAD K3777                    /AC=3777
        4417  7710            CLA SPA             /TEST COMBINATION
        4420  7402            HLT                 /CLA SPA DID NOT SKIP. AC
                                                 /SHOULD BE ZERO
        4421  7440            SZA
        4422  7402            HLT                 /CLA SPA DID NOT CLEAR AC
                                                 /AC SHOULD EQUAL ZERO
                    /GROUP 2 OPERATE TEST 40
        4423  7200            CLA
        4424  1050            TAD K4000                    /AC=4000
        4425  7710            CLA SPA             /TEST COMBINATION
        4426  7440            SZA
        4427  7402            HLT                 /CLA SPA FAILED, AC SHOULD
                                                 /EQUAL 0000
                    /GROUP 2 OPERATE TEST 41
```

```
     4430  7240          CLA CMA          /AC=7777
     4431  7650          CLA SNA          /TEST COMBINATION
     4432  7402          HLT              /CLA SNA DID NOT SKIP
                                          /AC SHOULD BE 0000

               /GROUP 2 OPERATE TEST 42
     4433  7200          CLA              /AC=0000
     4434  7650          CLA SNA          /TEST COMBINATION
     4435  7440          SZA
     4436  7402          HLT              /CLA SNA FAILED
                                          /AC SHOULD EQUAL 0000


               /GROUP 2 OPERATE TEST 43
     4437  7200          CLA              /AC=0000
     4440  7550          SPA SNA          /TEST COMBINATION (AND)
     4441  7440          SZA
     4442  7402          HLT              /SPA SNA SKIPPED
                                          /AC=0000
               /GROUP 2 OPERATE TEST 44
     4443  7200          CLA
     4444  1066          TAD K3777                /AC=3777
     4445  7550          SPA SNA          /TEST COMBINATION (AND)
     4446  7402          HLT              /SPA SNA FAILED TO SKIP
                                          /AC=3777
               /GROUP 2 OPERATE TEST 45
     4447  7200          CLA
     4450  1050          TAD K4000                /AC=4000
     4451  7550          SPA SNA          /TEST COMBINATION (AND)
     4452  7450          SNA
     4453  7402          HLT              /SPA SNA SKIPPED.
                                          /AC=4000
               /GROUP 2 OPERATE TEST 46
     4454  7200          CLA              /AC=0000
     4455  7750          CLA SPA SNA      /TEST COMBINATION (AND)
     4456  7440          SZA
     4457  7402          HLT              /CLA SPA SNA FAILED.
                                          /AC SHOULD BE 0000
               /GROUP 2 OPERATE TEST 47
     4460  7200          CLA
     4461  1066          TAD K3777                /AC=3777
     4462  7750          CLA SPA SNA      /TEST COMBINATION (AND)
     4463  7402          HLT              /CLA SPA SNA DID NOT SKIP
                                          /AC SHOULD BE 0000

     4464  7440          SZA
     4465  7402          HLT              /CLA SPA SNA DID NOT CLEAR THE AC
                                          /AC SHOULD EQUAL 0000
               /GROUP 2 OPERATE TEST 48
     4466  7200          CLA
     4467  1050          TAD K4000                /AC=4000
     4470  7750          CLA SPA SNA      /TEST COMBINATION (AND)
     4471  7440          SZA
     4472  7402          HLT              /CLA SPA SNA FAILED
                                          /AC SHOULD EQUAL ZERO
```

```
                          PAUSE


                          /INSTRUCTION TEST - TAPE 4
                          /GROUP 2 OPERATE TEST 49
        4473   7300             CLA CLL
        4474   1070             TAD K5252                    /AC=5252  LINK=0
        4475   7630             CLA SZL              /TEST COMBINATION
        4476   7402             HLT                  /CLA SZL DID NOT SKIP
                                                     /AC AND LINK SHOULD BE 0
        4477   7440             SZA
        4500   7402             HLT                  /CLA SZL DID NOT CLEAR AC
                                                     /AC SHOULD BE ZERO.  LINK=0

                          /GROUP 2 OPERATE TEST 50
        4501   7360             CLA CLL CML CMA /AC=7777 LINK=1
        4502   7630             CLA SZL              /TEST COMBINATION (AND)
        4503   7440             SZA
        4504   7402             HLT                  /CLA SZL FAILED, AC SHOULD
                                                     /BE 0000. LINK=1
                          /GROUP 2 OPERATE TEST 51
        4505   7300             CLA CLL
        4506   1066             TAD K3777                    /AC=3777  LINK=0
        4507   7530             SPA SZL              /TEST COMBINATION (AND)
        4510   7402             HLT                  /SPA SZL DID NOT SKIP
                                                     /AC=3777  LINK=0
                          /GROUP 2 OPERATE TEST 52
        4511   7320             CLA CLL CML
        4512   1066             TAD K3777                    /AC=3777  LINK=1
        4513   7530             SPA SZL              /TEST COMBINATION (AND)
        4514   7450             SNA
        4515   7402             HLT                  /SPA SZL SKIPPED
                                                     /AC=3777  LINK=1
                          /GROUP 2 OPERATE TEST 53
        4516   7300             CLA CLL
        4517   1050             TAD K4000                    /AC=4000  LINK=0
        4520   7530             SPA SZL              /TEST COMBINATION (AND)
        4521   7500             SMA
        4522   7402             HLT                  /SPA SZL SKIPPED
                                                     /AC=4000  LINK=0
                          /GROUP 2 OPERATE TEST 54
        4523   7300             CLA CLL
        4524   1066             TAD K3777                    /AC=3777  LINK=0
        4525   7730             CLA SPA SZL          /TEST COMBINATION (AND)
        4526   7402             HLT                  /CLA SPA SZL SHOULD HAVE SKIPPED
                                                     /AC SHOULD BE 0000.  LINK=0
        4527   7440             SZA
        4530   7402             HLT                  /CLA SPA SZL DID NOT CLEAR THE AC
                                                     /AC SHOULD BE 0000


                          /GROUP 2 OPERATE TEST 55
        4531   7320             CLA CLL CML
        4532   1066             TAD K3777                    /AC=3777  LINK=1
        4533   7730             CLA SPA SZL          /TEST COMBINATION (AND)
```

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                4534   7440              SZA
                4535   7402              HLT              /CLA SPA SZL FAILED
                                                         /AC SHOULD EQUAL 0000  LINK=1
                            /GROUP 2 OPERATE TEST 56
                4536   7300              CLA CLL
                4537   1050              TAD K4000                 /AC=4000  LINK=0
                4540   7730              CLA SPA SZL      /TEST COMBINATION (AND)
                4541   7440              SZA
                4542   7402              HLT              /CLA SPA SZL FAILED
                                                         /AC SHOULD EQUAL 0000  LINK=0
                            /GROUP 2 OPERATE TEST 57
                4543   7300              CLA CLL
                4544   1050              TAD K4000                 /AC=4000  LINK=0
                4545   7470              SNA SZL          /TEST COMBINATION (AND)
                4546   7402              HLT              /SNA SZL DID NOT SKIP
                                                         /AC = 4000  LINK=0
                            /GROUP 2 OPERATE TEST 58
                4547   7320              CLA CLL CML
                4550   1050              TAD K4000                 /AC=4000  LINK=1
                4551   7470              SNA SZL          /TEST COMBINATION (AND)
                4552   7420              SNL
                4553   7402              HLT              /SNA SZL SKIPPED
                                                         /AC-4000  LINK=1
                            /GROUP 2 OPERATE TEST 59
                4554   7300              CLA CLL          /AC=0000  LINK=0
                4555   7470              SNA SZL          /TEST COMBINATION (AND)
                4556   7430              SZL
                4557   7402              HLT              /SNA SZL SKIPPED
                                                         /AC=0000  LINK=0
                            /GROUP 2 OPERATE TEST 60
                4560   7320              CLA CLL CML
                4561   1050              TAD K4000                 /AC=4000  LINK=1
                4562   7670              CLA SNA SZL      /TEST COMBINATION (AND)
                4563   7440              SZA
                4564   7402              HLT              /CLA SNA SZL FAILED. AC SHOULD
                                                         /BE 0000,  LINK=1


                            /GROUP 2 OPERATE TEST 61
                4565   7300              CLA CLL
                4566   1050              TAD K4000                 /AC=4000  LINK=0
                4567   7670              CLA SNA SZL      /TEST COMBINATION (AND)
                4570   7402              HLT              /CLA SNA SZL DID NOT SKIP
                                                         /AC SHOULD BE 0000. LINK=0
                4571   7440              SZA
                4572   7402              HLT              /CLA SNA SZL DID NOT CLEAR AC
                                                         /AC AND LINK SHOULD BE ZERO
                            /GROUP 2 OPERATE TEST 62
                4573   7300              CLA CLL          /AC=0000  LINK=0
                4574   7670              CLA SNA SZL      /TEST COMBINATION (AND)
                4575   7440              SZA
                4576   7402              HLT              /CLA SNA SZL FAILED. AC SHOULD
                                                         /BE 0000, LINK=0
                            /GROUP 2 OPERATE TEST 63
                4577   7300              CLA CLL
```

```
              4600   1066          TAD K3777                /AC-3777  LINK=0
              4601   7570          SPA SNA SZL         /TEST COMBINATION (AND)
              4602   7402          HLT                 /SPA SNA SZL DID NOT SKIP
                                                       /AC=3777  LINK=0
                         /GROUP 2 OPERATE TEST 64
              4603   7320          CLA CLL CML
              4604   1066          TAD K3777                /AC=3777  LINK=1
              4605   7570          SPA SNA SZL              /TEST COMBINATION (AND)
              4606   7420          SNL
              4607   7402          HLT                 /SPA SNA SZL SKIPPED
                                                       /AC=3777  LINK=1
                         /GROUP 2 OPERATE TEST 65
              4610   7300          CLA CLL             /AC=0000  LINK=0
              4611   7570          SPA SNA SZL         /TEST COMBINATION (AND)
              4612   7430          SZL
              4613   7402          HLT                 /SPA SNA SZL SKIPPED
                                                       /AC=0000  LINK=0
                         /GROUP 2 OPERATE TEST 66
              4614   7300          CLA CLL
              4615   1050          TAD K4000                /AC=4000  LINK=0
              4616   7570          SPA SNA SZL         /TEST COMBINATION (AND)
              4617   7430          SZL
              4620   7402          HLT                 /SPA SNA SZL SKIPPED
                                                       /AC=4000  LINK=0


                         /GROUP 2 OPERATE TEST 67
              4621   7300          CLA CLL
              4622   1066          TAD K3777                /AC=3777  LINK=0
              4623   7770          CLA SPA SNA SZL /TEST COMBINATION (AND)
              4624   7402          HLT                 /CLA SPA SNA SZL DID NOT SKIP
                                                       /AC AND LINK SHOULD BE ZERO
              4625   7440          SZA
              4626   7402          HLT                 /CLA SPA SNA SZL DID NOT CLEAR AC
                                                       /AC AND LINK SHOULD BE ZERO

                         /GROUP 2 OPERATE TEST 68
              4627   7320          CLA CLL CML
              4630   1066          TAD K3777                /AC=3777  LINK=1
              4631   7770          CLA SPA SNA SZL /TEST COMBINATION (AND)
              4632   7440          SZA
              4633   7402          HLT                 /CLA SPA SNA SZL FAILED.  AC SHOULD
                                                       /BE 0000, LINK SHOULD EQUAL ONE
                         /GROUP 2 OPERATE TEST 69
              4634   7300          CLA CLL
              4635   1050          TAD K4000                /AC=4000  LINK=0
              4636   7770          CLA SPA SNA SZL /TEST COMBINATION (AND)
              4637   7440          SZA
              4640   7402          HLT                 /CLA SPA SNA SZL FAILED. AC SHOULD
                                                       /BE 0000, LINK SHOULD EQUAL ZERO
                         /GROUP 2 OPERATE TEST 70
              4641   7300          CLA CLL             /AC=0000  LINK=0
              4642   7770          CLA SPA SNA SZL /TEST COMBINATION (AND)
              4643   7440          SZA
              4644   7402          HLT                 /CLA SPA SNA SZL FAILED.  AC AND
```

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                                             /LINK SHOULD BE ZERO.
                           /GROUP 2 OPERATE TEST 71
      4645  7200                  CLA
      4646  1070                  TAD K5252                    /AC=5252
      4647  7604                  CLA OSR              /TEST COMBINATION
      4650  7040                  CMA
      4651  7440                  SZA
      4652  7402                  HLT                 /CLA OSR FAILED
                                                      /AC SHOULD BE 0000


                           /GROUP 2 OPERATE TEST 72
      4653  7200                  CLA
      4654  1050                  TAD K4000                    /AC=4000
      4655  7504                  SMA OSR             /TEST COMBINATION
      4656  7402                  HLT                 /SMA OSR FAILED TO SKIP
                                                      /AC SHOULD BE 7777
      4657  7040                  CMA
      4660  7440                  SZA
      4661  7402                  HLT                 /SMA OSR FAILED
                                                      /AC SHOULD BE 0000
                           /GROUP 2 OPERATE TEST 73
      4662  7200                  CLA             /AC=0000
      4663  7444                  SZA OSR             /TEST COMBINATION
      4664  7402                  HLT                 /SZA OSR FAILED TO SKIP
                                                      /AC SHOULD BE 0000
      4665  7040                  CMA
      4666  7440                  SZA
      4667  7402                  HLT                 /SZA OSR FAILED.
                                                      /AC SHOULD BE 0000
                           /GROUP 2 OPERATE TEST 74
      4670  7320                  CLL CML CLA         /LINK=1
      4671  7424                  SNL OSR             /TEST COMBINATION
      4672  7402                  HLT                 /SNL OSR FAILED TO SKIP
                                                      /AC SHOULD BE 7777
      4673  7040                  CMA
      4674  7440                  SZA
      4675  7402                  HLT                 /SNL OSR FAILED.
                                                      /AC SHOULD BE 0000
                           /GROUP 2 OPERATE TEST 75
      4676  7300                  CLA CLL
      4677  1066                  TAD K3777                    /AC=3777 LINK=0
      4700  7764                  CLA SMA SZA SNL OSR     /TEST COMBINATION
      4701  7450                  SNA
      4702  7402                  HLT                 /CLA SMA SZA SNL OSR FAILED.
                                                      /AC SHOULD BE 7777.  LINK=0
      4703  7040                  CMA
      4704  7440                  SZA
      4705  7402                  HLT                 /CLA SMA SZA SNL OSR FAILED
                                                      /AC SHOULD EQUAL ZERO
                           /GROUP 2 OPERATE TEST 76
      4706  7200                  CLA             /AC=0000
      4707  7414                  SKP OSR             /TEST COMBINATION
      4710  7402                  HLT                 /SKP OSR DID NOT SKIP
                                                      /AC SHOULD BE 7777
```

```
         4711  7040              CMA
         4712  7440              SZA
         4713  7402              HLT              /SKP OSR FAILED
                                                 /AC SHOULD EQUAL ZERO


                          /GROUP 2 OPERATE TEST 77
         4714  7200              CLA              /AC=0000
         4715  7514              SPA OSR          /TEST COMBINATION
         4716  7402              HLT              /SPA OSR DID NOT SKIP
                                                 /AC SHOULD EQUAL 7777
         4717  7040              CMA
         4720  7440              SZA
         4721  7402              HLT              /SPA OSR FAILED.
                                                 /AC SHOULD BE 0000
                          /GROUP 2 OPERATE TEST 78
         4722  7200              CLA
         4723  1040              TAD K0400                /AC=0400
         4724  7454              SNA OSR          /TEST COMBINATION
         4725  7402              HLT              /SNA OSR DID NOT SKIP
                                                 /AC SHOULD BE 7777
         4726  7040              CMA
         4727  7440              SZA
         4730  7402              HLT              /SNA OSR FAILED
                                                 /AC SHOULD BE 0000
                          /GROUP 2 OPERATE TEST 79
         4731  7300              CLA CLL          /LINK=0  AC=0000
         4732  7434              SZL OSR          /TEST COMBINATION
         4733  7402              HLT              /SZL OSR DID NOT SKIP
                                                 /AC SHOULD BE 7777
         4734  7040              CMA
         4735  7440              SZA
         4736  7402              HLT              /SZL OSR FAILED
                                                 /AC SHOULD BE 0000
                          /GROUP 2 OPERATE TEST 80
         4737  7300              CLA CLL
         4740  1066              TAD K3777                /AC=3777  LINK=0
         4741  7774              CLA SPA SNA SZL OSR      /TEST COMBINATION (AND)
         4742  7402              HLT              /ABOVE MESS DID NOT SKIP
                                                 /AC SHOULD BE 7777
         4743  7040              CMA
         4744  7440              SZA
         4745  7402              HLT              /CLA SPA SNA SZL OSR FAILED
                                                 /AC SHOULD BE 0000


                          /MQ OPERATE TEST 1
         4746  7360              CLA CMA CLL CML         /AC=7777 LINK=1
         4747  7601              CLAE                    /AC=0000 LINK=1
         4750  7430              SZL
         4751  7440              SZA
         4752  7402              HLT                     /7601 FAILED

                          /MQ OPERATE TEST 2
         4753  7360              CLA CLL CMA CML         /AC=7777 L=1
```

```
      4754  7401              NOPE                  /AC=7777 L=1 (NOP)
      4755  7040              CMA
      4756  7430              SZL
      4757  7440              SZA
      4760  7402              HLT                   /7401 FAILED

                      /MQ OPERATE TEST 3
      4761  7360              CLA CMA CLL CML       /AC=7777 LINK=1
      4762  7421              MQL                   /AC=0000 LINK=1
      4763  7430              SZL
      4764  7440              SZA
      4765  7402              HLT                   /MQL DID NOT CLEAR AC

                      /MQ OPERATE TEST 4
      4766  7300              CLA CLL
      4767  7421              MQL                   /MQ=0000, AC=0000
      4770  7040              CMA                   /AC=7777
      4771  7501              MQA                   /AC=7777, MQ=0000
      4772  7040              CMA                   /AC=0000
      4773  7420              SNL
      4774  7440              SZA
      4775  7402              HLT                   /MQ DID NOT EQUAL 0000 OR MQA FAILED

                      /MQ OPERATE TEST 5
      4776  7340              CLA CMA CLL
      4777  7421              MQL                   /MQ=7777, AC=0000
      5000  7501              MQA                   /AC=7777, MQ=7777
      5001  7040              CMA
      5002  7420              SNL
      5003  7440              SZA
      5004  7402              HLT                   /MQ DID NOT EQUAL 7777 OR MQA FAILED

                      /MQ OPERATE TEST 6
      5005  7601              CLAE                  /CLEAR AC
      5006  1070              TAD K5252
      5007  7421              MQL                   /MQ=5252, AC=0000
      5010  1071              TAD K2525
      5011  7501              MQA                   /AC=7777, MQ=5252
      5012  7040              CMA
      5013  7440              SZA
      5014  7402              HLT                   /MQ DID NOT EQUAL 5252 OR MQA FAILED

                      /MQ OPERATE TEST 7
      5015  7360              CLA CMA CLL CML
      5016  7421              MQL                   /MQ=7777, AC=0000
      5017  7040              CMA                   /AC=7777
      5020  7621              CAM                   /AC AND MQ.=0000
      5021  7440              SZA
      5022  7402              HLT                   /AC SHOULD EQUAL 0000
      5023  7501              MQA                   /AC=0000, MQ=0000
      5024  7430              SZL
      5025  7440              SZA
      5026  7402              HLT                   /CAM DID NOT CLEAR MQ
                                                    /OR LINK WAS CLEARED
```

```
                        /MQ OPERATE TEST 8
    5027  7601          CLAE                   /CLEAR AC
    5030  7421          MQL                    /MQ=0000 AC=0000
    5031  7040          CMA
    5032  7701          ACL                    /AC=0000 MQ=0000
    5033  7440          SZA
    5034  7402          HLT                    /ACL FAILED
    5035  7501          MQA                    /AC=0000 MQ=0000
    5036  7440          SZA
    5037  7402          HLT                    /MQ SHOULD EQUAL 0000

                        /MQ OPERATE TEST 9
    5040  7240          CLA CMA
    5041  7421          MQL                    /MQ=7777 AC=0000
    5042  7701          ACL                    /AC=7777 MQ=7777
    5043  7040          CMA
    5044  7440          SZA
    5045  7402          HLT                    /ACL FAILED
    5046  7501          MQA                    /AC=7777, MQ=7777
    5047  7040          CMA
    5050  7440          SZA
    5051  7402          HLT                    /MQ SHOULD EQUAL 7777

                        /MQ OPERATE TEST 10
    5052  7601          CLAE                   /CLEAR AC
    5053  1070          TAD K5252
    5054  7421          MQL                    /MQ=5252 AC=0000
    5055  1071          TAD K2525
    5056  7701          ACL                    /AC=5252 MQ=5252
    5057  1071          TAD K2525
    5060  7040          CMA
    5061  7440          SZA
    5062  7402          HLT                    /ACL FAILED
    5063  7501          MQA                    /AC=5252 MQ=5252
    5064  1071          TAD K2525
    5065  7040          CMA
    5066  7440          SZA
    5067  7402          HLT                    /MQ SHOULD EQUAL 5252

                        /MQ OPERATE TEST 11
    5070  7601          CLAE                   /CLEAR AC
    5071  1071          TAD K2525
    5072  7421          MQL                    /MQ=2525 AC=0000
    5073  1070          TAD K5252
    5074  7701          ACL                    /AC=2525 MQ=2525
    5075  1070          TAD K5252
    5076  7040          CMA
    5077  7440          SZA
    5100  7402          HLT                    /ACL FAILED
    5101  7501          MQA                    /AC=2525 MQ=2525
    5102  1070          TAD K5252
    5103  7040          CMA
    5104  7440          SZA
    5105  7402          HLT                    /MQ SHOULD EQUAL 2525
```

```
                        /MQ OPERATE TEST 12
       5106  7621            CAM             /MQ=0000 AC=0000
       5107  7040            CMA             /AC=7777
       5110  7521            SWP             /MQ=7777 AC=0000
       5111  7440            SZA
       5112  7402            HLT             /AC SHOULD EQUAL 0000
       5113  7701            ACL             /AC=7777 MQ=7777
       5114  7040            CMA
       5115  7440            SZA
       5116  7402            HLT             /MQ SHOULD EQUAL 7777

                        /MQ OPERATE TEST 13
       5117  7621            CAM             /MQ=0000 AC=0000
       5120  7040            CMA
       5121  7421            MQL             /MQ=7777 AC=0000
       5122  7521            SWP             /MQ=0000 AC=7777
       5123  7040            CMA
       5124  7440            SZA
       5125  7402            HLT
       5126  7701            ACL             /AC=0000 MQ=0000
       5127  7440            SZA
       5130  7402            HLT             /MQ SHOULD EQUAL 0000

                        /MQ OPERATE TEST 14
       5131  7621            CAM             /MQ=0000 AC=0000
       5132  1070            TAD K5252
       5133  7421            MQL             /MQ=5252 AC=0000
       5134  1071            TAD K2525
       5135  7521            SWP             /MQ=2525 AC=5252
       5136  1071            TAD K2525
       5137  7040            CMA
       5140  7440            SZA
       5141  7402            HLT             /SWP FAILED
       5142  7701            ACL             /AC=2525 MQ=2525
       5143  1070            TAD K5252
       5144  7040            CMA
       5145  7440            SZA
       5146  7402            HLT             /SWP FAILED MQ SHOULD EQUAL 2525

                        /MQ OPERATE TEST 15
       5147  7621            CAM             /MQ=0000 AC=0000
       5150  1071            TAD K2525
       5151  7421            MQL             /MQ=2525 AC=0000
       5152  1070            TAD K5252       /AC=5252
       5153  7521            SWP             /MQ=5252 AC=2525
       5154  1070            TAD K5252
       5155  7040            CMA
       5156  7440            SZA
       5157  7402            HLT             /SWP FAILED
       5160  7701            ACL             /AC=5252 MQ=5252
       5161  1071            TAD K2525
       5162  7040            CMA
       5163  7440            SZA
```

```
        5164   7402              HLT                        /SWP FAILED MQ SHOULD EQUAL 5252


                        /MQ OPERATE TEST 16
        5165   7621              CAM                        /MQ=0000 AC=0000
        5166   7040              CMA                        /AC=7777
        5167   7721              CLAE SWP                   /AC=0000 MQ=0000
        5170   7440              SZA
        5171   7402              HLT                        /CLAE SWP FAILED AC SHOULD EQUAL 0000
        5172   7701              ACL                        /AC=0000 MQ=0000
        5173   7440              SZA
        5174   7402              HLT                        /CLAE SWP FAILED MQ SHOULD EQUAL 0000


                        /MQ OPERATE TEST 17
        5175   7621              CAM                        /MQ=0000 AC=0000
        5176   7040              CMA
        5177   7421              MQL                        /MQ=7777 AC=0000
        5200   7721              CLAE SWP                   /AC=7777 MQ=0000
        5201   7040              CMA
        5202   7440              SZA
        5203   7402              HLT                        /CLAE SWP FAILED
        5204   7701              ACL                        /AC=0000 MQ=0000
        5205   7440              SZA
        5206   7402              HLT                        /CLAE SWP FAILED MQ SHOULD EQUAL 0000

                        /MQ OPERATE TEST 18
        5207   7621              CAM                        /MQ=0000 AC=0000
        5210   1071              TAD K2525
        5211   7421              MQL                        /MQ=2525 MQ=0000
        5212   1070              TAD K5252                  /AC=5252
        5213   7721              CLAE SWP                   /AC=2525 MQ=0000
        5214   1070              TAD K5252
        5215   7040              CMA
        5216   7440              SZA
        5217   7402              HLT                        /CLAE FAILED
        5220   7701              ACL                        /AC=0000 MQ=0000
        5221   7440              SZA
        5222   7402              HLT                        /CLAE FAILED MQ SHOULD EQUAL 0000


                        /AND TEST 1
        5223   7200              CLA
        5224   0067              AND K7777
        5225   7440              SZA
        5226   7402              HLT            /AND FAILED AC SHOULD
                                               /BE 0000
                        /AND TEST 2
        5227   7240              CLA CMA
        5230   0020              AND K0000
        5231   7440              SZA
        5232   7402              HLT            /AND FAILED
                                               /AC SHOULD EQUAL 0000
                        /AND TEST 3
        5233   7520              CLA CLL CML
```

```
         5234   1067        TAD K7777              /AC=7777   LINK=1
         5235   0067        AND K7777
         5236   7040        CMA
         5237   7430        SZL
         5240   7440        SZA
         5241   7402        HLT                    /AND FAILED. AC SHOULD BE
                                                   /0000. LINK SHOULD EQUAL ONE
                     /AND TEST 4
         5242   7300        CLA CLL
         5243   1071        TAD K2525                  /AC=2525   LINK=0
         5244   0070        AND K5252
         5245   7420        SNL
         5246   7440        SZA
         5247   7402        HLT                    /AND FAILED. AC SHOULD BE
                                                   /0000. LINK SHOULD BE 0
                     /AND TEST 5
         5250   7300        CLA CLL
         5251   1070        TAD K5252                  /AC=5252   LINK=0
         5252   0071        AND K2525
         5253   7420        SNL
         5254   7440        SZA
         5255   7402        HLT                    /AND FAILED.  AC SHOULD BE
                                                   /0000. LINK SHOULD BE 0


                     /AND TEST 6
         5256   7300        CLA CLL
         5257   1052        TAD K7776                  /AC=7776  LINK=0
         5260   0070        AND K5252                  /TEST INSTRUCTION
         5261   7041        CIA               /AC=2526
         5262   1070        TAD K5252                  /AC=0000  LINK=1
         5263   7430        SZL
         5264   7440        SZA
         5265   7402        HLT                    /AND FAILURE. AC SHOULD BE
                                                   /0000. LINK SHOULD BE ONE
                     /AND TEST 7
         5266   7300        CLA CLL
         5267   1071        TAD K2525                  /AC=2525   LINK=0
         5270   0071        AND K2525                  /TEST INSTRUCTION
         5271   7041        CIA               /AC=5253
         5272   1071        TAD K2525                  /AC-0000   LINK = 1
         5273   7430        SZL
         5274   7440        SZA
         5275   7402        HLT                    /AND FAILED.  AC SHOULD BE
                                                   /0000. LINK SHOULD BE ONE,

                     /CHECK FOR BELL
         5276   7200        CLA
         5277   1121        TAD BLCNT
         5300   7001        IAC
         5301   3121        DCA BLCNT
         5302   1121        TAD BLCNT
         5303   7640        SZA CLA
         5304   5147        JMP START+3
         5305   1122        TAD BLCON
```

```
5306   3121              DCA BLCNT

                 /RING BELL
5307   1120              TAD BEL
5310   6046              TLS
5311   6041              TSF
5312   5311              JMP .-1
5313   6042              TCF
5314   5147              JMP START+3
```

                         s

```
0000   11111111  10200000  11111111  11111111  11111111  11111111  11111111  11111111
0100   11111111  11111111  11100000  00000000  00001111  11111111  11111111  11111111

0200   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
0300   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

0400   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
0500   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

0600   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
0700   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111


1000   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
1100   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

1200   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
1300   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

1400   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
1500   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

1600   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
1700   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111


2000   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
2100   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

2200   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
2300   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

2400   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
2500   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

2600   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
2700   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111


3000   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
3100   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

3200   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
3300   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

3400   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
3500   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111

3600   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
3700   11111111  11111111  11111111  11111111  11111111  11111111  11111111  11111111
```

```
4000   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111
4100   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111

4200   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111
4300   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111

4400   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111
4500   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111

4600   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111
4700   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111


5000   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111
5100   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111

5200   11111111   11111111   11111111   11111111   11111111   11111111   11111111   11111111
5300   11111111   11111000   00000000   00000000   00000000   00000000   00000000   00000000

5400
5500

5600
5700


6000
6100

6200
6300

6400
6500

6600
6700


7000
7100

7200
7300

7400
7500

7600
7700
```

ACL	7701	K600	0041	
BEGIN	0200	K6000	0072	
BEL	0120	K6777	0064	
BLCNT	0121	K7000	0073	
BLCON	0122	K7007	0117	
BSW	7002	K7177	0060	
CAM	7621	K7377	0063	
CLAE	7601	K7400	0074	
CLL1	0446	K7577	0062	
CLL11	0452	K7600	0075	
CMLT1	0456	K7677	0061	
HALT	0006	K7700	0113	
K0000	0020	K7717	0051	
K0001	0021	K7737	0057	
K0002	0022	K7740	0076	
K0004	0024	K7757	0056	
K0007	0102	K7760	0077	
K0010	0026	K7767	0055	
K0017	0104	K7770	0100	
K0020	0030	K7773	0054	
K0037	0105	K7774	0101	
K0040	0032	K7775	0053	
K0067	0103	K7776	0052	
K0077	0106	K7777	0067	
K0100	0034	MQA	7501	
K0177	0107	MQL	7421	
K0200	0036	NOOP	0007	
K0377	0110	NOPE	7401	
K0400	0040	START	0144	
K0770	0116	SWP	7521	
K0777	0111			
K1000	0042			
K1234	0043			
K14	0027			
K140	0035			
K1400	0044			
K1777	0112			
K2000	0045			
K2525	0071			
K2552	0115			
K3	0023			
K30	0031			
K300	0037			
K3000	0046			
K3312	0047			
K3777	0066			
K4000	0050			
K5225	0114			
K5252	0070			
K5777	0065			
K6	0025			
K60	0033			

ERRORS DETECTED: 0

LINKS GENERATED: 0

RUN-TIME: 30 SECONDS

2K CORE USED