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Volume 3 — Listings for
Version 3

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INTRODUCTION

This document, Volume 3 of three volumes, contains the program listings and supporting input data for the NBS FORTRAN Test Programs, Version 3, developed by the Institute for Computer Sciences and Technology, National Bureau of Standards. The test programs are written in ASA Standard FORTRAN and test the language elements described in the ASA Standard FORTRAN document X3.9-1966.

The NBS FORTRAN Test Programs, Version 3, containing the same 116 test units as Version 1, are structured into 14 executable FORTRAN programs. These have been organized for use on large FORTRAN processors for the purpose of reducing the number of systems control cards needed to perform the tests.

Each executable program, identified as PART n, contains 6 input data records, 3 of which are available for user information (See Volume 1, Section II-A-3). PART 1 and PART 13 contain additional input data records. The input data is listed following each respective program.

Volume 1, Section I describes the system design, the programming techniques and conventions used in the program development and should enable the user to extend, alter or reorganize the test programs.

Volume 1, Section II defines the organization and operating procedure for performing the tests and contains a set of representative results obtained from actual running of the test programs on several FORTRAN processors.

Volume 1, Section III describes the order and location of each test unit and data as recorded on magnetic tape for distribution.

Volume 2 contains the program listings for the NBS FORTRAN Test Programs, Version 1.

Volume 3 contains the program listings for the NBS FORTRAN Test Programs, Version 3.

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C*****H0000015
C***** ANSI FORTRAN (X3.9-1966) TEST PROGRAMS H0000020
C*****H0000025
C***** PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3 H0000030
C*****H0000035
C***** JUNE 1974 H0000040
C*****H0000045
C***** PART 1 OF 14 PARTS H0000050
C*****H0000055
C***** SEGMENTS INCLUDED H0000060
C*****H0000065
C***** DATA1 - 003 TEST FORMAT OF DATA STATEMENT H0000070
C*****H0000075
C***** FMTRW - 008 FORMATTED INPUT/OUTPUT H0000080
C*****H0000085
C***** AFRMT - 009 A-CONVERSION H0000090
C*****H0000095
C***** DATA2 - 010 DATA STATEMENT USE H0000100
C*****H0000105
C***** AASGN - 011 REAL AND INTEGER ARITH ASSIGN. STMENTS H0000110
C*****H0010010
C***** THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN H0010015
C***** SEGMENTS 003, 008, 009, 010, 011 ARE RUN AS ONE MAIN PROGRAM H0010020
C*****H0010025
C***** DIMENSION IAC2I(2,7), EP1S(33), AC2S(5,6), AC3S(1,1,3) H0010030
C***** DIMENSION A1S(5), A2S(2,2), CMA1S(5), A3S(3,3,3) H0010035
C***** 1, IAC1I(5), AC1S(25), MCA1I(5) H0010040
C***** INTEGER AVI, MCA3I(2,3,3), I2I(2,2), I3I(2,2,2), BVI, MAVI, LAVI, I1I(5) H0010045
C***** REAL JVS, MVS, CVS, BCVS H0010050
C***** LOGICAL MAVB, MBVB, MCVB, MCA1B(7), GH2B(1,2), GI3B(1,1,2), MCBVB H0010055
C***** 1, A1B(2), A2B(2,2), A3B(2,2,2), GG1B(2), AVB, CVB, OVB, EVB H0010060
C***** DOUBLE PRECISION AVO, BVO, CVO, OVO H0010065
C***** 1, OPA2O(2,2), MCA3O(1,4,2), A1O(4) H0010070
C***** DOUBLE PRECISION OPA1O(5), Z2OVO, A2O(2,2), A3O(2,2,2) H0010075
C***** 1, AC1O(10), BC2O(7,4), OPAVO, OPBVO H0010080
C***** COMPLEX AOSVC, BCVC, CHEVC, OCVC, LL1C(32), LM2C(8,4) H0010085
C***** 1, LN3C(9,2,2), BVC, QAVC, CHAVC, CHBVC, CHCVC, CHOVC H0010090
C***** 2, A1C(12), A2C(2,2), B3C(2,2,2), B1C(8) H0010095
C***** END OF SPECIFICATIONS FOR SEGMENTS 003, 008, 009, 010, 011 H0010100
C*****H0010105
C*****H0030010
C*****H0030020
C***** DATA1 - (003) H0030030
C***** COMPLETE WITH DATA2 - (010) H0030040
C*****H0030050
C*****H0030060
C***** GENERAL PURPOSE ASA REFSH0030070
C***** TO TEST FORMAT OF DATA STATEMENT 7.2.2 H0030080
C***** RESTRICTIONS OBSERVED H0030090
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C***** 10.1.2/08H0030120
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C***** 10.2.4/47H0030140
C***** STORAGE UNITS INITIALIZED ONLY ONCE 10.1.2/10H0030150
C***** SUBSCRIPTS ARE INTEGER CONSTANTS 7.2.2/28H0030160
C***** EXPLICIT VARIABLES H0030170
C***** AVI IS INTEGER H0030180
C***** JVS IS REAL H0030190
C*****H0030200
C***** SPECIFICATIONS SEGMENTS 003 AND 010 H0030210
C*****H0030220
C***** WHEN EXECUTING ONLY SEGMENTS 003 AND 010, REMOVE THE PRECEDING H0010110
C***** SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS WHICH APPEAR AS H0010115
C***** COMMENTS MUST HAVE THE C= IN COL 1 AND 2 REMOVED. H0010120
C*****H0010125
C= DIMENSION IAC2I(2,7), EP1S(33), AC2S(5,6) H0010130

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C= 1,AC3S(1,1,3) H0010135
C= INTEGER AVI ,MCA3I(2,3,3), I1I(5) H0010140
C= REAL JVS H0010145
C= LOGICAL MAVB,MBVB,MCVB, MCA1B(7),GH2B(1,2),GI3B(1,1,2),GG1B(2) H0010150
C= DOUBLE PRECISION AVD,BVD,CVD,DVD H0010155
C= 1,OPA2D(2,2),MCA3O(1,4,2),A1O(4) H0010160
C= COMPLEX AOSVC,BCVC,CHEVC,DCVC,LL1C(32),LM2C(8,4),LN3C(9,2,2) H0010165
C***** H0010170
C***** TEST DATA INITIALIZATION OF INTEGER CONSTANTS TO 5.1.1.1 H0030230
C***** INTEGER VARIABLES H0030240
DATA I1I(1),MCA3I(1,2,1),MCA3I(2,2,2),IAC2I(2,5),IAC2I(2,6), H0030250
AMCA3I(2,1,1)/0,2*10,3*246/ H0030260
C***** TEST DATA INITIALIZATION OF REAL CONSTANTS TO 5.1.1.2 H0030270
C***** REAL VARIABLES H0030280
DATA EP1S(8),EP1S(10),EP1S(12),AC2S(5,5),EP1S(11),AC2S(5,3), H0030290
AAC2S(5,2)/2*0.,2*-750.05,.24615E3,2.4615E2,3.54674E+3/ H0030300
C***** TEST DATA INITIALIZATION OF OP CONTANTS TO 5.1.1.3 H0030310
C***** OP VARIABLES H0030320
DATA BVO ,OPA2O(2,1),CVO,DPA2O(1,2), DVO,DPA2O(2,2)/+34567890.1D- H0030330
A3,345.678901D+2,112233.50-08,11.22335D-4,3.4D12,0.34D13/ H0030340
C***** TEST DATA INITIALIZATION OF COMPLEX CONSTANTS TO 5.1.1.4 H0030350
C***** COMPLEX VARIABLES H0030360
DATA AOSVC,LN3C(9,1,2),LL1C(30),LN3C(8,2,2),LM2C(8,3),LN3C(9,1,1), H0030370
ALL1C(32),LN3C(8,1,2)/2*(11.1,22.22),(-3.45E1,-67.8E-1), H0030380
B(-34.5E0,-6.78E0),(10.E0,-20.E0),(1.0E1,-2.0E1),(-20.0E1,+4.E3), H0030390
C(-200.E0,+4000.E0)/ H0030400
C***** TEST DATA INITIALIZATION OF LOGICAL CONSTANTS TO 5.1.1.5 H0030410
C***** LOGICAL VARIABLES H0030420
DATA MAVB ,MCA1B(6), MBVB/2*.TRUE.,.FALSE./ H0030430
C***** TEST DATA INITIALIZATION OF HOLLERITH CONSTANTS 5.1.1.6 H0030440
DATA GI3B(1,1,2),GG1B(1),EP1S(15)/2HNO,2*2HAO/ H0030450
C***** TEST DATA INITIALIZATION OF A MIXTURE OF ALL TYPES OF H0030460
C***** CONSTANTS AND VARIABLES IN ONE DATA STATEMENT H0030470
DATA I1I(2),IAC2I(1,5),IAC2I(1,3), I1I(5),IAC2I(2,4), H0030480
AMCA3I(1,1,2), AVI,EP1S(13),AC2S(2,6),AC2S(1,6),AC3S(1,1,1), H0030490
BAC2S(3,6),AC3S(1,1,2),AC2S(4,6), AVO,A1O(1),OPA2O(1,1), H0030500
CMCA3O(1,1,1),A1O(2),MCA3O(1,1,2),LL1C(29),LN3C(8,2,1),BCVC, H0030510
OLM2C(8,4),GH2B(1,1),GI3B(1,1,1), MCVB/3*0,4*-750,2*0.,2*246.15, H0030520
E354674.E-2,354.674E+ 1,35467.4E-01,3*- .29505,-29.50+3, H0030530
F3456.789010+01,0.3456789010+5,2*(1.11E1,+222.2E-1),(-34.5,-6.78), H0030540
G(-.345E2,-678.E-2),2*.TRUE.,.FALSE./, I1I(3), I1I(4), H0030550
HMCA3I(1,2,2),AC2S(5,6),JVS ,EP1S(14),AC3S(1,1,3),IAC2I(1,4), H0030560
ICHEVC,LL1C(31),DCVC,LM2C(8,2),A1O(3),MCA3O(1,3,1),A1O(4), H0030570
JMCA3D(1,4,1), MCA1B(7),GH2B(1,2) / 2*10,+246, H0030580
K-.75005E03,-7.5005E+02,2HBC,2H*=-,2H P,2*(10.,-20.), H0030590
L(-200.,+4000.),(-2000.E-1,+400.E1),+1122.3350-6,0.000011223350+2, H0030600
M34.0D11,0.034014,2*.FALSE./ H0030610
C***** END OF SEGMENT 003 H0030620
C***** H0080010
C***** H0080020
C***** FMTRW - (008) H0080030
C***** H0080040
C***** H0080050
C***** GENERAL PURPOSE ASA REF H0080060
C***** TO TEST SIMPLE FORMAT AND FORMATTED I/O STATEMENTS 7.1.3.2.2 H0080070
C***** SO THAT THESE FEATURES MAY BE USED IN OTHER TEST 7.1.3.2.3 H0080080
C***** PROGRAM SEGMENTS 7.2.3 H0080090
C***** RESTRICTIONS OBSERVED H0080100
C***** * ALL FORMAT STATEMENTS ARE LABELED 7.2.3 /57 H0080110
C***** * H AND X OEScriptors ARE NEVER REPEATED 7.2.3.3/54 H0080120
C***** * FOR W.O OEScriptors, O IS ALWAYS SPECIFIED AND 7.2.3.1/31 H0080130
C***** W IS EQUAL TO OR GREATER THAN O 7.2.3.1/33 H0080140
C***** * FIELD WIDTH IS NEVER ZERO 7.2.3 /18 H0080150
C***** * IF THERE IS AN I/O LIST, THE FORMAT STATEMENT 7.2.3.4/22 H0080160
C***** CONTAINS AT LEAST ONE FIELD OEScriptor (OTHER H0080170
C***** THAN H OR X) H0080180
C***** * ITEMS IN I/O LIST CORRESPOND TO FORMAT DESCRIPTORS 7.2.3.4/36 H0080190
C***** * NEGATIVE OUTPUT VALUES ARE SIGNED 7.2.3.6/56 H0080200

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[illegible]

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CARD 34 8657.8600 9876.54 H0080890
COL. 1-----61 H0080900
CARO 35 9.8765598.7654E2 9876.54 987.6548647860-386.4786E286.4786 H0080910
COL. 62-----80 H0080920
CARD 35 8657.8600 9876.54 H0080930
COL. 1-----61 H0080940
CARD 36 122333544888611222 H0080950
CARD 37 455666233444966111 H0080960
CARD 38 788999377555899777 H0080970
CARD 39 11112 334 559 880 11 H0080980
CARO 40 6 778 995 441 222 00 H0080990
C***** H0081000
C***** S P E C I F I C A T I O N S SEGMENT 008 H0081010
C***** H0010175
C***** WHEN EXECUTING ONLY SEGMENT 008, THE SPECIFICATION STATEMENTS H0010180
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C= IN COLUMNS H0010185
C***** 1 AND 2 REMOVED H0010190
C= DIMENSION A1S(5),A2S(2,2),EP1S(33),CMA1S(5),A3S(3,3,3) H0010195
C= 1,IAC1I(5),IAC2I(2,7),AC1S(25),AC2S(5,6),MCA1I(5) H0010200
C= INTEGER I2I(2,2),I3I(2,2,2),MCA3I(2,3,3) H0010205
C= LOGICAL MCA1B(7),A1B(2),A2B(2,2),A3B(2,2,2),AVB,CVB,OVB,MCBVB H0010210
C= DOUBLE PRECISION DPA1D(5),MCA3O(1,4,2),ZZDVD,A2O(2,2),A3O(2,2,2) H0010215
C= 1,AC1O(10),BC2D(7,4),DPAVD,DPBVD H0010220
C= COMPLEX BVC,DAVC,CHAVC,CHBVC,CHCVC,CHOVC H0010225
C= 1,LL1C(32),LM2C(8,4),A1C(12),A2C(2,2),B3C(2,2,2),B1C(8) H0010230
C***** H0010235
C***** I N P U T - O U T P U T TAPE ASSIGNMENT STATEMENTS H0081020
C***** H0081030
IRVI = 5 H0070010
NUVI = 6 H0070015
C***** IDENTIFY THE SOURCE OF THE TEST PROGRAMS H0070020
WRITE(NUVI,0071) H0070025
0071 FORMAT (41H1 F O R T R A N T E S T P R O G R A M S// H0070030
1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS// H0070035
3 37H FOR USE ON LARGE FORTRAN PROCESSORS // H0070040
4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966// H0070045
5 23H VERSION 3 PART 1 ///) H0070050
C***** 3 OF 6 INPUT CAROS IDENTIFY THE USERS SYSTEM AND COMPILER H0070055
C PREPARED BY USER H0070060
C READ, NO LIST H0070065
C PREPARED BY USER H0070070
C READ, NO LIST H0070075
C PREPARED BY USER H0070080
C READ, NO LIST H0070085
READ(IRVI,0070) H0070090
READ(IRVI,0072) H0070095
READ(IRVI,0073) H0070100
0070 FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 //) H0070105
0072 FORMAT(40H TEST PROGRAMS //) H0070110
0073 FORMAT(40H FORTRAN COMPILER //) H0070115
WRITE(NUVI,0070) H0070120
WRITE(NUVI,0072) H0070125
WRITE(NUVI,0073) H0070130
C***** HEADER FORMAT STATEMENT H0081040
0080 FORMAT (1H1, 1X,27HFMTRW - (008) FORMATTED I/O//2X, H0081050
138HASA REFS - 7.1.3.2.2 7.1.3.2.3 7.2.3//2X,7HRESULTS) H0081060
WRITE (NUVI,0080) H0081070
C***** FORMAT WITH DIGITS 0-9 IN H FIELDS H0081080
0081 FORMAT (/122H 10101010101010101010,9H999999999,8H888888888/2X, H0081090
17H7777777,6H6666666,5H55555,4H4444,3H333,2H22,1H1) H0081100
WRITE (NUVI,0081) H0081110
C***** FORMAT CONTAINING ALL LETTERS (A-Z) IN H FIELDS AND H0081120
C***** A VARIABLE NUMBER OF BLANKS IN H AND X FIELDS H0081130
0082 FORMAT(/2X,3HAAA,5X,5H ,3HBBB,10X,3HCCC/3H ,3HODD,9X,3HEEE, H0081140
19H ,3HFFF/4X,3HGGG,8X,3HHHH,8H ,3HIII/5H ,3HJJJH0081150
2,7H ,3HKKK,7X,3HLLL/6X,3HMMM,6X,3HNNN,6H ,3HOOO/7X, H0081160
3 3HPPP,5H ,3HQQQ,5X,3HRRR/8X,3HSSS,4X,3HTTT,4H ,3HUUU/ 1H0081170
45H VVV ,3HWWW,3X,3HXXX/12X,3HYYY,3X,3HZZZ) H0081180

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WRITE (NUVI,0082)	H0081190
C***** FORMAT CONTAINING H FIELD WITH ALL POSSIBLE	H0081200
C***** SPECIAL CHARACTERS	3.1/46H0081210
0083 FORMAT(/21H = + - * / () , . \$)	H0081220
WRITE (NUVI,0083)	H0081230
C***** FORMAT TO TEST VERTICAL SPACING	H0081240
C***** 7.1.3.4/04	H0081250
7154 FORMAT(/24H BEGIN VERTICAL SPACING//30H FORMAT(14H SKIP 1 LINE	H0081260
1 /) /)	H0081270
WRITE (NUVI, 7154)	H0081280
7155 FORMAT(32H FORMAT(15H SKIP 2 LINES /)) /)	H0081290
WRITE (NUVI, 7155)	H0081300
7156 FORMAT(33H FORMAT(16H SKIP 3 LINES /)) /)	H0081310
WRITE (NUVI,7156)	H0081320
0084 FORMAT(32H IMBEDDED SLASHES - SKIP 1 LINE //	H0081330
1 14H SKIP 2 LINES/// 14H SKIP 3 LINES/ 3(/),	H0081340
2 19H SKIP TO NEXT LINE/ 1H , 12H SKIP 1 LINE/ 1H0,	H0081350
38H TEST NO/1H+,9X,14H/1H+,7HADVANCE/19H SKIP TO NEW PAGE /	H0081360
4 1H1, /// 30H END OF VERTICAL SPACING TEST)	H0081370
WRITE (NUVI,0084)	H0081380
C***** FORMATTED READ AND WRITE STATEMENTS WITH INTEGER 7.1.3.2.1/25	H0081390
C***** VARIABLES AND ARRAY ELEMENTS IN AN I/O LIST. (THE 7.2.3.3/01	H0081400
C***** NUMBER OF ITEMS IN THE LIST IS VARIABLE.) SOME	H0081410
C***** FORMAT STATEMENTS CONTAIN REPEATED FIELDS.	H0081420
C***** FORMATS CONTAINING I CONVERSION DESCRIPTORS. 7.2.3.6.1/03	H0081430
C***** FIELDS WIDTH IS FROM 1 TO 5 DIGITS. SOME 7.2.3.3 /01	H0081440
C***** FIELDS ARE REPEATED	H0081450
0085 FORMAT (/25H BEGIN I CONVERSION TEST/40H EACH PAIR OF LINES SHOH	H0081460
1ULD BE IDENTICAL/47H LINE 1 OF EACH GROUP IS HOLLERITH INFORMATION	H0081470
2N)	H0081480
WRITE (NUVI,0085)	H0081490
C***** INPUT CARD 1	H0081500
0086 FORMAT (2X,I3)	H0081510
READ (IRVI,0086) JACVI	H0081520
C***** INPUT CARD 2	H0081530
0087 FORMAT (1X,I5,1X,I4)	H0081540
READ (IRVI,0087) KBCVI, IAC1I(1)	H0081550
C***** INPUT CARD 3	H0081560
0088 FORMAT (2X,I3,2X,3(I2),2X,I1)	H0081570
READ (IRVI,0088) IAC2I(1,2), LCCVI, IAC1I(5), IHDVI, MCA3I(1,2,3)	H0081580
C***** INPUT CARD 4	H0081590
0089 FORMAT (2X,2(I3),1(I5),4(I2),5(I1),3(I4))	H0081600
READ (IRVI,0089) MDCVI, IAC2I(2,2), IAC1I(4), NECVI, IAC1I(3),	H0081610
1 IAC2I(2,3), IAC2I(2,1), MRRVI, IGDVI, KGV, IEDVI, IAC2I(1,1)	H0081620
2 ,IAC1I(2), IAC2I(2,7), MCA3I(2,1,3)	H0081630
7086 FORMAT (/ 5H 999)	H0081640
WRITE (NUVI,7086)	H0081650
WRITE (NUVI,0086) JACVI	H0081660
7087 FORMAT (/ 11H 5555 4444)	H0081670
WRITE (NUVI,7087)	H0081680
WRITE (NUVI,0087) KBCVI, IAC1I(1)	H0081690
7088 FORMAT (/ 16H 666 77777 8)	H0081700
WRITE (NUVI,7088)	H0081710
WRITE (NUVI,0088) IAC2I(1,2), LCCVI, IAC1I(5), IHDVI, MCA3I(1,2,3)	H0081720
7089 FORMAT (/ 38H 3333311111222222225555544444444444)	H0081730
WRITE (NUVI,7089)	H0081740
WRITE (NUVI,0089) MDCVI, IAC2I(2,2), IAC1I(4), NECVI, IAC1I(3),	H0081750
1 IAC2I(2,3), IAC2I(2,1), MRRVI, IGDVI, KGV, IEDVI, IAC2I(1,1)	H0081760
2 ,IAC1I(2), IAC2I(2,7), MCA3I(2,1,3)	H0081770
C***** FORMATTED READ AND WRITE STATEMENTS WITH REAL 7.1.3.2.1/25	H0081780
C***** VARIABLES AND ARRAY ELEMENTS IN AN I/O LIST.(THE 7.2.3.6.2/18	H0081790
C***** NUMBER OF ITEMS IN THE LIST IS VARIABLE.) ONLY 7.2.3.3 /01	H0081800
C***** F CONVERSION IS USED IN THE FORMAT STATEMENTS.	H0081810
C***** SOME F FIELD DESCRIPTORS ARE REPEATED. FIELD	H0081820
C***** WIDTH ALWAYS CONTAINS 1 POSITION FOR DECIMAL PT.	H0081830
C***** FORMATS CONTAINING F CONVERSION DESCRIPTORS. 7.2.3.6.2/18	H0081840
C***** FIELD WIDTH IS FROM 1 TO 7 DIGITS. PLACEMENT OF 7.2.3.3 /01	H0081850
C***** DECIMAL POINT IS VARIABLE. SOME F FIELDS ARE	H0081860

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C***** REPEATED H0081870
7080 FORMAT (/ 25H BEGIN F CONVERSION TEST/40H EACH PAIR OF LINES SHOH0081880
      1ULD BE IDENTICAL) H0081890
      WRITE (NUVI,7080) H0081900
C***** INPUT CARD 5 H0081910
7081 FORMAT (2X,F3.1,F8.1) H0081920
      READ (IRVI,7081) ACVS, CMAVS H0081930
C***** INPUT CARD 6 H0081940
7082 FORMAT(2X,F4.2,F5.3,F8.6) H0081950
      READ (IRVI,7082) A1S(2), BCVS, CMBVS H0081960
C***** INPUT CARD 7 H0081970
7083 FORMAT (2X,F6.4,F7.5,4(F4.1),F5.1) H0081980
      READ (IRVI,7083) HHCVS, CMCVS, GGCVS, FFCVS, A1S(1), AC1S(25), H0081990
      1 AC2S(4,1) H0082000
C***** INPUT CARD 8 H0082010
7084 FORMAT (2X,2(F6.1),2X,2(F7.1),2X,F5.2) H0082020
      READ (IRVI,7084) AC1S(18), AC1S(7), AC2S(4,4) , AC1S(8), AC1S(10) H0082030
C***** INPUT CARD 9 H0082040
7085 FORMAT (2X,5(F3.1),F7.3,3(F5.3)) H0082050
      READ (IRVI,7085) AC2S(3,3) , AC2S(5,1), CCVS, AC1S(12), DCVS, H0082060
      1 AC1S(13), AC1S(5), A3S(1,1,2), AC2S(3,5) H0082070
7091 FORMAT (/ 13H 7.7123456.7) H0082080
      WRITE (NUVI,7091) H0082090
      WRITE (NUVI,7081) ACVS, CMAVS H0082100
7092 FORMAT (/ 19H 8.889.9997.123456) H0082110
      WRITE (NUVI,7092) H0082120
      WRITE (NUVI,7082) A1S(2), BCVS, CMBVS H0082130
7093 FORMAT (/ 36H 5.44446.5555533.133.133.133.1444.1) H0082140
      WRITE (NUVI,7093) H0082150
      WRITE (NUVI,7083) HHCVS, CMCVS, GGCVS, FFCVS, A1S(1), AC1S(25) H0082160
      1 ,AC2S(4,1) H0082170
7094 FORMAT (/ 37H 5555.15555.1 66666.166666.1 44.22 ) H0082180
      WRITE (NUVI,7094) H0082190
      WRITE (NUVI,7084) AC1S(18), AC1S(7), AC2S(4,4) , AC1S(8), AC1S(10) H0082200
7095 FORMAT ( /39H 2.12.12.12.12.1666.3334.3334.3334.333) H0082210
      WRITE (NUVI,7095) H0082220
      WRITE (NUVI,7085) AC2S(3,3) , AC2S(5,1), CCVS, AC1S(12), DCVS, H0082230
      1 AC1S(13), AC1S(5), A3S(1,1,2), AC2S(3,5) H0082240
C***** FORMATTED READ AND WRITE STATEMENTS WITH REAL 7.1.3.2.1/ H0082250
C***** VARIABLES AND ARRAY ELEMENTS IN AN I/O LIST. 7.2.3.6.2/ H0082260
C***** E CONVERSION IS USED IN THE FORMAT STATEMENTS 7.2.3.3 / H0082270
C***** SOME E FIELD DESCRIPTORS ARE REPEATED H0082280
C***** (FIELD WIDTH ALWAYS INCLUDES 6 EXTRA POSITIONS 7.2.3.6.2.1/47H0082290
C***** TO PROVIDE FOR SIGN, DECIMAL POINT AND EXPONENT. 7.2.3.6.01H0082300
C***** PROVISION IS ALWAYS MADE FOR THE DIGIT ZERO 7.2.3.6.2.1/04H0082310
C***** BEFORE THE DECIMAL POINT) H0082320
C***** THE NUMBER OF DECIMAL PLACES VARIES FROM 1 H0082330
C***** TO 7 DIGITS. H0082340
7110 FORMAT (/25H BEGIN E CONVERSION TEST/40H EACH PAIR OF LINES SHOH0082350
      1ULD BE IDENTICAL) H0082360
      WRITE (NUVI,7110) H0082370
C***** INPUT CARD 10 H0082380
7111 FORMAT (E8.1,E9.2,E10.3,E11.4,E12.5,E13.6,E14.7) H0082390
      READ (IRVI,7111) AVS, BVS, EP1S(5), AC2S(1,5), CVS, AC2S(5,4), H0082400
      1 A3S(2,1,2) H0082410
7112 FORMAT (/ 21H -0.1E+01 0.22E-01/2X,E8.1,2X,E9.2// H0082420
      1 25H 0.333E+02 0.4444E+03/2X,E10.3,2X,E11.4// H0082430
      2 29H -0.55555E-03 0.666666E+00/2X,E12.5,2X,E13.6// H0082440
      3 16H 0.9876543E+12/2X,E14.7) H0082450
      WRITE (NUVI,7112) AVS, BVS, EP1S(5), AC2S(1,5), CVS, AC2S(5,4), H0082460
      1 A3S(2,1,2) H0082470
C***** FORMATTED READ AND WRITE STATEMENTS WITH COMPLEX 7.1.3.2.1/25H0082480
C***** VARIABLES AND ARRAY ELEMAENTS IN AN I/O LIST. 7.2.3.6.4/52H0082490
C***** E AND F CONVERSION ARE USED IN THE FORMAT 7.2.3.4 /39H0082500
C***** STATEMENTS. SOME FORMAT DESCRIPTORS ARE REPEATED 7.2.3.3 /01H0082510
7118 FORMAT ( 31H1 BEGIN COMPLEX CONVERSION TEST/32H EACH GROUP SHOULH0082520
      1D BE IDENTICAL) H0082530
      WRITE (NUVI,7118) H0082540

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C***** INPUT CARD 11 H0082550
7119 FORMAT ( 2(F3.1) , 2(F4.1), 2(F7.4)) H0082560
      READ (IRVI,7119) CHAVC, CHBVC, A1C(2) H0082570
C***** INPUT CARDS 12, 13 H0082580
7120 FORMAT ( 2(F6.2), 2(E10.3), 2(E11.4), 2(E8.1)/ 2(E14.7)) H0082590
      READ (IRVI,7120) A2C(1,2), B3C(2,2,1), CHCVC, A1C(1), CHDVC H0082600
C***** INPUT CARD 14 H0082610
7122 FORMAT (F5.2, E11.4, E10.3, F4.1, 3(F5.2,E11.4)) H0082620
      READ (IRVI,7122) A2C(2,1), BVC, QAVC, LM2C(1,2), LL1C(2) H0082630
7123 FORMAT (/ 10H 1.0 5.5/ 2X, F3.1,2X, F3.1 // H0082640
      1 12H 22.0 66.6/ 2X, F4.1, 2X, F4.1 // H0082650
      2 18H 33.1234 55.0789/ 2X, F7.4, 2X, F7.4 ) H0082660
      WRITE (NUVI,7123) CHAVC, CHBVC, A1C(2) H0082670
7124 FDRMAT (/ 16H 123.00 456.88/ 2X, F6.2, 2X, F6.2 // H0082680
      1 24H 0.123E+01 0.987E+01/ 2X, E10.3, 2X, E10.3 // H0082690
      2 26H -0.2345E+02 -0.6879E+02/ 2X, E11.4, 2X, E11.4 // H0082700
      3 20H 0.7E+03 0.4E+03/ 2X, E8.1, 2X, E8.1 // H0082710
      4 32H 0.9876543E-04 0.1357913E-04/ 2X, E14.7, 2X, E14.7) H0082720
      WRITE (NUVI,7124) A2C(1,2), B3C(2,2,1), CHCVC, A1C(1), CHDVC H0082730
7126 FORMAT (/ 20H 19.34 0.2468E+02/ 2X, F5.2, 2X, E11.4// H0082740
      1 18H 0.765E+02 87.6/ 2X, E10.3, 2X, F4.1// H0082750
      2 18H 43.96 0.5407E+02/ 3(F7.2,E11.4//) H0082760
      WRITE (NUVI,7126) A2C(2,1), BVC, QAVC, LM2C(1,2), LL1C(2) H0082770
C***** FORMATTED READ AND WRITE STATEMENTS WITH 7.1.3.2.1/25H0082780
C***** DOUBLE PRECISION VARIABLES IN AN I/O LIST. 7.2.3.6.3/41H0082790
C***** D CONVERSION IS USED IN THE FORMAT STATEMENTS. 7.2.3.3 /01H0082800
C***** SOME D FORMAT DESCRIPTORS ARE REPEATED. (FIELD H0082810
C***** WIDTH ALWAYS INCLUDES 6 EXTRA POSITIONS TO 7.2.3.6.2.1/45H0082820
C***** PROVIDE FOR SIGN, DECIMAL POINT AND EXPONENT 7.2.3.6 /04H0082830
C***** AND 1 POSITION FOR OPTIONAL DIGIT ZERO BEFORE 7.2.3.6.2.1/04H0082840
C***** THE DECIMAL POINT) H0082850
7127 FDRMAT (/ 25H BEGIN O CONVERSION TEST/32H EACH GROUP SHOULD BE I H0082860
      1IDENTICAL) H0082870
      WRITE (NUVI,7127) H0082880
C***** INPUT CARD 15 H0082890
7128 FDRMAT ( 2X, D8.1) H0082900
      READ (IRVI,7128) DPAVD H0082910
C***** INPUT CARDS 16, 17, 18 H0082920
7129 FDRMAT ( 2(O10.3), O14.7, O18.11/ 3(O21.14)/ 2(D16.9)) H0082930
      READ (IRVI,7129) MCA3D(1,2,2), AC1D(2), BC2D(3,1), AC1D(1), H0082940
      1 22DVD, AC1D(3), DPBVD, MCA3D(1,2,1), BC2D(1,2) H0082950
7130 FDRMAT (/ 10H 0.1D+06) H0082960
      WRITE (NUVI,7130) H0082970
      WRITE (NUVI,7128) DPAVD H0082980
7131 FDRMAT (/ 12H -0.3340-04/ 2X, O10.3 / 2X, O10.3 // H0082990
      1 16H 0.76576540+00/ 2X, D14.7 // H0083000
      2 20H1 0.12345678901D+10/ 2X, O18.11 // H0083010
      3 23H 0.98765432109876D-01/ 2X, D21.14/ 2X, D21.14 / 2X, O21.14//H0083020
      4 18H -0.555555542D+03/ 2X, D16.9/ 2X, O16.9 ) H0083030
      WRITE (NUVI,7131) MCA3D(1,2,2), AC1D(2), BC2D(3,1), AC1D(1) , H0083040
      1 22DVD, AC1D(3), DPBVD, MCA3D(1,2,1), BC2D(1,2) H0083050
C***** FORMATTED READ AND WRITE STATEMENTS WITH LOGICAL 7.1.3.2.1/25H0083060
C***** VARIABLES AND ARRAY ELEMENTS IN AN I/O LIST 7.2.3.7 /56H0083070
C***** SOME L DESCRIPTORS ARE REPEATED. H0083080
7132 FORMAT(/ 25H BEGIN L CONVERSION TEST/33H LINES BELDW SHOULD BE I H0083090
      1IDENTICAL) H0083100
C***** L CONVERSION IS USED IN THE FORMAT STATEMENTS 7.2.3.3 /01H0083110
      WRITE (NUVI,7132) H0083120
C***** INPUT CARD 19 H0083130
7133 FORMAT (L4) H0083140
      READ (IRVI,7133) A2B(2,1) H0083150
C***** INPUT CARD 20 H0083160
7134 FORMAT ( 2(L4), L3, L2, L3, 2(L1)) H0083170
      READ (IRVI,7134) MCA1B(1), MCBVB, A2B(1,1), A3B(1,1,1), CVB, H0083180
      1 DVB, A3B(1,2,1) H0083190
7135 FDRMAT (/ 24H T F F T T FTF/ 2X, 3(L4), L3, L2, L3, H0083200
      1 2(L1)) H0083210
      WRITE (NUVI,7135) A2B(2,1), MCA1B(1), MCBVB, A2B(1,1), A3B(1,1,1), H0083220

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1      CVB, DVB, A3B(1,2,1)                                H0083230
C*****  FORMATTED READ AND WRITE STATEMENTS WITH ARRAY    7.1.3.2.1/26H0083240
C*****  NAMES OF ALL TYPES IN AN I/D LIST. THE NUMBER OF  7.1.3.2.1/39H0083250
C*****  ITEMS IN THE LIST IS VARIABLE. SOME FIELD         7.2.3.3 /01H0083260
C*****  DESCRIPTORS ARE REPEATED.                          H0083270
7097  FORMAT (/32H TEST UNSUBSCRIPTED ARRAY NAMES/35H IN I/D LISTS. EH0083280
      1ACH GROUP OF LINES/22H SHOULD BE IDENTICAL.)          H0083290
      WRITE (NUVI,7097)                                       H0083300
C*****  INPUT CARDS 21, 22                                  H0083310
7098  FORMAT(2X,8(F3.1),8F3.1/8(2(F3.1)))                   H0083320
      READ (IRVI,7098) B1C,B3C                                H0083330
C*****  INPUT CARDS 23, 24, 25                              H0083340
7099  FDMAT(2X,4(F4.1)/4(D9.2),4D9.2/5(I2))                 H0083350
      READ (IRVI,7099) A2S, A3D, MCA1I                        H0083360
C*****  INPUT CARDS 26, 27, 28                              H0083370
7100  FDMAT(2X,4(D9.2)/27(F2.1)/5(L1),5L1)                   H0083380
      READ (IRVI,7100) A2D, A3S, A1B, A3B                     H0083390
C*****  INPUT CARDS 29, 30                                  H0083400
7101  FORMAT (2X,4(I2),5(D9.2)/4(2(F3.1)),8(I2),4(L1),5(F3.1)) H0083410
      READ (IRVI,7101) I2I, DPA1D, A2C, I3I, A2B, CMA1S       H0083420
7102  FDMAT (/ 26H 9.91.19.92.29.93.39.94.4 / 2X,8(F3.1)/2X,8(F3.1)) H0083430
      WRITE (NUVI,7102) B1C                                    H0083440
7103  FORMAT (/ 18H -9.9-9.9-9.9-9.9/2X,4(F4.1) //          H0083450
      138H -0.99D+01-0.99D+01-0.99D+01-0.99D+01/2X,4(D9.2)/2X,4(D9.2)// H0083460
      2 12H 9999999999/ 2X, 5(I2) //38H 0.99D+01 0.99D+01 0.99D+01 0.9H0083470
      39D+01/ 2X, 4(D9.2) // 37H 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9/1X,H0083480
      4 9(F4.1)/ 1X, 9(F4.1)/ 1X,9(F4.1)/ 4H1 TF/ 2X,2(L1)) H0083490
      WRITE (NUVI,7103) A2S, A3D, MCA1I, A2D, A3S, A1B         H0083500
7104  FDMAT (/ 10H TFTFTFTF/ 2X, 8(L1) // 10H 99999999/ 2X, 4(I2)//H0083510
      1 11H 0.99D+01/ 5(D11.2/) /26H 9.95.59.96.69.97.79.98.8/2X, H0083520
      28(F3.1)/2X,8(F3.1)/2X,8(F3.1)//18H 9999999999999999/2X,8(I2)// H0083530
      3 6H TFTF/ 2X, 4(L1) // 17H 9.99.99.99.99.9/2X, 5(F3.1)) H0083540
      WRITE (NUVI,7104) A3B, I2I, DPA1D, A2C, B3C, I3I, A2B, CMA1S H0083550
C*****  FORMATTED WRITES TO TEST THAT LEADING BLANKS      7.2.3.6/51H0083560
C*****  ARE INSERTED IN THE OUTPUT FIELD WHEN THE OUTPUT  H0083570
C*****  PRODDUCED IS SMALLER THAN THE FIELD WIDTH. (I, E, H0083580
C*****  F AND D DESCRIPTORS ARE TESTED)                    H0083590
7090  FORMAT ( /30H LEADING BLANK INSERTION TEST/40H EACH PAIR OF LINEH0083600
      1S SHDULD BE IDENTICAL)                                H0083610
      WRITE (NUVI,7090)                                       H0083620
7096  FORMAT (/ 3H 8/I3//4H 22/I4//5H 22/I5//6H 22/I6//      H0083630
      1 7H 22/I7// 5H 7.7/F5.1// 7H 8.88/F7.2/ 9H1 9.999/    H0083640
      2 F9.3// 11H 5.4444/F11.4// 13H 6.55555/F13.5//        H0083650
      3 15H 7.123456/F15.6// 10H 0.21E+01/E10.2//            H0083660
      4 12H 0.331E+02/E12.3// 14H 0.4441E+03/E14.4//          H0083670
      5 16H 0.55551E+04/E16.5// 18H 0.666661E+05/E18.6//      H0083680
      6 20H 0.1234567E+06/E20.7)                              H0083690
      WRITE (NUVI,7096) MCA3I(1,2,3), IAC1I(3), NECVI, IAC1I(3), H0083700
      1 IAC2I(2,3), ACVS, A1S(2), BCVS, HHCVS, CMCVS, CMBVS, H0083710
      2 DCVS, AC1S(25), AC2S(4,1), AC1S(7), AC1S(8), CMAVS     H0083720
7105  FORMAT (/ 9H 0.1D+00/D9.1// 10H 0.1D+00/D10.1//       H0083730
      1 11H 0.1D+00/D11.1// 12H 0.1D+00/D12.1//              H0083740
      2 10H 1.0 5.5/ 2(F5.1) // 12H 9.9 5.5/ 2(F6.1) //      H0083750
      3 14H 9.9 5.5/ 2(F7.1) // 16H 1.0 5.5/ 2(F8.1))        H0083760
      WRITE (NUVI,7105) AC1D(3), ZZDVD, ZZDVD,                H0083770
      1 ZZDVD, CHAVC, B3C(1,1,1), B3C(1,1,1), CHAVC          H0083780
C*****  FDMATTED READ AND WRITE STATEMENT TO TEST THAT    7.2.3.7/03H0083790
C*****  OPTIDNAL BLANKS MAY PRECEDE A LDGICAL INPUT FIELD 7.2.3.7/06H0083800
7138  FORMAT ( 33H1 TEST LDGICAL FIELDS WITH BLANKS/33H LINES BELDW SHH0083810
      1DULD BE IDENTICAL)                                    H0083820
      W I TE (NUVI,7138)                                       H0083830
C*****  INPUT CARD 31                                        H0083840
7139  FORMAT ( L6, L4, L10, L5)                               H0083850
      READ (IRVI,7139) AVB, MCA1B(2), A2B(1,2), A3B(2,1,2)   H0083860
7140  FORMAT (/27H T F T F/ 2X, L6, L4, L10, L5)             H0083870
      WRITE (NUVI,7140) AVB, MCA1B(2), A2B(1,2), A3B(2,1,2)  H0083880
C*****  FDMATTED READ AND WRITE TO TEST F DESCRIPTORS     7.2.3.1/31H0083890
C*****  WHERE D IS EQUAL TO ZERO AND WHERE W EQUALS D       7.2.3.4/40H0083900

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C***** (2ND TEST APPLIES ONLY TO READ STMENTS.) H0083910
7108 FORMAT (/36H TEST 0 = 0, W=0+1 (PAIRS OF LINES/ 28H BELOW SHDUH0083920
1LO BE IDENTICAL)) H0083930
WRITE (NUVI,7108) H0083940
C***** INPUT CARD 32 H0083950
7141 FORMAT (2X, F5.0, F5.5) H0083960
READ (IRVI,7141) ACVS, BVS H0083970
7109 FORMAT (/7H 4444./2X, F5.0// 9H .55555/ 3X,F6.5) H0083980
WRITE (NUVI,7109) ACVS, BVS H0083990
C***** FORMATS WITH G CONVERSIONS H0084000
C***** INPUT CARD 33 H0084010
7142 FORMAT( 3(G11.4), 3G11.4) H0084020
READ (IRVI,7142) AC1S(14), AC1S(15), AC1S(16), AC1S(17) , H0084030
1 AC1S(21), AC1S(22) H0084040
7143 FORMAT(/ 2X,23HBEGIN G CONVERSION /2X,38HEACH PAIR OF LINES SHH0084050
10ULO BE IDENTICAL//36H .1235E+05 1235. 123.5/ H0084060
2 G14.4,4X,2G11.4//3X,33H 12.35 1.235 .1235/ H0084070
3 G14.4,4X,2G11.4) H0084080
WRITE(NUVI,7143) AC1S(14), AC1S(15), AC1S(16), AC1S(17), H0084090
1 AC1S(21), AC1S(22) H0084100
C***** SCALE FACTOR APPLIED TO F,E,D,G DESCRIPTORS H0084110
C***** ON READ, BUT NOT ON WRITE H0084120
C***** INPUT CARD 34 H0084130
7144 FORMAT(2PF8.3,-2PE9.4,F9.4,OPG9.4,D9.4,-2PE9.4,F9.4,D9.4,2PG9.4) H0084140
READ(IRVI,7144)EP1S(16),EP1S(17),EP1S(18), EP1S(19), H0084150
1 BC2D(1,4),EP1S(20),EP1S(22),BC2D(2,1),EP1S(23) H0084160
7145 FORMAT(22H1 SCALE FACTOR ON READ/31H IN ORDER OF FORMAT OCCURRENCH0084170
1E//40H CARD 9876.54 98.7654E2 9876.54/ H0084180
2 40H OESC 2PF8.3 -2PE9.4 F9.4/ H0084190
3 40H TO BE 98.7654 .9877E+04 987654.00/ H0084200
4 4H IS, F12.4, E12.4, F12.2// H0084210
5 40H CARD 987.654 8647860-4 86.4786E2/ H0084220
6 40H OESC OPG9.4 09.4 -2PE9.4/ H0084230
7 40H TO BE 987.654 .86480-02 .8648E+04/ H0084240
8 4H IS, F12.3,012.4, E12.4// H0084250
9 40H CARD 86.4786 8657.8700 9876.54/ H0084260
A 40H OESC F9.4 09.4 2PG9.4/ H0084270
B 40H TO BE 8647.860 .86580+04 98.77/ H0084280
C4H IS,F12.3, 012.4, G16.4) H0084290
WRITE(NUVI,7145) EP1S(16),EP1S(17),EP1S(18),EP1S(19), H0084300
1 BC2D(1,4),EP1S(20),EP1S(22),BC2D(2,1),EP1S(23) H0084310
C***** SCALE FACTOR APPLIED TO F, E, O, G DESCRIPTORS H0084320
C***** ON WRITE, BUT, NOT ON READ H0084330
C***** INPUT CARD 35 H0084340
7152 FORMAT(F8.2,E9.4,F9.2,G9.3,09.0,E9.4,F9.4,D9.2,G9.4) H0084350
READ(IRVI,7152) AC1S(1),AC1S(2),AC1S(3),AC1S(4), H0084360
1 AC10(4),AC1S(20),AC1S(23),AC10(5),AC1S(24) H0084370
7153 FORMAT(/23H SCALE FACTOR ON WRITE/31H IN ORDER OF FORMAT OCCURREH0084380
1NCE//40H CARD 9.87655 98.7654E2 9876.54/ H0084390
2 40H DESC 2PF12.2 -2PE12.4 F12.4/ H0084400
3 40H TO BE 987.65 .0099E+06 98.7654/ H0084410
4 4H IS, 2PF12.2, -2PE12.4,F12.4// H0084420
5 40H CARD 987.654 8647860-3 86.4786E2/ H0084430
6 40H OESC 1PG12.2 D12.4 -2PE12.4/ H0084440
7 40H TO BE 9.88E+02 8.64790+02 .0086E+06/ H0084450
8 4H IS, 1PG12.2, 012.4, -2PE12.4// H0084460
9 40H CARD 86.4786 8657.8600 9876.54/ H0084470
A 40H DESC 2PF12.2 1PD12.4 2PG16.4/ H0084480
B 40H TO BE 8647.86 8.65790+03 9877./ H0084490
C 4H IS, 2PF12.2, 1PD12.4, 2PG16.4// H0084500
H28H THE LAST TWO LINES OF EACH/24H SET SHOULD BE THE SAME) H0084510
WRITE(NUVI,7153) AC1S(1),AC1S(2),AC1S(3),AC1S(4), H0084520
1 AC10(4),AC1S(20),AC1S(23),AC10(5),AC1S(24) H0084530
C***** I/O FORMAT RESCAN H0084540
C***** INPUT CARDS 36, 37, 38 H0084550
7146 FFORMAT( I1,I2,I3) H0084560
READ(IRVI,7146) I2I,IAC1I H0084570
7147 FORMAT(/ 37H FORMAT RESCAN - THE SECOND GROUP OF/38H EACH SET SHH0084580

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10ULD AGREE WITH THE FIRST //15H 1 22 333/15H 4 55 666/H0084590
115H 7 88 999/1H ) H0084600
WRITE(NUVI,7147) H0084610
7148 FORMAT(I4,I5,I6) H0084620
WRITE(NUVI,7148) I2I(1,1),I2I(2,1),I2I(1,2),I2I(2,2),IAC11 H0084630
C***** INPUT CARDS 39, 40 H0084640
7149 FORMAT(I4, 2(I1,1X,I2)) H0084650
READ(IRVI,7149) I2I, IAC11 H0084660
7150 FORMAT(/21H 2 ** 4 $$ 6 ((/7H 8 $$/1H) H0084670
WRITE(NUVI,7150) H0084680
7151 FORMAT (I4,3H **,1(I4,3H $$,(I4,3H ())) H0084690
WRITE(NUVI,7151) I2I(2,1),I2I(2,2),IAC11(2),IAC11(4) H0084700
C***** ENO OF TEST SEGMENT 008 H0084710
C***** WHEN EXECUTING ONLY SEGMENT 008 , THE STOP AND ENO CARDS H0084720
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS H0084730
C***** 1 AND 2 REMOVED H0084740
C= STOP H0084750
C= ENO H0084760
C***** H0090010
C***** H0090020
C***** AFRMT - (009) H0090030
C***** H0090040
C***** H0090050
C***** GENERAL PURPOSE ASA REF H0090060
C***** TO TEST SIMPLE FORMAT AND FORMATTED I/O STATEMENTS 7.1.3.2.2 H0090070
C***** WHICH USE A-CONVERSION SO THAT THIS FEATURE MAY 7.1.3.2.2 H0090080
C***** BE USED IN OTHER SEGMENTS 7.1.3.2.3 H0090090
C***** 7.2.3 H0090100
C***** 7.2.3.8 H0090110
C***** RESTRICTIONS OBSERVED H0090120
C***** * ALL FORMAT STATEMENTS ARE LABELED 7.2.3 /57 H0090130
C***** * H AND X DESCRIPTORS ARE NEVER REPEATED 7.2.3.3/54 H0090140
C***** * FIELD WIDTH IS NEVER ZERO 7.2.3 /18 H0090150
C***** * IF THERE IS AN I/O LIST, THE FORMAT STATEMENT 7.2.3.4/22 H0090160
C***** CONTAINS AT LEAST ONE FIELD DESCRIPTOR (OTHER H0090170
C***** THAN H OR X) H0090180
C***** * ITEMS IN I/O LIST CORRESPOND TO FORMAT DESCRIPTORS 7.2.3.4/36 H0090190
C***** * FIELD WIDTH NEVER EXCEEDED BY OUTPUT 7.2.3.6/01 H0090200
C***** H0090210
C***** READ AND WRITE STATEMENTS FOR ENTIRE SEGMENT FOLLOW H0090220
C***** H0090230
C***** FORMATTED READ AND WRITE STATEMENTS WITH ALL 7.1.3.2.1/25 H0090240
C***** TYPES OF FIELDS. ONLY A (HOLLERITH) CONVERSION 7.2.3.8 /16 H0090250
C***** IS USED IN THE FORMAT STATEMENTS. SOME A FORMAT 7.2.3.3 /01 H0090260
C***** DESCRIPTORS ARE REPEATED H0090270
C INPUT DATA TO THIS SEG. CONSISTS OF 3 DATA CARD IMAGES IN COLS. 1 - 55 H0090280
COL. 1-----31-----55 H0090290
CARD 1 B=EF-*JKL/( )012TUVW+,$X YZACOGHIPQRSMN0678(C)B2$9+A345 H0090300
CARD 2 QZ1*A H0090310
CARD 3 ABCDEFGHIJKLMNOPQRSTUVWXYZ H0090320
C***** H0090330
C***** SPECIFICATIONS SEGMENT 009 H0090340
C***** H0010240
C***** WHEN EXECUTING ONLY SEGMENT 009, THE SPECIFICATION STATEMENTS H0010245
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0010250
C***** IN COLUMNS 1 AND 2 REMOVED. H0010255
C***** H0010260
C= DIMENSION A1S(5),A3S(3,3,3),EP1S(33),IAC2I(2,7),AC2S(5,6) H0010265
C= 1,MCA1I(5),CMA1S(5) H0010270
C= INTEGER BVI,MAVI,LAVI,MCA3I(2,3,3) H0010275
C= REAL MVS,CVS,BCVS H0010280
C= LOGICAL MCA1B(7), A1B(2), A2B(2,2),A3B(2,2,2),AVB,EVB H0010285
C***** H0010290
C***** INPUT - OUTPUT TAPE ASSIGNMENT STATEMENTS H0090350
C***** H0070135
C***** WHEN EXECUTING ONLY SEGMENT 009, THE FOLLOWING TWO STATEMENTS H0070140
C***** NUVI = 6 AND IRVI = 5 MUST HAVE H0070145
C***** THE C= IN COL 1 AND 2 REMOVED. H0070150

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C=      NUVI = 6                                     H0070155
C=      IRVI = 5                                     H0070160
C*****                                             H0070165
          WRITE (NUVI,0090)                           H0090360
          READ (IRVI,0091) MVS, IAC2I(2,2),MAVI ,AC2S(4,2),MCA1I(1),LAVI,
          1  A2B(1,2),A1B(2), BCVS, MCA1B(2), BVI, CVS,  EVB,A1S(2),EP1S(9), H0090370
          2A3S(1,1,1),A3B(2,2,1),MCA3I(1,2,3), MCA3I(2,1,2), MCA3I(1,1,3) H0090380
          WRITE (NUVI,0092) BVI, MVS, CVS, MAVI, EVB, MCA1I(1), EP1S(9), H0090390
          1  A1S(2), A1B(2), MCA1B(2), IAC2I(2,2), AC2S(4,2), H0090400
          2  LAVI, BCVS, A2B(1,2), MCA3I(1,1,3), A3S(1,1,1), H0090410
          3  MCA3I(2,1,2), MCA3I(1,2,3), A3B(2,2,1) H0090420
C***** FORMATTED READ AND WRITE TO TEST HDLLERITH FIELDS 7.2.3.8/22H0090430
C***** WHERE FIELD WIDTH IS LESS THAN THE WORD LENGTH 7.2.3.8/28H0090440
C***** CAPACITY OF THE MACHINE H0090450
          WRITE (NUVI,0093) H0090460
          READ (IRVI,0094) CMA1S(2), CMA1S(1), LCCVI, AVB, BVI H0090470
          WRITE (NUVI,0095) BVI, AVB, CMA1S(2), LCCVI, CMA1S(1) H0090480
C***** FORMATTED READ AND WRITE TO TEST HDLLERITH FIELDS 7.2.3.8/20H0090490
C***** WHERE FIELD WIDTH IS GREATER THAN THE WORD LENGTH 7.2.3.8/25H0090500
C***** CAPACITY OF THE MACHINE H0090510
          WRITE (NUVI,0096) H0090520
          READ (IRVI,0097) MRRVI H0090530
          WRITE (NUVI,0098) MRRVI H0090540
C***** H0090550
C***** H0090560
C***** H0090570
C***** FORMAT STATEMENTS FOR THE ENTPRE SEGMENT FOLLW H0090580
C***** FORMATS TO TEST A CONVERSION. FIELD WIDTH IS 7.2.3.8/16H0090590
C***** FROM 1 TO 4 CHARACTERS. SOME A DESCRIPTORS ARE 7.2.3.3/01H0090600
C***** REPEATED. H0090610
0090  FORMAT (1H1,1X,26HAFRMT - (009) A-CONVERSION//2X, H0090620
      117HASA REF - 7.2.3.8//40H  EACH PAIR OF LINES SHDULD BE IDENTICAL/H0090630
      28X,26HFOR COMPUTERS STORING FOUR/8X,27HOR MORE CHARACTERS PER WORDH0090640
      3) H0090650
0091  FDRMAT ( 2(A1), 2(A2), 3(A3), 3(A4), A1, A2, A3, A4, 6(A3)) H0090660
0092  FDRMAT (/ / 29H  ABCDEFGHIJKLMNOPQRSTUVWXYZ/ 2X, 2(A1), 2(A2), H0090670
      1  3(A3), 3(A4)//12H  =-*/( )+, .$/ 2X, A1, A2, A3, A4 // H0090680
      2  20H  0123456789+ABZ$(C)/ 2X, 6 A3 ) H0090690
C***** FDRMATS TO TEST A CONVERSION WHERE FIELD WIDTH 7.2.3.8/22H0090700
C***** IS LESS THAN THE WRD LENGTH CAPACITY OF MACHINE 7.2.3.8/28H0090710
0093  FDRMAT (/ /35H  TEST A CONVERSION - ADDING BLANKS/40H  EACH PAIR DFH0090720
      1 LINES SHDULD BE IDENTICAL) H0090730
0094  FDRMAT ( 5(A1)) H0090740
0095  FORMAT (/ /4H  A  / 3X, A3//4H  */ 3X, A3  //4H  Q/ 3X, A3// H0090750
      1 4H  1/3X, A3 //4H  Z/ 3X,A3) H0090760
C***** FORMATS TO TEST A CONVERSION WHERE FIELD WIDTH 7.2.3.8/20H0090770
C***** IS GREATER THAN WORD LENGTH CAPACITY OF MACHINE 7.2.3.8/25H0090780
0096  FDRMAT(/25H  TEST A FIELD TRUNCATION/37H  2ND LINE SHDULD PARTIALH0090790
      1Y MATCH 1ST) H0090800
0097  FDRMAT ( A26 ) H0090810
0098  FDRMAT (/ / 28H  ABCDEFGHIJKLMNOPQRSTUVWXYZ/ 2X, A26) H0090820
C***** END OF TEST SEGMENT 009 H0090830
C***** WHEN EXECUTING ONLY SEGMENT 009 , THE STOP AND END CARDS H0090840
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN CDUMNS H0090850
C***** 1 AND 2 REMOVED H0090860
C=      STOP H0090870
C=      END H0090880
C***** H0100010
C***** H0100020
C***** DATA2 - (010) H0100030
C***** H0100040
C***** H0100050
C***** H0100060
C***** GENERAL PURPOSE H0100070
C***** TO TEST CONTENTS OF VARIABLES THAT WERE FORMED BY H0100080
C***** DATA STATEMENTS IN SEG. DATA1 - (003) H0100090
C***** H0100100
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. ND INPUT TAPE. H0100110
C***** H0100120

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C***** WHEN EXECUTING ONLY SEGMENT 010, THE FOLLOWING STATEMENT H0070170
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0070175
C= NUVI = 6 H0070180
C***** H0070185
WRITE (NUVI,100) H0100130
100 FORMAT (1H1,1X, 32HDATA2 - (010) DATA STATEMENT USE/ H0100140
A /2X,17HASA REFS. - 7.2.2//2X,7HRESULTS) H0100150
WRITE (NUVI,101) H0100160
101 FORMAT(/35H LINE 1 OF EACH GROUP IS HOLLERITH/36H INFORMATION. TH0100170
AEST IS SUCCESSFUL IF/37H EACH GROUP CONTAINS THE SAME VALUES) H0100180
WRITE (NUVI,102) I1I(1), I1I(2), IAC2I(1,5), IAC2I(1,3), H0100190
A MCA3I(1,2,1), MCA3I(2,2,2), I1I(3), I1I(4), H0100200
B IAC2I(2,5), IAC2I(2,6), MCA3I(2,1,1), H0100210
C MCA3I(1,2,2), I1I(5), IAC2I(2,4), MCA3I(1,1,2), H0100220
D AVI H0100230
102 FORMAT ( /25X,1H0/4(I26/))// H0100240
A 24X,2H10/4(I26/))// H0100250
B 23X,3H246/4(I26/))// H0100260
C 22X,4H-750/4(I26/)) H0100270
WRITE (NUVI,103) EP1S(8), EP1S(10), EP1S(13), AC2S(2,6), H0100280
A AC2S(1,6), AC3S(1,1,1), EP1S(11), AC2S(5,3), H0100290
B AC2S(3,6), AC2S(5,2), AC3S(1,1,2), AC2S(4,6), H0100300
C EP1S(12), AC2S(5,5), AC2S(5,6), JVS H0100310
103 FORMAT ( /22X,4H0.00/4(F26.2/))// H0100320
A 20X,6H246.15/4(F26.2/))// H0100330
B 19X,7H3546.74/4(F26.2/), H0100340
C 1H1,18X,7H-750.05/4(F26.2/)) H0100350
WRITE (NUVI,104)ADSV, LL1C(29), LN3C(9,1,2), LN3C(8,2,1), H0100360
A BCVC, LL1C(30), LM2C(8,4), LN3C(8,2,2), H0100370
B CHEVC, LL1C(31), LM2C(8,3), LN3C(9,1,1), H0100380
C DCVC, LL1C(32), LM2C(8,2), LN3C(8,1,2) H0100390
104 FORMAT ( /9X,17H 11.1 22.22/4(F14.1,F12.2/))// H0100400
A 8X,18H-34.50 -6.78/4(F14.2,F12.2/))// H0100410
B 8X,18H 10.00 -20.00/4(F14.2,F12.2/))// H0100420
C 5X,21H -200.00 4000.00/4(F14.2,F12.2/)) H0100430
WRITE (NUVI,105) AVD, A1D(1), DPA2D(1,1), MCA3D(1,1,1), H0100440
A BVD, A1D(2), DPA2D(2,1), MCA3D(1,1,2), H0100450
B CVD, A1D(3), DPA2D(1,2), MCA3D(1,3,1), H0100460
C DVD, A1D(4), DPA2D(2,2), MCA3D(1,4,1) H0100470
105 FORMAT ( /16X,10H-0.295D+05/4(D26.3/))// H0100480
A 11X,15H0.345678901D+05/4(D26.9/))// H0100490
B 13X,13H0.1122335D-02/4(D26.7/), H0100500
C 1H1,17X,8H0.34D+13/4(D26.2/)) H0100510
WRITE (NUVI,106) MAVB, MCA1B(6), GH2 B(1,1), GI3B(1,1,1), H0100520
A MBVB, MCVB, MCA1B(7), GH2B(1,2), GG1B(1), H0100530
B EP1S(15), GI3B(1,1,2), H0100540
C EP1S(14), AC3S(1,1,3), IAC2I(1,4) H0100550
106 FORMAT (//20X,4H T/ 4(L24/))// H0100560
A 20X,4H F/ 4(L24/))// H0100570
B 22X,2HAD /2(22X,A2/)) H0100580
C 22X,2HNO / 22X,A2// H0100590
D 22X,2HBC / 22X,A2// H0100600
E 22X,2H*= / 22X,A2// H0100610
F 22X,2H P / 22X,A2) H0100620
C***** END OF SEGMENT 010 H0100630
C***** WHEN EXECUTING ONLY SEGMENTS 003 AND 010, THE STOP AND END H0100640
C***** CARDS WHICH APPEAR AS COMMENTS MUST HAVE THE C= H0100650
C***** IN COLUMNS 1 AND 2 REMOVED H0100660
C= STOP H0100670
C= END H0100680
C***** H0110010
C***** H0110020
C***** AASGN - (011) H0110030
C***** H0110040
C***** H0110050
C***** GENERAL PURPOSE ASA REF H0110060
C***** * TO TEST VERY SIMPLE ARITHMETIC ASSIGNMENT 7.1.1.1 H0110070
C***** STATEMENTS, SO THAT THIS STATEMENT MAY BE H0110080

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C***** USED IN LATER SEGMENTS H0110090
C***** * TO TEST THAT ALL TYPES OF INTEGER AND REAL CONSTANTS 5.1.1H0110100
C***** MAY BE FORMED 5.1.1.1H0110110
C***** 5.1.1.2H0110120
C***** GENERAL COMMENTS H0110130
C***** * ONLY REAL AND INTEGER TYPES ARE INCLUDED IN H0110140
C***** THIS SEGMENT - NO MIXING OF TYPES H0110150
C***** * IN ORDER NOT TO EXCEED THE WORD LENGTH CAPACITY OF H0110160
C***** SOME COMPUTERS, INTEGER CONSTANTS ARE LIMITED TO H0110170
C***** 5 DIGITS AND REAL CONSTANTS TO 7 DIGITS. H0110180
C***** H0110190
C***** S P E C I F I C A T I O N S SEGMENT 011 H0110200
C***** H0010295
C***** WHEN EXECUTING ONLY SEGMENT 011, THE SPECIFICATION STATEMENT H0010300
C***** WHICH APPEARS AS A COMMENT MUST HAVE THE C= REMOVED H0010305
C= DIMENSION IAC1I(5),IAC2I(2,7),AC1S(25),AC2S(5,6),AZS(2,2) H0010310
C***** H0010315
C***** O U T P U T T A P E ASSIGNMENT - NO INPUT DATA H0110210
C***** H0070190
C***** WHEN EXECUTING ONLY SEGMENT 011, THE FOLLOWING STATEMENT H0070195
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0070200
C***** H0070205
C= NUVI = 6 H0070210
C***** H0070215
WRITE (NUVI,110) H0110220
110 FORMAT (1H1,1X, 37HAASGN - (011) SIMPLE REAL AND INTEGER/10X,32HARH0110230
11THMETIC ASSIGNMENT STATEMENTS/2X,16HASA REF. - 7.1.1//34H LINE 1H0110240
2 OF EACH PAIR IS HOLLERITH/13H INFORMATION//17H INTEGER RESULTS)H0110250
C***** HEADER FOR SEGMENT 011 WRITTEN H0110260
C***** TEST ASSIGNMENT OF UNSIGNED INTEGER CONSTANTS 7.1.1.1/40H0110270
C***** TO VARIABLES 5.1.1.1/15H0110280
MRRVI = 1 H0110290
JACVI = 12345 H0110300
KBCVI = 000 H0110310
C***** TEST ASSIGNMENT OF SIGNED INTEGER CONSTANTS TO 7.1.1.1/40H0110320
C***** VARIABLES 5.1.1.1/11H0110330
MCAVI = +2 H0110340
LCCVI = -3 H0110350
MDCVI = - 8765 H0110360
NECVI = + 6912 H0110370
C***** TEST ASSIGNMENT OF UNSIGNED INTEGER CONSTANTS 7.1.1.1/40H0110380
C***** TO ARRAYS 5.1.1.1/15H0110390
IAC1I(1) = 0 H0110400
IAC2I(2,1) = 02468 H0110410
IAC2I(2,2) = 00 H0110420
IAC1I(3) = 4444 H0110430
C***** TEST ASSIGNMENT OF SIGNED INTEGER CONSTANTS 7.1.1.1/40H0110440
C***** TO ARRAYS 5.1.1.1/11H0110450
IAC2I(1,1) = +45 H0110460
IAC1I(4) = + 4321 H0110470
IAC1I(2) = -23 H0110480
IAC2I(1,2) = - 3123 H0110490
C***** TEST ASSIGNMENT OF UNSIGNED REAL CONSTANTS 7.1.1.1/40H0110500
C***** TO VARIABLES (BASIC REAL CONSTANTS) 5.1.1.2/18H0110510
ACVS = 1.0 H0110520
BCVS = 358.6724 H0110530
C***** TEST ASSIGNMENT OF SIGNED REAL CONSTANTS 7.1.1.1/40H0110540
C***** TO VARIABLES (BASIC REAL CONSTANTS) 5.1.1.2/18H0110550
C***** 5.1.1.1/11H0110560
CCVS = -2.0 H0110570
OCVS = +3.0 H0110580
ECVS = -2714.250 H0110590
FCVS = +29.30542 H0110600
C***** TEST ASSIGNMENT OF UNSIGNED REAL CONSTANTS 7.1.1.1/40H0110610
C***** TO ARRAYS (BASIC REAL CONSTANTS) 5.1.1.2/18H0110620
C***** 5.1.1.1/11H0110630
AC1S(2) = 86.27 H0110640
AC2S(1,2) = 1034.2 H0110650

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AC1S(1) = 0.0	H0110660
AC2S(1,1) = 0.00000	H0110670
C***** TEST ASSIGNMENT OF SIGNED REAL CONSTANTS	7.1.1.1/40H0110680
C***** TO ARRAYS (BASIC REAL CONSTANTS)	5.1.1.2/18H0110690
C*****	5.1.1.1/11H0110700
AC2S(2,2) = +345.678	H0110710
AC1S(3) = -2.5	H0110720
AC2S(2,1) = -5.66	H0110730
AC1S(4) = +1.111111	H0110740
C***** TEST ASSIGNMENT OF UNSIGNED AND SIGNED REAL	5.1.1.2/22H0110750
C***** CONSTANTS WITH NO DECIMAL DIGITS TO BOTH	H0110760
C***** VARIABLES AND ARRAYS	H0110770
GCVS = 1.	H0110780
HCVS = -2.	H0110790
AADV = +3.	H0110800
AC2S(3,1) = 4.	H0110810
AC2S(1,3) = +5.	H0110820
AC1S(5) = -6.	H0110830
C***** TEST ASSIGNMENT OF UNSIGNED AND SIGNED REAL	5.1.1.2/22H0110840
C***** CONSTANTS WITH NO INTEGER PART TO BOTH	H0110850
C***** VARIABLES AND ARRAYS	H0110860
BBDVS = .0	H0110870
CCDVS = +.23	H0110880
DDDVS = -.716	H0110890
AC1S(6) = -.7	H0110900
AC2S(4,1) = .81	H0110910
AC1S(7) = +.9	H0110920
C***** TEST ASSIGNMENT OF UNSIGNED AND SIGNED REAL	5.1.1.2/25H0110930
C***** CONSTANTS WITH UNSIGNED AND SIGNED DECIMAL	5.1.1.2/32H0110940
C***** EXPONENTS TO BOTH VARIABLES AND ARRAYS	H0110950
EEDVS = 1.05E02	H0110960
FFDVS = -7.6E1	H0110970
GGDVS = +332.4E0	H0110980
HHDVS = 51.32E-1	H0110990
OODVS = +5.34E-3	H0111000
PPDVS = -14.19E-2	H0111010
QODVS = -9.9E+2	H0111020
RRDVS = +10.5210E+3	H0111030
SSDVS = 4.56E+1	H0111040
AC2S(1,4) = 665.2E0	H0111050
AC1S(11) = -52.9E01	H0111060
AC1S(9) = +78.564E2	H0111070
AC2S(5,1) = -3.4567E+3	H0111080
AC2S(1,5) = 61.62E+2	H0111090
AC1S(10) = +0.023E+1	H0111100
AC1S(8) = 94.333E-1	H0111110
AC1S(12) = +0.3524E-2	H0111120
AC2S(3,2) = -743.2E-3	H0111130
C***** TEST ASSIGNMENT OF UNSIGNED AND SIGNED REAL	5.1.1.2/22H0111140
C***** CONSTANTS (NO DECIMAL PART) WITH DECIMAL	5.1.1.2/26H0111150
C***** EXPONENTS TO BOTH VARIABLES AND ARRAYS	H0111160
TTDVS = 1.E0	H0111170
UUDVS = +123.E2	H0111180
VVDVS = -11.E3	H0111190
WWDVS = 144.E-1	H0111200
XXDVS = -12.E-2	H0111210
YYDVS = +3645.E-3	H0111220
ZZDVS = 1.E+4	H0111230
CMAVS = -200.E+1	H0111240
CMBVS = +99.E+2	H0111250
AC1S(13) = +0.E00	H0111260
AC2S(2,5) = -1512.E2	H0111270
AC2S(4,3) = 214.E3	H0111280
AC1S(15) = 34.E-1	H0111290
AC1S(14) = -4.E-2	H0111300
AC2S(3,4) = +53214.E-4	H0111310
AC2S(4,4) = +6.E+3	H0111320
AC2S(2,3) = 72.E+4	H0111330

	AC1S(16) = -813.E+1		H0111340
C*****	TEST ASSIGNMENT OF UNSIGNED AND SIGNED REAL	5.1.1.2/22	H0111350
C*****	CONSTANTS (NO INTEGER PART) WITH DECIMAL	5.1.1.2/26	H0111360
C*****	EXPONENTS TO BOTH VARIABLES AND ARRAYS		H0111370
	CMCVS = .234E0		H0111380
	CMDVS = -.3E2		H0111390
	CMEVS = +.44E1		H0111400
	CMFVS = .36E-3		H0111410
	CMGVS = +.9E-4		H0111420
	CMHVS = -.10E-2		H0111430
	CMOVS = .777E+1		H0111440
	CMPVS = -.29E+3		H0111450
	CMQVS = +.04E+2		H0111460
	AC1S(17) = .90E1		H0111470
	AC2S(4,2) = +.810E0		H0111480
	AC1S(19) = -.7E3		H0111490
	AC2S(3,3) = .62E+3		H0111500
	AC1S(21) = +.5310E+1		H0111510
	A2S(1,2) = -.442E+2		H0111520
	AC1S(18) = .3E-4		H0111530
	AC2S(2,4) = +.25E-03		H0111540
	A2S(2,1) = -.163E-2		H0111550
C*****	TEST ASSIGNMENT OF UNSIGNED AND SIGNED REAL	5.1.1.2/34	H0111560
C*****	CONSTANTS (FORMED BY PLACING DECIMAL EXPONENT		H0111570
C*****	AFTER INTEGER CONSTANT) TO BOTH VARIABLES AND		H0111580
C*****	ARRAYS		H0111590
	AVS = 709E3		H0111600
	BVS = +81842E0		H0111610
	CVS = -9E5		H0111620
	DVS = 627E+2		H0111630
	EVS = +53E+3		H0111640
	FVS = -4E+04		H0111650
	GVS = 1463E-2		H0111660
	HVS = +2E-3		H0111670
	PVS = -355E-1		H0111680
	AC1S(24) = 29E5		H0111690
	AC1S(20) = +4072E3		H0111700
	AC2S(5,4) = -61835E2		H0111710
	AC2S(3,5) = 829E+1		H0111720
	AC1S(22) = +03E+2		H0111730
	AC1S(25) = -1E+3		H0111740
	AC2S(4,5) = 3404E-4		H0111750
	A2S(2,2) = +55E-5		H0111760
	AC1S(23) = -761E-1		H0111770
C*****	VERIFY CORRECTNESS OF ASSIGNMENT BY WRITING		H0111780
C*****	THE INFORMATION		H0111790
	WRITE (NUVI,111) MRRVI, JACVI, KBCVI, MCAVI, LCCVI, MDCVI, NECVI,		H0111800
1	(IAC1I(IVI),IVI=1,4),((IAC2I(IVI,JVI),IVI=1,2),JVI=1,2)		H0111810
	WRITE (NUVI,112)		H0111820
	WRITE (NUVI,113) ACVS, BCVS, CCVS, DCVS, ECVS, FCVS, AC1S(2),		H0111830
1	AC2S(1,2), AC1S(1), AC2S(1,1), AC2S(2,2),		H0111840
2	AC1S(3), AC2S(2,1), AC1S(4), GCVS, HCVS,		H0111850
3	AADVS, AC2S(3,1)		H0111860
	WRITE (NUVI,114) AC2S(1,3), AC1S(5), BBDVS, CCDVS, DDDVS, AC1S(6),		H0111870
1	AC2S(4,1), AC1S(7), EEDVS, FFDVS, GGDVS, HHDVS,		H0111880
2	OODVS, PPDVS, QODVS, RRDVS, SSDVS		H0111890
	WRITE (NUVI,115) AC2S(1,4), AC1S(11), AC1S(9), AC2S(5,1),		H0111900
1	AC2S(1,5), AC1S(10), AC1S(8), AC1S(12),		H0111910
2	AC2S(3,2), TTDVS, UUDVS, VVDVS, WWDVS, XXDVS,		H0111920
3	YYDVS		H0111930
	WRITE (NUVI,116) CMAVS, CMBVS, AC1S(13), AC2S(2,5), AC2S(4,3),		H0111940
1	AC1S(15), AC1S(14), AC2S(3,4), AC2S(4,4),		H0111950
2	AC2S(2,3), AC1S(16), CMCVS, CMDVS, CMEVS,ZZDVS		H0111960
	WRITE (NUVI,117) CMFVS, CMGVS, CMHVS, CMOVS, CMPVS, CMQVS,		H0111970
1	AC1S(17), AC2S(4,2), AC1S(19), AC2S(3,3),		H0111980
1	AC1S(21),A2S(1,2),AC1S(18), AC2S(2,4),A2S(2,1)		H0111990
	WRITE (NUVI,118) AVS, BVS, CVS, DVS, EVS, FVS, GVS, HVS, PVS,		H0112000
1	AC1S(24), AC1S(20), AC2S(5,4), AC2S(3,5),		H0112010

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2          AC1S(22),AC1S(25),AC2S(4,5),A2S(2,2)      H0112020
3          AC1S(23)                                     H0112030
111  FORMAT(/7X,1H1,7X,5H12345,13X,1H0/1X,17,5X,17,7X,17// H0112040
1 7X, 1H2, 10X, 2H-3,8X, 6H -8765/1X, 17, 5X, 17, 7X, 17// H0112050
2 3X, 5H 6912, 11X, 1H0, 11X, 3H-23/ 1X, 17, 5X, 17, 7X,17// H0112060
3 4X, 4H4444, 7X, 5H 4321, 12X, 2H45/ 1X, 17, 5X, 17, 7X, 17// H0112070
4 4X, 4H2468, 6X, 6H -3123, 13X, 1H0/ 1X, 17, 5X, 17, 7X, 17) H0112080
112  FORMAT (/14H  REAL RESULTS)                       H0112090
113  FORMAT(/3X,3H1.0, 10X, 8H358.6724, 6X, 4H-2.0/1X,F5.1,6X,F12.4,2X,H0112100
1 F8.1//3X,3H3.0,8X,9H-2714.250,7X,8H29.30542/1X,F5.1,6X,F11.3,3X, H0112110
2 F12.5//2X,5H86.27,8X,6H1034.2,10X,3H0.0/1X,F6.2,5X,F9.1,5X,F8.1//H0112120
3 3X, 3H0.0, 10X,7H345.678,7X, 4H-2.5/1X,F5.1,6X,F11.3,3X,F8.1// H0112130
4 2X,5H-5.66,11X,8H1.111111,5X,3H1.0/1X,F6.2,5X,F14.6,F8.1// H0112140
5 2X,4H-2.0,12X,3H3.0,10X,3H4.0/1X,F5.1,6X,F9.1,5X,F8.1) H0112150
114  FORMAT(/3X,3H5.0,11X,4H-6.0,10X,3H0.0/1X,F5.1,6X,F9.1,5X,F8.1// H0112160
1 3X,4H0.23,10X,6H-0.716,7X,4H-0.7/1X,F6.2,5X,F11.3,3X,F8.1// H0112170
2 3X,4H0.81,11X,3H0.9/1X,F6.2,5X,F9.1/1H1,2X,9H0.105E+03,3X, H0112180
3 9H-0.76E+02,5X,10H0.3324E+03/E12.3,E12.2,E15.4// H0112190
4 3X,10H0.5132E+01,3X,9H0.534E-02,3X,11H-0.1419E+00/E13.4,E12.3, H0112200
5 E14.4//2X,9H-0.99E+03,5X,12H0.105210E+05,10H 0.456E+02/E11.2, H0112210
6 E17.6,E10.3) H0112220
115  FORMAT(/3X,10H0.6652E+03,2X,10H-0.529E+03,4X,11H0.78564E+04/E13.4,H0112230
1 E12.3,E15.5//2X,12H-0.34567E+04,2X,10H0.6162E+04,3X,8H0.23E+00/ H0112240
2 E14.5,E12.4,E11.2//3X,11H0.94333E+01,2X,10H0.3524E-02,2X, H0112250
3 11H-0.7432E+00/E14.5,E12.4,E13.4//3X,7H0.1E+01,6X,9H0.123E+05, H0112260
4 3X,9H-0.11E+05/E10.1,E15.3,E12.2//3X,9H0.144E+02,3X,9H-0.12E+00, H0112270
5 5X,10H0.3645E+01/E12.3,E12.2,E15.4) H0112280
116  FORMAT(/12H -0.200E+04,4X,8H0.99E+04,5X,7H0.0E+00/E12.3,E12.2, H0112290
1 E12.1//2X,11H-0.1512E+06,3X,9H0.214E+06,4X,8H0.34E+01/E13.4, H0112300
2 E12.3,E12.2//2X,8H-0.4E-01,6X,11H0.53214E+01,2X,7H0.6E+04/E10.1, H0112310
3 E17.5,E9.1//3X,8H0.72E+06,4X,10H-0.813E+04,4X,9H0.234E+00/E11.2, H0112320
4 E14.3,E13.3//2X,8H-0.3E+02,6X,8H0.44E+01,5X,7H0.1E+05/E10.1, H0112330
5 E14.2,E12.1) H0112340
117  FORMAT(/3X,8H0.36E-03,5X,7H0.9E-04,5X,9H-0.10E-02/E11.2,E12.1, H0112350
1 E14.2//3X,9H0.777E+01,3X,9H-0.29E+03,5X,7H0.4E+01/E12.3,E12.2, H0112360
2 E12.1//3X,8H0.90E+01,5X,9H0.810E+00,3X,8H-0.7E+03/E11.2,E14.3, H0112370
3 E11.1//3X,8H0.62E+03,5X,10H0.5310E+01,2X,10H-0.442E+02/E11.2, H0112380
4 E15.4,E12.3//3X,7H0.3E-04,6X,8H0.25E-03,4X,10H-0.163E-02/E10.1, H0112390
5 E14.2,E14.3/1H1) H0112400
118  FORMAT(3X,9H0.709E+06,4X,11H0.81842E+05,1X,8H-0.9E+06/E12.3,E15.5,H0112410
1 E9.1//3X,9H0.627E+05,4X,8H0.53E+05,4X,8H-0.4E+05/E12.3,E12.2, H0112420
2 E12.1//3X,10H0.1463E+02,3X,7H0.2E-02,5X,10H-0.355E+02/E13.4, H0112430
3 E10.1,E15.3//3X,8H0.29E+07,5X,10H0.4072E+07,2X,12H-0.61835E+07/ H0112440
4 E11.2,E15.4,E14.5//3X,9H0.829E+04,4X,7H0.3E+03,5X,8H-0.1E+04/ H0112450
5 E12.3,E11.1,E13.1//3X,10H0.3404E+00,3X,8H0.55E-03,4X,10H-0.761E+0H0112460
62/E13.4,E11.2,E14.3) H0112470
C*****  END OF TEST SEGMENT 011 H0112480
C*****  WHEN EXECUTING ONLY SEGMENT 011, THE STOP AND END CARDS H0112490
C*****  WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0112500
C*****  IN COLUMNS 1 AND 2 REMOVED H0112510
C= STOP H0112520
C= END H0112530
STOP H9999995
END H9999999
SAMPLE COMPUTER, FORTRAN COMPILER LEVEL
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2
OPERATING SYSTEM VERSION
DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT ID 4
DATE, INSTALLATION NAME
DO NOT READ OR WRITE RECORD 6 DOUBLE SPACE ON OUTPUT ID 6
999
555554444
666 777777 8
3333331111222222225555544444444444
7.7123456.7
8.889.9997.123456
5.44446.5555533.133.133.133.1444.1
5555.15555.1 66666.166666.1 44.22

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COMPLEX NUMVC,      QAVC,QBVC,QCVC,QDVC,RVC,SVC,TVC,UVC      H0010490
1 ,      MAVC,MBVC,MCVC,MDVC,B1C(8),B2C(4,2),B3C(2,2,2)      H0010495
COMPLEX LL1C(32),LM2C(8,4),LN3C(9,2,2),A1C(12),A2C(2,2),A3C(2,2,1)H0010500
C***** END OF SPECIFICATIONS FOR SEGMENTS 013, 015      H0010505
C*****      H0010510
C*****      H0130010
C*****      H0130020
C*****      DASGN - (013)      H0130030
C*****      H0130040
C*****      H0130050
C***** GENERAL PURPDSE      ASA REF H0130060
C***** * TD TEST ALL POSSIBLE METHODS OF FORMING DDUBLE      5.1.1 THRUH0130070
C***** PRECISION CONSTANTS      H0130080
C***** * TD TEST THAT D.P. VARIABLES AND ARRAY      5.1.2 /5 H0130090
C***** ELEMENTS MAY BE REFERENCED      5.1.3.1/16H0130100
C***** * TO TEST VERY SIMPLE ARITHMETIC ASSIGNMENT      7.1.1.1 H0130110
C***** STATEMENTS, SO THAT THIS FEATURE CAN BE USED      TABLE 1 H0130120
C***** FOR INITIALIZATION IN LATER SEGMENTS      H0130130
C***** S P E C I F I C A T I D N S SEGMENT 013      H0130140
C*****      H0010515
C***** WHEN EXECUTING ONLY SEGMENT 013, REMOVE THE PRECEIOING      H0010520
C***** SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS WHICH APPEAR      H0010525
C***** AS CDMMENTS MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.      H0010530
C*****      H0010535
C= DDUBLE PRECISIDN MCAVD,MCBVD,MCCVD,MCDVD,MCEVD,MCFVD,MCGVD,      H0010540
C= 1MCHVD,MCIVD,EEDVD,ACVD,BCVD,CCVD,DCVD,DODVD,CCDVO,FFDVD,GGDVD,      H0010545
C= 2 HHDVD,EP1D(43),AC1D(10),BC2D(7,4),CC3D(7,2,2),FC2D(5,5)      H0010550
C= DDUBLE PRECISION DPAVD,DPBVD,DPCVD,DPDVD,DPEVD,DPFVD,DPGVD,DPHVD,      H0010555
C= 1 DPIVD,DPJVD,DPKVD,DPLVD,DPMVD,DPNVD,DPDVD,DPPVD,      H0010560
C= 2 AAOVD,BBDVD,PPDVD,RRDVD,SSDVD,TTDVD,UUDVD,VVDVD,WVOVD,XXDVD,      H0010565
C= 3 YYDVD,ZZOVD,ECVD,FCVD,GCVD,HCVD,RC3D(3,3,3),MCJVD,MCKVD      H0010570
C*****      H0010575
C***** I N P U T - O U T P U T T A P E ASSIGNMENT STATEMENTS      H0130150
C*****      H0130160
IRVI = 5      H0070400
NUVI = 6      H0070405
C***** IDENTIFY THE SOURCE OF THE TEST PROGRAMS      H0070410
WRITE(NUVI,0071)      H0070415
0071 FORMAT (41H1 F O R T R A N T E S T P R O G R A M S //      H0070420
1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS//      H0070425
3 37H FOR USE ON LARGE FORTRAN PROCESSORS //      H0070430
4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//      H0070435
5 23H VERSIDN 3 PART 2 ///)      H0070440
C***** 3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER      H0070445
C PREPARED BY USER      H0070450
C PREPARED BY USER      H0070455
C READ, ND LIST      H0070460
C PREPARED BY USER      H0070465
C READ, ND LIST      H0070470
READ(IRVI,0070)      H0070475
READ(IRVI,0072)      H0070480
READ(IRVI,0073)      H0070485
0070 FORMAT(40H BASED ON ASA FO-TRAN X3.9-1966 /)      H0070490
0072 FORMAT(40H TEST PRDGRAMS /)      H0070495
0073 FORMAT(40H FORTRAN COMPILER /)      H0070500
WRITE(NUVI,0070)      H0070505
WRITE(NUVI,0072)      H0070510
WRITE(NUVI,0073)      H0070515
WRITE (NUVI,130)      H0130170
WRITE(NUVI,131)      H0130180
130 FORMAT(1H1,1X,36HDASGN - (013) SIMPLE O.P. ARITHMETIC/      H0130190
1 16X,18HASSIGNMENT STMNTS./2X,28HASA REFS. - 7.1.1.1 5.1.1.3//      H0130200
2 2X,7HRESULTS)      H0130210
131 FDMAT(/2X,23HLINE 1 OF EACH GRDUP IS/      H0130220
A 2X,21HHOLLERITH INFORMATION)      H0130230
C***** HEAOER FOR THIS SEGMENT WRITTEN      H0130240
C***** TEST ASSIGNMENT OF UNSIGNED OP CONSTANTS WITH      7.1.1.1/41H0130250
C***** UNSIGNED EXPONENTS TO VARIABLES AND ARRAY ELEMENTS 5.1.1.3/40H0130260

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C*****
C*****
C*****
MCAVD = 3.4D1
MCBVD = 123456.7891011D02
AC1D(1) = 3.4D1
AC1D(2) = 123456.7891011D02
BC2D(1,1) = 3.4D1
BC2D(2,1) = 123456.7891011D02
CC3D(1,1,1) = 3.4D1
CC3D(2,1,1) = 123456.7891011D02
C***** ASSIGNMENT OF UNSIGNED DP CONSTANTS WITH 5.1.1.3/36H0130280
C***** SIGNED EXPONENTS TO VARIABLES AND ARRAY ELEMENTS 5.1.1.2/26H0130390
MCCVD = 29.8765234D-3
MCDVD = 345.10000555D+4
AC1D(3) = 29.8765234D-3
AC1D(4) = 345.10000555D+4
BC2D(3,1) = 29.8765234D-3
BC2D(4,1) = 345.10000555D+4
CC3D(3,1,1) = 29.8765234D-3
CC3D(4,1,1) = 345.10000555D+4
C***** ASSIGNMENT OF UNSIGNED DP CONSTANTS (ND DECIMAL 5.1.1.2/22H0130480
C***** PART) WITH UNSIGNED EXPONENTS TO VARIABLES 5.1.1.2/22H0130490
C***** AND ARRAY ELEMENTS 5.1.1.2/22H0130500
MCEVD = 22232425.D00
AC1D(5) = 22232425.D00
BC2D(5,1) = 22232425.D00
CC3D(5,1,1) = 22232425.D00
C***** ASSIGNMENT OF UNSIGNED DP CONSTANTS (ND 5.1.1.2/22H0130550
C***** INTEGER PART) WITH UNSIGNED EXPONENTS TO 5.1.1.2/22H0130560
C***** VARIABLES AND ARRAY ELEMENTS 5.1.1.2/22H0130570
MCFVD = .281420D5
AC1D(6) = .281420D5
BC2D(6,1) = .281420D5
CC3D(6,1,1) = .281420D5
C***** ASSIGNMENT OF UNSIGNED DP CONSTANTS (ND DECIMAL 5.1.1.2/22H0130620
C***** PART) WITH SIGNED EXPONENTS TO VARIABLES AND 5.1.1.2/22H0130630
C***** ARRAY ELEMENTS 5.1.1.2/22H0130640
MCGVD = 4455667788.D+6
MCHVD = 35692483569248.D-02
AC1D(7) = 4455667788.D+6
AC1D(8) = 35692483569248.D-02
BC2D(7,1) = 4455667788.D+6
BC2D(1,2) = 35692483569248.D-02
CC3D(7,1,1) = 4455667788.D+6
CC3D(1,2,1) = 35692483569248.D-2
C***** ASSIGNMENT OF UNSIGNED DP CONSTANTS (NO 5.1.1.2/22H0130730
C***** INTEGER PART) WITH SIGNED EXPONENTS TO 5.1.1.2/22H0130740
C***** VARIABLES AND ARRAY ELEMENTS 5.1.1.2/22H0130750
ACVD = .6549876D-3
BCVD = .78D+10
AC1D(9) = .6549876D-3
AC1D(10) = .78D+10
BC2D(2,2) = .6549876D-3
BC2D(3,2) = .78D+10
CC3D(2,2,1) = .6549876D-3
CC3D(3,2,1) = .78D+10
C***** ASSIGNMENT OF SIGNED DP CONSTANTS WITH 5.1.1 /12H0130840
C***** UNSIGNED EXPONENTS TO VARIABLES AND ARRAY 5.1.1 /12H0130850
C***** ELEMENTS 5.1.1 /12H0130860
CCVD = +0.0D0
DCVD = -17263544.5D3
EP1D(1) = +0.0D0
EP1D(2) = -17263544.5D3
BC2D(4,2) = +0.0D0
BC2D(5,2) = -17263544.5D3
CC3D(4,2,1) = +0.0D0
CC3D(5,2,1) = -17263544.5D3

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C*****	ASSIGNMENT OF SIGNED DP CONSTANTS WITH	H0130950
C*****	SIGNED EXPONENTS TO VARIABLES AND ARRAY	H0130960
C*****	ELEMENTS	H0130970
	ECVD = +1987.62D+1	H0130980
	FCVD = -2.54396621D+2	H0130990
	GCVD = +34.786529910234D-7	H0131000
	HCVD = -44.4D-10	H0131010
	EP1D(3) = +1987.62D+1	H0131020
	EP1D(4) = -2.54396621D+2	H0131030
	EP1D(5) = +34.786529910234D-7	H0131040
	EP1D(6) = -44.4D-10	H0131050
	BC2D(6,2) = +1987.62D+1	H0131060
	BC2D(7,2) = -2.54396621D+2	H0131070
	BC2D(1,3) = +34.786529910234D-7	H0131080
	BC2D(2,3) = -44.4D-10	H0131090
	CC3D(6,2,1) = +1987.62D+1	H0131100
	CC3D(7,2,1) = -2.54396621D+2	H0131110
	CC3D(1,1,2) = +34.786529910234D-07	H0131120
	CC3D(2,1,2) = -44.4D-10	H0131130
C*****	ASSIGNMENT OF SIGNED DP CONSTANTS (NO DECIMAL	H0131140
C*****	PART) WITH SIGNED EXPONENT TO VARIABLES AND	H0131150
C*****	ARRAY ELEMENTS	H0131160
	AADVD = +0.D+1	H0131170
	BBDVD = -123.D+17	H0131180
	CCDVD = +3692468.D-8	H0131190
	DDDVD = -147937824967.D-5	H0131200
	EP1D(7) = +0.D+1	H0131210
	EP1D(8) = -123.D+17	H0131220
	EP1D(9) = +3692468.D-8	H0131230
	EP1D(10) = -147937824967.D-5	H0131240
	BC2D(3,3) = +0.D+1	H0131250
	BC2D(4,3) = -123.D+17	H0131260
	BC2D(5,3) = +3692468.D-8	H0131270
	BC2D(6,3) = -147937824967.D-5	H0131280
	CC3D(3,1,2) = +0.D+1	H0131290
	CC3D(4,1,2) = -123.D+17	H0131300
	CC3D(5,1,2) = +3692468.D-8	H0131310
	CC3D(6,1,2) = -147937824967.D-5	H0131320
C*****	ASSIGNMENT OF SIGNED DP CONSTANTS (NO INTEGER	H0131330
C*****	PART) WITH SIGNED EXPONENTS TO VARIABLES AND	H0131340
C*****	ARRAY ELEMENTS	H0131350
	EEDVD = +.927786174985D+2	H0131360
	FFDVD = -.59354914223619D+0	H0131370
	GGDVD = +.98663271D-03	H0131380
	HHDVD = -.1D-15	H0131390
	EP1D(11) = +.927786174985D+2	H0131400
	EP1D(12) = -.59354914223619D+0	H0131410
	EP1D(13) = +.98663271D-03	H0131420
	EP1D(14) = -.1D-15	H0131430
	BC2D(7,3) = +.927786174985D+2	H0131440
	BC2D(1,4) = -.59354914223619D+0	H0131450
	BC2D(2,4) = +.98663271D-03	H0131460
	BC2D(3,4) = -.1D-15	H0131470
	CC3D(7,1,2) = +.927786174985D+2	H0131480
	CC3D(1,2,2) = -.59354914223619D+0	H0131490
	CC3D(2,2,2) = +.98663271D-3	H0131500
	CC3D(3,2,2) = -.1D-15	H0131510
C*****	ASSIGNMENT OF SIGNED DP CONSTANTS (NO DECIMAL	H0131520
C*****	PART) WITH UNSIGNED EXPONENTS TO VARIABLES	H0131530
C*****	AND ARRAY ELEMENTS	H0131540
	PPDVD = +3261294675.D12	H0131550
	RRDVD = -969492909.D4	H0131560
	EP1D(15) = +3261294675.D12	H0131570
	EP1D(16) = -969492909.D4	H0131580
	BC2D(4,4) = +3261294675.D12	H0131590
	BC2D(5,4) = -969492909.D4	H0131600
	CC3D(4,2,2) = +3261294675.D12	H0131610
	CC3D(5,2,2) = -969492909.D4	H0131620


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C***** ASSIGNMENT OF SIGNED DP CONSTANTS (NO INTEGER          H0131630
C***** PART) WITH UNSIGNED EXPONENTS TO VARIABLES          H0131640
C***** AND ARRAY ELEMENTS          H0131650
SSDVD = +.001246085D3          H0131660
TTDVD = -.59D2          H0131670
EP1D(17) = +.001246085D3          H0131680
EP1D(18) = -.59D2          H0131690
BC2D(6,4) = +.001246085D3          H0131700
BC2D(7,4) = -.59D2          H0131710
CC3D(6,2,2) = +.001246085D3          H0131720
CC3D(7,2,2) = -.59D2          H0131730
C***** ASSIGNMENT OF DP CONSTANTS FORMED BY ADDING          5.1.1.3/42 H0131740
C***** UNSIGNED EXPONENTS TO UNSIGNED INTEGERS          H0131750
UUDVD = 798281392253D0          H0131760
EP1D(19) = 798281392253D0          H0131770
FC2D(1,1) = 798281392253D0          H0131780
RC3D(1,1,1) = 798281392253D0          H0131790
C***** ASSIGNMENT OF DP CONSTANTS FORMED BY ADDING          H0131800
C***** SIGNED EXPONENTS TO UNSIGNED INTEGERS          H0131810
VVDVD = 42921D+6          H0131820
WWDVD = 793685443D-4          H0131830
EP1D(20) = 42921D+6          H0131840
EP1D(21) = 793685443D-4          H0131850
FC2D(2,1) = 42921D+6          H0131860
FC2D(3,1) = 793685443D-4          H0131870
RC3D(2,1,1) = 42921D+6          H0131880
RC3D(3,1,1) = 793685443D-4          H0131890
C***** ASSIGNMENT OF DP CONSTANTS FORMED BY ADDING          H0131900
C***** UNSIGNED EXPONENTS TO SIGNED INTEGERS          H0131910
XXDVD = +33344455566D2          H0131920
YYDVD = -222333444D1          H0131930
EP1D(22) = +33344455566D2          H0131940
EP1D(23) = -222333444D1          H0131950
FC2D(4,1) = +33344455566D2          H0131960
FC2D(5,1) = -222333444D1          H0131970
RC3D(1,2,1) = +33344455566D2          H0131980
RC3D(2,2,1) = -222333444D1          H0131990
C***** ASSIGNMENT OF DP CONSTANTS FORMED BY ADDING          H0132000
C***** SIGNED EXPONENTS TO SIGNED INTEGERS          H0132010
ZZDVD = +1D+1          H0132020
MCIVD = -2D+2          H0132030
MCJVD = +3333333333333D-3          H0132040
MCKVD = -444444444D-4          H0132050
EP1D(24) = +1D+1          H0132060
EP1D(25) = -2D+2          H0132070
EP1D(26) = +3333333333333D-3          H0132080
EP1D(27) = -444444444D-4          H0132090
FC2D(1,2) = +1D+1          H0132100
FC2D(2,2) = -2D+2          H0132110
FC2D(3,2) = +3333333333333D-3          H0132120
FC2D(4,2) = -444444444D-4          H0132130
RC3D(3,2,1) = +1D+1          H0132140
RC3D(1,3,1) = -2D+2          H0132150
RC3D(2,3,1) = +3333333333333D-3          H0132160
RC3D(3,3,1) = -444444444D-4          H0132170
C***** ASSIGNMENT OF UNSIGNED DP VARIABLES AND ARRAY          7.1.1.1/41 H0132180
C***** ELEMENTS TO DP VARIABLES AND ARRAY ELEMENTS          H0132190
C***** (BOTH PLUS AND MINUS VALUES ARE ASSIGNED IN THIS          H0132200
C***** WAY)          H0132210
DPAVD = MCAVD          H0132220
DPBVD = DCVD          H0132230
DPCVD = EP1D(1)          H0132240
DPDVD = EP1D(2)          H0132250
DPEVD = BC2D(2,2)          H0132260
DPFVD = BC2D(4,2)          H0132270
DPGVD = CC3D(3,1,1)          H0132280
DPHVD = CC3D(7,2,1)          H0132290
EP1D(28) = DPAVD          H0132300

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EP1D(29) = DPBVD	H0132310
EP1D(30) = EP1D(1)	H0132320
EP1D(31) = EP1D(2)	H0132330
EP1D(32) = BC2D(2,2)	H0132340
EP1D(33) = BC2D(4,2)	H0132350
EP1D(34) = CC3D(3,1,1)	H0132360
EP1D(35) = CC3D(7,2,1)	H0132370
FC2D(5,2) = DPAVD	H0132380
FC2D(1,3) = DPBVD	H0132390
FC2D(2,3) = EP1D(1)	H0132400
FC2D(3,3) = EP1D(2)	H0132410
FC2D(4,3) = BC2D(2,2)	H0132420
FC2D(5,3) = BC2D(4,2)	H0132430
FC2D(1,4) = CC3D(3,1,1)	H0132440
FC2D(2,4) = CC3D(7,2,1)	H0132450
RC3D(1,1,2) = MCAVD	H0132460
RC3D(2,1,2) = DCVD	H0132470
RC3D(3,1,2) = EP1D(1)	H0132480
RC3D(1,2,2) = EP1D(2)	H0132490
RC3D(2,2,2) = BC2D(2,2)	H0132500
RC3D(3,2,2) = BC2D(4,2)	H0132510
RC3D(1,3,2) = CC3D(3,1,1)	H0132520
RC3D(2,3,2) = CC3D(7,2,1)	H0132530
C***** ASSIGNMENT OF SIGNED DP VARIABLES AND ARRAY	H0132540
C***** ELEMENTS TO DP VARIABLES AND ARRAY ELEMENTS	H0132550
C***** (UNARY MINUS USED TO REVERSE BOTH PLUS AND	6.4 /44H0132560
C***** MINUS VALUES)	H0132570
DP1VD = -GCVD	H0132580
DPJVD = -DDDVD	H0132590
DPKVD = -AC1D(3)	H0132600
DPLVD = -EP1D(10)	H0132610
DPMVD = -BC2D(3,1)	H0132620
DPNVD = -BC2D(2,4)	H0132630
DPOVD = -CC3D(2,1,1)	H0132640
DPPVD = -CC3D(2,1,2)	H0132650
EP1D(36) = -GCVD	H0132660
EP1D(37) = -DDDVD	H0132670
EP1D(38) = -AC1D(3)	H0132680
EP1D(39) = -EP1D(10)	H0132690
EP1D(40) = -BC2D(3,1)	H0132700
EP1D(41) = -BC2D(2,4)	H0132710
EP1D(42) = -CC3D(2,1,1)	H0132720
EP1D(43) = -CC3D(2,1,2)	H0132730
FC2D(3,4) = -GCVD	H0132740
FC2D(4,4) = -DDDVD	H0132750
FC2D(5,4) = -AC1D(3)	H0132760
FC2D(1,5) = -EP1D(10)	H0132770
FC2D(2,5) = -BC2D(3,1)	H0132780
FC2D(3,5) = -BC2D(2,4)	H0132790
FC2D(4,5) = -CC3D(2,1,1)	H0132800
FC2D(5,5) = -CC3D(2,1,2)	H0132810
RC3D(3,3,2) = -GCVD	H0132820
RC3D(1,1,3) = -DDDVD	H0132830
RC3D(2,1,3) = -AC1D(3)	H0132840
RC3D(3,1,3) = -EP1D(10)	H0132850
RC3D(1,2,3) = -BC2D(3,1)	H0132860
RC3D(2,2,3) = -BC2D(2,4)	H0132870
RC3D(3,2,3) = -CC3D(2,1,1)	H0132880
RC3D(1,3,3) = -CC3D(2,1,2)	H0132890
C***** WRITE RESULTS FOR THIS SEGMENT	H0132900
WRITE (NUVI,132) MCAVD, AC1D(1), BC2D(1,1), CC3D(1,1,1), MCBVD,	H0132910
A AC1D(2), BC2D(2,1), CC3D(2,1,1), MCCVD, AC1D(3), BC2D(3,1),	H0132920
B CC3D(3,1,1), MCDVD, AC1D(4), BC2D(4,1), CC3D(4,1,1), MCEVD,	H0132930
C AC1D(5), BC2D(5,1), CC3D(5,1,1), MCFVD, AC1D(6), BC2D(6,1),	H0132940
D CC3D(6,1,1), MCGVD, AC1D(7), BC2D(7,1), CC3D(7,1,1), MCHVD,	H0132950
E AC1D(8), BC2D(1,2), CC3D(1,2,1), ACVD, AC1D(9), BC2D(2,2),	H0132960
F CC3D(2,2,1), BCVD, AC1D(10), BC2D(3,2), CC3D(3,2,1), CCVD,	H0132970
G EP1D(1), BC2D(4,2), CC3D(4,2,1), DCVD, EP1D(2), BC2D(5,2),	H0132980

H	CC3D(5,2,1), ECVD, EP1D(3), BC2D(6,2), CC3D(6,2,1), FCVD,	H0132990
I	EP1D(4), BC2D(7,2), CC3D(7,2,1), GCVD, EP1D(5), BC2D(1,3),	H0133000
J	CC3D(1,1,2), HCVD, EP1D(6), BC2D(2,3), CC3D(2,1,2), AADV,	H0133010
K	EP1D(7), BC2D(3,3), CC3D(3,1,2), BBDVD, EP1D(8), BC2D(4,3),	H0133020
L	CC3D(4,1,2), CCDVD, EP1D(9), BC2D(5,3), CC3D(5,1,2), DDDVD,	H0133030
M	EP1D(10), BC2D(6,3), CC3D(6,1,2)	H0133040
	WRITE (NUVI,133) EEDVD, EP1D(11), BC2D(7,3), CC3D(7,1,2), FFDVD,	H0133050
1	EP1D(12), BC2D(1,4), CC3D(1,2,2), GGDVD, EP1D(13), BC2D(2,4),	H0133060
2	CC3D(2,2,2), HHDVD, EP1D(14), BC2D(3,4), CC3D(3,2,2), PPDVD,	H0133070
3	EP1D(15), BC2D(4,4), CC3D(4,2,2), RRDVD, EP1D(16), BC2D(5,4),	H0133080
4	CC3D(5,2,2), SSDVD, EP1D(17), BC2D(6,4), CC3D(6,2,2), TTDVD,	H0133090
5	EP1D(18), BC2D(7,4), CC3D(7,2,2)	H0133100
	WRITE (NUVI,134) UUDVD, EP1D(19), FC2D(1,1), RC3D(1,1,1), VVDVD,	H0133110
1	EP1D(20), FC2D(2,1), RC3D(2,1,1), WWDVD, EP1D(21), FC2D(3,1),	H0133120
2	RC3D(3,1,1), XXDVD, EP1D(22), FC2D(4,1), RC3D(1,2,1), YYDVD,	H0133130
3	EP1D(23), FC2D(5,1), RC3D(2,2,1), ZZDVD, EP1D(24), FC2D(1,2),	H0133140
4	RC3D(3,2,1), MCIVD, EP1D(25), FC2D(2,2), RC3D(1,3,1), MCJVD,	H0133150
5	EP1D(26), FC2D(3,2), RC3D(2,3,1), MCKVD, EP1D(27), FC2D(4,2),	H0133160
6	RC3D(3,3,1)	H0133170
	WRITE (NUVI,135) MCAVD, DPAVD, EP1D(28), FC2D(5,2), RC3D(1,1,2),	H0133180
A	DCVD, DPBVD, EP1D(29), FC2D(1,3), RC3D(2,1,2), EP1D(1),	H0133190
B	DPCVD, EP1D(30), FC2D(2,3), RC3D(3,1,2), EP1D(2), DPDVD,	H0133200
C	EP1D(31), FC2D(3,3), RC3D(1,2,2), BC2D(2,2), DPEVD, EP1D(32),	H0133210
D	FC2D(4,3), RC3D(2,2,2), BC2D(4,2), DPFVD, EP1D(33), FC2D(5,3),	H0133220
E	RC3D(3,2,2), CC3D(3,1,1), DPGVD, EP1D(34), FC2D(1,4),	H0133230
F	RC3D(1,3,2), CC3D(7,2,1), DPHVD, EP1D(35), FC2D(2,4),	H0133240
G	RC3D(2,3,2), GCVD, DPIVD, EP1D(36), FC2D(3,4), RC3D(3,3,2),	H0133250
H	DDDVD, DPJVD, EP1D(37), FC2D(4,4), RC3D(1,1,3), AC1D(3),	H0133260
I	DPKVD, EP1D(38), FC2D(5,4), RC3D(2,1,3), EP1D(10), DPLVD,	H0133270
J	EP1D(39), FC2D(1,5), RC3D(3,1,3), BC2D(3,1), DPMVD, EP1D(40),	H0133280
K	FC2D(2,5), RC3D(1,2,3), BC2D(2,4), DPNVD, EP1D(41), FC2D(3,5),	H0133290
L	RC3D(2,2,3), CC3D(2,1,1), DPOVD, EP1D(42), FC2D(4,5),	H0133300
M	RC3D(3,2,3), CC3D(2,1,2), DPPVD, EP1D(43), FC2D(5,5),	H0133310
N	RC3D(1,3,3)	H0133320
132	FDMAT (/ 6X,8H0.34D+02/4(D14.2)/)	H0133330
A	6X,19H0.1234567891011D+08/4(D25.13)/)	H0133340
B	6X,15H0.298765234D-01/4(D21.9)/)	H0133350
C	6X,17H0.34510000555D+07/4(D23.11)/)	H0133360
D	6X,14H0.22232425D+08/4(D20.8)/)	H0133370
E	6X,12H0.281420D+05/4(D18.6)/)	H0133380
F	6X,16H0.4455667788D+16/4(D22.10)/)	H0133390
G	1H1,5X,20H0.35692483569248D+12/4(D26.14)/)	H0133400
H	6X,13H0.6549876D-03/4(D19.7)/)	H0133410
I	6X,8H0.78D+10/4(D14.2)/)	H0133420
J	6X,7H0.0D+00/4(D13.1)/)	H0133430
K	5X,16H-0.172635445D+11/4(D21.9)/)	H0133440
L	6X,12H0.198762D+05/4(D18.6)/)	H0133450
M	5X,16H-0.254396621D+03/4(D21.9)/)	H0133460
N	6X,20H0.34786529910234D-05/4(D26.14)/)	H0133470
O	5X,10H-0.444D-08/4(D15.3)/)	H0133480
P	1H1,5X,7H0.0D+00/4(D13.1)/)	H0133490
Q	5X,10H-0.123D+20/4(D15.3)/)	H0133500
R	6X,13H0.3692468D-01/4(D19.7)/)	H0133510
S	5X,19H-0.147937824967D+07/4(D24.12/),1H)	H0133520
133	FDMAT (6X,18H0.927786174985D+02/4(D24.12)/)	H0133530
T	5X,21H-0.59354914223619D+00/4(D26.14)/)	H0133540
U	6X,14H0.98663271D-03/4(D20.8)/)	H0133550
V	5X,8H-0.1D-15/4(D13.1)/)	H0133560
W	6X,16H0.3261294675D+22/4(D22.10/),	H0133570
X	1H1,4X,16H-0.969492909D+13/4(D21.9)/)	H0133580
Y	6X,13H0.1246085D+01/4(D19.7)/)	H0133590
Z	5X,9H-0.59D+02/4(D14.2/),1H)	H0133600
134	FDMAT (6X,18H0.798281392253D+12/4(D24.12)/)	H0133610
1	6X,11H0.42921D+11/4(D17.5)/)	H0133620
2	6X,15H0.793685443D+05/4(D21.9)/)	H0133630
3	6X,17H0.33344455566D+13/4(D23.11)/)	H0133640
4	5X,16H-0.222333444D+10/4(D21.9)/)	H0133650
5	6X,7H0.1D+02/4(D13.1/),	H0133660


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6      1H1,4X,8H-0.2D+03/4(D13.1)/
7      6X,20H0.33333333333333D+11/4(D26.14)/
8      5X,16H-0.444444444D+05/4(D21.9/),1H )
135  FORMAT( 6X,20H0.34000000000000D+02/5(D26.14)/
1      5X,21H-0.17263544500000D+11/5(D26.14)/
2      6X,20H0.00000000000000D+00/5(D26.14)/
3      5X,21H-0.17263544500000D+11/5(D26.14)/
4      6X,20H0.65498760000000D-03/5(D26.14/),
5      1H1,5X,20H0.00000000000000D+00/5(D26.14)/
6      6X,20H0.29876523400000D-01/5(D26.14)/
7      5X,21H-0.25439662100000D+03/5(D26.14/),
8 39H1 EACH GROUP SHOULD BE IDENTICAL EXCEPT/
9 38H FOR THE SIGNS OF THE FIRST TWO LINES//
A      6X,20H0.34786529910234D-05/5(D26.14)/
B      5X,21H-0.14793782496700D+07/5(D26.14)/
C      6X,20H0.29876523400000D-01/5(D26.14)/
D      5X,21H-0.14793782496700D+07/5(D26.14)/
E      6X,20H0.29876523400000D-01/5(D26.14)/
F      6X,20H0.98663271000000D-03/5(D26.14)/
G      6X,20H0.12345678910110D+08/5(D26.14/),
H      1H1,4X,21H-0.44400000000000D-08/5(D26.14/))
C***** END OF SEGMENT 013
C***** WHEN EXECUTING ONLY SEGMENT 013, THE STOP AND END CARDS
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED
C= STOP
C= END
C*****
C***** CASGN - (015)
C*****
C*****
C***** GENERAL PURPOSE ASA REF
C***** * TO TEST METHODS OF FORMING COMPLEX CONSTANTS 5.1.1
C***** * TO TEST THAT COMPLEX VARIABLES AND ARRAY 5.1.2 /5
C***** ELEMENTS MAY BE REFERENCED. 5.1.3 /16
C***** * TO TEST SIMPLE ARITHMETIC ASSIGNMENT STATEMENTS 7.1.1.1
C***** SO THAT THIS FEATURE CAN BE USED FOR INITIALIZATION TABLE 1
C***** IN LATER SEGMENTS
C***** S P E C I F I C A T I O N S. SEGMENT 015
C*****
C***** WHEN EXECUTING ONLY SEGMENT 015, THE SPECIFICATION STATEMENTS
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C= IN COLUMNS
C***** 1 AND 2 REMOVED.
C*****
C= COMPLEX QEVC,QFVC,QGVC,QHVC,QIVC,QJVC,QKVC,QLVC,QMVC,QNVC,QOVC,
C= 1 QPVC,QRVC,QSVC,QTVC,QUVC,QVVC,KVC,LVC,MVC,NVC,OVC,PVC,QVC,VVC,
C= 2 MEVC,MFVC,MGVC,MHVC,MIVC,QQVC,MJVC,MKVC,MLVC, MNVC,MOVVC,
C= 3 MPVC,MQVC,MRVC,MSVC,MTVC,MUVC,MVVC,BCVC,DCVC,DDVC
C= COMPLEX AVC,BVC,CVC,DVC,EVC,FVC,GVC,HVC,IVC,JVC,AAVC,
C= 1 ABVC,BAVC,BBVC,CCVC,CDVC,CAVC,DAVC,ASVC,BSVC,CSVC,
C= 2 DSVC,AAVC,ABVC,ACAVC,ADAVC,CHCVC
C= COMPLEX NUMVC, QAVC,QBVC,QCVC,QDVC,RVC,SVC,TVC,UVC
C= 1 , MAVC,MBVC,MCVC,MDVC,B1C(8),B2C(4,2),B3C(2,2,2)
C= COMPLEX LL1C(32),LM2C(8,4),LN3C(9,2,2),A1C(12),A2C(2,2),A3C(2,2,1)
C*****
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.
C*****
C***** WHEN EXECUTING ONLY SEGMENT 015, THE FOLLOWING STATEMENT
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C*****
C= NUVI = 6
C*****
WRITE (NUVI,150)
WRITE (NUVI,151)
150 FORMAT(1H1,1X,32HCASGN - (015) COMPLEX ASSIGNMENT/
1 16X, 10HSTATEMENTS/2X,28HASA REFS. - 5.1.1.4 7.1.1.1//
2 2X, 7HRESULTS//2X,23HLINE 1 OF EACH GROUP IS/

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3 2X,21HHOLLERITH INFORMATION/) H0150200
151 FORMAT(2X,36HVALUES IN A GROUP SHOULD BE THE SAME) H0150210
C***** HEADER FOR SEGMENT 015 WRITTEN H0150220
C***** BEGINNING OF TEST OF COMPLEX CONSTANT ASSIGNMENTS. IN H0150230
C***** THE FOLLOWING 22 BLOCKS, BOTH PARTS OF THE CONSTANT H0150240
C***** HAVE THE SAME METHOD OF FORMATION H0150250
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM H0150260
C***** UNSIGNED BASIC REAL CONSTANTS H0150270
      QAVC = (22.2,33.33) H0150280
      LL1C(1) = (22.2,33.33) H0150290
      LM2C(1,1) = (22.2,33.33) H0150300
      LN3C(1,1,1) = (22.2,33.33) H0150310
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM H0150320
C***** SIGNED BASIC REAL CONSTANTS H0150330
      QBVC = (+395.6,+4106.7) H0150340
      QCVC = (-12345.67,-1234.567) H0150350
      QDVC = (+8.9,-9.1) H0150360
      QEVC = (-2635.12,+46.21) H0150370
      LL1C(2) = (+395.6,+4106.7) H0150380
      LL1C(3) = (-12345.67,-1234.567) H0150390
      LL1C(4) = (+8.9,-9.1) H0150400
      LL1C(5) = (-2635.12,+46.21) H0150410
      LM2C(2,1) = (+395.6,+4106.7) H0150420
      LM2C(3,1) = (-12345.67,-1234.567) H0150430
      LM2C(4,1) = (+8.9,-9.1) H0150440
      LM2C(5,1) = (-2635.12,+46.21) H0150450
      LN3C(2,1,1) = (+395.6,+4106.7) H0150460
      LN3C(3,1,1) = (-12345.67,-1234.567) H0150470
      LN3C(4,1,1) = (+8.9,-9.1) H0150480
      LN3C(5,1,1) = (-2635.12,+46.21) H0150490
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM H0150500
C***** UNSIGNED AND SIGNED REAL CONSTANTS (INTEGER PART H0150510
C***** ONLY) H0150520
      QFVC = (10.,20.) H0150530
      QGVC = (+300.,+4000.) H0150540
      QHVC = (-50.,-600.) H0150550
      QIVC = (+71.,-92.) H0150560
      QJVC = (-883.,+1414.) H0150570
      QKVC = (10.,+562.) H0150580
      QLVC = (2002.,-983.) H0150590
      QMVC = (+461.,-165.) H0150600
      QNVC = (-21.,+122.) H0150610
      LL1C(6) = (10.,20.) H0150620
      LM2C(6,1) = (+300.,+4000.) H0150630
      LN3C(6,1,1) = (-50.,-600.) H0150640
      LL1C(7) = (+71.,-92.) H0150650
      LM2C(7,1) = (-883.,+1414.) H0150660
      LN3C(7,1,1) = (10.,+562.) H0150670
      LL1C(8) = (2002.,-983.) H0150680
      LM2C(8,1) = (+461.,-165.) H0150690
      LN3C(8,1,1) = (-21.,+122.) H0150700
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM H0150710
C***** UNSIGNED AND SIGNED REAL CONSTANTS (DECIMAL PART H0150720
C***** ONLY) H0150730
      QOVVC = (.001,.00200) H0150740
      QPVC = (+.562,+.562) H0150750
      QQVC = (-.3,-.3333333) H0150760
      QRVVC = (+.4,-.445) H0150770
      QSVVC = (-.95,+.95) H0150780
      QTVVC = (.0164239,+.36) H0150790
      QUVC = (.21,-.3963) H0150800
      QVVC = (+.3398,.3398) H0150810
      NUMVC = (-.6,.6) H0150820
      LL1C(9) = (.001,.00200) H0150830
      LM2C(1,2) = (+.562,+.562) H0150840
      LN3C(1,2,1) = (-.3,-.3333333) H0150850
      LL1C(10) = (+.4,-.445) H0150860
      LM2C(2,2) = (-.95,+.95) H0150870

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LN3C(2,2,1) = (.0164239,+.36)	H0150880
LL1C(11) = (.21,-.3963)	H0150890
LM2C(3,2) = (+.3398,.3398)	H0150900
LN3C(3,2,1) = (-.6,.6)	H0150910
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0150920
C***** UNSIGNED REAL CONSTANTS WITH UNSIGNED EXPONENTS	H0150930
AVC = (0.0E0,1.0E0)	H0150940
LL1C(12) = (456231.1E1,789.453E3)	H0150950
LM2C(4,2) = (44.9E4,2.5E3)	H0150960
LN3C(4,2,1) = (2222.3E3,333.2E2)	H0150970
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0150980
C***** UNSIGNED REAL CONSTANTS WITH SIGNED EXPONENTS	H0150990
BVC = (3.0E+0,3.0E+0)	H0151000
CVC = (987654.3E-1,876543.2E-2)	H0151010
DVC = (4.444E+3,55.555E-4)	H0151020
EVC = (6.0E-5,7.7E+6)	H0151030
LL1C(13) = (3.0E+0,3.0E+0)	H0151040
LM2C(5,2) = (987654.3E-1,876543.2E-2)	H0151050
LN3C(5,2,1) = (4.444E+3,55.555E-4)	H0151060
LL1C(14) = (6.0E-5,7.7E+6)	H0151070
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151080
C***** SIGNED REAL CONSTANTS WITH UNSIGNED EXPONENTS	H0151090
FVC = (+14.2E1,+26.67E0)	H0151100
GVC = (-36.923E4,-0.234E03)	H0151110
HVC = (+2.1E2,-2.1E2)	H0151120
IVC = (-595.9E00,+4.967E2)	H0151130
LM2C(6,2) = (+14.2E1,+26.67E0)	H0151140
LN3C(6,2,1) = (-36.923E4,-0.234E03)	H0151150
LL1C(15) = (+2.1E2,-2.1E2)	H0151160
LM2C(7,2) = (-595.9E00,+4.967E2)	H0151170
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151180
C***** SIGNED REAL CONSTANTS WITH SIGNED EXPONENTS	H0151190
JVC = (+1.0E+0,+1.0E+0)	H0151200
KVC = (-2.0E-0,-2.0E-0)	H0151210
LVC = (+49.2E-1,-65.27E+2)	H0151220
MVC = (-737.1E+3,+99.8E-3)	H0151230
NVC = (+4774.47E+03,-9362.4E-4)	H0151240
OVC = (-846.2E-5,+13.33E+1)	H0151250
LN3C(7,2,1) = (+1.0E+0,+1.0E+0)	H0151260
LL1C(16) = (-2.0E-0,-2.0E-0)	H0151270
LM2C(1,3) = (+49.2E-1,-65.27E+2)	H0151280
LN3C(1,1,2) = (-737.1E+3,+99.8E-3)	H0151290
LL1C(17) = (+4774.47E+03,-9362.4E-4)	H0151300
LM2C(2,3) = (-846.2E-5,+13.33E+1)	H0151310
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151320
C***** UNSIGNED REAL CONSTANTS (NO DECIMAL PART) WITH	H0151330
C***** UNSIGNED EXPONENTS	H0151340
PVC = (77.E7,816248.E2)	H0151350
LL1C(18) = (77.E7,816248.E2)	H0151360
LM2C(3,3) = (1334.E01,379.E03)	H0151370
LN3C(2,1,2) = (1334.E01,379.E03)	H0151380
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151390
C***** UNSIGNED REAL CONSTANTS (NO DECIMAL PART) WITH	H0151400
C***** SIGNED EXPONENTS	H0151410
QVC = (3.E+5,3.E+05)	H0151420
RVC = (299.E-4,299.E-1)	H0151430
SVC = (1419.E+2,1419.E-2)	H0151440
TVC = (76.E-3,987.E+0)	H0151450
LL1C(19) = (3.E+05,3.E+5)	H0151460
LM2C(4,3) = (299.E-4,299.E-1)	H0151470
LN3C(3,1,2) = (1419.E+2,1419.E-2)	H0151480
LL1C(20) = (76.E-3,987.E+0)	H0151490
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151500
C***** SIGNED REAL CONSTANTS (NO DECIMAL PART) WITH	H0151510
C***** UNSIGNED EXPONENTS	H0151520
UVC = (+31.E0,+4659.E1)	H0151530
VVC = (-728.E2,-93296.E3)	H0151540
MAVC = (+6.E6,-6.E6)	H0151550

MBVC = (-7914.E3,+16.E5)	H0151560
LM2C(5,3) = (+31.E0,+4659.E1)	H0151570
LN3C(4,1,2) = (-728.E2,-93296.E3)	H0151580
LL1C(21) = (+6.E6,-6.E6)	H0151590
LM2C(6,3) = (-7914.E3,+16.E5)	H0151600
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151610
C***** SIGNED REAL CONSTANTS (NO DECIMAL PART) WITH	H0151620
C***** SIGNED EXPONENTS	H0151630
MCVC = (+1.E+1,+1.E+1)	H0151640
MDVC = (-2.E-2,-2.E-2)	H0151650
MEVC = (+3.E-3,-3.E+3)	H0151660
MFVC = (-4.E+4,+4.E-4)	H0151670
MGVC = (+5.E+5,-5.E-5)	H0151680
MHVC = (-6.E-6,+6.E+6)	H0151690
LN3C(5,1,2) = (+1.E+1,+1.E+1)	H0151700
LL1C(22) = (-2.E-2,-2.E-2)	H0151710
LM2C(7,3) = (+3.E-3,-3.E+3)	H0151720
LN3C(6,1,2) = (-4.E+4,+4.E-4)	H0151730
LL1C(23) = (+5.E+5,-5.E-5)	H0151740
LM2C(1,4) = (-6.E-6,+6.E+6)	H0151750
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151760
C***** UNSIGNED REAL CONSTANTS (NO INTEGER PART) WITH	H0151770
C***** UNSIGNED EXPONENTS	H0151780
MIVC = (.39393E01,.62E04)	H0151790
LL1C(24) = (.39393E01,.62E04)	H0151800
LM2C(2,4) = (.009E2,.765765E3)	H0151810
LN3C(7,1,2) = (.009E2,.765765E3)	H0151820
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151830
C***** UNSIGNED REAL CONSTANTS (NO INTEGER PART) WITH	H0151840
C***** SIGNED EXPONENTS	H0151850
MJVC = (.352E+09,.352E+3)	H0151860
MKVC = (.147626E+0,.891E-14)	H0151870
MLVC = (.9E-7,.9999E+8)	H0151880
MNVC = (.13E-04,.13E-04)	H0151890
LL1C(25) = (.352E+09,.352E+3)	H0151900
LM2C(3,4) = (.147626E+0,.891E-14)	H0151910
LN3C(1,2,2) = (.9E-7,.9999E+8)	H0151920
LN3C(2,2,2) = (.13E-4,.13E-4)	H0151930
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0151940
C***** SIGNED REAL CONSTANTS (NO INTEGER PART) WITH	H0151950
C***** UNSIGNED EXPONENTS	H0151960
MOV = (+.77E00,+.77E00)	H0151970
MPVC = (+.878E1,-.878E1)	H0151980
MQVC = (-.9797E2,+.9797E2)	H0151990
MRVC = (-.10101E15,-.10101E15)	H0152000
LL1C(26) = (+.77E00,+.77E00)	H0152010
LM2C(4,4) = (+.878E1,-.878E1)	H0152020
LN3C(3,2,2) = (-.9797E2,+.9797E2)	H0152030
LN3C(4,2,2) = (-.10101E15,-.10101E15)	H0152040
C***** TEST ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM	H0152050
C***** SIGNED REAL CONSTANTS (NO INTEGER PART) WITH	H0152060
C***** SIGNED EXPONENTS	H0152070
MSVC = (+.68E+12,+.357628E+0)	H0152080
MTVC = (+.798E-3,+.76444E-00)	H0152090
MUVC = (-.3247E+20,-.2594E+5)	H0152100
MVVC = (-.43599E-19,-.12E-4)	H0152110
AAVC = (-.6E-9,-.6E+9)	H0152120
ABVC = (-.9119E+6,+.9119E-6)	H0152130
BAVC = (+.39426E+2,-.39426E-2)	H0152140
BBVC = (+.45E-12,+.45E+12)	H0152150
LL1C(27) = (+.68E+12,+.357628E+0)	H0152160
LM2C(5,4) = (+.798E-3,+.76444E-00)	H0152170
LN3C(5,2,2) = (-.3247E+20,-.2594E+5)	H0152180
LL1C(28) = (-.43599E-19,-.12E-4)	H0152190
LM2C(6,4) = (-.6E-9,-.6E+9)	H0152200
LN3C(6,2,2) = (-.9119E+6,+.9119E-6)	H0152210
LM2C(7,4) = (+.39426E+2,-.39426E-2)	H0152220
LN3C(7,2,2) = (+.45E-12,+.45E+12)	H0152230

C*****	ASSIGNMENT OF COMPLEX CONSTANTS FORMED FROM SIGNED AND UNSIGNED	H0152240
C*****	INTEGER CONSTANTS WITH SIGNED AND UNSIGNED EXPONENTS	H0152250
	BCVC = (+4793E+2,3479E2)	H0152260
	DDVC = (3682E-3,8236E-2)	H0152270
	DCVC = (-2571E5,+1752E+5)	H0152280
	CHCVC = (+1460E-4,-1064E+01)	H0152290
	A1C(5) = (4793E2,3479E+2)	H0152300
	A1C(6) = (3682E-03,+8236E-02)	H0152310
	A1C(7) = (-2571E+5,1752E+05)	H0152320
	A1C(8) = (1460E-4,-1064E1)	H0152330
	LM2C(8,2) = (4793E+2,+3479E+2)	H0152340
	LN3C(8,2,1) = (+3682E-3,8236E-02)	H0152350
	LN3C(8,2,2) = (-2571E+05,1752E5)	H0152360
	LN3C(8,1,2) = (1460E-04,-1064E+1)	H0152370
C*****	ASSIGNMENT OF COMPLEX VARIABLES AND ARRAY ELEMENTS	H0152380
C*****	TO COMPLEX VARIABLES AND ARRAY ELEMENTS	H0152390
	CCVC = QTVC	H0152400
	CDVC = LL1C(12)	H0152410
	CAVC = LM2C(1,4)	H0152420
	DAVC = LN3C(6,2,2)	H0152430
	A1C(1) = CCVC	H0152440
	A1C(2) = LL1C(12)	H0152450
	A1C(3) = LM2C(1,4)	H0152460
	A1C(4) = LN3C(6,2,2)	H0152470
	A2C(1,1) = QTVC	H0152480
	A2C(2,1) = LL1C(12)	H0152490
	A2C(1,2) = LM2C(1,4)	H0152500
	A2C(2,2) = LN3C(6,2,2)	H0152510
	A3C(1,1,1) = CCVC	H0152520
	A3C(2,1,1) = LL1C(12)	H0152530
	A3C(1,2,1) = LM2C(1,4)	H0152540
	A3C(2,2,1) = LN3C(6,2,2)	H0152550
C*****	ASSIGNMENT OF COMPLEX VARIABLES AND ARRAY ELEMENTS	H0152560
C*****	TO COMPLEX VARIABLES AND ARRAY ELEMENTS (UNARY	6.4/44H0152570
C*****	MINUS USED TO REVERSE BOTH PLUS AND MINUS VALUES)	H0152580
	ASVC = - QGVC	H0152590
	BSVC = - QHVC	H0152600
	CSVC = - LL1C(26)	H0152610
	DSVC = - LL1C(23)	H0152620
	AAAVC = - LM2C(1,3)	H0152630
	AAAVC = - LM2C(1,3)	H0152640
	ABAVC = - LM2C(1,4)	H0152650
	ACAVC = - LN3C(5,2,1)	H0152660
	ADAVC = - LN3C(6,2,1)	H0152670
	B1C(1) = - QGVC	H0152680
	B1C(2) = - QHVC	H0152690
	B1C(3) = - LL1C(26)	H0152700
	B1C(4) = - LL1C(23)	H0152710
	B1C(5) = - LM2C(1,3)	H0152720
	B1C(6) = - LM2C(1,4)	H0152730
	B1C(7) = - LN3C(5,2,1)	H0152740
	B1C(8) = - LN3C(6,2,1)	H0152750
	B2C(1,1) = - QGVC	H0152760
	B2C(2,1) = - QHVC	H0152770
	B2C(3,1) = - LL1C(26)	H0152780
	B2C(4,1) = - LL1C(23)	H0152790
	B2C(1,2) = - LM2C(1,3)	H0152800
	B2C(2,2) = - LM2C(1,4)	H0152810
	B2C(3,2) = - LN3C(5,2,1)	H0152820
	B2C(4,2) = - LN3C(6,2,1)	H0152830
	B3C(1,1,1) = - QGVC	H0152840
	B3C(2,1,1) = - QHVC	H0152850
	B3C(1,2,1) = - LL1C(26)	H0152860
	B3C(2,2,1) = - LL1C(23)	H0152870
	B3C(1,1,2) = - LM2C(1,3)	H0152880
	B3C(2,1,2) = - LM2C(1,4)	H0152890
	B3C(1,2,2) = - LN3C(5,2,1)	H0152900
	B3C(2,2,2) = - LN3C(6,2,1)	H0152910


```

C***** WRITE RESULTS FOR THIS TEST SEGMENT
WRITE (NUVI, 152) QAVC, LL1C(1), LM2C(1,1), LN3C(1,1,1), QBVC,
1 LL1C(2), LM2C(2,1), LN3C(2,1,1), QVC, LL1C(3), LM2C(3,1),
2 LN3C(3,1,1), QDVC, LL1C(4), LM2C(4,1), LN3C(4,1,1), QEVC,
3 LL1C(5), LM2C(5,1), LN3C(5,1,1), QFVC, LL1C(6), QGVC,
4 LM2C(6,1), QHVC, LN3C(6,1,1), QIVC, LL1C(7), QJVC, LM2C(7,1),
5 QKVC, LN3C(7,1,1), QLVC, LL1C(8), QMVC, LM2C(8,1), QNVC,
6 LN3C(8,1,1), QOVVC, LL1C(9), QPVC, LM2C(1,2), QQVC,
7 LN3C(1,2,1), QRVVC, LL1C(10), QSVVC, LM2C(2,2), QTVC,
8 LN3C(2,2,1)
WRITE (NUVI, 153) QUVC, LL1C(11), QVVC, LM2C(3,2), NUMVC,
1 LN3C(3,2,1), AVC, LL1C(12), LM2C(4,2), LN3C(4,2,1), BVC,
2 LL1C(13), CVC, LM2C(5,2), DVC, LN3C(5,2,1), EVC, LL1C(14),
3 FVC, LM2C(6,2), GVC, LN3C(6,2,1), HVC, LL1C(15), IVC,
4 LM2C(7,2), JVC, LN3C(7,2,1), KVC, LL1C(16), LVC, LM2C(1,3),
5 MVC, LN3C(1,1,2), NVC, LL1C(17)
WRITE (NUVI, 8873) OVC, LM2C(2,3), PVC,
1 LL1C(18), LM2C(3,3), LN3C(2,1,2), QVC, LL1C(19)
WRITE (NUVI, 154) RVC, LM2C(4,3), SVC, LN3C(3,1,2), TVC,
1 LL1C(20), UVC, LM2C(5,3), VVC, LN3C(4,1,2), MAVC, LL1C(21),
2 MBVC, LM2C(6,3), MCVC, LN3C(5,1,2), MDVC, LL1C(22), MEVC,
3 LM2C(7,3), MFVC, LN3C(6,1,2), MGVC, LL1C(23), MHVC,
4 LM2C(1,4), MIVC, LL1C(24), LM2C(2,4), LN3C(7,1,2)
WRITE (NUVI, 8870) MJVC, LL1C(25), MKVC, LM2C(3,4), MLVC,
- LN3C(1,2,2), MNVC, LN3C(2,2,2), MOVVC, LL1C(26),
+ MPVC, LM2C(4,4), MQVC, LN3C(3,2,2), MRVC,
= LN3C(4,2,2), MSVC, LL1C(27), MTVC, LM2C(5,4),
$ MUVVC, LN3C(5,2,2), MVVC, LL1C(28), AAVC,
. LM2C(6,4), ABVC, LN3C(6,2,2), BAVC, LM2C(7,4),
+ BBVC, LN3C(7,2,2)
WRITE (NUVI, 8872) BCVC, A1C(5), LM2C(8,2), DDVC, A1C(6), LN3C(8,2,1),
1 DCVC, A1C(7), LN3C(8,2,2), CHCVC, A1C(8), LN3C(8,1,2)
0WRITE (NUVI, 8871) QTVC, CCVC, A1C(1), A2C(1,1), A3C(1,1,1),
1 LL1C(12), CDVC, A1C(2), A2C(2,1), A3C(2,1,1), LM2C(1,4),
2 CAVC, A1C(3), A2C(1,2), A3C(1,2,1), LN3C(6,2,2), DAVC,
3 A1C(4), A2C(2,2), A3C(2,2,1), QGVC, ASVC, B1C(1), B2C(1,1),
4 B3C(1,1,1), QHVC, BSVC, B1C(2), B2C(2,1), B3C(2,1,1),
5 LL1C(26), CSVC, B1C(3), B2C(3,1), B3C(1,2,1), LL1C(23),
6 DSVC, B1C(4), B2C(4,1), B3C(2,2,1), LM2C(1,3), AAAC, B1C(5),
7 B2C(1,2), B3C(1,1,2), LM2C(1,4), ABAVC, B1C(6), B2C(2,2),
8 B3C(2,1,2), LN3C(5,2,1), ACAVC, B1C(7), B2C(3,2), B3C(1,2,2),
9 LN3C(6,2,1), ADAVC, B1C(8), B2C(4,2), B3C(2,2,2)
C***** FORMAT STATEMENTS FOR THIS SEGMENT
152 FORMAT (/ 6X, 9H0.222E+02, 9X, 10H0.3333E+02/4(E15.3, E19.4)/)
A 6X, 10H0.3956E+03, 8X, 11H0.41067E+04/4(E16.4, E19.5)/
B 5X, 14H-0.1234567E+05, 4X, 14H-0.1234567E+04/4(E19.7, E18.7)/
C 6X, 8H0.89E+01, 9X, 9H-0.91E+01/4(E14.2, E18.2)/
D 5X, 13H-0.263512E+04, 6X, 10H0.4621E+02/4(E18.6, E16.4)/
E 6X, 7H0.1E+02, 11X, 7H0.2E+02/2(E13.1, E18.1)/
F 6X, 7H0.3E+03, 11X, 7H0.4E+04/2(E13.1, E18.1)/
G 5X, 8H-0.5E+02, 10X, 8H-0.6E+03/2(E13.1, E18.1)/
H 6X, 8H0.71E+02, 9X, 9H-0.92E+02/2(E14.2, E18.2)/
I 1H1, 4X, 10H-0.883E+03, 9X, 10H0.1414E+04/2(E15.3, E19.4)/
J 6X, 7H0.1E+02, 11X, 9H0.562E+03/2(E13.1, E20.3)/
K 6X, 10H0.2002E+04, 7X, 10H-0.983E+03/2(E16.4, E17.3)/
L 6X, 9H0.461E+03, 8X, 10H-0.165E+03/2(E15.3, E18.3)/
M 5X, 9H-0.21E+02, 10X, 9H0.122E+03/2(E14.2, E19.3)/
N 6X, 7H0.1E-02, 11X, 7H0.2E-02/2(E13.1, E18.1)/
O 6X, 9H0.562E+00, 9X, 9H0.562E+00/2(E15.3, E18.3)/
P 5X, 8H-0.3E+00, 10X, 14H-0.3333333E+00/2(E13.1, E24.7)/
Q 6X, 7H0.4E+00, 10X, 10H-0.445E+00/2(E13.1, E20.3)/
R 5X, 9H-0.95E+00, 10X, 8H0.95E+00/2(E14.2, E18.2)/
S 6X, 12H0.164239E-01, 6X, 8H0.36E+00/2(E18.6, E14.2/), 1H )
153 FORMAT ( 6X, 8H0.21E+00, 9X, 11H-0.3963E+00/2(E14.2, E20.4)/)
A 6X, 10H0.3398E+00, 8X, 10H0.3398E+00/2(E16.4, E18.4)/
B 5X, 8H-0.6E+00, 11X, 7H0.6E+00/2(E13.1, E18.1)/
C 1H1, 5X, 7H0.0E+00, 11X, 7H0.1E+01/E13.1, E18.1/
D 6X, 13H0.4562311E+07, 5X, 12H0.789453E+06/E19.7, E17.6/

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E      6X,9H0.449E+06,9X,8H0.25E+04/E15.3,E17.2//      H0153600
F      6X,11H0.22223E+07,7X,10H0.3332E+05/E17.5,E17.4//      H0153610
G      6X,7H0.3E+01,11X,7H0.3E+01/2(E13.1,E18.1//)      H0153620
H      6X,13H0.9876543E+05,5X,13H0.8765432E+04/2(E19.7,E18.7//)      H0153630
I      6X,10H0.4444E+04,8X,11H0.55555E-02/2(E16.4,E19.5//)      H0153640
J      6X,7H0.6E-04,11X,8H0.77E+07/2(E13.1,E19.2//)      H0153650
K      6X,9H0.142E+03,9X,10H0.2667E+02/2(E15.3,E19.4//)      H0153660
L      5X,12H-0.36923E+06,6X,10H-0.234E+03/2(E17.5,E16.3//)      H0153670
M      6X,8H0.21E+03,9X,9H-0.21E+03/2(E14.2,E18.2//)      H0153680
N      5X,11H-0.5959E+03,8X,10H0.4967E+03/2(E16.4,E18.4//)      H0153690
O      6X,7H0.1E+01,11X,7H0.1E+01/2(E13.1,E18.1//)      H0153700
P      5X,8H-0.2E+01,10X,8H-0.2E+01/2(E13.1,E18.1//)      H0153710
Q      6X,9H0.492E+01,8X,11H-0.6527E+04/2(E15.3,E19.4//)      H0153720
R1H1,4X,11H-0.7371E+06,8X,9H0.998E-01/2(E16.4,E17.3//)      H0153730
S      6X,12H0.477447E+07,5X,12H-0.93624E+00/2(E18.6,E17.5//),1H )      H0153740
8873  FORMAT(5X,13H-0.846200E-02,6X,11H0.13330E+03/2(E18.6,E17.5//)      H0153750
      U      6X,12H0.770000E+09,6X,11H0.81625E+08/2(E18.6,E17.5//)      H0153760
      V      6X,12H0.133400E+05,6X,11H0.37900E+06/2(E18.6,E17.5//)      H0153770
      W      6X,12H0.300000E+06,6X,11H0.30000E+06/2(E18.6,E17.5//),1H )      H0153780
154  FORMAT ( 6X,9H0.299E-01,9X,9H0.299E+02/2(E15.3,E18.3//)      H0153790
      A      6X,10H0.1419E+06,8X,10H0.1419E+02/2(E16.4,E18.4//)      H0153800
      B      6X,8H0.76E-01,10X,9H0.987E+03/2(E14.2,E19.3//)      H0153810
      C      6X,8H0.31E+02,10X,10H0.4659E+05/2(E14.2,E20.4//)      H0153820
      O      5X,10H-0.728E+05,8X,12H-0.93296E+08/2(E15.3,E20.5//)      H0153830
      E      6X,7H0.6E+07,10X,8H-0.6E+07/2(E13.1,E18.1//)      H0153840
      F      5X,11H-0.7914E+07,8X,8H0.16E+07/2(E16.4,E16.2//)      H0153850
      G      6X,7H0.1E+02,11X,7H0.1E+02/2(E13.1,E18.1//)      H0153860
      H1H1,4X,8H-0.2E-01,10X,8H-0.2E-01/2(E13.1,E18.1//)      H0153870
      I      6X,7H0.3E-02,10X,8H-0.3E+04/2(E13.1,E18.1//)      H0153880
      J      5X,8H-0.4E+05,11X,7H0.4E-03/2(E13.1,E18.1//)      H0153890
      K      6X,7H0.5E+06,10X,8H-0.5E-04/2(E13.1,E18.1//)      H0153900
      L      5X,8H-0.6E-05,11X,7H0.6E+07/2(E13.1,E18.1//)      H0153910
      M      6X,11H0.39393E+01,7X,8H0.62E+04/2(E17.5,E15.2//)      H0153920
      N      6X,7H0.9E+00,11X,12H0.765765E+03/2(E13.1,E23.6//),1H )      H0153930
8870  FORMAT ( 6X,9H0.352E+09,9X,8H0.35E+03/2(E15.3,E17.2//)      H0153940
      (      6X,12H0.147626E+00,6X,9H0.891E-14/2(E18.6,E15.3//)      H0153950
      *      6X,7H0.9E-07,11X,10H0.9999E+08/2(E13.1,E21.4//)      H0153960
      )      6X,8H0.13E-04,10X,8H0.13E-04/2(E14.2,E18.2//)      H0153970
      /      6X,8H0.77E+00,10X,8H0.77E+00/2(E14.2,E18.2//)      H0153980
      /      6X,9H0.878E+01,8X,10H-0.878E+01/2(E15.3,E18.3//)      H0153990
      A      5X,11H-0.9797E+02,8X,10H0.9797E+02/2(E16.4,E18.4//)      H0154000
      .      1H1,4X,12H-0.10101E+15,6X,12H-0.10101E+15/2(E17.5,E18.5//)      H0154010
      ,      6X,8H0.68E+12,10X,12H0.357628E+00/2(E14.2,E22.6//)      H0154020
      -      6X,9H0.798E-03,9X,11H0.76444E+00/2(E15.3,E20.5//)      H0154030
      +      5X,11H-0.3247E+20,7X,11H-0.2594E+05/2(E16.4,E18.4//)      H0154040
      1      5X,12H-0.43599E-19,6X,9H-0.12E-04/2(E17.5,E15.2//)      H0154050
      2      5X,8H-0.6E-09,10X,8H-0.6E+09/2(E13.1,E18.1//)      H0154060
      3      5X,11H-0.9119E+06,8X,10H0.9119E-06/2(E16.4,E18.4//)      H0154070
      4      6X,11H0.39426E+02,6X,12H-0.39426E-02/2(E17.5,E18.5//)      H0154080
      5      6X,8H0.45E-12,10X,8H0.45E+12/2(E14.2,E18.2//),1H )      H0154090
8872  FORMAT(      H0154100
      6      6X,10H0.4793E+06,8X,10H0.3479E+06/3(E16.4,E18.4//)      H0154110
      7      6X,10H0.3682E+01,8X,10H0.8236E+02/3(E16.4,E18.4//)      H0154120
      8      5X,11H-0.2571E+09,8X,10H0.1752E+09/3(E16.4,E18.4//)      H0154130
      9      6X,10H0.1460E+00,7X,11H-0.1064E+05/3(E16.4,E18.4//)      H0154140
8871  FORMAT(1H1,5X,13H0.1642390E-01,5X,13H0.3600000E+00/5(E19.7,E18.7//)      H0154150
      1      /6X,13H0.4562311E+07,5X,13H0.7894530E+06/5(E19.7,E18.7//)      H0154160
      2      5X,14H-0.6000000E-05,5X,13H0.6000000E+07/5(E19.7,E18.7//)      H0154170
      3      5X,14H-0.9119000E+06,5X,13H0.9119000E-06/5(E19.7,E18.7//)      H0154180
      4 39H1 EACH GROUP SHOULD BE IDENTICAL EXCEPT/      H0154190
      5 38H FOR THE SIGN OF THE FIRST TWO LINES//      H0154200
      6      6X,13H0.3000000E+03,5X,13H0.4000000E+04/5(E19.7,E18.7//)      H0154210
      7      5X,14H-0.5000000E+02,4X,14H-0.6000000E+03/5(E19.7,E18.7//)      H0154220
      8      6X,13H0.7700000E+00,5X,13H0.7700000E+00/5(E19.7,E18.7//)      H0154230
      9      6X,13H0.5000000E+06,4X,14H-0.5000000E-04/5(E19.7,E18.7//)      H0154240
      A      6X,13H0.4920000E+01,4X,14H-0.6527000E+04/5(E19.7,E18.7//)      H0154250
      B      5X,14H-0.6000000E-05,5X,13H0.6000000E+07/5(E19.7,E18.7//)      H0154260
      C      6X,13H0.4444000E+04,5X,13H0.5555500E-02/5(E19.7,E18.7//)      H0154270

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D      1H1,4X,14H-0.3692300E+06,4X,14H-0.2340000E+03/5(E19.7,E18.7/)) H0154280
C*****      ENO OF TEST SEGMENT 015 H0154290
C*****      WHEN EXECUTING ONLY SEGMENT 015, THE STOP AND END CARDS H0154300
C*****      WHICH APPEAR AS COMMENTS MUST HAVE THE C= IN COLUMNS H0154310
C*****      1 AND 2 REMOVED. H0154320
C=      STOP H0154330
C=      END H0154340
      STOP H9999995
      END H9999999

SAMPLE COMPUTER, FORTRAN COMPILER LEVEL
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2
OPERATING SYSTEM VERSION
DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT ID 4
DATE, INSTALLATION NAME
DO NOT READ OR WRITE RECORD 6 DOUBLE SPACE ON OUTPUT ID 6
C*****      PART3 ***** H0000700
C***** H0000705
C*****      ANSI FORTRAN (X3.9-1966) TEST PROGRAMS H0000710
C***** H0000715
C*****      PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3 H0000720
C***** H0000725
C*****      JUNE 1974 H0000730
C***** H0000735
C*****      PART 3 OF 14 PARTS H0000740
C***** H0000745
C*****      SEGMENTS INCLUDED H0000750
C***** H0000755
C*****      LASGN - 016 LOGICAL ASSIGNMENT STATEMENTS H0000760
C***** H0000765
C*****      INTRL - 017 ARITHMETIC ASSIGNMENT STATEMENTS H0000770
C***** H0000775
C*****      UGOTO - 020 UNCONDITIONAL GO TO STATEMENTS H0000780
C***** H0000785
C*****      AGOTO - 021 GO TO ASSIGNMENT STATEMENTS H0000790
C***** H0000795
C*****      CGOTO - 022 COMPUTED GO TO STATEMENTS H0000800
C***** H0000805
C*****      ARBAD - 030 BASIC ADDITION H0000810
C***** H0000815
C*****      ARFAD - 031 DOUBLE PRECISION ADDITION H0000820
C***** H0000825
C*****      ARBSB - 032 BASIC SUBTRACTION H0000830
C***** H0000835
C*****      ARFSB - 033 DOUBLE PRECISION SUBTRACTION H0000840
C***** H0000845
C*****      ARBAS - 034 BASIC ADDITION AND SUBTRACTION H0000850
C***** H0000855
C***** H0010700
C*****      THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN H0010705
C*****      SEGMENTS 016, 017, 020, 021, 022, 030, 031, 032, 033, 034, H0010710
C*****      ARE RUN AS ONE MAIN PROGRAM. H0010715
C***** H0010720
C*****      DIMENSION A1S(5), A2S(2,2), A3S(3,3,3), IAC1I(5), IAC2I(2,7) H0010725
C*****      1 , AC1S(25) H0010730
C*****      INTEGER MCA3I(2,3,3), GTVI H0010735
C*****      DOUBLE PRECISION AC1D(10), BC2D(7,4), CC3D(7,2,2), DPAVD, ACVD, H0010740
C*****      1 BCVD, FFCVD, GGCVD, HHCVD, EP1D(43), CCVD, DCVD, A2D(2,2) H0010745
C*****      2 , A3D(2,2,2), DPCVD H0010750
C*****      LOGICAL MCAVB, MCBVB, MCCVB, MCDVB, MCEVB, MCFVB, MCGVB, MCIVB H0010755
C*****      1 , MCJVB, MCKVB, MCLVB, MCMVB, MCNVB, MCA1B(7), MCHVB H0010760
C*****      LOGICAL A1B(2), A2B(2,2), A3B(2,2,2), AVB, BVB, CVB H0010765
C***** H0010770
C*****      END OF SPECIFICATIONS FOR SEGMENTS 016, 017, 020, 021, 022, H0010775
C*****      030, 031, 032, 033, 034 H0010780
C***** H0010785
C***** H0160010
C***** H0160020
C*****      LASGN - (016) H0160030

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C***** H0160040
C***** H0160050
C***** GENERAL PURPOSE ASA REF H0160060
C***** TO TEST LOGICAL ASSIGNMENTS 7.1.1.2 H0160070
C***** CONSTANTS USED IN THIS SEGMENT H0160080
C***** S P E C I F I C A T I O N S SEGMENT 016 H0160090
C***** H0160100
C***** WHEN EXECUTING ONLY SEGMENT 016, REMOVE THE PRECEDING H0010790
C***** SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS WHICH APPEAR AS H0010795
C***** COMMENTS MUST HAVE THE C= IN COL 1 AND 2 REMOVED. H0010800
C***** H0010805
C= DIMENSION IAC11(5) H0010810
C= LOGICAL MCAVB,MCBVB,MCCVB,MCDVB,MCEVB,MCFVB,MCGVB,MCHVB,MCIVB, H0010815
C= 1 MCJVB, MCKVB, MCLVB, MCMVB, MCNVB, MCA1B(7) H0010820
C= LOGICAL A1B(2),A2B(2,2),A3B(2,2,2),AVB,BVB,CVB H0010825
C***** H0010830
C***** I N P U T - O U T P U T T A P E ASSIGNMENT STATEMENTS H0160110
IRVI = 5 H0070700
NUVI = 6 H0070705
C***** IDENTIFY THE SOURCE OF THE TEST PROGRAMS H0070710
WRITE(NUVI,0071) H0070715
0071 FORMAT (41H1 F O R T R A N T E S T P R O G R A M S// H0070720
1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS// H0070725
3 37H FOR USE ON LARGE FORTRAN PROCESSORS // H0070730
4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966// H0070735
5 23H VERSION 3 PART 3 ///) H0070740
C***** 3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER H0070745
C PREPARED BY USER H0070750
C READ, NO LIST H0070755
C PREPARED BY USER H0070760
C READ, NO LIST H0070765
C PREPARED BY USER H0070770
C READ, NO LIST H0070775
READ(IRVI,0070) H0070780
READ(IRVI,0072) H0070785
READ(IRVI,0073) H0070790
0070 FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 /) H0070795
0072 FORMAT(40H TEST PROGRAMS /) H0070800
0073 FORMAT(40H FORTRAN COMPILER /) H0070805
WRITE(NUVI,0070) H0070810
WRITE(NUVI,0072) H0070815
WRITE(NUVI,0073) H0070820
C***** H0160120
IAC11(1) = 25 H0160130
IAC11(2) = 10 H0160140
IAC11(3) = 15 H0160150
IAC11(4) = 25 H0160160
C***** WRITE HEADER FOR THIS SEGMENT H0160170
WRITE (NUVI,160) H0160180
160 FORMAT (1H1,28H LASGN - (016) ASSIGNMENT OF/ 16X,17HLOGICAL VARIAB H0160190
ALES/21H ASA REFS. - 7.1.1.2//9H RESULTS) H0160200
C***** TEST THE ASSIGNMENT OF RELATIONAL EXPRESSIONS 6.2 H0160210
C***** TO LOGICAL VARIABLES AND ARRAYS H0160220
MCAVB = IAC11(2) .LT. IAC11(3) H0160230
MCBVB = IAC11(3) .LT. IAC11(2) H0160240
MCCVB = IAC11(1) .EQ. IAC11(4) H0160250
MCDVB = IAC11(2) .EQ. IAC11(1) H0160260
MCEVB = IAC11(1) .LE. IAC11(4) H0160270
MCFVB = IAC11(2) .LE. IAC11(1) H0160280
MCGVB = IAC11(1) .LE. IAC11(2) H0160290
MCHVB = IAC11(1) .EQ. 25 H0160300
MCIVB = IAC11(2) .EQ. IAC11(4) H0160310
MCA1B(1) = IAC11(2) .NE. IAC11(3) H0160320
MCA1B(2) = IAC11(1) .NE. IAC11(4) H0160330
MCA1B(3) = IAC11(1) .GT. IAC11(2) H0160340
MCA1B(4) = IAC11(2) .GT. IAC11(1) H0160350
MCA1B(5) = IAC11(1) .GE. IAC11(2) H0160360
A1B(1) = IAC11(1) .GE. IAC11(4) H0160370

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A1B(2) = IAC1I(2) .GE. IAC1I(1) H0160380
C***** TEST THE ASSIGNMENT OF A MIXTURE OF RELATIONAL AND H0160390
C***** LOGICAL EXPRESSIONS TO LOGICAL VARIABLES AND ARRAYS 6.3 H0160400
A2B(1,1) = .TRUE. H0160410
A2B(1,2) = .FALSE. H0160420
AVB = A2B(1,2) .AND. .NOT. A2B(1,1) H0160430
BVB = A2B(1,2) .OR. .NOT. A2B(1,1) H0160440
CVB = IAC1I(2).LT.IAC1I(3).AND.(A2B(1,1).OR..NOT.A2B(1,2)).OR.A2B(H0160450
A1,1).AND..NOT.A2B(1,2).AND.IAC1I(1).GT.IAC1I(4) H0160460
A2B(2,1) = .NOT. (CVB.AND.MCIVB).AND. IAC1I(2) .NE. IAC1I(3) .AND. H0160470
1 IAC1I(2) .LT. IAC1I(3) .AND. IAC1I(1) .EQ. IAC1I(4) H0160480
A2B(2,2) = A2B(1,2) .AND. IAC1I(1) .EQ. IAC1I(4) H0160490
A3B(1,1,1) = IAC1I(2) .LT. IAC1I(3) .AND. A2B(1,2) H0160500
A3B(1,1,2) = IAC1I(2) .GT. IAC1I(3) .AND. A2B(1,1) H0160510
A3B(1,2,1) = .NOT. MCA1B(5) .AND. H0160520
1 A2B(1,1) .OR. IAC1I(1) .EQ. IAC1I(4) H0160530
A3B(1,2,2) = .NOT. (A2B(1,2) .AND. IAC1I(1) .EQ. IAC1I(4)).OR. H0160540
1 A2B(1,1) .OR. A2B(1,2) H0160550
A3B(2,1,1) = A2B(1,2) .OR. IAC1I(1) .EQ. IAC1I(4) H0160560
A3B(2,2,1) = .NOT.MCCVB.AND.MCHVB .OR. IAC1I(1) .NE. IAC1I(4) .OR. H0160570
1 IAC1I(1) .LT. IAC1I(4) .OR. A2B(1,2) H0160580
A3B(2,1,2) = .NOT. A3B(1,1,2) .AND. H0160590
1 ( A2B(1,1) .AND. .NOT. A2B(1,2) ) H0160600
A3B(2,2,2) = IAC1I(1) .LT. IAC1I(4) .OR. .NOT. A2B(1,2) H0160610
MCJVB=IAC1I(2).GT.IAC1I(3).AND.(A2B(1,1).OR..NOT.A2B(1,2)).OR.A2B(H0160620
A1,2).AND..NOT.A2B(1,2).AND.IAC1I(1).GT.IAC1I(4) H0160630
MCKVB = IAC1I(2).LT.IAC1I(3).AND.A2B(1,1).OR.A2B(1,2) H0160640
MCLVB = (IAC1I(2) .LT. IAC1I(3) .AND. A2B(1,2)) .OR. A2B(1,1) H0160650
MCMVB = A2B(1,2) .OR. IAC1I(2) .LT. IAC1I(3) .AND. A2B(1,1) H0160660
MCNVB = A2B(1,2) .OR. (IAC1I(2) .LT. IAC1I(3) .AND. A2B(1,1)) H0160670
C***** WRITE VARIABLES THAT ARE TRUE H0160680
WRITE (NUVI,161) MCAVB, MCCVB, MCEVB, MCFVB, MCHVB, MCA1B(1), H0160690
A MCA1B(3), MCA1B(5), A1B(1), A2B(1,1), A2B(2,1), H0160700
B A3B(1,2,1), A3B(1,2,2), A3B(2,1,1), A3B(2,1,2), H0160710
C A3B(2,2,2), CVB, MCKVB, MCLVB, MCMVB, MCNVB H0160720
161 FORMAT (/32H ALL ANSWERS BELOW MUST BE TRUE//21(L16//)) H0160730
C***** WRITE VARIABLES THAT ARE FALSE H0160740
WRITE (NUVI,162) MCBVB, MCDVB, MCGVB, MCIVB, MCA1B(2), MCA1B(4), H0160750
A A1B(2), A2B(1,2), A2B(2,2),A3B(1,1,1),A3B(1,1,2), H0160760
B A3B(2,2,1), AVB, BVB, MCJVB H0160770
162 FORMAT (33H ALL ANSWERS BELOW MUST BE FALSE//15(L16//)) H0160780
C***** END OF SEGMENT 016 H0160790
C***** H0160800
C***** WHEN EXECUTING ONLY SEGMENT 016, THE STOP AND END H0160810
C***** CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C= H0160820
C***** IN COL 1 AND 2 REMOVED. H0160830
C***** H0160840
C= STOP H0160850
C= END H0160860
C***** H0170010
C***** H0170020
C***** INTRL - (017) H0170030
C***** H0170040
C***** H0170050
C***** GENERAL PURPOSE ASA REF H0170060
C***** TO TEST ARITHMETIC ASSIGNMENT STATEMENTS WHERE TABLE 1,PG13H0170070
C***** REAL CONSTANTS AND VARIABLES, INTEGER VARIABLES (LINES 2,3, H0170080
C***** AND ARRAY ELEMENTS, AND DOUBLE PRECISION CON- 5,6, H0170090
C***** STANTS AND VARIABLES ARE ASSIGNED TO EACH OTHER 9,10)H0170100
C***** H0170110
C***** S P E C I F I C A T I O N S SEGMENT 017 H0170120
C***** H0010835
C***** WHEN EXECUTING ONLY SEGMENT 017, THE SPECIFICATION STATEMENTS H0010840
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C= IN H0010845
C***** COL 1 AND 2 REMOVED H0010850
C= DIMENSION A1S(5),A2S(2,2),A3S(3,3,3),IAC1I(5),IAC2I(2,7) H0010855
C= INTEGER MCA3I(2,3,3) H0010860
C= DOUBLE PRECISION AC1D(10),BC2D(7,4),CC3D(7,2,2),DPAVD H0010865

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C*****		H0010870
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0170130
C*****		H0070825
C*****	WHEN EXECUTING ONLY SEGMENT 017, THE STATEMENT NUVI = 6	H0070830
C*****	MUST HAVE THE C= IN COL 1 AND 2 REMOVED.	H0070835
C*****		H0070840
C=	NUVI = 6	H0070845
C*****		H0070850
	WRITE (NUVI,170)	H0170140
170	FORMAT(1H1,1X,39HINTRL - (017) ASSIGN INTEGER, REAL, AND/	H0170150
	1 16X,23HDOUBLE PRECISION VALUES/2X,29HASA REFS. - 7.1.1.1. 5.1.1.	H0170160
	22/2X,7HRESULTS/)	H0170170
C*****	TEST ASSIGNMENT OF INTEGER VARIABLES	TABLE 1/LN 5,9H0170180
	JACVI = 1	H0170190
	IAC1I(3) = +111	H0170200
	IAC2I(2,3) = -1111	H0170210
	MCA3I(2,1,2) = -11111	H0170220
	ACVS = IAC1I(3)	H0170230
	A1S(2) = IAC2I(2,3)	H0170240
	A2S(2,1) = MCA3I(2,1,2)	H0170250
	A3S(2,1,2) = JACVI	H0170260
	DPAVD = MCA3I(2,1,2)	H0170270
	AC1D(7) = JACVI	H0170280
	BC2D(7,4) = IAC1I(3)	H0170290
	CC3D(5,1,2) = IAC2I(2,3)	H0170300
	WRITE (NUVI,171)	H0170310
171	FORMAT (/2X,24HASSIGN INTEGER VARIABLES//3X,	21H1 - TO H0170320
	1REAL VARIABLES)	H0170330
	WRITE (NUVI,172)ACVS,A1S(2),A2S(2,1),A3S(2,1,2),DPAVD,AC1D(7),BC2D	H0170340
	1(7,4),CC3D(5,1,2)	H0170350
172	FORMAT(/8X,8H 111.0 */F14.1//	H0170360
1	7X,9H-1111.0 */F14.1//	H0170370
2	4X,12H -11111.0 */F14.1//	H0170380
3	11X,5H1.0 */F14.1//3X,33H2 - TO DOUBLE PRECISION VARIABLES	H0170390
4	//4X,16H -0.11111D 05 */D18.5//	H0170400
5	11X,9H0.1D 01 */D18.1//	H0170410
6	9X,11H0.111D 03 */D18.3//	H0170420
7	7X,13H-0.1111D 04 */D18.4//	H0170430
C*****	TEST ASSIGNMENT OF INTEGER CONSTANTS	H0170440
	ACVS = -2222	H0170450
	A1S(2) = +222	H0170460
	A2S(2,1) = -22222	H0170470
	A3S(2,1,2) = 2	H0170480
	DPAVD = 2	H0170490
	AC1D(7) = -22222	H0170500
	BC2D(7,4) = -2222	H0170510
	CC3D(5,1,2) = +222	H0170520
	WRITE (NUVI,173)	H0170530
173	FORMAT (/2X,24HASSIGN INTEGER CONSTANTS//3X,	21H1 - TO RH0170540
	1EAL VARIABLES)	H0170550
	WRITE (NUVI,174)ACVS,A1S(2),A2S(2,1),A3S(2,1,2),DPAVD,AC1D(7),BC2D	H0170560
	1(7,4),CC3D(5,1,2)	H0170570
174	FORMAT(/6X,9H-2222.0 */F13.1//	H0170580
1	8X,7H222.0 */F13.1//	H0170590
2	3X,12H -22222.0 */F13.1//	H0170600
3	10X,5H2.0 */F13.1/ 35H1 2 - TO DOUBLE PRECISION VARIABLES/	H0170610
4	//12X,9H0.2D 01 */D19.1//	H0170620
5	5X,16H -0.22222D 05 */D19.5//	H0170630
6	8X,13H-0.2222D 04 */D19.4//	H0170640
7	10X,11H0.222D 03 */D19.3//	H0170650
C*****	TEST ASSIGNMENT OF BASIC REAL CONSTANTS	TABLE 1/LN 2,10H0170660
	JACVI = 3.3	H0170670
	IAC1I(3) = +333.3E-2	H0170680
	IAC2I(2,3) = .3333E+1	H0170690
	MCA3I(2,1,2) = -.0033333E3	H0170700
	DPAVD = +3.3333	H0170710
	AC1D(7) = .3333333E1	H0170720
	BC2D(7,4) = -333.3333E-2	H0170730


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      CC3D(5,1,2) = -.0333333E+2                                     H0170740
      WRITE (NUVI,7173)                                             H0170750
7173  FORMAT (/2X,27HASSIGN BASIC REAL CONSTANTS//3X,           24H1 - H0170760
      1TO INTEGER VARIABLES)                                       H0170770
      WRITE(NUVI,7172)JACVI,IAC1I(3),IAC2I(2,3),MCA3I(2,1,2),DPAVD,AC1D(H0170780
      17),BC2D(7,4),CC3D(5,1,2)                                   H0170790
7172  FORMAT(/9X,3H3 */3(I10//)8X,4H-3 */I10//3X,33H2 - TO DOUBLE PRECISH0170800
      1ION VARIABLES//                                           H0170810
      2      8X,13H0.333333D 01 */D19.5//                         H0170820
      3      6X,15H0.3333333D 01 */D19.7//                       H0170830
      4      5X,16H-0.3333333D 01 */D19.7//                     H0170840
      5      6X,15H-0.333333D 01 */D19.6//                     H0170850
C*****  TEST ASSIGNMENT OF REAL VARIABLES                        H0170860
      ACVS = +.0044444E4                                           H0170870
      A1S(2) = -4444.E-2                                           H0170880
      A2S(2,1) = -44.4                                             H0170890
      A3S(2,1,2) = 4.4444E+1                                       H0170900
      JACVI = A2S(2,1)                                             H0170910
      IAC1I(3) = A1S(2)                                           H0170920
      IAC2I(2,3) = A3S(2,1,2)                                       H0170930
      MCA3I(2,1,2) = ACVS                                           H0170940
      DPAVD = A2S(2,1)                                             H0170950
      AC1D(7) = A1S(2)                                             H0170960
      BC2D(7,4) = A3S(2,1,2)                                       H0170970
      CC3D(5,1,2) = ACVS                                           H0170980
      WRITE (NUVI,175)                                             H0170990
175  FORMAT (/23H  ASSIGN REAL VARIABLES//           27H  1 - TO INTEGH0171000
      1ER VARIABLES)                                             H0171010
      WRITE (NUVI,176)JACVI,IAC1I(3),IAC2I(2,3),MCA3I(2,1,2),DPAVD,AC1D(H0171020
      17),BC2D(7,4),CC3D(5,1,2)                                   H0171030
176  FDMAT( /7X,5H-44 */2(I10//)8X,4H44 */2(I10//), 35H1 2 - TO DOUBLH0171040
      1E PRECISION VARIABLES//                                   H0171050
      2      6X,12H-0.4444D 02 */D16.3//                         H0171060
      3      5X,13H-0.4444D 02 */D16.4//                       H0171070
      4      5X,13H0.44444D 02 */D16.5//                     H0171080
      5      5X,13H0.44444D 02 */D16.5//                     H0171090
C*****  TEST ASSIGNMENT OF D.P. VARIABLES                        TABLE 1/LN 3,6H0171100
      DPAVD=5555.55                                             H0171110
      AC1D(7) = +5555555555555555.D-13                         H0171120
      BC2D(7,4) = -.0000055555555555D6                         H0171130
      CC3D(5,1,2) = -.0555555555555555D+2                     H0171140
      JACVI = DPAVD                                             H0171150
      IAC1I(3) = AC1D(7)                                       H0171160
      IAC2I(2,3) = BC2D(7,4)                                       H0171170
      MCA3I(2,1,2) = CC3D(5,1,2)                                   H0171180
      ACVS = CC3D(5,1,2)                                       H0171190
      A1S(2) = BC2D(7,4)                                       H0171200
      A2S(2,1) = AC1D(7)                                       H0171210
      A3S(2,1,2) = DPAVD                                       H0171220
      WRITE (NUVI,177)                                       H0171230
177  FORMAT (/2X,33HASSIGN DDUBLE PRECISION VARIABLES/      H0171240
      1/3X,24H1 - TD INTEGER VARIABLES)                         H0171250
      WRITE (NUVI,178)JACVI,IAC1I(3),IAC2I(2,3),MCA3I(2,1,2),ACVS,A1S(2)H0171260
      1,A2S(2,1),A3S(2,1,2)                                   H0171270
178  FDMAT(/3X,9H  5555 */I10//9X,3H5 */I10//8X,4H-5 */2(I10//)3X,21HH0171280
      12 - TD REAL VARIABLES//                                   H0171290
      2      3X,16H-0.5555556E 01 */E17.7//                     H0171300
      3      3X,16H-0.5555556E 01 */E17.7//                     H0171310
      4      3X,16H 0.5555556E 01 */E17.7//                     H0171320
      5      3X,16H 0.555555E 04 */E17.6//                     H0171330
C*****  TEST ASSIGNMENT OF DOUBLE PRECISION CONSTANTS          H0171340
      JACVI = 66666.D-4                                           H0171350
      IAC1I(3) = -.0000006666666666D7                           H0171360
      IAC2I(2,3) = -.0666666666666666D+2                       H0171370
      MCA3I(2,1,2)=66666.6666666666D-1                           H0171380
      ACVS = 666666666666666.D0                                   H0171390
      A1S(2) = +66666.D-4                                           H0171400
      A2S(2,1) = -.0000000666666666D8                           H0171410

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      A3S(2,1,2) = -.0666666666666666D+2                                H0171420
      WRITE (NUVI,179)                                                    H0171430
179   FORMAT ( 35H1 ASSIGN DOUBLE PRECISION CONSTANTS/                   H0171440
      1/3X,24H1 - TO INTEGER VARIABLES)                                   H0171450
      WRITE(NUVI,7170)JACVI,IAC1I(3),IAC2I(2,3),MCA3I(2,1,2),ACVS,A1S(2)H0171460
      1,A2S(2,1),A3S(2,1,2)                                              H0171470
7170  FORMAT( / 9X,3H6 */I10//8X,4H-6 */2(I10//)/3X,9H 6666 */I10//    H0171480
      1 3X,21H2 - TO REAL VARIABLES//                                     H0171490
      2      3X,16H 0.6666667E 14 */E17.7//                               H0171500
      3      3X,16H 0.666666E 01 */E17.5//                               H0171510
      4      3X,16H-0.6666666E 01 */E17.7//                               H0171520
      5      3X,16H-0.6666667E 01 */E17.7//                               H0171530
      WRITE (NUVI,7171)                                                    H0171540
7171  FORMAT(/34H ALL TEST OUTPUT SHOULD BE CHECKED/                     H0171550
      1      34H AGAINST THE ASTERISKED (*) FIGURE/                     H0171560
      2      18H WHICH PRECEDES IT)                                       H0171570
C***** END OF TEST SEGMENT 017                                          H0171580
C*****                                                                    H0171590
C***** WHEN EXECUTING ONLY SEGMENT 017, THE STOP AND END                H0171600
C***** CARDS WHICH APPEAR AS COMMENTS MUST HAVE THE C=                 H0171610
C***** IN COL 1 AND 2 REMOVED.                                          H0171620
C*****                                                                    H0171630
C= STOP                                                                    H0171640
C= END                                                                    H0171650
C*****                                                                    H0200010
C*****                                                                    H0200020
C***** UGOTO - (020)                                                    H0200030
C*****                                                                    H0200040
C*****                                                                    H0200050
C***** GENERAL PURPOSE ASA REF H0200060
C***** TO TEST UNCONDITIONAL GO TO STATEMENTS 7.1.2.1.1H0200070
C***** RESTRICTION OBSERVED H0200080
C***** GO TO STATEMENTS CAUSE BRANCHES ONLY TO 7.1.2 /54H0200090
C***** EXECUTABLE STATEMENTS H0200100
C***** GENERAL COMMENTS H0200110
C***** GO TO STATEMENTS ALSO TESTED IN SEGMENT 193 H0200120
C***** H0200130
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0200140
C***** H0070855
C***** WHEN EXECUTING ONLY SEGMENT 020, THE STATEMENT NUVI = 6 H0070860
C***** MUST HAVE THE C= IN COL 1 AND 2 REMOVED. H0070865
C***** H0070870
C= NUVI = 6 H0070875
C***** H0070880
      WRITE (NUVI,200) H0200150
200   FORMAT (1H1,1X,33HUGOTO - (020) UNCONDITIONAL GO TO/16X, H0200160
      19HSTATEMENT//2X, H0200170
      2 21HASA REFS. - 7.1.2.1.1//2X,7HRESULTS) H0200180
C***** HEADER FOR SEGMENT 020 WRITTEN H0200190
C***** TEST BRANCH FORWARD H0200200
      GO TO 201 H0200210
203   MRRVI = 3 H0200220
      WRITE (NUVI,7200) MRRVI H0200230
7200  FORMAT (/4X,11) H0200240
      GO TO 204 H0200250
207   MRRVI = 7 H0200260
      WRITE (NUVI,7200) MRRVI H0200270
      GO TO 208 H0200280
202   MRRVI = 2 H0200290
      WRITE (NUVI,7200) MRRVI H0200300
C***** TEST BRANCH BACKWARD H0200310
      GO TO 203 H0200320
201   MRRVI = 1 H0200330
      WRITE (NUVI,7200) MRRVI H0200340
      GO TO 202 H0200350
208   MRRVI = 8 H0200360
      WRITE (NUVI,7200) MRRVI H0200370
      GO TO 209 H0200380

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206 MRRVI = 6 H0200390
WRITE (NUVI,7200) MRRVI H0200400
GO TO 207 H0200410
204 MRRVI = 4 H0200420
WRITE (NUVI,7200) MRRVI H0200430
C***** TEST BRANCH TO STATEMENT IMMEDIATELY AFTER H0200440
C***** UNCONDITIONAL GO TO H0200450
GO TO 205 H0200460
205 MRRVI = 5 H0200470
WRITE (NUVI,7200) MRRVI H0200480
GO TO 206 H0200490
209 WRITE (NUVI,7201) H0200500
7201 FORMAT (/2X,35HTHIS TEST IS SUCCESSFUL ONLY IF THE/ H0200510
12X,37HNUMBERS LISTED ABOVE ARE SEQUENTIALLY/ H0200520
22X,20HIN ORDER FROM 1 TO 8) H0200530
C***** END OF TEST SEGMENT 020 H0200540
C***** H0200550
C***** WHEN EXECUTING ONLY SEGMENT 020, THE STOP AND END H0200560
C***** CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C= H0200570
C***** IN COL 1 AND 2 REMOVED. H0200580
C= STOP H0200590
C= END H0200600
C***** H0210010
C***** H0210020
C***** AGOTO - (021) H0210030
C***** H0210040
C***** H0210050
C***** GENERAL PURPOSE ASA REF H0210060
C***** TO TEST GO TO ASSIGNMENT STATEMENTS 7.1.1.3 H0210070
C***** AND ASSIGNED GO TO STATEMENTS 7.1.2.1.2 H0210080
C***** RESTRICTIONS OBSERVED H0210090
C***** INTEGER VARIABLE USED IN ASSIGN STATEMENTS 7.1.1.3 /06 H0210100
C***** IS NEVER REFERENCED ELSEWHERE IN THIS SEGMENT 10.2.3 /12 H0210110
C***** ASSIGNED GO TO STATEMENTS CAUSE BRANCHES ONLY 7.1.1.3 /03 H0210120
C***** TO EXECUTABLE STATEMENTS 7.1.2 /54 H0210130
C***** INTEGER VARIABLE ALWAYS CONTAINS STATEMENT 7.1.2.1.2/20 H0210140
C***** LABEL FROM THE ASSIGNED GO TO LIST H0210150
C***** GENERAL COMMENTS H0210160
C***** IGVI AND KGI ARE IMPLICITLY DEFINED 5.3 /07 H0210170
C***** GTVI IS EXPLICITLY DEFINED 7.2.1.6 /55 H0210180
C***** ASSIGN AND ASSIGNED GO TO ALSO TESTED IN H0210190
C***** SEGMENT 190 H0210200
C***** H0210210
C***** SPECIFICATIONS SEGMENT 021 H0210220
C***** H0010875
C***** WHEN EXECUTING ONLY SEGMENT 021, THE SPECIFICATION STATEMENTS H0010880
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COL H0010885
C***** 1 AND 2 REMOVED H0010890
C= INTEGER GTVI H0010895
C***** H0010900
C***** OUTPUT TAPE ASSIGNMENT STATEMENT. NO INPUT TAPE. H0210230
C***** H0070885
C***** WHEN EXECUTING ONLY SEGMENT 021, THE STATEMENT NUVI = 6 H0070890
C***** MUST HAVE THE C= IN COL 1 AND 2 REMOVED. H0070895
C***** H0070900
C= NUVI = 6 H0070905
C***** H0070910
WRITE (NUVI,210) H0210240
210 FORMAT (1H1,1X,33HAGOTO - (021) ASSIGN AND ASSIGNED/16X, H0210250
15HGO TO/2X, H0210260
231HASA REFS. - 7.1.1.3 AND 7.1.2.1/2X,7HRESULTS) H0210270
C***** HEADER FOR SEGMENT 021 WRITTEN H0210280
C***** TEST FORWARD BRANCHING GO TO WITH ONLY ONE H0210290
C***** LABEL IN THE BRANCH LIST H0210300
ASSIGN 211 TO IGVI H0210310
GO TO IGVI, (211) H0210320
C***** TEST FORWARD BRANCHING GO TO WHICH BRANCHES H0210330
C***** TO IMMEDIATELY FOLLOWING STATEMENT H0210340

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212	MRRVI = 2	H0210350
	WRITE (NUVI,8212) MRRVI	H0210360
	ASSIGN 213 TO GTVI	H0210370
	GO TO GTVI, (213)	H0210380
C*****	TEST FORWARD BRANCHING GO TO WHERE ALL BRANCHES	H0210390
C*****	ARE IDENTICAL	H0210400
213	MRRVI = 3	H0210410
	WRITE (NUVI,8212) MRRVI	H0210420
	ASSIGN 214 TO GTVI	H0210430
	GO TO GTVI, (214,214,214)	H0210440
C*****	TEST FORWARD BRANCHING GO TO WITH SEVERAL UNIQUE	H0210450
C*****	BRANCHES IN THE LIST	H0210460
215	MRRVI = 5	H0210470
	WRITE (NUVI,8212) MRRVI	H0210480
	ASSIGN 217 TO KGV	H0210490
	ASSIGN 216 TO IGVI	H0210500
	GO TO IGVI, (217,218,216,219)	H0210510
C*****	TEST BACKWARD BRANCHING GO TO WHERE BRANCHES	H0210520
C*****	ARE IDENTICAL	H0210530
214	MRRVI = 4	H0210540
	WRITE (NUVI,8212) MRRVI	H0210550
	ASSIGN 215 TO IGVI	H0210560
	GO TO IGVI, (215,215)	H0210570
C*****	TEST BACKWARD BRANCHING GO TO WITH ONLY ONE LABEL	H0210580
C*****	IN THE BRANCH LIST	H0210590
211	MRRVI = 1	H0210600
	WRITE (NUVI,8212) MRRVI	H0210610
	ASSIGN 212 TO GTVI	H0210620
	GO TO GTVI, (212)	H0210630
C*****	IN THE FIRST PART OF THIS TEST, ALL GO TO STATEMENTS	H0210640
C*****	WERE EXECUTED ONLY ONCE, IMMEDIATELY AFTER THE	H0210650
C*****	INTEGER VARIABLE WAS DEFINED. ALL GO TO STATEMENTS	H0210660
C*****	WHICH FOLLOW WILL BE EXECUTED MORE THAN ONCE.	H0210670
C*****	VALUE OF IGVI IS ALWAYS 8216 IN THIS PART OF THE	H0210680
C*****	TEST UNTIL FINAL MESSAGE IS TO BE WRITTEN	H0210690
216	MRRVI = 6	H0210700
	WRITE (NUVI,8212) MRRVI	H0210710
	ASSIGN 8216 TO IGVI	H0210720
8216	GO TO KGV, (217,219,7210,7214,8210)	H0210730
217	MRRVI = 7	H0210740
	ASSIGN 218 TO GTVI	H0210750
	GO TO 8211	H0210760
218	MRRVI = 8	H0210770
	ASSIGN 219 TO KGV	H0210780
	GO TO 8213	H0210790
219	MRRVI = 9	H0210800
	ASSIGN 7210 TO KGV	H0210810
	GO TO 8213	H0210820
7210	MRRVI = 10	H0210830
	ASSIGN 7211 TO GTVI	H0210840
	GO TO 8211	H0210850
7211	MRRVI = 11	H0210860
	ASSIGN 7212 TO GTVI	H0210870
	GO TO 8211	H0210880
7212	MRRVI = 12	H0210890
	ASSIGN 7213 TO GTVI	H0210900
	GO TO 8211	H0210910
7213	MRRVI = 13	H0210920
	ASSIGN 7214 TO KGV	H0210930
	GO TO 8213	H0210940
7214	MRRVI = 14	H0210950
	ASSIGN 7215 TO GTVI	H0210960
	GO TO 8211	H0210970
7215	MRRVI = 15	H0210980
	ASSIGN 7216 TO GTVI	H0210990
	GO TO 8211	H0211000
7216	MRRVI = 16	H0211010
	ASSIGN 7217 TO GTVI	H0211020

GO TO 8211	H0211030
7217 MRRVI = 17	H0211040
ASSIGN 7218 TO GTVI	H0211050
GO TO 8211	H0211060
7218 MRRVI = 18	H0211070
ASSIGN 7219 TO GTVI	H0211080
GO TO 8211	H0211090
7219 MRRVI = 19	H0211100
ASSIGN 8210 TO KGV	H0211110
GO TO 8213	H0211120
8210 MRRVI = 20	H0211130
ASSIGN 8214 TO IGVI	H0211140
GO TO 8213	H0211150
8211 WRITE (NUVI,8212) MRRVI	H0211160
8212 FORMAT (/6X,12)	H0211170
C***** TEST GO TO WITH CONTINUATION CARD	H0211180
GO TO GTVI, (218, 7211, 7212, 7213, 7215, 7216, 7217, 7218,	H0211190
1 7219)	H0211200
8213 WRITE (NUVI,8212) MRRVI	H0211210
GO TO IGVI, (8216,8214)	H0211220
8214 WRITE (NUVI,8215)	H0211230
8215 FORMAT (1H0,2X,35HTHIS TEST IS SUCCESSFUL ONLY IF THE/	H0211240
12X,37HNUMBERS LISTED ABOVE ARE SEQUENTIALLY/	H0211250
22X,21HIN ORDER FROM 1 TO 20)	H0211260
C***** END OF TEST SEGMENT 021	H0211270
C*****	H0211280
C***** WHEN EXECUTING ONLY SEGMENT 021, THE STOP AND END	H0211290
C***** CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C=	H0211300
C***** IN COL 1 AND 2 REMOVED.	H0211310
C= STOP	H0211320
C= END	H0211330
C*****	H0220010
C*****	H0220020
C***** CGOTO - (022)	H0220030
C*****	H0220040
C*****	H0220050
C***** GENERAL PURPOSE	ASA REF H0220060
C***** TO TEST COMPUTED GO TO STATEMENTS	7.1.2.1.3 H0220070
C***** RESTRICTIONS OBSERVED	H0220080
C***** VALUE OF INTEGER VARIABLE IS NEVER LESS THAN 1	7.1.2.1.3/33H0220090
C***** AND NEVER LARGER THAN THE NUMBER OF BRANCHES	H0220100
C***** INTEGER VARIABLES USED IN COMPUTED GO TO STMNTS.	10.2.8 /09H0220110
C***** ARE NOT EQUATED TO AVOID SECOND LEVEL	10.3 /13H0220120
C***** DEFINITION PROBLEMS	H0220130
C***** GENERAL COMMENTS	H0220140
C***** IGVI AND KGV ARE IMPLICITLY DEFINED	5.3 /07H0220150
C***** GTVI IS EXPLICITLY DEFINED	7.2.1.6 /55H0220160
C***** COMPUTED GO TO ALSO TESTED IN SEGMENT 162	H0220170
C*****	H0220180
C***** S P E C I F I C A T I O N S SEGMENT 022	H0220190
C*****	H0010905
C***** WHEN EXECUTING ONLY SEGMENT 022, THE SPECIFICATION STATEMENTS	H0010910
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COL	H0010915
C***** 1 AND 2 REMOVED	H0010920
C*****	H0010925
C= INTEGER GTVI	H0010930
C*****	H0010935
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0220200
C*****	H0070915
C***** WHEN EXECUTING ONLY SEGMENT 022, THE STATEMENT NUVI = 6	H0070920
C***** MUST HAVE THE C= IN COL 1 AND 2 REMOVED.	H0070925
C*****	H0070930
C= NUVI = 6	H0070935
C*****	H0070940
WRITE (NUVI,220)	H0220210
220 FORMAT (1H1,1X,28HCGOTO - (022) COMPUTED GO TO//2X,	H0220220
120HASA REF. - 7.1.2.1.3//2X,7HRESULTS)	H0220230
C***** HEADER FOR SEGMENT 022 WRITTEN	H0220240

C*****	TEST FORWARD BRANCHING GO TO WITH ONLY ONE	H0220250
C*****	LABEL IN BRANCH LIST	H0220260
	IGVI = 1	H0220270
	GO TO (221), IGVI	H0220280
C*****	TEST FORWARD BRANCHING GO TO WHICH BRANCHES	H0220290
C*****	TO IMMEDIATELY FOLLOWING STATEMENT	H0220300
222	MRRVI = 2	H0220310
	WRITE (NUVI,8222) MRRVI	H0220320
	GO TO (223), GTVI	H0220330
C*****		H0220340
C*****	TEST FORWARD BRANCHING GO TO WHERE SOME BRANCHES	H0220350
C*****	ARE IDENTICAL	H0220360
223	MRRVI = 3	H0220370
	WRITE (NUVI,8222) MRRVI	H0220380
	GTVI = 2	H0220390
	GO TO (225,224,225), GTVI	H0220400
C*****	TEST FORWARD BRANCHING GO TO WITH SEVERAL UNIQUE	H0220410
C*****	BRANCHES IN LIST	H0220420
225	MRRVI = 5	H0220430
	WRITE (NUVI,8222) MRRVI	H0220440
	KGVI = 1	H0220450
	IGVI = 3	H0220460
	GO TO (227,228,226,229), IGVI	H0220470
C*****	TEST BACKWARD BRANCHING GO TO WHERE SOME	H0220480
C*****	BRANCHES ARE IDENTICAL	H0220490
224	MRRVI = 4	H0220500
	WRITE (NUVI,8222) MRRVI	H0220510
	IGVI = 4	H0220520
	GO TO (226,226,226,225), IGVI	H0220530
C*****	TEST BACKWARD BRANCHING GO TO WITH ONLY ONE	H0220540
C*****	LABEL IN BRANCH LIST	H0220550
221	MRRVI = 1	H0220560
	WRITE (NUVI, 8222) MRRVI	H0220570
	GTVI = 1	H0220580
	GO TO (222), GTVI	H0220590
C*****	IN THE FIRST PART OF THIS TEST, ALL GO TO STATEMENTS	H0220600
C*****	WERE EXECUTED ONLY ONCE, IMMEDIATELY AFTER THE	H0220610
C*****	INTEGER VARIABLE WAS DEFINED. ALL GO TO STATEMENTS	H0220620
C*****	WHICH FOLLOW WILL BE EXECUTED MORE THAN ONCE.	H0220630
C*****	VALUE OF IGVI IS ALWAYS 1 IN THIS PART OF THE TEST	H0220640
C*****	UNTIL THE FINAL MESSAGE IS TO BE WRITTEN	H0220650
226	MRRVI = 6	H0220660
	IGVI = 1	H0220670
	WRITE (NUVI,8222) MRRVI	H0220680
8226	GO TO (227,229,7220,7224,8220), KGVI	H0220690
227	MRRVI = 7	H0220700
	GTVI = 1	H0220710
	GO TO 8221	H0220720
228	MRRVI = 8	H0220730
	KGVI = 2	H0220740
	GO TO 8223	H0220750
229	MRRVI = 9	H0220760
	KGVI = 3	H0220770
	GO TO 8223	H0220780
7220	MRRVI = 10	H0220790
	GTVI = 2	H0220800
	GO TO 8221	H0220810
7221	MRRVI = 11	H0220820
	GTVI = 5	H0220830
	GO TO 8221	H0220840
7222	MRRVI = 12	H0220850
	GTVI = 4	H0220860
	GO TO 8221	H0220870
7223	MRRVI = 13	H0220880
	KGVI = 4	H0220890
	GO TO 8223	H0220900
7224	MRRVI = 14	H0220910
	GTVI = 6	H0220920

	GO TO 8221	H0220930
7225	MRRVI = 15	H0220940
	GTVI = 7	H0220950
	GO TO 8221	H0220960
7226	MRRVI = 16	H0220970
	GTVI = 9	H0220980
	GO TO 8221	H0220990
7227	MRRVI = 17	H0221000
	GTVI = 8	H0221010
	GO TO 8221	H0221020
7228	MRRVI = 18	H0221030
	GTVI = 3	H0221040
	GO TO 8221	H0221050
7229	MRRVI = 19	H0221060
	KGVI = 5	H0221070
	GO TO 8223	H0221080
8220	MRRVI = 20	H0221090
	IGVI = 2	H0221100
	GO TO 8223	H0221110
8221	WRITE (NUVI,8222) MRRVI	H0221120
8222	FORMAT(/6X,I2)	H0221130
C*****	TEST GO TO STATEMENT WITH CONTINUATION LINE	H0221140
	GO TO (228, 7221, 7229, 7223, 7222, 7225, 7226, 7228,	H0221150
1	7227), GTVI	H0221160
8223	WRITE (NUVI,8222) MRRVI	H0221170
	GO TO (8226,8224), IGVI	H0221180
8224	WRITE (NUVI,8225)	H0221190
8225	FORMAT (1H0,2X,35HTHIS TEST IS SUCCESSFUL ONLY IF THE/	H0221200
	12X,37HNUMBERS LISTED ABOVE ARE SEQUENTIALLY/	H0221210
	22X,21HIN ORDER FROM 1 TO 20)	H0221220
C*****	END OF TEST SEGMENT 022	H0221230
C*****		H0221240
C*****	WHEN EXECUTING ONLY SEGMENT 022, THE STOP AND END	H0221250
C*****	CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C=	H0221260
C*****	IN COL 1 AND 2 REMOVED.	H0221270
C=	STOP	H0221280
C=	END	H0221290
C*****		H0300010
C*****		H0300020
C*****	ARBAD - (030)	H0300030
C*****		H0300040
C*****		H0300050
C*****	GENERAL PURPOSE	ASA REF H0300060
C*****	TEST THAT EXPRESSIONS INVOLVING THE ADDITION	6.1 H0300070
C*****	OF INTEGER OR REAL VALUES MAY BE FORMED	H0300080
C*****	GENERAL COMMENTS	H0300090
C*****	TYPES ARE NEVER MIXED.	H0300100
C*****	VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED	H0300110
C*****	IN A VARIETY OF COMBINATIONS.	H0300120
C*****		H0300130
C*****	S P E C I F I C A T I O N S SEGMENT 030	H0300140
C*****		H0010940
C*****	WHEN EXECUTING ONLY SEGMENT 030, THE SPECIFICATION STATEMENTS	H0010945
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COL	H0010950
C*****	1 AND 2 REMOVED	H0010955
C*****		H0010960
C=	DIMENSION A1S(5),A2S(2,2),IAC1I(5),IAC2I(2,7)	H0010965
C*****		H0010970
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0300150
C*****		H0070945
C*****	WHEN EXECUTING ONLY SEGMENT 030, THE STATEMENT NUVI = 6	H0070950
C*****	MUST HAVE THE C= IN COL 1 AND 2 REMOVED.	H0070955
C*****		H0070960
C=	NUVI = 6	H0070965
C*****		H0070970
	WRITE (NUVI,301)	H0300160
301	FORMAT (1H1,1X,28HARBAO - (030) BASIC ADDITION//2X,	H0300170
	-14HASA REF. - 6.1//2X,7HRESULTS)	H0300180

C*****	HEADER FOR SEGMENT 030 WRITTEN	H0300190
	WRITE (NUVI,302)	H0300200
302	FORMAT (/2X,16HINTEGER ADDITION)	H0300210
C*****	TEST 1 - ADD 2 INTEGER VARIABLES (ONE CONTAINS MINUS VALUE)	H0300220
	MRRVI=1	H0300230
	JACVI=2	H0300240
	KBCVI = -2	H0300250
	IHDVI=JACVI+KBCVI	H0300260
	WRITE (NUVI,303) MRRVI, IHDVI	H0300270
303	FORMAT (/6H TEST,13,16)	H0300280
C*****	TEST 2 - REVERSE VARIABLES IN TEST 1	H0300290
	MRRVI = 2	H0300300
	IGDVI=KBCVI+JACVI	H0300310
	WRITE (NUVI,303) MRRVI, IGDVI	H0300320
C*****	TEST 3 - ADD 2 CONSTANTS	H0300330
	MRRVI = 3	H0300340
	IAC1I(1) = 2+(-2)	H0300350
	WRITE (NUVI,303) MRRVI, IAC1I(1)	H0300360
C*****	TEST 4 - ADD 2 ARRAY ELEMENTS (ONE CONTAINS MINUS VALUE)	H0300370
	MRRVI = 4	H0300380
	IAC1I(3) = 3	H0300390
	IAC2I(1,3) = - 3	H0300400
	IAC2I(2,2) = IAC1I(3)+IAC2I(1,3)	H0300410
	WRITE (NUVI,303) MRRVI, IAC2I(2,2)	H0300420
C*****	TEST 5 - ADD 8 INTEGER VARIABLES	H0300430
	MRRVI = 5	H0300440
	LCCVI = -6	H0300450
	MDCVI=-2	H0300460
	NECVI = +18	H0300470
	IFDVI = JACVI+KBCVI+LCCVI+MDCVI+MDCVI+LCCVI+KBCVI+NECVI	H0300480
	WRITE (NUVI,303) MRRVI, IFDVI	H0300490
C*****	TEST 6 - ADD COMBINATION OF VARIABLES, ARRAY ELEMENTS	H0300500
C*****	AND CONSTANTS	H0300510
	MRRVI = 6	H0300520
	IAC2I(2,2) = -2	H0300530
	IFDVI = IAC1I(3)+IAC2I(1,3)+IAC2I(2,2)+JACVI+KBCVI+LCCVI+7+1	H0300540
	WRITE (NUVI,303) MRRVI, IFDVI	H0300550
C*****	TEST 7 - ADD 2 REAL VARIABLES	H0300560
	WRITE (NUVI,304)	H0300570
304	FORMAT (/15H REAL ADDITION)	H0300580
	MRRVI = 7	H0300590
	ACVS = -2.0	H0300600
	BCVS = 2.0E0	H0300610
	HHCVS = ACVS+BCVS	H0300620
	WRITE (NUVI,305) MRRVI, HHCVS	H0300630
305	FORMAT (/6H TEST,13,F7.1)	H0300640
C*****	TEST 8 - REVERSE ORDER OF VARIABLES IN TEST 7	H0300650
	MRRVI = 8	H0300660
	GGCVS = BCVS + ACVS	H0300670
	WRITE (NUVI,305) MRRVI, GGCVS	H0300680
C*****	TEST 9 - ADD 4 REAL VARIABLES	H0300690
	MRRVI = 9	H0300700
	FFCVS = ACVS + BCVS + ACVS + BCVS	H0300710
	WRITE (NUVI,305) MRRVI, FFCVS	H0300720
C*****	TEST 10 - ADD 2 REAL CONSTANTS	H0300730
	MRRVI = 10	H0300740
	AZS(1,2) = 3.5 + (-3.5)	H0300750
	WRITE (NUVI,305) MRRVI, AZS(1,2)	H0300760
C*****	TEST 11 - ADD REAL ARRAY ELEMENTS	H0300770
	MRRVI = 11	H0300780
	A1S(1) = -25.E-1	H0300790
	ACVS = 2.5	H0300800
	AZS (1,1) = -7.0	H0300810
	FFCVS = A1S(1) + AZS(1,1) + 9.5	H0300820
	WRITE (NUVI,305) MRRVI, FFCVS	H0300830
C*****	TEST 12 - ADD COMBINATION OF VARIABLES, ARRAY ELEMENTS	H0300840
C*****	AND CONSTANTS	H0300850
	MRRVI = 12	H0300860

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      FFCVS = A1S(1) + ACVS + 7.0 + A2S(1,1)
      WRITE (NUVI,305) MRRVI, FFCVS
      WRITE (NUVI,306)
306  FORMAT (/35H ALL ABOVE ANSWERS SHOULD BE 0 FOR/
      1 31H THIS SEGMENT TO BE SUCCESSFUL)
C***** END OF TEST SEGMENT 030
C*****
C***** WHEN EXECUTING ONLY SEGMENT 030, THE STDP AND END
C***** CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C=
C***** IN COL 1 AND 2 REMOVED.
C= STOP
C= END
C*****
C***** ARFAD - (031)
C*****
C***** GENERAL PURPDSE
C***** TEST THAT EXPRESSIONS INVOLVING THE ADDITION OF
C***** DOUBLE PRECISION VALUES MAY BE FORMED
C***** GENERAL COMMENTS
C***** VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN A
C***** VARIETY OF COMBINATIONS
C*****
C***** SPECIFICATION S SEGMENT 031
C*****
C***** WHEN EXECUTING ONLY SEGMENT 031, THE SPECIFICATION STATEMENTS
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COL
C***** 1 AND 2 REMOVED
C*****
C= DOUBLE PRECISION ACVD,BCVD,FFCVD,GGCVD,HHCVD
C= 1,EP1D(43),BC2D(7,4),CC3D(7,2,2)
C*****
C***** OUTPUT TAPE ASSIGNMENT STATEMENT. NO INPUT TAPE.
C*****
C***** WHEN EXECUTING ONLY SEGMENT 031, THE STATEMENT NUVI = 6
C***** MUST HAVE THE C= IN COL 1 AND 2 REMOVED.
C*****
C= NUVI = 6
C*****
      WRITE (NUVI,310)
310  FORMAT (1H1,1X,27HARFAD - (031) D.P. ADDITION//
      -16H ASA REF. - 6.1//9H RESULTS)
C***** HEADER FOR SEGMENT 031 WRITTEN
      ACVD = -.01414213562373095D2
      BCVD = 14.14213562373095D-1
      EP1D(20) = -4.12310562561766D0
      BC2D(6,3) = .206155281280883D1
      HHCVD=ACVD+BCVD
      GGCVD=BCVD+ACVD
      EP1D(34) = .003D3 + (-300.0D-2)
      FFCVD = BCVD+ACVD+ACVD+BCVD
      CC3D(7,1,1)=EP1D(20)+BC2D(6,3)+206.155281280883D-2 +41.23105625617
      166D-1 + EP1D(20)
      WRITE (NUVI,312) HHCVD, GGCVD, FFCVD, EP1D(34), CC3D(7,1,1)
312  FORMAT (/5(D22.10//))//38H THE 5 ANSWERS ABOVE SHOULD BE 0 PLUS/
      137H OR MINUS AN ERROR FACTOR OF 0.1D-13)
C***** END OF TEST SEGMENT 031
C*****
C***** WHEN EXECUTING ONLY SEGMENT 031, THE STDP AND END
C***** CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C=
C***** IN COL 1 AND 2 REMOVED.
C= END
C= STDP
C*****
C***** ARBSB - (032)
C*****

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C*****H0320050
C***** GENERAL PURPOSE ASA REF H0320060
C***** TEST THAT EXPRESSIONS INVOLVING THE SUBTRACTION OF 6.1 H0320070
C***** INTEGER OR REAL VALUES MAY BE FORMED H0320080
C***** GENERAL COMMENTS H0320090
C***** TYPES ARE NEVER MIXED H0320100
C***** VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN A H0320110
C***** VARIETY OF COMBINATIONS. H0320120
C***** S P E C I F I C A T I O N S SEGMENT 032 H0320130
C***** H0011015
C***** WHEN EXECUTING ONLY SEGMENT 032, THE SPECIFICATION STATEMENTS H0011020
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COL H0011025
C***** 1 AND 2 REMOVED H0011030
C***** H0011035
C= DIMENSION A1S(5),A2S(2,2),IAC1I(5),IAC2I(2,7) H0011040
C***** H0011045
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0320140
C***** H0071005
C***** WHEN EXECUTING ONLY SEGMENT 032, THE STATEMENT NUVI = 6 H0071010
C***** MUST HAVE THE C= IN COL 1 AND 2 REMOVED. H0071015
C***** H0071020
C= NUVI = 6 H0071025
C***** H0071030
WRITE (NUVI,320) H0320150
320 FORMAT (1H1,1X,31HARBSB - (032) BASIC SUBTRACTION// H0320160
1 17H ASA REFS. - 6.1//2X,7HRESULTS) H0320170
C***** HEADER FOR SEGMENT 032 WRITTEN H0320180
MRRVI = 1 H0320190
WRITE (NUVI,321)MRRVI H0320200
321 FORMAT (/2X,4HTEST,I1,1X,19HINTEGER SUBTRACTION) H0320210
JACVI=3 H0320220
IAC1I(1)=3 H0320230
IHOVI=JACVI-IAC1I(1) H0320240
IGОВI=IAC1I(1)-JACVI H0320250
IFDVI=JACVI-IAC1I(1)-IAC1I(1)+JACVI H0320260
IAC2I(2,3) = 3-2-1 H0320270
IAC2I(1,1) = 6 - JACVI - IAC1I(1) H0320280
WRITE (NUVI,323) IHDVI,IGОВI, IFDVI, IAC2I(2,3), IAC2I(1,1) H0320290
323 FORMAT (/5(I11//)) H0320300
MRRVI = 2 H0320310
328 WRITE (NUVI,329)MRRVI H0320320
329 FORMAT (/2X,4HTEST,I1,1X,16HREAL SUBTRACTION) H0320330
ACVS=5.1E1 H0320340
BCVS=.51E2 H0320350
HHCVS=ACVS-BCVS H0320360
GGCVS=BCVS-ACVS H0320370
FFCVS=ACVS-BCVS+BCVS-ACVS H0320380
A2S(1,2) = 2.1E1 H0320390
A1S(1) = ACVS - A2S(1,2) - 30.0 H0320400
WRITE (NUVI,324) HHCVS, GGCVS, FFCVS, A1S(1) H0320410
324 FORMAT (/4(F11.1//)/34H ALL ABOVE ANSWERS SHOULD BE 0 FOR/ H0320420
1 31H THIS SEGMENT TO BE SUCCESSFUL) H0320430
C***** END OF TEST SEGMENT 032 H0320440
C***** H0320450
C***** WHEN EXECUTING ONLY SEGMENT 032, THE STOP AND END H0320460
C***** CAROS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C= H0320470
C***** IN COL 1 AND 2 REMOVED. H0320480
C= STOP H0320490
C= END H0320500
C*****H0330010
C***** H0330020
C***** ARFSB - (033) H0330030
C***** H0330040
C*****H0330050
C***** GENERAL PURPOSE ASA REF H0330060
C***** TEST THAT EXPRESSIONS INVOLVING THE SUBTRACTION OF 6.1 H0330070
C***** DOUBLE PRECISION VALUES MAY BE FORMED H0330080
C***** GENERAL COMMENTS H0330090

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C*****	VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN A	H0330100
C*****	VARIETY OF COMBINATIONS	H0330110
C*****		H0330120
C*****	S P E C I F I C A T I O N S S E G M E N T 033	H0330130
C*****		H0011050
C*****	WHEN EXECUTING ONLY SEGMENT 033, THE SPECIFICATION STATEMENTS	H0011055
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COL	H0011060
C*****	1 AND 2 REMOVED	H0011065
C*****		H0011070
C=	DOUBLE PRECISION ACVD,BCVD,CCVD,DCVD,GGCVD,HHCVD,DPCVD,FFCVD	H0011075
C=	1,AC1D(10),A2D(2,2),A3D(2,2,2)	H0011080
C*****		H0011085
C*****	O U T P U T T A P E A S S I G N M E N T S T A T E M E N T . N O I N P U T T A P E .	H0330140
C*****		H0071035
C*****	WHEN EXECUTING ONLY SEGMENT 033, THE STATEMENT NUVI = 6	H0071040
C*****	MUST HAVE THE C= IN COL 1 AND 2 REMOVED.	H0071045
C*****		H0071050
C=	NUVI = 6	H0071055
C*****		H0071060
	WRITE (NUVI,330)	H0330150
330	FORMAT (1H1,1X,30HARFSB - (033) D.P. SUBTRACTION//	H0330160
	-16H ASA REF. - 6.1//2X,7HRESULTS)	H0330170
C*****	HEADER FOR SEGMENT 033 WRITTEN	H0330180
	ACVD=1.0D2	H0330190
	BCVD=.3D1	H0330200
	CCVD=15.D0	H0330210
	AC1D(1) = 60.D-1	H0330220
	A2D(1,1) = -.02D2	H0330230
	A3D(1,2,1) = 4000.D-3	H0330240
C*****	TWO TERM SUBTRACTION	H0330250
	HHCVD= ACVD-BCVD	H0330260
	HHCVD= HHCVD-97.0D0	H0330270
	GGCVD=1.0D0-AC1D(1)	H0330280
	GGCVD=GGCVD+5.0D0	H0330290
	DCVD = 4.0D0 - A3D(1,2,1)	H0330300
	WRITE (NUVI,331) HHCVD, GGCVD, DCVD	H0330310
C*****	THREE TERM SUBTRACTION	H0330320
	HHCVD= ACVD-BCVD-97.0D0	H0330330
	GGCVD = 16.0D0 - CCVD - 1.0D0	H0330340
	DCVD = A3D(1,2,1)-A2D(1,1) -6.0D0	H0330350
	WRITE (NUVI,331) HHCVD, GGCVD, DCVD	H0330360
C*****	FOUR TERM SUBTRACTION	H0330370
	DPCVD = 6.85565460040104D0	H0330380
	FFCVD = (+.342782730020052D1)	H0330390
	GGCVD = DPCVD - FFCVD - 42.782730020052D-2 - 300D-2	H0330400
	HHCVD=ACVD-AC1D(1)-AC1D(1)-8.8D1	H0330410
	DCVD = CCVD - A2D(1,1) - 110.D-1 - AC1D(1)	H0330420
	WRITE (NUVI,332) HHCVD, DCVD , GGCVD	H0330430
331	FORMAT (/3(D22.10/))	H0330440
332	FORMAT (/3(D22.10/))//36H THE ANSWERS ABOVE SHOULD BE 0 PLUS/	H0330450
	137H OR MINUS AN ERROR FACTOR OF 0.1D-13)	H0330460
C*****	END OF TEST SEGMENT 033	H0330470
C*****		H0330480
C*****	WHEN EXECUTING ONLY SEGMENT 033, THE STOP AND END	H0330490
C*****	CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C=	H0330500
C*****	IN COL 1 AND 2 REMOVED.	H0330510
C=	STOP	H0330520
C=	END	H0330530
C*****		H0340010
C*****		H0340020
C*****	ARBAS - (034)	H0340030
C*****		H0340040
C*****		H0340050
C*****	GENERAL PURPOSE	ASA REF H0340060
C*****	TEST THAT EXPRESSIONS INVOLVING THE ADDITION AND	6.1 H0340070
C*****	SUBTRACTION (COMBINED) OF INTEGER OR REAL VALUES MAY BE	H0340080
C*****	FORMED.	H0340090
C*****	GENERAL COMMENTS	H0340100

C*****	TYPE ARE NEVER MIXED.	H0340110
C*****	VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN	H0340120
C*****	A VARIETY OF COMBINATIONS.	H0340130
C*****		H0340140
C*****	S P E C I F I C A T I O N S SEGMENT 034	H0340150
C*****		H0011090
C*****	WHEN EXECUTING ONLY SEGMENT 034, THE SPECIFICATION STATEMENTS	H0011095
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COL	H0011100
C*****	1 AND 2 REMOVED	H0011105
C*****		H0011110
C=	DIMENSION A2S(2,2),A3S(3,3,3)	H0011115
C=	IAC1I(5),IAC2I(2,7),AC1S(25)	H0011120
C=	INTEGER MCA3I(2,3,3)	H0011125
C*****		H0011130
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0340160
C*****		H0071065
C*****	WHEN EXECUTING ONLY SEGMENT 034, THE STATEMENT NUVI = 6	H0071070
C*****	MUST HAVE THE C= IN COL 1 AND 2 REMOVED.	H0071075
C*****		H0071080
C=	NUVI = 6	H0071085
C*****		H0071090
	WRITE (NUVI,340)	H0340170
340	FORMAT (1H1,1X,32HARBAS - (034) BASIC ADDITION AND/14X,	H0340180
	113H SUBTRACTION//16H ASA REF. - 6.4//	H0340190
	22X,7HRESULTS)	H0340200
C*****	HEADER FOR SEGMENT 034 WRITTEN	H0340210
	WRITE (NUVI,341)	H0340220
341	FORMAT (/2X,26HTEST1 INTEGER ADD AND SUBT)	H0340230
	IACVI = 5	H0340240
	KBCVI = 1	H0340250
	LCCVI = 10	H0340260
	MDCVI = -2	H0340270
	IAC1I(2) = 3	H0340280
	IAC2I(2,2) = -3	H0340290
	IHDVI = IACVI+KBCVI-LCCVI+MDCVI-IAC1I(2)+9	H0340300
	IGDVI = (IACVI+KBCVI) - (MDCVI-IAC1I(2)) - 11	H0340310
	IFDVI = (6 + (KBCVI - (LCCVI+MDCVI))) + 1	H0340320
	MCA3I(1,1,1) = IAC2I(2,2) - IACVI - MDCVI - KBCVI + 7 + 0	H0340330
	WRITE (NUVI,342) IHDVI,IGDVI, IFDVI, MCA3I(1,1,1)	H0340340
342	FORMAT (/4(I11/))	H0340350
	HEADER FOR TEST2	H0340360
	WRITE (NUVI,344)	H0340370
344	FORMAT (/2X,24HTEST2 REAL ADD AND SUBTR)	H0340380
	ACVS = 5.0	H0340390
	BCVS = 1.0	H0340400
	CCVS = 10.0	H0340410
	DCVS = -.2E+1	H0340420
	AC1S(1) = 30.E-1	H0340430
	CC1S(1) = 6.0	H0340440
	GGDVS = BCVS - CCVS + DCVS +9.0-AC1S(1)	H0340450
	FFDVS = (GGDVS-11.0) - (DCVS-AC1S(1))	H0340460
	HHDVS = (GGDVS-(CCVS+DCVS)) + 1.0	H0340470
	GGDVS = (GGDVS-11.0) - CCVS + 8.0 - 4.0	H0340480
	WRITE (NUVI,345) HHDVS, GGDVS, FFDVS, A3S(1,1,2)	H0340490
345	FORMAT (/7*(F11.1/)/35H ALL ABOVE ANSWERS SHOULD BE 0 FOR/	H0340500
	END THIS SEGMENT TO BE SUCCESSFUL)	H0340510
	END OF TEST SEGMENT 034	H0340520
C*****		H0340530
C*****	WHEN EXECUTING ONLY SEGMENT 034, THE STOP AND END	H0340540
C*****	CARDS WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0340550
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0340560
C=	STOP	H0340570
	END	H0340580
	STOP	H9999995
		H9999999

LEVEL

DOUBLE SPACE ON OUTPUT. ID 2

DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT 1D 4
DATE, INSTALLATION NAME

DO NOT READ OR WRITE RECORD 6 DOUBLE SPACE ON OUTPUT 10 6

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C***** PART4 ***** 200
C***** 1205
C***** ANSI FORTRAN (X3.9-1966) TEST PROGRAMS 1210
C***** 1215
C***** PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3 1220
C***** 1225
C***** JUNE 1973 1230
C***** 1235
C***** PART 4 OF 14 PARTS 1240
C***** 1245
C***** SEGMENTS INCLUDED 1250
C***** 1255
C***** ARFAS - 035 ADDITION AND SUBTRACTION OF DP VALUES 1260
C***** 1265
C***** ARBMI - 036 MULTIPLICATION OF INTEGER VALUES 1270
C***** 1275
C***** ARBMR - 037 MULTIPLICATION OF REAL VALUES 1280
C***** 1285
C***** ARFMD - 038 MULTIPLICATION OF DOUBLE PRECISION VALUES 1290
C***** 1295
C***** ARBDV - 039 DIVISION OF INTEGER AND REAL VALUES 1300
C***** 1305
C***** ARFDV - 040 DIVISION OF DOUBLE PRECISION VALUES 1310
C***** 1315
C***** ARBEX - 041 EXPONENTIATION OF INTEGER AND REAL VALUES 1320
C***** 1325
C***** ARFEX - 042 EXPONENTIATION OF DOUBLE PRECISION VALUES 1330
C***** 1335
C***** ARBHI - 043 HIERARCHY OF OPERATORS AND PARENTHESES 1340
C***** 1345
C***** SBB67 - 050 SUBSCRIPTS OF INTEGER AND REAL ARRAYS V, K 1350
C***** 1355
C***** SBB45 - 051 SUBSCRIPTS OF INT., REAL ARRAYS V+K, V-K 1360
C***** 1365
C***** SBB13 - 052 SUBSCRIPTS OF INT, REAL ARRAYS C*V, C*V+K, C*V-K 1370
C***** 1375
C***** SBF17 - 053 SUBSCRIPTS OF DP ARRAYS V, K, C*V, C*V+K, C*V-K 1380
C***** V+K, V-K 1385
C***** 1400
C***** THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN SEGMENTS 1405
C***** 035, 036, 037, 038, 039, 040, 041, 042, 043, 050, 051, 052, 053 1410
C***** ARE RUN AS ONE MAIN PROGRAM. 1415
C***** 1420
C***** INTEGER MCA3I(2,3,3) 1425
C***** DOUBLE PRECISION ACVO, BCVO, CCVD, OCVO, CCDVO, OOOVO 1430
C***** 1, EEDVO, FFOVO, GGOVO, HHOVO, AC10(10), BC2D(7,4), CC3D(7,2,2) 1435
C***** 2, EP1D(43), VTAVO, WTAVD, AADVD 1440
C***** DIMENSION A2S(2,2), A3S(3,3,3), AC1S(25), AC2S(5,6) 1445
C***** 1, IAC1I(5), IAC2I(2,7) 1450
C***** 1455
C***** END OF SPECIFICATIONS FOR SEGMENTS 1460
C***** 035, 036, 037, 038, 039, 040, 041, 042, 043, 050, 051, 052, 053 1465
C***** 1470
C***** ARFAS - (035) 1475
C***** 1480
C***** 1485
C***** GENERAL PURPOSE ASA REF 1490
C***** TEST THAT EXPRESSIONS INVOLVING THE ADDITION AND 6.1 1495
C***** SUBTRACTION (COMBINED) OF DOUBLE PRECISION VALUES 1500
C***** MAY BE FORMED 1505
C***** GENERAL COMMENTS 1510
C***** VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN A 1515
C***** VARIETY OF COMBINATIONS 1520
C***** 1525
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C***** S P E C I F I C A T I O N S   S E G M E N T   035                                H0350140
C*****                                                                    H0011270
C***** WHEN EXECUTING ONLY SEGMENT 035, REMOVE THE PRECEOING                      H0011275
C***** SPECIFICATIONS.  THE FOLLOWING SPECIFICATIONS WHICH APPEAR AS              H0011280
C***** COMMENTS MUST HAVE THE  C=  IN COLUMNS 1 AND 2 REMOVED.                  H0011285
C*****                                                                    H0011290
C=      DOUBLE PRECISION ACVO,BCVO,CCVO,DCVO,FFDVO,GGOVO,HHOVO                    H0011295
C=      1,AC10(10),BC20(7,4),CC30(7,2,2)                                         H0011300
C*****                                                                    H0011305
C***** I N P U T - O U T P U T   T A P E   ASSIGNMENT STATEMENTS.              H0350150
      IRVI = 5                                                                    H0071200
      NUVI = 6                                                                    H0071205
C***** IDENTIFY THE SOURCE OF THE TEST PROGRAMS                                H0071210
      WRITE(NUVI,0071)                                                            H0071215
0071  FORMAT (41H1 F O R T R A N   T E S T   P R O G R A M   S//                H0071220
      1 42H  PREPARED BY NATIONAL BUREAU OF STANDARDS//                          H0071225
      3 37H  FOR USE ON LARGE FORTRAN PROCESSORS //                              H0071230
      4 42H  IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//                          H0071235
      5 23H  VERSION 3      PART 4 ///)                                           H0071240
C***** 3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER              H0071245
C      PREPAREO BY USER                                                            H0071250
C      READ, NO LIST                                                                H0071255
C      PREPAREO BY USER                                                            H0071260
C      READ, NO LIST                                                                H0071265
C      PREPAREO BY USER                                                            H0071270
C      READ, NO LIST                                                                H0071275
      READ(IRVI,0070)                                                              H0071280
      READ(IRVI,0072)                                                              H0071285
      READ(IRVI,0073)                                                              H0071290
0070  FORMAT(40H   BASED ON ASA FORTRAN X3.9-1966                               /)    H0071295
0072  FORMAT(40H   TEST PROGRAMS                                                  /)    H0071300
0073  FORMAT(40H   FORTRAN COMPILER                                              /)    H0071305
      WRITE(NUVI,0070)                                                            H0071310
      WRITE(NUVI,0072)                                                            H0071315
      WRITE(NUVI,0073)                                                            H0071320
      WRITE (NUVI,350)                                                            H0350160
350   FORMAT (1H1,1X,32HARFAS - (035) D.P. ADD AND SUBTR//2X,                  H0350170
      -14HASA REF. - 6.1//2X,7HRESULTS)                                           H0350180
C***** HEADER FOR SEGMENT 035 WRITTEN                                           H0350190
      ACVD = 5.0D0                                                                H0350200
      BCVD = 10.0D-1                                                              H0350210
      CCVD = 10.0D0                                                                H0350220
      DCVD = -0.2D1                                                                H0350230
      AC1D(1)= 300.0D-2                                                            H0350240
      BC2D(6,3) = 400.D-2                                                         H0350250
      AC10(2) = .2481632642481605                                                 H0350260
      BC2D(5,3) = -.12408163212408D5                                             H0350270
      HHOVO = ACVO + BCVD - CCVO + OCVO + 9.000 - AC10(1)                        H0350280
      GGOVO = (ACVD + 1.0E0) - 11.0E0 -(DCVO - AC1D(1))                         H0350290
      FFOVO = (6.000+(BCVO-(CCVO+OCVO))) + 10.0D-1                              H0350300
      CC3D(6,1,1) = CCVO-OCVO+BC2D(6,3)-ACVO-11.000                            H0350310
      CC30(5,1,2) = AC10(2) + BC2D(5,3) - 12408.163212408D0                    H0350320
      WRITE (NUVI,351) HHOVO, GGOVO, FFOVO, CC30(6,1,1), CC3D(5,1,2)           H0350330
351  FORMAT (/5(022.10//)35H  THE ANSWERS ABOVE SHOULD BE 0 FOR/                H0350340
      1 32H  THIS SEGMENT TO BE SUCCESSFUL./36H  VALUES WITH EXPONENTS LEH0350350
      2SS THAN /31H  10**(-14) ARE CONSIDERED ZERO)                            H0350360
C***** END OF TEST SEGMENT 035                                                  H0350370
C*****                                                                    H0350380
C***** WHEN EXECUTING ONLY SEGMENT 035, THE STOP AND END                      H0350390
C***** CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE  C=                      H0350400
C***** IN COL 1 AND 2 REMOVED.                                                  H0350410
C=      STOP                                                                      H0350420
C=      ENO                                                                      H0350430
C*****                                                                    H0360010
C*****                                                                    H0360020
C***** ARBBI - (036)                                                            H0360030
C*****                                                                    H0360040
C*****                                                                    H0360050

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C*****	GENERAL PURPOSE	ASA REF	H0360060
C*****	TEST THAT EXPRESSIONS INVOLVING MULTIPLICATION OF	6.1	H0360070
C*****	INTEGER VALUES MAY BE FORMED.		H0360080
C*****	GENERAL COMMENTS		H0360090
C*****	INTEGER SUBTRACTION ASSUMED WORKING		H0360100
C*****	* VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED		H0360110
C*****	IN A VARIETY OF COMBINATIONS.		H0360120
C*****			H0360130
C*****	S P E C I F I C A T I O N S		H0360140
C*****	SEGMENT 036		H0011310
C*****	WHEN EXECUTING ONLY SEGMENT 036, THE SPECIFICATION STATEMENTS		H0011315
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS		H0011320
C*****	1 AND 2 REMOVED.		H0011325
C*****			H0011330
C=	DIMENSION IAC1I(5), IAC2I(2,7)		H0011335
C*****			H0011340
C*****	D U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.		H0360150
C*****			H0071325
C*****	WHEN EXECUTING ONLY SEGMENT 036, THE FOLLOWING STATEMENT		H0071330
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.		H0071335
C*****			H0071340
C=	NUVI = 6		H0071345
C*****			H0071350
	WRITE (NUVI,360)		H0360160
360	FORMAT (1H1, 1X,36HARBMI - (036) INTEGER MULTIPLICATION//		H0360170
	116H ASA REF. - 6.1//2X,7HRESULTS)		H0360180
C*****	HEADER FOR SEGMENT 036 WRITTEN		H0360190
	JACVI=1		H0360200
	KBCVI=2		H0360210
	LCCVI=0		H0360220
	MDCVI=-5		H0360230
	IAC1I(2) = -10		H0360240
	IAC2I(1,2) = 3		H0360250
	IHDVI=JACVI*KBCVI		H0360260
	IGDVI=KBCVI*MDCVI*LCCVI		H0360270
	IFDVI = MDCVI*JACVI*IAC1I(2)*3		H0360280
	IEDVI=-3*JACVI*(-MDCVI)*JACVI*KBCVI		H0360290
	IDDVI=KBCVI*KBCVI*KBCVI*KBCVI*KBCVI*JACVI		H0360300
	ICDVI = (-IAC1I(2))*JACVI*KBCVI*JACVI*KBCVI*JACVI*1		H0360310
	IAC2I(1,1)=IAC2I(1,2)*MDCVI*IAC1I(2)*2		H0360320
	IHDVI = IHDVI - 2		H0360330
	IFDVI = IFDVI - 150		H0360340
	IEDVI = IEDVI + 30		H0360350
	IDDVI = IDDVI - 32		H0360360
	ICDVI = ICDVI - 40		H0360370
	IAC2I(1,1) = IAC2I(1,1) - 300		H0360380
	WRITE (NUVI,361) IHDVI, IGDVI, IFDVI, IEDVI, IDDVI, ICDVI,		H0360390
	1 IAC2I(1,1)		H0360400
361	FORMAT (//7(I10//)//35H ALL ABOVE ANSWERS SHOULD BE 0 FOR/		H0360410
	1 31H THIS SEGMENT TO BE SUCCESSFUL)		H0360420
C*****	END OF TEST SEGMENT 036		H0360430
C*****			H0360440
C*****	WHEN EXECUTING ONLY SEGMENT 036, THE STOP AND END		H0360450
C*****	CARDS, WHICH APPEAR AS COMMENTS, MUST HAVE THE C=		H0360460
C*****	IN CDL 1 AND 2 REMOVED.		H0360470
C=	STOP		H0360480
C=	END		H0360490
C*****			H0370010
C*****			H0370020
C*****	ARBMR - (037)		H0370030
C*****			H0370040
C*****			H0370050
C*****	GENERAL PURPOSE	ASA REF	H0370060
C*****	TEST THAT EXPRESSIONS INVOLVING MULTIPLICATION OF	6.1	H0370070
C*****	REAL VALUES MAY BE FORMED		H0370080
C*****	GENERAL COMMENTS		H0370090
C*****	REAL SUBTRACTION ASSUMED WORKING		H0370100
C*****	* VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN A		H0370110

C*****	VARIETY OF COMBINATIONS.	H0370120
C*****		H0370130
C*****	S P E C I F I C A T I O N S S E G M E N T 037	H0370140
C*****		H0011345
C*****	WHEN EXECUTING ONLY SEGMENT 037, THE SPECIFICATION STATEMENTS	H0011350
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS	H0011355
C*****	1 AND 2 REMOVED.	H0011360
C*****		H0011365
C=	DIMENSION A2S(2,2),AC1S(25)	H0011370
C*****		H0011375
C*****	O U T P U T T A P E A S S I G N M E N T S T A T E M E N T . N O I N P U T T A P E .	H0370150
C*****		H0071355
C*****	WHEN EXECUTING ONLY SEGMENT 037, THE FOLLOWING STATEMENT	H0071360
C*****	NUVI = 6 M U S T H A V E T H E C = I N C O L U M N S 1 A N D 2 R E M O V E D .	H0071365
C*****		H0071370
C=	NUVI = 6	H0071375
C*****		H0071380
	WRITE (NUVI,370)	H0370160
370	FORMAT (1H1,1X,33HARBMR - (037) REAL MULTIPLICATION//2X,	H0370170
	114HASA REF. - 6.1//2X,7HRESULTS)	H0370180
C*****	HEADER FOR SEGMENT 037 WRITTEN	H0370190
	ACVS = 1.0	H0370200
	BCVS = 0.2E2	H0370210
	CCVS = -1.0	H0370220
	DCVS = 0.0	H0370230
	AC1S(1) = .5E+1	H0370240
	HHDVS=ACVS*BCVS	H0370250
	GGDVS=BCVS*BCVS*1.0	H0370260
	FFDVS=2.0*AC1S(1)*ACVS*ACVS	H0370270
	EEDVS=ACVS*BCVS*CCVS*DCVS*AC1S(1)	H0370280
	DDDVS=AC1S(1)*ACVS*BCVS*1.0E1*ACVS*ACVS	H0370290
	CCDVS=CCVS*CCVS*CCVS*3.E0*ACVS*ACVS*ACVS	H0370300
	A2S(1,1) = ACVS*CCVS*2.	H0370310
	HHDVS = HHDVS - 20.0	H0370320
	GGDVS = GGDVS - 400.0	H0370330
	FFDVS = FFDVS - 10.0	H0370340
	DDDVS = DDDVS - 1000.0	H0370350
	CCDVS = CCDVS + 3.0	H0370360
	A2S(1,1) = A2S(1,1) + 2.	H0370370
	WRITE (NUVI,371) HHDVS, GGDVS, FFDVS, EEDVS, DDDVS, CCDVS,	H0370380
1	A2S(1,1)	H0370390
371	FORMAT (/7(F11.1)/)/35H ALL ABOVE ANSWERS SHOULD BE 0 FOR/	H0370400
1	31H THIS SEGMENT TO BE SUCCESSFUL)	H0370410
C*****	END OF TEST SEGMENT 037	H0370420
C*****	WHEN EXECUTING ONLY SEGMENT 037, THE STOP AND END CARDS	H0370430
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS	H0370440
C*****	1 AND 2 REMOVED.	H0370450
C=	STOP	H0370460
C=	END	H0370470
C*****		H0380010
C*****		H0380020
C*****	ARFMD - (038)	H0380030
C*****		H0380040
C*****		H0380050
C*****	GENERAL PURPOSE	ASA REF H0380060
C*****	TEST THAT EXPRESSIONS INVOLVING THE MULTIPLICATION	6.1 H0380070
C*****	OF DOUBLE PRECISION VALUES MAY BE FORMED	H0380080
C*****	GENERAL COMMENTS	H0380090
C*****	* DP ADDITION AND SUBTRACTION ASSUMED WORKING.	H0380100
C*****	* VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN A	H0380110
C*****	VARIETY OF COMBINATIONS.	H0380120
C*****		H0380130
C*****	S P E C I F I C A T I O N S S E G M E N T 038	H0380140
C*****		H0011380
C*****	WHEN EXECUTING ONLY SEGMENT 038, THE SPECIFICATION STATEMENTS	H0011385
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS	H0011390
C*****	1 AND 2 REMOVED.	H0011395
C*****		H0011400

C=	DOUBLE PRECISION ACVD,BCVD,CCVD,DCVD,EEDVD,DDVD,CCVD	H0011405
C=	1,FFDVD, GGDVD,HHDVD,AC1D(10),BC2D(7,4), CC3D(7,2,2)	H0011410
C*****		H0011415
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0380150
C*****		H0071385
C*****	WHEN EXECUTING ONLY SEGMENT 038, THE FOLLOWING STATEMENT	H0071390
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0071395
C*****		H0071400
C=	NUVI = 6	H0071405
C*****		H0071410
	WRITE (NUVI,380)	H0380160
380	FDMAT (1H1,1X,33HARFMD - (038) D.P. MULTIPLICATION// 2X,	H0380170
	-15H ASA REF. - 6.1//2X,7HRESULTS)	H0380180
C*****	HEADER FOR SEGMENT 038 WRITTEN	H0380190
	ACVD=1.0D0	H0380200
	BCVD=2.0	H0380210
	CCVD=-30.0D-1	H0380220
	DCVD=1.0D1	H0380230
	AC1D(1) = 1.1D1	H0380240
	CC3D(3,1,2) = .262144D6	H0380250
	CC3D(6,1,2) = -2000.D-3	H0380260
	CC3D(3,2,2) = 409.6D1	H0380270
	HHDVD=ACVD*BCVD	H0380280
	GGDVD=ACVD*0.0D0*CCVD	H0380290
	FFDVD = AC1D(1)*ACVD*ACVD*ACVD	H0380300
	EEDVD=CCVD*CCVD*ACVD*1.0D0*BCVD	H0380310
	DDVD=ACVD*2.0D1*ACVD*DCVD*1.0E0*CCVD	H0380320
	CCDVD=ACVD*BCVD*CCVD*CCVD*CCVD*BCVD*ACVD	H0380330
	BC2D(3,4) = DCVD*(400.D-2)*CC3D(6,1,2)	H0380340
	BC2D(2,3) = CC3D(3,1,2) * CC3D(3,2,2)	H0380350
	HHDVD = HHDVD - 2.0D0	H0380360
	FFDVD = FFDVD - 11.0D0	H0380370
	EEDVD = EEDVD - 18.0D0	H0380380
	DDVD = DDVD + 600.0D0	H0380390
	CCDVD = CCDVD + 108.0D0	H0380400
	BC2D(3,4) = BC2D(3,4) - (-80.D0)	H0380410
	BC2D(2,3) = BC2D(2,3) - 1.073741824D9	H0380420
	WRITE (NUVI,381) HHDVD, GGDVD, FFDVD, EEDVD, DDVD, CCDVD,	H0380430
	1 BC2D(3,4) , BC2D(2,3)	H0380440
381	FORMAT (/8(D22.10/)/35H THE ANSWERS ABOVE SHOULD BE 0 FOR/	H0380450
	1 31H THIS SEGMENT TO BE SUCCESSFUL)	H0380460
C*****	END OF TEST SEGMENT 038	H0380470
C*****	WHEN EXECUTING ONLY SEGMENT 038, THE STOP AND END CARDS	H0380480
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS	H0380490
C*****	1 AND 2 REMOVED.	H0380500
C=	STOP	H0380510
C=	END	H0380520
C*****		H0390010
C*****		H0390020
C*****	ARBDV - (039)	H0390030
C*****		H0390040
C*****		H0390050
C*****		H0390060
C*****	GENERAL PURPOSE	ASA REF H0390070
C*****	TEST BASIC DIVISION,	6.1 H0390080
C*****	INTEGER AND REAL (SP) TYPES ONLY	H0390090
C*****		H0390100
C*****	S P E C I F I C A T I O N S SEGMENT 039	H0390110
C*****		H0011420
C*****	WHEN EXECUTING ONLY SEGMENT 039, THE SPECIFICATION STATEMENTS	H0011425
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS	H0011430
C*****	1 AND 2 REMOVED.	H0011435
C*****		H0011440
C=	DIMENSION A2S(2,2),IAC1I(5),IAC2I(2,7),AC1S(25)	H0011445
C*****		H0011450
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0390120
C*****		H0071415
C*****	WHEN EXECUTING ONLY SEGMENT 039, THE FOLLOWING STATEMENT	H0071420

C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0071425
C*****		H0071430
C=	NUVI = 6	H0071435
C*****		H0071440
	WRITE (NUVI,390)	H0390130
390	FORMAT (1H1,1X,30HARBDV - (039) INTEGER AND REAL/15X,	H0390140
	-9H DIVISION//2X,14HASA REF. - 6.1/ /2X,7HRESULTS)	H0390150
C*****	HEADER FOR SEGMENT 039 WRITTEN	H0390160
	WRITE (NUVI,391)	H0390170
391	FORMAT (//2X,22HTEST1 INTEGER DIVISION)	H0390180
	JACVI=1	H0390190
	KBCVI=2	H0390200
	LCCVI=0	H0390210
	MDCVI=10	H0390220
	IAC1I(2) = 1	H0390230
	IAC2I(1,4) = -8	H0390240
	IHDVI=KBCVI/JACVI	H0390250
	IGDVI=MDCVI/KBCVI/JACVI	H0390260
	IFDVI=LCCVI/JACVI/JACVI/1	H0390270
	IEDVI = MDCVI/KBCVI/IAC1I(2)/IAC1I(2)/JACVI	H0390280
	IAC2I(1,2)=IAC2I(1,4)/4/KBCVI	H0390290
	IHDVI = IHDVI - 2	H0390300
	IGDVI = IGDVI - 5	H0390310
	IEDVI = IEDVI - 5	H0390320
	IAC2I(1,2) = IAC2I(1,2) + 1	H0390330
	WRITE (NUVI,392) IHDVI, IGDVI, IFDVI, IEDVI, IAC2I(1,2)	H0390340
392	FORMAT (//5(I10//))	H0390350
	WRITE (NUVI, 393)	H0390360
393	FORMAT (//2X,19HTEST2 REAL DIVISION)	H0390370
	ACVS=1.0	H0390380
	BCVS=0.0	H0390390
	CCVS=1.0E1	H0390400
	DCVS=20.0E-1	H0390410
	AC1S(1)=100.0E-2	H0390420
	A2S(1,1) = -200.E-2	H0390430
	HHDVS= ACVS/ACVS	H0390440
	GGDVS = CCVS/ACVS/(-ACVS)	H0390450
	FFDVS= BCVS/CCVS/DCVS/ACVS	H0390460
	EEDVS= CCVS/AC1S(1)/DCVS/(-1.0)/ACVS	H0390470
	A2S(1,2) = A2S(1,1)/AC1S(1)/ACVS/(-2.0E0)	H0390480
	HHDVS = HHDVS - 1.0	H0390490
	GGDVS = GGDVS + 10.0	H0390500
	EEDVS = EEDVS + 5.0	H0390510
	A2S(1,2) = A2S(1,2) - 1.	H0390520
	WRITE (NUVI,394) HHDVS, GGDVS, FFDVS, EEDVS, A2S(1,2)	H0390530
394	FORMAT (//5(F11.1//)//35H ALL ABOVE ANSWERS SHOULD BE 0 FOR/	H0390540
	12X,29HTHIS SEGMENT TO BE SUCCESSFUL)	H0390550
C*****	END OF TEST SEGMENT 039	H0390560
C*****	WHEN EXECUTING ONLY SEGMENT 039, THE STOP AND END CARDS	H0390570
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS	H0390580
C*****	1 AND 2 REMOVED.	H0390590
C=	STOP	H0390600
C=	END	H0390610
C*****	*****	H0400010
C*****		H0400020
C*****	ARFDV - (040)	H0400030
C*****		H0400040
C*****	*****	H0400050
C*****	GENERAL PURPOSE	ASA REF H0400060
C*****	TEST THAT EXPRESSIONS INVOLVING DIVISION OF DOUBLE	6.1 H0400070
C*****	PRECISION VALUES MAY BE FORMED	H0400080
C*****	GENERAL COMMENTS	H0400090
C*****	* DP SUBTRACTION ASSUMED WORKING.	H0400100
C*****	* VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN A	H0400110
C*****	VARIETY OF COMBINATIONS.	H0400120
C*****		H0400130
C*****	S P E C I F I C A T I O N S SEGMENT 040	H0400140
C*****		H0011455


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C***** WHEN EXECUTING ONLY SEGMENT 040, THE SPECIFICATION STATEMENTS H0011460
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS H0011465
C***** 1 AND 2 REMOVED. H0011470
C***** H0011475
C= DOUBLE PRECISION ACVD,BCVD,CCVD,DCVD,EEDVD,FFDVD,GGDVD,HHDVD H0011480
C= 1,AC1D(10),BC2D(7,4),CC3D(7,2,2) H0011485
C***** H0011490
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0400150
C***** H0071445
C***** WHEN EXECUTING ONLY SEGMENT 040, THE FOLLOWING STATEMENT H0071450
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0071455
C***** H0071460
C= NUVI = 6 H0071465
C***** H0071470
WRITE (NUVI,400) H0400160
400 FORMAT (1H1,1X,27HARFDV - (040) D.P. DIVISION// H0400170
-16H ASA REF. - 6.1//2X,7HRESULTS) H0400180
C***** HEADER FOR SEGMENT 040 WRITTEN H0400190
ACVD = 1.000 H0400200
BCVD = 20.00-1 H0400210
CCVD = .102 H0400220
DCVD = -10.0 H0400230
AC1D(1)= 0.0 H0400240
CC3D(1,2,2) = -.00403 H0400250
CC3D(1,1,2) = .244140625D-3 H0400260
HHDVD = BCVD/ACVD H0400270
CC3D(3,1,2) = .12500 H0400280
GGDVD = DCVD/DCVD/ACVD H0400290
FFDVD = AC1D(1)/BCVD/ACVD/1.D0/1.D0 H0400300
EEDVD = DCVD/BCVD/(-5.0E0)/ACVD/ACVD H0400310
BC2D(4,4) = CC3D(1,2,2)/BCVD/DCVD/.002D2 H0400320
BC2D(4,3) = CC3D(1,1,2) / CC3D(3,1,2) H0400330
HHDVD = HHDVD - 2.000 H0400340
GGDVD = GGDVD - 1.000 H0400350
EEDVD = EEDVD - 1.000 H0400360
BC2D(4,4) = BC2D(4,4) - 1.000 H0400370
BC2D(4,3) = BC2D(4,3) - 195.3125D-5 H0400380
WRITE (NUVI,401) HHDVD,GGDVD,FFDVD,EEDVD,BC2D(4,4) , BC2D(4,3) H0400390
401 FORMAT (/6(D22.10//)/35H THE ANSWERS ABOVE SHOULD BE 0 FOR/ H0400400
1 31H THIS SEGMENT TO BE SUCCESSFUL) H0400410
C***** END OF TEST SEGMENT 040 H0400420
C***** WHEN EXECUTING ONLY SEGMENT 040, THE STOP AND END CARDS H0400430
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS H0400440
C***** 1 AND 2 REMOVED. H0400450
C= STOP H0400460
C= END H0400470
C***** H0410010
C***** H0410020
C***** ARBEX - (041) H0410030
C***** H0410040
C***** H0410050
C***** H0410060
C***** GENERAL PURPOSE ASA REF H0410070
C***** TEST THAT EXPRESSIONS INVOLVING INTEGER AND REAL 6.1 H0410080
C***** EXPONENTIATION MAY BE FORMED H0410090
C***** GENERAL COMMENTS H0410100
C***** THE FOLLOWING TESTS ARE MADE - H0410110
C***** INTEGER BY INTEGER GIVING INTEGER 6.1 H0410120
C***** REAL (SP) BY INTEGER GIVING REAL (SP) H0410130
C***** REAL (SP) BY REAL (SP) GIVING REAL (SP) H0410140
C***** RESTRICTIONS OBSERVED H0410150
C***** H0410160
C***** S P E C I F I C A T I O N S SEGMENT 041 H0410170
C***** H0011495
C***** WHEN EXECUTING ONLY SEGMENT 041, THE SPECIFICATION STATEMENTS H0011500
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS H0011505
C***** 1 AND 2 REMOVED. H0011510
C***** H0011515

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C=	DIMENSION A2S(2,2),IAC1I(5),IAC2I(2,7),AC1S(25)	H0011520
C*****		H0011525
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0410180
C*****		H0071475
C*****	WHEN EXECUTING ONLY SEGMENT 041, THE FOLLOWING STATEMENT	H0071480
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0071485
C*****		H0071490
C=	NUVI = 6	H0071495
C*****		H0071500
	WRITE (NUVI,410)	H0410190
410	FORMAT (1H1,1X,34HARBEX - (041) BASIC EXPONENTIATION//	H0410200
	- 2X,15HASA REFS. - 6.1//2X, 7HRESULTS)	H0410210
C*****	HEADER FOR SEGMENT 041 WRITTEN	H0410220
	WRITE (NUVI,411)	H0410230
411	FORMAT (/2X,18HINTEGER BY INTEGER)	H0410240
	JACVI=1	H0410250
	KBCVI=0	H0410260
	LCCVI=2	H0410270
	MDCVI=-1	H0410280
	IAC1I(2) = 3	H0410290
	IAC2I(1,4) = 3	H0410300
	IHDVI = LCCVI**IAC1I(2)	H0410310
	IGDVI=KBCVI**JACVI	H0410320
	IFDVI=JACVI**KBCVI	H0410330
	IEDVI = MDCVI**IAC1I(2)	H0410340
	IDDVI=(LCCVI**LCCVI)**(JACVI**MDCVI)	H0410350
	IAC2I(1,2) = (LCCVI**IAC2I(1,4))**JACVI	H0410360
	IHDVI = IHDVI - 8	H0410370
	IFDVI = IFDVI - 1	H0410380
	IEDVI = IEDVI + 1	H0410390
	IDDVI = IDDVI - 4	H0410400
	IAC2I(1,2) = IAC2I(1,2) - 8	H0410410
	WRITE (NUVI, 412) IHDVI, IGDVI, IFDVI, IEDVI, IAC2I(1,2)	H0410420
412	FORMAT (/6(I10/))	H0410430
	WRITE (NUVI, 413)	H0410440
413	FORMAT (/2X,25HREAL BY INT, REAL BY REAL)	H0410450
	ACVS=1.0	H0410460
	BCVS=0.0	H0410470
	CCVS=0.5E0	H0410480
	DCVS = 20.0E-1	H0410490
	AC1S(1)=1.21E0	H0410500
	A2S(1,1) = 300.E-2	H0410510
	HHDVS=ACVS**JACVI	H0410520
	GGDVS=BCVS**JACVI	H0410530
	FFDVS=DCVS**IAC1I(2)	H0410540
	EEDVS=ACVS**ACVS	H0410550
	DDDVS=AC1S(1)**CCVS	H0410560
	CCDVS=(DCVS**1)**(2.0**ACVS)	H0410570
	A2S(2,1) = (A2S(1,1)**DCVS)**BCVS	H0410580
	HHDVS = HHDVS - 1.0	H0410590
	FFDVS = FFDVS - 8.0	H0410600
	EEDVS = EEDVS - 1.0	H0410610
	DDDVS = DDDVS - 1.1	H0410620
	CCDVS = CCDVS - 4.0	H0410630
	A2S(2,1) = A2S(2,1) - 1.0	H0410640
	WRITE (NUVI,414) HHDVS, GGDVS, FFDVS, EEDVS, DDDVS, CCDVS,A2S(2,1)	H0410650
414	FORMAT (/7(F11.1/)//35H ALL ABOVE ANSWERS SHOULD BE 0 FOR/	H0410660
	12X, 29HTHIS SEGMENT TO BE SUCCESSFUL)	H0410670
C*****	END OF TEST SEGMENT 041	H0410680
C*****	WHEN EXECUTING ONLY SEGMENT 041, THE STOP AND END CARDS	H0410690
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS	H0410700
C*****	1 AND 2 REMOVED.	H0410710
C=	STOP	H0410720
C=	END	H0410730
C*****	*****	H0420010
C*****		H0420020
C*****	ARFEX - (042)	H0420030
C*****		H0420040

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C*****H0420050
C***** GENERAL PURPOSE ASA REFH0420060
C***** TEST EXPONENTIATION OF DOUBLE PRECISION ITEMS 6.1 H0420070
C***** THE FOLLOWING TYPES OF DP EXPONENTIATION ARE TESTED - H0420080
C***** DP BY REAL GIVING DP H0420090
C***** REAL BY DP GIVING DP H0420100
C***** DP BY DP GIVING DP H0420110
C***** GENERAL COMMENTS H0420120
C***** * DP ADDITION AND SUBTRACTION ASSUMED WORKING. H0420130
C***** * VARIABLES, ARRAY ELEMENTS AND CONSTANTS ARE USED IN A H0420140
C***** VARIETY OF COMBINATIONS. H0420150
C***** RESTRICTION OBSERVED H0420160
C***** NEGATIVE VALUED ITEMS ARE NEVER RAISED TO A REAL OR 6.4/12 H0420170
C***** DP EXPONENT H0420180
C***** H0420190
C***** S P E C I F I C A T I O N S SEGMENT 042 H0420200
C***** H0011530
C***** WHEN EXECUTING ONLY SEGMENT 042, THE SPECIFICATION STATEMENTS H0011535
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS H0011540
C***** 1 AND 2 REMOVED. H0011545
C***** H0011550
C= DOUBLE PRECISION ACVD,BCVD,CCVD,EEDVD,FFDVD,GGDVD,HHDVD H0011555
C= DOUBLE PRECISION AC1D(10),BC2D(7,4),CC3D(7,2,2) H0011560
C***** H0011565
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0420210
C***** H0071505
C***** WHEN EXECUTING ONLY SEGMENT 042, THE FOLLOWING STATEMENT H0071510
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0071515
C***** H0071520
C= NUVI = 6 H0071525
C***** H0071530
C***** WRITE (NUVI,420) H0420220
420 FORMAT (1H1,1X,28HARFEX - (042) EXPONENTIATION// H0420230
-16H ASA REF. - 6.1//2X,7HRESULTS) H0420240
C***** HEADER FOR SEGMENT 042 WRITTEN H0420250
C***** DEFINE VARIABLES AND ARRAY ELEMENTS H0420260
ACVS=1.0 H0420270
BCVS=0.0 H0420280
CCVS=0.5 H0420290
DCVS=20.0E-1 H0420300
ACVD = 1.0D0 H0420310
BCVD = 80.0D-1 H0420320
CCVD = 0.0 H0420330
AC1D(1) = 1.0 H0420340
BC2D(2,4) = 3000.D-3 H0420350
HHDVD = ACVD**BCVS H0420360
GGDVD = ACVS**ACVD H0420370
FFDVD = AC1D(1)**BCVD H0420380
EEDVD = (DCVS**ACVD)** (2.0D0**ACVS) H0420390
CC3D(5,1,2) = BC2D(2,4)**(DCVS**BCVS) H0420400
HHDVD = HHDVD - 1.0D0 H0420410
GGDVD = GGDVD - 1.0D0 H0420420
FFDVD = FFDVD - 1.0D0 H0420430
EEDVD = EEDVD - 4.0D0 H0420440
CC3D(5,1,2) = CC3D(5,1,2) - 3.0D0 H0420450
WRITE (NUVI,421) HHDVD, GGDVD, FFDVD, EEDVD, CC3D(5,1,2) H0420460
421 FORMAT (/5(D22.10/))//35H THE ANSWERS ABOVE SHOULD BE 0 FOR/ H0420470
1 32H THIS SEGMENT TO BE SUCCESSFUL./36H VALUES WITH EXPONENTS LE H0420480
2SS THAN /31H 10**(-14) ARE CONSIDERED ZERO) H0420490
C***** END OF TEST SEGMENT 042 H0420500
C***** WHEN EXECUTING ONLY SEGMENT 042, THE STOP AND END CARDS H0420510
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS H0420520
C***** 1 AND 2 REMOVED. H0420530
C= STOP H0420540
C= END H0420550
C*****H0430010
C*****H0430020
C***** ARBHI - (043) H0430030

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C*****		H0430040
C*****		H0430050
C*****	GENERAL PURPOSE	ASA REF H0430060
C*****	TESTS THAT HIERARCHY OF OPERATORS AND PARENTHESES	6.1/07H0430070
C*****	ARE HANDLED CORRECTLY. OPERATORS SHOULD FOLLOW	H0430080
C*****	THIS ORDER - ** (EXPONENTIATION)	6.4/41H0430090
C*****	* AND / (MULTIPLICATION, DIVISION)	H0430100
C*****	+ AND - (ADDITION, SUBTRACTION)	H0430110
C*****	GENERAL COMMENTS	H0430120
C*****	* ONLY INTEGER EXPRESSIONS ARE USED SINCE THIS TEST IS	H0430130
C*****	CONCENTRATING ON OPERATORS AND PARENTHESES	H0430140
C*****	* ADDITION, SUBTRACTION, MULTIPLICATION, DIVISION,	6.4/49H0430150
C*****	EXPONENTIATION ASSUMED TO FOLLOW LAWS OF	H0430160
C*****	ASSOCIATION AND COMMUTATION UNLESS PARENTHESES	H0430170
C*****	REGROUP EXPRESSIONS	H0430180
C*****	* INTEGER DIVISION MUST BE EVALUATED FROM LEFT TO	6.4/56H0430190
C*****	RIGHT	H0430200
C*****	RESTRICTIONS OBSERVED	H0430210
C*****	* ALL ELEMENTS EVALUATED ARE MATHEMATICALLY DEFINED	6.4/16H0430220
C*****	* NO NEGATIVE VALUES ARE RAISED TO A REAL	6.4/12H0430230
C*****	EXPONENT	H0430240
C*****	* NO ZERO VALUED PRIMARY IS RAISED TO A ZERO	6.4/14H0430250
C*****	VALUED EXPONENT	H0430260
C*****		H0430270
C*****	S P E C I F I C A T I O N S SEGMENT 043	H0430280
C*****		H0011570
C*****	WHEN EXECUTING ONLY SEGMENT 043, THE SPECIFICATION STATEMENTS	H0011575
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS	H0011580
C*****	1 AND 2 REMOVED.	H0011585
C*****		H0011590
C=	DIMENSION IAC1(5), IAC2(2,7)	H0011595
C*****		H0011600
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0430290
C*****		H0071535
C*****	WHEN EXECUTING ONLY SEGMENT 043, THE FOLLOWING STATEMENT	H0071540
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0071545
C*****		H0071550
C=	NUVI = 6	H0071555
C*****		H0071560
	WRITE (NUVI,430)	H0430300
430	FORMAT (1H1,1X,36HARBHI - (043) HIERARCHY, PARENTHESES//2X,	H0430310
	1 23HASA REFS. - 6.1 AND 6.4//	H0430320
	2 2X, 7HRESULTS)	H0430330
	JACVI = 1	H0430340
	KBCVI = 2	H0430350
	LCCVI = -5	H0430360
	MDCVI = 0	H0430370
	NECVI = 36	H0430380
	IAC1(2) = 10	H0430390
C*****	TEST THAT ADDITION IS COMMUTATIVE (TEST 1)	H0430400
	MRRVI = 1	H0430410
	IHDVI = JACVI + KBCVI	H0430420
	IGDVI = KBCVI + JACVI	H0430430
	IFDVI = IHDVI - IGDVI	H0430440
	WRITE (NUVI,431) MRRVI, IFDVI	H0430450
C*****	TEST THAT MULTIPLICATION IS COMMUTATIVE (TEST 2)	H0430460
	MRRVI = 2	H0430470
	IHOVI = JACVI * KBCVI	H0430480
	IGOVI = KBCVI * JACVI	H0430490
	IFOVI = IHOVI - IGOVI	H0430500
	WRITE (NUVI,431) MRRVI, IFOVI	H0430510
C*****	TEST THAT SUBTRACTION IS COMMUTATIVE (TEST 3)	H0430520
	MRRVI = 3	H0430530
	IHDVI = KBCVI - JACVI	H0430540
	IGOVI = -JACVI + KBCVI	H0430550
	IFDVI = IHDVI - IGOVI	H0430560
	WRITE (NUVI,431) MRRVI, IFOVI	H0430570
C*****	TEST THAT ADDITION IS ASSOCIATIVE (TEST 4)	H0430580


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MRRVI = 4
IHDVI = (IAC1I(2) + JACVI) + KBCVI
IGDVI = IAC1I(2) + (JACVI + KBCVI)
IFDVI = IHDVI - IGDVI
WRITE (NUVI,431) MRRVI, IFDVI
C***** TEST THAT MULTIPLICATION IS ASSOCIATIVE (TEST 5)
MRRVI = 5
IHDVI = (IAC1I(2) * LCCVI) * KBCVI
IGDVI = IAC1I(2) * (LCCVI * KBCVI)
IFDVI = IHDVI - IGDVI
WRITE (NUVI,431) MRRVI, IFDVI
C***** TEST THAT MULTIPLICATION IS DONE BEFORE ADDITION
C***** OR SUBTRACTION (TEST 6). ANSWER SHOULD BE ZERO
MRRVI = 6
IHDVI = JACVI + KBCVI * LCCVI - 1 + IAC1I(2)
WRITE (NUVI,431) MRRVI, IHDVI
C***** REGROUP TEST 6 EXPRESSION (SLIGHTLY CHANGED) WITH
C***** PARENTHESES. ANSWERS SHOULD BE NON-ZERO (TEST7).
MRRVI = 7
IGDVI = (JACVI + KBCVI) * LCCVI + 9
IFDVI = JACVI + KBCVI * (LCCVI + 9)
IEDVI = (JACVI + KBCVI) * (LCCVI + 9)
IAC1I(1) = IGDVI + 6
IAC1I(3) = IFDVI - 9
IAC1I(4) = IEDVI - 12
WRITE (NUVI,432) MRRVI, IAC1I(1), IAC1I(3), IAC1I(4)
C***** TEST THAT DIVISION IS DONE BEFORE ADDITION
C***** AND SUBTRACTION (TEST 8). ANSWER SHOULD BE ZERO.
MRRVI = 8
LCCVI = - 6
IAC1I(2) = 12
IHDVI = LCCVI + IAC1I(2) / KBCVI - LCCVI - 6
WRITE (NUVI,431) MRRVI, IHDVI
C***** REGROUP TEST 8 EXPRESSION WITH PARENTHESES (TEST 9). SECOND
C***** ANSWER SHOULD BE ZERO, OTHERS NON-ZERO.
MRRVI = 9
IGDVI = (LCCVI + IAC1I(2)) / KBCVI - LCCVI - 6
IFDVI = LCCVI + IAC1I(2) / (KBCVI - LCCVI - 6)
IEDVI = (LCCVI + IAC1I(2)) / (KBCVI - LCCVI - 6)
IAC1I(1) = IGDVI - 3
IAC1I(4) = IEDVI - 3
WRITE (NUVI,432) MRRVI, IAC1I(1), IAC1I(3), IAC1I(4)
C***** TEST THAT EXPONENTIATION IS DONE BEFORE
C***** ANY OTHER OPERATION (TEST 10). ANSWERS SHOULD
C***** BE ZERO.
MRRVI = 10
IHDVI = KBCVI + 3 ** 2 - 11
IGDVI = IAC1I(2) * KBCVI ** 3 - 96
IFDVI = NECVI / LCCVI ** KBCVI - 1
WRITE (NUVI,432) MRRVI, IHDVI, IGDVI, IFDVI
C***** REGROUP TEST 10 EXPRESSIONS WITH PARENTHESES (TEST 11)
C***** ANSWERS SHOULD BE NON-ZERO
MRRVI = 11
IHDVI = (KBCVI + 3) ** 2 - 11
IGDVI = (IAC1I(2) * KBCVI) ** 3 - 80
IFDVI = (NECVI / LCCVI) ** KBCVI - 1
IAC1I(1) = IHDVI - 14
IAC1I(3) = IGDVI - 13744
IAC1I(4) = IFDVI - 35
WRITE (NUVI,432) MRRVI, IAC1I(1), IAC1I(3), IAC1I(4)
C***** THE FOLLOWING STATEMENTS INCLUDE AN ADDITIONAL TEST
C***** OF OPERATOR HIERARCHY. A VARIETY OF OPERATORS IS USED
C***** BOTH VARIABLES AND ARRAY ELEMENTS ARE USED. ALL
C***** ANSWERS SHOULD BE ZERO (TEST 12).
MRRVI = 12
LCCVI = -5
IAC1I(2) = 10
IEDVI = JACVI+KBCVI*LCCVI-IAC1I(2)/2-IAC1I(2)/2/5+15

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      IDIVI = KBCVI**3*4 + 162/(3**((KBCVI*2)) + MDCVI-34      H0431270
      IHDVI = KBCVI*(JACVI+KBCVI*(IAC1I(2)-KBCVI)) - 34      H0431280
      IGDVI = IAC1I(2)/KBCVI+70/(LCCVI*(KBCVI**2+3))-3      H0431290
      IFOVI = KBCVI*(KBCVI+IAC1I(2)*(KBCVI+3*(JACVI+KBCVI)))-224      H0431300
      IAC1I(1) = KBCVI*(KBCVI+KBCVI*(KBCVI+KBCVI*(KBCVI+KBCVI*
      -(KBCVI+KBCVI)))) - 92      H0431310
      IAC2I(1,4) = IAC1I(2)+LCCVI+JACVI+KBCVI+KBCVI-JACVI-9      H0431330
      IAC2I(1,2) = IAC1I(2)/(LCCVI+JACVI+KBCVI)*(KBCVI**
      1(KBCVI-JACVI))+10      H0431350
      WRITE (NUVI,433) MRRVI, IEDVI, IDIVI, IHDVI, IGDVI, IFDVI,
      1 IAC1I(1),IAC2I(1,4),IAC2I(1,2)      H0431370
C***** EVALUATION MAY PROCEED ACCORDING TO ANY VALID FORMATION SEQUENCE      H0431380
C***** EVALUATION OF INTEGER TERM CONTAINING DIVISION      H0431390
      MRRVI = 13      H0431400
      NECVI = 7      H0431410
      KBCVI = 2      H0431420
      LCCVI = 4      H0431430
      IGDVI = NECVI/KBCVI * LCCVI      H0431440
      IFOVI = LCCVI * NECVI / KBCVI      H0431450
      IAC1I(1) = IGOVI - 12      H0431460
      IAC1I(2) = IFDVI - 14      H0431470
      WRITE (NUVI,434) MRRVI, IAC1I(1), IAC1I(2)      H0431480
C***** FORMAT STATEMENTS FOR THIS SEGMENT      H0431490
431 FORMAT ( /2X,4HTEST, 14, 16)      H0431500
432 FORMAT(/2X, 4HTEST, 14, 16/ I16/ I16)      H0431510
433 FORMAT(/2X, 4HTEST,14,16/6(I16/),I16)      H0431520
434 FORMAT(/2X,4HTEST,14,16/I16/2X,35H THE ANSWERS ABOVE SHOULD BE 0      H0431530
      1FOR/31H THIS SEGMENT TO BE SUCCESSFUL)      H0431540
C***** END OF TEST SEGMENT 043      H0431550
C***** WHEN EXECUTING ONLY SEGMENT 043, THE STOP AND END CARDS      H0431560
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS      H0431570
C***** 1 AND 2 REMOVED.      H0431580
C= STOP      H0431590
C= END      H0431600
C*****      H0500010
C*****      H0500020
C***** SBB67 - (050)      H0500030
C*****      H0500040
C*****      H0500050
C***** GENERAL PURPOSE      ASA REF      H0500060
C***** TEST FORMATION OF SUBSCRIPTS FOR INTEGER      5.1.3.3      H0500070
C***** AND SINGLE PRECISION ARRAYS IN FORM V,K FORMS      H0500080
C*****      H0500090
C***** SPECIFICATIONS SEGMENT 050      H0500100
C*****      H0011605
C***** WHEN EXECUTING ONLY SEGMENT 050, THE SPECIFICATION STATEMENTS      H0011610
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS      H0011615
C***** 1 AND 2 REMOVED.      H0011620
C*****      H0011625
C= DIMENSION A3S(3,3,3)      H0011630
C= DIMENSION IAC1I(5),IAC2I(2,7),AC1S(25),AC2S(5,6)      H0011635
C= INTEGER MCA3I(2,3,3)      H0011640
C*****      H0011645
C***** OUTPUT TAPE ASSIGNMENT STATEMENT. NO INPUT TAPE.      H0500110
C*****      H0071565
C***** WHEN EXECUTING ONLY SEGMENT 050, THE FOLLOWING STATEMENT      H0071570
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.      H0071575
C*****      H0071580
C= NUVI = 6      H0071585
C*****      H0071590
      WRITE (NUVI,501)      H0500120
501 FORMAT (1H1,1X,36HSBB67 - (050) SUBSCRIPTS FOR INTEGER/      H0500130
      -16X,21HANO REAL ARRAYS, V, K//2X,14HASA REF. 5.1.3//2X,
      -7HRESULTS)      H0500150
      IAC1I(5) = 3      H0500160
      IAC2I(1,3)=4      H0500170
      MCA3I(2,2,1) = -7      H0500180
      AC1S(20)=1.0      H0500190

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	AC2S(4,1)=-2.1E1	H0500200
	A3S(1,2,2) = -22.0	H0500210
	JACVI = IAC1I(5) + IAC2I(1,3) + MCA3I(2,2,1)	H0500220
	HHCVS = AC1S(20) - AC2S(4,1) + A3S(1,2,2)	H0500230
	WRITE (NUVI, 502) JACVI, HHCVS	H0500240
502	FORMAT (/ / 19//F11.1)	H0500250
504	JACVI=1	H0500260
	ACVS=1.0	H0500270
	IAC1I(JACVI)=10	H0500280
	IAC2I(JACVI,3)=12	H0500290
	IAC2I(2,JACVI)=-6	H0500300
	MCA3I(JACVI,JACVI,3) = -1	H0500310
	MCA3I(2,JACVI,JACVI) = -1	H0500320
	MCA3I(JACVI,3,JACVI) = -2	H0500330
	AC1S(JACVI)=ACVS	H0500340
	AC2S(JACVI,2)=3.0	H0500350
	AC2S(5,JACVI)=60.0E-1	H0500360
	A3S(JACVI,JACVI,3) = +1.0	H0500370
	A3S(2,JACVI,JACVI) = +1.0	H0500380
	A3S(JACVI,3,JACVI) = +0.0	H0500390
	NECVI = IAC1I(1) - IAC2I(1,3) - IAC2I(2,1) + MCA3I(1,1,3) +	H0500400
1	MCA3I(2,1,1) + MCA3I(1,3,1)	H0500410
	MDCVI = IAC1I(JACVI) - IAC2I(JACVI,3) - IAC2I(2,JACVI) +	H0500420
1	MCA3I(JACVI,JACVI,3) + MCA3I(2,JACVI,JACVI) +	H0500430
2	MCA3I(JACVI,3,JACVI)	H0500440
	HHCVS = AC1S(1) + AC2S(1,2) - AC2S(5,1) + A3S(1,1,3) + A3S(2,1,1)	H0500450
1	+ A3S(1,3,1)	H0500460
	GGDVS = AC1S(JACVI) + AC2S(JACVI,2) - AC2S(5,JACVI) +	H0500470
1	A3S(JACVI,JACVI,3) + A3S(2,JACVI,JACVI) +	H0500480
2	A3S(JACVI,3,JACVI)	H0500490
	WRITE (NUVI,508) NECVI, MDCVI, HHCVS, GGDVS	H0500500
508	FORMAT (/ / 2(I9) / 2(F11.1) / 35H THE ANSWERS ABOVE SHOULD BE 0	H0500510
	1 FOR/31H THIS SEGMENT TO BE SUCCESSFUL)	H0500520
C*****	END OF TEST SEGMENT 050	H0500530
C*****	WHEN EXECUTING ONLY SEGMENT 050, THE STOP AND END CARDS	H0500540
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS	H0500550
C*****	1 AND 2 REMOVED.	H0500560
C=	STOP	H0500570
C=	END	H0500580
C*****	*****	H0510010
C*****		H0510020
C*****	SBB45 - (051)	H0510030
C*****		H0510040
C*****	*****	H0510050
C*****	GENERAL PURPOSE	ASA REF H0510060
C*****	TEST FORMATION OF SUBSCRIPTS FOR INTEGER	5.1.3.3H0510070
C*****	AND SINGLE PRECISION ARRAYS IN FORM V+K AND V-K	H0510080
C*****		H0510090
C*****	S P E C I F I C A T I O N S SEGMENT 051	H0510100
C*****		H0011650
C*****	WHEN EXECUTING ONLY SEGMENT 051, THE SPECIFICATION STATEMENTS	H0011655
C*****	WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS	H0011660
C*****	1 AND 2 REMOVED.	H0011665
C*****		H0011670
C=	DIMENSION IAC1I(5),IAC2I(2,7),AC1S(25),AC2S(5,6),A3S(3,3,3)	H0011675
C=	INTEGER MCA3I(2,3,3)	H0011680
C*****		H0011685
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0510110
C*****		H0071595
C*****	WHEN EXECUTING ONLY SEGMENT 051, THE FOLLOWING STATEMENT	H0071600
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0071605
C*****		H0071610
C=	NUVI = 6	H0071615
C*****		H0071620
	WRITE (NUVI,511)	H0510120
511	FORMAT (1H1,1X,36HSBB45 - (051) SUBSCRIPTS FOR INTEGER/	H0510130
	-16X,24HAND REAL ARRAYS,V+K, V-K//2X,16HASA REF. 5.1.3.3//2X,	H0510140
	-7HRESULTS)	H0510150


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JACVI=4 H0510160
IAC1I(JACVI+1)=1 H0510170
IAC1I(JACVI-1)=2 H0510180
IAC2I(JACVI-2,1)=3 H0510190
IAC2I(JACVI-2,2)=4 H0510200
IAC2I(2,JACVI+ 3 )=5 H0510210
IAC2I(1,JACVI-0)=-3 H0510220
AC1S(JACVI+1)=1.0 H0510230
AC1S(JACVI-1)=2.0 H0510240
AC2S(JACVI+0,1)=3.0 H0510250
AC2S(JACVI-2,2)=4.0 H0510260
AC2S(2,JACVI+ 2 )=5.0 H0510270
AC2S(1,JACVI-0) = -3.0E0 H0510280
NECVI=IAC1I(5)+IAC1I(3)+IAC2I(2,1)+IAC2I(2,2) H0510290
+IAC2I(2,7)+IAC2I(1,4)-12 H0510300
KBCVI = IAC1I(JACVI+1) + IAC1I(JACVI-1) + IAC2I(JACVI-2,1) + H0510310
1 IAC2I(JACVI-2,2) + IAC2I(1,JACVI-0) + IAC2I(2,JACVI+3) -12 H0510320
HHCVS = AC1S(5) + AC1S(3) + AC2S(4,1) + AC2S(2,2) + AC2S(2,6) + H0510330
1 AC2S(1,4) - 12.0 H0510340
GGDVS = AC1S(JACVI+1) + AC1S(JACVI-1) + AC2S(JACVI+0,1) + H0510350
1 AC2S(JACVI-2,2) + AC2S(2,JACVI+2) + AC2S(1,JACVI-0) - 12.0 H0510360
JACVI = 2 H0510370
MCA3I(JACVI,JACVI+1,1) = 12 H0510380
MCA3I(1,JACVI+1,3) = -4 H0510390
MCA3I(1,2,JACVI+0) = +2 H0510400
MCA3I(JACVI-1,1,JACVI-1) = -6 H0510410
MCA3I(JACVI,JACVI-0,2) = 15 H0510420
MCA3I(2,JACVI-1,JACVI-1) = -11 H0510430
MCA3I(JACVI-0,JACVI+1,JACVI+0) = -8 H0510440
MCA3I(JACVI,JACVI+1,JACVI+1) = MCA3I(JACVI,JACVI+1,1) + H0510450
1 MCA3I(1,JACVI+1,3) + MCA3I(1,2,JACVI+0) + H0510460
2 MCA3I(JACVI-1,1,JACVI-1) + MCA3I(JACVI,JACVI-0,2) + H0510470
3 MCA3I(2,JACVI-1,JACVI-1) + MCA3I(JACVI-0,JACVI+1,JACVI+0) H0510480
A3S(JACVI+1,1,1) = 12.0 H0510490
A3S(1,JACVI+1,3) = -4.0 H0510500
A3S(1,2,JACVI+0) = +2.0 H0510510
A3S(JACVI-1,1,JACVI-1) = -6.0 H0510520
A3S(JACVI+1,JACVI-0,2) = 15.0 H0510530
A3S(2,JACVI-1,JACVI-1) = -11.0 H0510540
A3S(JACVI-0,JACVI+1,JACVI+0) = -8.0 H0510550
A3S(JACVI+1,JACVI+1,JACVI+1) = A3S(JACVI+1,1,1) + H0510560
1 A3S(1,JACVI+1,3) + A3S(1,2,JACVI+0) + H0510570
2 A3S(JACVI-1,1,JACVI-1) + A3S(JACVI+1,JACVI-0,2) + H0510580
3 A3S(2,JACVI-1,JACVI-1) + A3S(JACVI-0,JACVI+1,JACVI+0) H0510590
WRITE (NUVI,515) NECVI,KBCVI,MCA3I(2,3,3),HHCVS,GGDVS,A3S(3,3,3) H0510600
515 FORMAT (/3(I9/)/3(F11.1/)/35H THE ANSWERS ABOVE SHOULD BE 0 FOR/H0510610
1 31H THIS SEGMENT TO BE SUCCESSFUL) H0510620
C***** END OF TEST SEGMENT 051 H0510630
C***** WHEN EXECUTING ONLY SEGMENT 051, THE STOP AND END CARDS H0510640
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS H0510650
C***** 1 AND 2 REMOVED. H0510660
C= STOP H0510670
C= END H0510680
C***** H0520010
C***** H0520020
C***** SBB13 - (052) H0520030
C***** H0520040
C***** H0520050
C***** GENERAL PURPOSE ASA REF H0520060
C***** TEST FORMATION OF SUBSCRIPTS FOR INTEGER 5.1.3.3 H0520070
C***** AND SINGLE PRECISION ARRAYS H0520080
C***** FORM C*V, C*V-K, C*V+K H0520090
C***** H0520100
C***** S P E C I F I C A T I O N S SEGMENT 052 H0520110
C***** H0011690
C***** WHEN EXECUTING ONLY SEGMENT 052, THE SPECIFICATION STATEMENTS H0011695
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS H0011700
C***** 1 AND 2 REMOVED. H0011705

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C*****		H0011710
C=	DIMENSION IAC1I(5),IAC2I(2,7),AC1S(25),A3S(3,3,3),AC2S(5,6)	H0011715
C=	INTEGER MCA3I(2,3,3)	H0011720
C*****		H0011725
C*****	O U T P U T T A P E A S S I G N M E N T S T A T E M E N T . N O I N P U T T A P E .	H0520120
C*****		H0071625
C*****	WHEN EXECUTING ONLY SEGMENT 052, THE FOLLOWING STATEMENT	H0071630
C*****	NUVI = 6 M U S T H A V E T H E C = I N C O L U M N S 1 A N D 2 R E M O V E D .	H0071635
C*****		H0071640
C=	NUVI = 6	H0071645
C*****		H0071650
	WRITE (NUVI,520)	H0520130
520	FORMAT (1H1,1X,36H\$BB13 - (052) SUBSCRIPTS INTEGER AND/ -16X,23HREAL, C*V, C*V-K, C*V+K//2X,16HASA REF. 5.1.3.3//2X, -7HRESULTS)	H0520140
	JACVI=2	H0520150
	KACVI= 1	H0520160
	LCCVI = -2	H0520170
	IAC1I(2*JACVI)=1	H0520180
	IAC2I(1*JACVI,1)=2	H0520190
	IAC2I(1,3*KACVI)=3	H0520200
	AC1S(2*JACVI)=1.0	H0520210
	AC2S(1*JACVI,1)=2.0	H0520220
	AC2S(3, 3*KACVI)=30.E-1	H0520230
	MDCVI = IAC1I(2*JACVI) + IAC2I(1*JACVI,1) + IAC2I(1,3*KACVI) - 6	H0520240
	NECVI=IAC1I(4) +IAC2I(2,1) +IAC2I(1,3) - 6	H0520250
	GGDVS = AC1S(2*JACVI) + AC2S(1*JACVI,1) + AC2S(3,3*KACVI) - 6.0	H0520260
	HHCVS = AC1S(4) + AC2S(2,1) + AC2S(3,3) - 6.0	H0520270
	WRITE (NUVI,524) MDCVI, NECVI, GGDVS, HHCVS	H0520280
524	FORMAT (/2(I9//)/2(F11.1//))	H0520290
	IAC1I(2*JACVI+1) = -6	H0520300
	IAC1I(1*JACVI-1)=-4	H0520310
	IAC2I(1*JACVI-1,2)=3	H0520320
	IAC2I(2*JACVI-3,1)=4	H0520330
	IAC2I(2,1*JACVI+4)=2	H0520340
	IAC2I(1,3*JACVI-2)=1	H0520350
	AC1S(2*LCCVI+9) = -6.0	H0520360
	AC1S(1*LCCVI+3) = -4.0	H0520370
	AC2S(1*LCCVI+3,2) = 3.0	H0520380
	AC2S(2*JACVI+0,3)=4.0	H0520390
	AC2S(3,1*JACVI+3)=2.0	H0520400
	AC2S(3,3*JACVI-2)=1.0	H0520410
	MDCVI = IAC1I(2*JACVI+1) + IAC1I(1*JACVI-1) + IAC2I(1*JACVI-1,2) +	H0520420
1	IAC2I(1*KACVI+0,1) + IAC2I(2,2*JACVI+2) +	H0520430
2	IAC2I(1,3*JACVI-2)	H0520440
	NECVI = IAC1I(5) + IAC1I(1) + IAC2I(1,2)	H0520450
	+ IAC2I(1,1) + IAC2I(2,6) + IAC2I(1,4)	H0520460
	GGDVS = AC1S(2*JACVI+1) + AC1S(1*JACVI-1) + AC2S(1*JACVI-1,2) +	H0520470
1	AC2S(2*JACVI+0,3) + AC2S(3,1*JACVI+3) + AC2S(3,3*JACVI-2)	H0520480
	HHCVS = AC1S(5) + AC1S(1) + AC2S(1,2)	H0520490
	+ AC2S(4,3) + AC2S(3,5) + AC2S(3,4)	H0520500
	WRITE (NUVI,524) MDCVI, NECVI, GGDVS, HHCVS	H0520510
	MCA3I(2*KACVI,1,1) = -1	H0520520
	MCA3I(2,2*KACVI,2) = -2	H0520530
	MCA3I(1,1,1*KACVI) = -3	H0520540
	MCA3I(1*KACVI+1,2,3) = 1	H0520550
	MCA3I(2,1*KACVI+2,2) = 2	H0520560
	MCA3I(1,2,3*KACVI+0) = 3	H0520570
	MCA3I(4*KACVI-2,1,3) = 40	H0520580
	MCA3I(1,6*KACVI-3,2) = 5	H0520590
	MCA3I(2,3,10*KACVI-9) = -40	H0520600
	MCA3I(2*KACVI,5*KACVI-4,2*KACVI+0) = -5	H0520610
	MCA3I(1*KACVI-0,3,2*KACVI+1) = MCA3I(2*KACVI,1,1) +	H0520620
1	MCA3I(2,2*KACVI,2) + MCA3I(1,1,1*KACVI) + MCA3I(1*KACVI+1,2,3)	H0520630
2	+ MCA3I(2,1*KACVI+2,2) + MCA3I(1,2,3*KACVI+0)	H0520640
3	+ MCA3I(4*KACVI-2,1,3) + MCA3I(1,6*KACVI-3,2)	H0520650
4	+ MCA3I(2,3,10*KACVI-9) + MCA3I(2*KACVI,5*KACVI-4,2*KACVI+0)	H0520660
	A3S(3*KACVI,1,1) = -1.0	H0520670
		H0520680
		H0520690


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A3S(2,2*KACVI,2) = -2.0 H0520700
A3S(1,1,1*KACVI) = -3.0 H0520710
A3S(2*KACVI+1,2,3) = 1.0 H0520720
A3S(3,1*KACVI+2,2) = 2.0 H0520730
A3S(1,2,3*KACVI+0) = 3.0 H0520740
A3S(4*KACVI-2,1,3) = 40.0 H0520750
A3S(1,6*KACVI-3,2) = 5.0 H0520760
A3S(2,3,10*KACVI-8) = -40.0 H0520770
A3S(3*KACVI,5*KACVI-4,2*KACVI+0) = -5.0 H0520780
A3S(1*KACVI-0,3,2*KACVI+1) = A3S(3*KACVI,1,1) + A3S(2,2*KACVI,2) + H0520790
1 A3S(1,1,1*KACVI) + A3S(2*KACVI+1,2,3) + A3S(3,1*KACVI+2,2) + H0520800
2 A3S(1,2,3*KACVI+0) + A3S(4*KACVI-2,1,3) + A3S(1,6*KACVI-3,2) + H0520810
3 A3S(2,3,10*KACVI-8) + A3S(3*KACVI,5*KACVI-4,2*KACVI+0) H0520820
WRITE (NUVI,525) MCA3I(1,3,3), A3S(1,3,3) H0520830
525 FORMAT (/ / 19 // F11.1 ) H0520840
WRITE (NUVI,527) H0520850
527 FORMAT (/ / 35H THE ANSWERS ABOVE SHOULD BE 0 FOR/ H0520860
1 31H THIS SEGMENT TO BE SUCCESSFUL) H0520870
C***** END OF TEST SEGMENT 052 H0520880
C***** WHEN EXECUTING ONLY SEGMENT 052, THE STOP AND END CARDS H0520890
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS H0520900
C***** 1 AND 2 REMOVED. H0520910
C= STOP H0520920
C= END H0520930
C***** H0530010
C***** H0530020
C***** SBF17 - (053) H0530030
C***** H0530040
C***** H0530050
C***** H0530060
C***** GENERAL PURPOSE ASA REF H0530070
C***** TEST FORMATION OF SUBSCRIPTS FOR DOUBLE PRECISION 5.1.3.3 H0530080
C***** ARRAYS H0530090
C***** FORMS V, K, C*V, C*V-K, C*V+K, V+K, V-K H0530100
C***** H0530110
C***** SPECIFICATIONS SEGMENT 053 H0530120
C***** H0011730
C***** WHEN EXECUTING ONLY SEGMENT 053, THE SPECIFICATION STATEMENTS H0011735
C***** WHICH APPEAR AS COMMENTS, MUST HAVE THE C= IN COLUMNS H0011740
C***** 1 AND 2 REMOVED. H0011745
C***** H0011750
C= DOUBLE PRECISION AC1D(10),BC2D(7,4),CC3D(7,2,2),EP1D(43), H0011755
C= 1 VTAVD, WTAVD, AADVD H0011760
C***** H0011765
C***** OUTPUT TAPE ASSIGNMENT STATEMENT. NO INPUT TAPE. H0530130
C***** H0071655
C***** WHEN EXECUTING ONLY SEGMENT 053, THE FOLLOWING STATEMENT H0071660
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0071665
C***** H0071670
C= NUVI = 6 H0071675
C***** H0071680
WRITE (NUVI,530) H0530140
530 FORMAT (1H1,1X,33HSBF17 - (053) SUBSCRIPTS FOR D.P./ H0530150
-16X,17HARRAYS, ALL FORMS//2X,18HASA REF. - 5.1.3.3//2X,7HRESULTS) H0530160
NACVI = 10 H0530170
JACVI=1 H0530180
KACVI=+2 H0530190
LCCVI = -1 H0530200
EP1D(10)=1.00 H0530210
BC2D(6,3)=4.000 H0530220
CC3D(4,1,1)=-60.00-1 H0530230
AC1D(JACVI)=30.00-1 H0530240
BC2D(JACVI,3)=1.000 H0530250
CC3D(JACVI,1,1)=2.000 H0530260
BC2D(3,JACVI)=5.000 H0530270
CC3D(2,JACVI,1)=-2.000 H0530280
CC3D(3,2,JACVI)=.401 H0530290
VTAVD = EP1D(10) + BC2D(6,3) + CC3D(4,1,1) + AC1D(1) H0530300

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-+BC2D(1,3) + CC3D(1,1,1) + BC2D(3,1) + CC3D(2,1,1) H0530310
-+CC3D(3,2,1) - 12.000 H0530320
AADVD = EP1D(10) + AC1D(JACVI) + BC2D(JACVI,3) + BC2D(6,3) + H0530330
1 CC3D(4,1,1) + CC3D(JACVI,1,1) + BC2D(3,JACVI) + H0530340
2 CC3D(2,JACVI,1) + CC3D(3,2,JACVI) - 12.000 H0530350
AC1D(3*JACVI)=-0.60+1 H0530360
AC1D(3*JACVI-2)=70.00-1 H0530370
AC1D(5*JACVI+3) = 1.000 H0530380
AC1D (JACVI+3) = 1.000 H0530390
AC1D (NACVI-3) = -1.000 H0530400
BC2D(6*JACVI,2*KACVI-1) =2.000 H0530410
BC2D(8*JACVI-2,1*LCCVI+5) = 10.000 H0530420
CC3D (3*JACVI,2,4*KACVI-6) = -8.000 H0530430
CC3D(10*JACVI-3,1,1*LCCVI+3) = -6.000 H0530440
WTAVD = AC1D(3) + AC1D(1) + AC1D(8) + BC2D(6,3) + H0530450
-BC2D(6,4) + CC3D(3,2,2) + CC3D(7,1,2) + AC1D(4) + AC1D(7) H0530460
CC3D(2*KACVI+1,NACVI-8,2*JACVI) = AC1D(3*JACVI) + H0530470
1 AC1D(3*JACVI-2) + AC1D(5*JACVI+3) + AC1D(JACVI+3) + H0530480
2 AC1D(NACVI-3) + BC2D(6*JACVI,2*KACVI-1) + H0530490
3 BC2D(8*JACVI-2,1*JACVI+3) + CC3D(3*JACVI,2,4*KACVI-6 ) + H0530500
4 CC3D(10*JACVI-3,1,1*JACVI+1) H0530510
WRITE (NUVI,531) WTAVD, WTAVD, AADVD, CC3D(5,2,2) H0530520
531 FORMAT (//4(D18.5//) 35H THE ANSWERS ABOVE SHOULD BE 0 FOR/ H0530530
1 31H THIS SEGMENT TO BE SUCCESSFUL) H0530540
C***** END OF TEST SEGMENT 053 H0530550
C***** WHEN EXECUTING ONLY SEGMENT 053, THE STOP AND END CARDS H0530560
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS H0530570
C***** 1 AND 2 REMOVED. H0530580
C= STOP H0530590
C= END H0530600
STOP H9999995
END H9999999

SAMPLE COMPUTER, FORTRAN COMPILER LEVEL
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2
OPERATING SYSTEM VERSION
DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT ID 4
DATE, INSTALLATION NAME
DO NOT READ OR WRITE RECORD 6 DOUBLE SPACE ON OUTPUT ID 6
C***** PART5 ***** H0001800
C***** H0001805
C***** ANSI FORTRAN (X3.9-1966) TEST PROGRAMS H0001810
C***** H0001815
C***** PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3 H0001820
C***** H0001825
C***** JUNE 1974 H0001830
C***** H0001835
C***** PART 5 OF 14 PARTS H0001840
C***** H0001845
C***** SEGMENTS INCLUDED H0001850
C***** H0001855
C***** SIMIF - 054 ARITHMETIC IF, LOGICAL IF FOLLOWED BY GO TO H0001860
C***** H0001865
C***** IFABS - 055 ABS,IABS(ABSOLUTE VALUE) H0001870
C***** H0001875
C***** IFFLT - 056 FLOAT(CONVERT FROM INTEGER TO REAL) H0001880
C***** H0001885
C***** IFFIX - 057 IFIX(CONVERT FROM REAL TO INTEGER) H0001890
C***** H0001895
C***** IFSGN - 058 SIGN,ISIGN(TRANSFER OF SIGN) H0001900
C***** H0001905
C***** IFDAB - 059 DABS(ABSOLUTE VALUE) H0001910
C***** H0001915
C***** IFTRN - 060 AINT,INT,IDINT(TRUNCATION) H0001920
C***** H0001925
C***** IFMOD - 061 AMOD,MOD(REMAINDERING) H0001930
C***** H0001935
C***** IFMAX - 062 AMAX0,AMAX1,MAX0,MAX1,DMAX1(CHOOSE LARGEST VALUE) H0001940
C***** H0001945

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C***** IFMIN - 063 AMINO,AMIN1,MIN0,MIN1,DMIN1(CHOOSE SMALLEST VALUEH0001950
C***** H0001955
C***** IFDSG - 064 DSGN(TRANSFER OF SIGN) H0001960
C***** H0011800
C***** THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN SEGMENTS H0011805
C***** 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064 H0011810
C***** ARE RUN AS ONE MAIN PROGRAM. H0011815
C***** H0011820
C***** DOUBLE PRECISION DPAVD, DPBVD, DPCVD, DPEVD, DPFVD, DPGVD, DPDVD H0011825
C***** 1 ,MCAVD, MCBVD, MCCVD, MCDVD, MCEVD, MCFVD H0011830
C***** LOGICAL LVB, L1B(10), LNVB H0011835
C***** H0011840
C***** END OF SPECIFICATIONS FOR SEGMENTS H0011845
C***** 054,055, 056, 057, 058, 059, 060, 061, 062, 063, 064 H0011850
C***** H0011855
C***** H0540010
C***** H0540020
C***** SIMIF - (054) H0540030
C***** H0540040
C***** H0540050
C***** GENERAL PURPOSE ASA REF H0540060
C***** TO TEST ARITHMETIC IF STATEMENT 7.1.2.2 H0540070
C***** AND LOGICAL IF FOLLOWED BY GO TO 7.1.2.3 H0540080
C***** SO THAT THESE STATEMENTS MAY BE USED 4.2 H0540090
C***** IN SUBSEQUENT TEST SEGMENTS. H0540100
C***** H0540110
C***** ARITHMETIC EXPRESSIONS ARE - H0540120
C***** INTEGER VARIABLE H0540130
C***** INTEGER VARIABLE + OR - A CONSTANT H0540140
C***** LOGICAL EXPRESSIONS ARE - H0540150
C***** LOGICAL VARIABLE H0540160
C***** .NOT. LOGICAL VARIABLE H0540170
C***** H0540180
C***** S P E C I F I C A T I O N S SEGMENT 054 H0540190
C***** H0011860
C***** WHEN EXECUTING ONLY SEGMENT 054, REMOVE THE PRECEDING H0011865
C***** SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS WHICH APPEAR H0011870
C***** AS COMMENTS MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0011875
C***** H0011880
C= LOGICAL LVB, L1B(10), LNVB H0011885
C***** H0011890
C***** I N P U T - O U T P U T T A P E ASSIGNMENT STATEMENTS. H0540200
C***** IRVI = 5 H0071800
C***** NUVI = 6 H0071805
C***** IDENTIFY THE SOURCE OF THE TEST PROGRAMS H0071810
C***** WRITE(NUVI,0071) H0071815
0071 FORMAT (41H1 F O R T R A N T E S T P R O G R A M S// H0071820
1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS// H0071825
3 37H FOR USE ON LARGE FORTRAN PROCESSORS // H0071830
4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966// H0071835
5 23H VERSION 3 PART 5 ///) H0071840
C***** 3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER H0071845
C PREPARED BY USER H0071850
C READ, NO LIST H0071855
C PREPARED BY USER H0071860
C READ, NO LIST H0071865
C PREPARED BY USER H0071870
C READ, NO LIST H0071875
C READ(IRVI,0070) H0071880
C READ(IRVI,0072) H0071885
C READ(IRVI,0073) H0071890
0070 FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 /) H0071895
0072 FORMAT(40H TEST PROGRAMS /) H0071900
0073 FORMAT(40H FORTRAN COMPILER /) H0071905
C WRITE(NUVI,0070) H0071910
C WRITE(NUVI,0072) H0071915
C WRITE(NUVI,0073) H0071920
C WRITE(NUVI,7540) H0540210

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IVI = -8	H0540220
JVI = 0	H0540230
KVI = 2	H0540240
MVI = -4	H0540250
LVB = .TRUE.	H0540260
LNVB = .FALSE.	H0540270
C***** LOGICAL ARRAY L1B SHOULD CONTAIN ALL .TRUE. IF TEST IS CORRECT.	H0540280
NVI = 1	H0540290
IF (IVI) 541, 542, 542	H0540300
544 IF (JVI) 542, 541, 542	H0540310
545 IF (KVI) 542, 542, 541	H0540320
C***** ZERO IS NEITHER POSITIVE NOR NEGATIVE	H0540330
546 NAVI = IVI * JVI	H0540340
IF (NAVI) 542, 541, 542	H0540350
547 NAVI = JVI * MVI	H0540360
IF (NAVI) 542, 541, 542	H0540370
548 NAVI = JVI / MVI	H0540380
IF (NAVI) 542, 541, 542	H0540390
549 IF (MVI + 4) 542, 541, 542	H0540400
7543 IF (KVI - 2) 542, 541, 542	H0540410
C***** LOGICAL IF FOLLOWED BY GO TO	H0540420
7544 IF (LVB) GO TO 541	H0540430
GO TO 542	H0540440
7545 IF (.NOT.LNVB) GO TO 541	H0540450
542 L1B(NVI) = .FALSE.	H0540460
GO TO 543	H0540470
541 L1B(NVI) = .TRUE.	H0540480
543 NVI = NVI + 1	H0540490
GO TO (544,544,545,546,547,548,549,7543,7544,7545,7546), NVI	H0540500
7546 WRITE (NUVI,7541) L1B	H0540510
WRITE (NUVI,7542)	H0540520
7540 FORMAT (2H1 ,30HSIMIF - (054) SIMPLE ARITH. IF/19X,14HAND LOGICAL	H0540530
-IF/20H ASA REF. - 7.1.2.2/ 13X, 7H7.1.2.3 /19H RESULTS)	H0540540
7541 FORMAT (/L4)	H0540550
7542 FORMAT (/36H THE TEN ANSWERS ABOVE MUST BE TRUE)	H0540560
C***** END OF TEST SEGMENT 054	H0540570
C***** WHEN EXECUTING ONLY SEGMENT 054, THE STOP AND END CARDS	H0540580
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0540590
C***** IN COLUMNS 1 AND 2 REMOVED.	H0540600
C= STOP	H0540610
C= END	H0540620
C*****	H0550010
C*****	H0550020
C***** IFABS - (055)	H0550030
C*****	H0550040
C*****	H0550050
C***** GENERAL PURPOSE	ASA REF H0550060
C***** TEST INTRINSIC FUNCTION ABS,IABS (ABSOLUTE VALUE)	8.2 H0550070
C*****	H0550080
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0550090
C*****	H0071925
C***** WHEN EXECUTING ONLY SEGMENT 055, THE FOLLOWING STATEMENT	H0071930
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0071935
C*****	H0071940
C= NUVI = 6	H0071945
C*****	H0071950
WRITE(NUVI,0550)	H0550100
0550 FORMAT(37H1 IFABS - (055) INTRINSIC FUNCTIONS--/10X,26HABS, IABS (	H0550110
1ABSOLUTE VALUE)/17H ASA REFS. - 8.2/19H RESULTS)	H0550120
C***** HEADER FOR SEGMENT 055 WRITTEN	H0550130
C***** SINGLE PRECISION REAL ARGUMENT	H0550140
MCGVI = 1	H0550150
CMAVS = 1.000789	H0550160
CMBVS = -0.2E2	H0550170
CMCVS = -2.0	H0550180
CMDVS = 2.0	H0550190
CMFVS = -4.0	H0550200
CMEVS = ABS(CMAVS)	H0550210

CMEVS = CMEVS - 1.000789	H0550220
WRITE (NUVI,0557) CMEVS	H0550230
CMBVS = ABS(CMBVS)	H0550240
CMEVS = CMBVS - 0.2E2	H0550250
WRITE (NUVI,0557) CMEVS	H0550260
CMEVS = 2.0*CMCVS+ABS(2.0*CMFVS+ABS(CMCVS*CMDVS**MCGVI))	H0550270
WRITE (NUVI,0557) CMEVS	H0550280
CMEVS = CMFVS+CMDVS+ABS(CMCVS+ABS(CMFVS)-ABS(CMDVS-CMCVS))	H0550290
WRITE (NUVI,0557) CMEVS	H0550300
0557 FORMAT (/2X,F15.1)	H0550310
0558 FORMAT (/2X,37HTHE ABOVE ANSWERS SHOULD ALL BE 0 FOR/2X,	H0550320
1 35HTHIS TEST SEGMENT TO BE SUCCESSFUL.)	H0550330
C***** INTEGER ARGUMENT	H0550340
MCAVI = 25	H0550350
MCBVI = 4	H0550360
MCCVI = -129	H0550370
MCDVI = -2	H0550380
MCEVI = 2	H0550390
MCFVI = IABS(MCAVI)	H0550400
MCFVI = MCFVI -25	H0550410
WRITE (NUVI,0551) MCFVI	H0550420
MCFVI = IABS(MCDVI+IABS(MCBVI/MCDVI)-IABS(MCEVI**2))-MCBVI	H0550430
WRITE (NUVI,0551) MCFVI	H0550440
MCCVI = IABS(MCCVI)	H0550450
MCFVI = MCCVI - 129	H0550460
WRITE (NUVI,0551) MCFVI	H0550470
0551 FORMAT (/10X,I5)	H0550480
WRITE (NUVI,0558)	H0550490
C***** END OF TEST SEGMENT 055	H0550500
C***** WHEN EXECUTING ONLY SEGMENT 055, THE STOP AND END CARDS	H0550510
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0550520
C***** IN COLUMNS 1 AND 2 REMOVED.	H0550530
C= STOP	H0550540
C= END	H0550550
C*****	H0560010
C*****	H0560020
C***** IFFLT - (056)	H0560030
C*****	H0560040
C*****	H0560050
C***** GENERAL PURPOSE	ASA REF H0560060
C***** TEST INTRINSIC FUNCTION FLOAT (CONVERSION FROM	8.2 H0560070
C***** INTEGER TO REAL)	(TABLE 3)H0560080
C*****	H0560090
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0560100
C*****	H0071955
C***** WHEN EXECUTING ONLY SEGMENT 056, THE FOLLOWING STATEMENT	H0071960
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0071965
C*****	H0071970
C= NUVI = 6	H0071975
C*****	H0071980
WRITE (NUVI,0560)	H0560110
0560 FORMAT (1H1,1X,34HIFLT - (056) INTRINSIC FUNCTION--/16X,	H0560120
15HFLOAT/ 2X,14HASA REF. - 8.2/2X,7HRESULTS)	H0560130
C***** HEADER FOR SEGMENT 056	H0560140
C***** ARGUMENT IS INTEGER, FUNCTION IS REAL	H0560150
MCAVI = 64	H0560160
MCBVI = -512	H0560170
MCCVI = 2	H0560180
MCDVI = 4	H0560190
MCEVI = 8	H0560200
CMAVS = FLOAT(MCAVI)	H0560210
CMBVS = CMAVS - 64.0	H0560220
WRITE (NUVI,0561) CMBVS	H0560230
CMAVS = FLOAT(MCBVI)	H0560240
CMBVS = CMAVS + 512.0	H0560250
WRITE (NUVI,0561) CMBVS	H0560260
CMBVS= FLOAT(-2*MCEVI)+FLOAT(MCCVI*MCDVI)*FLOAT(MCEVI/MCDVI)-	H0560270
- FLOAT(MCDVI**MCCVI) + 16.0	H0560280

WRITE (NUVI,0561) CMBVS	H0560290
WRITE (NUVI,0562)	H0560300
WRITE (NUVI,0563)	H0560310
0561 FORMAT (/2X,F15.1)	H0560320
0562 FORMAT (/2X,37HTHE ABOVE ANSWERS SHOULD ALL BE 0 FOR)	H0560330
0563 FORMAT (2X,35HTHIS TEST SEGMENT TO BE SUCCESSFUL.)	H0560340
C***** END OF TEST SEGMENT 056	H0560350
C***** WHEN EXECUTING ONLY SEGMENT 056, THE STOP AND END CARDS	H0560360
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0560370
C***** IN COLUMNS 1 AND 2 REMOVED.	H0560380
C= STOP	H0560390
C= END	H0560400
C*****	H0570010
C*****	H0570020
C***** IFFIX - (057)	H0570030
C*****	H0570040
C*****	H0570050
C***** GENERAL PURPOSE	ASA REF H0570060
C***** TEST INTRINSIC FUNCTION - IFFIX - (CONVERSION FROM	8.2 H0570070
C***** REAL TO INTEGER)	(TABLE 3) H0570080
C*****	H0570090
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0570100
C*****	H0071985
C***** WHEN EXECUTING ONLY SEGMENT 057, THE FOLLOWING STATEMENT	H0071990
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0071995
C*****	H0072000
C= NUVI = 6	H0072005
C*****	H0072010
WRITE (NUVI,0570)	H0570110
0570 FORMAT (1H1,1X,34H IFFIX - (057) INTRINSIC FUNCTION--/16X,	4H0570120
1H IFFIX//2X,14H ASA REF. - 8.2//2X,7H RESULTS)	H0570130
C***** HEADER FOR SEGMENT 057	H0570140
C***** SINGLE PRECISION ARGUMENT, INTEGER FUNCTION	H0570150
CMAVS = 2.4567	H0570160
CMBVS = -0.2001E2	H0570170
CMCVS = +5.61E-1	H0570180
CMDVS = -123.456E0	H0570190
CMEVS = 789.9876E-2	H0570200
CMFVS = 2.0	H0570210
CMGVS = -0.5	H0570220
MCAVI = IFFIX(CMAVS)	H0570230
MCBVI = MCAVI - 2	H0570240
WRITE (NUVI,0571) MCBVI	H0570250
MCAVI = IFFIX(CMBVS)	H0570260
MCBVI = MCAVI + 20	H0570270
WRITE (NUVI,0571) MCBVI	H0570280
MCAVI = IFFIX(CMCVS)	H0570290
WRITE (NUVI,0571) MCAVI	H0570300
MCAVI = IFFIX(CMDVS)	H0570310
MCBVI = MCAVI + 123	H0570320
WRITE (NUVI,0571) MCBVI	H0570330
MCAVI = IFFIX(CMEVS)	H0570340
MCBVI = MCAVI - 7	H0570350
WRITE (NUVI,0571) MCBVI	H0570360
MCBVI = IFFIX(CMBVS*CMGVS)*IFFIX(CMDVS/CMFVS)-	H0570370
- IFFIX(CMBVS**IFFIX(CMFVS))+1010	H0570380
WRITE(NUVI,0571) MCBVI	H0570390
WRITE (NUVI,0572)	H0570400
WRITE (NUVI,0573)	H0570410
0571 FORMAT (/10X,16)	H0570420
0572 FORMAT (/2X,37HTHE ABOVE ANSWERS SHOULD ALL BE 0 FOR)	H0570430
0573 FORMAT (2X,35HTHIS TEST SEGMENT TO BE SUCCESSFUL.)	H0570440
C***** END OF TEST SEGMENT 057	H0570450
C***** WHEN EXECUTING ONLY SEGMENT 057, THE STOP AND END CARDS	H0570460
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0570470
C***** IN COLUMNS 1 AND 2 REMOVED.	H0570480
C= STOP	H0570490
C= END	H0570500


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C*****H0580010
C*****H0580020
C*****      IFSGN - (058)H0580030
C*****H0580040
C*****H0580050
C*****  GENERAL PURPOSE      ASA REF H0580060
C*****  TEST INTRINSIC FUNCTION - SIGN, ISIGN - (TRANSFER 8.2/31-32H0580070
C*****  OF SIGN - SIGN OF A2 TIMES ABS(A1) ) (TABLE 3)H0580080
C*****H0580090
C*****  O U T P U T T A P E  ASSIGNMENT STATEMENT.  NO INPUT TAPE. H0580100
C*****H0072015
C*****  WHEN EXECUTING ONLY SEGMENT 058, THE FOLLOWING STATEMENT H0072020
C*****  NUVI = 6  MUST HAVE THE  C= IN COLUMNS 1 AND 2 REMOVED. H0072025
C*****H0072030
C=      NUVI = 6H0072035
C*****H0072040
C*****  WRITE (NUVI,0580)H0580110
0580  FORMAT (1H1,1X,35HIFSGN - (058) INTRINSIC FUNCTIONS--/16X, 24H0580120
      1  HSIGN, ISIGN (TRANSFER OF/16X,14HARGUMENT SIGN)/2X,14HASA REF. H0580130
      2- 8.2/2X,7HRESULTS)H0580140
C*****  HEADER FOR SEGMENT 058H0580150
C*****  ARGUMENTS AND FUNCTION ARE ALL REAL-TYPE (SIGN)H0580160
      CMAVS = 1.078H0580170
      CMBVS = -23.0E1H0580180
      CMCVS = -5.4567H0580190
      CMDVS = 7.567E-1H0580200
      CMGVS = +2.0H0580210
      CMHVS = -4.0H0580220
      CMIVS = +8.0H0580230
      CMEVS = SIGN(CMAVS,CMBVS)H0580240
      CMFVS = CMEVS + 1.078H0580250
      WRITE (NUVI,0581) CMFVSH0580260
      CMEVS = SIGN(CMAVS,CMDVS)H0580270
      CMFVS = CMEVS - 1.078H0580280
      WRITE (NUVI,0581) CMFVSH0580290
      CMEVS = SIGN(CMBVS,CMCVS)H0580300
      CMFVS = CMEVS + 23.0E1H0580310
      WRITE (NUVI,0581) CMFVSH0580320
      CMEVS = SIGN(CMBVS,CMDVS)H0580330
      CMFVS = CMEVS - 23.0E1H0580340
      WRITE (NUVI,0581) CMFVSH0580350
      CMFVS = SIGN(CMGVS,CMHVS)*SIGN(CMHVS,CMIVS)+H0580360
      - SIGN(SIGN(CMIVS,CMBVS),SIGN(CMHVS,CMGVS))H0580370
      WRITE(NUVI,0581) CMFVSH0580380
C*****  ARGUMENTS AND FUNCTION ARE ALL INTEGER-TYPE (ISIGN)H0580390
      MCAVI = 24H0580400
      MCBVI = +167H0580410
      MCCVI = -5980H0580420
      MCDVI = -12345H0580430
      MCGVI = 2H0580440
      MCHVI = -4H0580450
      MCIVI = 8H0580460
      MCEVI = ISIGN(MCAVI,MCBVI)H0580470
      MCFVI = MCEVI - 24H0580480
      WRITE (NUVI,0582) MCFVIH0580490
      MCEVI = ISIGN(MCBVI,MCCVI)H0580500
      MCFVI = MCEVI + 167H0580510
      WRITE (NUVI,0582) MCFVIH0580520
      MCEVI = ISIGN(MCCVI,MCDVI)H0580530
      MCFVI = MCEVI + 5980H0580540
      WRITE (NUVI,0582) MCFVIH0580550
      MCEVI = ISIGN(MCDVI,MCAVI)H0580560
      MCFVI = MCEVI - 12345H0580570
      WRITE (NUVI,0582) MCFVIH0580580
      MCFVI = ISIGN(ISIGN(MCGVI*MCHVI+(2*MCIVI),MCIVI/MCGVI+MCCVI)+H0580590
      1  ISIGN(+8,MCHVI/MCGVI+MCCVI),MCIVI) - MCHVI *2H0580600
      WRITE(NUVI,0582)MCFVIH0580610
      WRITE (NUVI,0583)H0580620

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	WRITE(NUVI,0584)	H0580630
0581	FDRMAT (/2X,F15.1)	H0580640
0582	FORMAT (/10X,I5)	H0580650
0583	FDRMAT (/2X,37H THE ABOVE ANSWERS SHOULD ALL BE 0 FOR)	H0580660
0584	FORMAT (2X,35H THIS TEST SEGMENT TO BE SUCCESSFUL.)	H0580670
C*****	END OF TEST SEGMENT 058	H0580680
C*****	WHEN EXECUTING ONLY SEGMENT 058, THE STDP AND END CARDS	H0580690
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0580700
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0580710
C=	STDP	H0580720
C=	END	H0580730
C*****		H0590010
C*****		H0590020
C*****	IFDAB - (059)	H0590030
C*****		H0590040
C*****		H0590050
C*****	GENERAL PURPOSE	ASA REF H0590060
C*****	TEST INTRINSIC FUNCTION DABS (ABSOLUTE VALUE OF	8.2 H0590070
C*****	A DOUBLE PRECISION ARGUMENT)	(TABLE 3) H0590080
C*****		H0590090
C*****	S P E C I F I C A T I O N S SEGMENT 059	H0590100
C*****		H0011895
C*****	WHEN EXECUTING ONLY SEGMENT 059, THE SPECIFICATION STATEMENTS	H0011900
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0011905
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0011910
C*****		H0011915
C=	DOUBLE PRECISION DPAVD,DPBVD,DPCVD,DPDVD,DPEVD,DPFVD,DPGVD	H0011920
C*****		H0011925
C*****	D U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0590110
C*****		H0072045
C*****	WHEN EXECUTING ONLY SEGMENT 059, THE FOLLOWING STATEMENT	H0072050
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072055
C*****		H0072060
C=	NUVI = 6	H0072065
C*****		H0072070
	WRITE (NUVI,0590)	H0590120
0590	FDRMAT (1H1,1X,34H IFDAB - (059) INTRINSIC FUNCTION--/16X,	H0590130
	123H DABS (ABSOLUTE VALUE OF/16X,16H A D.P. ARGUMENT)/ 2X,	H0590140
	214H ASA REF. - 8.2//	H0590150
	32X,7H RESULTS)	H0590160
C*****	HEADER FOR SEGMENT 059 WRITTEN	H0590170
C*****	ARGUMENT AND FUNCTION ARE DOUBLE PRECISION	H0590180
	DPAVD = 1.23456789012340	H0590190
	DPBVD = -2.000	H0590200
	DPCVD = -39.468024681357D-1	H0590210
	DPDVD = 2.000	H0590220
	DPGVD = -4.000	H0590230
	DPEVD = 1.000	H0590240
	DPEVD = DABS(DPAVD)	H0590250
	DPFVD = DPEVD - 1.23456789012340	H0590260
	WRITE (NUVI,0591) DPFVD	H0590270
	DPEVD = 2.000*DPBVD+DABS(DPDVD*DPGVD+DABS(DPGVD/(2.000*DPDVD)	H0590280
	- *DPDVD**2))	H0590290
	WRITE (NUVI,0591) DPEVD	H0590300
	DPEVD = 3.000	H0590310
	DPEVD = DABS(DPCVD)	H0590320
	DPFVD = DPEVD - 39.468024681357D-1	H0590330
	WRITE (NUVI,0591) DPFVD	H0590340
	DPEVD = 4.000	H0590350
	DPEVD = DPGVD +DPDVD+DABS(DPBVD+DABS(DPGVD)-DABS(DPDVD-DPBVD))	H0590360
	WRITE (NUVI,0591) DPEVD	H0590370
	WRITE (NUVI,0592)	H0590380
	WRITE (NUVI,0593)	H0590390
0591	FDRMAT (/ D22.10)	H0590400
0592	FDRMAT (/ 39H THE ABOVE ANSWERS SHOULD ALL BE 0 FOR)	H0590410
0593	FORMAT (36H THIS TEST SEGMENT TO BE SUCCESSFUL)	H0590420
C*****	END OF TEST SEGMENT 059	H0590430
C*****	WHEN EXECUTING ONLY SEGMENT 059, THE STDP AND END CARDS	H0590440

C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0590450
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0590460
C=	STOP	H0590470
C=	END	H0590480
C*****		H0600010
C*****		H0600020
C*****	IFTRN - (060)	H0600030
C*****		H0600040
C*****		H0600050
C*****	GENERAL PURPOSE	ASA REF H0600060
C*****	TEST INTRINSIC FUNCTIONS AINT,INT, AND IDINT --	8.2 H0600070
C*****	TRUNCATION (SIGN OF A * LARGEST INTEGER LE ABS(A)) (TABLE 3)	H0600080
C*****		H0600090
C*****	S P E C I F I C A T I O N S SEGMENT 060	H0600100
C*****		H0011930
C*****	WHEN EXECUTING ONLY SEGMENT 060, THE SPECIFICATION STATEMENTS	H0011935
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0011940
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0011945
C*****		H0011950
C=	DOUBLE PRECISION DPAVD,DPBVD,DPCVD,DPDVS	H0011955
C*****		H0011960
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0600110
C*****		H0072075
C*****	WHEN EXECUTING ONLY SEGMENT 060, THE FOLLOWING STATEMENT	H0072080
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072085
C*****		H0072090
C=	NUVI = 6	H0072095
C*****		H0072100
	WRITE (NUVI,0600)	H0600120
0600	FORMAT (1H1, 1X,34HIFTRN - (060) INTRINSIC FUNCTION--/10X,29H AINT,	H0600130
	1 INT, IDINT (TRUNCATION)//16H ASA REF. - 8.2//2X,7H RESULTS)	H0600140
C*****	HEADER FOR SEGMENT 060 WRITTEN	H0600150
C*****	TEST OF AINT - REAL ARGUMENT AND REAL FUNCTION	H0600160
	CMAVS = 1.999	H0600170
	CMBVS = 999.001	H0600180
	CMCVS = -0.45678	H0600190
	CMDVS = -9876.0	H0600200
	CMEVS = 1.0	H0600210
	CMEVS = AINT(CMAVS)	H0600220
	CMFVS = CMEVS - 1.0	H0600230
	WRITE (NUVI,0601) CMFVS	H0600240
	CMEVS = 2.0	H0600250
	CMEVS = AINT(CMBVS)	H0600260
	CMFVS = CMEVS - 999.0	H0600270
	WRITE (NUVI,0601) CMFVS	H0600280
	CMEVS = 3.0	H0600290
	CMEVS = AINT(CMCVS)	H0600300
	CMFVS = CMEVS	H0600310
	WRITE (NUVI,0601) CMFVS	H0600320
	CMEVS = 4.0	H0600330
	CMEVS = AINT(CMDVS)	H0600340
	CMFVS = CMEVS + 9876.0	H0600350
	WRITE (NUVI,0601) CMFVS	H0600360
	WRITE (NUVI,0603)	H0600370
C*****	TEST OF INT - REAL ARGUMENT BUT INTEGER FUNCTION	H0600380
	MCAVI = 5	H0600390
	MCAVI = INT(CMAVS)	H0600400
	MCBVI = MCAVI - 1	H0600410
	WRITE (NUVI,0604) MCBVI	H0600420
	MCAVI = 6	H0600430
	MCAVI = INT(CMBVS)	H0600440
	MCBVI = MCAVI - 999	H0600450
	WRITE (NUVI,0604) MCBVI	H0600460
	MCAVI = 7	H0600470
	MCAVI = INT(CMCVS)	H0600480
	WRITE (NUVI,0604) MCAVI	H0600490
	MCAVI = 8	H0600500
	MCAVI = INT(CMDVS)	H0600510

MCBVI = MCAVI + 9876	H0600520
WRITE (NUVI,0604) MCBVI	H0600530
WRITE (NUVI,0605)	H0600540
C***** TEST OF IDINT - DOUBLE PRECISION ARGUMENT AND FUNCTION	H0600550
DPAVD = 1.9999999999999D1	H0600560
DPBVD = +99.000500189123D0	H0600570
DPCVD = -0.9876543210198D0	H0600580
DPDVD = -456.78909876514D1	H0600590
MCAVI = 9	H0600600
MCAVI = IDINT(DPAVD)	H0600610
MCBVI = MCAVI - 19	H0600620
WRITE (NUVI,0606) MCBVI	H0600630
MCAVI = 10	H0600640
MCAVI = IDINT(DPBVD)	H0600650
MCBVI = MCAVI - 99	H0600660
WRITE (NUVI,0606) MCBVI	H0600670
MCAVI = 11	H0600680
MCAVI = IDINT(DPCVD)	H0600690
WRITE (NUVI,0606) MCAVI	H0600700
MCAVI = 12	H0600710
MCAVI = IDINT(DPDVD)	H0600720
MCBVI = MCAVI + 4567	H0600730
WRITE (NUVI,0606) MCBVI	H0600740
WRITE (NUVI,0607)	H0600750
WRITE (NUVI,0608)	H0600760
0601 FORMAT (/F11.1)	H0600770
0603 FORMAT (2X,16HEND OF AINT TEST)	H0600780
0604 FORMAT (/I10)	H0600790
0605 FORMAT (2X,15HEND OF INT TEST)	H0600800
0606 FORMAT (/I10)	H0600810
0607 FORMAT (2X,17HEND OF IDINT TEST)	H0600820
0608 FORMAT (40H ALL ABOVE ANSWERS SHOULD BE 0 FOR THIS/ 1 31H TEST SEGMENT TO BE SUCCESSFUL)	H0600830
C***** END OF TEST SEGMENT 060	H0600840
C***** WHEN EXECUTING ONLY SEGMENT 060, THE STOP AND END CARDS	H0600850
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0600860
C***** IN COLUMNS 1 AND 2 REMOVED.	H0600870
C= STOP	H0600880
C= END	H0600890
C*****	H0600900
C*****	H0610010
C*****	H0610020
C***** IFMOD - (061)	H0610030
C*****	H0610040
C*****	H0610050
C***** GENERAL PURPOSE	ASA REF H0610060
C***** TEST INTRINSIC FUNCTION AMOD AND MOD - REMAINDERING,	8.2 H0610070
C***** WHICH IS DEFINED AS A1-(A1/A2)A2 WHERE (X) IS AN	(TABLE 3) H0610080
C***** INTEGER WHOSE MAGNITUDE IS LE ABS(X) AND WHOSE SIGN	H0610090
C***** IS THE SAME AS X.	H0610100
C*****	H0610110
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0610120
C*****	H0072105
C***** WHEN EXECUTING ONLY SEGMENT 061, THE FOLLOWING STATEMENT	H0072110
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072115
C*****	H0072120
C= NUVI = 6	H0072125
C*****	H0072130
WRITE (NUVI,0610)	H0610130
0610 FORMAT (1H1, 1X,34HIFMOD - (061) INTRINSIC FUNCTION--/16X,24HAMOD, 1 MOD (REMAINDERING)//16H ASA REF. - 8.2//2X, 2 7HRESULTS)	H0610140
C*****	H0610150
C*****	H0610160
C***** HEADER FOR SEGMENT 061 WRITTEN	H0610170
C***** TEST OF AMOD - REAL ARGUMENTS AND REAL FUNCTION	H0610180
CMAVS = 16.0625	H0610190
CMBVS = -4.0	H0610200
CMCVS = -8.125	H0610210
CMDVS = 2.5	H0610220
CMEVS = -1.0	H0610230

CMFVS = 1.0	H0610240
CMFVS = AMOD(CMAVS,CMBVS)	H0610250
CMGVS = CMFVS - 0.0625	H0610260
WRITE (NUVI,0611) CMGVS	H0610270
CMFVS = 2.0	H0610280
CMFVS = AMOD(CMCVS,CMDVS)	H0610290
CMGVS = CMFVS + 0.625	H0610300
WRITE (NUVI,0611) CMGVS	H0610310
CMFVS = 3.0	H0610320
CMFVS = AMOD(CMBVS,CMEVS)	H0610330
CMGVS = CMFVS + 0.0	H0610340
WRITE (NUVI,0611) CMGVS	H0610350
CMFVS = 4.0	H0610360
CMFVS = AMOD(CMBVS,CMAVS)	H0610370
CMGVS = CMFVS + 4.0	H0610380
WRITE (NUVI,0611) CMGVS	H0610390
WRITE (NUVI,0612)	H0610400
C***** TEST OF MOD - INTEGER ARGUMENTS AND INTEGER FUNCTION	H0610410
MCAVI = 35	H0610420
MCBVI = -5	H0610430
MCCVI = -998	H0610440
MCOVI = 9	H0610450
MCEVI = 10	H0610460
MCFVI = 1	H0610470
MCFVI = MOD(MCAVI,MCBVI)	H0610480
MCGVI = MCFVI + 0	H0610490
WRITE (NUVI,0613) MCGVI	H0610500
MCFVI = 2	H0610510
MCFVI = MOD(MCCVI,MCOVI)	H0610520
MCGVI = MCFVI + 8	H0610530
WRITE (NUVI,0613) MCGVI	H0610540
MCFVI = 3	H0610550
MCFVI = MOD(MCAVI,MCOVI)	H0610560
MCGVI = MCFVI - 8	H0610570
WRITE (NUVI,0613) MCGVI	H0610580
MCFVI = 4	H0610590
MCFVI = MOD(MCBVI,MCEVI)	H0610600
MCGVI = MCFVI + 5	H0610610
WRITE (NUVI,0613) MCGVI	H0610620
WRITE (NUVI,0614)	H0610630
0611 FORMAT (/F11.1)	H0610640
0612 FORMAT (/2X,17HEND OF AMOD TEST.)	H0610650
0613 FORMAT (/I10)	H0610660
0614 FORMAT (/2X,16HEND OF MOD TEST./2X,	H0610670
138HALL ABOVE ANSWERS SHOULD BE 0 FOR THIS/2X,	H0610680
230HTEST SEGMENT TO BE SUCCESSFUL.)	H0610690
C***** END OF TEST SEGMENT 061	H0610700
C***** WHEN EXECUTING ONLY SEGMENT 061, THE STOP AND ENO CARDS	H0610710
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0610720
C***** IN COLUMNS 1 AND 2 REMOVED.	H0610730
C= STOP	H0610740
C= ENO	H0610750
C*****	H0620010
C*****	H0620020
C***** IFMAX - (062)	H0620030
C*****	H0620040
C*****	H0620050
C***** GENFRAL PURPOSE	ASA REF. H0620060
C***** TLST OF INTRINSIC FUNCTION AMAX0,AMAX1,MAX0,MAX1 AND	8.2 H0620070
C***** OMAX1 -- CHOOSING LARGST VALUE	(TABLE 3) H0620080
C*****	H0620090
C***** S P E C I F I C A T I O N S SEGMENT 062	H0620100
C*****	H0011965
C***** WHEN EXECUTING ONLY SEGMENT 062, THE SPECIFICATION STATEMENTS	H0011970
C***** WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0011975
C***** IN COLUMNS 1 AND 2 REMOVED.	H0011980
C*****	H0011985
C= DOUBLE PRECISION MCAVO,MCBVO,MCCVO,MCOVD,MCEVD,MCFVO	H0011990

C*****		H0011995
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0620110
C*****		H0072135
C*****	WHEN EXECUTING ONLY SEGMENT 062, THE FOLLOWING STATEMENT	H0072140
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072145
C*****		H0072150
C=	NUVI = 6	H0072155
C*****		H0072160
	WRITE (NUVI,0620)	H0620120
0620	FORMAT (1H1, 1X,35HIFMAX - (062) INTRINSIC FUNCTIONS--/13X,28HAMAXH0620130	
	10,AMAX1,MAX0, MAX1,DMAX1 / 2X,14HASA REF. - 8.2//2X,7HRESULTS)H0620140	
C*****	TEST OF AMAX0 - INTEGER ARGUMENTS, REAL FUNCTION 8.2/19H0620150	
C*****	TWO ARGUMENTS FOR AMAX0	H0620160
	WRITE (NUVI,0625)	H0620170
	MCAVI = 128	H0620180
	MCBVI = 64	H0620190
	MCCVI = -8	H0620200
	MCDVI = -4096	H0620210
	CMEVS = 1.0	H0620220
	CMEVS = AMAX0(MCAVI,MCBVI)	H0620230
	CMFVS = CMEVS - 128.0	H0620240
	WRITE (NUVI,0621) CMFVS	H0620250
	CMEVS = 2.0	H0620260
	CMEVS = AMAX0(MCCVI,MCCVI)	H0620270
	CMFVS = CMEVS + 8.0	H0620280
	WRITE (NUVI,0621) CMFVS	H0620290
	CMEVS = 3.0	H0620300
	CMEVS = AMAX0(MCAVI,MCCVI)	H0620310
	CMFVS = CMEVS - 128.0	H0620320
	WRITE (NUVI,0621) CMFVS	H0620330
	CMEVS = 4.0	H0620340
	CMEVS = AMAX0(MCCVI,MCDVI)	H0620350
	CMFVS = CMEVS + 8.0	H0620360
	WRITE (NUVI,0621) CMFVS	H0620370
	CMEVS = 5.0	H0620380
	CMEVS = AMAX0(MCDVI,MCBVI)	H0620390
	CMFVS = CMEVS - 64.0	H0620400
	WRITE (NUVI,0621) CMFVS	H0620410
	MCGVI = 2	H0620420
	WRITE (NUVI,0622) MCGVI	H0620430
C*****	THREE ARGUMENTS FOR AMAX0	H0620440
	CMEVS = 6.0	H0620450
	CMEVS = AMAX0(MCCVI,MCBVI,MCAVI)	H0620460
	CMFVS = CMEVS - 128.0	H0620470
	WRITE (NUVI,0621) CMFVS	H0620480
	CMEVS = 7.0	H0620490
	CMEVS = AMAX0(MCDVI,MCBVI,MCCVI)	H0620500
	CMFVS = CMEVS - 64.0	H0620510
	WRITE (NUVI,0621) CMFVS	H0620520
	CMEVS = 8.0	H0620530
	CMEVS = AMAX0(MCDVI,MCCVI,MCCVI)	H0620540
	CMFVS = CMEVS + 8.0	H0620550
	WRITE (NUVI,0621) CMFVS	H0620560
	MCGVI = 3	H0620570
	WRITE (NUVI,0622) MCGVI	H0620580
C*****	FOUR OR FIVE ARGUMENTS FOR AMAX0	H0620590
	CMEVS = 9.0	H0620600
	CMEVS = AMAX0(MCAVI,MCBVI,MCCVI,MCDVI)	H0620610
	CMFVS = CMEVS - 128.0	H0620620
	WRITE (NUVI,0621) CMFVS	H0620630
	CMEVS = 10.0	H0620640
	CMEVS = AMAX0(MCAVI,MCBVI,MCCVI,MCDVI,MCAVI)	H0620650
	CMFVS = CMEVS - 128.0	H0620660
	WRITE (NUVI,0621) CMFVS	H0620670
	WRITE (NUVI,0623)	H0620680
C*****	TEST OF AMAX1 - REAL ARGUMENTS AND FUNCTION 8.2/20H0620690	
C*****	TWO ARGUMENTS FOR AMAX1	H0620700
	WRITE (NUVI,0624)	H0620710

CMAVS = 102.0E0	H0620720
CMBVS = +76.12	H0620730
CMCVS = -85.43E1	H0620740
CMDVS = -0.986	H0620750
CMEVS = AMAX1(CMAVS,CMBVS)	H0620760
CMFVS = CMEVS - 102.0E0	H0620770
WRITE (NUVI,0621) CMFVS	H0620780
CMEVS = AMAX1(CMBVS,CMCVS)	H0620790
CMFVS = CMEVS - 76.12	H0620800
WRITE (NUVI,0621) CMFVS	H0620810
CMEVS = AMAX1(CMDVS,CMCVS)	H0620820
CMFVS = CMEVS + 0.986	H0620830
WRITE (NUVI,0621) CMFVS	H0620840
MCGVI = 2	H0620850
WRITE (NUVI,0622) MCGVI	H0620860
C***** THREE ARGUMENTS FOR AMAX1	H0620870
CMEVS = AMAX1(CMCVS,CMBVS,CMAVS)	H0620880
CMFVS = CMEVS - 102.0E0	H0620890
WRITE (NUVI,0621) CMFVS	H0620900
CMEVS = AMAX1(CMDVS,CMBVS,CMCVS)	H0620910
CMFVS = CMEVS - 76.12	H0620920
WRITE (NUVI,0621) CMFVS	H0620930
CMEVS = AMAX1(CMCVS,CMCVS,CMCVS)	H0620940
CMFVS = CMEVS - CMCVS	H0620950
WRITE (NUVI,0621) CMFVS	H0620960
MCGVI = 3	H0620970
WRITE (NUVI,0622) MCGVI	H0620980
C***** FOUR OR FIVE ARGUMENTS FOR AMAX1	H0620990
CMEVS = AMAX1(CMAVS,CMBVS,CMCVS,CMDVS)	H0621000
CMFVS = CMEVS - 102.0E0	H0621010
WRITE (NUVI,0621) CMFVS	H0621020
CMEVS = AMAX1(CMAVS,CMCVS,CMDVS,CMBVS,CMAVS)	H0621030
CMFVS = CMEVS - 102.0E0	H0621040
WRITE (NUVI,0621) CMFVS	H0621050
WRITE (NUVI,0623)	H0621060
C***** TEST OF MAX0 - INTEGER ARGUMENTS AND FUNCTION	8.2/21H0621070
C***** TWO ARGUMENTS FOR MAX0	H0621080
WRITE (NUVI,0628)	H0621090
MCEVI = MAX0(MCAVI,MCBVI)	H0621100
MCFVI = MCEVI - 128	H0621110
WRITE (NUVI,0626) MCFVI	H0621120
MCEVI = MAX0(MCCVI,MCDVI)	H0621130
MCFVI = MCEVI + 8	H0621140
WRITE (NUVI,0626) MCFVI	H0621150
MCEVI = MAX0(MCBVI,MCCVI)	H0621160
MCFVI = MCEVI - 64	H0621170
WRITE (NUVI,0626) MCFVI	H0621180
MCEVI = MAX0(MCCVI,MCCVI)	H0621190
MCFVI = MCEVI - MCCVI	H0621200
WRITE (NUVI,0626) MCFVI	H0621210
MCGVI = 2	H0621220
WRITE (NUVI,0622) MCGVI	H0621230
C***** THREE ARGUMENTS FOR MAX0	H0621240
MCEVI = MAX0(MCCVI,MCBVI,MCAVI)	H0621250
MCFVI = MCEVI - 128	H0621260
WRITE (NUVI,0626) MCFVI	H0621270
MCEVI = MAX0(MCDVI,MCDVI,MCCVI)	H0621280
MCFVI = MCEVI + 8	H0621290
WRITE (NUVI,0626) MCFVI	H0621300
MCGVI = 3	H0621310
WRITE (NUVI,0622) MCGVI	H0621320
C***** FOUR OR FIVE ARGUMENTS FOR MAX0	H0621330
MCEVI = MAX0(MCDVI,MCCVI,MCBVI,MCAVI)	H0621340
MCFVI = MCEVI - 128	H0621350
WRITE (NUVI,0626) MCFVI	H0621360
MCEVI = MAX0(MCAVI,MCCVI,MCBVI,MCDVI,MCBVI)	H0621370
MCFVI = MCEVI - 128	H0621380
WRITE (NUVI,0626) MCFVI	H0621390

WRITE (NUVI,0623)	H0621400
C***** TEST OF MAX1 - REAL ARGUMENTS AND INTEGER FUNCTION 8.2/22	H0621410
C***** TWO ARGUMENTS FOR MAX1	H0621420
WRITE (NUVI,0629)	H0621430
MCEVI = MAX1(CMAVS,CMBVS)	H0621440
MCFVI = MCEVI - 102	H0621450
WRITE (NUVI,0626) MCFVI	H0621460
MCEVI = MAX1(CMBVS,CMCVS)	H0621470
MCFVI = MCEVI - 76	H0621480
WRITE (NUVI,0626) MCFVI	H0621490
MCEVI = MAX1(CMDVS,CMCVS)	H0621500
MCFVI = MCEVI + 0	H0621510
WRITE (NUVI,0626) MCFVI	H0621520
MCGVI = 2	H0621530
WRITE (NUVI,0622) MCGVI	H0621540
C***** THREE ARGUMENTS FOR MAX1	H0621550
MCEVI = MAX1(CMCVS,CMBVS,CMAVS)	H0621560
MCFVI = MCEVI - 102	H0621570
WRITE (NUVI,0626) MCFVI	H0621580
MCEVI = MAX1(CMDVS,CMCVS,CMBVS)	H0621590
MCFVI = MCEVI - 76	H0621600
WRITE (NUVI,0626) MCFVI	H0621610
MCGVI = 3	H0621620
WRITE (NUVI,0622) MCGVI	H0621630
C***** FOUR OR FIVE ARGUMENTS FOR MAX1	H0621640
MCEVI = MAX1(CMAVS,CMBVS,CMCVS,CMDVS)	H0621650
MCFVI = MCEVI - 102	H0621660
WRITE (NUVI,0626) MCFVI	H0621670
MCEVI = MAX1(CMAVS,CMCVS,CMBVS,CMAVS,CMDVS)	H0621680
MCFVI = MCEVI - 102	H0621690
WRITE (NUVI,0626) MCFVI	H0621700
WRITE (NUVI,0623)	H0621710
C***** TEST OF DMAX1 - DOUBLE PRECISION ARGUMENTS AND FUNCTION 8.2/23	H0621720
C***** TWO ARGUMENTS FOR DMAX1	H0621730
WRITE (NUVI,9999)	H0621740
MCAVD = 23.0D-1	H0621750
MCBVD = 111.789789D0	H0621760
MCCVD = -99.66D-1	H0621770
MCDVD = -456.123D0	H0621780
MCEVD = DMAX1(MCAVD,MCBVD)	H0621790
MCFVD = MCEVD - 111.789789D0	H0621800
WRITE (NUVI,0627) MCFVD	H0621810
MCEVD = DMAX1(MCAVD,MCCVD)	H0621820
MCFVD = MCEVD - 23.0D-1	H0621830
WRITE (NUVI,0627) MCFVD	H0621840
MCEVD = DMAX1(MCDVD,MCCVD)	H0621850
MCFVD = MCEVD + 99.66D-1	H0621860
WRITE (NUVI,0627) MCFVD	H0621870
MCEVD = DMAX1(MCDVD,MCDVD)	H0621880
MCFVD = MCEVD - MCDVD	H0621890
WRITE (NUVI,0627) MCFVD	H0621900
MCGVI = 2	H0621910
WRITE (NUVI,0622) MCGVI	H0621920
C***** THREE ARGUMENTS FOR DMAX1	H0621930
MCEVD = DMAX1(MCAVD,MCCVD,MCBVD)	H0621940
MCFVD = MCEVD - 111.789789D0	H0621950
WRITE (NUVI,0627) MCFVD	H0621960
MCEVD = DMAX1(MCCVD,MCDVD,MCAVD)	H0621970
MCFVD = MCEVD - 23.0D-1	H0621980
WRITE (NUVI,0627) MCFVD	H0621990
MCEVD = DMAX1(MCCVD,MCCVD,MCDVD)	H0622000
MCFVD = MCEVD + 99.66D-1	H0622010
WRITE (NUVI,0627) MCFVD	H0622020
MCGVI = 3	H0622030
WRITE (NUVI,0622) MCGVI	H0622040
C***** FOUR OR FIVE ARGUMENTS FOR DMAX1	H0622050
MCEVD = DMAX1(MCAVD,MCCVD,MCBVD,MCDVD)	H0622060
MCFVD = MCEVD - 111.789789D0	H0622070

WRITE (NUVI,0627) MCFVD	H0622080
MCEVD = DMAX1(MCCVD,MCCVD,MCDVD,MCBVD,MCAVD)	H0622090
MCFVD = MCEVD - 111.789789D0	H0622100
WRITE (NUVI,0627) MCFVD	H0622110
WRITE (NUVI,0623)	H0622120
WRITE (NUVI,9998)	H0622130
0621 FORMAT (F11.1)	H0622140
0622 FORMAT (15X,9H END OF 12,15H-ARGUMENT TEST.)	H0622150
0623 FORMAT (15X,31H END OF 4- OR 5-ARGUMENT TEST.)	H0622160
0624 FORMAT (/2X,15HTEST OF AMAX1--)	H0622170
0625 FORMAT (/2X,15HTEST OF AMAX0--)	H0622180
0626 FORMAT (I10)	H0622190
0627 FORMAT (D22.10)	H0622200
0628 FORMAT (2H1 ,14HTEST OF MAX0--)	H0622210
0629 FORMAT (/2X,14HTEST OF MAX1--)	H0622220
9998 FORMAT (/ 39H THE ABOVE ANSWERS SHOULD ALL BE 0 FOR/2X, 135HTHIS TEST SEGMENT TO BE SUCCESSFUL.)	H0622230
9999 FORMAT (/2X,15HTEST OF DMAX1--)	H0622240
C***** END OF TEST SEGMENT 062	H0622250
C***** WHEN EXECUTING ONLY SEGMENT 062, THE STOP AND END CARDS	H0622260
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0622270
C***** IN COLUMNS 1 AND 2 REMOVED.	H0622280
C= STOP	H0622290
C= END	H0622300
C***** IFMIN - (063)	H0622310
C***** IFMIN - (063)	H0630010
C***** IFMIN - (063)	H0630020
C***** IFMIN - (063)	H0630030
C***** IFMIN - (063)	H0630040
C***** IFMIN - (063)	H0630050
C***** GENERAL PURPOSE	ASA REF H0630060
C***** TEST INTRINSIC FUNCTIONS AMINO,AMIN1,MIN0,MIN1 AND	8.2 H0630070
C***** DMIN1 -- CHOOSING SMALLEST VALUE.	(TABLE 3)H0630080
C***** S P E C I F I C A T I O N S SEGMENT 063	H0630090
C***** S P E C I F I C A T I O N S SEGMENT 063	H0630100
C***** WHEN EXECUTING ONLY SEGMENT 063, THE SPECIFICATION STATEMENTS	H0012000
C***** WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0012005
C***** IN COLUMNS 1 AND 2 REMOVED.	H0012010
C***** IN COLUMNS 1 AND 2 REMOVED.	H0012015
C= DOUBLE PRECISION MCAVD,MCBVD,MCCVD,MCDVD,MCEVD,MCFVD	H0012020
C= DOUBLE PRECISION MCAVD,MCBVD,MCCVD,MCDVD,MCEVD,MCFVD	H0012025
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0012030
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0630110
C***** WHEN EXECUTING ONLY SEGMENT 063, THE FOLLOWING STATEMENT	H0072165
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072170
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072175
C= NUVI = 6	H0072180
C= NUVI = 6	H0072185
C***** NUVI = 6	H0072190
WRITE (NUVI,0630)	H0630120
0630 FORMAT (1H1,1X,35HIFMIN - (063) INTRINSIC FUNCTIONS--/13X,27HAMINO	H0630130
1,AMIN1,MIN0,MIN1,DMIN1/ 2X,14HASA REF. - 8.2//2X,7HRESULTS)	H0630140
C***** TEST OF AMINO - INTEGER ARGUMENTS, REAL FUNCTION	8.2/24H0630150
C***** TWO ARGUMENTS FOR AMINO	H0630160
WRITE (NUVI,0635)	H0630170
MCAVI = 128	H0630180
MCBVI = 64	H0630190
MCCVI = -8	H0630200
MCDVI = -4096	H0630210
CMEVS = AMINO(MCAVI,MCBVI)	H0630220
CMFVS = CMEVS - 64.0	H0630230
WRITE (NUVI,0631) CMFVS	H0630240
CMEVS = AMINO(MCDVI,MCCVI)	H0630250
CMFVS = CMEVS + 4096.0	H0630260
WRITE (NUVI,0631) CMFVS	H0630270
CMEVS = AMINO(MCBVI,MCCVI)	H0630280
CMFVS = CMEVS + 8.0	H0630290
WRITE (NUVI,0631) CMFVS	H0630300
MCGVI = 2	H0630310

WRITE (NUVI,0632) MCGVI	H0630320
C***** THREE-ARGUMENT TEST FOR AMINO	H0630330
CMEVS = AMINO(MCAVI,MCCVI,MCBVI)	H0630340
CMFVS = CMEVS + 8.0	H0630350
WRITE (NUVI,0631) CMFVS	H0630360
CMEVS = AMINO(MCBVI,MCBVI,MCDVI)	H0630370
CMFVS = CMEVS + 4096.0	H0630380
WRITE (NUVI,0631) CMFVS	H0630390
MCGVI = 3	H0630400
WRITE (NUVI,0632) MCGVI	H0630410
C***** FOUR OR FIVE ARGUMENTS FOR AMINO	H0630420
CMEVS = AMINO(MCAVI,MCCVI,MCDVI,MCBVI)	H0630430
CMFVS = CMEVS + 4096.0	H0630440
WRITE (NUVI,0631) CMFVS	H0630450
CMEVS = AMINO(MCCVI,MCBVI,MCCVI,MCAVI,MCDVI)	H0630460
CMFVS = CMEVS + 4096.0	H0630470
WRITE (NUVI,0631) CMFVS	H0630480
WRITE (NUVI,0633)	H0630490
C***** TEST OF AMIN1 - REAL ARGUMENTS, REAL FUNCTION	8.2/25 H0630500
C***** TWO ARGUMENTS TEST FOR AMIN1	H0630510
WRITE (NUVI,0634)	H0630520
CMAVS = 26.5	H0630530
CMBVS = 9.6666	H0630540
CMCVS = -1.65	H0630550
CMDVS = -10.001	H0630560
CMEVS = AMIN1(CMBVS,CMDVS)	H0630570
CMFVS = CMEVS + 10.001	H0630580
WRITE (NUVI,0631) CMFVS	H0630590
CMEVS = AMIN1(CMAVS,CMBVS)	H0630600
CMFVS = CMEVS - 9.6666	H0630610
WRITE (NUVI,0631) CMFVS	H0630620
CMEVS = AMIN1(CMCVS,CMDVS)	H0630630
CMFVS = CMEVS + 10.001	H0630640
WRITE (NUVI,0631) CMFVS	H0630650
CMEVS = AMIN1(CMCVS,CMCVS)	H0630660
CMFVS = CMEVS + 1.65	H0630670
WRITE (NUVI,0631) CMFVS	H0630680
MCGVI = 2	H0630690
WRITE (NUVI,0632) MCGVI	H0630700
C***** THREE-ARGUMENT TEST FOR AMIN1	H0630710
CMEVS = AMIN1(CMBVS,CMCVS,CMDVS)	H0630720
CMFVS = CMEVS + 10.001	H0630730
WRITE (NUVI,0631) CMFVS	H0630740
CMEVS = AMIN1(CMBVS,CMBVS,CMBVS)	H0630750
CMFVS = CMEVS - 9.6666	H0630760
WRITE (NUVI,0631) CMFVS	H0630770
CMEVS = AMIN1(CMAVS,CMBVS,CMCVS)	H0630780
CMFVS = CMEVS + 1.65	H0630790
WRITE (NUVI,0631) CMFVS	H0630800
MCGVI = 3	H0630810
WRITE (NUVI,0632) MCGVI	H0630820
C***** FOUR OR FIVE-ARGUMENT TEST FOR AMIN1	H0630830
CMEVS = AMIN1(CMAVS,CMBVS,CMCVS,CMDVS)	H0630840
CMFVS = CMEVS + 10.001	H0630850
WRITE (NUVI,0631) CMFVS	H0630860
CMEVS = AMIN1(CMAVS,CMCVS,CMBVS,CMCVS,CMDVS)	H0630870
CMFVS = CMEVS + 10.001	H0630880
WRITE (NUVI,0631) CMFVS	H0630890
WRITE (NUVI,0633)	H0630900
C***** TEST OF MINO - INTEGER ARGUMENTS, INTEGER FUNCTION	8.2/26 H0630910
C***** TWO-ARGUMENT TEST FOR MINO	H0630920
WRITE (NUVI,0636)	H0630930
MCEVI = MINO(MCBVI,MCAVI)	H0630940
MCFVI = MCEVI - 64	H0630950
WRITE (NUVI,0639) MCFVI	H0630960
MCEVI = MINO(MCBVI,MCCVI)	H0630970
MCFVI = MCEVI + 8	H0630980
WRITE (NUVI,0639) MCFVI	H0630990

MCEVI = MINO(MCCVI,MCDVI)	H0631000
MCFVI = MCEVI + 4096	H0631010
WRITE (NUVI,0639) MCFVI	H0631020
MCEVI = MINO(MCAVI,0)	H0631030
WRITE (NUVI,0639) MCEVI	H0631040
MCGVI = 2	H0631050
WRITE (NUVI,0632) MCGVI	H0631060
C***** THREE-ARGUMENT TEST FOR MINO	H0631070
MCEVI = MINO(MCAVI,MCCVI,MCBVI)	H0631080
MCFVI = MCEVI + 8	H0631090
WRITE (NUVI,0639) MCFVI	H0631100
MCEVI = MINO(MCCVI,MCAVI,MCDVI)	H0631110
MCFVI = MCEVI + 4096	H0631120
WRITE (NUVI,0639) MCFVI	H0631130
MCGVI = 3	H0631140
WRITE (NUVI,0632) MCGVI	H0631150
C***** FOUR OR FIVE-ARGUMENT TEST FOR MINO	H0631160
MCEVI = MINO(MCBVI,MCAVI,MCCVI,MCDVI)	H0631170
MCFVI = MCEVI + 4096	H0631180
WRITE (NUVI,0639) MCFVI	H0631190
MCEVI = MINO(MCAVI,MCBVI,MCAVI,MCCVI,MCDVI)	H0631200
MCFVI = MCEVI + 4096	H0631210
WRITE (NUVI,0639) MCFVI	H0631220
WRITE (NUVI,0633)	H0631230
C***** TEST OF MIN1 - REAL ARGUMENTS, INTEGER FUNCTION	8.2/27H0631240
C***** TWO-ARGUMENT TEST FOR MIN1	H0631250
WRITE (NUVI,0637)	H0631260
MCEVI = MIN1(CMAVS,CMBVS)	H0631270
MCFVI = MCEVI - 9	H0631280
WRITE (NUVI,0639) MCFVI	H0631290
MCEVI = MIN1(CMCVS,CMDVS)	H0631300
MCFVI = MCEVI + 10	H0631310
WRITE (NUVI,0639) MCFVI	H0631320
MCEVI = MIN1(CMAVS,CMCVS)	H0631330
MCFVI = MCEVI + 1	H0631340
WRITE (NUVI,0639) MCFVI	H0631350
MCGVI = 2	H0631360
WRITE (NUVI,0632) MCGVI	H0631370
C***** THREE-ARGUMENT TEST FOR MIN1	H0631380
MCEVI = MIN1(CMAVS,CMCVS,CMBVS)	H0631390
MCFVI = MCEVI + 1	H0631400
WRITE (NUVI,0639) MCFVI	H0631410
MCEVI = MIN1(CMAVS,CMCVS,CMDVS)	H0631420
MCFVI = MCEVI + 10	H0631430
WRITE (NUVI,0639) MCFVI	H0631440
MCGVI = 3	H0631450
WRITE (NUVI,0632) MCGVI	H0631460
C***** FOUR OR FIVE-ARGUMENT TEST FOR MIN1	H0631470
MCEVI = MIN1(CMAVS,CMBVS,CMDVS,CMCVS)	H0631480
MCFVI = MCEVI + 10	H0631490
WRITE (NUVI,0639) MCFVI	H0631500
MCEVI = MIN1(CMAVS,CMBVS,CMCVS,CMCVS,CMDVS)	H0631510
MCFVI = MCEVI + 10	H0631520
WRITE (NUVI,0639) MCFVI	H0631530
WRITE (NUVI,0633)	H0631540
C***** TEST OF DMIN1 - DOUBLE PRECISION ARGUMENTS, FUNCTION	8.2/28H0631550
C***** TWO-ARGUMENT TEST FOR DMIN1	H0631560
WRITE (NUVI,0638)	H0631570
MCAVD = 61.1234D0	H0631580
MCBVD = 2.0D1	H0631590
MCCVD = -999.009D-1	H0631600
MCDVD = -1.9D0	H0631610
MCEVD = DMIN1(MCAVD,MCBVD)	H0631620
MCFVD = MCEVD - 2.0D1	H0631630
WRITE (NUVI,9996) MCFVD	H0631640
MCEVD = DMIN1(MCCVD,MCDVD)	H0631650
MCFVD = MCEVD + 999.009D-1	H0631660
WRITE (NUVI,9996) MCFVD	H0631670

MCEVD = DMIN1(MCAVD,MCDVD)	H0631680
MCFVD = MCEVD + 1.9D0	H0631690
WRITE (NUVI,9996) MCFVD	H0631700
MCGVI = 2	H0631710
WRITE (NUVI,0632) MCGVI	H0631720
C***** THREE-ARGUMENT TEST FOR DMIN1	H0631730
MCEVD = DMIN1(MCAVD,MCBVD,MCDVD)	H0631740
MCFVD = MCEVD + 1.9D0	H0631750
WRITE (NUVI,9996) MCFVD	H0631760
MCEVD = DMIN1(MCAVD,MCCVD,MCBVD)	H0631770
MCFVD = MCEVD + 999.009D-1	H0631780
WRITE (NUVI,9996) MCFVD	H0631790
MCGVI = 3	H0631800
WRITE (NUVI,0632) MCGVI	H0631810
C***** FOUR OR FIVE-ARGUMENT TEST FOR DMIN1	H0631820
MCEVD = DMIN1(MCAVD,MCCVD,MCBVD,MCDVD)	H0631830
MCFVD = MCEVD + 999.009D-1	H0631840
WRITE (NUVI,9996) MCFVD	H0631850
MCEVD = DMIN1(MCBVD,MCAVD,MCBVD,MCDVD,MCCVD)	H0631860
MCFVD = MCEVD + 999.009D-1	H0631870
WRITE (NUVI,9996) MCFVD	H0631880
WRITE (NUVI,0633)	H0631890
WRITE (NUVI,9997)	H0631900
0631 FORMAT (F11.1)	H0631910
0632 FORMAT(15X, 8H END OF,12,15H-ARGUMENT TEST.)	H0631920
0633 FORMAT (15X, 30H END OF 4 OR 5-ARGUMENT TEST.)	H0631930
0634 FORMAT (/16H TEST OF AMIN1)	H0631940
0635 FORMAT (/16H TEST OF AMIN0)	H0631950
0636 FORMAT (/16H TEST OF MIN0)	H0631960
0637 FORMAT (16H1 TEST OF MIN1)	H0631970
0638 FORMAT (/16H TEST OF DMIN1)	H0631980
0639 FORMAT (I10)	H0631990
9996 FORMAT (D22.10)	H0632000
9997 FORMAT (/39H THE ABOVE ANSWERS SHOULD ALL BE 0 FOR/1X,	H0632010
1 36H THIS TEST SEGMENT TO BE SUCCESSFUL.)	H0632020
C***** END OF TEST SEGMENT 063	H0632030
C***** WHEN EXECUTING ONLY SEGMENT 063, THE STOP AND END CARDS	H0632040
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0632050
C***** IN COLUMNS 1 AND 2 REMOVED.	H0632060
C= STOP	H0632070
C= END	H0632080
C*****	H0640010
C*****	H0640020
C***** IFDSG - (064)	H0640030
C*****	H0640040
C*****	H0640050
C***** GENERAL PURPOSE	ASA REF H0640060
C***** TEST INTRINSIC FUNCTION DSIGN (TRANSFER OF SIGN WITH	8.2/33H0640070
C***** DOUBLE PRECISION ARGUMENTS AND FUNCTION)	(TABLE 3)H0640080
C*****	H0640090
C***** S P E C I F I C A T I O N S SEGMENT 064	H0640100
C*****	H0012035
C***** WHEN EXECUTING ONLY SEGMENT 064, THE SPECIFICATION STATEMENTS	H0012040
C***** WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0012045
C***** IN COLUMNS 1 AND 2 REMOVED.	H0012050
C*****	H0012055
C= DOUBLE PRECISION MCAVD,MCBVD,MCCVD,MCDVD,MCEVD,MCFVD	H0012060
C*****	H0012065
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0640110
C*****	H0072195
C***** WHEN EXECUTING ONLY SEGMENT 064, THE FOLLOWING STATEMENT	H0072200
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072205
C*****	H0072210
C= NUVI = 6	H0072215
C*****	H0072220
WRITE (NUVI,0640)	H0640120
0640 FORMAT (1H1,1X,34HIFDSG - (064) INTRINSIC FUNCTION--/16X,24HDSIGN	H0640130
1(TRANSFER OF SIGN)/ 2X,14HASA REF. - 8.2//2X,7HRESULTS)	H0640140

C*****	HEADER FOR SEGMENT 064 WRITTEN	H0640150
	MCAVD = +9.5D0	H0640160
	MCBVD = 123.4567D1	H0640170
	MCCVD = -5.665D1	H0640180
	MCDVD = -75.57D-0	H0640190
	MCEVD = DSIGN(MCAVD,MCBVD)	H0640200
	MCFVD = MCEVD - 9.5D0	H0640210
	WRITE (NUVI,0641) MCFVD	H0640220
	MCEVD = DSIGN(MCBVD,MCCVD)	H0640230
	MCFVD = MCEVD + 123.4567D1	H0640240
	WRITE (NUVI,0641) MCFVD	H0640250
	MCEVD = DSIGN(MCCVD,MCDVD)	H0640260
	MCFVD = MCEVD + 5.665D1	H0640270
	WRITE (NUVI,0641) MCFVD	H0640280
	MCEVD = DSIGN(MCDVD,MCDVD)	H0640290
	MCFVD = MCEVD +75.57D0	H0640300
	WRITE (NUVI,0641) MCFVD	H0640310
	WRITE (NUVI,0642)	H0640320
0641	FORMAT (1H0,D30.18)	H0640330
0642	FORMAT (1H0,1X,38HALL ABOVE ANSWERS SHOULD BE 0 FOR THIS/ 12X,30HTEST SEGMENT TO BE SUCCESSFUL.)	H0640340
C*****	END OF TEST SEGMENT 064	H0640350
C*****	WHEN EXECUTING ONLY SEGMENT 064, THE STOP AND END CARDS	H0640360
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0640370
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0640380
C=	STOP	H0640390
C=	END	H0640400
	STOP	H0640410
	END	H9999999
SAMPLE COMPUTER, FORTRAN COMPILER LEVEL		
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2		
OPERATING SYSTEM VERSION		
DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT ID 4		
DATE, INSTALLATION NAME		
DO NOT READ OR WRITE RECORD 6 DOUBLE SPACE ON OUTPUT ID 6		
C*****	PART6 *****	H0002300
C*****		H0002305
C*****	ANSI FORTRAN (X3.9-1966) TEST PROGRAMS	H0002310
C*****		H0002315
C*****	PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3	H0002320
C*****		H0002325
C*****	JUNE 1973	H0002330
C*****		H0002335
C*****	PART 6 OF 14 PARTS	H0002340
C*****		H0002345
C*****	SEGMENTS INCLUDED	H0002350
C*****		H0002355
C*****	IFDIM - 065 DIM, IDIM (POSITIVE DIFFERENCE)	H0002360
C*****		H0002365
C*****	IFSGL - 066 SNGL (OBTAIN MOST SIGNIFICANT PART)	H0002370
C*****		H0002375
C*****	IFREL - 067 REAL (OBTAIN REAL PART OF COMPLEX ARGUMENT)	H0002380
C*****		H0002385
C*****	IFIMG - 068 AIMAG (OBTAIN IMAGINARY PART OF COMPLEX NO.)	H0002390
C*****		H0002395
C*****	IFDBL - 069 DBLE (EXPRESS REAL ARGUMENT IN D.P. FORM)	H0002400
C*****		H0002405
C*****	IFCPX - 070 CMLPX (EXPRESS TWO REAL ARG. IN COMPLEX FORM)	H0002410
C*****		H0002415
C*****	IFCJG - 071 CONJG (OBTAIN CONJUGATE OF A COMPLEX NUMBER)	H0002420
C*****		H0002425
C*****	IFBMS - 072 ALL INTRINSIC FUNCTIONS	H0002430
C*****		H0002435
C*****	IFFMS - 073 ALL INTRINSIC FUNCTIONS	H0002440
C*****		H0012300
C*****	THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN	H0012305
C*****	SEGMENTS 065, 066, 067, 068, 069, 070, 071, 072, 073	H0012310
C*****	ARE RUN AS ONE MAIN PROGRAM.	H0012315

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C*****
      INTEGER MCA3I(2,3,3)
      DIMENSION MCA1I(5), AC2S(5,6)
      DOUBLE PRECISION MCAVO, MCBVO, MCCVO, MCOVO, MCEVO, MCFVO, MCGVO,
1      CMAVO, CMBVO, CMCVO, OPA10(5), FC20(5,5)
      DOUBLE PRECISION OPAVO, OPBVO, OPCVO, OPOVO, OPEVO, OPFVO, OPGVO
      COMPLEX CHAVC, CHBVC, CHCVC, CHOVC, CHEVC, CHFVC,
1      CHGVC, CHHVC, CHIVC, CHJVC, CHKVC, CHLVC
C*****
C***** END OF SPECIFICATIONS FOR SEGMENTS
C***** 065, 066, 067, 068, 069, 070, 071, 072, 073
C*****
C***** IFOIM - (065)
C*****
C***** GENERAL PURPOSE
C***** TEST INTRINSIC FUNCTION DIM AND IDIM--POSITIVE
C***** DIFFERENCE, WHICH IS DEFINED AS A1 - MIN(A1,A2)
C*****
C***** S P E C I F I C A T I O N S SEGMENT 065
C*****
C***** WHEN EXECUTING ONLY SEGMENT 065, REMOVE THE PRECEIOING
C***** SPECIFICATIONS. THIS SEGMENT HAS NO SPECIFICATION STATEMENTS.
C*****
C***** I N P U T - O U T P U T T A P E ASSIGNMENT STATEMENTS.
      IRVI = 5
      NUVI = 6
C***** IDENTIFY THE SOURCE OF THE TEST PROGRAMS
      WRITE(NUVI,0071)
0071 FORMAT (41H1 F O R T R A N T E S T P R O G R A M S//
1 42H PREPARED BY NATIONAL BUREAU OF STANOAROS//
3 37H FOR USE ON LARGE FORTRAN PROCESSORS //
4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//
5 23H VERSION 3 PART 6 ///)
C***** 3 OF 6 INPUT CARDS IOENTIFY THE USERS SYSTEM AND COMPILER
C      PREPAREO BY USER
C      READ, NO LIST
C      PREPAREO BY USER
C      READ, NO LIST
C      PREPAREO BY USER
C      READ, NO LIST
      READ(IRVI,0070)
      READ(IRVI,0072)
      READ(IRVI,0073)
0070 FORMAT(40H BASEO ON ASA FORTRAN X3.9-1966 /)
0072 FORMAT(40H TEST PROGRAMS /)
0073 FORMAT(40H FORTRAN COMPILER /)
      WRITE(NUVI,0070)
      WRITE(NUVI,0072)
      WRITE(NUVI,0073)
      WRITE (NUVI,0650)
0650 FORMAT (1H1,1X,39HIFDIM - (065) INTRINSIC FUNCTIONS - DIM/12X,
130HANO IOIM (POSITIVE DIFFERENCE)/ 2X,14HASA REF. - 8.2/
2/2X,7HRESULTS)
C***** HEADER FOR SEGMENT 065 WRITTEN
C***** TEST OF OIM - REAL ARGUMENTS, REAL FUNCTION
      CMAVS = -4.0
      CMBVS = 4.0
      CMCVS = 16.25
      CMOVS = -64.25
      CMEVS = OIM(CMAVS,CMBVS)
      CMFVS = CMEVS + 0.0
      WRITE (NUVI,0651) CMFVS
      CMEVS = DIM(CMCVS,CMOVS)
      CMFVS = CMEVS - 80.5
      WRITE (NUVI,0651) CMFVS
      CMEVS = OIM(CMCVS,CMBVS)

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CMFVS = CMEVS - 12.25	H0650290
WRITE (NUVI,0651) CMFVS	H0650300
CMEVS = DIM(CMDVS,CMAVS)	H0650310
CMFVS = CMEVS - 0.0	H0650320
WRITE (NUVI,0651) CMFVS	H0650330
C***** TEST OF IDIM - INTEGER ARGUMENTS, INTEGER FUNCTION 8.2/35	H0650340
MCAVI = 02468	H0650350
MCBVI = +36	H0650360
MCCVI = -3	H0650370
MCDVI = -23	H0650380
MCEVI = IDIM(MCAVI,MCBVI)	H0650390
MCFVI = MCEVI - 2432	H0650400
WRITE (NUVI,0652) MCFVI	H0650410
MCEVI = IDIM(MCBVI,MCCVI)	H0650420
MCFVI = MCEVI - 39	H0650430
WRITE (NUVI,0652) MCFVI	H0650440
MCEVI = IDIM(MCDVI,MCCVI)	H0650450
MCFVI = MCEVI + 0	H0650460
WRITE (NUVI,0652) MCFVI	H0650470
MCEVI = IDIM(MCCVI,MCCVI)	H0650480
WRITE (NUVI,0652) MCEVI	H0650490
MCEVI = IDIM(MCCVI,MCBVI)	H0650500
WRITE (NUVI,0652) MCEVI	H0650510
WRITE (NUVI,0653)	H0650520
0651 FORMAT (1H0,F17.2)	H0650530
0652 FORMAT (1H0,10X,I5)	H0650540
0653 FORMAT (1H0,1X,34H ALL ABOVE ANSWERS SHOULD BE 0 FOR/2X, 135HTHIS TEST SEGMENT TO BE SUCCESSFUL.)	H0650550
C***** END OF TEST SEGMENT 065	H0650560
C***** WHEN EXECUTING ONLY SEGMENT 065 THE STDP AND END CARDS	H0650570
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0650580
C***** IN COLUMNS 1 AND 2 REMOVED.	H0650590
C= STDP	H0650600
C= END	H0650610
C***** IFSGI - (066)	H0650620
C***** IFSGI - (066)	H0660010
C***** IFSGI - (066)	H0660020
C***** IFSGI - (066)	H0660030
C***** IFSGI - (066)	H0660040
C***** IFSGI - (066)	H0660050
C***** GENERAL PURPOSE	ASA REF H0660060
C***** TEST INTRINSIC FUNCTION SNGL - OBTAIN MOST SIGNIFICANT	8.2/36H0660070
C***** PART OF DOUBLE PRECISION ARGUMENT.	(TABLE 3)H0660080
C***** GENERAL COMMENTS	H0660090
C***** ASSIGNED GO TO STATEMENT ASSUMED WORKING.	H0660100
C***** S P E C I F I C A T I O N S SEGMENT 066	H0660110
C***** WHEN EXECUTING ONLY SEGMENT 066, THE SPECIFICATION STATEMENTS	H0660120
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0012395
C***** IN COLUMNS 1 AND 2 REMOVED.	H0012400
C= DOUBLE PRECISION MCAVD,MCBVD,MCCVD,MCDVD,MCEVD,MCFVD,	H0012405
C= 1 CMAVD, CMBVD,CMCVD	H0012410
C***** D U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0012415
C***** WHEN EXECUTING ONLY SEGMENT 066, THE FOLLOWING STATEMENT	H0012420
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0012425
C= NUVI = 6	H0012430
C***** WRITE (NUVI, 0660)	H0660130
0660 FORMAT (1H1,1X,39HIFSGI - (066) INTRINSIC FUNCTION SNGL--/16X, 126HOBTAI MOST SIGNIFICANT PT/16X, 218H OF D.P. ARGUMENT. /2X,15HASA REFS. - 8.2//2X,7HRESULTS)	H0072425
C***** HEADER FOR SEGMENT 066 WRITTEN	H0072430
MCAVD = .48748748748748748D3+.57D-5+.5604645D-6+.31786509547D-7	H0072435
MCBVD = -.39.689539609539D1-.57D-5-.5604645D-6-.31786509547D-7	H0072440
MCCVD = .3333333333333333D0+.57D-5+.5604645D-6+.31786509547D-7	H0072445
	H0660140
	H0660150
	H0660160
	H0660170
	H0660180
	H0660190
	H0660200
	H0660210

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MCDVD = -.6666666666666666D0-.57D-5+.5604645D-6-.31786509547D-7      H0660220
MCEVD = .48748748748748748D3+.57D-5+.5604645D-6+.31786509547D-7      H0660230
MCFVD = -39.689539609539D+1      H0660240
AVS = 0.0      H0660250
BVS = 0.0      H0660260
CVS = 0.0      H0660270
IVI = 2      H0660280
C***** EXPRESSION RESULTS ASSIGNED TO D.P. RESULT FOR VISUAL CDMPARISON H0660290
C***** ARGUMENTS DF SNGL - VARIABLE, SIMPLE EXPRESSION      H0660300
CMAVD = AVS + SNGL(MCAVD) - BVS      H0660310
WRITE (NUVI,661) MCAVD,CMAVD      H0660320
CMAVD = CVS + SNGL(MCBVD) + AVS      H0660330
WRITE (NUVI,661) MCBVD, CMAVD      H0660340
CMAVD = SNGL(MCCVD)      H0660350
WRITE (NUVI,661) MCCVD,CMAVD      H0660360
CMBVD = -MCBVD      H0660370
CMAVD = -SNGL(MCBVD - CMBVD)      H0660380
CMCVD = - (MCBVD + MCBVD)      H0660390
WRITE (NUVI,661) CMCVD,CMAVD      H0660400
CMCVD = MCDVD * MCDVD      H0660410
CMAVD = BVS + SNGL(MCDVD*IVI) + CVS      H0660420
WRITE (NUVI,661) CMCVD, CMAVD      H0660430
C***** ARGUMENT DF SNGL - INTRINSIC FUNCTION WITH DIFFERENT ND. DF ARG H0660440
CMAVD = -(CVS + SNGL(DABS(MCDVD)) + BVS)      H0660450
WRITE (NUVI,661) MCDVD, CMAVD      H0660460
CMAVD = AVS - BVS + SNGL(DMIN1(MCEVD,MCFVD))      H0660470
WRITE (NUVI,661) MCFVD, CMAVD      H0660480
CMAVD = CVS + BVS + SNGL(DMAX1(MCCVD,MCEVD,MCFVD))      H0660490
WRITE (NUVI,661) MCEVD, CMAVD      H0660500
WRITE (NUVI, 662)      H0660510
661 FORMAT(1H0,1X,6HLINE A,D25.14/2X,6HLINE B,D25.14)      H0660520
662 FDMAT(33H0 LINE B SHDULD AGREE WITH LINE A /40H ONLY TO THE PRECH0660530
AISIDN DF A REAL DATUM. /37H REMAINING DIGITS RESULT FROM OUTPUT /H0660540
B 33H CDNVERSIOND WHEN A REAL VALUE IS / 32H ASSIGNED TD D.P. FDR H0660550
CPRINTING. )      H0660560
C***** END OF SEGMENT 066      H0660570
C***** WHEN EXECUTING ONLY SEGMENT 066, THE STDP AND END CARDS      H0660580
C***** WHICH APPEAR AS CDMMENT CARDS MUST HAVE THE C= IN COLUMNS      H0660590
C***** 1 AND 2 REMDVED.      H0660600
C= STDP      H0660610
C= END      H0660620
C*****      H0670010
C*****      H0670020
C***** IFREL - (067)      H0670030
C*****      H0670040
C*****      H0670050
C***** GENERAL PURPDSE      H0670060
C***** TEST INTRINSIC FUNCTION REAL (OBTAIN REAL PART OF 8.2/39H0670070
C***** COMPLEX ARGUMENT ). (TABLE 3)H0670080
C*****      H0670090
C***** S P E C I F I C A T I D N S SEGMENT 067      H0670100
C*****      H0012435
C***** WHEN EXECUTING ONLY SEGMENT 067, THE SPEC+F+CAT+DN STATEMENTS      H0012440
C***** WHICH APPEAR AS CDMMENT CARDS MUST HAVE THE C=      H0012445
C***** IN COLUMNS 1 AND 2 REMDVED.      H0012450
C*****      H0012455
C= COMPLEX CHAVC,CHBVC,CHCVC,CHDVC,CHEVC,CHFVC      H0012460
C*****      H0012465
C***** D U T P U T T A P E ASSIGNMENT STATEMENT. ND INPUT TAPE.      H0670110
C*****      H0072450
C***** WHEN EXECUTING ONLY SEGMENT 067, THE FOLLDWING STATEMENT      H0072455
C***** NUVI = 6 MUST HAVE THE C= IN CDUMNS 1 AND 2 REMDVED.      H0072460
C= NUVI = 6      H0072465
C*****      H0072470
C***** WRITE (NUVI,0670)      H0670120
0670 FDMAT (1H1,1X,34HIFREL - (067) INTRINSIC FUNCTION--/ 16X, 4HREAL/H0670130
1 2X,14HASA REF. - 8.2//      H0670140
2 2X,7HRESULTS)      H0670150

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C*****	HEADER FOR SEGMENT 067 WRITTEN	H0670160
	CHAVC = (3.2,1.86)	H0670170
	CHBVC = (2.1,0.0)	H0670180
	CHCVC = (3.7,-1.2)	H0670190
	CHDVC = (+45.1,+2.2)	H0670200
	CHEVC = (-16.0, 0.0)	H0670210
	CHFVC = (-32.0, -1.1)	H0670220
	CMAVS = REAL(CHAVC)	H0670230
	CMBVS = CMAVS - 3.2	H0670240
	CMAVS = REAL(CHBVC)	H0670250
	CMCVS = CMAVS - 2.1	H0670260
	CMAVS = REAL(CHCVC)	H0670270
	CMDVS = CMAVS - 3.7	H0670280
	CMAVS = REAL(CHDVC)	H0670290
	CMEVS = CMAVS - 45.1	H0670300
	CMAVS = ABS(REAL(CHEVC) + REAL(CHFVC))	H0670310
	CMFVS = CMAVS - 48.0	H0670320
	CMAVS = AMAX1(REAL(CHAVC),REAL(CHBVC), REAL(CHEVC-CHFVC))	H0670330
	CMGVS = CMAVS - 16.0	H0670340
	WRITE (NUVI,0671) CMBVS,CMCVS,CMDVS,CMEVS,CMFVS,CMGVS	H0670350
C*****	REAL CONSTANTS HAVING ONLY FRACTIONAL PARTS(NO EXPONENT)	H0670360
	CHAVC = (.789,.12)	H0670370
	CHBVC = (.13,1.2)	H0670380
	CHCVC = (.507,-2.2)	H0670390
	CHDVC = (+.5401,+.5)	H0670400
	CHEVC = (-.5,0.25)	H0670410
	CHFVC = (-.0625, 1.1)	H0670420
	CMAVS = REAL(CHAVC)	H0670430
	CMBVS = CMAVS - .789	H0670440
	CMAVS = REAL(CHBVC)	H0670450
	CMCVS = CMAVS - 0.13	H0670460
	CMAVS = REAL(CHCVC)	H0670470
	CMDVS = CMAVS - 0.507	H0670480
	CMAVS = REAL(CHDVC)	H0670490
	CMEVS = CMAVS - 0.5401	H0670500
	CMAVS = REAL(CHEVC+CHFVC)	H0670510
	CMFVS = CMAVS + 0.5625	H0670520
	CMAVS = REAL(CHEVC) - REAL(CHFVC)	H0670530
	CMGVS = CMAVS + 0.4375	H0670540
	WRITE (NUVI,0671) CMBVS,CMCVS,CMDVS,CMEVS,CMFVS,CMGVS	H0670550
C*****	REAL CONSTANTS HAVING ONLY INTEGRAL PARTS(NO EXPONENT)	H0670560
C*****	5.1.1.2/22	H0670570
	CHAVC = (23.,0.1)	H0670580
	CHBVC = (12.,+1.2)	H0670590
	CHCVC = (1.,-2.3)	H0670600
	CHDVC = (+45.,+.6)	H0670610
	CHEVC = (19.0, 1.0)	H0670620
	CHFVC = (-32.0, 2.0)	H0670630
	CMAVS = REAL(CHAVC)	H0670640
	CMBVS = CMAVS - 23.0	H0670650
	CMAVS = REAL(CHBVC)	H0670660
	CMCVS = CMAVS - 12.0	H0670670
	CMAVS = REAL(CHCVC)	H0670680
	CMDVS = CMAVS - 1.0	H0670690
	CMAVS = REAL(CHDVC)	H0670700
	CMEVS = CMAVS - 45.0	H0670710
	CMAVS = SIGN(DIM(REAL(CHEVC),REAL(CHFVC)),REAL(CHFVC))	H0670720
	CMFVS = CMAVS + 51.0	H0670730
	CMAVS = REAL((16.0,1.0) + CHEVC + CHFVC)	H0670740
	CMGVS = CMAVS - 3.0	H0670750
	WRITE (NUVI,0671) CMBVS,CMCVS,CMDVS,CMEVS,CMFVS,CMGVS	H0670760
	WRITE (NUVI,0672)	H0670770
0671	FORMAT (/6(F20.4/))	H0670780
0672	FORMAT (/40H ALL ABOVE ANSWERS SHOULD BE 0 FOR THIS /	H0670790
	132H TEST SEGMENT TO BE SUCCESSFUL.)	H0670800
C*****	END OF TEST SEGMENT 067	H0670810
C*****	WHEN EXECUTING ONLY SEGMENT 067, THE STOP AND END CARDS	H0670820
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0670830

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C***** IN COLUMNS 1 AND 2 REMOVED. H0670840
C= STOP H0670850
C= END H0670860
C***** H0680010
C***** H0680020
C***** IFIMG - (068) H0680030
C***** H0680040
C***** H0680050
C***** GENERAL PURPOSE ASA REF H0680060
C***** TEST INTRINSIC FUNCTION AIMAG (OBTAIN IMAGINARY PART 8.2/41 H0680070
C***** OF COMPLEX ARGUMENT ) (TABLE 3) H0680080
C***** H0680090
C***** S P E C I F I C A T I O N S SEGMENT 068 H0680100
C***** H0012470
C***** WHEN EXECUTING ONLY SEGMENT 068, THE SPECIFICATION STATEMENTS H0012475
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0012480
C***** IN COLUMNS 1 AND 2 REMOVED. H0012485
C***** H0012490
C= COMPLEX CHAVC,CHBVC,CHCVC,CHDVC,CHEVC,CHFVC,CHGVC,CHHVC,CHIVC, H0012495
C= 1CHJVC,CHKVC,CHLVC H0012500
C***** H0012505
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0680110
C***** H0072475
C***** WHEN EXECUTING ONLY SEGMENT 068, THE FOLLOWING STATEMENT H0072480
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0072485
C= NUVI = 6 H0072490
C***** H0072495
WRITE (NUVI,0680) H0680120
0680 FORMAT (1H1,1X,40HIFIMG - (068) INTRINSIC FUNCTION - AIMAG/16X, H0680130
119HOBTAIN IMAGINARY PT/16X,19HO OF COMPLEX ARGUMENT/ 2X, H0680140
213HASA REF.- 8.2//2X,7HRESULTS) H0680150
C***** HEADER FOR SEGMENT 068 WRITTEN H0680160
C***** IMAGINARY PARTS OF COMPLEX NUMBERS HAVING BOTH INTEGRAL H0680170
C***** AND FRACTIONAL PARTS. (NO EXPONENT) H0680180
CHAVC = (3.2,1.86) H0680190
CHBVC = (2.1,0.0) H0680200
CHCVC = (37.0,-1.2) H0680210
CHDVC = (+45.1,+2.2) H0680220
CMAVS = AIMAG(CHAVC) H0680230
CMBVS = CMAVS - 1.86 H0680240
CMAVS = AIMAG(CHBVC) H0680250
CMCVS = CMAVS - 0.0 H0680260
CMAVS = AIMAG(CHCVC) H0680270
CMDVS = CMAVS + 1.2 H0680280
CMAVS = AIMAG(CHDVC) H0680290
CMEVS = CMAVS - 2.2 H0680300
WRITE (NUVI,0681) CMBVS,CMCVS,CMDVS,CMEVS H0680310
C***** IMAGINARY PARTS OF COMPLEX NUMBERS HAVING ONLY FRACTIONAL H0680320
C***** PARTS (NO EXPONENT) H0680330
CHAVC = (.789,.00) H0680340
CHBVC = (1.2,.789) H0680350
CHCVC = (+4.56,-.456) H0680360
CHDVC = (-12.3,+.001) H0680370
CMAVS = AIMAG(CHAVC) H0680380
CMBVS = CMAVS - 0.0 H0680390
CMAVS = AIMAG(CHBVC) H0680400
CMCVS = CMAVS - .789 H0680410
CMAVS = AIMAG(CHCVC) H0680420
CMDVS = CMAVS + .456 H0680430
CMAVS = AIMAG(CHDVC) H0680440
CMEVS = CMAVS - 0.001 H0680450
WRITE (NUVI,0681) CMBVS,CMCVS,CMDVS,CMEVS H0680460
C***** IMAGINARY PARTS OF COMPLEX NUMBERS HAVING ONLY INTEGRAL H0680470
C***** PARTS (NO EXPONENT) H0680480
CHAVC = (-12.,12.) H0680490
CHBVC = (+1.23,0.) H0680500
CHCVC = (0.0, -16.0) H0680510
CHDVC = (-1.1, -32.0) H0680520

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CMAVS = AIMAG(CHAVC)	H0680530
CMBVS = CMAVS - 12.0	H0680540
CMAVS = AIMAG(CHBVC)	H0680550
CMCVS = CMAVS + 0.0	H0680560
CMAVS = ABS(AIMAG(CHCVC)+AIMAG(ChDVC))	H0680570
CMDVS = CMAVS - 48.0	H0680580
CMAVS = AMAX1(AIMAG(CHAVC), AIMAG(CHBVC), AIMAG(CHCVC-CHDVC))	H0680590
CMEVS = CMAVS - 16.0	H0680600
WRITE (NUVI,0681) CMBVS,CMCVS,CMDVS,CMEVS	H0680610
C***** IMAGINARY PARTS OF COMPLEX NUMBERS HAVING A DECIMAL EXPONENT.	H0680620
CHAVC = (2.3E0,1.2E0)	H0680630
CHBVC = (1.2,.56E2)	H0680640
CHCVC = (.24,1.E1)	H0680650
CHDVC = (1.,+7.8E+1)	H0680660
CHEVC = (1.5, 16.0)	H0680670
CHFVC = (1.0, -32.0)	H0680680
CHGVC = (1.E0,-7.99E-1)	H0680690
CHHVC = (27.00,.55E-1)	H0680700
CHIVC = (1.E0,2.E-0)	H0680710
CHJVC = (1.2,1.E+1)	H0680720
CHKVC = (1.E-1,+7.E0)	H0680730
CHLVC = (1.7,-99.E-1)	H0680740
CMAVS = AIMAG(CHAVC)	H0680750
CMBVS = CMAVS - 1.2E0	H0680760
CMAVS = AIMAG(CHBVC)	H0680770
CMCVS = CMAVS - .56E2	H0680780
CMAVS = AIMAG(CHCVC)	H0680790
CMDVS = CMAVS - 1.E1	H0680800
CMAVS = AIMAG(ChDVC)	H0680810
CMEVS = CMAVS - 7.8E+1	H0680820
WRITE (NUVI,0681) CMBVS,CMCVS,CMDVS,CMEVS	H0680830
CMAVS = SIGN(DIM(AIMAG(CHEVC),AIMAG(CHFVC)), AIMAG(CHFVC))	H0680840
CMBVS = CMAVS + 48.0	H0680850
CMAVS = AIMAG((1.0, 16.0) + CHEVC + CHFVC)	H0680860
CMCVS = CMAVS + 0.0	H0680870
CMAVS = AIMAG(CHGVC)	H0680880
CMDVS = CMAVS + 7.99E-1	H0680890
CMAVS = AIMAG(CHHVC)	H0680900
CMEVS = CMAVS - .55E-1	H0680910
WRITE (NUVI,0681) CMBVS,CMCVS,CMDVS,CMEVS	H0680920
CMAVS = AIMAG(CHIVC)	H0680930
CMBVS = CMAVS - 2.E-0	H0680940
CMAVS = AIMAG(CHJVC)	H0680950
CMCVS = CMAVS - 1.E+1	H0680960
CMAVS = AIMAG(CHKVC)	H0680970
CMDVS = CMAVS - 7.E0	H0680980
CMAVS = AIMAG(CHLVC)	H0680990
CMEVS = CMAVS + 99.E-1	H0681000
WRITE (NUVI,0681) CMBVS,CMCVS,CMDVS,CMEVS	H0681010
WRITE (NUVI,0682)	H0681020
0681 FORMAT (/ 4(F20.5 /))	H0681030
0682 FORMAT (/40H ALL ABOVE ANSWERS SHOULD BE 0 FOR THIS /	H0681040
132H TEST SEGMENT TO BE SUCCESSFUL.)	H0681050
C***** END OF TEST SEGMENT 068	H0681060
C***** WHEN EXECUTING ONLY SEGMENT 068, THE STOP AND END CARDS	H0681070
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0681080
C***** IN COLUMNS 1 AND 2 REMOVED.	H0681090
C= STOP	H0681100
C= END	H0681110
C*****	H0690010
C*****	H0690020
C***** 1FDBL - (069)	H0690030
C*****	H0690040
C*****	H0690050
C***** GENERAL PURPOSE	ASA REF H0690060
C***** TEST INTRINSIC FUNCTION DBLE (EXPRESS S.P. ARGUMENT	8.2/43H0690070
C***** IN DOUBLE PRECISION FORM)	(TABLE 3)H0690080
C***** INTRINSIC FUNCTIONS DABS,DSIGN,DMIN1,DMAX1,AMAX1	H0690090

C*****	ASSUMED WORKING.	H0690100
C*****		H0690110
C*****	S P E C I F I C A T I O N S SEGMENT 069	H0690120
C*****		H0012510
C*****	WHEN EXECUTING ONLY SEGMENT 069, THE SPECIFICATION STATEMENTS	H0012515
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0012520
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0012525
C*****		H0012530
C=	DOUBLE PRECISION MCAVD,MCBVD,MCCVD,MCDVD,MCEVD,MCFVD,MCGVD	H0012535
C*****		H0012540
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0690130
C*****		H0072500
C*****	WHEN EXECUTING ONLY SEGMENT 069, THE FOLLOWING STATEMENT	H0072505
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072510
C=	NUVI = 6	H0072515
C*****		H0072520
	WRITE (NUVI,0690)	H0690140
0690	FORMAT (1H1,1X,39HIFDBL - (069) INTRINSIC FUNCTION - DBLE/16X,	H0690150
	126HS.P. ARGUMENT IN D.P. FORM / 2X,13HASA REF.- 8.2//2X,7HRESULTS)	H0690160
C*****	HEADER FOR SEGMENT 069 WRITTEN	H0690170
	CMAVS = 0.9765625E-3	H0690180
	CMBVS = -.1953125E-2	H0690190
	CMCVS = .5859375E-2	H0690200
	CMDVS = -.1048576E+7	H0690210
	CMEVS = +114688.0	H0690220
	MCAVD = 0.0D0	H0690230
	MCBVD = MCAVD * DBLE(CMAVS)	H0690240
	MCCVD = DMIN1(DBLE(CMAVS),DBLE(CMEVS))	H0690250
	MCDVD = MCAVD * MCBVD - DABS(DBLE(CMBVS))	H0690260
	MCEVD = MCAVD - DSIGN(DBLE(CMCVS),DBLE(CMBVS))	H0690270
	MCFVD = - DABS(DBLE(CMDVS)) + MCAVD	H0690280
	MCGVD = DMAX1(DBLE(AMAX1(CMDVS,CMEVS)),MCBVD)	H0690290
	WRITE(NUVI,691) CMAVS, MCCVD, CMBVS, MCDVD,	H0690300
	1 CMCVS, MCEVD, CMDVS, MCFVD, CMEVS, MCGVD	H0690310
691	FORMAT(1H0,1X,6HLINE A, E18.7/ 8H LINE B, D25.14)	H0690320
	WRITE(NUVI, 692)	H0690330
692	FORMAT(1H0,38H A COMPARISON OF LINE A AGAINST LINE B /1X,	H0690340
	1 40H IS NEEDED TO CHECK THE VALIDITY OF TEST)	H0690350
C*****	END OF TEST SEGMENT 069	H0690360
C*****	WHEN EXECUTING ONLY SEGMENT 069, THE STOP AND END CARDS	H0690370
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0690380
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0690390
C=	STOP	H0690400
C=	END	H0690410
C*****		H0700010
C*****		H0700020
C*****	IFCPX - (070)	H0700030
C*****		H0700040
C*****		H0700050
C*****	GENERAL PURPOSE	ASA REF H0700060
C*****	TEST INTRINSIC FUNCTION CMPLX (EXPRESS TWO REAL	8.2/45H0700070
C*****	ARGUMENTS IN COMPLEX FORM)	(TABLE 3)H0700080
C*****	GENERAL COMMENTS	H0700090
C*****	SUBTRACTION OF COMPLEX NUMBERS ASSUMED WORKING	H0700100
C*****		H0700110
C*****	S P E C I F I C A T I O N S SEGMENT 070	H0700120
C*****		H0012545
C*****	WHEN EXECUTING ONLY SEGMENT 070, THE SPECIFICATION STATEMENTS	H0012550
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0012555
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0012560
C*****		H0012565
C=	COMPLEX CHAVC,CHBVC,CHCVC,CHDVC,CHEVC,CHFVC,CHGVC	H0012570
C*****		H0012575
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0700130
C*****	WHEN EXECUTING ONLY SEGMENT 070, THE FOLLOWING STATEMENT	H0072525
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072530
C=	NUVI = 6	H0072535
	WRITE (NUVI,0700)	H0700140


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0700  FORMAT (1H1, 1X,40HIFCPX - (070) INTRINSIC FUNCTION - CMPLX/16X, H0700150
      126HEXPRESS TWO REAL ARGUMENTS/16X,15HIN COMPLEX FORM/15H ASA REF.H0700160
      2- 8.2//2X,7HRESULTS) H0700170
C*****  HEADER FOR SEGMENT 070 WRITTEN H0700180
      CMAVS = 23.123 H0700190
      CMBVS = -.78 H0700200
      CMCVS = +17. H0700210
      CMDVS = 157.E-1 H0700220
      CMEVS = -.985E1 H0700230
      CMFVS = +88.E+0 H0700240
      CHAVC = CMPLX(CMAVS,CMBVS) H0700250
      CHBVC = CHAVC - (23.123,-.78) H0700260
      CHCVC = CHAVC - (-.78,15.0) H0700270
      CHDVC = CHAVC - (-.78,15.0) H0700280
      CHAVC = CMPLX(CMDVS,CMFVS) H0700290
      CHDVC = CHAVC - (157.E-1,+88.E+0) H0700300
      CHAVC = CMPLX(0.0,0.E0) H0700310
      CHEVC = CHAVC H0700320
      CHAVC = CMPLX(CMEVS,CMFVS) H0700330
      CHFVC = CHAVC - (-.985E1,+88.E+0) H0700340
      CHAVC = CMPLX(CMCVS,-0.0E-1) H0700350
      CHGVC = CHAVC - (+17.0,0.0) H0700360
      WRITE (NUVI,0702) CHBVC, CHCVC, CHDVC, CHEVC, CHFVC, CHGVC H0700370
      WRITE (NUVI,0701) H0700380
0701  FORMAT (//2X,37HTHE ABOVE ANSWERS SHOULD ALL BE 0 FOR/1X, H0700390
      136H THIS TEST SEGMENT TO BE SUCCESSFUL.) H0700400
0702  FORMAT (6(/F17.7,F17.7)) H0700410
C*****  END OF TEST SEGMENT 070 H0700420
C*****  WHEN EXECUTING ONLY SEGMENT 070, THE STOP AND END CARDS H0700430
C*****  WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0700440
C*****  IN COLUMNS 1 AND 2 REMOVED. H0700450
C= STOP H0700460
C= END H0700470
C***** H0710010
C***** H0710020
C***** 1FCJG - (071) H0710030
C***** H0710040
C***** H0710050
C***** GENERAL PURPOSE ASA REF H0710060
C***** TEST INTRINSIC FUNCTION CONJG (OBTAIN CONJUGATE OF A 8.2/47H0710070
C***** COMPLEX ARGUMENT) (TABLE 3)H0710080
C***** GENERAL COMMENTS H0710090
C***** SUBTRACTION OF COMPLEX NUMBERS ASSUMED WORKING H0710100
C***** H0710110
C***** S P E C I F I C A T I O N S SEGMENT 071 H0710120
C***** H0012580
C***** WHEN EXECUTING ONLY SEGMENT 071, THE SPECIFICATION STATEMENTS H0012585
C***** IN COLUMNS 1 AND 2 REMOVED. H0012590
C***** H0012595
C= COMPLEX CHAVC, CHBVC, CHCVC, CHDVC ,CHEVC H0012600
C***** H0012605
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0710130
C***** H0072540
C***** WHEN EXECUTING ONLY SEGMENT 071, THE FOLLOWING STATEMENT H0072545
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0072550
C= NUVI = 6 H0072555
C***** H0072560
      WRITE (NUVI,0710) H0710140
0710  FORMAT (1H1, 1X,40HIFCJG - (071) INTRINSIC FUNCTION - CONJG/16X, H0710150
      119HOBTAIN CONJUGATE OF/16X,16HA COMPLEX NUMBER/ H0710160
      217H ASA REFS. - 8.2//2X,7HRESULTS) H0710170
C*****  HEADER FOR SEGMENT 071 WRITTEN H0710180
      CHAVC = (1.1,+2.1) H0710190
      CHBVC = CONJG(CHAVC) H0710200
      CHCVC = CHBVC - (1.1,-2.1) H0710210
      CHEVC = (-2.E0, -3.E-1) H0710220
      CHBVC = CONJG(CHEVC) H0710230
      CHDVC = CHBVC - (-2.E0,3.E-1) H0710240

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WRITE (NUVI,0711) CHCVC, CHDVC
CHAVC = (-.2,+.3)
CHBVC = CONJG(CHAVC)
CHCVC = CHBVC - (-.2,-.3)
CHAVC = (23.1E-1,1.E-2)
CHBVC = CONJG(CHAVC)
CHDVC = CHBVC - (23.1E-1,-1.E-2)
WRITE (NUVI,0711) CHCVC,CHOVC
CHBVC = CONJG((1.2,2.2))
CHCVC = CHBVC - (1.2,-2.2)
CHBVC = CONJG((-1.0,2.0E-1))
CHOVC = CHBVC - (-1.0,-2.0E-1)
WRITE (NUVI,0711) CHCVC, CHDVC
CHBVC = CONJG((.1,.2E0))
CHCVC = CHBVC - (.1,-.2E0)
CHOVC = CONJG((.0,-0.E0))
WRITE (NUVI,0711) CHCVC, CHOVC
WRITE (NUVI,0712)
0711 FORMAT (4(/ F17.7, F10.7))
0712 FORMAT (/38H ALL ABOVE ANSWERS MUST BE 0 FOR THIS/1X,
131H TEST SEGMENT TO BE SUCCESSFUL.)
C***** END OF TEST SEGMENT 071
C***** WHEN EXECUTING ONLY SEGMENT 071, THE STOP AND ENO CARDS
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C= STOP
C= ENO
C*****
C***** IFBMS - (072)
C*****
C*****
C***** GENERAL PURPOSE
C***** TEST THAT ALL INTRINSIC FUNCTIONS WOULD ACCEPT
C***** ANY EXPRESSION OF THE TYPE SPECIFIED IN THE
C***** INTRINSIC FUNCTION TABLE - ASA REFS - 8.2/01-47
C***** GENERAL COMMENTS
C***** SEGMENTS 055 TO 071 ASSUMED WORKING
C*****
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.
C*****
C***** WHEN EXECUTING ONLY SEGMENT 072, THE FOLLOWING STATEMENT
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C= NUVI = 6
C*****
WRITE (NUVI,0720)
0720 FORMAT (1H1,1X,37HIFBMS - (072) BASIC FORTRAN INTRINSIC/10X,
128HFUNCTIONS ACCEPT EXPRESSIONS/10X,30HOF TYPE SPECIFIED IN I.F.TA
2BLE//15H ASA REF.- 8.2//2X,7HRESULTS)
C***** HEADER FOR SEGMENT 072 WRITTEN
C***** TEST ABS - ABSOLUTE VALUE OF REAL ARGUMENT
CMAVS = 0.5
CMBVS = -.25
CMCVS = 16.0
CMDVS = -4.0
CMEVS = ABS(CMAVS + CMBVS) + 1.0
CMFVS = CMEVS - (0.5 - .25) - 1.0
CMEVS = ABS(0.0 -ABS(CMAVS - CMCVS+ CMDVS))
CMGVS = CMEVS + (0.5 - 16.0 - 4.0)
CMEVS = ABS(CMAVS + 1.0 - (CMCVS + CMDVS) + 0.5 * 8.0)
CMHVS = CMEVS + (0.5 + 1.0 - (16.0 - 4.0) + 4.0)
CMEVS = ABS(1.0E0 + (1.0 * 1.0 / 1.0) **2)
CMIVS = CMEVS - 2.0
WRITE (NUVI,0721) CMFVS , CMGVS , CMHVS , CMIVS
C***** TEST OF IABS - ABSOLUTE VALUE OF INTEGER ARGUMENT
MCAVI = 2
MCBVI = 10
MCCVI = IABS (MCAVI + MCBVI)

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MCDVI = MCCVI - 12 H0720380
MCCVI = IABS(MCAVI * 2 + MCBVI / 2) + 1 H0720390
MCEVI = MCCVI - 10 H0720400
MCCVI = IABS(-MCBVI / (-2) - MCBVI ** 1 + (1 * 2 * 3 / 2 - 3) - 10 H0720410
1 + 10 + MCBVI / MCAVI - 5) H0720420
MCFVI = MCCVI - 5 H0720430
MCCVI = IABS(0 - IABS(-5 * 1 / 5 - 5 * IABS(-1))) H0720440
MCGVI = MCCVI - 6 H0720450
WRITE (NUVI, 0722) MCDVI, MCEVI, MCFVI, MCGVI H0720460
C***** TEST OF FLOAT - CONVERSION FROM INTEGER TO REAL 8.2/29 H0720470
CMEVS = FLOAT (MCAVI + MCBVI) H0720480
CMFVS = CMEVS - 12.0 H0720490
CMEVS = FLOAT(MCAVI * 2 / 4 + MCBVI ** 1) H0720500
CMGVS = CMEVS - 11.0 H0720510
CMEVS = FLOAT((23 + 46)/69 + 10 - MCBVI) * 2.0 + 1.5 H0720520
CMHVS = CMEVS - 3.5 H0720530
CMEVS = (76.5 * 1.0 - FLOAT (76 * 1)) * 4.0 H0720540
CMIVS = CMEVS - 2.0 H0720550
WRITE (NUVI,0723) CMFVS, CMGVS, CMHVS, CMIVS H0720560
C***** TEST OF IFIX - CONVERSION FROM REAL TO INTEGER 8.2/30 H0720570
MCCVI = IFIX(CMAVS - CMBVS) H0720580
MCDVI = MCCVI H0720590
MCCVI = IFIX(CMAVS * 1.0 + CMBVS/CMBVS - (CMCVS - CMDVS)) H0720600
MCEVI = MCCVI + 18 H0720610
MCCVI = 1 + IFIX(2.5 * 2.0) - IFIX(10.0 / 2.0) H0720620
MCFVI = MCCVI - 1 H0720630
MCCVI = 2 + IFIX(2.5 ** 1.0 + (10.65 + 3.45)) H0720640
MCGVI = MCCVI - 18 H0720650
WRITE (NUVI,0724) MCDVI, MCEVI, MCFVI, MCGVI H0720660
C***** TEST OF SIGN - TRANSFER OF SIGN WITH REAL ARGUMENTS 8.2/31 H0720670
CMEVS = SIGN(CMAVS+CMDVS,CMDVS-CMBVS) H0720680
CMFVS = CMEVS - (CMAVS + CMDVS) H0720690
CMEVS = SIGN(25.0 + 0.0 * 4.0, -24.4/6.1 * 1.0) H0720700
CMGVS = CMEVS + 25.0 H0720710
CMEVS = SIGN(10.5, SIGN(2.0, -4.5)) H0720720
CMHVS = CMEVS + 10.5 H0720730
CMEVS = SIGN(1.0, SIGN(-2.0, SIGN(2.0, -1.0))) H0720740
CMIVS = CMEVS + 1.0 H0720750
WRITE (NUVI,0725) CMFVS, CMGVS, CMHVS, CMIVS H0720760
C***** TEST OF ISIGN - TRANSFER OF SIGN WITH INTEGER ARGUMENT 8.2/32 H0720770
MCCVI = ISIGN(MCAVI, MCAVI + MCBVI - 13) H0720780
MCDVI = MCCVI + 2 H0720790
MCCVI = ISIGN(10, -5 - 10/2 + 1**2) H0720800
MCEVI = MCCVI + 10 H0720810
MCCVI = ISIGN(1 + 2 + 3, ISIGN(-2, 7 + 5)) H0720820
MCFVI = MCCVI - 6 H0720830
MCCVI = ISIGN(1, ISIGN(-1, ISIGN(+1, -1))) H0720840
MCGVI = MCCVI + 1 H0720850
WRITE (NUVI,0726) MCDVI, MCEVI, MCFVI, MCGVI H0720860
C***** TEST OF COMBINATION OF ABS, IABS, FLOAT, IFIX, SIGN, ISIGN H0720870
CMEVS = FLOAT(IABS(IFIX(ABS(-5.0 + SIGN(-1.0, 2.0)))))) H0720880
CMFVS = CMEVS - 4.0 H0720890
MCCVI = IFIX(FLOAT(ISIGN(1+2, IABS(1 + ISIGN(1, -1))))) H0720900
MCDVI = MCCVI - 3 H0720910
CMEVS = SIGN(ABS(1.0 + FLOAT(-20)), FLOAT(IFIX(1.0))) H0720920
CMGVS = CMEVS - 19.0 H0720930
MCCVI = ISIGN(IABS(IFIX(1.0) - 2), -((1 + IFIX(-1.0)) + 1)) H0720940
MCEVI = MCCVI + 1 H0720950
WRITE (NUVI,0727) CMFVS, CMGVS, MCDVI, MCEVI H0720960
CMEVS = ABS(SIGN(1.0 + 2.0, FLOAT(IABS(-2)))) H0720970
CMFVS = CMEVS - 3.0 H0720980
MCCVI = IABS(IFIX(SIGN(-2.0, 2.0))) H0720990
MCDVI = MCCVI - 2 H0721000
CMEVS = 1.2 + FLOAT(1 + 5 - ISIGN(-1, 6)) H0721010
CMGVS = CMEVS - 6.2 H0721020
MCCVI = 25 - ISIGN(IFIX(2.0), -IABS(-5)) H0721030
MCEVI = MCCVI - 27 H0721040
WRITE (NUVI,0728) CMFVS, CMGVS, MCDVI, MCEVI H0721050

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C***** END OF TEST STATEMENTS H0721060
0721 FORMAT ( / 30H TEST OF ABS IN EXPRESSIONS -/ 4(F17.1/)) H0721070
0722 FORMAT ( 31H TEST OF IABS IN EXPRESSIONS -/ 4(I15/)) H0721080
0723 FORMAT ( 32H TEST OF FLOAT IN EXPRESSIONS -/ 4(F17.1/)) H0721090
0724 FORMAT ( 31H TEST OF IFIX IN EXPRESSIONS -/ 4(I15/)) H0721100
0725 FORMAT ( 31H TEST OF SIGN IN EXPRESSIONS -/ 4(F17.1/)) H0721110
0726 FORMAT ( 32H TEST OF ISIGN IN EXPRESSIONS -/ 4(I15/)) H0721120
0727 FORMAT ( 40H COMBINATION OF ALL INTRINSIC FUNCTIONS, H0721130
1 2(F17.1), 2(I15)) H0721140
0728 FORMAT ( 2(F17.1/),2(I15/)/ 35H ALL ABOVE ANSWERS SHOULD BE 0 FOR H0721150
1R/2X,35HTHIS TEST SEGMENT TO BE SUCCESSFUL.) H0721160
C***** END OF TEST SEGMENT 072 H0721170
C***** WHEN EXECUTING ONLY SEGMENT 072, THE STOP AND END CARDS H0721180
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0721190
C***** IN COLUMNS 1 AND 2 REMOVED. H0721200
C= STOP H0721210
C= END H0721220
C***** H0730010
C***** H0730020
C***** IFFMS - (073) H0730030
C***** H0730040
C***** H0730050
C***** GENERAL PURPOSE ASA REF H0730060
C***** TEST THAT ALL INTRINSIC FUNCTIONS IN FORTRAN WOULD 8.2/07H0730070
C***** ACCEPT ANY EXPRESSION OF THE TYPE SPECIFIED IN THE (PG 24)H0730080
C***** INTRINSIC FUNCTION TABLE - ASA REFS - 8.2/TABLE 3 H0730090
C***** SEGMENTS 055 - 071 ASSUMED WORKING. H0730100
C***** H0730110
C***** S P E C I F I C A T I O N S SEGMENT 073 H0730120
C***** H0012610
C***** WHEN EXECUTING ONLY SEGMENT 073, THE SPECIFICATION STATEMENTS H0012615
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0012620
C***** IN COLUMNS 1 AND 2 REMOVED. H0012625
C***** H0012630
C= DIMENSION MCA1I(5),AC2S(5,6) H0012635
C= INTEGER MCA3I(2,3,3) H0012640
C= DOUBLE PRECISION DPAVD,DPBVD,DPCVD,DPDVD,DPEVD,DPFVD,DPGVD, H0012645
C= 1DPA1D(5),FC2D(5,5) H0012650
C***** H0012655
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0730130
C***** H0072585
C***** WHEN EXECUTING ONLY SEGMENT 073, THE FOLLOWING STATEMENT H0072590
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0072595
C= NUVI = 6 H0072600
C***** H0072605
WRITE (NUVI,0730) H0730140
0730 FORMAT (1H1,1X,41H IFFMS - (073) FORTRAN INTRINSIC FUNCTIONS/16X, H0730150
126HACCEPT EXPRESSIONS OF TYPE/16X,22HSPECIFIED IN I.F.TABLE/ H0730160
223H ASA REF.- 8.2/TABLE 3//2X,7HRESULTS) H0730170
C***** HEADER FOR SEGMENT 073 WRITTEN H0730180
C***** TEST OF DABS IN EXPRESSIONS 8.2/13H0730190
DPAVD = 1.25D0 H0730200
DPBVD = - 10.0D0 H0730210
DPCVD = DABS(DPAVD + DPBVD) H0730220
DPDVD = DPCVD - 10.0D0 + 1.25D0 H0730230
DPCVD = DABS(1.0D0 + 2.0D0 - 3.0D0 * 50.D-1) H0730240
DPEVD = DPCVD - 12.D0 H0730250
DPCVD = DABS( DPAVD * 1.D0 - 1.25D0 + DPBVD/2.D0) + 1.D0 H0730260
DPFVD = DPCVD - 6.0D0 H0730270
DPGVD = 1.0D0 + DABS(2.5D0 - 1.5D0 * 1.0D0) - 2.D0 H0730280
WRITE (NUVI,0731) DPDVD, DPEVD, DPFVD, DPGVD H0730290
C***** TEST OF AINT IN EXPRESSIONS 8.2/14H0730300
CMAVS = 1.23 H0730310
CMBVS = 27.998 H0730320
CMCVS = -9.007E0 H0730330
CMDVS = AINT(CMAVS + CMBVS - CMCVS) H0730340
CMEVS = CMDVS - 38.0 H0730350
CMDVS = AINT(1.0 + 2.0 /1.0 - 3.0 * 2.E0) H0730360

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CMFVS = CMDVS + 3.0 H0730370
CMDVS = AINT(4. + AINT(2.E0 + CMCVS)) H0730380
CMGVS = CMDVS + 3.0 H0730390
CMDVS = AINT(AINT(AINT( 1.4 - 2.7))) H0730400
CMHVS = CMDVS + 1.0 H0730410
WRITE (NUVI,0732) CMEVS, CMFVS, CMGVS, CMHVS H0730420
C***** TEST OF INT IN EXPRESSIONS 8.2/15 H0730430
MCAVI = INT(1.0 + 2.1 + 3.2 - 8.4 / 2.5 * 2.6) H0730440
MCBVI = MCAVI + 2 H0730450
MCAVI = INT(100.0/6.0 - (2.0 **4.0) + (((2.0-3.0)+4.0) * 2.0)) H0730460
MCCVI = MCAVI - 6 H0730470
MCAVI = INT((100.2/6.1/5.0+4.10) / 2.0) H0730480
MCDVI = MCAVI - 3 H0730490
MCAVI = INT(9.0/2.0) + INT(5.1/4.0) H0730500
MCEVI = MCAVI - 5 H0730510
WRITE (NUVI,0733) MCBVI, MCCVI, MCDVI, MCEVI H0730520
C***** TEST OF IDINT IN EXPRESSIONS 8.2/16 H0730530
DPA1D(1) = 2.5D1 H0730540
MCAVI = IDINT(DPBVD / 2.0D0 + 1.5D0) H0730550
MCBVI = MCAVI + 3 H0730560
MCAVI = IDINT( 1.0D1 + 5.D0 * 2.D1 / 49.D1) + 1 H0730570
MCCVI = MCAVI - 11 H0730580
MCAVI = IDINT(DPA1D(1)) H0730590
MCDVI = MCAVI - 25 H0730600
MCAVI = IDINT(DPA1D(1) + DPA1D(1)/4.0D0) H0730610
MCEVI = MCAVI - 31 H0730620
WRITE (NUVI,0734) MCBVI, MCCVI, MCDVI, MCEVI H0730630
C***** TEST OF AMOD, MOD IN EXPRESSIONS 8.2/17-18 H0730640
AC2S(1,1) = 27.0 H0730650
CMDVS = AMOD(25.0 + AC2S(1,1), 1.0 * 5.0) H0730660
CMEVS = CMDVS - 2.0 H0730670
CMDVS = AMOD(99.0, AMOD(25.0+ 27.0, 5.0)) H0730680
CMFVS = CMDVS - 1.0 H0730690
MCA3I(1,2,3) = 5 H0730700
MCAVI = MOD(98 + 1, MOD(25 + 27,5)) H0730710
MCBVI = MCAVI - 1 H0730720
MCAVI = MOD (MCA3I (1,2,3), 2) H0730730
MCCVI = MCAVI - 1 H0730740
WRITE (NUVI,0735) CMEVS, CMFVS, MCBVI, MCCVI H0730750
C***** TEST OF AMAX0, AMAX1, MAX0, MAX1 AND DMAX1 IN EXPRESSIONS H0730760
C***** 8.2/19-23 H0730770
FC2D(1,1) = 27.0D0 H0730780
CMDVS = AMAX0(5 + 9, MAX0(14 * 2, MAX1( 2.0 /1.0,1.0))) H0730790
CMEVS = CMDVS - 28.0 H0730800
CMDVS = AMAX1((AMAX0((MAX0(29,-100)),5 + 10)), 2.0 * 2.0) H0730810
CMFVS = CMDVS - 29.0 H0730820
MCAVI = MAX1((AMAX0(25, -(1 * 5))),100.0) H0730830
MCBVI = MCAVI - 100 H0730840
DPCVD = DMAX1(FC2D(1,1),DMAX1(1.0D0, 0.D0 * FC2D(1,1))) H0730850
DPDVD = DPCVD - 27.0D0 H0730860
WRITE (NUVI,0736) CMEVS, CMFVS, MCBVI, DPDVD H0730870
C***** TEST OF AMIN0, AMIN1, MIN0, MIN1 AND DMIN1 IN EXPRESSIONS H0730880
C***** 8.2/24-27 H0730890
CMDVS = AMIN1(2.5 + AC2S(1,1), AMIN0(-5, MIN0(0,1))) H0730900
CMEVS = CMDVS + 5.0 H0730910
MCAVI = MIN0((MIN1( -99., 100.0 - 1.0 * 99.)), 2) H0730920
MCBVI = MCAVI + 99 H0730930
MCAVI = MIN1( 2.0,AMIN1( 5. * 3.0, -9.0 /(-9.0))) H0730940
MCCVI = MCAVI - 1 H0730950
DPCVD = DMIN1(FC2D(1,1), DMIN1(2.0D-1,0.0D0)) H0730960
DPDVD = DPCVD - 0.0D0 H0730970
WRITE (NUVI,0737) CMEVS, MCBVI, MCCVI, DPDVD H0730980
C***** TEST OF DSIGN,AND DBLE IN EXPRESSIONS 8.2/33,8.2/43 H0730990
DPCVD= DSIGN(FC2D(1,1) * 1.0D1, - 1.0D0) H0731000
DPDVD = DPCVD + 27.0D1 H0731010
DPCVD = DSIGN((DSIGN(2.0D0, -1.0D0) + 0.0D0), 9.0D0) H0731020
DPEVD = DPCVD - 2.0D0 H0731030
DPCVD = DBLE( 2.0 * 4.0 + AC2S(1,1)) H0731040

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DPFVD = DPCVD - 35.000 H0731050
DPCVD = DBLE(-32.00 / 8.0) * DBLE(-2.0) H0731060
DPGVD = DPCVD - 8.000 H0731070
WRITE (NUVI,0738) DPDVD, DPEVD, DPFVD, DPGVD H0731080
C***** TEST DF DIM AND IDIM IN EXPRESSIDNS 8.2/34-35 H0731090
CMDVS = DIM( 2.0 * 3.5 / 7.0, AC2S(1,1)) H0731100
CMEVS = CMDVS - 0.0 H0731110
CMDVS = DIM(DIM(9.0,-5.5), DIM(6.0,0.0)) H0731120
CMFVS = CMDVS - 8.5 H0731130
MCA1I(1)=8 H0731140
MCCVI = IDIM(MCA1I(1) * 1, - (IDIM(0, -3))) H0731150
MCDVI = MCCVI - 11 H0731160
MCCVI = IDIM(((4 + 2 + 3)/3), - 2) H0731170
MCEVI = MCCVI - 5 H0731180
WRITE (NUVI,9995) CMEVS, CMFVS, MCDVI, MCEVI H0731190
C***** TEST DF SNGL, REAL, AIMAG, CMPLX AND CONJG IN EXPRESSIDNS H0731200
C***** 8.2/36-47 H0731210
CMEVS = SNGL (1.000 * 2.01 + AC2S(1,1)) H0731220
CMFVS = CMEVS - 47.0 H0731230
CMEVS = REAL( CONJG((1.0, -2.0)))+ AIMAG((99.0, -7.0)) H0731240
CMGVS = CMEVS + 6.0 H0731250
CMEVS = AIMAG(CMPLX(REAL((2.0,1.0)), SNGL (1.000))) H0731260
CMHVS = CMEVS - 1.000 H0731270
WRITE (NUVI,0739) CMFVS, CMGVS, CMHVS H0731280
C***** SOME COMBINATIONS OF ABOVE INTRINSIC FUNCTIONS H0731290
CMEVS = AMIN1((FLOAT(IDIM(1+2,0))), (AIMAG(CMPLX(1.0,2.0)))) H0731300
CMFVS = CMEVS - 2.0 H0731310
CMEVS = REAL(CMPLX(SNGL(DABS(-DSIGN(DBLE(2.0),1.000))), CMAVS)) H0731320
CMGVS = CMEVS - 2.0 H0731330
WRITE (NUVI,9994) CMFVS, CMGVS H0731340
C***** END OF TEST STATEMENTS FOR SEGMENT 073 H0731350
0731 FORMAT (/ 30H TEST DF DABS IN EXPRESSIONS //4(D23.8//)) H0731360
0732 FORMAT ( 30H TEST OF AINT IN EXPRESSIONS //4(E19.6//)) H0731370
0733 FORMAT ( 30H TEST DF INT IN EXPRESSIONS //4(I10//)) H0731380
0734 FORMAT ( 30H TEST OF IDINT IN EXPRESSIONS//4(I10//)) H0731390
0735 FORMAT ( 35H TEST DF AMOD, MOD IN EXPRESSIONS // H0731400
1 2(E19.6//), 2(I10//)) H0731410
0736 FORMAT ( 40H TEST DF AMAX0,AMAX1,MAX0,MAX1 AND DMAX// H0731420
1 2(E19.6//), I10/ D23.8) H0731430
0737 FORMAT ( 40H1 TEST OF AMIN0,AMIN1,MIN0,MIN1 AND DMIN// H0731440
1 E19.6/ 2(I10//), D23.8) H0731450
0738 FORMAT (/ 39H TEST OF DSIGN AND DBLE IN EXPRESSIDNS//4(D23.8//)) H0731460
0739 FDRMAT ( 35H TEST OF SNGL,REAL,AIMAG,CMPLX AND / H0731470
123H CONJG IN EXPRESSIDNS //3(E19.6//)) H0731480
9994 FORMAT ( 36H TEST DF SOME COMBINATIONS OF ABOVE/ H0731490
122H INTRINSIC FUNCTIONS //2(E19.6//) /40H ALL ABOVE ANSWERS SHOUL H0731500
2D BE 0 FOR THIS/27H SEGMENT TO BE SUCCESSFUL.) H0731510
9995 FDRMAT ( /37H TEST DF DIM AND IDIM IN EXPRESSIONS/2(E19.6//), H0731520
1 2(I10//)) H0731530
C***** END DF TEST SEGMENT 073 H0731540
C***** WHEN EXECUTING ONLY SEGMENT 073, THE STDP AND END CARDS H0731550
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0731560
C***** IN COLUMNS 1 AND 2 REMDVED. H0731570
C= STOP H0731580
C= END H0731590
STOP H9999995
END H9999999

SAMPLE COMPUTER, FORTRAN CDMPIER LEVEL
DO NOT READ OR WRITE RECORD 2. DOUBLE SPACE DN OUTPUT ID 2
OPERATING SYSTEM VERSION
DO NOT READ OR WRITE RECORD 4. DOUBLE SPACE DN OUTPUT ID 4
DATE, INSTALLATION NAME
DD NDT READ DR WRITE RECORD 6. DOUBLE SPACE DN OUTPUT ID 6
C***** PART7 ***** H0002700
C***** H0002705
C***** ANSI FORTRAN (X3.9-1966) TEST PROGRAMS H0002710
C***** H0002715
C***** PREPARED BY THE NATIDNAL BUREAU OF STANDARDS VERSION 3 H0002720

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C*****		H0002725
C*****	JUNE 1973	H0002730
C*****		H0002735
C*****	PART 7 OF 14 PARTS	H0002740
C*****		H0002745
C*****	SEGMENTS INCLUDED	H0002750
C*****		H0002755
C*****	EXPON - 080 EXP	H0002760
C*****		H0002765
C*****	DEXPO - 081 DEXP	H0002770
C*****		H0002775
C*****	CEXPO - 082 CEXP	H0002780
C*****		H0002785
C*****	LOGTM - 083 ALOG	H0002790
C*****		H0002795
C*****	DPLOG - 084 DLOG	H0002800
C*****		H0002805
C*****	CXLOG - 085 CLOG	H0002810
C*****		H0002815
C*****	COLOG - 086 ALOG10	H0002820
C*****		H0002825
C*****	DCLOG - 087 DLOG10	H0002830
C*****		H0002835
C*****	SINUS - 088 SIN	H0002840
C*****		H0002845
C*****	DPSIN - 089 DSIN	H0002850
C*****		H0002855
C*****	CSICO - 090 CSIN (AND CCOS)	H0002860
C*****		H0002865
C*****	COSNS - 091 COS	H0002870
C*****		H0002875
C*****	DPCOS - 092 DCOS	H0002880
C*****		H0012700
C*****	THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN SEGMENTS	H0012705
C*****	080,081,082,083,084,085,086,087,088,089,090,091,092	H0012710
C*****	ARE RUN AS ONE MAIN PROGRAM.	H0012715
C*****		H0012720
C*****	DIMENSION L11 (10)	H0012725
C*****	DOUBLE PRECISION AVD, BVD, CVD, DVD, EVD, FVD, GVD, XVD, PIVD	H0012730
C*****	COMPLEX EP1C(30), AVC, BVC	H0012735
C*****		H0012740
C*****	END OF SPECIFICATIONS FOR SEGMENTS	H0012745
C*****	080,081,082,083,084,085,086,087,088,089,090,091,092	H0012750
C*****	*****	H0800010
C*****		H0800020
C*****	EXPON - 080	H0800030
C*****		H0800040
C*****	*****	H0800050
C*****	GENERAL PURPOSE	ASA REF H0800060
C*****	.TO TEST BASIC EXTERNAL FUNCTION - EXP - EXPONENTIAL	8.3.3 H0800070
C*****	.USED IN SIMPLE ARITHMETIC EXPRESSIONS	TABLE 4 H0800080
C*****	.INTRINSIC FUNCTIONS ABS AND SIGN ASSUMED WORKING	H0800090
C*****	ARGUMENTS ARE POWERS OF 2	H0800100
C*****		H0800110
C*****	S P E C I F I C A T I O N S SEGMENT 080	H0800120
C*****		H0012755
C*****	WHEN EXECUTING ONLY SEGMENT 080, REMOVE THE PRECEDING	H0012760
C*****	SPECIFICATIONS. THIS SEGMENT HAS NO SPECIFICATIONS.	H0012765
C*****		H0800130
C*****	I N P U T - O U T P U T T A P E ASSIGNMENT STATEMENTS	H0800140
C*****	IRVI = 5	H0072700
C*****	NUVI = 6	H0072705
C*****	IDENTIFY THE SOURCE OF THE TEST PROGRAMS	H0072710
C*****	WRITE(NUVI,0071)	H0072715
0071	FORMAT (41H1 F O R T R A N T E S T P R O G R A M S//	H0072720
	1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS//	H0072725
	3 37H FOR USE ON LARGE FORTRAN PROCESSORS //	H0072730
	4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//	H0072735

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5 23H  VERSION 3      PART 7 (///)
C*****  3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER
C      PREPARED BY USER
C      READ, NO LIST
C      PREPARED BY USER
C      READ, NO LIST
C      PREPARED BY USER
C      READ, NO LIST
      READ(IRVI,0070)
      READ(IRVI,0072)
      READ(IRVI,0073)
0070  FORMAT(40H  BASED ON ASA FORTRAN X3.9-1966      /)
0072  FORMAT(40H  TEST PROGRAMS                      /)
0073  FORMAT(40H  FORTRAN COMPILER                    /)
      WRITE(NUVI,0070)
      WRITE(NUVI,0072)
      WRITE(NUVI,0073)
      WRITE(NUVI,800)
800   FORMAT(15H1 EXPON - (080)//31H  BASIC EXTERNAL FUNCTION -EXP-
      1//26H  (EXPONENTIAL -TYPE REAL)
      2//27H  ASA REF.- 8.3.3 (TABLE 4)//24H  LINE 1 OF EACH PAIR IS/23H
      3 HOLLERITH INFORMATION//9H  RESULTS)
C*****  HEADER FOR SEGMENT 080 WRITTEN
C*****  ARGUMENT RANGE FROM -16.0 TO +16.0
      AVS = -16.0
      CVS =  4.0
      BVS = EXP(AVS)
      WRITE (NUVI,801) BVS
      BVS = EXP(2. * CVS + AVS)
      WRITE (NUVI,802) BVS
      BVS = EXP(AVS + (3. * CVS))
      WRITE (NUVI, 803) BVS
      BVS = EXP(ABS(AVS) + AVS)
      WRITE (NUVI, 804) BVS
      BVS = EXP(-AVS / CVS)
      WRITE (NUVI, 805) BVS
      BVS = EXP(SIGN(AVS + CVS * 2.0, CVS))
      WRITE (NUVI, 806) BVS
      BVS = EXP(CVS + ABS(AVS) - 4.0)
      WRITE(NUVI, 807) BVS
      WRITE (NUVI, 808)
801   FORMAT( 9H0 X=-16.0,5X,25H0.1125351747192591145E-06/E27.7)
802   FORMAT( 9H0 X= -8.0,5X,25H0.3354626279025118388E-03/E27.7)
803   FORMAT( 9H0 X= -4.0,5X,25H0.1831563888873418029E-01/E27.7)
804   FORMAT( 9H0 X=  0.0,5X,25H0.1000000000000000000E+01/E27.7)
805   FORMAT( 9H0 X=  4.0,5X,25H0.5459815003314423908E+02/E27.7)
806   FORMAT( 9H0 X=  8.0,5X,25H0.2980957987041728275E+04/E27.7)
807   FORMAT( 9H0 X= 16.0,5X,25H0.8886110520507872637E+07/E27.7)
808   FORMAT(/37H  LINE 2 OF EACH PAIR IS THE FUNCTION/25H  CALCULATION
      1 PRINTED TO ,8H7 DIGITS)
C*****  END OF TEST SEGMENT 080
C*****  WHEN EXECUTING ONLY SEGMENT 080, THE STOP AND END CARDS
C*****  WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C*****  IN COLUMNS 1 AND 2 REMOVED.
C=     STOP
C=     END
C*****
C*****
C*****  DEXPO - 081
C*****
C*****
C*****  GENERAL PURPOSE
C*****  TO TEST BASIC EXTERNAL FUNCTION - DEXP - EXPONENTIAL  ASA REF
C*****  USED IN SIMPLE ARITHMETIC EXPRESSIONS -SAME AS      8.3.3
C*****  SEGMENT 080 EXCEPT DOUBLE PRECISION              TABLE 4
C*****  INTRINSIC FUNCTIONS DABS AND DSIGN ASSUMED WORKING
C*****  ARGUMENTS RANGE FROM -16.000 TO +16.000, POWERS OF 2
C*****

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C*****	S P E C I F I C A T I O N S	SEGMENT 081	H0810130
C*****			H0012770
C*****	WHEN EXECUTING ONLY SEGMENT 081, THE SPECIFICATION STATEMENTS		H0012775
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=		H0012780
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0012785
C*****			H0012790
C=	DOUBLE PRECISION AVD, BVD, CVD		H0012795
C*****			H0012800
C*****	O U T P U T T A P E	ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0810140
C*****			H0072825
C*****	WHEN EXECUTING ONLY SEGMENT 081, THE FOLLOWING STATEMENT		H0072830
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.		H0072835
C=	NUVI = 6		H0072840
C*****			H0072845
810	FORMAT(15H1 OEXP0 - (081)//32H BASIC EXTERNAL FUNCTION -DEXP-		H0810150
	1//38H (EXPONENTIAL -TYPE DOUBLE PRECISION)		H0810160
	2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H		H0810170
	3 HOLLERITH INFORMATION//9H RESULTS)		H0810180
	WRITE (NUVI, 810)		H0810190
C*****	HEADER FOR SEGMENT 081 WRITTEN		H0810200
	AVD = -16.000		H0810210
	CVD = 4.000		H0810220
	BVD = DEXP(AVD)		H0810230
	WRITE (NUVI, 811) BVD		H0810240
	BVD = OEXP(2. * CVD + AVD)		H0810250
	WRITE (NUVI, 812) BVD		H0810260
	BVD = DEXP(AVD + (3. * CVD))		H0810270
	WRITE (NUVI, 813) BVD		H0810280
	BVD = DEXP(DABS(AVD) + AVD)		H0810290
	WRITE(NUVI, 814) BVD		H0810300
	BVD = DEXP(-AVD / CVD)		H0810310
	WRITE (NUVI, 815) BVD		H0810320
	BVD = DEXP(DSIGN(AVD + CVD * 2.000, CVD))		H0810330
	WRITE (NUVI, 816) BVD		H0810340
	BVD = DEXP(CVD + DABS(AVD) - 4.0)		H0810350
	WRITE (NUVI, 817) BVD		H0810360
	WRITE (NUVI, 818)		H0810370
811	FORMAT(9H0 X=-16.0,5X,25H0.1125351747192591145D-06/D34.14)		H0810380
812	FORMAT(9H0 X= -8.0,5X,25H0.3354626279025118388D-03/D34.14)		H0810390
813	FORMAT(9H0 X= -4.0,5X,25H0.1831563888873418029D-01/D34.14)		H0810400
814	FORMAT(9H0 X= 0.0,5X,25H0.1000000000000000000D+01/D34.14)		H0810410
815	FORMAT(9H0 X= 4.0,5X,25H0.5459815003314423908D+02/D34.14)		H0810420
816	FORMAT(9H0 X= 8.0,5X,25H0.2980957987041728275D+04/D34.14)		H0810430
817	FORMAT(9H0 X= 16.0,5X,25H0.8886110520507872637D+07/D34.14)		H0810440
818	FORMAT(//37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION		H0810450
	A PRINTED TO ,9H14 0IGITS)		H0810460
C*****	END OF TEST SEGMENT 081		H0810470
C*****	WHEN EXECUTING ONLY SEGMENT 081, THE STOP AND ENO CAROS		H0810480
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=		H0810490
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0810500
C=	STOP		H0810510
C=	END		H0810520
C*****			H0820010
C*****			H0820020
C*****	CEXP0 - (082)		H0820030
C*****			H0820040
C*****			H0820050
C*****	GENERAL PURPOSE	ASA REF.	H0820060
C*****	.TO TEST THE BASIC EXTERNAL FUNCTION- CEXP	8.3.3	H0820070
C*****	.TESTING RANGE EXTENDS FROM 0 TO 16 FOR MOOULUS	(TABLE 4)	H0820080
C*****	AND ARGUMENT, VARIES BY STEPS OF PI/3 MAGNITUDE		H0820090
C*****	.INTRINSIC FUNCTIONS CMPLX, SNGL, MOD ASSUMED WORKING		H0820100
C*****			H0820110
C*****	S P E C I F I C A T I O N S	SEGMENT 082	H0820120
C*****			H0012805
C*****	WHEN EXECUTING ONLY SEGMENT 082, THE SPECIFICATION STATEMENTS		H0012810
C*****	WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C=		H0012815
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0012820

C*****		H0012825
C=	COMPLEX EP1C(30), AVC, BVC	H0012830
C=	DOUBLE PRECISION AVD, BVD	H0012835
C*****		H0012840
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0820130
C*****		H0072850
C*****	WHEN EXECUTING ONLY SEGMENT 082, THE FOLLOWING STATEMENT	H0072855
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072860
C=	NUVI = 6	H0072865
C*****		H0072870
	WRITE(NUVI,820)	H0820140
820	FORMAT(15H1 CEXPO - (082)//32H BASIC EXTERNAL FUNCTION -CEXP-	H0820150
	1// 29H (EXPONENTIAL -TYPE COMPLEX)//27H ASA REF.- 8.3.3 (TABLE 4	H0820160
	2)//20H (COMPLEX ARGUMENT)/8X,15HEXPECTED RESULT /8X,15HFUNCTION	H0820170
	3RESULT)	H0820180
C*****	LOG OF 10	H0820190
	BVD = 2.3025850929940D0	H0820200
C*****	SINE OF 60 DEGREES	H0820210
	AVD = .86602540378444D0	H0820220
C*****	INITIALIZE EP1C (EXPECTED VALUES)	H0820230
	EP1C(1) = CMPLX(0.5E-7,SNGL(-AVD*1.D-7))	H0820240
	EP1C(2) = CMPLX(2.5E-7,SNGL(-AVD*5.D-7))	H0820250
	EP1C(3) = (1.E-6,0.0)	H0820260
	EP1C(4) = (5.E-6,0.0)	H0820270
	EP1C(5) = CMPLX(0.5E-5,SNGL(AVD*1.D-5))	H0820280
	EP1C(6) = CMPLX(2.5E-5,SNGL(AVD*5.D-5))	H0820290
	EP1C(7) = CMPLX(-.5E-4,SNGL(AVD * 1.D-4))	H0820300
	EP1C(8) = CMPLX(-2.5E-4,SNGL(AVD*5.D-4))	H0820310
	EP1C(9) = (-1.E-3,0.0)	H0820320
	EP1C(10) = (-5.E-3,0.0)	H0820330
	EP1C(11) = CMPLX(-0.5E-2,SNGL(-AVD*1.D-2))	H0820340
	EP1C(12) = CMPLX(-2.5E-2,SNGL(-AVD * 5.D-2))	H0820350
	EP1C(13) = CMPLX(0.5E-1,SNGL(-AVD*1.D-1))	H0820360
	EP1C(14) = CMPLX(2.5E-1,SNGL(-AVD*5.D-1))	H0820370
	EP1C(15) = (1.0,0.0)	H0820380
	EP1C(16) = (5.0,0.0)	H0820390
	EP1C(17) = CMPLX(0.5E1,SNGL(AVD * 1.D1))	H0820400
	EP1C(18) = CMPLX(2.5E1,SNGL(AVD * 5.D1))	H0820410
	EP1C(19) = CMPLX(-0.5E2,SNGL(AVD * 1.D2))	H0820420
	EP1C(20) = CMPLX(-2.5E2,SNGL(AVD * 5.D2))	H0820430
	EP1C(21) = (-1.E3,0.0)	H0820440
	EP1C(22) = (-5.E3,0.0)	H0820450
	EP1C(23) = CMPLX(-0.5E4,SNGL(-AVD * 1.D4))	H0820460
	EP1C(24) = CMPLX(-2.5E4,SNGL(-AVD * 5.D4))	H0820470
	EP1C(25) = CMPLX(0.5E5,SNGL(-AVD * 1.D5))	H0820480
	EP1C(26) = CMPLX(2.5E5,SNGL(-AVD * 5.D5))	H0820490
	EP1C(27) = (1.E6,0.0)	H0820500
	EP1C(28) = (5.E6,0.0)	H0820510
	EP1C(29) = CMPLX(0.5E7,SNGL(AVD * 1.D7))	H0820520
	EP1C(30) = CMPLX(2.5E7,SNGL(AVD * 5.D7))	H0820530
	IVI = 0	H0820540
821	IVI = IVI + 1	H0820550
	IF (MOD(IVI,2).EQ.0) GO TO 822	H0820560
	XIVS = ((IVI + 1)/2) - 8	H0820570
	AVS = BVD * XIVS	H0820580
	GO TO 823	H0820590
C*****	1.609 IS LOG OF 5	H0820600
822	XIVS = (IVI / 2) - 8	H0820610
	AVS = BVD * XIVS + 1.6094379124341D0	H0820620
C*****	1.047 IS PI/3	H0820630
823	AVC = CMPLX(AVS,SNGL(1.0471975511966D0 * XIVS))	H0820640
	BVC = CEXP(AVC)	H0820650
	WRITE(NUVI, 824) AVC, EP1C(IVI), BVC	H0820660
	IF (IVI - 10) 825, 827, 825	H0820670
825	IF (IVI - 20) 826, 827, 826	H0820680
826	IF (IVI - 30) 821, 828, 828	H0820690
827	WRITE(NUVI, 829)	H0820700
	GO TO 821	H0820710

828	CONTINUE	H0820720
829	FORMAT(22H1 CEXPO - (082) -CEXP-)	H0820730
824	FORMAT(3H0 (,E14.7,1H,,E14.7,1H),2(/8X,2E16.7))	H0820740
C*****	END OF TEST SEGMENT 082	H0820750
C*****	WHEN EXECUTING ONLY SEGMENT 082, THE STOP AND END CARDS	H0820760
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0820770
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0820780
C=	STOP	H0820790
C=	END	H0820800
C*****		H0830010
C*****		H0830020
C*****	LOGTM - 083	H0830030
C*****		H0830040
C*****		H0830050
C*****	GENERAL PURPOSE	H0830060
C*****	.TO TEST BASIC EXTERNAL FUNCTION - ALOG -	ASA REF H0830070
C*****	NATURAL LOG -USED IN SIMPLE ARITHMETIC EXPRESSIONS	8.3.3 H0830080
C*****	INTRINSIC FUNCTIONS ABS,AMIN1,INT,MIN0,FLOAT,	TABLE 4 H0830090
C*****	SIGN ASSUMED WORKING	H0830100
C*****	ARGUMENTS ARE POWERS(OR SUMS) OF 2	H0830110
C*****		H0830120
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0830130
C*****		H0072875
C*****	WHEN EXECUTING ONLY SEGMENT 083, THE FOLLOWING STATEMENT	H0072880
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072885
C=	NUVI = 6	H0072890
C*****		H0072895
830	FORMAT(15H1 LOGTM - (083)//32H BASIC EXTERNAL FUNCTION -ALOG-	H0830140
	1//26H (NATURAL LOG -TYPE REAL)	H0830150
	2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H	H0830160
	3 HOLLERITH INFORMATION//9H RESULTS)	H0830170
	WRITE (NUVI, 830)	H0830180
C*****	HEADER FOR SEGMENT 083 WRITTEN	H0830190
	AVS = .25	H0830200
	CVS = 2.0	H0830210
	MVI = -2	H0830220
	BVS = ALOG(AVS / 2.0)	H0830230
	WRITE (NUVI, 831) BVS	H0830240
	BVS = ALOG(AVS)	H0830250
	WRITE (NUVI, 832) BVS	H0830260
	BVS = ALOG(AVS * CVS)	H0830270
	WRITE (NUVI, 833) BVS	H0830280
	BVS = ALOG(AVS * CVS ** 2)	H0830290
	WRITE (NUVI, 834) BVS	H0830300
	BVS = ALOG(AMIN1(AVS * 2.0 + ABS(FLOAT(MVI) / CVS),CVS))	H0830310
	WRITE (NUVI, 835) BVS	H0830320
	BVS = ALOG(SIGN(FLOAT(MIN0(MVI,INT(CVS))),AVS))	H0830330
	WRITE (NUVI, 836) BVS	H0830340
831	FORMAT(9H0 X=0.125,5X,19H-2.0794415416798359/14X,F9.6)	H0830350
832	FORMAT(9H0 X=0.25 ,5X,19H-1.3862943611198906/14X,F 9.6)	H0830360
833	FORMAT(9H0 X=0.5 ,5X,19H-0.6931471805599453/14X,F10.7)	H0830370
834	FORMAT(9H0 X=1.0 ,5X,19H 0.0000000000000000/14X,F10.7)	H0830380
835	FORMAT(9H0 X=1.5 ,5X,19H 0.4054651081081644/14X,F10.7)	H0830390
836	FORMAT(9H0 X=2.0 ,5X,19H 0.6931471805599453/14X,F10.7)	H0830400
	WRITE (NUVI, 837)	H0830410
837	FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION	H0830420
	1 PRINTED TO ,8H7 DIGITS)	H0830430
C*****	END OF TEST SEGMENT 083	H0830440
C*****	WHEN EXECUTING ONLY SEGMENT 083, THE STOP AND END CARDS	H0830450
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0830460
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0830470
C=	STOP	H0830480
C=	END	H0830490
C*****		H0840010
C*****		H0840020
C*****	DPLOG - 084	H0840030
C*****		H0840040
C*****		H0840050

C*****	GENERAL PURPOSE	H0840060
C*****	TO TEST BASIC EXTERNAL FUNCTION - DLOG -	ASA REF H0840070
C*****	NATURAL LOG -TYPE DOUBLE PRECISION	8.3.3 H0840080
C*****	USED IN SIMPLE ARITHMETIC EXPRESSIONS	TABLE 4 H0840090
C*****	INTRINSIC FUNCTIONS DMIN1,DABS,DBLE,FLOAT,DSIGN,	H0840100
C*****	MIN0,DINT, ASSUMED WORKING	H0840110
C*****	ARGUMENTS ARE POWERS OF 2	H0840120
C*****		H0840130
C*****	S P E C I F I C A T I O N S SEGMENT 084	H0840140
C*****		H0012845
C*****	WHEN EXECUTING ONLY SEGMENT 084, THE SPECIFICATION STATEMENTS	H0012850
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0012855
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0012860
C*****		H0012865
C=	DOUBLE PRECISION AVD, BVD, CVD	H0012870
C*****		H0012875
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0840150
C*****		H0072900
C*****	WHEN EXECUTING ONLY SEGMENT 084, THE FOLLOWING STATEMENT	H0072905
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072910
C=	NUVI = 6	H0072915
C*****		H0072920
840	FORMAT(15H1 DPLOG - (084)//32H BASIC EXTERNAL FUNCTION -DLOG-	H0840160
	1//38H (NATURAL LOG -TYPE DOUBLE PRECISION)	H0840170
	2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H	H0840180
	3 HOLLERITH INFORMATION//9H RESULTS)	H0840190
	WRITE (NUVI, 840)	H0840200
C*****	HEADER FOR SEGMENT 084 WRITTEN	H0840210
	AVD = .25D0	H0840220
	CVD = 2.0D0	H0840230
	MVI = -2	H0840240
	BVD = DLOG(AVD / 2.0D0)	H0840250
	WRITE (NUVI, 841) BVD	H0840260
	BVD = DLOG(AVD)	H0840270
	WRITE(NUVI, 842) BVD	H0840280
	BVD = DLOG(AVD * CVD)	H0840290
	WRITE(NUVI, 843) BVD	H0840300
	BVD = DLOG(AVD * CVD ** 2)	H0840310
	WRITE (NUVI, 844) BVD	H0840320
	BVD = DLOG(DMIN1(AVD * 2.0D0 +DABS(DBLE(FLOAT(MVI))/CVD), CVD))	H0840330
	WRITE (NUVI, 845) BVD	H0840340
	BVD = DLOG(DSIGN(DBLE(FLOAT(MINO(MVI, IDINT(CVD))))),AVD))	H0840350
	WRITE (NUVI, 846) BVD	H0840360
	WRITE (NUVI, 847)	H0840370
841	FORMAT(9H0 X=0.125,5X,23H-2.0794415416798359D+00/1PD34.13)	H0840380
842	FORMAT(9H0 X=0.25 ,5X,23H-1.3862943611198906D+00/1PD34.13)	H0840390
843	FORMAT(9H0 X=0.5 ,5X,23H-0.6931471805599453D+00/ D35.14)	H0840400
844	FORMAT(9H0 X=1.0 ,5X,23H 0.000000000000000 / D35.14)	H0840410
845	FORMAT(9H0 X=1.5 ,5X,23H 0.4054651081081644D+00/ D35.14)	H0840420
846	FORMAT(9H0 X=2.0 ,5X,23H 0.6931471805599453D+00/ D35.14)	H0840430
847	FORMAT(//37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION	H0840440
	A PRINTED TO ,9H14 DIGITS)	H0840450
C*****	END OF TEST SEGMENT 084	H0840460
C*****	WHEN EXECUTING ONLY SEGMENT 084, THE STOP AND END CARDS	H0840470
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0840480
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0840490
C=	STOP	H0840500
C=	END	H0840510
C*****		H0850010
C*****		H0850020
C*****	CXLOG - (085)	H0850030
C*****		H0850040
C*****		H0850050
C*****	GENERAL PURPOSE	ASA REF H0850060
C*****	.TO TEST BASIC EXTERNAL FUNCTION - CLOG -	ASA REF H0850070
C*****	(COMPLEX LOG)	8.3.3 H0850080
C*****	TESTING RANGE EXTENDS FROM 0 TO 5.E7 FOR MODULUS	TABLE 4 H0850090
C*****	AND ARGUMENT VARIES BY STEPS OF PI/3 MAGNITUDE	H0850100

C*****	INTRINSIC FUNCTIONS CMPLX, SNGL, MOD ASSUMED WORKING	H0850110
C*****		H0850120
C*****	S P E C I F I C A T I O N S SEGMENT 085	H0850130
C*****		H0012880
C*****	WHEN EXECUTING ONLY SEGMENT 085, THE SPECIFICATION STATEMENTS	H0012885
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0012890
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0012895
C*****		H0012900
C=	COMPLEX EP1C(30), AVC, BVC	H0012905
C=	DOUBLE PRECISION AVD, BVD	H0012910
C*****		H0012915
C*****	O U T P U T - T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0850140
C*****		H0072925
C*****	WHEN EXECUTING ONLY SEGMENT 085, THE FOLLOWING STATEMENT	H0072930
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0072935
C=	NUVI = 6	H0072940
C*****		H0072945
	WRITE (NUVI, 850)	H0850150
850	FORMAT(15H1 CXLOG - (085) //32H BASIC EXTERNAL FUNCTION -CLOG-	H0850160
	1// 29H (NATURAL LOG -TYPE COMPLEX)//27H ASA REF.- 8.3.3 (TABLE 4	H0850170
	2)//20H (COMPLEX ARGUMENT)// 8X,15HEXPECTED RESULT /8X,15HFUNCTION	H0850180
	3RESULT)	H0850190
C*****	LOG OF 10	H0850200
	BVD = 2.3025850929940D0	H0850210
C*****	SINE OF 60 DEGREES	H0850220
	AVD = .8660254037844D0	H0850230
C*****	INITIALIZE EP1C (EXPECTED VALUES)	H0850240
	EP1C(1) = CMPLX(0.5E-7,SNGL(-AVD*1.D-7))	H0850250
	EP1C(2) = CMPLX(2.5E-7,SNGL(-AVD*5.D-7))	H0850260
	EP1C(3) = (1.E-6,0.0)	H0850270
	EP1C(4) = (5.E-6,0.0)	H0850280
	EP1C(5) = CMPLX(0.5E-5,SNGL(AVD*1.D-5))	H0850290
	EP1C(6) = CMPLX(2.5E-5,SNGL(AVD*5.D-5))	H0850300
	EP1C(7) = CMPLX(-.5E-4,SNGL(AVD * 1.D-4))	H0850310
	EP1C(8) = CMPLX(-2.5E-4,SNGL(AVD*5.D-4))	H0850320
	EP1C(9) = (-1.E-3,0.0)	H0850330
	EP1C(10) = (-5.E-3,0.0)	H0850340
	EP1C(11) = CMPLX(-0.5E-2,SNGL(-AVD*1.D-2))	H0850350
	EP1C(12) = CMPLX(-2.5E-2,SNGL(-AVD * 5.D-2))	H0850360
	EP1C(13) = CMPLX(0.5E-1,SNGL(-AVD*1.D-1))	H0850370
	EP1C(14) = CMPLX(2.5E-1,SNGL(-AVD*5.D-1))	H0850380
	EP1C(15) = (1.0,0.0)	H0850390
	EP1C(16) = (5.0,0.0)	H0850400
	EP1C(17) = CMPLX(0.5E1,SNGL(AVD * 1.D1))	H0850410
	EP1C(18) = CMPLX(2.5E1,SNGL(AVD * 5.D1))	H0850420
	EP1C(19) = CMPLX(-0.5E2,SNGL(AVD * 1.D2))	H0850430
	EP1C(20) = CMPLX(-2.5E2,SNGL(AVD * 5.D2))	H0850440
	EP1C(21) = (-1.E3,0.0)	H0850450
	EP1C(22) = (-5.E3,0.0)	H0850460
	EP1C(23) = CMPLX(-0.5E4,SNGL(-AVD * 1.D4))	H0850470
	EP1C(24) = CMPLX(-2.5E4,SNGL(-AVD * 5.D4))	H0850480
	EP1C(25) = CMPLX(0.5E5,SNGL(-AVD * 1.D5))	H0850490
	EP1C(26) = CMPLX(2.5E5,SNGL(-AVD * 5.D5))	H0850500
	EP1C(27) = (1.E6,0.0)	H0850510
	EP1C(28) = (5.E6,0.0)	H0850520
	EP1C(29) = CMPLX(0.5E7,SNGL(AVD * 1.D7))	H0850530
	EP1C(30) = CMPLX(2.5E7,SNGL(AVD * 5.D7))	H0850540
C*****	YVS COMPENSATES FOR -2PI AND +2PI GENERATED BY USE OF XIVS*PI/3	H0850550
C*****	FOR EXPECTED IMAGINARY VALUES, TAKES VALUES +6,0,-6 DURING RANGE	H0850560
	YVS = 6.	H0850570
	IVI = 0	H0850580
851	IVI = IVI + 1	H0850590
	IF (MOD(IVI, 2) .EQ. 0) GO TO 852	H0850600
	XIVS = ((IVI + 1)/2) - 8	H0850610
	AVS = BVD * XIVS	H0850620
	GO TO 853	H0850630
C*****	1.609 IS LOG OF 5	H0850640
852	XIVS = (IVI / 2) - 8	H0850650

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      AVS = (BVD * XIVS) + 1.6094379124341D0
C*****      1.047 IS PI/3
853  AVC = CMPLX (AVS, SNGL(1.0471975511966D0 * (XIVS + YVS)))
      BVC = CLOG (EP1C(IVI))
      WRITE (NUVI, 854) EP1C(IVI), AVC, BVC
      IF(IVI - 10) 855, 858, 855
855  IF (IVI - 20) 856, 859, 856
856  IF (IVI - 22) 857, 7850, 857
857  IF (IVI - 30) 851, 7851, 7851
858  YVS = 0.0
859  WRITE (NUVI, 7852)
      GO TO 851
7850  YVS = -6.0
      GO TO 851
7851  CONTINUE
854  FORMAT(3H0 (,E14.7,1H,,E14.7,1H),2(/8X,2E16.7))
7852  FORMAT(22H1 CXLOG - (085) -CLOG-)
C*****      END OF TEST SEGMENT 085
C*****      WHEN EXECUTING ONLY SEGMENT 085, THE STOP AND END CARDS
C*****      WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C*****      IN COLUMNS 1 AND 2 REMOVED.
C=      STOP
C=      END
C*****
C*****
C*****      COLOG - 086
C*****
C*****
C*****
C*****      GENERAL PURPOSE
C*****      TO TEST BASIC EXTERNAL FUNCTION - ALOG10 -
C*****      COMMON LOG - TYPE REAL
C*****      USED IN SIMPLE ARITHMETIC EXPRESSIONS
C*****      INTRINSIC FUNCTIONS ABS,AINT,AMAX1,SIGN, ASSUMED WORKING
C*****      ARGUMENT RANGE 0.5 TO 16.0 ,POWERS OF 2
C*****
C*****      O U T P U T   T A P E   ASSIGNMENT STATEMENT.   NO INPUT TAPE.
C*****
C*****      WHEN EXECUTING ONLY SEGMENT 086, THE FOLLOWING STATEMENT
C*****      NUVI = 6   MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C=      NUVI = 6
C*****
860  FORMAT(15H1 COLOG - (086)//34H  BASIC EXTERNAL FUNCTION -ALOG10-
      1//25H  (COMMON LOG -TYPE REAL)
      2//27H  ASA REF.- 8.3.3 (TABLE 4)//24H  LINE 1 OF EACH PAIR IS/23H
      3 HOLLERITH INFORMATION//9H  RESULTS)
      WRITE (NUVI, 860)
C*****      HEADER FOR SEGMENT 086 WRITTEN
      AVS = -2.0
      CVS = -4.0
      BVS = ALOG10(AVS / CVS)
      WRITE (NUVI, 861) BVS
      BVS = ALOG10(ABS(AVS + 1.0))
      WRITE (NUVI, 862) BVS
      BVS = ALOG10(-AVS)
      WRITE (NUVI, 863) BVS
      BVS = ALOG10(AINT(AVS + 2.0 - CVS))
      WRITE (NUVI, 864) BVS
      BVS = ALOG10(AMAX1(AVS * CVS, CVS * 2.0))
      WRITE (NUVI, 865) BVS
      BVS = ALOG10(SIGN(CVS,(-AVS)) **2)
      WRITE (NUVI, 866) BVS
      WRITE (NUVI, 867)
861  FORMAT( 8H0 X= 0.5,5X,25H-0.3010299956639811952137/8X, F15.7)
862  FORMAT( 8H0 X= 1.0,5X,25H 0.0000000000000000000000/8X, F15.7)
863  FORMAT( 8H0 X= 2.0,5X,25H 0.3010299956639811952137/8X, F15.7)
864  FORMAT( 8H0 X= 4.0,5X,25H 0.6020599913279623904275/8X, F15.7)
865  FORMAT( 8H0 X= 8.0,5X,25H 0.9030899869919435856412/8X, F15.7)
866  FORMAT( 8H0 X=16.0,5X,25H 1.2041199826559247808550/8X, F15.7)

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867  FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATIONH0860410
1 PRINTED TO ,8H7 DIGITS)H0860420
C***** END OF TEST SEGMENT 086H0860430
C***** WHEN EXECUTING ONLY SEGMENT 086, THE STOP AND END CARDSH0860440
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=H0860450
C***** IN COLUMNS 1 AND 2 REMOVED.H0860460
C= STOPH0860470
C= ENDH0860480
C*****H0870010
C*****H0870020
C***** DCLOG - 087H0870030
C*****H0870040
C*****H0870050
C***** GENERAL PURPOSEH0870060
C***** TO TEST BASIC EXTERNAL FUNCTION - DLOG10 - ASA REFH0870070
C***** COMMON LOG - TYPE DOUBLE PRECISION 8.3.3 H0870080
C***** SAME AS SEGMENT 086 EXCEPT FOR TYPE TABLE 4H0870090
C***** INTRINSIC FUNCTIONS DABS,IDINT,FLOAT,DBLE,H0870100
C***** DMAX1,DSIGN ASSUMED WORKINGH0870110
C***** ARGUMENT RANGE 0.5 TO 16.0 POWERS OF 2H0870120
C*****H0870130
C***** S P E C I F I C A T I O N S SEGMENT 087H0870140
C*****H0012920
C***** WHEN EXECUTING ONLY SEGMENT 087, THE SPECIFICATION STATEMENTS H0012925
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=H0012930
C***** IN COLUMNS 1 AND 2 REMOVED.H0012935
C*****H0012940
C= DOUBLE PRECISION AVD, BVD, CVDH0012945
C*****H0012950
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.H0870150
C*****H0072975
C***** WHEN EXECUTING ONLY SEGMENT 087, THE FOLLOWING STATEMENT H0072980
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.H0072985
C= NUVI = 6H0072990
C*****H0072995
870  FORMAT(15H1 DCLOG - (087)//34H BASIC EXTERNAL FUNCTION -DLOG10-H0870160
1//37H (COMMON LOG -TYPE DOUBLE PRECISION)H0870170
2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H H0870180
3 HOLLERITH INFORMATION//9H RESULTS)H0870190
WRITE (NUVI, 870)H0870200
C***** HEADER FOR SEGMENT 087 WRITTENH0870210
AVD = -2.0D0H0870220
CVD = -4.0D0H0870230
BVD = DLOG10(AVD / CVD)H0870240
WRITE (NUVI, 871) BVDH0870250
BVD = DLOG10(DABS(AVD + 1.0D0))H0870260
WRITE (NUVI, 872) BVDH0870270
BVD = DLOG10(-AVD)H0870280
WRITE (NUVI, 873) BVDH0870290
BVD = DLOG10(DBLE(FLOAT(IDINT(AVD + 2.0D0 - CVD))))H0870300
WRITE (NUVI, 874) BVDH0870310
BVD = DLOG10(DMAX1(AVD * CVD, CVD * 2.0D0))H0870320
WRITE (NUVI, 875) BVDH0870330
BVD = DLOG10(DSIGN(CVD,(-AVD)) **2)H0870340
WRITE (NUVI, 876) BVDH0870350
WRITE (NUVI, 877)H0870360
871  FORMAT( 8H0 X= 0.5,5X,29H-0.3010299956639811952137D+00/D34.14)H0870370
872  FORMAT( 8H0 X= 1.0,5X,29H 0.000000000000000000000000 /D34.14)H0870380
873  FORMAT( 8H0 X= 2.0,5X,29H 0.3010299956639811952137D+00/D34.14)H0870390
874  FORMAT( 8H0 X= 4.0,5X,29H 0.6020599913279623904275D+00/D34.14)H0870400
875  FORMAT( 8H0 X= 8.0,5X,29H 0.9030899869919435856412D+00/D34.14)H0870410
876  FORMAT( 8H0 X=16.0,5X,29H 1.2041199826559247808550D+00/1PD33.13)H0870420
877  FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATIONH0870430
A PRINTED TO ,9H14 DIGITS)H0870440
C***** END OF TEST SEGMENT 087H0870450
C***** WHEN EXECUTING ONLY SEGMENT 087, THE STOP AND END CARDSH0870460
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=H0870470
C***** IN COLUMNS 1 AND 2 REMOVED.H0870480

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C=	STOP	H0870490
C=	END	H0870500
C*****		H0880010
C*****		H0880020
C*****	SINUS - 088	H0880030
C*****		H0880040
C*****		H0880050
C*****	GENERAL PURPOSE	ASA REF H0880060
C*****	TO TEST BASIC EXTERNAL FUNCTION - SIN -	8.3.3 H0880070
C*****	TRIGONOMETRIC SINE - TYPE REAL	TABLE 4 H0880080
C*****	INTRINSIC FUNCTION SNGL ASSUMED WORKING	H0880090
C*****	ARGUMENTS FROM 0 TO 2 PI	H0880100
C*****		H0880110
C*****	S P E C I F I C A T I O N S SEGMENT 088	H0880120
C*****		H0012955
C*****	WHEN EXECUTING ONLY SEGMENT 088, THE SPECIFICATION STATEMENTS	H0012960
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0012965
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0012970
C*****		H0012975
C=	DOUBLE PRECISION AVD, BVD, CVD, DVD, EVD, PIVD	H0012980
C*****		H0012985
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H0880130
C*****		H0073000
C*****	WHEN EXECUTING ONLY SEGMENT 088, THE FOLLOWING STATEMENT	H0073005
C*****	NUVI = 6. MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0073010
C=	NUVI = 6	H0073015
C*****		H0073020
	WRITE (NUVI, 880)	H0880140
880	FORMAT(15H1 SINUS - (088)//31H BASIC EXTERNAL FUNCTION -SIN-	H0880150
	1//33H (TRIGONOMETRIC SINE -TYPE REAL)	H0880160
	2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H	H0880170
	3 HOLLERITH INFORMATION//9H RESULTS)	H0880180
C*****	HEADER FOR SEGMENT 088 WRITTEN	H0880190
	AVD = 3.140625D+0	H0880200
	BVD = 0.9613037109375D-3	H0880210
	CVD = 0.57220458984375D-5	H0880220
	DVD = 0.596046447753906D-6	H0880230
	EVD = 0.31786509547056D-7	H0880240
C*****	PI IS SUM OF AVD TO EVD, PARTS ARE EXPRESSED IN SUMS OF POWERS OF	H0880250
C*****	2, TO PERMIT A POSSIBLE 20 DECIMAL DIGIT ARGUMENT TO BE CREATED	H0880260
	PIVD = EVD + DVD + CVD + BVD + AVD	H0880270
	AVS = 1.0	H0880280
	CVS = 2.0	H0880290
	BVS = SIN(CVS - 2.0 * AVS)	H0880300
	WRITE (NUVI, 881) BVS	H0880310
	BVS = SIN(AVS)	H0880320
	WRITE (NUVI, 882) BVS	H0880330
	BVS = SIN (CVS)	H0880340
	WRITE (NUVI, 883) BVS	H0880350
	BVS = SIN(AVS + CVS)	H0880360
	WRITE (NUVI, 884) BVS	H0880370
	BVS = SIN(SNGL(PIVD))	H0880380
	WRITE (NUVI, 885) BVS	H0880390
	BVS = SIN(2. * CVS)	H0880400
	WRITE (NUVI, 886) BVS	H0880410
	BVS = SIN(2.0 + CVS + AVS)	H0880420
	WRITE (NUVI, 887) BVS	H0880430
	BVS = SIN(CVS * (AVS + CVS))	H0880440
	WRITE (NUVI, 888) BVS	H0880450
	BVS = SIN(SNGL(2.0D0 * PIVD))	H0880460
	WRITE (NUVI, 889) BVS	H0880470
	WRITE (NUVI, 7880)	H0880480
881	FORMAT(9H0 X= 0.0 ,5X,15H 0.000000000000 /14X, F10.7)	H0880490
882	FORMAT(9H0 X= 1.0 ,5X,15H+0.841470984808 /14X, F10.7)	H0880500
883	FORMAT(9H0 X= 2.0 ,5X,15H+0.909297426826 /14X, F10.7)	H0880510
884	FORMAT(9H0 X= 3.0 ,5X,15H+0.141120008060 /14X, F10.7)	H0880520
885	FORMAT(9H0 X= (PI),5X,15H 0.000000000000 /14X, F10.7)	H0880530
886	FORMAT(9H0 X= 4.0 ,5X,15H-0.756802495308 /14X, F10.7)	H0880540


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887  FORMAT( 9H0 X= 5.0 ,5X,15H-0.958924274663 /14X, F10.7)      H0880550
888  FORMAT( 9H0 X= 6.0 ,5X,15H-0.279415498198 /14X, F10.7)      H0880560
889  FORMAT( 9H0 X=(2PI),5X,15H 0.000000000000 /14X, F10.7)      H0880570
7880 FORMAT(/137H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATIONH0880580
      1 PRINTED TO ,8H7 DIGITS)                                     H0880590
C*****  END OF TEST SEGMENT 088                                     H0880600
C*****  WHEN EXECUTING ONLY SEGMENT 088, THE STOP AND END CARDS   H0880610
C*****  WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=           H0880620
C*****  IN COLUMNS 1 AND 2 REMOVED.                               H0880630
C= STOP                                                            H0880640
C= END                                                            H0880650
C*****                                                             H0890010
C*****                                                             H0890020
C*****  DPSIN - 089                                              H0890030
C*****                                                             H0890040
C*****                                                             H0890050
C*****  GENERAL PURPOSE                                         ASA REFH0890060
C*****  TO TEST BASIC EXTERNAL FUNCTION - DSIN -              8.3.3 H0890070
C*****  TRIGONOMETRIC SINE - TYPE DOUBLE PRECISION           TABLE 4H0890080
C*****  SAME AS SEGMENT 088 EXCEPT D.P.                    H0890090
C*****  INTRINSIC FUNCTION DSIGN ASSUMED WORKING              H0890100
C*****  ARGUMENTS FROM 0 TO 2 PI                              H0890110
C*****                                                             H0890120
C*****  S P E C I F I C A T I O N S SEGMENT 089                H0890130
C*****                                                             H0012990
C*****  WHEN EXECUTING ONLY SEGMENT 089, THE SPECIFICATION STATEMENTS H0012995
C*****  WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=         H0013000
C*****  IN COLUMNS 1 AND 2 REMOVED.                            H0013005
C*****                                                             H0013010
C= DOUBLE PRECISION AVD, BVD, CVD, DVD, EVD, PIVD, XVD, FVD, GVD H0013015
C*****                                                             H0013020
C*****  O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0890140
C*****                                                             H0073025
C*****  WHEN EXECUTING ONLY SEGMENT 089, THE FOLLOWING STATEMENT H0073030
C*****  NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.   H0073035
C= NUVI = 6                                                         H0073040
C*****                                                             H0073045
890  FORMAT(15H1 DPSIN - (089)//32H BASIC EXTERNAL FUNCTION -DSIN- H0890150
      1//33H (TRIGONOMETRIC SINE -TYPE D.P.)                     H0890160
      2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H H0890170
      3 HOLLERITH INFORMATION//9H RESULTS)                       H0890180
      WRITE (NUVI, 890)                                           H0890190
C*****  HEADER FOR SEGMENT 089 WRITTEN                           H0890200
      AVD = 3.140625D+0                                           H0890210
      BVD = 0.9613037109375D-3                                     H0890220
      CVD = 0.57220458984375D-5                                   H0890230
      DVD = 0.596046447753906D-6                                  H0890240
      EVD = 0.31786509547056D-7                                   H0890250
C*****PI IS SUM OF AVD TO EVD, PARTS ARE EXPRESSED IN SUMS OF POWERS OF H0890260
C*****2, TO PERMIT A POSSIBLE 20 DECIMAL DIGIT ARGUMENT TO BE CREATED H0890270
      PIVD = EVD + DVD + CVD + BVD + AVD                         H0890280
      FVD = 1.0D0                                                H0890290
      GVD = 2.0D0                                                H0890300
      XVD = DSIN(GVD - 2.0D0 * FVD)                               H0890310
      WRITE (NUVI, 891) XVD                                       H0890320
      XVD = DSIN(FVD)                                             H0890330
      WRITE (NUVI, 892) XVD                                       H0890340
      XVD = SIN(GVD)                                              H0890350
      WRITE (NUVI, 893) XVD                                       H0890360
      XVD = DSIN(GVD + FVD)                                       H0890370
      WRITE (NUVI, 894) XVD                                       H0890380
      XVD = DSIN(PIVD)                                            H0890390
      WRITE (NUVI, 895) XVD                                       H0890400
      XVD = DSIN(2. * GVD)                                         H0890410
      WRITE (NUVI, 896) XVD                                       H0890420
      XVD = DSIN(2.0 +FVD + GVD)                                   H0890430
      WRITE (NUVI, 897) XVD                                       H0890440
      XVD = DSIN(GVD * (FVD + GVD))                               H0890450

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WRITE (NUVI, 898) XVD
XVD = DSIN(DSIGN(2.000 * PIVD, GVD))
WRITE (NUVI, 899) XVD
WRITE (NUVI, 7890)
891  FORMAT(9H0 X= 0.0 , 31H 0.000000000000000000000000 / D31.14)
892  FORMAT(9H0 X= 1.0 , 31H +0.84147098480789650665250D+00 /D31.14)
893  FORMAT(9H0 X= 2.0 , 31H +0.90929742682568169539602D+00 /D31.14)
894  FORMAT(9H0 X= 3.0 , 31H +0.14112000805986722210074D+00 /D31.14)
895  FORMAT(9H0 X= (PI), 31H 0.000000000000000000000000 / D31.14)
896  FORMAT(9H0 X= 4.0 , 31H -0.75680249530792825137264D+00 /D31.14)
897  FORMAT(9H0 X= 5.0 , 31H -0.95892427466313846889315D+00 / D31.14)
898  FORMAT(9H0 X= 6.0 , 31H -0.27941549819892587281156D+00 / D31.14)
899  FORMAT(9H0 X=(2PI), 31H 0.000000000000000000000000 / D31.14)
7890  FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION
      A PRINTED TO ,9H14 DIGITS)
C***** ENO OF TEST SEGMENT 089
C***** WHEN EXECUTING ONLY SEGMENT 089, THE STOP AND ENO CARDS
C***** WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C= STOP
C= END
C*****
C***** CSICO - (090)
C*****
C***** GENERAL PURPOSE ASA REF
C***** TO TEST BASIC EXTERNAL FUNCTIONS -CSIN- AND -CCOS- 8.3.3
C***** COMPLEX SINE AND COSINE TABLE 4
C***** INTRINSIC FUNCTION CMLPX ASSUMED WORKING
C*****
C***** S P E C I F I C A T I O N S SEGMENT 090
C*****
C***** WHEN EXECUTING ONLY SEGMENT 090, THE SPECIFICATION STATEMENTS
C***** WHICH APPEAR AS COMMENT CAROS, MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C*****
C= DIMENSION L1I (10)
C= COMPLEX AVC, BVC
C*****
C***** O U T P U T - T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.
C*****
C***** WHEN EXECUTING ONLY SEGMENT 090, THE FOLLOWING STATEMENT
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C= NUVI = 6
C*****
WRITE (NUVI, 900)
900  FORMAT(15H1 CSICO - (090)//40H BASIC EXTERNAL FUNCTIONS -CSIN , CH
1COS- //39H (TRIG. SINE AND COSINE -TYPE COMPLEX)//26H ASA REF 8.
23.3 (TABLE 4) //10H FUNCTION, 10X,7HRESULTS //)
DATA LA2VI, LB2VI, LC2VI, LD2VI/2H0( ,2H , ,2H1/,1H)/
DATA L1I(1), L1I(2), L1I(3), L1I(4), L1I(5)/
- 2H1 , 2H2 , 2H3 , 2H4 , 2H5 / ,
- L1I(6), L1I(7), L1I(8), L1I(9), L1I(10)/
- 2H6 , 2H7 , 2H8 , 2H9 , 2H10 /
AVC = (1.0,1.0)
BVC = CSIN (AVC)
WRITE(NUVI, 901) BVC
BVC = CCOS(AVC)
WRITE (NUVI, 902) BVC
IVI = 0
905  IVI = IVI + 1
AVS = IVI
BVS = 1. / AVS
AVC = CMLPX (AVS,BVS)
BVC = CSIN(AVC) ** 2 + CCOS(AVC) ** 2
WRITE(NUVI, 904) LA2VI, L1I(IVI), LB2VI, LC2VI, L1I(IVI), LD2VI, BVC
904  FORMAT( A2,A2, A2,A2,A2,A1,4X,2F12.7)

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          IF(IVI - 10) 905, 906, 906                                H0900350
906      CONTINUE                                                    H0900360
901      FORMAT(/13H  TABLE VALUE,4X,22H 1.2984576   0.6349639 /17H  CSIN(1H0900370
          1.,1.) = ,F10.7,F12.7)                                    H0900380
902      FORMAT(/13H  TABLE VALUE,4X,22H 0.8337300   -0.9888977 /17H  CCOS(1H0900390
          1.,1.) = ,F10.7,F12.7 //135H  CSIN(X)**2 + CCOS(X)**2 = 1.0,0.0 / H0900400
          2 40H0 ARGUMENT      RESULTS SHOULD BE 1.0,0.0 )        H0900410
C*****      ENO OF TEST SEGMENT 090                                H0900420
C*****      WHEN EXECUTING ONLY SEGMENT 090, THE STOP AND ENO CARDS H0900430
C*****      WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C=      H0900440
C*****      IN COLUMNS 1 AND 2 REMOVED.                          H0900450
C=      STOP                                                        H0900460
C=      END                                                         H0900470
C*****                                                    H0910010
C*****                                                    H0910020
C*****      COSNS - 091                                           H0910030
C*****                                                    H0910040
C*****                                                    H0910050
C*****      GENERAL PURPOSE                                         ASA REF H0910060
C*****      TO TEST BASIC EXTERNAL FUNCTION - COS -              8.3.3 H0910070
C*****      TRIGONOMETRIC COSINE - TYPE REAL                     TABLE 4H0910080
C*****      SAME AS SEGMENT      EXCEPT FOR COSINE             H0910090
C*****      INTRINSIC FUNCTION SNGL ASSUMED WORKING              H0910100
C*****      ARGUMENTS FROM 0 TO 2 PI                             H0910110
C*****                                                    H0910120
C*****      S P E C I F I C A T I O N S   SEGMENT 091            H0910130
C*****                                                    H0013065
C*****      WHEN EXECUTING ONLY SEGMENT 091, THE SPECIFICATION STATEMENTS H0013070
C*****      WHICH APPEAR AS COMMENT CAROS, MUST HAVE THE C=      H0013075
C*****      IN COLUMNS 1 AND 2 REMOVED.                          H0013080
C*****                                                    H0013085
C=      DOUBLE PRECISION AVO, BVO, CVO, OVO, EVO, PIVO            H0013090
C*****                                                    H0013095
C*****      O U T P U T   T A P E   ASSIGNMENT STATEMENT.  NO INPUT TAPE. H0910140
C*****                                                    H0073075
C*****      WHEN EXECUTING ONLY SEGMENT 091, THE FOLLOWING STATEMENT H0073080
C*****      NUVI = 6  MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0073085
C=      NUVI = 6                                                    H0073090
C*****                                                    H0073095
910      FORMAT(15H1 COSNS - (091)//31H  BASIC EXTERNAL FUNCTION -COS- H0910150
          1//35H  (TRIGONOMETRIC COSINE -TYPE REAL)                H0910160
          2//27H  ASA REF.- 8.3.3 (TABLE 4)//24H  LINE 1 OF EACH PAIR IS/23H H0910170
          3 HOLLERITH INFORMATION//9H  RESULTS)                   H0910180
          WRITE (NUVI, 910)                                         H0910190
C*****      HEAOER FOR SEGMENT 091 WRITTEN                        H0910200
          AVO = 3.1406250+0                                          H0910210
          BVO = 0.96130371093750-3                                  H0910220
          CVO = 0.572204589843750-5                                  H0910230
          OVO = 0.596046447753906D-6                                H0910240
          EVO = 0.31786509547056D-7                                H0910250
C*****      PI IS SUM OF AVO TO EVO, PARTS ARE EXPRESSED IN SUMS OF POWERS OF H0910260
C*****      2, TO PERMIT A POSSIBLE 20 DECIMAL OIGIT ARGUMENT TO BE CREATED H0910270
          PIVO = EVO + DVO + CVO + BVO + AVO                        H0910280
          AVS = 1.0                                                  H0910290
          CVS = 2.0                                                  H0910300
          BVS = COS(CVS - 2.0 * AVS)                                H0910310
          WRITE (NUVI, 911) BVS                                     H0910320
          BVS = COS(AVS)                                             H0910330
          WRITE (NUVI, 912) BVS                                     H0910340
          BVS = COS(CVS)                                             H0910350
          WRITE (NUVI, 913) BVS                                     H0910360
          BVS = COS(AVS + CVS)                                       H0910370
          WRITE (NUVI, 914) BVS                                     H0910380
          BVS = COS(SNGL(PIVO))                                     H0910390
          WRITE (NUVI, 915) BVS                                     H0910400
          BVS = COS(2. * CVS)                                         H0910410
          WRITE (NUVI, 916) BVS                                     H0910420
          BVS = COS(2.0 + CVS + AVS)                                H0910430

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WRITE (NUVI, 917) BVS
BVS = COS(CVS * (AVS + CVS))
WRITE (NUVI, 918) BVS
BVS = COS(SNGL(2.0D0 * PIVD))
WRITE (NUVI, 919) BVS
WRITE (NUVI, 7910)
911 FORMAT( 9H0 X= 0.0 ,5X,15H+1.000000000000 /14X, F10.7)
912 FORMAT( 9H0 X= 1.0 ,5X,15H+0.540302305868 /14X, F10.7)
913 FORMAT( 9H0 X= 2.0 ,5X,15H-0.416146836547 /14X, F10.7)
914 FORMAT( 9H0 X= 3.0 ,5X,15H-0.989992496600 /14X, F10.7)
915 FORMAT( 9H0 X= (PI),5X,15H-1.000000000000 /14X, F10.7)
916 FORMAT( 9H0 X= 4.0 ,5X,15H-0.653643620864 /14X, F10.7)
917 FORMAT( 9H0 X= 5.0 ,5X,15H+0.283662185463 /14X, F10.7)
918 FORMAT( 9H0 X= 6.0 ,5X,15H+0.960170286650 /14X, F10.7)
919 FORMAT( 9H0 X=(2PI),5X,15H+1.000000000000 /14X, F10.7)
7910 FORMAT(/137H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION
1 PRINTED TO ,8H7 DIGITS)
C***** END OF TEST SEGMENT 091
C***** WHEN EXECUTING ONLY SEGMENT 091, THE STOP AND END CARDS
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C= STOP
C= END
C*****
C*****
C***** DPCOS - (092)
C*****
C*****
C***** GENERAL PURPOSE ASA REF
C***** TO TEST BASIC EXTERNAL FUNCTION - DCOS - 8.3.3
C***** TRIGONOMETRIC COSINE -TYPE DOUBLE PRECISION TABLE 4
C***** SAME AS SEGMENT 091 EXCEPT D.P.
C***** INTRINSIC FUNCTION DMAX1 ASSUMED WORKING
C***** ARGUMENTS FROM 0 TO 2 PI
C*****
C***** S P E C I F I C A T I O N S SEGMENT 092
C*****
C***** WHEN EXECUTING ONLY SEGMENT 092, THE SPECIFICATION STATEMENTS
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C= DOUBLE PRECISION AVD, BVD, CVD, DVD, EVD, FVD, GVD, PIVD, XVD
C*****
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.
C*****
C***** WHEN EXECUTING ONLY SEGMENT 092, THE FOLLOWING STATEMENT
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C= NUVI = 6
C*****
920 FORMAT(15H1 DPCOS - (092)//32H BASIC EXTERNAL FUNCTION -DCOS-
1//35H (TRIGONOMETRIC COSINE -TYPE D.P.)
2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H
3 HOLLERITH INFORMATION//9H RESULTS)
WRITE (NUVI, 920)
AVD = 3.140625D+0
BVD = 0.9613037109375D-3
CVD = 0.57220458984375D-5
DVD = 0.596046447753906D-6
EVD = 0.31786509547056D-7
C*****PI IS SUM OF AVD TO EVD, PARTS ARE EXPRESSED IN SUMS OF POWERS OF
C*****2, TO PERMIT A POSSIBLE 20 DECIMAL DIGIT ARGUMENT TO BE CREATED
PIVD = EVD + DVD + CVD + BVD + AVD
FVD = 1.0D0
GVD = 2.0D0
XVD = DCOS(GVD - 2.0D0 * FVD)
WRITE (NUVI, 921) XVD
XVD = DCOS(FVD)
WRITE (NUVI, 922) XVD

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XVD = DCOS(GVD) H0920340
WRITE (NUVI, 923) XVD H0920350
XVD = DCOS(GVD + FVD) H0920360
WRITE (NUVI, 924) XVD H0920370
XVD = DCOS(PIVD) H0920380
WRITE (NUVI, 925) XVD H0920390
XVD = DCOS(2. * GVD) H0920400
WRITE (NUVI, 926) XVD H0920410
XVD = DCOS(2.0 + FVD + GVD) H0920420
WRITE (NUVI, 927) XVD H0920430
XVD = DCOS(GVD * (FVD + GVD)) H0920440
WRITE (NUVI, 928) XVD H0920450
XVD = DCOS(DMAX1(2.0D0 * PIVD, GVD)) H0920460
WRITE (NUVI, 929) XVD H0920470
WRITE (NUVI, 7992) H0920480
921 FORMAT(9H0 X= 0.0 ,31H +0.100000000000000000000000D+01 / D31.14) H0920490
922 FORMAT(9H0 X= 1.0 ,31H +0.54030230586813971740094D+00 /D31.14) H0920500
923 FORMAT(9H0 X= 2.0 ,31H -0.41614683654714238699757D+00 / D31.14) H0920510
924 FORMAT(9H0 X= 3.0 ,31H -0.98999249660044545727157D+00 / D31.14) H0920520
925 FORMAT(9H0 X= (PI),31H -0.100000000000000000000000D+01 / D31.14) H0920530
926 FORMAT(9H0 X= 4.0 ,31H -0.65364362086361191463917D+00 / D31.14) H0920540
927 FORMAT(9H0 X= 5.0 ,31H +0.28366218546322626446664D+00 / D31.14) H0920550
928 FORMAT(9H0 X= 6.0 ,31H +0.96017028665036602054565D+00 / D31.14) H0920560
929 FORMAT(9H0 X=(2PI),31H +0.100000000000000000000000D+01 / D31.14) H0920570
7992 FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATIONH0920580
A PRINTED TO ,9H14 DIGITS) H0920590
C***** END OF SEGMENT 092 H0920600
C***** WHEN EXECUTING ONLY SEGMENT 092, THE STOP AND END CARDS H0920610
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0920620
C***** IN COLUMNS 1 AND 2 REMOVED. H0920630
C= STOP H0920640
C= END H0920650
STOP H9999999
END H9999999

SAMPLE COMPUTER, FORTRAN COMPILER LEVEL
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2
OPERATING SYSTEM VERSION
DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT ID 4
DATE, INSTALLATION NAME
DO NOT READ OR WRITE RECORD 6 DOUBLE SPACE ON OUTPUT ID 6
C***** PART8 ***** H0003200
C***** H0003205
C***** ANSI FORTRAN (X3.9-1966) TEST PROGRAMS H0003210
C***** H0003215
C***** PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3 H0003220
C***** H0003225
C***** JUNE 1973 H0003230
C***** H0003235
C***** PART 8 OF 14 PARTS H0003240
C***** H0003245
C***** SEGMENTS INCLUDED H0003250
C***** H0003255
C***** TANGH - 094 TANH H0003260
C***** H0003265
C***** SQROT - 095 SORT H0003270
C***** H0003275
C***** DSQRO - 096 DSQRT H0003280
C***** H0003285
C***** CSQRO - 097 CSQRT H0003290
C***** H0003295
C***** ARCTG - 098 ATAN H0003300
C***** H0003305
C***** DACTG - 099 DATAN H0003310
C***** H0003315
C***** ACTG2 - 100 ATAN2 H0003320
C***** H0003325
C***** DATN2 - 101 DATAN H0003330
C***** H0003335

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C*****      DMODA - 102  DMOD      H0003340
C*****      H0003345
C*****      CABSA - 103  CABS      H0003350
C*****      H0003355
C*****      BSFTS - 110 STATEMENT FUNCTIONS (REAL AND INTEGER)      H0003360
C*****      H0003365
C*****      BSFOF - 005 STATEMENT FUNCTION DEFINITIONS      H0003370
C*****      H0003375
C*****      FSFTS - 111 STATEMENT FUNCTIONS (D.P., COMPLEX AND LOGICAL)      H0003380
C*****      H0003385
C*****      FSFDF - 006 STATEMENT FUNCTION DEFINITIONS      H0003390
C*****      THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN SEGMENTS      H0013200
C*****      094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 110      H0013205
C*****      AND 111 ARE RUN AS ONE MAIN PROGRAM.      H0013210
C*****      H0013215
C*****      INTEGER IFIX      H0013220
C*****      REAL ABS, SQRT      H0013225
C*****      DOUBLE PRECISION BVD, AVD, CVD, DVD, EVD, FVD, GVD      H0013230
C*****      DOUBLE PRECISION DPAFD,DPBFD,DPCFD,DPDFD,OPFFD,DPGFD,DPEFD,DPHFD      H0013235
C*****      1, DPAVD, DPBVD, DPCVD, DPDVD, DAWVD, DBWVD, DCWVD      H0013240
C*****      DOUBLE PRECISION DPA1D(5),FC2D(5,5)      H0013245
C*****      COMPLEX CHAVC,CHBVC,CHCVC,CHDVC,CHEVC,CHFVC, EP1C(30), AVC, BVC      H0013250
C*****      COMPLEX CHAFC, CHBFC, CHCFC, CHDFC,CAWVC, CBWVC      H0013255
C*****      LOGICAL A3B(2,2,2)      H0013260
C*****      LOGICAL MCFVB, MCHVB, ABFB, BCFB, IEFB, KLFB      H0013265
C*****      - ,MCEVB,MCIVB,MCKVB,ATVB,AWVB,BWVB,CWVB,DWVB,EWVB,SWVB,TWVB      H0013270
C*****      DOUBLE PRECISION DBLE, DEXP      H0013275
C*****      COMPLEX CMPLX, CEXP      H0013280
C*****      H0013285
C*****      END OF SPECIFICATIONS FOR SEGMENTS      H0013290
C*****      094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 110, 111      H0013295
C*****      H0050010
C*****      H0050020
C*****      BSFDF - (005)      H0050030
C*****      H0050040
C*****      H0050050
C*****      GENERAL PURPOSE      ASA REF H0050060
C*****      DEFINING STATEMENT FUNCTIONS THAT ARE TO BE TESTED      H0050070
C*****      IN SEGMENT 110 (BASIC FORTRAN) AND 111 (FULL FORTRAN)      8.1.1H0050080
C*****      HEADER FOR SEGMENT 005      H0050090
C*****      DEFINING EXPRESSION CONTAINS CONSTANTS AND VARIABLES      H0050100
C*****      CMAFS(CAWVS,CBWVS) = CAWVS * 2. + CBWVS      H0050110
C*****      CMBFS(MAWVI,MBWVI,MCWVI) = (MAWVI + MBWVI + MCWVI)/3      H0050120
C*****      MCAFI(MAWVI,MBWVI) = MAWVI ** MBWVI      H0050130
C*****      MCBFI(CAWVS,CBWVS,CCWVS) = (CAWVS + CBWVS + CCWVS) * 2.0      H0050140
C*****      DEFINING EXPRESSION CONTAINS CONSTANTS, VARIABLES AND      H0050150
C*****      INTRINSIC FUNCTIONS      H0050160
C*****      CMCFS(CAWVS,CBWVS,CCWVS) = ABS(CAWVS**2 - (CBWVS+CCWVS)**2)      H0050170
C*****      CMDFS(MAWVI,MBWVI) = ISIGN((MAWVI+MBWVI),(MAWVI-MBWVI))      H0050180
C*****      MCCFI(MAWVI,MBWVI,CAWVS) = MAWVI**2 + MBWVI**2 + IFIX(CAWVS)**2      H0050190
C*****      MCOFI(CAWVS,CBWVS,CCWVS,CDWVS,CEWVS) = (CAWVS + CBWVS + CCWVS +      H0050200
C*****      1CDWVS +CEWVS) ** (ABS(CAWVS))      H0050210
C*****      DEFINING EXPRESSION CONTAINS PREVIOUSLY DEFINED STATEMENT      H0050220
C*****      FUNCTIONS AND/OR EXTERNAL FUNCTION REFERENCES      H0050230
C*****      CMEFS(CAWVS,CBWVS) = CMBFS(1,2,3) + SQRT((CAWVS + CBWVS))      H0050240
C*****      CMFFS(MAWVI,MBWVI,MCWVI) = MCCFI(MAWVI,MBWVI,3.0) + MCWVI **2      H0050250
C*****      MCEFI(MAWVI,MBWVI) = MCAFI(MAWVI,MBWVI) ** MCAFI(MAWVI,MBWVI)      H0050260
C*****      MCFFI(CAWVS,CBWVS,CCWVS) = SQRT(CAWVS) + SQRT(CBWVS) + EXP(CCWVS)      H0050270
C*****      DEFINING EXPRESSION CONTAINS CONSTANTS, VARIABLES, INTRINSIC      H0050280
C*****      OR EXTERNAL FUNCTION REFERENCES AND PREVIOUSLY OEFINED      H0050290
C*****      STATEMENT FUNCTIONS.      H0050300
C*****      CMGFS(MAWVI,MBWVI,CAWVS,CBWVS) = FLOAT(MAWVI ** 2) - CMAFS(CAWVS,      H0050310
C*****      1CBWVS) + SQRT((FLOAT(MAWVI + MBWVI)))      H0050320
C*****      MCGFI(MAWVI,MBWVI,MCWVI,CAWVS) = MCEFI(MAWVI,MBWVI) - MCEFI(MAWVI,      H0050330
C*****      1MCWVI) + IFIX(EXP(CAWVS))      H0050340
C*****      END OF TEST SEGMENT 005      H0050350
C*****      H0060010
C*****      H0060020

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C*****      FSFDF - (006)      H0060030
C*****      H0060040
C*****      H0060050
C*****      GENERAL PURPOSE      ASA REF H0060060
C*****      DEFINING STATEMENT FUNCTIONS THAT ARE TO BE TESTED      8.1.1 H0060070
C*****      IN SEGMENT 111 (FULL FORTRAN STATEMENT FUNCTION TEST)      H0060080
C*****      HEADER FOR SEGMENT 006      H0060090
C*****      D.P. STATEMENT FUNCTIONS CONTAINING CONSTANTS AND VARIABLES      H0060100
C*****      DPAFD(DAWVD,DBWVD) = (DAWVD + DBWVD) ** 2      H0060110
C*****      DPBFD(DAWVD,DBWVD,DCWVD) = (DAWVD + DBWVD - DCWVD) ** 3      H0060120
C*****      DPCFD(DAWVD,DBWVD,DCWVD) = 3.0D0 * (DAWVD + DBWVD + DCWVD)/2.D0      H0060130
C*****      D.P. STATEMENT FUNCTIONS CONTAINING CONSTANTS, VARIABLES      H0060140
C*****      AND INTRINSIC FUNCTION REFERENCES      H0060150
C*****      DPDFD(DAWVD,DBWVD) = DSIGN(DAWVD, -(DBWVD))      H0060160
C*****      DPEFD(DAWVD,DBWVD,CAWVC,CAWVS) = DBLE(CAWVS + AIMAG(CAWVC))      H0060170
C*****      1+ DMAX1(DAWVD,DBWVD + 1.D0)      H0060180
C*****      D.P. STATEMENT FUNCTIONS CONTAINING CONSTANTS, VARIABLES,      H0060190
C*****      INTRINSIC FUNCTION AND PREVIOUSLY DEFINED STATEMENT FUNCTION      H0060200
C*****      REFERENCES      H0060210
C*****      DPFFD(DAWVD,DBWVD,CAWVS) = DPAFD(DAWVD,DBWVD) -(2.D0 * DAWVD *      H0060220
C*****      1 DBWVD) + (DBLE(CAWVS) * 2.D0 )      H0060230
C*****      DPGFD(DAWVD,DBWVD,CAWVS,CAWVC) = DPBFD(DAWVD,DBWVD,DBLE(CAWVS))      H0060240
C*****      1 - DBLE(AIMAG(CAWVC)) + 5.0D0      H0060250
C*****      D.P. STATEMENT FUNCTIONS CONTAINING CONSTANTS, VARIABLES,      H0060260
C*****      INTRINSIC FUNCTION, PREVIOUSLY DEFINED STATEMENT FUNCTION      H0060270
C*****      AND EXTERNAL FUNCTION REFERENCES      H0060280
C*****      DPHFD(DAWVD,DBWVD,CAWVS) = DPFFD(DAWVD,DBWVD +1.0D0, CAWVS) * 2.D0 H0060290
C*****      1 + DEXP(DAWVD) - (DBLE(CAWVS) * 2 .D0)-DEXP(DAWVD)      H0060300
C*****      COMPLEX STATEMENT FUNCTIONS CONTAINING CONSTANTS AND VARIABLES H0060310
C*****      CHAFC(CAWVC,CBWVC) = CAWVC * (2.0,2.0) + CBWVC + (2.0,2.0)      H0060320
C*****      COMPLEX STATEMENT FUNCTION CONTAINING CONSTANTS, VARIABLES,      H0060330
C*****      AND INTRINSIC FUNCTION REFERENCES      H0060340
C*****      CHBFC(CAWVC,CBWVC,CAWVS) = CAWVC - CBWVC + CMPLX(CAWVS,CAWVS)      H0060350
C*****      COMPLEX STATEMENT FUNCTION CONTAINING CONSTANTS,      H0060360
C*****      VARIABLES, INTRINSIC AND EXTERNAL FUNCTION REFERENCES      H0060370
C*****      CHCFC(CAWVC,CBWVC,CAWVS,CBWVS) = (CAWVC - CBWVC) + CEXP (CMPLX      H0060380
C*****      1 (CAWVS,CBWVS)) - CMPLX(CAWVS,CBWVS)      H0060390
C*****      COMPLEX STATEMENT FUNCTION CONTAINING CONSTANTS, VARIABLES,      H0060400
C*****      INTRINSIC, EXTERNAL AND PREVIOUSLY DEFINED STATEMENT FUNCTION H0060410
C*****      REFERENCES      H0060420
C*****      CHDFC(CAWVC,CBWVC,CAWVS,CBWVS) = CHCFC(CAWVC,CBWVC,CAWVS +CAWVS,      H0060430
C*****      1 2.0 * CBWVS) + CMPLX(1.0,2.0)      H0060440
C*****      STATEMENT FUNCTION CONTAINING LOGICAL VARIABLES      H0060450
C*****      ABFB(AWVB, BWVB, DWVB) = AWVB .AND. BWVB .OR. .FALSE..AND.DWVB      H0060460
C*****      STATEMENT FUNCTION CONTAINING CONSTANTS, VARIABLES AND      H0060470
C*****      INTRINSIC FUNCTIONS      H0060480
C*****      BCFB(EWVB,CWVB,BAWVS,BCWVS) = EWVB .AND.(BAWVS * ABS(BCWVS) .GT.      H0060490
C*****      1 0.5).AND..NOT. CWVB      H0060500
C*****      STATEMENT FUNCTION CONTAINING PREVIOUSLY DEFINED STATEMENT      H0060510
C*****      FUNCTION AND AN INTRINSIC FUNCTION REFERENCE      H0060520
C*****      IEFB(EWVB,ATVB,CWVB,BAWVS,BCWVS) = ATVB .AND.EWVB .AND. CWVB .OR.      H0060530
C*****      1 AMAX1(BAWVS,BCWVS) .GT. 600. .OR. BCFB (EWVB,CWVB,BAWVS,BCWVS)      H0060540
C*****      STATEMENT FUNCTION CONTAINING BASIC EXTERNAL FUNCTION REFERENCE H0060550
C*****      KLFB(SWVB,TWVB,ATVB,BAWVS) = SWVB .AND..NOT. TWVB.OR.(SQRT(BAWVS)      H0060560
C*****      1 .GT. 9.0) .OR. ATVB      H0060570
C*****      END OF TEST SEGMENT 006      H0060580
C*****      H0940010
C*****      H0940020
C*****      TANGH - 094      H0940030
C*****      H0940040
C*****      H0940050
C*****      GENERAL PURPOSE      ASA REF H0940060
C*****      TO TEST BASIC EXTERNAL FUNCTION - TANH -      8.3.3 H0940070
C*****      HYPERBOLIC TANGENT -TYPE REAL      H0940080
C*****      USED IN SIMPLE ARITHMETIC EXPRESSIONS      H0940090
C*****      INTRINSIC FUNCTIONS ABS,FLOAT,AMINO,AMAX0,INT      H0940100
C*****      ASSUMED WORKING      H0940110
C*****      ARGUMENTS FROM 0.0 TO 8.0      H0940120

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C*****		H0940130
C*****	INPUT - OUTPUT TAPE ASSIGNMENT STATEMENTS	H0940140
	IRVI = 5	H0073200
	NUVI = 6	H0073205
C*****	IDENTIFY THE SOURCE OF THE TEST PROGRAMS	H0073210
	WRITE(NUVI,0071)	H0073215
0071	FORMAT(41H1 F O R T R A N T E S T P R O G R A M S//	H0073220
	1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS//	H0073225
	3 37H FOR USE ON LARGE FORTRAN PROCESSORS //	H0073230
	4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//	H0073235
	5 23H VERSION 3 PART 8 ///)	H0073240
C*****	3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER	H0073245
C	PREPARED BY USER	H0073250
C	READ, NO LIST	H0073255
C	PREPARED BY USER	H0073260
C	READ, NO LIST	H0073265
C	PREPARED BY USER	H0073270
C	READ, NO LIST	H0073275
	READ(IRVI,0070)	H0073280
	READ(IRVI,0072)	H0073285
	READ(IRVI,0073)	H0073290
0070	FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 /)	H0073295
0072	FORMAT(40H TEST PROGRAMS /)	H0073300
0073	FORMAT(40H FORTRAN COMPILER /)	H0073305
	WRITE(NUVI,0070)	H0073310
	WRITE(NUVI,0072)	H0073315
	WRITE(NUVI,0073)	H0073320
940	FORMAT(15H1 TANGH - (094)//32H BASIC EXTERNAL FUNCTION -TANH-	H0940150
	1//33H (HYPERBOLIC TANGENT -TYPE REAL)	H0940160
	2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H	H0940170
	3 HOLLERITH INFORMATION//9H RESULTS)	H0940180
	WRITE (NUVI, 940)	H0940190
C*****	HEADER FOR SEGMENT 094 WRITTEN	H0940200
	AVS = 2.0	H0940210
	CVS = -0.5	H0940220
	IVI = 6	H0940230
	BVS = TANH(FLOAT(IVI) - 3.0 * AVS)	H0940240
	WRITE (NUVI, 941) BVS	H0940250
	BVS = TANH(AVS)	H0940260
	WRITE (NUVI, 942) BVS	H0940270
	BVS = TANH(AVS + ABS(CVS))	H0940280
	WRITE (NUVI, 943) BVS	H0940290
	BVS = TANH(AMIN0(IVI,8) - AVS)	H0940300
	WRITE (NUVI, 944) BVS	H0940310
	BVS = TANH(AMAX0(IVI,INT(AVS)))	H0940320
	WRITE (NUVI, 945) BVS	H0940330
	BVS = TANH(AVS ** 4 / AVS)	H0940340
	WRITE (NUVI, 946) BVS	H0940350
	WRITE (NUVI, 947)	H0940360
941	FORMAT(7H0 X=0.0,5X,12H0.0000000000 /F21.7)	H0940370
942	FORMAT(7H0 X=2.0,5X,12H0.9640275801 /F21.7)	H0940380
943	FORMAT(7H0 X=2.5,5X,12H0.9866142982 /F21.7)	H0940390
944	FORMAT(7H0 X=4.0,5X,12H0.9993292997 /F21.7)	H0940400
945	FORMAT(7H0 X=6.0,5X,12H0.9999877117 /F21.7)	H0940410
946	FORMAT(7H0 X=8.0,5X,12H0.9999997749 /F21.7)	H0940420
947	FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION	H0940430
	1 PRINTED TO , 8H7 DIGITS)	H0940440
C*****	END OF TEST SEGMENT 094	H0940450
C*****	WHEN EXECUTING ONLY SEGMENT 094, THE STOP AND ENO CARDS	H0940460
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0940470
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0940480
C=	STOP	H0940490
C=	END	H0940500
C*****		H0950010
C*****		H0950020
C*****	SQROT - (095)	H0950030
C*****		H0950040
C*****		H0950050

C*****	GENERAL PURPOSE	ASA REF	H0950060
C*****	TO TEST BASIC EXTERNAL FUNCTION - SQRT -	8.3.3	H0950070
C*****	(SQUARE ROOT - TYPE REAL)	TABLE 4	H0950080
C*****	USED IN SIMPLE ARITHMETIC EXPRESSIONS		H0950090
C*****	INTRINSIC FUNCTIONS FLOAT,INT,AMINO,MAX0		H0950100
C*****	ASSUMED WORKING		H0950110
C*****	ARGUMENTS ARE ALL PRIME NUMBERS		H0950120
C*****			H0950130
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.		H0950140
C*****			H0073325
C*****	WHEN EXECUTING ONLY SEGMENT 095, THE FOLLOWING STATEMENT		H0073330
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.		H0073335
C=	NUVI = 6		H0073340
C*****			H0073345
950	FORMAT(15H1 SQROT - (095)//32H BASIC EXTERNAL FUNCTION -SQRT-		H0950150
	1//26H (SQUARE ROOT -TYPE REAL)		H0950160
	2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H		H0950170
	3 HOLLERITH INFORMATION//9H RESULTS)		H0950180
	WRITE (NUVI, 950)		H0950190
C*****	HEADER FOR SEGMENT 095 WRITTEN		H0950200
	AVS = 2.0		H0950210
	IVI = 3		H0950220
	CVS = 17.0		H0950230
	BVS = SQRT(FLOAT((IVI + INT(AVS)) / 2))		H0950240
	WRITE (NUVI, 951) BVS		H0950250
	BVS = SQRT(AMINO(MAX0(IVI,2), INT(CVS)))		H0950260
	WRITE (NUVI, 952) BVS		H0950270
	BVS = SQRT(CVS)		H0950280
	WRITE (NUVI, 953) BVS		H0950290
	BVS = SQRT(2.0 * CVS - FLOAT(IVI))		H0950300
	WRITE (NUVI, 954) BVS		H0950310
	BVS = SQRT(FLOAT(IVI + 1) + 5.0 * CVS)		H0950320
	WRITE (NUVI, 955) BVS		H0950330
	WRITE (NUVI, 956)		H0950340
951	FORMAT (8H0 X= 2.0,4X,16H1.41421356237310 / F21.7)		H0950350
952	FORMAT (8H0 X= 3.0,4X,16H1.73205080756888 / F21.7)		H0950360
953	FORMAT (8H0 X=17.0,4X,16H4.12310562561766 / F21.7)		H0950370
954	FORMAT (8H0 X=31.0,4X,16H5.56776436283002 / F21.7)		H0950380
955	FORMAT (8H0 X=89.0,4X,16H9.43398113205660 / F21.7)		H0950390
956	FORMAT(//37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION		H0950400
	1 PRINTED TO , 8H7 DIGITS)		H0950410
C*****	END OF TEST SEGMENT 095		H0950420
C*****	WHEN EXECUTING ONLY SEGMENT 095, THE STOP AND END CARDS		H0950430
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=		H0950440
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0950450
C=	STOP		H0950460
C=	END		H0950470
C*****			H0960010
C*****			H0960020
C*****	DSQRO - (096)		H0960030
C*****			H0960040
C*****			H0960050
C*****	GENERAL PURPOSE	ASA REF	H0960060
C*****	TO TEST BASIC EXTERNAL FUNCTION - DSQRT -	8.3.3	H0960070
C*****	(SQUARE ROOT - TYPE D.P.)	TABLE 4	H0960080
C*****	USED IN SIMPLE EXPRESSIONS		H0960090
C*****	INTRINSIC FUNCTIONS DBLE,IABS,FLOAT ASSUMED WORKING		H0960100
C*****	ARGUMENTS ARE ALL PRIME NUMBERS		H0960110
C*****			H0960120
C*****	S P E C I F I C A T I O N S SEGMENT 096		H0960130
C*****			H0013300
C*****	WHEN EXECUTING ONLY SEGMENT 096, THE SPECIFICATION STATEMENTS		H0013305
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=		H0013310
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0013315
C*****			H0013320
C=	DOUBLE PRECISION BVD		H0013325
C*****			H0013330
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.		H0960140

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C*****
C***** WHEN EXECUTING ONLY SEGMENT 096, THE FOLLOWING STATEMENT
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C= NUVI = 6
C*****
960 FORMAT(15H1 DSQRO - (096)//33H BASIC EXTERNAL FUNCTION -DSQRT-
1//26H (SQUARE ROOT -TYPE D.P.)
2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H
3 HOLLERITH INFORMATION//9H RESULTS)
WRITE (NUVI, 960)
C***** HEADER FOR SEGMENT 096 WRITTEN
AVS = 3.0
IVI = -2
CVS = 17.0
BVD = DSQRT(DBLE(FLOAT(IABS(IVI))) + AVS - 3.0))
WRITE (NUVI, 961) BVD
BVD = DSQRT(0.0D0 + AVS)
WRITE (NUVI, 962) BVD
BVD = DSQRT(CVS - AVS + 3.0D0)
WRITE (NUVI, 963) BVD
BVD = DSQRT(2.0D0 * CVS - DBLE(AVS))
WRITE (NUVI, 964) BVD
BVD = DSQRT(DBLE(FLOAT(-IVI) + AVS) * CVS + FLOAT(IVI ** 2))
WRITE (NUVI, 965) BVD
WRITE (NUVI, 966)
961 FORMAT ( 8H0 X= 2.0,5X,25H1.4142135623730950488D+00/8X,1PD24.13)
962 FORMAT ( 8H0 X= 3.0,5X,25H1.7320508075688772935D+00/8X,1PD24.13)
963 FORMAT ( 8H0 X=17.0,5X,25H4.1231056256176605498D+00/8X,1PD24.13)
964 FORMAT ( 8H0 X=31.0,5X,25H5.5677643628300219221D+00/8X,1PD24.13)
965 FORMAT ( 8H0 X=89.0,5X,25H9.4339811320566038113D+00/8X,1PD24.13)
966 FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION
A PRINTED TO ,9H14 DIGITS)
C***** END OF TEST SEGMENT 096
C***** WHEN EXECUTING ONLY SEGMENT 096, THE STOP AND END CARDS
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C= STOP
C= ENO
C*****
C***** CSQRO - (097)
C*****
C*****
C*****
C***** GENERAL PURPOSE
C*****
C***** TO TEST BASIC EXTERNAL FUNCTION -CSQRT-
C***** (SQUARE ROOT OF A COMPLEX NUMBER )
C***** ARGUMENTS ARE EP1C(11) TO EP1C(20)
C***** EXPECTED RESULTS ARE EP1C(1) TO EP1C(10)
C***** S P E C I F I C A T I O N S SEGMENT 097
C*****
C***** WHEN EXECUTING ONLY SEGMENT 097 THE SPECIFICATION STATEMENTS
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C*****
C= COMPLEX EP1C(30), AVC, BVC
C*****
C***** O U T P U T - T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.
C*****
C***** WHEN EXECUTING ONLY SEGMENT 097, THE FOLLOWING STATEMENT
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C= NUVI = 6
C*****
WRITE (NUVI, 970)
970 FDMAT(15H1 CSQRO - (097)//33H BASIC EXTERNAL FUNCTION -CSQRT-
1//29H (SQUARE ROOT -TYPE COMPLEX)//27H ASA REF.- 8.3.3 (TABLE 4)
2//24H LINE 1 OF EACH PAIR IS /20H THE EXPECTED VALUE //9H RESUL
3T )

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C***** INITIALIZE EP1C (EXACT VALUES) H0970190
EP1C(1) = (0.9950042,0.0998334) H0970200
EP1C(2) = (0.9800666,0.1986693) H0970210
EP1C(3) = (0.9553365,0.2955202) H0970220
EP1C(4) = (0.9210610,0.3894183) H0970230
EP1C(5) = (0.8775826,0.4794255) H0970240
EP1C(6) = (0.8253356,0.5646425) H0970250
EP1C(7) = (0.7648422,0.6442177) H0970260
EP1C(8) = (0.6967067,0.7173561) H0970270
EP1C(9) = (0.5403023,0.8414710) H0970280
EP1C(10) = (0.4161468,-0.9092974) H0970290
EP1C(11) = (0.9800666,0.1986693) H0970300
EP1C(12) = (0.9210610,0.3894183) H0970310
EP1C(13) = (0.8253356,0.5646425) H0970320
EP1C(14) = (0.6967067,0.7173561) H0970330
EP1C(15) = (0.5403023,0.8414710) H0970340
EP1C(16) = (0.3623577,0.9320391) H0970350
EP1C(17) = (0.1699671,0.9854497) H0970360
EP1C(18) = (-0.0291995,0.9995736) H0970370
EP1C(19) = (-0.4161468,0.9092974) H0970380
EP1C(20) = (-0.6536436,-0.7568025) H0970390
IVI = 0 H0970400
971 JVI = 1 H0970410
972 IVI = IVI + 1 H0970420
JVI = JVI + 1 H0970430
AVC = CSQRT(EP1C(IVI + 10) * (10. ** ((2 * JVI) - 8))) H0970440
BVC = EP1C(IVI) * 10. ** (JVI - 4) H0970450
WRITE (NUVI, 973) BVC, AVC H0970460
973 FORMAT( 2H0 2E14.7/2X,2E14.7) H0970470
IF (JVI - 6) 972, 974, 974 H0970480
974 IF (IVI - 10) 971, 975, 975 H0970490
975 WRITE (NUVI, 976) H0970500
976 FORMAT(/137H LINE 2 OF EACH PAIR IS THE FUNCTION/13H CALCULATION H0970510
1) H0970520
C***** END OF TEST SEGMENT 097 H0970530
C***** WHEN EXECUTING ONLY SEGMENT 097 THE STOP AND END CARDS H0970540
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0970550
C***** IN COLUMNS 1 AND 2 REMOVED. H0970560
C= STOP H0970570
C= END H0970580
C***** H0980010
C***** H0980020
C***** ARCTG - (098) H0980030
C***** H0980040
C***** H0980050
C***** GENERAL PURPOSE. ASA REF H0980060
C***** TO TEST BASIC EXTERNAL FUNCTION - ATAN - 8.3.3 H0980070
C***** (TRIGONOMETRIC ARCTANGENT, SINGLE ARGUMENT -TYPE REAL)TABLE 4 H0980080
C***** USED IN SIMPLE ARITHMETIC EXPRESSIONS H0980090
C***** INTRINSIC FUNCTION ABS,FLOAT,AMAX1,INT H0980100
C***** ASSUMED WORKING H0980110
C***** ARGUMENTS ARE POWERS (OR SUMS) OF 2 H0980120
C***** H0980130
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H0980140
C***** H0073400
C***** WHEN EXECUTING ONLY SEGMENT 098, THE FOLLOWING STATEMENT H0073405
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0073410
C= NUVI = 6 H0073415
C***** H0073420
WRITE (NUVI, 980) H0980150
980 FORMAT(15H1 ARCTG - (098)//32H BASIC EXTERNAL FUNCTION -ATAN- H0980160
1//25H (ARCTANGENT -TYPE REAL) H0980170
2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H H0980180
3 HOLLERITH INFORMATION//9H RESULTS) H0980190
***** HEADER FOR SEGMENT 098 WRITTEN H0980200
AVS = .125 H0980210
CVS = -.25 H0980220
IVI = 2 H0980230

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BVS = ATAN(AMAX1(AVS, CVS))
WRITE (NUVI, 981) BVS
BVS = ATAN(AVS * 2.0)
WRITE(NUVI, 982) BVS
BVS = ATAN (ABS(CVS) + AVS)
WRITE(NUVI, 983) BVS
BVS = ATAN(-CVS * AMAX0(IVI, INT(AVS)))
WRITE(NUVI, 984) BVS
BVS = ATAN (FLOAT(IVI) * CVS - (2.0 * AVS))
WRITE (NUVI, 985) BVS
BVS = ATAN(1.0)
WRITE (NUVI, 986) BVS
WRITE (NUVI, 987)
981  FORMAT(10H0 X= 0.125,5X,15H 0.124354994547,/10X,F15.7)
982  FDMAT(10H0 X= 0.250,5X,15H 0.244978663127,/10X,F15.7)
983  FORMAT(10H0 X= 0.375,5X,15H 0.358770670271,/10X,F15.7)
984  FDMAT(10H0 X= 0.500,5X,15H 0.463647609001,/10X,F15.7)
985  FDMAT(10H0 X=-0.750,5X,15H-0.643501108793,/10X,F15.7)
986  FDMAT(10H0 X= 1.000,5X,15H 0.785398163397,/10X,F15.7)
987  FDMAT(/137H LINE 2 OF EACH PAIR IS THE FUNCTIDN/25H CALCULATION
      1 PRINTED TO ,8H7 DIGITS )
C***** END OF TEST SEGMENT 098
C***** WHEN EXECUTING ONLY SEGMENT 098, THE STDP AND END CARDS
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C=      STDP
C=      END
C*****
C***** DACTG - (099)
C*****
C*****
C*****
C***** GENERAL PURPOSE
C***** TD TEST BASIC EXTERNAL FUNCTION - DATAN -
C***** (TRIGONOMETRIC ARCTANGENT, SINGLE ARGUMENT -TYPE D.P.) TABLE 4
C***** USED IN SIMPLE ARITHMETIC EXPRESSIONS
C***** INTRINSIC FUNCTIONS DESIGN, FLOAT, DBLE ASSUMED WORKING
C***** ARGUMENTS ARE PDWERS (DR SUMS) OF 2
C*****
C***** S P E C I F I C A T I D N S SEGMENT 099
C*****
C***** WHEN EXECUTING ONLY SEGMENT 099, THE SPECIFICATION STATEMENTS
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C=      DOUBLE PRECISION AVD, BVD, CVD
C*****
C***** D U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.
C*****
C***** WHEN EXECUTING ONLY SEGMENT 099, THE FOLLWING STATEMENT
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C=      NUVI = 6
C*****
C***** HEADER FOR SEGMENT 099 WRITTEN
      WRITE(NUVI, 990)
990  FDMAT(15H1 DACTG - (099)//33H BASIC EXTERNAL FUNCTIDN -DATAN-
      1//25H (ARCTANGENT -TYPE D.P.)
      2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H
      3 HOLLERITH INFORMATION/9H RESULTS)
      AVD = -.125D0
      CVD = .25D0
      IVI = 2
      BVD = DATAN(DSIGN(AVD, CVD))
      WRITE (NUVI, 991) BVD
      BVD = DATAN(2.0 * (-AVD))
      WRITE(NUVI, 992) BVD
      BVD = DATAN(CVD - AVD)
      WRITE(NUVI, 993) BVD

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BVD = DATAN(DBLE(FLOAT(IVI) / 4.0)) H0990300
WRITE (NUVI, 994) BVD H0990310
BVD = DATAN (DSIGN(1.000 - CVD, AVD)) H0990320
WRITE(NUVI, 995) BVD H0990330
BVD = DATAN(DBLE(FLOAT(IVI ** 2)) * CVD) H0990340
WRITE (NUVI, 996) BVD H0990350
WRITE (NUVI, 997) H0990360
991 FORMAT(10H0 X= 0.125,5X,19H 0.124354994547D+00 /10X,D24.12) H0990370
992 FORMAT(10H0 X= 0.250,5X,19H 0.244978663127D+00 /10X,D24.12) H0990380
993 FORMAT(10H0 X= 0.375,5X,19H 0.358770670271D+00 /10X,D24.12) H0990390
994 FORMAT(10H0 X= 0.500,5X,19H 0.463647609001D+00 /10X,D24.12) H0990400
995 FORMAT(10H0 X=-0.750,5X,19H-0.643501108793D+00 /10X,D24.12) H0990410
996 FORMAT(10H0 X= 1.000,5X,19H 0.785398163397D+00 /10X,D24.12) H0990420
997 FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION H0990430
1 PRINTED TO ,9H12 DIGITS ) H0990440
C***** END OF TEST SEGMENT 099 H0990450
C***** WHEN EXECUTING ONLY SEGMENT 099, THE STOP AND END CARDS H0990460
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0990470
C***** IN COLUMNS 1 AND 2 REMOVED. H0990480
C= STOP H0990490
C= END H0990500
C***** H1000010
C***** H1000020
C***** ACTG2 - (100) H1000030
C***** H1000040
C***** H1000050
C***** GENERAL PURPOSE ASA REF H1000060
C***** TO TEST BASIC EXTERNAL FUNCTION - ATAN2 - 8.3.3 H1000070
C***** (TRIGONOMETRIC ARCTANGENT, TWO ARGUMENTS -TYPE REAL) TABLE 4 H1000080
C***** USED IN SIMPLE ARITHMETIC EXPRESSIONS H1000090
C***** INTRINSIC FUNCTIONS AMIN1,FLOAT,AMAX0 ASSUMED WORKING H1000100
C***** ARGUMENTS ARE POWERS (OR SUMS) OF 2 H1000110
C***** H1000120
C***** O U T P U T T A P E ASSIGNMENT STATEMENTS. NO INPUT TAPE. H1000130
C***** H0073450
C***** WHEN EXECUTING ONLY SEGMENT 100, THE FOLLOWING STATEMENT H0073455
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0073460
C= NUVI = 6 H0073465
C***** H0073470
WRITE(NUVI, 1000) H1000140
1000 FORMAT(15H1 ACTG2 - (100)//33H BASIC EXTERNAL FUNCTION -ATAN2- H1000150
1//37H (ARCTANGENT, 2 ARGUMENT -TYPE REAL) H1000160
2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H H1000170
3 HOLLERITH INFORMATION//9H RESULTS) H1000180
AVS = .125 H1000190
CVS = -.25 H1000200
IVI = 2 H1000210
BVS = ATAN2(ABS(AMIN1(AVS,CVS)),FLOAT(IVI)) H1000220
WRITE (NUVI, 1001) BVS H1000230
BVS = ATAN2(CVS ** 2, AVS * 2.0) H1000240
WRITE (NUVI, 1002) BVS H1000250
BVS = ATAN2 (AVS - CVS, -(4.0 * CVS)) H1000260
WRITE (NUVI, 1003) BVS H1000270
BVS = ATAN2(-CVS/AVS, AMAX0(IVI,4)) H1000280
WRITE (NUVI, 1004) BVS H1000290
BVS = ATAN2(-.09375,AVS) H1000300
WRITE (NUVI, 1005) BVS H1000310
BVS = ATAN2(FLOAT(IVI), 2.0) H1000320
WRITE (NUVI, 1006) BVS H1000330
WRITE (NUVI, 1007) H1000340
1001 FORMAT(10H0 X= 0.125,5X,15H 0.124354994547, /10X,F15.7) H1000350
1002 FORMAT(10H0 X= 0.250,5X,15H 0.244978663127, /10X,F15.7) H1000360
1003 FORMAT(10H0 X= 0.375,5X,15H 0.358770670271, /10X,F15.7) H1000370
1004 FORMAT(10H0 X= 0.500,5X,15H 0.463647609001, /10X,F15.7) H1000380
1005 FORMAT(10H0 X=-0.750,5X,15H-0.643501108793, /10X,F15.7) H1000390
1006 FORMAT(10H0 X= 1.000,5X,15H 0.785398163397, /10X,F15.7) H1000400
1007 FORMAT(/37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION H1000410
1 PRINTED TO ,8H7 DIGITS ) H1000420

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C***** END OF TEST SEGMENT 100 H1000430
C***** WHEN EXECUTING ONLY SEGMENT 100, THE STOP AND END CARDS H1000440
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H1000450
C***** IN COLUMNS 1 AND 2 REMOVED. H1000460
C= STOP H1000470
C= END H1000480
C***** H1010010
C***** H1010020
C***** DATN2 - (101) H1010030
C***** H1010040
C***** H1010050
C***** GENERAL PURPOSE ASA REF H1010060
C***** TO TEST BASIC EXTERNAL FUNCTION - DATAN2 - 8.3.3 H1010070
C***** (TRIGONOMETRIC ARCTANGENT, TWO ARGUMENT -TYPE D.P.) TABLE 4 H1010080
C***** USED IN SIMPLE ARITHMETIC EXPRESSIONS H1010090
C***** INTRINSIC FUNCTIONS DMIN1, DMAX1, DSIGN, DBLE, FLOAT H1010100
C***** ASSUMED WORKING H1010110
C***** ARGUMENTS ARE POWERS (OR SUMS) OF 2 H1010120
C***** H1010130
C***** S P E C I F I C A T I O N S SEGMENT 101 H1010140
C***** H0013405
C***** WHEN EXECUTING ONLY SEGMENT 101, THE SPECIFICATION STATEMENTS H0013410
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS H0013415
C***** 1 AND 2 REMOVED. H0013420
C***** H0013425
C= DDUBLE PRECISION AVD, BVD, CVD H0013430
C***** H0013435
C***** D U T P U T - T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE H1010150
C***** H0073475
C***** WHEN EXECUTING ONLY SEGMENT 101, THE FOLLOWING STATEMENT H0073480
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0073485
C= NUVI = 6 H0073490
C***** H0073495
WRITE (NUVI, 1010) H1010160
1010 FORMAT(15H1 DATN2 - (101)//36H BASIC EXTERNAL FUNCTION -DATAN2- H1010170
1//37H (ARCTANGENT, 2 ARGUMENT -TYPE D.P.) H1010180
2//27H ASA REF.- 8.3.3 (TABLE 4)//24H LINE 1 OF EACH PAIR IS/23H H1010190
3 HOLLERITH INFORMATION//9H RESULTS) H1010200
AVD = .125 H1010210
CVD = -.25 H1010220
IVI = 2 H1010230
BVD = DATAN2( DMIN1( AVD, -CVD), 2.0D0/ DBLE(FLOAT(IVI))) H1010240
WRITE (NUVI, 1011) BVD H1010250
BVD = DATAN2( AVD, FLOAT( IVI) * (-CVD)) H1010260
WRITE (NUVI, 1012) BVD H1010270
BVD = DATAN2( DSIGN(2.0D0 * CVD + AVD, AVD), DMAX1(AVD, CVD, 1.0D0)) H1010280
WRITE (NUVI, 1013) BVD H1010290
BVD = DATAN2(DMIN1(AVD, .0625D0), DMAX1(AVD, CVD)) H1010300
WRITE (NUVI, 1014) BVD H1010310
BVD = DATAN2(DABS(CVD) * DSIGN(AVD, CVD) * 6.D0, .25D0) H1010320
WRITE (NUVI, 1015) BVD H1010330
BVD = DATAN2( DBLE(FLDAT(IVI)), AVD * FLDAT(IVI **4)) H1010340
WRITE (NUVI, 1016) BVD H1010350
WRITE (NUVI, 1017) H1010360
1011 FDMAT(10H0 X= 0.125,5X,19H 0.124354994547D+00 /10X,D24.12) H1010370
1012 FDMAT(10H0 X= 0.250,5X,19H 0.244978663127D+00 /10X,D24.12) H1010380
1013 FDMAT(10H0 X= 0.375,5X,19H 0.358770670271D+00 /10X,D24.12) H1010390
1014 FDMAT(10H0 X= 0.500,5X,19H 0.463647609001D+00 /10X,D24.12) H1010400
1015 FDMAT(10H0 X=-0.750,5X,19H-0.643501108793D+00 /10X,D24.12) H1010410
1016 FDMAT(10H0 X= 1.000,5X,19H 0.785398163397D+00 /10X,D24.12) H1010420
1017 FDMAT(//37H LINE 2 OF EACH PAIR IS THE FUNCTION/25H CALCULATION H1010430
1 PRINTED TO ,9H12 DIGITS ) H1010440
C***** END OF TEST SEGMENT 101 H1010450
C***** WHEN EXECUTING ONLY SEGMENT 101 THE STOP AND END CARDS H1010460
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H1010470
C***** IN COLUMNS 1 AND 2 REMOVED. H1010480
C= STOP H1010490
C= END H1010500

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C*****H1020010
C*****H1020020
C*****DMODA - (102)H1020030
C*****H1020040
C*****H1020050
C*****GENERAL PURPOSEASA REFH1020060
C*****TO TEST BASIC EXTERNAL FUNCTION - DMOD -8.3.3 H1020070
C***** (REMAINDERING -TYPE DOUBLE PRECISION)TABLE 4H1020080
C*****INTRINSIC FUNCTIONS DBLE,FLOAT,IDINT, ASSUMED WORKINGH1020090
C*****H1020100
C*****S P E C I F I C A T I O N S SEGMENT 102H1020110
C*****H0013440
C*****WHEN EXECUTING ONLY SEGMENT 102, THE SPECIFICATION STATEMENTS H0013445
C*****WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=H0013450
C*****IN COLUMNS 1 AND 2 REMOVED.H0013455
C*****H0013460
C= DOUBLE PRECISION AVD,BVD,CVD,DVD,EVD,FVD,GVDH0013465
C*****H0013470
C*****O U T P U T - T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H1020120
C*****H0073500
C*****WHEN EXECUTING ONLY SEGMENT 102 THE FOLLOWING STATEMENT H0073505
C*****NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0073510
C= NUVI = 6H0073515
C*****H0073520
WRITE (NUVI, 1020)H1020130
1020 FORMAT(15H1 OMODA - (102)//32H BASIC EXTERNAL FUNCTION -DMOD-H1020140
1//39H (REMAINDERING -TYPE DOUBLE PRECISION)//27H ASA REF.- 8.3.3H1020150
2 (TABLE 4)// 9H RESULTS)H1020160
AVO = 16.062500H1020170
BVO = -4.000H1020180
CVD = -8.12500H1020190
OVO = 2.500H1020200
EVD = -1.000H1020210
FVD = 1.000H1020220
FVO = OM00(AVO, BVO)H1020230
GVO = FVO - 0.062500H1020240
WRITE (NUVI, 1021) GVOH1020250
FVO = 2.000H1020260
FVO = OM00(CVO, DVO)H1020270
GVD = FVD + 0.62500H1020280
WRITE (NUVI, 1021) GVOH1020290
FVD = 3.000H1020300
FVD = DMOD(BVD, EVD)H1020310
GVO = FVO + 0.000H1020320
WRITE (NUVI, 1021) GVDH1020330
FVO = 4.000H1020340
FVO = OM00(BVO, AVO)H1020350
GVD = FVD - (BVD-(DBLE(FLOAT(IDINT(BVD/AVD)))) * AVD)H1020360
WRITE (NUVI, 1021) GVDH1020370
WRITE (NUVI, 1022)H1020380
1021 FORMAT(//D25.14)H1020390
1022 FORMAT(//18H END OF DMOO TEST//40H ALL ABOVE ANSWERS SHOULD BE 0H1020400
1 FOR THIS/32H TEST SEGMENT TO BE SUCCESSFUL.)H1020410
C*****END OF TEST SEGMENT 102H1020420
C*****WHEN EXECUTING ONLY SEGMENT 102 THE STOP AND END CARDS H1020430
C*****WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=H1020440
C*****IN COLUMNS 1 AND 2 REMOVED.H1020450
C= STOPH1020460
C= ENDH1020470
C*****H1030010
C*****H1030020
C*****CABSA - (103)H1030030
C*****H1030040
C*****H1030050
C*****GENERAL PURPOSEASA REFH1030060
C*****.TO TEST BASIC EXTERNAL FUNCTION -CABS-8.3.3 H1030070
C***** (MOOULUS OF A COMPLEX NUMBER)TABLE 4H1030080
C*****ARGUMENTS ARE ARRAY EP1C(30), FUNCTIONS FROMH1030090

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C*****	ODD NUMBERED ARGUMENTS PRINTED AS SET 1 AND 2	H1030100
C*****	FROM EVEN NUMBERED ARGUMENTS	H1030110
C*****	SET 1 RESULTS SHOULD BE .1 E-6 TO .1 E+8	H1030120
C*****	SET 2 RESULTS SHOULD BE .5 E-6 TO .5 E+8	H1030130
C*****		H1030140
C*****	S P E C I F I C A T I O N S SEGMENT 103	H1030150
C*****		H0013475
C*****	WHEN EXECUTING ONLY SEGMENT 103 THE SPECIFICATION STATEMENTS	H0013480
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0013485
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0013490
C*****		H0013495
C=	COMPLEX EP1C(30)	H0013500
C*****		H0013505
C*****	O U T P U T - T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1030160
C*****		H0073525
C*****	WHEN EXECUTING ONLY SEGMENT 103 THE FOLLOWING STATEMENT	H0073530
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0073535
C=	NUVI = 6	H0073540
C*****		H0073545
	WRITE (NUVI, 1030)	H1030170
1030	FORMAT(15H1 CABS - (103)//32H BASIC EXTERNAL FUNCTION -CABS-	H1030180
	1//31H (MODULUS OF A COMPLEX NUMBER)//27H ASA REF.- 8.3.3 (TABLE	H1030190
	24)//9H RESULTS//10X,5HSET 1,15X,5HSET 2)	H1030200
C*****	INITIALIZE EP1C(EXACT VALUES)	H1030210
	EP1C(1) = (0.5E-7,-0.866025E-7)	H1030220
	EP1C(2) = (2.5E-7,-4.330125E-7)	H1030230
	EP1C(3) = (1.E-6,0.0)	H1030240
	EP1C(4) = (5.E-6,0.0)	H1030250
	EP1C(5) = (0.5E-5,0.866025E-5)	H1030260
	EP1C(6) = (2.5E-5,4.330125E-5)	H1030270
	EP1C(7) = (-0.5E-4,0.866025E-4)	H1030280
	EP1C(8) = (-2.5E-4,4.330125E-4)	H1030290
	EP1C(9) = (-1.E-3,0.0)	H1030300
	EP1C(10) = (-5.E-3,0.0)	H1030310
	EP1C(11) = (-0.5E-2,-0.866025E-2)	H1030320
	EP1C(12) = (-2.5E-2,-4.330125E-2)	H1030330
	EP1C(13) = (0.5E-1,-0.866025E-1)	H1030340
	EP1C(14) = (2.5E-1,-4.330125E-1)	H1030350
	EP1C(15) = (1.0,0.0)	H1030360
	EP1C(16) = (5.0,0.0)	H1030370
	EP1C(17) = (0.5E1,0.866025E1)	H1030380
	EP1C(18) = (2.5E1,4.330125E1)	H1030390
	EP1C(19) = (-0.5E2,0.866025E2)	H1030400
	EP1C(20) = (-2.5E2,4.330125E2)	H1030410
	EP1C(21) = (-1.E3,0.0)	H1030420
	EP1C(22) = (-5.E3,0.0)	H1030430
	EP1C(23) = (-0.5E4,-0.866025E4)	H1030440
	EP1C(24) = (-2.5E4,-4.330125E4)	H1030450
	EP1C(25) = (0.5E5,-0.866025E5)	H1030460
	EP1C(26) = (2.5E5,-4.330125E5)	H1030470
	EP1C(27) = (1.E6,0.0)	H1030480
	EP1C(28) = (5.E6,0.0)	H1030490
	EP1C(29) = (0.5E7,0.866025E7)	H1030500
	EP1C(30) = (2.5E7,4.330125E7)	H1030510
	IVI = - 1	H1030520
1031	IVI = IVI + 2	H1030530
	AVS = CABS (EP1C(IVI))	H1030540
	BVS = CABS (EP1C(IVI + 1))	H1030550
	WRITE (NUVI, 1032) AVS, BVS	H1030560
1032	FORMAT(1H0, E17.6, 2X, E17.6)	H1030570
	IF (IVI - 29) 1031, 1033, 1033	H1030580
1033	WRITE (NUVI, 1034)	H1030590
1034	FORMAT(/39H VALUES IN EACH SET SHOULD BE POSITIVE /39H .1 FOR SH	H1030600
	1ET 1 (.5 FOR SET 2), EXPONENT /35H RANGE FROM -06 TO +08 IN SEQUE	H1030610
	2NCE)	H1030620
C*****	END OF TEST SEGMENT 103	H1030630
C*****	WHEN EXECUTING ONLY SEGMENT 103 THE STOP AND END CARDS	H1030640
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1030650


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C***** IN COLUMNS 1 AND 2 REMOVED. H1030660
C= STOP H1030670
C= END H1030680
C***** H1100010
C***** H1100020
C***** BSFTS - (110) H1100030
C***** H1100040
C***** H1100050
C***** GENERAL PURPOSE ASA REF H1100060
C***** TEST OF ALL STATEMENT FUNCTIONS THAT HAVE BEEN DEFINED H1100070
C***** IN TEST SEGMENT 005 8.1.2H1100080
C***** GENERAL COMMENTS H1100090
C***** INTRINSIC AND EXTERNAL FUNCTIONS ASSUMED WORKING H1100100
C***** INTRINSIC AND BASIC EXTERNAL FUNCTIONS DECLARED IN A 10.1.7 H1100110
C***** TYPE STATEMENT OF SAME TYPE AS TABLES 3 AND 4 5.3 H1100120
C***** H1100130
C***** S P E C I F I C A T I O N S SEGMENT 110 H1100140
C***** H0013510
C***** WHEN EXECUTING ONLY SEGMENT 110, THE SPECIFICATION STATEMENTS H0013515
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0013520
C***** IN COLUMNS 1 AND 2 REMOVED. H0013525
C***** H0013530
C= INTEGER IFIX H0013535
C= REAL ABS, SQRT H0013540
C***** H0013545
C***** WHEN EXECUTING ONLY SEGMENT 110, THE SEGMENT 005, WHICH H1100150
C***** CONTAINS THE STATEMENT FUNCTIONS BEING TESTED HERE MUST BE H1100160
C***** INSERTED AFTER THE SPECIFICATION STATEMENTS OF SEGMENT 110. H1100170
C***** H1100180
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H1100190
C***** H0073550
C***** WHEN EXECUTING ONLY SEGMENT 110, THE FOLLOWING STATEMENT H0073555
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0073560
C= NUVI = 6 H0073565
C***** H0073570
WRITE (NUVI,1100) H1100200
1100 FORMAT(39H1 BSFTS - (110) STATEMENT FUNCTION TEST/23X,16HINTEGER AH1100210
1ND REAL//18H ASA REF. - 8.1.2// 9H RESULTS) H1100220
C***** HEADER FOR SEGMENT 110 WRITTEN H1100230
CMAVS = 9.0 - CMAFS(2.0, 3.0 + 2.0) H1100240
CMBVS = CMBFS(2/2, 1+1, 1*3) - 2.0 H1100250
MCAVI = MCAFI(IFIX(5.0),5) - (5 ** 5) H1100260
MCBVI = MCBFI(1.0,2.0,3.0) - MCAFI(6,2) + 24 H1100270
WRITE (NUVI,1108) CMAVS, CMBVS, MCAVI, MCBVI H1100280
CMAVS = CMCFS(4.0,2.0,2.0) H1100290
CMBVS = CMDFS(-1,-4) - 5.0 H1100300
MCAVI = MCCFI(9*2/18, (4**2)/8, 3.0) - 14 H1100310
MCBVI = MCDFI(1.,2.1,3.,4.,5.) - 15 H1100320
WRITE (NUVI,1108) CMAVS, CMBVS, MCAVI, MCBVI H1100330
CMAVS = CMEFS(2.0,1.0 * 2.0) - 4.0 H1100340
MCAVI = 3 H1100350
CMBVS = CMFFS(1,2, MCAVI) - 23. H1100360
MCAVI = MCEFI(2,2) - (4 ** 4) H1100370
MCBVI = MCFFI(9.0,4.0,CMBVS * CMBVS * 0.0) - 6 H1100380
WRITE (NUVI,1108) CMAVS, CMBVS, MCAVI, MCBVI H1100390
CMAVS = CMGFS(3,13,2.0,5.0) - 4.0 H1100400
CMBVS = CMGFS(IFIX(SQRT(CMAFS(2.,5.))),IFIX(CMFFS(1,2,3) - 10.), H1100410
1 CMBFS(1,2,3), CMDFS(-1,-4)) - 4.0 H1100420
MCAVI = MCGFI(2,2,2,0.0) - 1 H1100430
MCBVI = MCGFI(MCAFI(2,1), MCBFI(1.0,0.,.0), IFIX(SQRT(CMGFS(3,13, H1100440
12.0,5.0))),EXP(0.0) - 1.0)-1 H1100450
WRITE (NUVI,1108) CMAVS, CMBVS, MCAVI, MCBVI H1100460
WRITE (NUVI,1109) H1100470
1108 FORMAT ( /2(F20.10 /),2(I19/ )) H1100480
1109 FORMAT ( /36H ALL ABOVE ANSWERS SHOULD BE 0 FOR / H1100490
137H THIS TEST SEGMENT TO BE SUCCESSFUL.) H1100500
C***** END OF TEST SEGMENT 110 H1100510
C***** WHEN EXECUTING ONLY SEGMENT 110, THE STOP AND END CARDS H1100520

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C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H1100530
C***** IN COLUMNS 1 AND 2 REMOVED. H1100540
C= STDP H1100550
C= END H1100560
C***** H1110010
C***** H1110020
C***** FSFTS - (111) H1110030
C***** H1110040
C***** H1110050
C***** GENERAL PURPOSE ASA REF H1110060
C***** TEST STATEMENT FUNCTIONDS THAT HAVE BEEN DEFINED IN 8.1.2H1110070
C***** SEGMENT 006 (FDR FULL FORTRAN TEST ONLY) H1110080
C***** GENERAL COMMENTS H1110090
C***** INTRINSIC AND EXTERNAL FUNCTIONDS ASSUMED WORKING H1110100
C***** INTRINSIC AND BASIC EXTERNAL FUNCTIONDS DECLARED IN A 10.1.7 H1110110
C***** TYPE STATEMENT OF SAME TYPE AS TABLES 3 AND 4 5.3 H1110120
C***** H1110130
C***** S P E C I F I C A T I O N S SEGMENT 111 H1110140
C***** H0013550
C***** WHEN EXECUTING ONLY SEGMENT 111, THE SPECIFICATION STATEMENTS H0013555
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0013560
C***** IN COLUMNS 1 AND 2 REMOVED. H0013565
C***** H0013570
C= DDUBLE PRECISION DPAFD,DPBFD,DPCFD,DPDFD,DPFFD,DPGFD,DPEFD,DPHFD H0013575
C= DDUBLE PRECISION DPAVD,DPBVD,DPCVD,DPDVD,DAWVD,DBWVD,DCWVD H0013580
C= DDUBLE PRECISION DPA1D(5),FC2D(5,5) H0013585
C= DDUBLE PRECISION DBLE,DEXP H0013590
C= COMPLEX CMPLX,CEXP H0013595
C= COMPLEX CHAVC,CHBVC,CHCVC,CHDVC,CHEVC,CHFVC H0013600
C= COMPLEX CHAFC,CHBFC,CHCFC,CHDFC,CAWVC,CBWVC H0013605
C= LDGICAL A3B(2,2,2) H0013610
C= LDGICAL MCFVB,MCHVB,ABFB,BCFB,IEFB,KLFB H0013615
C= - ,MCEVB,MCIVB,MCKVB,ATVB,AWVB,BWVB,CWVB,DWVB,EWVB,SWVB,TWVB H0013620
C***** H0013625
C***** WHEN EXECUTING ONLY SEGMENT 111, THE SEGMENT 006, WHICH H1110150
C***** CONTAINS THE STATEMENT FUNCTIONDS BEING TESTED HERE MUST BE H1110160
C***** INSERTED AFTER THE SPECIFICATION STATEMENTS OF SEGMENT 111. H1110170
C***** H1110180
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H1110190
C***** H0073575
C***** WHEN EXECUTING ONLY SEGMENT 111, THE FOLLOWING STATEMENT H0073580
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0073585
C= NUVI = 6 H0073590
C***** H0073595
WRITE (NUVI,1110) H1110200
1110 FDRMAT(39H1 FSFTS - (111) STATEMENT FUNCTION TEST// H1110210
1 39H DDUBLE PRECISION, COMPLEX AND LDGICAL// H1110220
218H ASA REF. - 8.1.2//10H RESULTS ) H1110230
C***** HEADER FDR SEGMENT 111 WRITTEN H1110240
C***** CDNSTANTS USED IN THIS SEGMENT H1110250
CHAVC = (1.0,2.0) H1110260
CHBVC = (-2.0,3.0) H1110270
DPA1D(2) = 3.5D0 H1110280
ATVB = .FALSE. H1110290
PPDVS = 18. H1110300
RRDVS = 21.0 H1110310
ATVS = 18.0 H1110320
MCFVB = .TRUE. H1110330
FC2D(2,2) = 1.75D0 H1110340
C***** TEST OF D.P. STATEMENT FUNCTIONDS H1110350
DPAVD = DPAFD(3.5D0,DPA1D(2)) - 49.0D0 H1110360
DPBVD = DPBFD(1.0D0,DPA1D(2)- 2.5D0,DBLE(1.0)) - 1.0D0 H1110370
DPCVD = DPCFD(0.0D0,1.0D0,DPA1D(2)+ 0.5D0) - 7.5D0 H1110380
DPDVD = DPDFD(DBLE(AIMAG(CHAVC)),FC2D(2,2)) + 2.0D0 H1110390
WRITE (NUVI,1118) DPAVD,DPBVD,DPCVD,DPDVD H1110400
DPAVD = DPEFD(1.0D0,FC2D(2,2)*2.0D0,(1.0,-4.),AMAX1(2.0,4.0)) H1110410
1 - 4.5D0 H1110420
DPBVD = DPFFD(DPA1D(2),FC2D(2,2)-1.75D0,5.00) - 22.25D0 H1110430

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DPCVD = DPGFD(2.00/.201,DPA1D(2) - 2.500,1.0,CHAVC) - 4.000      H1110440
DPDVD= DPHFD(3.500, FC2D(2,2) - 2.7500,5.0) - 34.500      H1110450
WRITE (NUVI,1118) DPAVD, DPBVD, DPCVD, DPDVD      H1110460
C***** TEST DF COMPLEX STATEMENT FUNCTIONS      H1110470
CHCVC = CHAFC((2.0,2.),CHAVC) - (3.0,12.0)      H1110480
CHDVC = CHBFC((4.0,-8.5),CHBVC,1.0) - (7.0,-10.5)      H1110490
CHEVC = CHCFC((1.0,1.0) **2,CHAVC, 0.000, AIMAG(CHAVC) -2.0)      H1110500
CHFVC = CHDFC((0.0,0.0) ,CHAVC, 0.000 , SNGL (DMIN1(0.00,4.00))      H1110510
1)-(1.0,0.0)      H1110520
WRITE (NUVI,1117) CHCVC, CHDVC, CHEVC, CHFVC      H1110530
WRITE (NUVI, 1119)      H1110540
C***** TEST DF LDGICAL STATEMENT FUNCTIDN      H1110550
MCEVB = PPDVS .GT. 60.0      H1110560
A3B(1,1,1) = ATVS .LE. 20.9 .AND. ABFB(.TRUE.,.TRUE.,.FALSE.)      H1110570
MCHVB = BCFB(.TRUE.,.FALSE.,PPDVS,21.0) .AND..NDT.PPDVS.GE.RRDVS      H1110580
MCIVB = .NDT. (IEFB(.FALSE.,ATVB,.TRUE.,.650.,-5.11).AND.ATVB)      H1110590
MCKVB = MCFVB.AND.KLFB(.TRUE.,.TRUE.,.TRUE.,100.).AND..NDT.MCEVB      H1110600
WRITE (NUVI,1116) A3B(1,1,1), MCHVB, MCIVB, MCKVB      H1110610
1116 FORMAT(/ /4(L4) //38H THE FOUR ABOVE ANSWERS SHOULD BE TRUE/      H1110620
1 35H FDR THIS SEGMENT TD BE SUCCESSFUL)      H1110630
1117 FDRMAT(/ 4(F16.7,F14.7/))      H1110640
1118 FDRMAT (/ 4(D30.18/))      H1110650
1119 FDRMAT (/ 40H ALL ABDVE ANSWERS SHDULD BE 0 FDR THIS/      H1110660
140H TEST SEGMENT TD BE SUCCESSFUL. VALUES /40H WITH EXPDNENTS LEH      H1110670
2SS THAN 10**(-14) /22H ARE CONSIDERED ZERD )      H1110680
C***** END DF TEST SEGMENT 111      H1110690
C***** WHEN EXECUTING ONLY SEGMENT 111, THE STDP AND END CARDS      H1110700
C***** WHICH APPEAR AS CDMMENT CARDS MUST HAVE THE C=      H1110710
C***** IN COLUMNS 1 AND 2 REMDVED.      H1110720
C= STDP      H1110730
C= END      H1110740
STOP      H9999995
END      H9999999

SAMPLE COMPUTER, FDRTRAN CDMPIER LEVEL
DD NDT READ DR WRITE RECDRD 2. DDUBLE SPACE ON DUTPUT. ID 2
OPERATING SYSTEM VERSIDN
DD NDT READ DR WRITE RECDRD 4. DDUBLE SPACE DN DUTPUT. ID 4
DATE, INSTALLATION NAME
DD NDT READ DR WRITE RECDRD 6. DDUBLE SPACE DN DUTPUT. ID 6
C***** PART9 *****H0003700
C***** H0003705
C***** ANSI FDRTRAN (X3.9-1966) TEST PRDGRAMS H0003710
C***** H0003715
C***** PREPARED BY THE NATIDNAL BUREAU DF STANDARDS VERSION 3 H0003720
C***** H0003725
C***** JUNE 1974 H0003730
C***** H0003735
C***** PART 9 DF 14 PARTS H0003740
C***** H0003745
C***** SEGMENTS INCLUDED H0003750
C***** H0003755
C***** CPXAD - 140 ADDITIDN AND SUBTRACTIDN DF CDMPLEX NUMBERS H0003760
C***** H0003765
C***** CPXMU - 141 MULTIPLICATIDN DF CDMPLEX NUMBERS H0003770
C***** H0003775
C***** CPXDV - 142 DIVISIDN DF CDMPLEX NUMBERS H0003780
C***** H0003785
C***** CPXEX - 143 EXPDNENTIATIDN OF CDMPLEX NUMBERS H0003790
C***** H0003795
C***** CPXDP - 144 ARITHMETIC DPERATIDNS DN CDMPLEX NUMBERS H0003800
C***** H0003805
C***** CREAD - 145 ADDITIDN, SUBTRACTIDN DF CDMPLEX, REAL NUMBERS H0003810
C***** H0003815
C***** CREMU - 146 MULTIPLICATIDN DF CDMPLEX BY REAL NUMBERS H0003820
C***** H0003825
C***** CREDV - 147 DIVISIDN DF REAL, CDMPLEX BY CDMPLEX, REAL NDS. H0003830
C***** H0003835
C***** CREDP - 148 CDMBINED DPERATIONS DN CDMPLEX AND REAL NDS. H0003840

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C***** H0003845
C***** MISC3 - 149 BLANKS IN AND CONT. OF STATEMENT TO MAX. LINES H0003850
C***** H0003855
C***** MISC4 - 150 SPECIAL CHARACTERS FOR CONTINUATIONS H0003860
C***** H0013700
C***** THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN H0013705
C***** SEGMENTS 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150 H0013710
C***** ARE RUN AS ONE MAIN PROGRAM. H0013715
C***** H0013720
C***** DIMENSION A1S(5), A2S(2,2) H0013725
C***** INTEGER AVI, I1I(5), I2I(2,2) H0013730
C***** COMPLEX AVC, BVC, CVC, DVC, EVC, FVC, GVC, HVC, IVC, JVC, H0013735
C***** 1 PVC, RVC, SVC, TVC, UVC, H0013740
C***** 2 AAVC, ABVC, BAVC, BCVC, CAVC, CCVC, CDVC, DAVC, DCVC, ASVC, H0013745
C***** 3 BSVC, CSVC, DSVC, DBVC, DDVC, MAVC, MBVC, MCVC, MDVC, BBVC, H0013750
C***** 4 AAVC, ABVC, ACAVC, ADAVC, AASVC, ABSVC, ACSVC, ADSVC H0013755
C***** COMPLEX NUMVC, DENVC, QAVC, QBVC, QCVC, QDVC H0013760
C***** H0013765
C***** H0013770
C***** END OF SPECIFICATIONS FOR SEGMENTS H0013775
C***** 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150 H0013780
C***** H1400010
C***** H1400020
C***** CPXAD - (140) H1400030
C***** H1400040
C***** H1400050
C***** GENERAL PURPOSE H1400060
C***** TO TEST ADDITION AND SUBTRACTION OF COMPLEX NUMBERS ASA REF H1400070
C***** INCLUDES OPERATIONS WITH UP TO 9 TERMS 6.1 H1400080
C***** DOES NOT TEST FOR ACCURACY H1400090
C***** H1400100
C***** ADDITION AND SUBTRACTION OF 2 TERMS H1400110
C***** H1400120
C***** SPECIFICATIONS SEGMENT 140 H1400130
C***** H0013785
C***** WHEN EXECUTING ONLY SEGMENT 140, REMOVE THE PRECEDING H0013790
C***** SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS WHICH APPEAR H0013795
C***** AS COMMENTS MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0013800
C***** H0013805
C= COMPLEX AVC, BVC, CVC, DVC, EVC, FVC, GVC, HVC, IVC, JVC, AAVC, H0013810
C= 1 ABVC,BAVC,BBVC,CCVC,CDVC,BCVC,DCVC H0013815
C***** H0013820
C***** INPUT - OUTPUT TAPE ASSIGNMENT STATEMENTS H1400140
C***** IRVI = 5 H0073700
C***** NUVI = 6 H0073705
C***** IDENTIFY THE SOURCE OF THE TEST PROGRAMS H0073710
C***** WRITE(NUVI,0071) H0073715
0071 FORMAT(41H1 F O R T R A N T E S T P R O G R A M S// H0073720
C***** 1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS// H0073725
C***** 3 37H FOR USE ON LARGE FORTRAN PROCESSORS // H0073730
C***** 4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966// H0073735
C***** 5 23H VERSION 3 PART 9 ///) H0073740
C***** 3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER H0073745
C***** PREPARED BY USER H0073750
C***** READ, NO LIST H0073755
C***** PREPARED BY USER H0073760
C***** READ, NO LIST H0073765
C***** PREPARED BY USER H0073770
C***** READ, NO LIST H0073775
C***** READ(IRVI,0070) H0073780
C***** READ(IRVI,0072) H0073785
C***** READ(IRVI,0073) H0073790
0070 FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 /) H0073795
0072 FORMAT(40H TEST PROGRAMS /) H0073800
0073 FORMAT(40H FORTRAN COMPILER /) H0073805
C***** WRITE(NUVI,0070) H0073810
C***** WRITE(NUVI,0072) H0073815
C***** WRITE(NUVI,0073) H0073820

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WRITE (NUVI, 1401)
1401 FDMAT(1H1,1X,34HCPXAD - (140) CDMPLEX ADDITION AND/16X,
111HSUBTRACTION/2X,14HASA REF. - 6.1/2X,7HRESULTS/)
AVC=(1.467,2.560)
BVC=(3.568,7.480)
CVC=AVC+BVC
DVC=AVC+(3.568,7.480)
EVC=(1.9467,2.9560)+BVC
FVC=(1.467,2.560)+(3.568,7.480)
GVC=AVC-BVC
HVC = (.1467E+1,.2560E1) - BVC
IVC = AVC - (3568E-3,.7480E+1)
JVC=(1.467,2.560)-(3.568,7.480)
C*****ADDITION AND SUBTRACTION DF 3 TERMS
AAVC=AVC+BVC-CVC
ABVC=AVC+(3.568,7.480)-DVC
BAVC=(1.467,2.560)+BVC-CVC
BBVC=(1.467,2.560)+(3.568,7.480)-FVC
BCVC=AVC-BVC-GVC
CCVC=(1.467,2.560)-BVC-HVC
CDVC=AVC-(3.568,7.480)-IVC
DCVC=(1.467,2.560)-(3.568,7.480)-JVC
WRITE(NUVI,1402) AAVC,ABVC,BAVC,BBVC,BCVC,CCVC,CDVC,DCVC
C*****ADDITION AND SUBTRACTION OF 5 TERMS
AAVC=AVC-(1.89,6.48)-AAVC-BVC+(0.0,9.830)
ABVC=AVC-(1.89,6.48)-AAVC-BVC+(0.0,9.830)
WRITE(NUVI,1402)ABVC
1402 FDMAT(2X,2F8.4)
AAVC=AVC-(1.89,6.48)-BVC+(0.0,9.83)+CVC
C*****ADDITION AND SUBTRACTION DF 6 TERMS
ABVC=AVC-(1.89,6.48)-BVC+(0.0,9.83)+CVC-AAVC
WRITE(NUVI,1402) ABVC
C*****ADDITION AND SUBTRACTION DF 8 TERMS
AAVC=AVC+BVC-CVC+(0.34,6.45)-(4.54,6.85)+DVC+(1.0,0.0)-EVC
C*****ADDITION AND SUBTRACTION DF 9 TERMS
ABVC=AVC+BVC-CVC+(0.34,6.45)-(4.54,6.85)+DVC+(1.0,0.0)-EVC-AAVC
WRITE (NUVI,1403) ABVC
1403 FDMAT(2X,2F8.4/2X,35HTEST IS PDSITIVE IF NUMBERS PRINTED/2X ,
117HABDVE ARE 0.0,0.0)
C***** END DF TEST SEGMENT 140
C***** WHEN EXECUTING ONLY SEGMENT 140, THE STDP AND END CARDS
C***** WHICH APPEAR AS CDMMENT CARDS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C= STOP
C= END
C*****
C*****
C***** CPXMU - (141)
C*****
C***** GENERAL PURPDSE
C***** TD TEST MULTIPLICATION DF COMPLEX NUMBERS ASA REF
C***** INCLUDES OPERATIONS WITH UP TD 10 TERMS 6.1
C***** DOES NOT TEST FDR ACCURACY
C*****
C*****
C***** S P E C I F I C A T I D N S SEGMENT 141
C*****
C***** WHEN EXECUTING ONLY SEGMENT 141, THE SPECIFICATION STATEMENTS
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C=
C***** IN COLUMNS 1 AND 2 REMOVED.
C= COMPLEX AVC, BVC, CVC, DVC, EVC, FVC, GVC, HVC, IVC, JVC
C= 1 ,AAVC, ABVC, BAVC, BBVC
C*****
C***** D U T O U T T A P E ASSIGNMENT STATEMENT. ND INPUT TAPE.
C*****
C***** WHEN EXECUTING ONLY SEGMENT 141, THE FOLLOWING STATEMENT
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMDVED.

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H1400150
H1400160
H1400170
H1400180
H1400190
H1400200
H1400210
H1400220
H1400230
H1400240
H1400250
H1400260
H1400270
H1400280
H1400290
H1400300
H1400310
H1400320
H1400330
H1400340
H1400350
H1400360
H1400370
H1400380
H1400390
H1400400
H1400410
H1400420
H1400430
H1400440
H1400450
H1400460
H1400470
H1400480
H1400490
H1400500
H1400510
H1400520
H1400530
H1400540
H1400550
H1400560
H1400570
H1400580
H1400590
H1410010
H1410020
H1410030
H1410040
H1410050
H1410060
H1410070
H1410080
H1410090
H1410100
H1410110
H0013825
H0013830
H0013835
H0013840
H0013845
H0013850
H0013855
H0013860
H1410120
H0073825
H0073830
H0073835

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C*****	H0073840
C= NUVI = 6	H0073845
C*****	H0073850
WRITE (NUVI, 1411)	H1410130
1411 FORMAT (1H1,1 X,36HCPXMU - (141) COMPLEX MULTIPLICATION//2X,	H1410140
114HASA REF. - 6.1//2X,7HRESULTS//)	H1410150
C*****MULTIPLICATION OF TWO TERMS	H1410160
AVC = (-0.5,0.86602)	H1410170
BVC = (-0.5,-0.86602)	H1410180
AAVC = (AVC * BVC)	H1410190
ABVC = AVC * (-0.5,-0.86602)	H1410200
BAVC = (-0.5,0.86602) * BVC	H1410210
BBVC = (-0.5,0.86602)*(-0.5,-0.86602)	H1410220
WRITE(NUVI,1412) AAVC,ABVC,BAVC,BBVC	H1410230
C*****MULTIPLICATION OF 3 TERMS	H1410240
AVC=(0.0,1.0)	H1410250
BVC=(1.0,0.0)	H1410260
CVC=(0.0,-1.0)	H1410270
AAVC=AVC*BVC*CVC	H1410280
ABVC=(0.0,1.0)*BVC*(0.0,-1.0)	H1410290
WRITE(NUVI,1412) AAVC,ABVC	H1410300
1412 FORMAT(2X,2F8.3)	H1410310
C*****MULTIPLICATION OF 4 TERMS	H1410320
AVC=(0.30901,0.95105)	H1410330
BVC=(-0.80901,0.58778)	H1410340
CVC=(-0.80901,-0.58778)	H1410350
DVC=(0.30901,-0.95105)	H1410360
AAVC=AVC*BVC*CVC*DVC	H1410370
ABVC=AVC*(-0.80901,0.58778)*CVC*(0.30901,-0.95105)	H1410380
WRITE(NUVI,1412) AAVC,ABVC	H1410390
C*****MULTIPLICATION OF 5 TERMS	H1410400
AVC=(0.5,0.86602)	H1410410
BVC=(-0.5,0.86602)	H1410420
CVC = (1.0,0.0)	H1410430
DVC=(-0.5,-0.86602)	H1410440
EVC=(0.5,-0.86602)	H1410450
AAVC=AVC*BVC*CVC*DVC*EVC	H1410460
ABVC=AVC*(-0.5,0.86602)*CVC*(-0.5,-0.86602)*EVC	H1410470
WRITE(NUVI,1412) AAVC,ABVC	H1410480
C*****MULTIPLICATION OF 6 TERMS	H1410490
AVC = (0.98480,0.17364)	H1410500
BVC=(-0.17364,0.98480)	H1410510
CVC=(-0.86602,0.5)	H1410520
DVC=(-0.93969,-0.34202)	H1410530
EVC=(0.34202,-0.93969)	H1410540
FVC=(0.86602,-0.5)	H1410550
AAVC=AVC*BVC*CVC*DVC*EVC*FVC	H1410560
ABVC=AVC*(-0.17364,0.98480)*CVC*(-0.93969,-0.34202)*EVC*(0.86602,	H1410570
1-0.5)	H1410580
WRITE(NUVI,1412) AAVC,ABVC	H1410590
C*****MULTIPLICATION OF 7 TERMS	H1410600
AVC=(0.70710,0.70710)	H1410610
BVC=(0.0,1.0)	H1410620
CVC=(-0.70710,0.70710)	H1410630
DVC=(1.0,0.0)	H1410640
EVC=(-0.70710,-0.70710)	H1410650
FVC=(0.0,-1.0)	H1410660
GVC=(0.70710,-0.70710)	H1410670
AAVC=AVC*BVC*CVC*DVC*EVC*FVC*GVC	H1410680
ABVC=AVC*(0.0,1.0)*CVC*(1.0,0.0)*EVC*(0.0,-1.0)*GVC	H1410690
WRITE(NUVI,1412) AAVC,ABVC	H1410700
C*****MULTIPLICATION OF 8 TERMS	H1410710
AVC=(0.76604,0.64278)	H1410720
BVC=(0.17364,0.98480)	H1410730
CVC=(-0.5,0.86602)	H1410740
DVC=(-0.93969,0.34202)	H1410750
EVC=(-0.93969,-0.34202)	H1410760
FVC=(-0.5,-0.86602)	H1410770

GVC=(0.17364,-0.98480)	H1410780
HVC=(0.76604,-0.64278)	H1410790
AAVC=AVC*BVC*CVC*DVC*EVC*FVC*GVC*HVC	H1410800
ABVC=AVC*(0.17364,0.98480)*CVC*DVC*(-0.93969,-0.34202)*FVC*GVC*HVC	H1410810
WRITE(NUVI,1412) AAVC,ABVC	H1410820
C*****MULTIPLICATION OF 9 TERMS	H1410830
AVC=(0.80901,0.58778)	H1410840
BVC=(0.30901,0.95105)	H1410850
CVC=(-0.94832,0.31730)	H1410860
DVC=(-0.80901,0.58778)	H1410870
EVC = (1.0,0.0)	H1410880
FVC=(-0.80901,-0.58778)	H1410890
GVC=(-0.94832,-0.31730)	H1410900
HVC=(0.30901,-0.95105)	H1410910
IVC=(0.80901,-0.58778)	H1410920
AAVC=AVC*BVC*CVC*DVC*EVC*FVC*GVC*HVC*IVC	H1410930
ABVC=AVC*(0.30901,0.95105)*CVC*(-0.80901,0.58778)*(1.0,0.0)*FVC*	H1410940
1GVC*HVC*IVC	H1410950
WRITE(NUVI,1412) AAVC,ABVC	H1410960
C*****MULTIPLICATION OF 10 TERMS	H1410970
AVC=(0.86602,0.5)	H1410980
BVC=(0.5,0.86602)	H1410990
CVC=(0.0,1.0)	H1411000
DVC=(-0.5,0.86602)	H1411010
EVC=(-0.86602,0.5)	H1411020
FVC=(-1.0,0.0)	H1411030
GVC=(-0.86602,-0.5)	H1411040
HVC=(-0.5,-0.86602)	H1411050
IVC=(0.0,-1.0)	H1411060
JVC=(0.0,1.0)	H1411070
AAVC=AVC*BVC*CVC*DVC*EVC*FVC*GVC*HVC*IVC*JVC	H1411080
ABVC=AVC*(0.5,0.86602)*CVC*(-0.5,0.86602)*EVC*FVC*GVC*HVC*(0.0,-1.0)*JVC	H1411090
WRITE(NUVI,1412) AAVC,ABVC	H1411100
WRITE(NUVI,1413)	H1411110
1413 FORMAT (1H0,35HTEST IS POSITIVE IF NUMBERS PRINTED/1X,	H1411120
117HABOVE ARE 1.0,0.0)	H1411130
WRITE(NUVI,1414)	H1411140
1414 FORMAT (/39H ERROR SHOULD NOT EXCEED + OR - .001)	H1411150
C***** END OF TEST SEGMENT 141	H1411160
C***** WHEN EXECUTING ONLY SEGMENT 141, THE STOP AND END CARDS	H1411170
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1411180
C***** IN COLUMNS 1 AND 2 REMOVED.	H1411190
C= STOP	H1411200
C= END	H1411210
C*****	H1411220
C*****	H1420010
C*****	H1420020
C***** CPXDV-(142)	H1420030
C*****	H1420040
C*****	H1420050
C***** GENERAL PURPOSE	H1420060
C***** TO TEST DIVISION OF COMPLEX NUMBERS	ASA REF H1420070
C***** 6.1	H1420080
C*****	H1420090
C***** SPECIFICATIONS SEGMENT 142	H1420100
C*****	H0013865
C***** WHEN EXECUTING ONLY SEGMENT 142, THE SPECIFICATION STATEMENTS	H0013870
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C=	H0013875
C***** IN COLUMNS 1 AND 2 REMOVED.	H0013880
C*****	H0013885
C= COMPLEX NUMVC,DENV,QAVC,QBVC,QCVC,QDVC	H0013890
C*****	H0013895
C***** O U T O U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1420110
C*****	H0073855
C***** WHEN EXECUTING ONLY SEGMENT 142, THE FOLLOWING STATEMENT	H0073860
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0073865
C*****	H0073870
C= NUVI = 6	H0073875

C*****		H0073880
	WRITE (NUVI, 1421)	H1420120
1421	FORMAT(1H1,1X,25HCPXDV - (142) DIVISION OF/16X,	H1420130
	115HCOMPLEX NUMBERS//15H ASA REF.- 6.1//2X,7HRESULTS//)	H1420140
C*****	TEST NUMBER 1	H1420150
	NUMVC=(0.36602,1.36602)	H1420160
	DENVC=(0.86602,0.5)	H1420170
	QAVC=NUMVC/DENVC	H1420180
	QBVC=(0.36602,1.3660)/DENVC	H1420190
	QCVC=NUMVC/(0.86602,0.5)	H1420200
	QDVC=(0.36602,1.36602)/(0.86602,0.5)	H1420210
	WRITE(NUVI,1422) QAVC,QBVC,QCVC,QDVC	H1420220
C*****	TEST NUMBER 2	H1420230
	NUMVC=(0.0,1.41420)	H1420240
	DENVC=(0.70710,0.70710)	H1420250
	QAVC=NUMVC/DENVC	H1420260
	QBVC=(0.0,1.41420)/DENVC	H1420270
	QCVC=NUMVC/(0.70710,0.70710)	H1420280
	QDVC=(0.0,1.41420)/(0.70710,0.70710)	H1420290
	WRITE(NUVI,1422) QAVC,QBVC,QCVC,QDVC	H1420300
1422	FORMAT(2X,2F8.4)	H1420310
C*****	TEST NUMBER 3	H1420320
	NUMVC=(-0.36602,1.36602)	H1420330
	DENVC=(0.5,0.86602)	H1420340
	QAVC=NUMVC/DENVC	H1420350
	QBVC=(-0.36602,1.36602)/DENVC	H1420360
	QCVC=NUMVC/(0.5,0.86602)	H1420370
	QDVC=(-0.36602,1.36602)/(0.5,0.86602)	H1420380
	WRITE(NUVI,1422) QAVC,QBVC,QCVC,QDVC	H1420390
C*****	TEST NUMBER 4	H1420400
	NUMVC=(0.73204,2.73204)	H1420410
	DENVC=(1.73204,1.0)	H1420420
	QAVC=NUMVC/DENVC	H1420430
	QBVC=(0.73204,2.73204)/DENVC	H1420440
	QCVC=NUMVC/(1.73204,1.0)	H1420450
	QDVC=(0.73204,2.73204)/(1.73204,1.0)	H1420460
	WRITE(NUVI,1422) QAVC,QBVC,QCVC,QDVC	H1420470
C*****	TEST NUMBER 5	H1420480
	NUMVC=(0.0,2.82840)	H1420490
	DENVC=(1.41420,1.41420)	H1420500
	QAVC=NUMVC/DENVC	H1420510
	QBVC=(0.0,2.82840)/DENVC	H1420520
	QCVC=NUMVC/(1.41420,1.41420)	H1420530
	QDVC=(0.0,2.82840)/(1.41420,1.41420)	H1420540
	WRITE(NUVI,1422) QAVC,QBVC,QCVC,QDVC	H1420550
	WRITE(NUVI,1423)	H1420560
1423	FORMAT (/2X,35HTEST IS POSITIVE IF NUMBERS PRINTED/2X,	H1420570
	117HABOVE ARE 1.0,1.0)	H1420580
	WRITE (NUVI, 1424)	H1420590
1424	FORMAT (/39H ERROR SHOULD NOT EXCEED + OR - .0001)	H1420600
C*****	END OF TEST SEGMENT 142	H1420610
C*****	WHEN EXECUTING ONLY SEGMENT 142, THE STOP AND END CARDS	H1420620
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1420630
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1420640
C=	STOP	H1420650
C=	END	H1420660
C*****		H1430010
C*****		H1430020
C*****	CPXEX(143)	H1430030
C*****		H1430040
C*****		H1430050
C*****	GENERAL PURPOSE	H1430060
C*****	TO TEST EXPONENTIATION OF COMPLEX NUMBERS	ASA REF H1430070
C*****	BY INTEGERS	6.1 H1430080
C*****	EXPONENT VALUES VARY FROM 3 TO 100	H1430090
C*****		H1430100
C*****	S P E C I F I C A T I O N S SEGMENT 143	H1430110
C*****		H0013900

C*****	WHEN EXECUTING ONLY SEGMENT 143, THE SPECIFICATION STATEMENTS	H0013905
C*****	WHICH APPEAR AS COMMENTS MUST HAVE THE C=	H0013910
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0013915
C=	INTEGER AVI	H0013920
C=	COMPLEX AVC,BVC,CVC,DVC,EVC	H0013925
C*****		H0013930
C*****	O U T O U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1430120
C*****		H0073885
C*****	WHEN EXECUTING ONLY SEGMENT 143, THE FOLLOWING STATEMENT	H0073890
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0073895
C*****		H0073900
C=	NUVI = 6	H0073905
C*****		H0073910
	WRITE (NUVI, 1431)	H1430130
1431	FORMAT(1H1,1 X,36HCPXEX - (143) COMPLEX EXPONENTIATION//	H1430140
	1 2X,11HASA.REF.6.1//2X,29HRESULTS BASED ON THE FUNCTION//	H1430150
	2 2X,25H1.0 = SIN**2(X)+COS**2(X)//)	H1430160
C*****	EXPONENT=3	H1430170
	AVC = (-0.5,0.8660254)	H1430180
	AVI=3	H1430190
	BVC=AVC**3	H1430200
	CVC = (-0.5,0.8660254) ** 3	H1430210
	DVC = (-0.5,0.8660254) ** AVI	H1430220
	EVC=AVC**AVI	H1430230
	WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430240
C*****	EXPONENT=4	H1430250
	AVC=(0.0,1.0)	H1430260
	AVI=4	H1430270
	BVC=AVC**4	H1430280
	CVC=(0.0,1.0)**4	H1430290
	DVC=(0.0,1.0)**AVI	H1430300
	EVC=AVC**AVI	H1430310
	WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430320
1432	FORMAT (2X,2F8.4)	H1430330
C*****	EXPONENT=6	H1430340
	AVC = (0.5,0.8660254)	H1430350
	AVI=6	H1430360
	BVC=AVC**6	H1430370
	CVC = (0.5,0.8660254) ** 6	H1430380
	DVC = (0.5,0.8660254) ** AVI	H1430390
	EVC= AVC**AVI	H1430400
	WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430410
C*****	EXPONENT=8	H1430420
	AVC = (0.7071068,0.7071068)	H1430430
	AVI=8	H1430440
	BVC=AVC**8	H1430450
	CVC = (0.7071068,0.7071068) ** 8	H1430460
	DVC = (0.7071068,0.7071068) ** AVI	H1430470
	EVC=AVC**AVI	H1430480
	WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430490
C*****	EXPONENT=10	H1430500
	AVC = (0.8090170,0.5877853)	H1430510
	AVI=10	H1430520
	BVC=AVC**10	H1430530
	CVC = (0.8090170,0.5877853) ** 10	H1430540
	DVC = (0.8090170,0.5877853) ** AVI	H1430550
	EVC=AVC**AVI	H1430560
	WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430570
C*****	EXPONENT=20	H1430580
	AVC = (0.9510565,0.3090170)	H1430590
	AVI=20	H1430600
	BVC=AVC**20	H1430610
	CVC = (0.9510565,0.3090170) ** 20	H1430620
	DVC = (0.9510565,0.3090170) ** AVI	H1430630
	EVC=AVC**AVI	H1430640
	WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430650
C*****	EXPONENT=40	H1430660
	AVC = (0.9876883,0.1564345)	H1430670

AVI=40	H1430680
BVC=AVC**40	H1430690
CVC = (0.9876883,0.1564345) ** 40	H1430700
DVC = (0.9876883,0.1564345) ** AVI	H1430710
EVC=AVC**AVI	H1430720
WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430730
C***** EXPONENT=60	H1430740
AVC = (0.9945219,0.1045285)	H1430750
AVI=60	H1430760
BVC=AVC**60	H1430770
CVC = (0.9945219,0.1045285) ** 60	H1430780
DVC = (0.9945219,0.1045285) ** AVI	H1430790
EVC=AVC**AVI	H1430800
WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430810
C***** EXPONENT=80	H1430820
AVI = 80	H1430830
AVC = (0.9969173,0.0784591)	H1430840
BVC=AVC**80	H1430850
CVC = (0.9969173,0.0784591) ** 80	H1430860
DVC = (0.9969173,0.0784591) ** AVI	H1430870
EVC=AVC**AVI	H1430880
WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430890
C***** EXPONENT=100	H1430900
AVC = (0.9980267,0.0627905)	H1430910
AVI=100	H1430920
BVC=AVC**100	H1430930
CVC = (0.9980267,0.0627905) ** 100	H1430940
DVC = (0.9980267,0.0627905) ** AVI	H1430950
EVC=AVC**AVI	H1430960
WRITE(NUVI,1432) BVC,CVC,DVC,EVC	H1430970
WRITE (NUVI,1433)	H1430980
1433 FORMAT (/ 37H TEST IS POSITIVE IF NUMBERS PRINTED/2X,	H1430990
1 26HABOVE ARE CLOSE TO 1.0,0.0)	H1431000
WRITE (NUVI, 1434)	H1431010
1434 FORMAT(/ 39H ERROR SHOUL NOT EXCEED + OR - .0001)	H1431020
C***** END OF TEST SEGMENT 143	H1431030
C***** WHEN EXECUTING ONLY SEGMENT 143, THE STOP AND END CARDS	H1431040
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1431050
C***** IN COLUMNS 1 AND 2 REMOVED.	H1431060
C= STOP	H1431070
C= END	H1431080
C*****	H1440010
C*****	H1440020
C***** CPXOP - (144)	H1440030
C*****	H1440040
C*****	H1440050
C***** GENERAL PURPOSE ASA REF	H1440060
C***** TO TEST ARITHMETIC OPERATIONS ON COMPLEX NUMBERS. 6.1	H1440070
C***** OPERATIONS INCLUDE ALL BASIC OPERATORS (+,-,*,**) ACTING	H1440080
C***** ON COMPLEX NUMBERS	H1440090
C*****	H1440100
C***** S P E C I F I C A T I O N S SEGMENT 144	H1440110
C*****	H0013935
C***** WHEN EXECUTING ONLY SEGMENT 144, THE SPECIFICATION STATEMENTS	H0013940
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C=	H0013945
C***** IN COLUMNS 1 AND 2 REMOVED.	H0013950
C*****	H0013955
C= INTEGER AVI	H0013960
C= COMPLEX AVC, BVC, CVC, DVC, EVC, FVC, GVC,HVC,PVC,RVC,SVC,TVC,UVCH	H0013965
C*****	H0013970
C***** O U T O U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1440120
C*****	H0073915
C***** WHEN EXECUTING ONLY SEGMENT 144, THE FOLLOWING STATEMENT	H0073920
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0073925
C*****	H0073930
C= NUVI = 6	H0073935
C*****	H0073940
WRITE (NUVI, 1441)	H1440130


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1441  FORMAT(1H1,1X,32HCPXOP - (144) COMPLEX OPERATIONS//2X,      H1440140
111HASA REF 6.1//2X,7HRESULTS//)                                     H1440150
AVC = (0.9396926,0.3420201)                                          H1440160
BVC = (1.2817127,0.5976725)                                          H1440170
CVC = (0.0, 1.4142136)                                              H1440180
DVC = (0.7071068, 0.7071068)                                         H1440190
EVC = (1.0986841, 0.4550899)                                         H1440200
AVI = 2                                                                H1440210
RVC=(AVC*BVC+(0.9396926,0.3420201)*BVC+AVC*(1.2817127,0.5976725)- H1440220
1(0.9396926,0.3420201)*(1.2817127,0.5976725)+CVC/DVC+(0.0,1.4142136 H1440230
2)/OVC+CVC/(0.7071068,0.7071068)-(0.0,1.4142136)/(0.7071068,      H1440240
3 0.7071068)+EVC**2-EVC**AVI+(1.0986841,0.4550899)**2+(1.0986841, H1440250
4 0.4550899)**AVI)**2/(0.0, 72.0)                                     H1440260
FVC=(0.0,4.0)                                                         H1440270
GVC=(0.43301,0.3)                                                     H1440280
HVC=(0.43301,0.2)                                                     H1440290
PVC=(1.73204,1.0)                                                     H1440300
SVC=FVC/((GVC+HVC)*(PVC**2))                                         H1440310
TVC=(0.0,4.0)/(((0.43301,0.3)+(0.43301,0.2))*((1.73204,1.0)**2)) H1440320
UVC=FVC/((GVC+(0.43301,0.2))*(PVC**2))                             H1440330
WRITE (NUVI,1442) RVC,SVC,TVC,UVC                                     H1440340
1442  FORMAT ( 4(2X,2F8.4/) /37H  TEST IS POSITIVE IF NUMBERS PRINTED / H1440350
12X, 17HABOVE ARE 1.0,0.0 )                                          H1440360
WRITE (NUVI, 1443)                                                    H1440370
1443  FORMAT(/ 39H  ERROR SHOULD NOT EXCEED + OR - .0001 )          H1440380
C*****  END OF TEST SEGMENT 144                                       H1440390
C*****  WHEN EXECUTING ONLY SEGMENT 144, THE STOP AND END CARDS      H1440400
C*****  WHICH APPEAR AS COMMENT CARDS MUST HAVE THE  C=             H1440410
C*****  IN COLUMNS 1 AND 2 REMOVED.                                   H1440420
C=      STOP                                                            H1440430
C=      END                                                             H1440440
C*****                                                                H1450010
C*****                                                                H1450020
C*****                      CREA0-(145)                                H1450030
C*****                                                                H1450040
C*****                                                                H1450050
C*****  GENERAL PURPOSE                                              ASA REF H1450060
C*****  TO TEST ADDITION AND SUBTRACTION OF COMPLEX                6.1 H1450070
C*****  AND REAL NUMBERS                                           H1450080
C*****                                                                H1450090
C*****  S P E C I F I C A T I O N S   SEGMENT 145                 H1450100
C*****                                                                H0013975
C*****  WHEN EXECUTING ONLY SEGMENT 145, THE SPECIFICATION STATEMENTS H0013980
C*****  WHICH APPEAR AS COMMENTS MUST HAVE THE  C=                H0013985
C*****  IN COLUMNS 1 AND 2 REMOVED.                                H0013990
C*****                                                                H0013995
C=      COMPLEX AVC,BAVC,CAVC,DAVC,ASVC,BSVC,CSVC,AAVC             H0014000
C=      2 ,      OSVC,AAVC,ABAVC,ACAVC,ADAVC,AASVC,ABSVC,ACSV,ADSVC H0014005
C*****                                                                H0014010
C*****  O U T O U T T A P E  ASSIGNMENT STATEMENT.  NO INPUT TAPE. H1450110
C*****                                                                H0073945
C*****  WHEN EXECUTING ONLY SEGMENT 145, THE FOLLOWING STATEMENT    H0073950
C*****  NUVI = 6  MUST HAVE THE C=  IN COLUMNS 1 AND 2 REMOVED.    H0073955
C*****                                                                H0073960
C=      NUVI = 6                                                       H0073965
C*****                                                                H0073970
WRITE (NUVI, 1450)                                                    H1450120
1450  FORMAT(1H1,1X,38HCREAD - (145) ADDITION AND SUBTRACTION/      H1450130
1 10X,27HOF COMPLEX AND REAL NUMBERS//2X,                           H1450140
1 12HASA REF. 6.1//2X,7HRESULTS//)                                   H1450150
AVC=(5.4,7.5)                                                         H1450160
AVS=4.2                                                                H1450170
C*****  ADDITION AND SUBTRACTION OF 2 NUMBERS                      H1450180
AAVC=AVC-AVS                                                         H1450190
BAVC=(5.4,7.5)-AVS                                                   H1450200
CAVC=AVC-4.2                                                         H1450210
DAVC=(5.4,7.5)-4.2                                                  H1450220
ASVC=AVC+AVS                                                         H1450230

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BSVC=(5.4,7.5)+AVS H1450240
CSVC=AVC+4.2 H1450250
DSVC=(5.4,7.5)+4.2 H1450260
C***** ADDITION AND SUBTRACTION OF 3 NUMBERS H1450270
AAVC=AVC-AVS-AAVC H1450280
ABAVC=(5.4,7.5)-AVS-BAVC H1450290
ACAVC=AVC-4.2-(1.2,7.5) H1450300
ADAVC=(5.4,7.5)-4.2-(1.2,7.5) H1450310
AASVC=AVC+AVS-ASVC H1450320
ABSVC=(5.4,7.5)+AVS-BSVC H1450330
ACSVC=AVC+4.2-(9.6,7.5) H1450340
ADSVC=(5.4,7.5)+4.2-(9.6,7.5) H1450350
WRITE(NUVI,1451)ABAVC,ACAVC,ADAVC,AASVC,ABSVC,ACSVC,ADSVC,AAVC H1450360
1451 FORMAT(2X,2F8.4) H1450370
C***** ADDITION AND SUBTRACTION OF 7 NUMBERS H1450380
AOSVC=AVC-(5.4,7.5)+AVS-4.2+ASVC-3.2-(6.4,7.5) H1450390
WRITE(NUVI,1452) AOSVC H1450400
1452 FORMAT(2X,2F8.4)/37H TEST IS POSITIVE IF NUMBERS PRINTED/2X, H1450410
1 17HABOVE ARE 0.0,0.0) H1450420
C***** END OF TEST SEGMENT 145 H1450430
C***** WHEN EXECUTING ONLY SEGMENT 145, THE STOP AND ENO CAROS H1450440
C***** WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C= H1450450
C***** IN COLUMNS 1 AND 2 REMOVED. H1450460
C= STOP H1450470
C= END H1450480
C***** H1460010
C***** H1460020
C***** CREMU - (146) H1460030
C***** H1460040
C***** H1460050
C***** GENERAL PURPOSE ASA REF H1460060
C***** TO TEST MULTIPLICATION OF COMPLEX NUMBERS BY 6.1 H1460070
C***** REAL NUMBERS H1460080
C***** H1460090
C***** S P E C I F I C A T I O N S SEGMENT 146 H1460100
C***** H0014015
C***** WHEN EXECUTING ONLY SEGMENT 146, THE SPECIFICATION STATEMENTS H0014020
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C= H0014025
C***** IN COLUMNS 1 AND 2 REMOVED. H0014030
C***** H0014035
C= COMPLEX AVC,BVC, MAVC,MBVC,MCVC,MOVC H0014040
C***** H0014045
C***** O U T O U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H1460110
C***** H0073975
C***** WHEN EXECUTING ONLY SEGMENT 146, THE FOLLOWING STATEMENT H0073980
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0073985
C***** H0073990
C= NUVI = 6 H0073995
C***** H0074000
WRITE(NUVI,1461) H1460120
1461 FORMAT(1H1,1X,39HCREMU - (146) MULTIPLICATION OF COMPLEX/16X, H1460130
1 7HBY REAL //2X, H1460140
2 11HASA.REF.6.1//2X,7HRESULTS//) H1460150
C*****MULTIPLICATION OF A COMPLEX NUMBER BY A REAL NUMBER H1460160
AVC=(1.6,3.2) H1460170
AVS=0.625 H1460180
MAVC=AVC*AVS H1460190
MBVC=(1.6,3.2)*AVS H1460200
MCVC=AVC*0.625 H1460210
MOVC=(1.6,3.2)*0.625 H1460220
WRITE(NUVI,1463) MAVC,MBVC,MCVC,MOVC H1460230
1463 FORMAT(4(2X,2F8.4)/37H TEST IS POSITIVE IF NUMBERS PRINTED/,2X, H1460240
417HABOVE ARE 1.0,2.0 ) H1460250
C*****MULTIPLICATION OF 4 TERMS H1460260
AVS=4.0 H1460270
BVS=0.25 H1460280
AVC=(0.93969,0.34202) H1460290
BVC=(1.28168,0.59764) H1460300

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MAVC=AVS*AVC*BVS*BVC	H1460310
MBVC=4.0*BVS*AVC*BVC	H1460320
MCVC=4.0*BVS*(0.93969,0.34202)*BVC	H1460330
MDVC=4.0*0.25*(0.93969,0.34202)*(1.28168,0.59764)	H1460340
WRITE (NUVI,1462) MAVC,MBVC,MCVC,MDVC	H1460350
1462 FORMAT(/4(2X,2F8.4/)/37H TEST IS POSITIVE IF NUMBERS PRINTED/	H1460360
12X,17HABOVE ARE 1.0,1.0)	H1460370
WRITE (NUVI, 1464)	H1460380
1464 FDMAT(/39H ERROR SHOULD NOT EXCEED + OR - .0001)	H1460390
C***** END OF TEST SEGMENT 146	H1460400
C***** WHEN EXECUTING ONLY SEGMENT 146, THE STOP AND END CARDS	H1460410
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1460420
C***** IN COLUMNS 1 AND 2 REMOVED.	H1460430
C= STDP	H1460440
C= END	H1460450
C*****	H1470010
C*****	H1470020
C***** CREDV - (147)	H1470030
C*****	H1470040
C*****	H1470050
C***** GENERAL PURPOSE	ASA REF H1470060
C***** TO TEST DIVISION OF REAL (COMPLEX) NUMBERS BY	6.1 H1470070
C***** COMPLEX (REAL) NUMBERS	H1470080
C*****	H1470090
C***** S P E C I F I C A T I O N S SEGMENT 147	H1470100
C*****	H0014050
C***** WHEN EXECUTING ONLY SEGMENT 147, THE SPECIFICATION STATEMENTS	H0014055
C***** WHICH APPEAR AS COMMENTS MUST HAVE THE C=	H0014060
C***** IN COLUMNS 1 AND 2 REMOVED.	H0014065
C*****	H0014070
C= COMPLEX AVC,DAVC,DBVC,DCVC,DDVC	H0014075
C*****	H0014080
C***** O U T O U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1470110
C*****	H0074005
C***** WHEN EXECUTING ONLY SEGMENT 147, THE FOLLOWING STATEMENT	H0074010
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0074015
C*****	H0074020
C= NUVI = 6	H0074025
C*****	H0074030
WRITE (NUVI, 1471)	H1470120
1471 FORMAT (1H1,1X,33HCREDV - (147) DIVISION OF COMPLEX/16X,16HAND REAH	H1470130
1L NUMBERS//2X,11HASA REF 6.1//2X,7HRESULTS//)	H1470140
C*****DIVISION OF REAL BY COMPLEX	H1470150
AVS=2.0	H1470160
AVC=(1.0, -1.0)	H1470170
DAVC=AVS/AVC	H1470180
DBVC=2.0/AVC	H1470190
DCVC=AVS/(1.0, -1.0)	H1470200
DDVC=2.0/(1.0, -1.0)	H1470210
WRITE (NUVI,1473) DAVC,DBVC,DCVC,DDVC	H1470220
1473 FDMAT(2X, 2F8.4)	H1470230
C*****DIVISION OF COMPLEX BY REAL	H1470240
AVS=2.5463	H1470250
AVC=(2.5463,2.5463)	H1470260
DAVC=AVC/AVS	H1470270
DBVC=(2.5463,2.5463)/AVS	H1470280
DCVC=AVC/2.5463	H1470290
DDVC=(2.5463,2.5463)/2.5463	H1470300
WRITE (NUVI,1472) DAVC,DBVC,DCVC,DDVC	H1470310
1472 FORMAT (4(2X,2F8.4/)/37H TEST IS POSITIVE IF NUMBERS PRINTED/	H1470320
1 2X,17HABOVE ARE 1.0,1.0)	H1470330
WRITE (NUVI, 1474)	H1470340
1474 FDMAT(/39H ERRDR SHOULD NOT EXCEED + OR - .0001)	H1470350
C***** END OF TEST SEGMENT 147	H1470360
C***** WHEN EXECUTING ONLY SEGMENT 147, THE STOP AND END CARDS	H1470370
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1470380
C***** IN COLUMNS 1 AND 2 REMOVED.	H1470390
C= STDP	H1470400

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C=      END
C*****H1470410
C*****H1480010
C*****H1480020
C*****      CREOP - (148)H1480030
C*****H1480040
C*****H1480050
C*****      GENERAL PURPOSE      ASA REF H1480060
C*****      TO TEST COMBINED OPERATIONS ON COMPLEX AND REAL NUMBERS      6.1 H1480070
C*****DIVISION OF TWO POLYNOMIALS      H1480080
C*****H1480090
C*****      S P E C I F I C A T I O N S      SEGMENT 148H1480100
C*****H0014085
C*****      WHEN EXECUTING ONLY SEGMENT 148, THE SPECIFICATION STATEMENTS      H0014090
C*****      WHICH APPEAR AS COMMENTS MUST HAVE THE C=      H0014095
C*****      IN COLUMNS 1 AND 2 REMOVED.      H0014100
C*****H0014105
C=      INTEGER AVI      H0014110
C=      COMPLEX AVC,BVC,CVC,DVC,RVC      H0014115
C*****H0014120
C*****      O U T O U T T A P E      ASSIGNMENT STATEMENT. NO INPUT TAPE.      H1480110
C*****H0074035
C*****      WHEN EXECUTING ONLY SEGMENT 148, THE FOLLOWING STATEMENT      H0074040
C*****      NUVI = 6      MUST HAVE THE C=      IN COLUMNS 1 AND 2 REMOVED.      H0074045
C*****H0074050
C=      NUVI = 6      H0074055
C*****H0074060
C*****      WRITE (NUVI, 1481)      H1480120
1481      FORMAT(1H1,1X,36HCREOP - (148) OPERATIONS ON REAL AND/16X,15HCOMPLH1480130
1EX NUMBERS// 2X,12HASA REF. 6.1//2X, 7HRESULTS//)      H1480140
C*****      AVC=(1.0,1.0)      H1480150
C*****      AVS=1.0      H1480160
C*****      BVS = 2.0      H1480170
C*****      BVC=(1.0,-1.0)      H1480180
C*****      RVC = (BVS + AVC *(1.+AVC * (-1.+(1.0,1.0)*(-1. +AVC))))/      H1480190
1 (4.0+BVC*(2.0+BVC*(-AVS+BVC*(0.5+BVC))))      H1480200
C*****      WRITE (NUVI,1483) RVC      H1480210
1483      FORMAT(      2X,2F8.4//37H TEST IS POSITIVE IF NUMBERS PRIH1480220
3NTED/2X,18HABOVE ARE 2.0,-1.0//)      H1480230
C*****COMPLEX ARITHMETIC EXPRESSION      H1480240
C*****      AVC=(1.60,3.2)      H1480250
C*****      AVS=0.625      H1480260
C*****      BVS=2.0      H1480270
C*****      BVC=(1.0,-1.0)      H1480280
C*****      CVS=2.5      H1480290
C*****      CVC=(2.5,2.5)      H1480300
C*****      DVC = (1.09866,0.45508)      H1480310
C*****      AVI = 2      H1480320
C*****      RVC=(AVC*AVS+(1.6,3.2)*AVS-AVC*0.625-(1.6,3.2)*0.625+BVS/BVC      H1480330
1-BVS/(1.0,-1.0)+2.0/BVC+2.0/(1.0,-1.0)+CVC/CVS-(2.5,2.5)/CVS+      H1480340
2CVC/2.5+(2.5,2.5)/2.5+DVC**AVI-(1.09866,0.45508)**2+DVC**2+      H1480350
3(1.09866,0.45508)**AVI)**2/(0.0,72.0)      H1480360
C*****      WRITE (NUVI,1482) RVC      H1480370
1482      FORMAT(2X,2F8.4// 37H TEST IS POSITIVE IF NUMBERS PRINTED/2X,      H1480380
1 17HABOVE ARE 1.0,0.0)      H1480390
C*****      WRITE (NUVI, 1484)      H1480400
1484      FORMAT(/ 39H ERROR SHOULD NOT EXCEED + OR - .0001 )      H1480410
C*****      END OF TEST SEGMENT 148      H1480420
C*****      WHEN EXECUTING ONLY SEGMENT 148, THE STOP AND END CARDS      H1480430
C*****      WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=      H1480440
C*****      IN COLUMNS 1 AND 2 REMOVED.      H1480450
C=      STOP      H1480460
C=      END      H1480470
C*****H1490010
C*****H1490020
C*****      MISC3 - (149)H1490030
C*****H1490040
C*****H1490050
C*****      GENERAL PURPOSE      ASA REF H1490060

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C*****	TO TEST EFFECT OF BLANKS WITHIN STATEMENT,	3.1.4.1	H1490070
C*****	CONTINUATION OF STATEMENT TO MAX.NO.OF LINES,	3.2.4,3.3	H1490080
C*****	AND USE OF SPECIAL CHARACTERS TO INDICATE CONTINUATION	3.2.4	H1490090
C*****	LINE -		H1490100
C*****	FOR BASIC INTEGERS AND REAL NUMBERS		H1490110
C*****			H1490120
C*****	S P E C I F I C A T I O N S SEGMENT 149		H1490130
C*****			H0014125
C*****	WHEN EXECUTING ONLY SEGMENT 149, THE SPECIFICATION STATEMENTS		H0014130
C*****	WHICH APPEAR AS COMMENTS MUST HAVE THE C=		H0014135
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0014140
C*****			H0014145
C=	DIMENSION A1S(5),A2S(2,2)		H0014150
C=	INTEGER I1I(5),I2I(2,2)		H0014155
C*****			H0014160
C*****	O U T O U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.		H1490140
C*****			H0074065
C*****	WHEN EXECUTING ONLY SEGMENT 149, THE FOLLOWING STATEMENT		H0074070
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.		H0074075
C*****			H0074080
C=	NUVI = 6		H0074085
C*****			H0074090
	WRITE (NUVI,1490)		H1490150
1490	FORMAT(1H1,1X,37HMISC3 - (149) EFFECT OF BLANKS WITHIN/16X,		H1490160
	122HSTMNT AND CONTINUATION/16X,20HOF STMNT TO 20 LINES//		H1490170
	239H ASA REFS. - 3.1.4.1 3.2.4.3.3 3.2.4//2X,7HRESULTS)		H1490180
	J A C V I = 1		H1490190
	I		H1490200
	=1		H1490210
	+I		H1490220
	-(		H1490230
	*2		H1490240
	/)	=2	H1490250
	I 2I(2 , 1) = 3		H1490260
	A CV S = - 1 .0 E 0		H1490270
	A 1 S (2) = -2 00 . E - 2		H1490280
	A 2 S (2 , 1) = - .0 3 E + 2		H1490290
	K B		H1490300
	* CVI		H1490310
	(=		H1490320
	) J A		H1490330
	\$ C V		H1490340
	.	I	H1490350
	,	+	H1490360
	/	I 1 I	H1490370
	=	(2)	H1490380
	1		H1490390
	2		+H1490400
	3I		H1490410
	4 2		H1490420
	5 I		H1490430
	6 (		H1490440
	7 2		H1490450
	8		H1490460
	9 1		H1490470
	A)		H1490480
	B - 6		H1490490
	C M		H1490500
	= A		H1490510
	,	V S	H1490520
	(=		H1490530
	\$ A		H1490540
	* C		H1490550
	.	V	H1490560
	)		SH1490570
	/+		H1490580
	1 A 1		H1490590
	2 S		H1490600

Line	Code	Text	Address
3			(H1490610
42)			+H1490620
5	A		H1490630
6	2		H1490640
7	S		H1490650
8	2		H1490660
9)			H1490670
A	+		H1490680
B	6		H1490690
W	RI T E	(NU VI , 1 49 1) KB CVI , CMA VS	H1490700
1 491	F O R M A T	((//I10//F11.1// 2 X, 35)TEST IS POSITIVE IF NUMBERS PRI	H1490710
1NTED/ 2	X, 1	1HABOVE ARE 0)	H1490720
C*****	END OF TEST SEGMENT 149		H1490730
C*****	WHEN EXECUTING ONLY SEGMENT 149, THE STOP AND END CARDS		H1490740
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=		H1490750
C*****	IN COLUMNS 1 AND 2 REMOVED.		H1490760
C=	STOP		H1490770
C=	END		H1490780
C*****			H1500010
C*****			H1500020
C*****	MISC4 - (150)		H1500030
C*****			H1500040
C*****			H1500050
C*****	GENERAL PURPOSE	ASA REF	H1500060
C*****	TO TEST EFFECT OF BLANKS WITHIN STATEMENT,	3.1.4.1	H1500070
C*****	CONTINUATION OF STATEMENT TO 20 LINES,	3.2.4.3.3H	H1500080
C*****	AND USE OF SPECIAL CHARACTERS TO INDICATE CONTINUATION	3.2.4	H1500090
C*****	CONTINUATION LINE CAN CONTAIN FORTRAN CHARACTERS		H1500100
C*****	(OTHER THAN C IN COLUMN 1) IN COLUMNS 1 THRU 5 (CLARIFICATION 3)		H1500110
C*****			H1500120
C*****	S P E C I F I C A T I O N S	SEGMENT 150	H1500130
C*****			H0014165
C*****	WHEN EXECUTING ONLY SEGMENT 150, THE SPECIFICATION STATEMENTS		H0014170
C*****	WHICH APPEAR AS COMMENTS MUST HAVE THE C=		H0014175
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0014180
C*****			H0014185
C=	INTEGER AVI		H0014190
C=	COMPLEX AVC,BVC,CVC,DVC,RVC		H0014195
C*****			H0014200
C*****	O U T O U T T A P E	ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1500140
C*****			H0074095
C*****	WHEN EXECUTING ONLY SEGMENT 150, THE FOLLOWING STATEMENT		H0074100
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.		H0074105
C*****			H0074110
C=	NUVI = 6		H0074115
C*****			H0074120
WRITE (NUVI, 1500)			H1500150
1 500	F O R M A T	((1 H1 , 1 X , 13 HMISC4 - (150)	H1500160
X,1X, 2 3	HEFFECT OF BLANKS WITHIN / 16X, 22HSTMNT AND CON		H1500170
YTINUATION/ 16X,	20HOF STMNT TO 20 LINES//		H1500180
139H	ASA REFS. - 3.1.4.1 3.2.4.3.3 3.2.4//2X,7HRESULTS//)		H1500190
AVC = (1 .0 , 1 .0)			H1500200
AVS = 1. 0			H1500210
B V S = 2 . 0			H1500220
BVC= (1 .0 , - 1 .0)			H1500230
RVC = (B VS +A V C*(1 . +A VC *(- 1 . + (1 .0, 1			H1500240
T. 0) *(- 1 .0+ A V C))) / (			H1500250
U4 .0 + BV C * (2 . 0 + BVC *			H1500260
V(- A V S + B V C *(0 . 5 + B			H1500270
WV C)))			H1500280
RVC = RV C +(-2.0, +1 .0)			H1500290
W	RI T E (N UV I , 15 02) R VC		H1500300
1502	FORMAT(2X, 2F8.4)		H1500310
C*****	COMPLEX ARITHMETIC EXPRESSION		H1500320
C*****	STATEMENT LABEL NOT REFERENCED	3.4	H1500330
1503	A		H1500340
VC=1.+V			H1500350
-C			H1500360

*	=	H1500370
/	(	H1500380
(1		H1500390
)		H1500400
,6		H1500410
.0		H1500420
I,		H1500430
J3		H1500440
K.		H1500450
L2		H1500460
M	)	H1500470
C*****	CONTINUE STATEMENT WITH NO LABEL	3.4 H1500480
	CONTINUE	H1500490
	AVS = 0.625	H1500500
	BVS = 2.0	H1500510
	BVC = (1.0,-1.0)	H1500520
	CVS = 2.5	H1500530
	CVC = (2.5,2.5)	H1500540
	DVC = (1.0986841, 0.4550899)	H1500550
	AVI = 2	H1500560
	RVC	H1500570
	B(AVC*AVS	H1500580
	C+(1.6,3.2)	H1500590
	D*AVS-AVC	H1500600
	E*0.625	H1500610
	F-(1.6,3.2)	H1500620
	G*0.625	H1500630
	H+BVS/BVC	H1500640
	I-BVS/(1.0,-1.0)	H1500650
	J+2.0/BVC+2.0/	H1500660
	K(1.0,-1.0)+CVC/CVS	H1500670
	L-(2.5,2.5)/CVS+CVC/2.5	H1500680
	M+(2.5,2.5)/2.5+DVC**AVI	H1500690
	N-(1.0986841,0.4550899)**2	H1500700
	O+DVC**2	H1500710
	P+	H1500720
	Q(1.0986841,0.4550899)	H1500730
	R**AVI)	H1500740
	S**2/(0.0,72.0)	H1500750
	T	H1500760
	W R I T E (N U V I , 1 5 0 1) R V C	H1500770
15 01	FORM AT(/ 2 X , 2 F 8 . 4	H1500780
1501	Z/ / 3 7H TEST IS POSITIVE IF NUMBERS PRINTED/ 2X	H1500790
= , 1 7	HABOVE ARE 0.0,0.0)	H1500800
C*****	END OF TEST SEGMENT 150	H1500810
C*****	WHEN EXECUTING ONLY SEGMENT 150, THE STOP AND END CARDS	H1500820
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1500830
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1500840
C=	STOP	H1500850
C=	END	H1500860
	STOP	H9999995
	END	H9999999
SAMPLE COMPUTER, FORTRAN COMPILER LEVEL		
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2		
OPERATING SYSTEM VERSION		
DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT ID 4		
DATE, INSTALLATION NAME		
DO NOT READ OR WRITE RECORD 6 DOUBLE SPACE ON OUTPUT ID 6		
C*****	A T T 10 *****	H0004300
C*****		H0004305
C*****	ANSI FORTRAN (X3.9-1966) TEST PROGRAMS	H0004310
C*****		H0004315
C*****	PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3	H0004320
C*****		H0004325
C*****	JUNE 1973	H0004330
C*****		H0004335
C*****	PART 10 OF 14 PARTS	H0004340
C*****		H0004345

C*****	SEGMENTS INCLUDED	H0004350
C*****		H0004355
C*****	BRFCP - 160 REAL EXTERNAL FUNCTIONS	H0004360
C*****		H0004365
C*****	AFS - 400 REAL ARGUMENT	H0004370
C*****		H0004375
C*****	BFS - 420 REAL ARGUMENTS	H0004380
C*****		H0004385
C*****	CFS - 430 INTEGER ARGUMENT	H0004390
C*****		H0004395
C*****	DFS - 440 INTEGER ARGUMENTS	H0004400
C*****		H0004405
C*****	EFS - 450 ARRAY NAME	H0004410
C*****		H0004415
C*****	FFS - 460 DIFFERENT TYPES OF ARGUMENTS	H0004420
C*****		H0004425
C*****	BIFCP - 161 INTEGER EXTERNAL FUNCTIONS	H0004430
C*****		H0004435
C*****	IAFI - 401 REAL ARGUMENT	H0004440
C*****		H0004445
C*****	IBFI - 421 REAL ARGUMENTS	H0004450
C*****		H0004455
C*****	ICFI - 431 INTEGER ARGUMENT	H0004460
C*****		H0004465
C*****	IDFI - 441 INTEGER ARGUMENTS	H0004470
C*****		H0004475
C*****	IEFI - 451 ARRAY NAME	H0004480
C*****		H0004485
C*****	IFFI - 461 DIFFERENT TYPES OF ARGUMENTS	H0004490
C*****		H0004495
C*****	FRFCP - 162 REAL FUNCTIONS	H0004500
C*****		H0004505
C*****	GFS - 402 D.P. ARGUMENT	H0004510
C*****		H0004515
C*****	HFS - 422 COMPLEX ARGUMENTS	H0004520
C*****		H0004525
C*****	IRFS - 432 LOGICAL ARGUMENT	H0004530
C*****		H0004535
C*****	JRFS - 442 EXTERNAL PROCEDURE	H0004540
C*****		H0004545
C*****	RFS - 452 DIFFERENT TYPES OF ARGUMENTS	H0004550
C*****		H0004555
C*****	FIFCP - 163 INTEGER FUNCTIONS	H0004560
C*****		H0004565
C*****	IFI - 403 D.P. ARGUMENT	H0004570
C*****		H0004575
C*****	JFI - 423 COMPLEX ARGUMENTS	H0004580
C*****		H0004585
C*****	KFI - 433 LOGICAL ARGUMENT	H0004590
C*****		H0004595
C*****	LFI - 443 EXTERNAL PROCEDURE	H0004600
C*****		H0004605
C*****	MFI - 453 DIFFERENT TYPES OF ARGUMENTS	H0004610
C*****		H0004615
C*****	CFCCP - 164 COMPLEX FUNCTIONS	H0004620
C*****		H0004625
C*****	AFC - 404 REAL ARGUMENT	H0004630
C*****		H0004635
C*****	BFC - 414 INTEGER ARGUMENT	H0004640
C*****		H0004645
C*****	CFC - 424 ARRAY NAME	H0004650
C*****		H0004655
C*****	DFC - 434 D.P. ARGUMENT	H0004660
C*****		H0004665
C*****	EFC - 444 COMPLEX ARGUMENT	H0004670
C*****		H0004675
C*****	FFC - 454 LOGICAL ARGUMENT	H0004680
C*****		H0004685

C*****	HFC - 464	DIFFERENT TYPES OF ARGUMENTS	H0004690
C*****			H0014300
C*****	THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN		H0014305
C*****	SEGMENTS 160, 161, 162, 163, 164		H0014310
C*****	ARE RUN AS ONE MAIN PROGRAM.		H0014315
C*****			H0014320
	DIMENSION A1S(5), A2S(2,2), A3S(3,3,3)		H0014325
	INTEGER I1I(5), I2I(2,2), I3I(2,2,2)		H0014330
	REAL JRFS, IRFS		H0014335
	LOGICAL A1B(2), A2B(2,2), A3B(2,2,2), AVB, BVB		H0014340
	DOUBLE PRECISION AVD, A1D(4), A2D(2,2), A3D(2,2,2)		H0014345
	COMPLEX AVC, BVC, AFC, BFC, CFC, DFC, EFC, FFC, HFC		H0014350
	1, A1C(12), A2C(2,2), A3C(2,2,1)		H0014355
	COMMON AXVS, CXVS		H0014360
	EXTERNAL GFS, BFC, IFI		H0014365
C*****			H0014370
C*****	END OF SPECIFICATIONS FOR SEGMENTS		H0014375
C*****	160, 161, 162, 163, 164		H0014380
C*****	*****		H1600010
C*****			H1600020
C*****	BRFCP - (160)		H1600030
C*****			H1600040
C*****	*****		H1600050
C*****	GENERAL PURPOSE	ASA REFH1600060	H1600060
C*****	1. TO TEST REAL FUNCTIONS	8.3.1H	H1600070
C*****	2. DUMMY ARGUMENTS ARE REAL OR INTEGER VARIABLES, OR		H1600080
C*****	ARRAY NAMES		H1600090
C*****	3. FUNCTIONS CONTAIN UP TO 20 ARGUMENTS		H1600100
C*****	4. IN REFERENCE, ACTUAL ARGUMENTS ARE VARIABLE NAME,		H1600110
C*****	ARRAY NAME, ARRAY ELEMENT NAME, OR AN ARITHMETIC		H1600120
C*****	EXPRESSION	8.3.2H	H1600130
C*****	RESTRICTIONS OBSERVED		H1600140
C*****	1. ITEMS(2), (3), (4), (5), (6) OF PARAGRAPH 8.3.1		H1600150
C*****	2. LAST SENTENCE OF PARAGRAPH 3.2		H1600160
C*****	THIS SEGMENT IS TO BE RUN WITH SEGMENTS		H1600170
C*****	400, 420, 430, 440, 450, 460	WHICH	H1600180
C*****	CONTAINS ALL FUNCTIONS BEING TESTED HERE.		H1600190
C*****			H1600200
C*****	SPECIFICATIONS SEGMENT 160		H1600210
C*****			H0014385
C*****	WHEN EXECUTING ONLY SEGMENT 160, REMOVE THE PRECEDING		H0014390
C*****	SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS WHICH		H0014395
C*****	APPEAR AS COMMENTS MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.		H0014400
C*****			H0014405
C=	DIMENSION A1S(5), A2S(2,2)		H0014410
C*****			H0014415
C*****	INPUT - OUTPUT TAPE ASSIGNMENT STATEMENT		H1600220
	IRVI = 5		H0074300
	NUVI = 6		H0074305
C*****	IDENTIFY THE SOURCE OF THE TEST PROGRAMS		H0074310
	WRITE(NUVI,0071)		H0074315
0071	FORMAT (41H1 F O R T R A N T E S T P R O G R A M S //		H0074320
	1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS //		H0074325
	3 37H FOR USE ON LARGE FORTRAN PROCESSORS //		H0074330
	4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966 //		H0074335
	5 23H VERSION 3 PART 10 //)		H0074340
C*****	3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER		H0074345
C	PREPARED BY USER		H0074350
C	READ, NO LIST		H0074355
C	PREPARED BY USER		H0074360
C	READ, NO LIST		H0074365
C	PREPARED BY USER		H0074370
C	READ, NO LIST		H0074375
	READ(IRVI,0070)		H0074380
	READ(IRVI,0072)		H0074385
	READ(IRVI,0073)		H0074390
0070	FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 //)		H0074395
0072	FORMAT(40H TEST PROGRAMS //)		H0074400

0073	FORMAT(40H FORTRAN COMPILER	/)	H0074405
	WRITE(NUVI,0070)		H0074410
	WRITE(NUVI,0072)		H0074415
	WRITE(NUVI,0073)		H0074420
	WRITE(NUVI,1604)		H1600230
1604	FORMAT(1H1,1X,37HBRFCP - (160) REAL EXTERNAL FUNCTIONS/		H1600240
	1 /2X,16HASA REF. - 8.3.1//28H RESULTS SHOULD BE POSITIVE)		H1600250
	IAVI=2		H1600260
	A1S(1)=1.0		H1600270
	A1S(2)=1.0		H1600280
	A2S(2,2)=1.0		H1600290
	A2S(2,1)=1.0		H1600300
	AVS=1.0		H1600310
	BVS=2.0		H1600320
	CVS=1.0		H1600330
	DVS=1.0		H1600340
	EVS=1.0		H1600350
	IVI=AFS(2.0)-8.0		H1600360
	MAVI=1		H1600370
	IF(IVI)1600,1601,1600		H1600380
1605	IVI=BFS(2.0,BVS)-4.0		H1600390
	MAVI=2		H1600400
	IF(IVI)1600,1601,1600		H1600410
1606	IVI = CFS(2) -16.0		H1600420
	MAVI=3		H1600430
	IF(IVI)1600,1601,1600		H1600440
1607	IVI=DFS(2,IAVI)-1.0		H1600450
	MAVI=4		H1600460
	IF(IVI)1600,1601,1600		H1600470
1608	IVI=EFS(A1S)-2.0		H1600480
	MAVI=5		H1600490
	IF(IVI)1600,1601,1600		H1600500
1609	IVI=FFS(IAVI,AVS,+2,-1.0,A1S,IAVI,CVS,A1S,1.0,IAVI,A1S,A1S,BVS,DVS		H1600510
	1 ,A1S(1),A2S,A2S,A2S,EVS+1.0,IAVI-1) + 1.0		H1600520
	MAVI=6		H1600530
	IF(IVI) 1600,1601,1600		H1600540
1600	WRITE (NUVI,1602)MAVI		H1600550
	GO TO 7001		H1600560
1601	WRITE (NUVI,1603)MAVI		H1600570
1602	FORMAT (/2X,5HTEST ,11,12H IS NEGATIVE)		H1600580
1603	FORMAT (/2X,5HTEST ,11,12H IS POSITIVE)		H1600590
	7001 GO TO (1605,1606,1607,1608,1609,7000),MAVI		H1600600
	7000 CONTINUE		H1600610
C*****	END OF TEST SEGMENT 160		H1600620
C*****	WHEN EXECUTING ONLY SEGMENT 160, THE STOP AND END CARDS		H1600630
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN		H1600640
C*****	COLUMNS 1 AND 2 REMOVED.		H1600650
C=	STOP		H1600660
C=	END		H1600670
C*****			H1610010
C*****			H1610020
C*****	BIFCP - (161)		H1610030
C*****			H1610040
C*****			H1610050
C*****	GENERAL PURPOSE	ASA REF	H1610060
C*****	1-TO TEST INTEGER FUNCTIONS	8.3.1	H1610070
C*****	2-DUMMY ARGUMENTS ARE REAL OR INTEGER VARIABLES OR		H1610080
C*****	ARRAY NAMES	8.3.1	H1610090
C*****	3-FUNCTIONS CONTAIN UP TO 20 ARGUMENTS		H1610100
C*****	4-IN REFERENCE,ACTUAL ARGUMENTS ARE VARIABLE NAME,		H1610110
C*****	ARRAY NAME,ARRAY ELEMENT NAME,OR AN ARITHMETIC		H1610120
C*****	EXPRESSION	8.3.2	H1610130
C*****	RESTRICTIONS OBSERVED		H1610140
C*****	1-ITEMS (2),(3),(4),(5),(6) OF PARAGRAPH 3.1		H1610150
C*****	2-LAST SENTENCE OF PARAGRAPH 3.2		H1610160
C*****	THIS SEGMENT IS TO BE RUN WITH SEGMENTS		H1610170
C*****	401, 421, 431, 441, 451, 461 WHICH		H1610180
C*****	CONTAINS ALL FUNCTIONS BEING TESTED HERE.		H1610190

C*****		H1610200
C*****	S P E C I F I C A T I O N S S E G M E N T 161	H1610210
C*****		H0014420
C*****	WHEN EXECUTING ONLY SEGMENT 161, THE SPECIFICATION STATEMENTS	H0014425
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0014430
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0014435
C*****		H0014440
C=	DIMENSION A1S(5)	H0014445
C=	INTEGER I1I(5)	H0014450
C*****		H0014455
C*****	O U T P U T T A P E A S S I G N M E N T S T A T E M E N T . N O I N P U T T A P E .	H1610220
C*****		H0074425
C*****	WHEN EXECUTING ONLY SEGMENT 161, THE STATEMENT NUVI = 6	H0074430
C*****	MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0074435
C*****		H0074440
C=	NUVI = 6	H0074445
C*****		H0074450
	WRITE(NUVI,1614)	H1610230
1614	FORMAT(1H1,1X,40HBIFCP - (161) INTEGER EXTERNAL FUNCTIONS/	H1610240
	1 16X,26HWITH INTEGER AND REAL ARGS//2X,16HASA REF. - 8.3.1//	H1610250
	228H RESULTS SHOULD BE POSITIVE)	H1610260
	IAVI=2	H1610270
	A1S(1)=1.0	H1610280
	A1S(2)=1.0	H1610290
	I1I(1)=1	H1610300
	I1I(2)=1	H1610310
	AVS=1.0	H1610320
	BVS=2.0	H1610330
	CVS=1.0	H1610340
	DVS=1.0	H1610350
	EVS=1.0	H1610360
	IVI=IAFI(2.0) - 8	H1610370
	MAVI=1	H1610380
	IF (IVI) 1610,1611,1610	H1610390
1615	IVI=IBFI(2.0,BVS)-4	H1610400
	MAVI=2	H1610410
	IF (IVI) 1610,1611,1610	H1610420
1616	IVI = ICFI(2) - 16	H1610430
	MAVI=3	H1610440
	IF (IVI) 1610,1611,1610	H1610450
1617	IVI=IDFI(2,IAVI)-1	H1610460
	MAVI=4	H1610470
	IF (IVI) 1610,1611,1610	H1610480
1618	IVI=IEFI(I1I)-2	H1610490
	MAVI=5	H1610500
	IF (IVI) 1610,1611,1610	H1610510
1619	IVI=IFFI(IAVI,AVS,2,-1.0,A1S,IAVI,CVS,A1S,1.0,IAVI,A1S,A1S,BVS,	H1610520
	1DVS,A1S(1),A1S,A1S,A1S,EVS+1.0,IAVI-1) + 1	H1610530
	MAVI=6	H1610540
	IF(IVI) 1610,1611,1610	H1610550
1610	WRITE(NUVI,1612)MAVI	H1610560
	GO TO 7002	H1610570
1611	WRITE(NUVI,1613)MAVI	H1610580
1612	FORMAT (//2X,5HTEST ,I1,12H IS NEGATIVE)	H1610590
1613	FORMAT (//2X,5HTEST ,I1,12H IS POSITIVE)	H1610600
7002	GO TO (1615,1616,1617,1618,1619,7003),MAVI	H1610610
7003	CONTINUE	H1610620
C*****	END OF TEST SEGMENT 161	H1610630
C*****	WHEN EXECUTING ONLY SEGMENT 161, THE STOP AND END CARDS	H1610640
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1610650
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1610660
C=	STOP	H1610670
C=	END	H1610680
C*****		H1620010
C*****		H1620020
C*****	FRFCP - (162)	H1620030
C*****		H1620040
C*****		H1620050

C*****	GENERAL PURPOSE	ASA REF H1620060
C*****	1.TD TEST REAL FUNCTION IN FULL FORTRAN	H1620070
C*****	2.THIS SEGMENT COMPLETES SEGMENT (160) IN ORDER TO TEST	H1620080
C*****	FOR ALL FEATURES REQUIRED IN FULL FORTRAN	8.3.1H1620090
C*****	3.DUMMY ARGUMENTS CAN BE INTEGER(TESTED IN 160),REAL(TESTED IN	H1620100
C*****	160),ARRAY NAME(TESTED IN 160),DOUBLE PRECISION,COMPLEX,	H1620110
C*****	LOGICAL OR EXTERNAL PROCEDURE	8.3.1H1620120
C*****	4.DUMMY ARGUMENTS MAY BE REDEFINED IN SUBPROGRAM(ITEM 4)	8.3.1H1620130
C*****	5.IN REFERENCE, ACTUAL ARGUMENTS MAY BE AS IN (160) AND	H1620140
C*****	BESIDES EXTERNAL PROCEDURE. IN THIS CASE, EXTERNAL	8.3.2H1620150
C*****	PROCEDURE IS REFERENCED BY AN EXTERNAL STATEMENT	H1620160
C*****	6.USE CAN BE MADE OF ADJUSTABLE DIMENSION	H1620170
C*****	RESTRICTIONS OBSERVED	H1620180
C*****	1.ITEMS (1), (2), (3), (5) OF 8.3.1	H1620190
C*****	2.PARAGRAPH 8.3.2, LINE 18 TO END OF PARAGRAPH	H1620200
C*****	THIS SEGMENT USES 5 REAL FUNCTIONS	H1620210
C*****	THIS SEGMENT IS TO BE RUN WITH SEGMENTS	H1620220
C*****	402, 422, 432, 442, 452 WHICH	H1620230
C*****	WHICH CONTAINS ALL FUNCTIONS BEING TESTED HERE	H1620240
C*****		H1620250
C*****	S P E C I F I C A T I O N S SEGMENT 162	H1620260
C*****		H0014460
C*****	WHEN EXECUTING ONLY SEGMENT 162, THE SPECIFICATION STATEMENTS	H0014465
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0014470
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0014475
C*****		H0014480
C=	DIMENSION A1S(5),A2S(2,2),A3S(3,3,3)	H0014485
C=	INTEGER I1I(5),I2I(2,2),I3I(2,2,2)	H0014490
C=	REAL JRF,IRF	H0014495
C=	LOGICAL A1B(2),A2B(2,2),A3B(2,2,2),AVB,BVB	H0014500
C=	DOUBLE PRECISION AVD,A1D(4),A2D(2,2),A3D(2,2,2)	H0014505
C=	COMPLEX AVC,BVC,A1C(12),A2C(2,2),A3C(2,2,1)	H0014510
C=	COMMON AXVS,CXVS	H0014515
C=	EXTERNAL GFS	H0014520
C*****		H0014525
C*****	D U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1620270
C*****		H0074455
C*****	WHEN EXECUTING ONLY SEGMENT 162, THE STATEMENT NUVI = 6	H0074460
C*****	MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0074465
C*****		H0074470
C=	NUVI = 6	H0074475
C*****		H0074480
	WRITE (NUVI,1624)	H1620280
1624	FORMAT(1H1,1X,33HFRFCP - (162) REAL FUNCTIONS WITH/10X,31HLOGICAL,	H1620290
	1 D.P., AND COMPLEX ARGS//16H ASA REF. 8.3.1//	H1620300
	228H RESULTS SHOULD BE POSITIVE)	H1620310
C*****	TEST 1	H1620320
	AVD = 1.000	H1620330
	MAVI = 1	H1620340
	IVI = 1.0-GFS(AVD)	H1620350
	IF (IVI) 1620,1621,1620	H1620360
C*****	TEST 2	H1620370
1625	MAVI = 2	H1620380
	AVC = (1.0,-1.0)	H1620390
	BVC = (1.0,1.0)	H1620400
	IVI = HFS(AVC,BVC)	H1620410
	IF (IVI) 1620,1621,1620	H1620420
C*****	TEST 3	H1620430
1626	MAVI = 3	H1620440
	AVB = .TRUE.	H1620450
	IVI = IRFS(AVB)*2.0	H1620460
	AVB = .FALSE.	H1620470
	JVI = IRFS(AVB)*4.0	H1620480
	LVI = IVI + JVI - 4	H1620490
	IF (LVI) 1620,1621,1620	H1620500
C*****	TEST 4	H1620510
1627	MAVI = 4	H1620520
	IVI = JRF(AVD,GFS)	H1620530

IF (IVI-1) 1620,1621,1620	H1620540
C*****TEST 5,6,7	H1620550
1628 AXVS = 1.0	H1620560
AVS = 1.0	H1620570
A1S(1) = 1.0	H1620580
A2S(1,1) = 1.0	H1620590
A3S(1,1,1) = 1.0	H1620600
AVB = .FALSE.	H1620610
A1B(1) = .FALSE.	H1620620
A2B(1,1) = .FALSE.	H1620630
A3B(1,1,1) = .FALSE.	H1620640
IAVI = 1	H1620650
I1I(1) = 1	H1620660
I2I(1,1) = 1	H1620670
I3I(1,1,1) = 1	H1620680
A1C(1) = (1.0,1.0)	H1620690
A2C(1,1) = (1.0,1.0)	H1620700
A3C(1,1,1) = (-2.0,-2.0)	H1620710
AVD = 1.000	H1620720
A1D(1) = 1.000	H1620730
A2D(1,1) = 1.000	H1620740
A3D(1,1,1) = 1.000	H1620750
IVI= RFS(AVS,IAVI,AVB,AVC,AVD,A1S,A2S,A3S,I1I,I2I,I3I,A1B,A2B,A3B,	H1620760
1 A1C,A2C,A3C,A1D,A2D,A3D,GFS)	H1620770
MAVI = 5	H1620780
IF (IVI) 1620,1621,1620	H1620790
1629 MAVI = 6	H1620800
BVB = AVB.AND.A1B(1).AND.A2B(1,1).AND.A3B(1,1,1)	H1620810
IF (BVB) GO TO 1621	H1620820
GO TO 1620	H1620830
7010 IVI=REAL(AVC)	H1620840
JVI = AIMAG(AVC)	H1620850
MAVI = 7	H1620860
BVB = IVI.EQ.0.AND.JVI.EQ.0	H1620870
IF (BVB) GO TO 1621	H1620880
1620 WRITE (NUVI,1622) MAVI	H1620890
GO TO 7011	H1620900
1621 WRITE (NUVI,1623) MAVI	H1620910
1622 FORMAT(/2X,5HTEST ,I1,13H IS NEGATIVE.)	H1620920
1623 FORMAT (/2X,5HTEST ,I1,13H IS POSITIVE.)	H1620930
7011 GO TO (1625,1626,1627,1628,1629,7012),MAVI	H1620940
7012 CONTINUE	H1620950
C***** END OF TEST SEGMENT 162	H1620960
C***** WHEN EXECUTING ONLY SEGMENT 162, THE STOP AND ENO CAROS	H1620970
C***** WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C=	H1620980
C***** IN COLUMNS 1 AND 2 REMOVED.	H1620990
C= STDP	H1621000
C= END	H1621010
C*****	H1630010
C*****	H1630020
C***** FIFCP - (163)	H1630030
C*****	H1630040
C*****	H1630050
C***** GENERAL PURPOSE	ASA REF H1630060
C***** 1.TO TEST INTEGER FUNCTIONS IN FULL FORTRAN	H1630070
C***** 2.THIS SEGMENT COMPLETES SEGMENT (161) IN ORDER TO TEST	H1630080
C***** FOR ALL FEATURES REQUIRED IN FULL FORTRAN.	8.3.1 H1630090
C***** 3.DUMMY ARGUMENTS CAN BE INTEGER(TESTED IN 161),REAL(TESTED	H1630100
C***** IN 161),DOUBLE PRECISION,COMPLEX,LOGICAL,OR EXTERNAL PROCEDURE	H1630110
C***** 4.DUMMY ARGUMENTS MAY BE REDefined IN SUBPROGRAM(ITEM 4)	H1630120
C***** 5. IN REFERENCE,ACTUAL ARGUMENTS MAY BE AS IN (161) AND BESIDES	H1630130
C***** EXTERNAL PROCEDURE.IN THIS CASE,EXTERNAL PROCEDURE IS	H1630140
C***** REFERENCED BY AN EXTERNAL STATEMENT.	H1630150
C***** 6. USE CAN BE MADE OF ADJUSTABLE DIMENSION.	H1630160
C*****RESTRICTIONS OBSERVED	H1630170
C***** 1.ITEMS (1),(2),(3),(5), OF 8.3.1	H1630180
C***** 2 PARAGRAPH 8.3.2,LINE 18 TO END OF PARAGRAPH	H1630190
C***** THIS SEGMENT USES 5 INTEGER FUNCTIONS	H1630200

C*****	THIS SEGMENT IS TO BE RUN WITH SEGMENTS	H1630210
C*****	403, 423, 433, 443, 453	H1630220
C*****	WHICH CONTAINS ALL FUNCTIONS BEING TESTED HERE	H1630230
C*****		H1630240
C*****	S P E C I F I C A T I O N S SEGMENT 163	H1630250
C*****		H0014530
C*****	WHEN EXECUTING ONLY SEGMENT 163, THE SPECIFICATION STATEMENTS	H0014535
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0014540
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0014545
C*****		H0014550
C=	EXTERNAL IFI	H0014555
C=	DIMENSION A1S(5),A2S(2,2),A3S(3,3,3)	H0014560
C=	INTEGER I1I(5),I2I(2,2),I3I(2,2,2)	H0014565
C=	LOGICAL AVB,BVB,A1B(2),A2B(2,2),A3B(2,2,2)	H0014570
C=	DOUBLE PRECISION AVD,A1D(4),A2D(2,2),A3D(2,2,2)	H0014575
C=	COMPLEX AVC,BVC,A1C(12),A2C(2,2),A3C(2,2,1)	H0014580
C=	COMMON AXVS,CXVS	H0014585
C*****		H0014590
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1630260
C*****		H0074485
C*****	WHEN EXECUTING ONLY SEGMENT 163, THE STATEMENT NUVI = 6	H0074490
C*****	MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0074495
C*****		H0074500
C=	NUVI = 6	H0074505
C*****		H0074510
	WRITE(NUVI,1634)	H1630270
	1634 FORMAT (1H1,1X,33HFIFCP - (163) INTEGER FUNCTION IN/ 16X,	H1630280
	1 12HFULL FORTRAN//2X,	H1630290
	214HASA REF. 8.3.1//28H RESULTS SHOULD BE POSITIVE)	H1630300
C*****	TEST 1	H1630310
	AVD=1.000	H1630320
	MAVI=1	H1630330
	IVI=1-IFI(AVD)	H1630340
	IF (IVI) 1630,1631,1630	H1630350
C*****	TEST 2	H1630360
	1635 MAVI=2	H1630370
	AVC=(1.0, 1.0)	H1630380
	BVC=(1.0,-1.0)	H1630390
	IVI=JFI(AVC,BVC)	H1630400
	IF (IVI) 1630,1631,1630	H1630410
C*****	TEST 3	H1630420
	1636 MAVI=3	H1630430
	AVB=.TRUE.	H1630440
	IVI=KFI(AVB)*2	H1630450
	AVB=.FALSE.	H1630460
	JVI=IVI+KFI(AVB)-4	H1630470
	IF (JVI) 1630,1631,1630	H1630480
C*****	TEST 4	H1630490
	1637 MAVI=4	H1630500
	IVI=LFI(AVD,IFI)-1	H1630510
	IF (IVI) 1630,1631,1630	H1630520
C*****	TESTS 5,6,7	H1630530
	1638 AXVS=1.0	H1630540
	AVS = 1.	H1630550
	A1S(1)=1.0	H1630560
	A2S(1,1)=1.0	H1630570
	A3S(1,1,1)=1.0	H1630580
	IAVI=1	H1630590
	I1I(1) = 1	H1630600
	I2I(1,1)=1	H1630610
	I3I(1,1,1)=1	H1630620
	A1C(1)=(1.0,1.0)	H1630630
	A2C(1,1)=(1.0,1.0)	H1630640
	A3C(1,1,1)=(-2.0,-2.0)	H1630650
	AVD=1.000	H1630660
	A1D(1)=1.000	H1630670
	A2D(1,1)=1.000	H1630680
	A3D(1,1,1)=1.000	H1630690

IVI=MF1(AVS,IAVI,AVB,AVC,AVD,A1S,A2S,A3S,I1I,I2I,I3I,A1B,A2B,A3B,	H1630700
1A1C,A2C,A3C,A1D,A2D,A3D,IF1)	H1630710
MAVI=5	H1630720
IF (IVI) 1630,1631,1630	H1630730
1639 MAVI=6	H1630740
BVB=AVB.AND.A1B(1).AND.A2B(1,1).AND.A3B(1,1,1)	H1630750
IF (BVB) GO TO 1631	H1630760
IF (.NOT.BVB) GO TO 1630	H1630770
7007 IVI=REAL(AVC)	H1630780
JVI=AIMAG(AVC)	H1630790
MAVI=7	H1630800
IF (IVI+JVI) 1630,1631,1630	H1630810
1630 WRITE(NUVI,1632) MAVI	H1630820
GO TO 7008	H1630830
1631 WRITE(NUVI,1633) MAVI	H1630840
1632 FORMAT (/2X,5HTEST ,12,12H IS NEGATIVE)	H1630850
1633 FORMAT (/2X,5HTEST ,12,12H IS POSITIVE)	H1630860
7008 GO TO (1635,1636,1637,1638,1639,7007,7009),MAVI	H1630870
7009 CONTINUE	H1630880
C***** END OF TEST SEGMENT 163	H1630890
C***** WHEN EXECUTING ONLY SEGMENT 163, THE STOP AND END CARDS	H1630900
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1630910
C***** IN COLUMNS 1 AND 2 REMOVED.	H1630920
C= STOP	H1630930
C= END	H1630940
C***** H1640010	H1640010
C***** H1640020	H1640020
C***** CFCCP-(164)	H1640030
C***** H1640040	H1640040
C***** H1640050	H1640050
C***** GENERAL PURPOSE	ASA REFH1640060
C***** 1.TO TEST COMPLEX FUNCTIONS IN FULL FORTRAN	8.3.1 H1640070
C***** 2.DUMMY ARGUMENTS ARE REAL,INTEGER,COMPLEX,LOGICAL,	H1640080
C***** DOUBLE PRECISION,EXTERNAL PROCEDURE,ARRAY NAME.	H1640090
C***** 3.FUNCTIONS CONTAIN UP TO 20 ARGUMENTS	H1640100
C***** 4.IN REFERENCE ACTUAL ARGUMENTS ARE VARIABLE NAME	H1640110
C***** ARRAY NAME,ARRAY ELEMENT NAME,ARITHMETIC EXPRESSION	H1640120
C***** EXTERNAL PROCEDURE	H1640130
C***** 6.USE CAN BE MADE OF ADJUSTABLE DIMENTION	H1640140
C***** 7.ARGUMENTS CAN BE PASSED THROUGH COMMON	H1640150
C*****RESTRICTIONS OBSERVED	H1640160
C***** 1.ITEMS(2),(3),(4),(5),(6) OF PARAGRAPH	H1640170
C***** 2.LAST SENTENCE OF PARAGRAPH 3.2	H1640180
C***** THIS SEGMENT USES 8 COMPLEX FUNCTIONS	H1640190
C***** THIS SEGMENT IS TO BE RUN WITH SEGMENTS	H1640200
C***** 404, 414, 424, 434, 444, 454, 464	H1640210
C***** WHICH CONTAIN ALL FUNCTIONS BEING TESTED HERE	H1640220
C***** H1640230	H1640230
C***** S P E C I F I C A T I O N S SEGMENT 164	H1640240
C***** H0014595	H0014595
C***** WHEN EXECUTING ONLY SEGMENT 164, THE SPECIFICATION STATEMENTS	H0014600
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0014605
C***** IN COLUMNS 1 AND 2 REMOVED.	H0014610
C***** H0014615	H0014615
C= DIMENSION A1S(5),A2S(2,2),A3S(3,3,3)	H0014620
C= INTEGER I1I(5),I2I(2,2),I3I(2,2,2)	H0014625
C= LOGICAL AVB,A1B(2),A3B(2,2,2),A2B(2,2),BVB	H0014630
C= DOUBLE PRECISION AVD,A1D(4),A2D(2,2),A3D(2,2,2)	H0014635
C= COMPLEX AFC,BFC,CFC,DFC,EFC,FFC,HFC,AVC,BVC	H0014640
C= 1,A1C(12),A2C(2,2),A3C(2,2,1)	H0014645
C= COMMON AXVS,CXVS	H0014650
C= EXTERNAL BFC	H0014655
C***** H0014660	H0014660
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1640250
C***** H0074515	H0074515
C***** WHEN EXECUTING ONLY SEGMENT 164, THE STATEMENT NUVI = 6	H0074520
C***** MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0074525
C***** H0074530	H0074530

C=	NUVI = 6	H0074535
C*****		H0074540
	WRITE(NUVI,1641)	H1640260
1641	FORMAT(1H1,1X,31HCFCCP - (164) COMPLEX FUNCTIONS//2X,	H1640270
	1 21HASA REFS. 8.3.1,8.3.2//2X, 7HRESULTS)	H1640280
C*****	TEST 1	H1640290
	BVC=AFC(1.0)	H1640300
	MAVI=1	H1640310
	WRITE(NUVI,1642) BVC,MAVI	H1640320
1642	FORMAT(1H0,2F5.1,9H -- TEST ,12,20H POSITIVE IF 0.0,0.0)	H1640330
C*****	TEST 2	H1640340
	MAVI=2	H1640350
	BVC= BFC(1)-(1.0,1.0)	H1640360
	WRITE(NUVI,1642)BVC,MAVI	H1640370
C*****	TEST 3	H1640380
	MAVI=3	H1640390
	A1S(1)=1.0	H1640400
	A1S(2)=1.0	H1640410
	BVC=CFC(A1S)	H1640420
	WRITE(NUVI,1642)BVC,MAVI	H1640430
C*****	TEST 4	H1640440
	MAVI=4	H1640450
	BVC = DFC (1.00)	H1640460
	WRITE(NUVI,1642)BVC,MAVI	H1640470
C*****	TEST 5	H1640480
	MAVI=5	H1640490
	AVC=(1.0,1.0)	H1640500
	BVC=EFC(AVC)	H1640510
	WRITE(NUVI,1642)BVC,MAVI	H1640520
C*****	TEST 6	H1640530
	MAVI=6	H1640540
	AVB= .TRUE.	H1640550
	BVC=FFC(AVB)-(1.0,1.0)	H1640560
	WRITE(NUVI,1642)BVC,MAVI	H1640570
C*****	TEST 7	H1640580
	MAVI=7	H1640590
	AVB= .FALSE.	H1640600
	BVC=FFC(AVB)	H1640610
	WRITE(NUVI,1642)BVC,MAVI	H1640620
C*****	TEST 8,9,10	H1640630
	IVI=1	H1640640
	AVD=1.000	H1640650
	A1D(1)=1.000	H1640660
	A2D(1,1)=1.000	H1640670
	A3D(1,1,1)=1.000	H1640680
	AVS=1.0	H1640690
	A1S(1)=1.0	H1640700
	A2S(1,1)=1.0	H1640710
	A3S(1,1,1)=1.0	H1640720
	A1C(1)=(1.0,1.0)	H1640730
	A2C(1,1)=(1.0,1.0)	H1640740
	A3C(1,1,1)=(1.0,1.0)	H1640750
	I1I(1)=1	H1640760
	I2I(1,1)=1	H1640770
	I3I(1,1,1)=1	H1640780
	AVC = (0.0,0.0)	H1640790
	BVC= HFC(AVS,IVI,AVB,AVC,AVD,A1S,A2S,A3S,I1I,I2I,I3I,A1B,A2B,A3B,	H1640800
	1A1C,A2C,A3C,A1D,A2D,A3D,BFC)	H1640810
	MAVI = 8	H1640820
	WRITE (NUVI,1642) BVC,MAVI	H1640830
	MAVI=9	H1640840
	IF(AXVS) 1643,1644,1643	H1640850
1648	MAVI = 10	H1640860
	BVB=AVB.AND.A1B(1).AND.A2B(1,1).AND. A3B(1,1,1)	H1640870
	IF (BVB) GO TO 1644	H1640880
1643	WRITE(NUVI,1645)MAVI	H1640890
	GO TO 1647	H1640900
1644	WRITE(NUVI,1646)MAVI	H1640910

1645	FORMAT(/15X,5HTEST ,12,12H IS NEGATIVE)	H1640920
1646	FORMAT(/15X,5HTEST ,12,12H IS POSITIVE)	H1640930
1647	IF (MAVI - 9) 1649,1648,1649	H1640940
1649	CONTINUE	H1640950
C*****	END OF TEST SEGMENT 164	H1640960
C*****	WHEN EXECUTING ONLY SEGMENT 164, THE STOP AND END CARDS	H1640970
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1640980
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1640990
C=	STOP	H1641000
C=	END	H1641010
	STOP	H9999995
	END	H9999999
C*****	*****	H4000010
C*****		H4000020
C*****	AFS - (400)	H4000030
C*****		H4000040
C*****	*****	H4000050
C*****	REAL FUNCTION OF REAL ARGUMENT (TEST 1)	H4000060
	FUNCTION AFS(AWVS)	H4000070
	AFS=4.0*AWVS	H4000080
	RETURN	H4000090
	END	H4000100
C*****	*****	H4200010
C*****		H4200020
C*****	BFS - (420)	H4200030
C*****		H4200040
C*****	*****	H4200050
C*****	REAL FUNCTION OF REAL ARGUMENTS (TEST 2)	H4200060
	FUNCTION BFS(AWVS,BWVS)	H4200070
	BFS=AWVS+BWVS	H4200080
	RETURN	H4200090
	END	H4200100
C*****	*****	H4300010
C*****		H4300020
C*****	CFS - (430)	H4300030
C*****		H4300040
C*****	*****	H4300050
C*****	REAL FUNCTION OF INTEGER ARGUMENT (TEST 3)	H4300060
	FUNCTION CFS(IWVI)	H4300070
	CFS=4.0**IWVI	H4300080
	RETURN	H4300090
	END	H4300100
C*****	*****	H4400010
C*****		H4400020
C*****	DFS - (440)	H4400030
C*****		H4400040
C*****	*****	H4400050
C*****	REAL FUNCTION OF INTEGER ARGUMENTS (TEST 4)	H4400060
	FUNCTION DFS(IWVI,JWVI)	H4400070
	KVI = IWVI - JWVI	H4400080
	DFS=4.6**KVI	H4400090
	RETURN	H4400100
	END	H4400110
C*****	*****	H4500010
C*****		H4500020
C*****	EFS - (450)	H4500030
C*****		H4500040
C*****	*****	H4500050
C*****	REAL FUNCTION OF ARRAY NAME (TEST 5)	H4500060
	FUNCTION EFS(AW1S)	H4500070
	DIMENSION AW1S(2)	H4500080
	EFS=AW1S(1)+AW1S(2)	H4500090
	RETURN	H4500100
	END	H4500110
C*****	*****	H4600010
C*****		H4600020
C*****	FFS - (460)	H4600030
C*****		H4600040

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C*****H4600050
C*****REAL FUNCTION OF DIFFERENT TYPES OF ARGUMENTS( TEST 6)H4600060
      FUNCTION FFS(IWVI,AWVS,JWVI,BWVS,AW1S,KWVI,CWVS,BW1S,DWVS,LWVI,H4600070
      1CW1S,DW1S,EWVS,FWVS,GWVS,BW2S,CW2S,DW2S,HWVS,MWVI)H4600080
      DIMENSION AW1S(2),BW1S(2),CW1S(2),DW1S(2),BW2S(2,2),CW2S(2,2),H4600090
      1DW2S(2,2)H4600100
      FFS=AWVS**IWVI-BWVS**JWVI+AW1S(1)-CWVS**KWVI+BW1S(2)-DWVS+CW1S(1)H4600110
      1**LWVI+DW1S(1)-EWVS+FWVS-GWVS+BW2S(2,1)-CW2S(2,2)+DW2S(2,2)-HWVS**H4600120
      2MWVIH4600130
      RETURNH4600140
      ENDH4600150
C*****H4010010
C*****H4010020
C*****IAFI - (401)H4010030
C*****H4010040
C*****H4010050
C*****INTEGER FUNCTION OF REAL ARGUMENT (TEST 1)H4010060
      FUNCTION IAFI(AWVS)H4010070
      IAFI=4.0*AWVSH4010080
      RETURNH4010090
      ENDH4010100
C*****H4210010
C*****H4210020
C*****IBFI - (421)H4210030
C*****H4210040
C*****H4210050
C*****INTEGER FUNCTION OF TWO REAL ARGUMENTS (TEST 2)H4210060
      FUNCTION IBFI(AWVS,BWVS)H4210070
      IBFI=AWVS+BWVSH4210080
      RETURNH4210090
      ENDH4210100
C*****H4310010
C*****H4310020
C*****ICFI - (431)H4310030
C*****H4310040
C*****H4310050
C*****INTEGER FUNCTION OF INTEGER ARGUMENT( TEST 3)H4310060
      FUNCTION ICFI(IWVI)H4310070
      ICFI=4.0**IWVISH4310080
      RETURNH4310090
      ENDH4310100
C*****H4410010
C*****H4410020
C*****IDFI - (441)H4410030
C*****H4410040
C*****H4410050
C*****INTEGER FUNCTION OF INTEGER ARGUMENTS (TEST 4)H4410060
      INTEGER FUNCTION IDFI (IWVI, JWVI)H4410070
      REAL KUVSH4410080
      IDFI = IWVI - JWVIH4410090
      IDFI = KUVS ** IDFIH4410100
      RETURNH4410110
      DATA KUVS /4.6/H4410120
      E N DH4410130
C*****H4510010
C*****H4510020
C*****IEFI - (451)H4510030
C*****H4510040
C*****H4510050
C*****INTEGER FUNCTION OF ARRAY NAME (TEST 5)H4510060
      FUNCTION IEFI(IAW1I)H4510070
      DIMENSION IAW1I(2)H4510080
      IEFI=IAW1I(1)+IAW1I(2)H4510090
      RETURNH4510100
      ENDH4510110
C*****H4610010
C*****H4610020
C*****IFFI - (461)H4610030

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C*****H4610040
C*****H4610050
C*****INTEGER FUNCTION OF DIFFERENT TYPES OF ARGUMENTS (TEST 6)H4610060
      FUNCTION IFFI(IWVI,AWVS,JWVI,BWVS,AW1S,KWVI,CWVS,BW1S,DWVS,LWVI,H4610070
1CW1S,DW1S,EWVS,FWVS,GWVS,EW1S,GW1S,HW1S,HWVS,MWVI)H4610080
      DIMENSION AW1S(2),BW1S(2),CW1S(2),DW1S(2),EW1S(5),GW1S(5),H4610090
1HW1S(5)H4610100
      IFFI=AWVS**IWVI-BWVS**JWVI+AW1S(1)-CWVS**KWVI+BW1S(2)-DWVS+CW1S(1)H4610110
1**LWVI+DW1S(1)-EWVS+FWVS-GWVS+EW1S(1)-GW1S(2)+HW1S(2)-HWVS**H4610120
2MWVIH4610130
      RETURNH4610140
      ENOH4610150
C*****H4020010
C*****H4020020
C*****GFS - (402)H4020030
C*****H4020040
C*****H4020050
C*****REAL FUNCTION OF DOUBLE PRECISION ARGUMENT (TEST 1)H4020060
      FUNCTION GFS(AWVD)H4020070
      DOUBLE PRECISION AWVDH4020080
      GFS = AWVDH4020090
      RETURNH4020100
      ENDH4020110
C*****H4220010
C*****H4220020
C*****HFS - (422)H4220030
C*****H4220040
C*****H4220050
C*****REAL FUNCTION OF COMPLEX ARGUMENT (TEST 2)H4220060
      FUNCTION HFS(AWVC,BWVC)H4220070
      COMPLEX AWVC,BWVC,CVCH4220080
      CVC = AWVC * BWVCH4220090
      HFS = AIMAG(CVC)H4220100
      RETURNH4220110
      ENDH4220120
C*****H4320010
C*****H4320020
C*****IRFS - (432)H4320030
C*****H4320040
C*****H4320050
C*****REAL FUNCTION OF LOGICAL ARGUMENT (TEST 3)H4320060
      REAL FUNCTION IRFS(AWVB)H4320070
      LOGICAL AWVBH4320080
      IF (AWVB) GO TO 4321H4320090
4320 IF (.NOT. AWVB) GO TO 4322H4320100
      RETURNH4320110
4321 IRFS = 2.0H4320120
      GO TO 4320H4320130
4322 IRFS = 0.0H4320140
      RETURNH4320150
      ENDH4320160
C*****H4420010
C*****H4420020
C*****JRFS - (442)H4420030
C*****H4420040
C*****H4420050
C*****REAL FUNCTION OF EXTERNAL PROCEDURE (TEST 4)H4420060
      REAL FUNCTION JRFS(BWVD,BWFS)H4420070
      DOUBLE PRECISION BWVDH4420080
      JRFS = BWFS(BWVD)H4420090
      RETURNH4420100
      ENDH4420110
C*****H4520010
C*****H4520020
C*****RFS - (452)H4520030
C*****H4520040
C*****H4520050
C*****REAL FUNCTION OF DIFFERENT TYPES OF ARGUMENTS. USE IS MADE OFH4520060

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C*****ADJUSTABLE DIMENSION (TEST 5, 6, 7) H4520070
  FUNCTION RFS(AWVS,IWVI,AWVB,AWVC,AWVD,AW1S,AW2S,AW3S,IW1I,IW2I, H4520080
1IW3I,AW1B,AW2B,AW3B,AW1C,AW2C,AW3C,AW1D,AW2D,AW3D,AWFS) H4520090
  LOGICAL AWVB,AW1B,AW2B,AW3B H4520100
  COMPLEX AWVC,AW1C,AW2C,AW3C H4520110
  DOUBLE PRECISION AWVD, AW1D,AW2D,AW3D H4520120
  DIMENSION AW1S(IWVI),AW2S(IWVI,IWVI),AW3S(IWVI,IWVI,IWVI) , H4520130
1  IW1I(IWVI),IW2I(IWVI,IWVI),IW3I(IWVI,IWVI,IWVI) , H4520140
2  AW1B(IWVI),AW2B(IWVI,IWVI),AW3B(IWVI,IWVI,IWVI) , H4520150
3  AW1C(IWVI),AW2C(IWVI,IWVI),AW3C(IWVI,IWVI,IWVI) , H4520160
4  AW1D(IWVI),AW2D(IWVI,IWVI),AW3D(IWVI,IWVI,IWVI) H4520170
  COMMON BXVS H4520180
  RFS =AWVS**IWVI+AW1S(IWVI)**IW1I(IWVI)-AW2S(IWVI,IWVI)**IW2I H4520190
1 (IWVI,IWVI)+AW3S(IWVI,IWVI,IWVI)**IW3I(IWVI,IWVI,IWVI)-AWVD+ H4520200
2 AW1D(IWVI)-AW2D(IWVI,IWVI)-AW3D(IWVI,IWVI,IWVI)+AWFS(AWVD)-BXVS H4520210
  AWVB = IWVI.EQ.1 H4520220
  AW1B(IWVI) = IWVI .EQ. 1 H4520230
  AW2B(IWVI,IWVI) = IWVI .EQ. 1 H4520240
  AW3B(IWVI,IWVI,IWVI) = IWVI.EQ.1 H4520250
  AWVC = AW1C(IWVI) +AW2C(IWVI,IWVI)+AW3C(IWVI,IWVI,IWVI) H4520260
  RETURN H4520270
C***** END OF TEST SEGMENT 402 H4520280
  END H4520290
C***** H4030010
C***** H4030020
C***** IFI - (403) H4030030
C***** H4030040
C***** H4030050
C***** INTEGER FUNCTION OF DOUBLE PRECISION ARGUMENT(TEST 1) H4030060
  FUNCTION IFI(AWVD) H4030070
  DOUBLE PRECISION AWVD H4030080
  IFI=AWVD H4030090
  RETURN H4030100
  END H4030110
C***** H4230010
C***** H4230020
C***** JFI - (423) H4230030
C***** H4230040
C***** H4230050
C***** INTEGER FUNCTION OF COMPLEX ARGUMENT(TEST 2) H4230060
  FUNCTION JFI(AWVC,BWVC) H4230070
  COMPLEX AWVC,BWVC,CVC H4230080
  CVC =AWVC*BWVC H4230090
  JFI=AIMAG(CVC) H4230100
  RETURN H4230110
  END H4230120
C***** H4330010
C***** H4330020
C***** KFI - (433) H4330030
C***** H4330040
C***** H4330050
C***** INTEGER FUNCTION OF LOGICAL ARGUMENT(TEST 3) H4330060
  FUNCTION KFI(AWVB) H4330070
  LOGICAL AWVB H4330080
  IF (AWVB) GO TO 4331 H4330090
4330 IF (.NOT.AWVB) GO TO 4332 H4330100
  RETURN H4330110
4331 KFI = 2 H4330120
  GO TO 4330 H4330130
4332 KFI = 0 H4330140
  RETURN H4330150
  END H4330160
C***** H4430010
C***** H4430020
C***** LFI - (443) H4430030
C***** H4430040
C***** H4430050
C***** INTEGER FUNCTION OF EXTERNAL PROCEDURE(TEST 4) H4430060

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FUNCTION LFI(BWVD,IWFI)	H4430070
DOUBLE PRECISION BWVD	H4430080
LFI=IWFI(BWVD)	H4430090
RETURN	H4430100
END	H4430110
C*****	H4530010
C*****	H4530020
C***** MFI - (453)	H4530030
C*****	H4530040
C*****	H4530050
C***** INTEGER FUNCTION OF DIFFERENT TYPES OF ARGUMENTS. USE IS MADE OF	H4530060
C***** ADJUSTABLE DIMENSION(TEST 5,6,7)	H4530070
FUNCTION MFI(AWVS,IWVI,AWVB,AWVC,AWVD,AW1S,AW2S,AW3S,IW1I,IW2I,	H4530080
1IW3I,AW1B,AW2B,AW3B,AW1C,AW2C,AW3C,AW1D,AW2D,AW3D,IWFI)	H4530090
DOUBLE PRECISION AWVD,AW1D,AW2D,AW3D	H4530100
LOGICAL AWVB,AW1B,AW2B,AW3B	H4530110
COMPLEX AWVC,AW1C,AW2C,AW3C	H4530120
DIMENSION AW1S(IWVI),AW2S(IWVI,IWVI),AW3S(IWVI,IWVI,IWVI),	H4530130
1 IW1I(IWVI),IW2I(IWVI,IWVI),IW3I(IWVI,IWVI,IWVI),	H4530140
2 AW1B(IWVI),AW2B(IWVI,IWVI),AW3B(IWVI,IWVI,IWVI),	H4530150
3 AW1C(IWVI),AW2C(IWVI,IWVI),AW3C(IWVI,IWVI,IWVI),	H4530160
4 AW1D(IWVI),AW2D(IWVI,IWVI),AW3D(IWVI,IWVI,IWVI)	H4530170
COMMON BXVS	H4530180
MFI =AWVS**IWVI+AW1S(IWVI)**IW1I(IWVI)-AW2S(IWVI,IWVI)**IW2I	H4530190
1 (IWVI,IWVI)+AW3S(IWVI,IWVI,IWVI)**IW3I(IWVI,IWVI,IWVI)-AWVD+	H4530200
2 AW1D(IWVI)-AW2D(IWVI,IWVI)-AW3D(IWVI,IWVI,IWVI)+BXVS**IWFI(AWVD)	H4530210
3 -1.0	H4530220
AWVB=IWVI.EQ.1	H4530230
AW1B(IWVI) = IWVI .EQ. 1	H4530240
AW2B(IWVI,IWVI) = IWVI.EQ.1	H4530250
AW3B(IWVI,IWVI,IWVI) = IWVI.EQ.1	H4530260
AWVC = AW1C(IWVI) +AW2C(IWVI,IWVI)+AW3C(IWVI,IWVI,IWVI)	H4530270
RETURN	H4530280
END	H4530290
C*****	H4040010
C*****	H4040020
C***** AFC - (404)	H4040030
C*****	H4040040
C*****	H4040050
C***** COMPLEX FUNCTION OF REAL ARGUMENT (TEST 1)	H4040060
COMPLEX FUNCTION AFC(AWVS)	H4040070
AFC = (-1.0,0.0)+AWVS	H4040080
RETURN	H4040090
END	H4040100
C*****	H4140010
C*****	H4140020
C***** BFC - (414)	H4140030
C*****	H4140040
C*****	H4140050
C***** COMPLEX FUNCTION OF INTEGER ARGUMENT (TEST 2)	H4140060
COMPLEX FUNCTION BFC(IWVI)	H4140070
BFC=(1.0,1.0)**IWVI	H4140080
RETURN	H4140090
END	H4140100
C*****	H4240010
C*****	H4240020
C***** CFC - (424)	H4240030
C*****	H4240040
C*****	H4240050
C***** COMPLEX FUNCTION OF ARRAY NAME (TEST 3)	H4240060
COMPLEX FUNCTION CFC(AW1S)	H4240070
DIMENSION AW1S(2)	H4240080
CFC = (2.0,0.0)-AW1S(1)-AW1S(2)	H4240090
RETURN	H4240100
END	H4240110
C*****	H4340010
C*****	H4340020
C***** DFC - (434)	H4340030

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C***** H4340040
C***** H4340050
C***** COMPLEX FUNCTION OF DOUBLE PRECISION ARGUMENT (TEST 4) H4340060
      COMPLEX FUNCTION DFC(AWVD) H4340070
      DOUBLE PRECISION AWVD H4340080
      AVS = AWVD H4340090
      DFC = (1.0,1.0) * AVS - (1.0,1.0) H4340100
      RETURN H4340110
      END H4340120
C***** H4440010
C***** H4440020
C***** EFC - (444) H4440030
C***** H4440040
C***** H4440050
C***** COMPLEX FUNCTION OF COMPLEX ARGUMENT (TEST 5) H4440060
      COMPLEX FUNCTION EFC(AWVC) H4440070
      COMPLEX AWVC H4440080
      EFC=AWVC- (1.0,1.0) H4440090
      RETURN H4440100
      END H4440110
C***** H4540010
C***** H4540020
C***** FFC - (454) H4540030
C***** H4540040
C***** COMPLEX FUNCTION OF LOGICAL ARGUMENT(TESTS 6,7) H4540050
      COMPLEX FUNCTION FFC(AWVB) H4540060
      LOGICAL AWVB H4540070
      IF (AWVB) GO TO 4541 H4540080
4540 IF (.NOT.AWVB) GO TO 4542 H4540090
      RETURN H4540100
4541 FFC = (1.0,1.0) H4540110
      GO TO 4540 H4540120
4542 FFC = (0.0,0.0) H4540130
      RETURN H4540140
      END H4540150
C***** H4640010
C***** H4640020
C***** HFC - (464) H4640030
C***** H4640040
C***** H4640050
C***** COMPLEX FUNCTION OF DIFFERENT TYPES OF ARGUMENTS (TESTS 8,9,10) H4640060
      COMPLEX FUNCTION HFC(AWVS,IWVI,AWVB,AWVC,AWVD,AW1S,AW2S,AW3S, H4640070
      1 IW1I,IW2I,IW3I,AW1B,AW2B,AW3B,AW1C,AW2C,AW3C,AW1D,AW2D,AW3D,AWFC) H4640080
      DIMENSION AW1S(IWVI),AW2S(IWVI,IWVI),AW3S(IWVI,IWVI,IWVI), H4640090
      1 IW1I(IWVI),IW2I(IWVI,IWVI),IW3I(IWVI,IWVI,IWVI), H4640100
      2 AW1B(IWVI),AW2B(IWVI,IWVI),AW3B(IWVI,IWVI,IWVI), H4640110
      3 AW1C(IWVI),AW2C(IWVI,IWVI),AW3C(IWVI,IWVI,IWVI), H4640120
      4 AW1D(IWVI),AW2D(IWVI,IWVI),AW3D(IWVI,IWVI,IWVI) H4640130
      COMMON BXVS H4640140
      LOGICAL AWVB,AW1B,AW2B,AW3B H4640150
      COMPLEX AWVC,AW1C,AW2C,AW3C, AWFC H4640160
      DOUBLE PRECISION AWVD,AW1D,AW2D,AW3D H4640170
      HFC = AWVC H4640180
      BXVS=AWVS**IWVI+AW1S(IWVI)**IW1I(IWVI)-AW2S(IWVI,IWVI)**IW2I H4640190
      1 (IWVI,IWVI)+AW3S(IWVI,IWVI,IWVI)**IW3I(IWVI,IWVI,IWVI)-AWVD+ H4640200
      2 AW1D(IWVI)-AW2D(IWVI,IWVI)-AW3D(IWVI,IWVI,IWVI) H4640210
      AWVB = IWVI.EQ.1 H4640220
      AW1B(IWVI) = IWVI.EQ.1 H4640230
      AW2B(IWVI,IWVI) = IWVI .EQ. 1 H4640240
      AW3B(IWVI,IWVI,IWVI) = IWVI.EQ.1 H4640250
      RETURN H4640260
C***** END OF TEST SEGMENT 464 H4640270
      END H4640280
SAMPLE COMPUTER, FORTRAN COMPILER LEVEL
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2
OPERATING SYSTEM VERSION
DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT ID 4
DATE, INSTALLATION NAME

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C*****	PART11	H0004800
C*****		H0004805
C*****	ANSI FORTRAN (X3.9-1966) TEST PROGRAMS	H0004810
C*****		H0004815
C*****	PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3	H0004820
C*****		H0004825
C*****	JUNE 1973	H0004830
C*****		H0004835
C*****	PART 11 OF 14 PARTS	H0004840
C*****		H0004845
C*****	SEGMENTS INCLUDED	H0004850
C*****		H0004855
C*****	DPFCP - 165 DOUBLE PRECISION FUNCTIONS	H0004860
C*****		H0004865
C*****	AFD - 405 REAL ARGUMENT	H0004870
C*****		H0004875
C*****	BFD - 415 INTEGER ARGUMENT	H0004880
C*****		H0004885
C*****	CFD - 425 D.P. ARGUMENT	H0004890
C*****		H0004895
C*****	DFD - 435 COMPLEX ARGUMENTS	H0004900
C*****		H0004905
C*****	EFD - 445 LOGICAL ARGUMENT	H0004910
C*****		H0004915
C*****	FFD - 455 EXTERNAL PROCEDURE	H0004920
C*****		H0004925
C*****	GFD - 465 ARRAY NAME	H0004930
C*****		H0004935
C*****	HFD - 475 DIFFERENT TYPES OF ARGUMENTS	H0004940
C*****		H0004945
C*****	BFCCP - 166 LOGICAL FUNCTIONS	H0004950
C*****		H0004955
C*****	AFB - 406 REAL ARGUMENT	H0004960
C*****		H0004965
C*****	BFB - 416 INTEGER ARGUMENT	H0004970
C*****		H0004975
C*****	CFB - 426 D.P. ARGUMENT	H0004980
C*****		H0004985
C*****	DFB - 436 LOGICAL ARGUMENT	H0004990
C*****		H0004995
C*****	EFB - 446 COMPLEX ARGUMENT	H0005000
C*****		H0005005
C*****	FFB - 456 ARRAY NAME	H0005010
C*****		H0005015
C*****	GFB - 466 EXTERNAL PROCEDURE	H0005020
C*****		H0005025
C*****	HFB - 476 DIFFERENT TYPES OF ARGUMENTS	H0005030
C*****		H0005035
C*****	SBRTN - 167 SUBROUTINE SUBPROGRAM	H0005040
C*****		H0005045
C*****	AAQ - 407 INTEGER AND REAL VARIABLES AND ARRAY ELEMENTS	H0005050
C*****		H0005055
C*****	ABQ - 417 ARRAY ELEMENTS	H0005060
C*****		H0005065
C*****	ACQ - 427 NO ARGUMENT LIST	H0005070
C*****		H0005075
C*****	FSBRT - 168 SUBROUTINE SUBPROGRAM	H0005080
C*****		H0005085
C*****	ADQ - 408 DIFFERENT TYPES OF ARGUMENTS	H0005090
C*****		H0005095
C*****	AEQ - 418 ARRAY NAMES AND INTEGER ARGUMENTS	H0005100
C*****		H0005105
C*****	AFO - 428 NO ARGUMENT LIST	H0005110
C*****		H0005115
C*****	BLKDT - 169 BLOCK DATA	H0005120
C*****		H0005125
C*****	BLOKD - 409 BLOCK DATA SUBPROGRAM	H0005130

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C***** H0014800
C***** THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN H0014805
C***** SEGMENTS 165, 166, 167, 168, 169 ARE RUN AS ONE MAIN PROGRAM. H0014810
C***** H0014815
C***** DIMENSION A1S(5), A2S(2,2), A3S(3,3,3) H0014820
C***** DIMENSION IAB1I(4), IAB2I(3,3), IAB3I(2,2,2), AB1S(4) H0014825
C***** 1 ,AB2S(3,3), AB3S(2,2,2) H0014830
C***** INTEGER I1I(5), I2I(2,2), I3I(2,2,2) H0014835
C***** DOUBLE PRECISION AVD, A1D(4), A2D(2,2), A3D(2,2,2) H0014840
C***** DOUBLE PRECISION AFD, BFD, CFD, DFD, EFD, FFD, GFD, HFD H0014845
C***** DOUBLE PRECISION AXVD, AX1D, AX2D, AX3D H0014850
C***** 1 ,DXVD, DX1D, DX2D, DX3D H0014855
C***** LOGICAL A1B(2), A2B(2,2), A3B(2,2,2), AXVB, AX1B, AX2B, AX3B, AVB H0014860
C***** 1 ,BVB, AFB, BFB, CFB, DFB, EFB, FFB, GFB, HFB , DXVB, DX1B, DX2B, DX3B H0014865
C***** COMPLEX AVC, A1C(12), A2C(2,2), A3C(2,2,1) H0014870
C***** COMPLEX AXVC, AX1C, AX2C, AX3C, DXVC, DX1C, DX2C, DX3C H0014875
C***** COMMON AXVS, CXVS H0014880
C***** COMMON IXVI, IAX1I(4), IAX2I(3,3), IAX3I(2,2,2), BXVS, H0014885
C***** - AX1S(4), AX2S(3,3), AX3S(2,2,2), AXVD, AX1D(2), AX2D(2,2), H0014890
C***** B AX3D(2,2,2), AXVC, AX1C(2), AX2C(2,2), AX3C(2,2,2), AXVB, H0014895
C***** C AX1B(2), AX2B(2,2), AX3B(2,2,2) H0014900
C***** COMMON /BLK1/JXVI, JAX1I(2), JAX2I(3,3) H0014905
C***** A /BLK2/DXVS, DX1S(2), DX2S(2,2) H0014910
C***** B /BLK3/DXVD, DX1D(2), DX2D(2,2) H0014915
C***** C /BLK4/DXVC, DX1C(2), DX2C(2,2) H0014920
C***** D /BLK5/DXVB, DX1B(2), DX2B(2,2) H0014925
C***** E /BLK6/JAX3I(2,2,2), DX3S(2,2,2), DX3D(2,2,2), H0014930
C***** F DX3C(2,2,2), DX3B(2,2,2) H0014935
C***** EXTERNAL AFB, CFD, AFD, SORT H0014940
C***** END OF SPECIFICATIONS FOR SEGMENTS H0014945
C***** 165, 166, 167, 168, 169 H0014950
C***** H0014955
C***** H1650010
C***** H1650020
C***** DPFCP-(165) H1650030
C***** H1650040
C***** H1650050
C***** GENERAL PURPOSE H1650060
C***** 1. TO TEST DOUBLE PRECISION FUNCTIONS IN FULL FORTRAN 8.3.1 H1650070
C***** 2. DUMMY ARGUMENTS ARE REAL, INTEGER, COMPLEX, LOGICAL, H1650080
C***** DOUBLE PRECISION, EXTERNAL PROCEDURE, ARRAY NAME H1650090
C***** 3. FUNCTIONS CONTAIN UP TO 20 ARGUMENTS H1650100
C***** 4. IN REFERENCE, ACTUAL ARGUMENTS ARE VARIABLE NAME, H1650110
C***** ARRAY NAME, ARRAY ELEMENT NAME, OR ARITHMETIC EXPRESSION. 8.3.2 H1650120
C***** RESTRICTIONS OBSERVED H1650130
C***** 1. ITEMS(2), (3), (4), (5), (6) OF PARAGRAPH 8.3.1 H1650140
C***** 2. LAST SENTENCE OF PARAGRAPH 3.2 H1650150
C***** THIS SEGMENT IS TO BE RUN WITH SEGMENTS H1650160
C***** 405, 415, 425, 435, 445, 455, 465, 475 WHICH H1650170
C***** WHICH CONTAINS ALL FUNCTIONS BEING TESTED HERE H1650180
C***** H1650190
C***** SPECIFICATIONS SEGMENT 165 H1650200
C***** H0014960
C***** WHEN EXECUTING ONLY SEGMENT 165, REMOVE THE PRECEDING H0014965
C***** SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS WHICH H0014970
C***** APPEAR AS COMMENTS MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0014975
C***** H0014980
C= DIMENSION A1S(5), A2S(2,2), A3S(3,3,3) H0014985
C= INTEGER I1I(5), I2I(2,2), I3I(2,2,2) H0014990
C= LOGICAL A1B(2), A2B(2,2), A3B(2,2,2), AVB, BVB H0014995
C= DOUBLE PRECISION AFD, BFD, CFD, DFD, EFD, FFD, GFD, HFD, AVD H0015000
C= 1, A1D(4), A2D(2,2), A3D(2,2,2) H0015005
C= COMPLEX AVC, A1C(12), A2C(2,2), A3C(2,2,1) H0015010
C= COMMON AXVS, CXVS H0015015
C= EXTERNAL CFD, AFD H0015020
C***** H0015025
C***** INPUT OUTPUT TAPE ASSIGNMENT STATEMENTS H1650210
C***** IRVI = 5 H0074800

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NUVI = 6	H0074805
C***** IDENTIFY THE SOURCE OF THE TEST PROGRAMS	H0074810
WRITE(NUVI,0071)	H0074815
0071 FORMAT (41H1 F O R T R A N T E S T P R O G R A M S//	H0074820
1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS//	H0074825
3 37H FOR USE ON LARGE FORTRAN PROCESSORS //	H0074830
4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//	H0074835
5 23H VERSION 3 PART 11///)	H0074840
C***** 3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER	H0074845
C PREPARED BY USER	H0074850
C READ, NO LIST	H0074855
C PREPARED BY USER	H0074860
C READ, NO LIST	H0074865
C PREPARED BY USER	H0074870
C READ, NO LIST	H0074875
READ(IRVI,0070)	H0074880
READ(IRVI,0072)	H0074885
READ(IRVI,0073)	H0074890
0070 FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 /)	H0074895
0072 FORMAT(40H TEST PROGRAMS /)	H0074900
0073 FORMAT(40H FORTRAN COMPILER /)	H0074905
WRITE(NUVI,0070)	H0074910
WRITE(NUVI,0072)	H0074915
WRITE(NUVI,0073)	H0074920
C*****	H0074925
WRITE (NUVI,1650)	H1650220
1650 FORMAT(1H1,1X,30HDPFCP - (165) DOUBLE PRECISION/ 16X, 9HFUNCTIONS	H1650230
1 //2X,21HASA REFS. 8.3.1,8.3.2//2X, 7HRESULTS)	H1650240
C***** TEST 1	H1650250
MAVI = 1	H1650260
IVI = AFD(1.0) - 1.000	H1650270
IF (IVI) 1652,1653,1652	H1650280
C***** TEST 2	H1650290
1657 MAVI =2	H1650300
IVI=BFD(1)-1.000	H1650310
IF(IVI)1652,1653,1652	H1650320
C***** TEST 3	H1650330
1658 MAVI =3	H1650340
AVD=1.000	H1650350
IVI=CFD(AVD)-1.000	H1650360
IF(IVI) 1652,1653,1652	H1650370
C***** TEST 4 .ONE ARGUMENT IS ARRAY ELEMENT NAME	H1650380
1659 MAVI =4	H1650390
AVC = (1.0,1.0)	H1650400
A1C(1)=(1.0,-1.0)	H1650410
IVI=DFD(AVC,A1C(1))	H1650420
IF (IVI) 1652,1653,1652	H1650430
C***** TEST 5,6	H1650440
7014 MAVI =5	H1650450
AVB=.TRUE.	H1650460
IVI=EFD(AVB)-1.000	H1650470
IF(IVI)1652,1653,1652	H1650480
7015 MAVI = 6	H1650490
AVB=.FALSE.	H1650500
IVI=EFD(AVB)	H1650510
IF(IVI)1652,1653,1652	H1650520
C***** TEST 7	H1650530
7016 MAVI = 7	H1650540
IVI = FFD (1.E0,AFD) - 1.000	H1650550
IF (IVI) 1652,1653,1652	H1650560
C***** TEST 8	H1650570
7017 MAVI = 8	H1650580
A1D(1)=1.000	H1650590
A1D(2)=-1.000	H1650600
IVI=GFD(A1D)	H1650610
IF (IVI) 1652,1653,1652	H1650620
C***** TESTS 9,10,11,12	H1650630
7018 IAVI = 1	H1650640

AVD=1.000	H1650650
A1D(1)=1.000	H1650660
A2D(1,1)=1.000	H1650670
A3D(1,1,1)= 1.000	H1650680
AVS=1.0	H1650690
A1S(1)=1.0	H1650700
A2S(1,1)=1.0	H1650710
A3S(1,1,1)=1.0	H1650720
A1C(1)=(1.0,1.0)	H1650730
A2C(1,1)=(1.0,1.0)	H1650740
A3C(1,1,1)=(1.0,1.0)	H1650750
I1I(1)=1	H1650760
I2I(1,1)=1	H1650770
I3I(1,1,1)=1	H1650780
MAVI = 9	H1650790
IVI=HFD(AVS,IAVI,AVB,AVC,AVD,A1S,A2S,A3S,I1I,I2I,I3I ,A1B,A2B,A3B,	H1650800
1A1C,A2C,A3C,A1D,A2D,A3D,CFD)	H1650810
IF (IVI) 1652,1653,1652	H1650820
7019 MAVI = 10	H1650830
IVI=AXVS	H1650840
IF (IVI) 1652,1653,1652	H1650850
7020 MAVI = 11	H1650860
WRITE (NUVI,1656) AVC,MAVI	H1650870
1656 FORMAT(/2F5.1//2X,5HTEST ,12,31H IS POSITIVE IF NUMBERS PRINTED/	H1650880
1 2X,17HABOVE ARE 0.0,0.0)	H1650890
7021 MAVI = 12	H1650900
BVB = AVB.AND.A1B(1).AND.A2B(1,1).AND.A3B(1,1,1)	H1650910
IF(BVB) GO TO 1653	H1650920
1652 WRITE(NUVI,1654)MAVI	H1650930
GO TO 1651	H1650940
1653 WRITE(NUVI,1655)MAVI	H1650950
1654 FORMAT(/2X,5HTEST ,12,12H IS NEGATIVE)	H1650960
1655 FORMAT(/2X,5HTEST ,12,12H IS POSITIVE)	H1650970
1651 GO TO (1657,1658,1659,7014,7015,7016,7017,7018,7019,7020,7021,	H1650980
1 7022) ,MAVI	H1650990
7022 CONTINUE	H1651000
C***** END OF TEST SEGMENT 165	H1651010
C***** WHEN EXECUTING ONLY SEGMENT 165, THE STOP AND END CARDS	H1651020
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1651030
C***** IN COLUMNS 1 AND 2 REMOVED.	H1651040
C= STOP	H1651050
C= END	H1651060
C*****	H1660010
C*****	H1660020
C***** BFCCP-(166)	H1660030
C*****	H1660040
C*****	H1660050
C***** GENERAL PURPOSE	H1660060
C***** 1.TO TEST LOGICAL FUNCTIONS IN FULL FORTRAN	H1660070
C***** 2.DUMMY ARGUMENTS ARE REAL,INTEGER,COMPLEX,LOGICAL,	H1660080
C***** DOUBLE PRECISION,EXTERNAL PROCEDURE,ARRAY NAME.	H1660090
C***** 3.FUNCTIONS CONTAIN UP TO 20 ARGUMENTS	H1660100
C***** 4.IN REFERENCE ACTUAL ARGUMENTS ARE VARIABLE NAME	H1660110
C***** ARRAY NAME,ARRAY ELEMENT NAME,ARITHMETIC EXPRESSION	H1660120
C***** EXTERNAL PROCEDURE	H1660130
C***** 6.USE CAN BE MADE OF ADJUSTABLE DIMENTION	H1660140
C***** 7.ARGUMENTS CAN BE PASSED THROUGH COMMON	H1660150
C*****RESTRICTIONS OBSERVED	H1660160
C***** 1.ITEMS(2),(3),(4),(5),(6) OF PARAGRAPH	H1660170
C***** 2.LAST SENTENCE OF PARAGRAPH 3.2	H1660180
C***** THIS SEGMENT IS TO BE RUN WITH SEGMENTS	H1660190
C***** 406, 416, 426, 436, 446, 456, 466, 476 WHICH	H1660200
C***** CONTAINS ALL FUNCTIONS BEING TESTED HERE.	H1660210
C*****LOGICAL FUNCTION OF REAL ARGUMENT(TEST 1)	H1660220
C*****	H1660230
C***** S P E C I F I C A T I O N S SEGMENT 166	H1660240
C*****	H0015030
C***** WHEN EXECUTING ONLY SEGMENT 166, THE SPECIFICATION STATEMENTS	H0015035

C*****	WHICH APPEAR AS COMMENTS MUST HAVE THE C=	H0015040
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0015045
C*****		H0015050
C=	DIMENSION A1S(5),A2S(2,2),A3S(3,3,3)	H0015055
C=	INTEGER I1I(5),I2I(2,2),I3I(2,2,2)	H0015060
C=	LOGICAL AVB,AFB,BFB,CFB,DFB,EFB,FFB,GFB,HFB	H0015065
C=	1, A1B(2),A2B(2,2),A3B(2,2,2)	H0015070
C=	DOUBLE PRECISION AVD,A1D(4),A2D(2,2),A3D(2,2,2)	H0015075
C=	COMPLEX AVC,A1C(12),A2C(2,2),A3C(2,2,1)	H0015080
C=	COMMON AXVS,CXVS	H0015085
C=	EXTERNAL AFB	H0015090
C*****		H0015095
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1660250
C*****		H0074930
C*****	WHEN EXECUTING ONLY SEGMENT 166, THE FOLLOWING STATEMENT	H0074935
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0074940
C=	NUVI = 6	H0074945
	MAVI=1	H1660260
	WRITE(NUVI,1662)	H1660270
1662	FORMAT(1H1,1X,31HBFCPP - (166) LOGICAL FUNCTIONS//2X,	H1660280
	1 13HASA REF 8.3.1//2X,7HRESULTS)	H1660290
	AVB=AFB(1.0)	H1660300
	IF (AVB) GO TO 1664	H1660310
	WRITE(NUVI,1661) MAVI	H1660320
	GO TO 1665	H1660330
1660	FORMAT (/7H TEST ,12,12H IS POSITIVE)	H1660340
1661	FORMAT (/7H TEST ,12,12H IS NEGATIVE)	H1660350
1664	WRITE(NUVI,1660) MAVI	H1660360
	GO TO (1665,1666,1667,1668,1669,7030,7031,7032,7033,7034), MAVI	H1660370
C*****	LOGICAL FUNCTION OF INTEGER ARGUMENT (TEST 2)	H1660380
1665	MAVI=2	H1660390
	AVB=BFB(1)	H1660400
	IF (AVB) GO TO 1664	H1660410
	WRITE(NUVI,1661) MAVI	H1660420
C*****	LOGICAL FUNCTION OF DOUBLE PRECISION ARGUMENT (TEST 3)	H1660430
1666	MAVI=3	H1660440
	AVD=1.0D0	H1660450
	AVB=CFB(AVD)	H1660460
	IF (AVB) GO TO 1664	H1660470
	WRITE(NUVI,1661) MAVI	H1660480
C*****	LOGICAL FUNCTION OF LOGICAL ARGUMENT (TEST 4)	H1660490
1667	MAVI=4	H1660500
	AVB=DFB(.TRUE.)	H1660510
	IF (AVB) GO TO 1664	H1660520
	WRITE(NUVI,1661) MAVI	H1660530
C*****	LOGICAL FUNCTION OF COMPLEX ARGUMENT (TEST 5)	H1660540
1668	MAVI=5	H1660550
	AVB=EFB((1.0,1.0))	H1660560
	IF (AVB) GO TO 1664	H1660570
	WRITE(NUVI,1661) MAVI	H1660580
C*****	LOGICAL FUNCTION OF ARRAY NAME (TEST 6)	H1660590
1669	MAVI=6	H1660600
	A1S(1)=1.0	H1660610
	A1S(2)=0.0	H1660620
	AVB=FFB(A1S)	H1660630
	IF (AVB) GO TO 1664	H1660640
	WRITE(NUVI,1661) MAVI	H1660650
C*****	LOGICAL FUNCTION OF EXTERNAL PROCEDURE (TEST 7)	H1660660
7030	MAVI=7	H1660670
	AVB=GFB(AFB,1.0)	H1660680
	IF (AVB) GO TO 1664	H1660690
	WRITE(NUVI,1661) MAVI	H1660700
C*****	LOGICAL FUNCTION OF DIFFERENT TYPES OF ARGUMENTS	H1660710
7031	MAVI=8	H1660720
	AVD = 1.0D0	H1660730
	AVC = (1.0,1.0)	H1660740
	IAVI = 1	H1660750
	AVB=.TRUE.	H1660760

A1B(1)=.TRUE.	H1660770
A2B(1,1)=.TRUE.	H1660780
A3B(1,1,1)=.TRUE.	H1660790
A1C(1)=(1.0,1.0)	H1660800
A2C(1,1)=(1.0,1.0)	H1660810
A3C(1,1,1)=(-2.0,-2.0)	H1660820
A1D(1)=1.0D0	H1660830
A2D(1,1)=1.0D0	H1660840
A3D(1,1,1)=-2.0D0	H1660850
I1I(1)=1	H1660860
I2I(1,1)=1	H1660870
I3I(1,1,1)=1	H1660880
A1S(1)=1.0	H1660890
A2S(1,1)=1.0	H1660900
A3S(1,1,1)=1.0	H1660910
AXVS=1.0	H1660920
AVB= HFB(AVS,IAVI,AVB,AVD,AVC,A1S,A2S,A3S,I1I,I2I,I3I,A1B,A2B,	H1660930
1A3B,A1C,A2C,A3C,A1D,A2D,A3D,AFB)	H1660940
IF (AVB) GO TO 1664	H1660950
WRITE(NUVI,1661) MAVI	H1660960
7032 MAVI = 9	H1660970
IAVI=AVD	H1660980
IF(IAVI.EQ.0) GO TO 1664	H1660990
WRITE(NUVI,1661) MAVI	H1661000
7033 IAVI=1	H1661010
MAVI=10	H1661020
IAVI=AVS	H1661030
IF(IAVI.EQ.0) GO TO 1664	H1661040
WRITE(NUVI,1661) MAVI	H1661050
7034 MAVI=11	H1661060
WRITE(NUVI,1663) AVC,MAVI	H1661070
1663 FORMAT (/2F8.4//7H TEST ,I2,31H IS POSITIVE IF NUMBERS PRINTED/	H1661080
119H ABOVE ARE 0.0,0.0//2X,12HEND OF (166))	H1661090
C***** END OF TEST SEGMENT 166	H1661100
C***** WHEN EXECUTING ONLY SEGMENT 166, THE STOP AND END CARDS	H1661110
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN	H1661120
C***** COLUMNS 1 AND 2 REMOVED.	H1661130
C= STOP	H1661140
C= END	H1661150
C*****	H1670010
C*****	H1670020
C***** SBRTN - (167)	H1670030
C*****	H1670040
C*****	H1670050
C***** GENERAL PURPOSE	ASA REF5H1670060
C***** TO TEST SUBROUTINE SUBPROGRAMS	8.4.1 H1670070
C***** RESTRICTIONS OBSERVED	H1670080
C***** SYMBOLIC NAME OF A SUBROUTINE MAY NOT APPEAR IN ANY	8.4.1.//19H1670090
C***** STATEMENT IN THIS SUBROUTINE EXCEPT IN THE	H1670100
C***** SUBROUTINE STATEMENT ITSELF	H1670110
C***** * SYMBOLIC NAMES OF DUMMY ARGUMENTS MAY NOT APPEAR	8.4.1.1/23H1670120
C***** IN EQUIVALENCE OR COMMON STATEMENTS IN THE SUBPROGRAM	H1670130
C***** * SUBROUTINES MAY NOT CONTAIN A FUNCTION STATEMENT,	8.4.1.//29H1670140
C***** ANOTHER SUBROUTINE STATEMENT, OR ANY STATEMENT THAT	H1670150
C***** DIRECTLY OR INDIRECTLY REFERENCES THE SUBROUTINE	H1670160
C***** BEING DEFINED.	H1670170
C***** * AT LEAST ONE RETURN STATEMENT MUST BE IN A SUBROUTINE	H1670180
C*****	8.4.1.1/33H1670190
C***** GENERAL COMMENTS	H1670200
C***** THIS SEGMENT IS TO BE RUN WITH SEGMENT 407, 417, 427	H1670210
C*****	H1670220
C***** S P E C I F I C A T I O N S SEGMENT 167	H1670230
C*****	H0015100
C***** WHEN EXECUTING ONLY SEGMENT 167, THE SPECIFICATION STATEMENTS	H0015105
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0015110
C***** IN COLUMNS 1 AND 2 REMOVED.	H0015115
C*****	H0015120
C= DIMENSION IAB1I(4), IAB2I(3,3), AB1S(4), AB2S(3,3)	H0015125

C=	COMMON AXVS, CXVS, IXVI, IAX1I(4), IAX2I(3,3), IAX3I(2,2,2),	H0015130
C=	1 BXVS, AX1S(4), AX2S(3,3)	H0015135
C=	EXTERNAL SORT	H0015140
C*****		H0015145
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1670240
C*****		H0074950
C*****	WHEN EXECUTING ONLY SEGMENT 167, THE FOLLOWING STATEMENT	H0074955
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0074960
C=	NUVI = 6	H0074965
C*****		H0074970
C*****	WRITE HEADING	H1670250
	WRITE (NUVI,1670)	H1670260
1670	FORMAT(1H1,1X,35HSBRTN - (167) SUBROUTINE SUBPROGRAM/ 1 /2X,16HASA REF. - 8.4.1//2X,7HRESULTS)	H1670270
C*****	SET ALL VARIABLES AND SOME ELEMENTS IN ARRAYS TO ZERO	H1670290
	IAVI = 4	H1670300
	AVS = 0.0	H1670310
	IAB1I(1) = 0	H1670320
	IAB1I(3) = 0	H1670330
	IAB2I(1,2) = 0	H1670340
	IAB2I(3,3) = 0	H1670350
C*****		H1670360
	AB1S(1) = 0.0	H1670370
	AB1S(4) = 0.0	H1670380
	AB2S(1,3) = 0.0	H1670390
	AB2S(2,3) = 0.0	H1670400
C*****		H1670410
	IXVI = 0	H1670420
	BXVS = 0.0	H1670430
	IAX1I(2) = 0	H1670440
	IAX2I(1,2) = 0	H1670450
C*****		H1670460
	AX1S(2) = 0.0	H1670470
	AX2S(1,2) = 0.0	H1670480
C*****		H1670490
C*****	SET ELEMENTS IN INTEGER AND REAL ARRAY TO 1 TO TEST	H1670500
C*****	EXPRESSIONS IN SUBROUTINE ARGUMENT	H1670510
	IAB1I(2) = 1	H1670520
	IAB1I(4) = 1	H1670530
	IAB2I(2,1) = 1	H1670540
	IAB2I(2,2) = 1	H1670550
C*****		H1670560
	AB1S(2) = 1.0	H1670570
	AB1S(3) = 1.0	H1670580
	AB2S(1,2) = 1.0	H1670590
	AB2S(2,2) = 1.0	H1670600
C*****		H1670610
	CALL AAQ(IAVI, AVS, IAB1I, IAB2I, AB1S, AB2S, SORT, 1 IAB1I(2)+IAB1I(4)*IAB2I(2,1)-IAB2I(2,2), 2 AB1S(2)+AB1S(3)*AB2S(1,2)-AB2S(2,2),1.0)	H1670620
	CALL ACQ	H1670630
		H1670640
C*****	WRITE RESULTS	H1670650
	WRITE (NUVI,1671) IAVI, AVS, IAB1I(1), IAB1I(3), IAB2I(1,2), A IAB2I(3,3), AB1S(1), AB1S(4), B AB2S(1,3), AB2S(2,3), IXVI, BXVS, C IAX1I(2), IAX2I(1,2), AX1S(2), D AX2S(1,2)	H1670660
1671	FORMAT (/I10/F11.1/4(I10/),4(F11.1/),I10/F11.1/2(I10/),2(F11.1/ A))	H1670670
	WRITE (NUVI,1672)	H1670680
1672	FORMAT (/2X,38HTEST SUCCESSFUL IF ALL RESULTS EQUAL 1//)	H1670690
C*****	END OF TEST SEGMENT 167	H1670700
C*****	WHEN EXECUTING ONLY SEGMENT 167, THE STOP AND END CARDS	H1670710
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H1670720
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1670730
C=	STOP	H1670740
C=	END	H1670750
C*****		H1670760
		H1670770
		H1670780
		H1670790
		H1670800
		H1670810
		H1680010

C*****		H1680020
C*****	FSBRT - (168)	H1680030
C*****		H1680040
C*****		H1680050
C*****	GENERAL PURPOSE	ASA REF H1680060
C*****	TO TEST SUBROUTINE SUBPROGRAM IN FORTRAN	8.4.1 H1680070
C*****	RESTRICTIONS OBSERVED	H1680080
C*****	SYMBOLIC NAME OF A SUBROUTINE MAY NOT APPEAR IN ANY	8.4.1.1/56 H1680090
C*****	STATEMENT IN THIS SUBROUTINE EXCEPT IN THE	H1680100
C*****	SUBROUTINE STATEMENT ITSELF.	H1680110
C*****	* SYMBOLIC NAME OF DUMMY ARGUMENTS MAY NOT APPEAR	8.4.1.1/39 H1680120
C*****	IN EQUIVALENCE OR COMMON STATEMENTS IN THE SUBPROGRAM	H1680130
C*****	* SUBROUTINES MAY NOT CONTAIN A FUNCTION STATEMENT,	8.4.1.1/45 H1680140
C*****	ANOTHER SUBROUTINE STATEMENT, OR ANY STATEMENT THAT	H1680150
C*****	DIRECTLY OR INDIRECTLY REFERENCES THE SUBROUTINE	H1680160
C*****	BEING DEFINED.	H1680170
C*****	* AT LEAST ONE RETURN STATEMENT MUST BE IN A SUBROUTINE	H1680180
C*****		8.4.1.1/49 H1680190
C*****	GENERAL COMMENTS	H1680200
C*****	THIS SEGMENT IS TO BE RUN WITH SEGMENT 408 , 418, 428	H1680210
C*****		H1680220
C*****	S P E C I F I C A T I O N S SEGMENT 168	H1680230
C*****		H0015150
C*****	WHEN EXECUTING ONLY SEGMENT 168, THE SPECIFICATION STATEMENTS	H0015155
C*****	WHICH APPEAR AS COMMENTS MUST HAVE THE C=	H0015160
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0015165
C*****		H0015170
C=	DIMENSION IAB1I(4), IAB2I(3,3), IAB3I(2,2,2), AB1S(4), AB2S(3,3),	H0015175
C=	A AB3S(2,2,2)	H0015180
C=	COMMON AXVS, CXVS, IXVI, IAX1I(4), IAX2I(3,3), IAX3I(2,2,2),	H0015185
C=	A BXVS, AX1S(4), AX2S(3,3), AX3S(2,2,2), AXVD, AX1D(2),	H0015190
C=	B AX2D(2,2), AX3D(2,2,2), AXVC, AX1C(2), AX2C(2,2),	H0015195
C=	C AX3C(2,2,2), AXVB, AX1B(2), AX2B(2,2), AX3B(2,2,2)	H0015200
C=	DOUBLE PRECISION AXVD, AX1D, AX2D, AX3D	H0015205
C=	DOUBLE PRECISION AVD, A1D(4), A2D(2,2), A3D(2,2,2)	H0015210
C=	COMPLEX AXVC, AX1C, AX2C, AX3C	H0015215
C=	COMPLEX AVC, A1C(12), A2C(2,2), A3C(2,2,1)	H0015220
C=	LOGICAL AXVB, AX1B, AX2B, AX3B	H0015225
C=	LOGICAL A1B(2), A2B(2,2), A3B(2,2,2), AVB	H0015230
C*****		H0015235
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1680240
C*****		H0074975
C*****	WHEN EXECUTING ONLY SEGMENT 168, THE FOLLOWING STATEMENT	H0074980
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0074985
C=	NUVI = 6	H0074990
C*****	SET INTEGER VARIABLES AND SOME ELEMENTS IN ARRAYS TO ZERO	H1680250
C*****	WRITE HEADING	H1680260
	WRITE (NUVI,1680)	H1680270
1680	FORMAT (1H1,1X,36HFSBRT - (168) SUBROUTINE SUBPROGRAMS/	H1680280
	A/18H ASA REF. - 8.4.1//2X,7HRESULTS)	H1680290
	I A V I = 0	H1680300
	I A B 1 I (1) = 0	H1680310
	I A B 2 I (1 , 2) = 0	H1680320
	I A B 3 I (1 , 1 , 2) = 0	H1680330
	I X V I = 0	H1680340
	I A X 1 I (1) = 0	H1680350
	I A X 2 I (1 , 2) = 0	H1680360
	I A X 3 I (1 , 1 , 2) = 0	H1680370
C*****	SET REAL VARIABLES AND SOME ELEMENTS IN ARRAYS TO ONE	H1680380
	AVS = 1.	H1680390
	AB1S(1) = 1.	H1680400
	AB2S(1,2) = 1.	H1680410
	AB3S(1,1,2) = 1.	H1680420
	BXVS = 1.	H1680430
	AX1S(2) = 1.	H1680440
	AX2S(1,2) = 1.	H1680450
	AX3S(1,1,2) = 1.	H1680460
C*****	SET DP VARIABLES AND SOME ELEMENTS IN ARRAY TO TWO	H1680470

AVD = 2.000	H1680480
A1D(1) = 2.000	H1680490
A2D(1,2) = 2.000	H1680500
A3D(1,1,2) = 2.000	H1680510
AXVD = 2.000	H1680520
AX1D(1) = 2.000	H1680530
AX2D(1,2) = 2.00	H1680540
AX3D(1,1,2) = 2.000	H1680550
C***** SET CDMPLEX VARIABLES AND SDME ELEMENTS IN ARRAYS TO (3.0,3.0)	H1680560
AVC = (3.0,3.0)	H1680570
A1C(1) = (3.0,3.0)	H1680580
A2C(1,2) = (3.0,3.0)	H1680590
A3C(1,2,1) = (3.0,3.0)	H1680600
AXVC = (3.0,3.0)	H1680610
AX1C(1) = (3.0,3.0)	H1680620
AX2C(1,2) = (3.0,3.0)	H1680630
AX3C(1,1,2) = (3.0,3.0)	H1680640
C***** SET LOGICAL VARIABLES AND SOME ELEMENTS IN ARRAYS TO .FALSE.	H1680650
AVB = .FALSE.	H1680660
A1B(1) = .FALSE.	H1680670
A2B(1,2) = .FALSE.	H1680680
A3B(1,1,2) = .FALSE.	H1680690
AXVB = .FALSE.	H1680700
AX1B(1) = .FALSE.	H1680710
AX2B(1,2) = .FALSE.	H1680720
AX3B(1,1,2) = .FALSE.	H1680730
C***** SET INTEGER AND REAL VARIABLES FOR EXPRESSION USAGE IN	H1680740
C***** DUMMY ARGUMENT	H1680750
IAB1I(4) = 0	H1680760
IAB1I(2) = 0	H1680770
AB1S(4) = 0.0	H1680780
AB1S(2) = 0.0	H1680790
JAVI = 1	H1680800
KAVI = 1	H1680810
LAVI = 1	H1680820
MAVI = 1	H1680830
NAVI = 1	H1680840
ABVS = 1.	H1680850
ACVS = 1.	H1680860
ADVS = 2.	H1680870
AEVS = 2.	H1680880
AFVS = 2.	H1680890
CALL ADQ(IAVI, IAB1I, IAB2I, IAB3I, AVS, AB1S, AB2S, AB3S, AVD,	H1680900
A A1D, A2D, A3D, AVC, A1C, A2C, A3C, AVB, A1B, A2B, A3B,	H1680910
B JAVI+KAVI*LAVI-MAVI/NAVI,1,ABVS+ACVS*ADVS-AEVS/AFVS,2.)	H1680920
WRITE (NUVI,1681)	H1680930
CALL AFQ	H1680940
1681 FORMAT (/28H TEST IS SUCCESSFUL IF EACH/	H1680950
A28H GROUP CONTAINS SAME VALUES)	H1680960
WRITE (NUVI,1682) IAVI, IAB1I(1), IAB1I(2), IAB1I(4), IAB2I(1,2),	H1680970
A IAB3I(1,1,2), IXVI, IAX1I(1), IAX2I(1,2),	H1680980
B IAX3I(1,1,2), AVS, AB1S(1), AB2S(1,2), AB3S(1,1,	H1680990
C2),AB1S(2),AB1S(4), BXVS, AX1S(2), AX2S(1,2), AX3S(1,1,2), AVD,	H1681000
D A1D(1), A2D(1,2), A3D(1,1,2), AXVD, AX1D(1),	H1681010
E AX2D(1,2), AX3D(1,1,2), AVC, A1C(1), A2C(1,2),	H1681020
F A3C(1,2,1), AXVC, AX1C(1), AX2C(1,2),	H1681030
G AX3C(1,1,2), AVB, A1B(1), A2B(1,2), A3B(1,1,2),	H1681040
H AXVB, AX1B(1), AX2B(1,2), AX3B(1,1,2)	H1681050
1682 FORMAT (10(I10//)	H1681060
1 10(F11.1//)	H1681070
2 8(1PD15.1//)	H1681080
3 8(OPF5.1,F5.1//)	H1681090
4 8(L10//)	H1681100
C***** END OF TEST SEGMENT 168	H1681110
C***** WHEN EXECUTING ONLY SEGMENT 168, THE STOP AND END CARDS	H1681120
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= IN	H1681130
C***** COLUMNS 1 AND 2 REMOVED.	H1681140
C= STDP	H1681150

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C=      END
C*****
C*****
C*****      BLKDT - (169)
C*****
C*****
C*****      GENERAL PURPOSE
C*****      TD TEST BLOCK DATA SUBPRDGRAM
C*****      GENERAL COMMENTS
C*****      THIS SEGMENT IS TO BE RUN WITH SEGMENT 409.  THIS
C*****      SEGMENT WRITES OUT THE DATA FORMED IN SEGMENT 409.
C*****
C*****      S P E C I F I C A T I O N S   SEGMENT 169
C*****
C*****      WHEN EXECUTING ONLY SEGMENT 169, THE SPECIFICATION STATEMENTS
C*****      WHICH APPEAR AS CDMMENTS MUST HAVE THE C=
C*****      IN CDLUMNS 1 AND 2 REMDVED.
C*****
C=      CDMMDN /BLK1/JXVI, JAX1I(2), JAX2I(3,3)
C=      A      /BLK2/DXVS, DX1S(2), DX2S(2,2)
C=      B      /BLK3/DXVD, DX1D(2), DX2D(2,2)
C=      C      /BLK4/DXVC, DX1C(2), DX2C(2,2)
C=      D      /BLK5/DXVB, DX1B(2), DX2B(2,2)
C=      E      /BLK6/JAX3I(2,2,2), DX3S(2,2,2), DX3D(2,2,2),
C=      F      DZ3C(2,2,2), DX3B(2,2,2)
C=      DDUBLE PRECISIDN DXVD, DX1D, DX2D, DX3D
C=      CDMPLEX      DXVC, DX1C, DX2C, DZ3C
C=      LDGICAL      DXVB, DX1B, DX2B, DX3B
C*****
C*****      D U T P U T   T A P E   ASSIGNMENT STATEMENT.  ND INPUT TAPE.
C*****
C*****      WHEN EXECUTING ONLY SEGMENT 169, THE FOLLDWING STATEMENT
C*****      NUVI = 6  MUST HAVE THE C= IN CDLUMNS 1 AND 2 REMDVED.
C=      NUVI = 6
C*****      WRITE HEADING FDR SEGMENT 169
C*****      WRITE (NUVI,1690)
1690  FDMAT (1H1,1X,35HBLKDT - (169) BLDCK DATA SUBPROGRAM//
A16H  ASA REF. - 8.5//2X,7HRESULTS)
C*****      WRITE (NUVI,1691)
1691  FDMAT ( /28H  TEST IS SUCCESSFUL IF EACH/
A28H  GROUP CNTAINS SAME VALUES)
C*****      WRITE (NUVI,1692) JAX2I(1,1), JAX1I(2), JAX2I(2,1), JAX3I(2,2,1)
A      ,DX3S(1,2,1), DX1S(1), DX2S(1,1), DX3S(2,2,1), DX2D(2,2)
B      ,DX1D(2), DX2D(2,1), DX3D(2,2,1), DX2C(2,2), DX1C(2)
C      ,DX2C(2,1), DZ3C(2,1,1), DX2B(2,2), DX1B(2), DX2B(2,1)
D      ,DX3B(2,2,1), JAX2I(3,1),
E      DX3B(2,1,2), DX2S(2,2)
1692  FDMAT (/ / 4(I10))//
A      4(F12.1//)
B      4(1PD16.1//)
C      4(OPF6.1,F6.1//)
D      4(L10//)
F      3(2H ,A2//)
C*****      END DF TEST SEGMENT 169
C*****      WHEN EXECUTING ONLY SEGMENT 169, THE STOP AND END CARDS
C*****      WHICH APPEAR AS CDMMENT CARDS MUST HAVE THE C= IN
C*****      CDLUMNS 1 AND 2 REMDVED.
C=      STOP
C=      END
C=      STOP
C=      END
C*****
C*****
C*****      AFD - (405)
C*****
C*****
C*****      DOUBLE PRECISION FUNCTION DF REAL ARGUMENT (TEST 1)
C*****      DOUBLE PRECISIDN FUNCTIOND  AFD(AWVS)

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AFD=AWVS	H4050080
RETURN	H4050090
END	H4050100
C*****	H4150010
C*****	H4150020
C***** BFD -(415)	H4150030
C*****	H4150040
C*****	H4150050
C***** DOUBLE PRECISION FUNCTION OF INTEGER ARGUMENT(TEST2)	H4150060
DOUBLE PRECISION FUNCTION BFD(IWVI)	H4150070
BFD=1.000**IWVI	H4150080
RETURN	H4150090
END	H4150100
C*****	H4250010
C*****	H4250020
C***** CFD -(425)	H4250030
C*****	H4250040
C*****	H4250050
C***** DOUBLE PRECISION FUNCTION OF DOUBLE PRECISION ARGUMENT(TEST 3)	H4250060
DOUBLE PRECISION FUNCTION CFD(AWVD)	H4250070
DOUBLE PRECISION AWVD	H4250080
CFD=AWVD	H4250090
RETURN	H4250100
END	H4250110
C*****	H4350010
C*****	H4350020
C***** DFD -(435)	H4350030
C*****	H4350040
C*****	H4350050
C***** DOUBLE PRECISION FUNCTION OF COMPLEX ARGUMENT(TEST 4)	H4350060
DOUBLE PRECISION FUNCTION DFD(AWVC,BWVC)	H4350070
COMPLEX AWVC,BWVC,CVC	H4350080
CVC =BWVC*AWVC	H4350090
DFD=AIMAG(CVC)	H4350100
RETURN	H4350110
END	H4350120
C*****	H4450010
C*****	H4450020
C***** EFD -(445)	H4450030
C*****	H4450040
C*****	H4450050
C***** DOUBLE PRECISION FUNCTION OF LOGICAL ARGUMENT(TEST 5,6)	H4450060
DOUBLE PRECISION FUNCTION EFD(AWVB)	H4450070
LOGICAL AWVB	H4450080
IF(AWVB) GO TO 4451	H4450090
4450 IF(.NOT.AWVB) GO TO 4452	H4450100
RETURN	H4450110
4451 EFD = 1.000	H4450120
GO TO 4450	H4450130
4452 EFD = 0.000	H4450140
RETURN	H4450150
END	H4450160
C*****	H4550010
C*****	H4550020
C***** FFD -(455)	H4550030
C*****	H4550040
C*****	H4550050
C***** DOUBLE PRECISION FUNCTION OF EXTERNAL PROCEDURE (TEST 7)	H4550060
DOUBLE PRECISION FUNCTION FFD(BWVS,BWFD)	H4550070
DOUBLE PRECISION BWFD	H4550080
FFD = BWFD (BWVS)	H4550090
RETURN	H4550100
END	H4550110
C*****	H4650010
C*****	H4650020
C***** GFD -(465)	H4650030
C*****	H4650040
C*****	H4650050

C*****DOUBLE PRECISION FUNCTION OF ARRAY NAME (TEST 8)	H4650060
DOUBLE PRECISION FUNCTION GFD(AW1D)	H4650070
DIMENSION AW1D(2)	H4650080
DOUBLE PRECISION AW1D	H4650090
GFD= AW1D(1)+AW1D(2)	H4650100
RETURN	H4650110
END	H4650120
C*****	H4750010
C*****	H4750020
C*****HFD - (475)	H4750030
C*****	H4750040
C*****	H4750050
C*****DOUBLE PRECISION FUNCTION OF DIFFERENT TYPES OF ARGUMENTS.USE CAN	H4750060
C*****BE MADE OF ADJUSTABLE DIMENSION.SOME ARGUMENTS CAN BE PASSED	H4750070
C*****THROUGH A COMMON STATEMENT.	H4750080
DOUBLE PRECISION FUNCTION HFO(AWVS,IWVI,AWVB,AWVC,AWVO,AW1S,AW2S,	H4750090
1 AW3S,IW1I,IW2I,IW3I,AW1B,AW2B,AW3B,AW1C,AW2C,AW3C,AW1D,AW2D,	H4750100
2 AW3D,CWFO)	H4750110
DIMENSION AW1S(IWVI),AW2S(IWVI,IWVI),AW3S(IWVI,IWVI,IWVI),	H4750120
1 IW1I(IWVI),IW2I(IWVI,IWVI),IW3I(IWVI,IWVI,IWVI),	H4750130
2 AW1C(IWVI),AW2C(IWVI,IWVI),AW3C(IWVI,IWVI,IWVI),	H4750140
3 AW1D(IWVI),AW2D(IWVI,IWVI),AW3D(IWVI,IWVI,IWVI),	H4750150
4 AW1B(IWVI),AW2B(IWVI,IWVI),AW3B(IWVI,IWVI,IWVI)	H4750160
DOUBLE PRECISION AWVO,AW1D,AW2D,AW3D, CWFO	H4750170
COMPLEX AWVC,AW1C,AW2C,AW3C	H4750180
REAL AW1S, AW2S, AW3S	H4750190
LOGICAL AWVB,AW1B,AW2B,AW3B	H4750200
COMMON BXVS	H4750210
HFO = AWVO - AW1D(IWVI)+AW2D(IWVI,IWVI)-AW3D(IWVI,IWVI,IWVI)	H4750220
1 + CWFO(AWVO) - 1.0D0	H4750230
AWVC=AW1C(IWVI)+AW2C(IWVI,IWVI)-AW3C(IWVI,IWVI,IWVI)-(1.0,1.0)	H4750240
BXVS=AWVS**IWVI-AW1S(IWVI)**IW1I(IWVI)+AW2S(IWVI,IWVI)**IW2I	H4750250
1 (IWVI,IWVI)-AW3S(IWVI,IWVI,IWVI)**IW3I(IWVI,IWVI,IWVI)	H4750260
AWVB=IWVI.EQ.1	H4750270
AW1B(IWVI)=IWVI.EQ.1	H4750280
AW2B(IWVI,IWVI)=IWVI.EQ.1	H4750290
AW3B(IWVI,IWVI,IWVI)=IWVI.EQ.1	H4750300
RETURN	H4750310
END	H4750320
C*****	H4060010
C*****	H4060020
C*****AFB - (406)	H4060030
C*****	H4060040
C*****	H4060050
C*****LOGICAL FUNCTION OF REAL ARGUMENT (TEST 1)	H4060060
LOGICAL FUNCTION AFB(AWVS)	H4060070
AFB= AWVS.GT.0.0	H4060080
RETURN	H4060090
END	H4060100
C*****	H4160010
C*****	H4160020
C*****BFB - (416)	H4160030
C*****	H4160040
C*****	H4160050
C*****LOGICAL FUNCTION OF INTEGER ARGUMENT (TEST 2)	H4160060
LOGICAL FUNCTION BFB(IWVI)	H4160070
BFB= IWVI.GT.0	H4160080
RETURN	H4160090
END	H4160100
C*****	H4260010
C*****	H4260020
C*****CFB - (426)	H4260030
C*****	H4260040
C*****	H4260050
C*****LOGICAL FUNCTION OF DOUBLE PRECISION ARGUMENT (TEST 3)	H4260060
LOGICAL FUNCTION CFB(AWVO)	H4260070
DOUBLE PRECISION AWVO	H4260080
CFB= AWVO.GT.0.0D0	H4260090

RETURN	H4260100
END	H4260110
C*****	H4360010
C*****	H4360020
C***** DFB - (436)	H4360030
C*****	H4360040
C*****	H4360050
C***** LOGICAL FUNCTION OF LOGICAL ARGUMENT (TEST 4)	H4360060
LOGICAL FUNCTION DFB(AWVB)	H4360070
LOGICAL AWVB	H4360080
DFB=AWVB	H4360090
RETURN	H4360100
END	H4360110
C*****	H4460010
C*****	H4460020
C***** EFB - (446)	H4460030
C*****	H4460040
C*****	H4460050
C***** LOGICAL FUNCTION OF COMPLEX ARGUMENT (TEST 5)	H4460060
LOGICAL FUNCTION EFB(AWVC)	H4460070
COMPLEX AWVC	H4460080
AVS =AIMAG(AWVC)	H4460090
EFB = AVS .GT.0.0	H4460100
RETURN	H4460110
END	H4460120
C*****	H4560010
C*****	H4560020
C***** FFB - (456)	H4560030
C*****	H4560040
C*****	H4560050
C***** LOGICAL FUNCTION OF ARRAY NAME (TEST 6)	H4560060
LOGICAL FUNCTION FFB(AW1S)	H4560070
DIMENSION AW1S(2)	H4560080
BVS =AW1S(1)+AW1S(2)	H4560090
FFB= BVS .GT.0.0	H4560100
RETURN	H4560110
END	H4560120
C*****	H4660010
C*****	H4660020
C***** GFB - (466)	H4660030
C*****	H4660040
C*****	H4660050
C***** LOGICAL FUNCTION OF EXTERNAL PROCEDURE (TEST 7)	H4660060
LOGICAL FUNCTION GFB(AWFB,AWVS)	H4660070
LOGICAL AWFB	H4660080
GFB= AWFB(AWVS)	H4660090
RETURN	H4660100
END	H4660110
C*****	H4760010
C*****	H4760020
C***** HFB - (476)	H4760030
C*****	H4760040
C*****	H4760050
C***** LOGICAL FUNCTION OF DIFFERENT TYPES OF ARGUMENTS (TEST 8,9,10,11)	H4760060
LOGICAL FUNCTION HFB(AWVS,IWVI,AWVB,AWVD,AWVC,AW1S,AW2S,AW3S,	H4760070
1IW1I,IW2I,IW3I,AW1B,AW2B,AW3B,AW1C,AW2C,AW3C,AW1D,AW2D,AW3D,AWFB)	H4760080
COMMON BXVS	H4760090
COMPLEX AWVC,AW1C,AW2C,AW3C	H4760100
DOUBLE PRECISION AWVD,AW1D,AW3D, AW2D	H4760110
LOGICAL AWVB,AW1B,AW2B,AW3B,AWFB	H4760120
DIMENSION AW1C(IWVI),AW2C(IWVI,2),AW3C(IWVI,2,2),	H4760130
1 AW1B(IWVI),AW2B(IWVI,2),AW3B(IWVI,2,2),	H4760140
2 AW1S(IWVI),AW2S(IWVI,2),AW3S(IWVI,2,2),	H4760150
3 AW1D(IWVI),AW2D(IWVI,2),AW3D(IWVI,2,2),	H4760160
4 IW1I(IWVI),IW2I(IWVI,2),IW3I(IWVI,2,2)	H4760170
HFB = AWVB.AND.AW1B(IWVI).AND.AW2B(IWVI,IWVI).AND.AW3B(IWVI,	H4760180
1 IWVI,IWVI).AND.AWFB(1.0)	H4760190
AWVC=AW1C(IWVI)+AW2C(IWVI,IWVI)+AW3C(IWVI,IWVI,IWVI)	H4760200

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      AWVD=AW1D(IWVI)+AW2D(IWVI,IWVI)+AW3D(IWVI,IWVI,IWVI)      H4760210
      AWVS=BXVS+AW1S(IWVI)**IW1I(IWVI)-AW2S(IWVI,IWVI)**IW2I(IWVI,IWVI) H4760220
1     -AW3S(IWVI,IWVI,IWVI)**IW3I(IWVI,IWVI,IWVI)      H4760230
      RETURN      H4760240
      END      H4760250
C*****      H4070010
C*****      H4070020
C*****      AAQ - (407)      H4070030
C*****      H4070040
C*****      H4070050
C*****      THIS SUBROUTINE IS TO BE RUN WITH SEGMENT 167      H4070060
      SUBROUTINE AAQ (IWVI, AWVS, IAW1I, IAW2I, AW1S, AW2S, SQFI,      H4070070
1MWVI, BWVS, CWVS)      H4070080
      DIMENSION IAW1I(4), IAW2I(3,3), AW1S(4),      H4070090
1      AW2S(3,3)      H4070100
      IWVI = INT(SQFI(FLOAT(IWVI) + .5)) - 1      H4070110
      AWVS = AWVS + 1.0      H4070120
      IAWI = 5      H4070130
      IAW1I(1) = MWVI      H4070140
      IAW1I(3) = IAW1I(3) + 1      H4070150
      IAW2I(3,3) = IAW2I(3,3) + 1      H4070160
      AW1S(1) = BWVS      H4070170
      AW2S(1,3) = CWVS      H4070180
C*****      H4070190
C*****      CALL A SUBROUTINE FROM ANOTHER SUBROUTINE      H4070200
      CALL ABQ(IAW2I, AW1S, AW2S)      H4070210
      RETURN      H4070220
      END      H4070230
C*****      H4170010
C*****      H4170020
C*****      ABQ - (417)      H4170030
C*****      H4170040
C*****      H4170050
      SUBROUTINE ABQ(ICW2I, CW1S, CW2S)      H4170060
      DIMENSION ICW2I(3,3), CW1S(4), CW2S(3,3)      H4170070
      ICW2I(1,2) = ICW2I(1,2) + 1      H4170080
C*****      H4170090
      CW1S(4) = CW1S(4) + 1.0      H4170100
      CW2S(2,3) = CW2S(2,3) + 1.0      H4170110
      RETURN      H4170120
      END      H4170130
C*****      H4270010
C*****      H4270020
C*****      ACQ - (427)      H4270030
C*****      H4270040
C*****      H4270050
      SUBROUTINE ACQ      H4270060
      DIMENSION IDX1I(4), IDX2I(3,3), IDX3I(2,2,2)      H4270070
1      ,AAX1S(4), AAX2S(3,3)      H4270080
      COMMON ABXVS, ACXVS, IAXVI, IDX1I, IDX2I, IDX3I,      H4270090
1      AAXVS, AAX1S, AAX2S      H4270100
      IAXVI = IAXVI+1      H4270110
      AAXVS = AAXVS +1.0      H4270120
      IDX1I(2) = IDX1I(2) + 1      H4270130
      IDX2I(1,2) = IDX2I(1,2) + 1      H4270140
C*****      H4270150
      AAX1S(2) = AAX1S(2) * 2. + 1.0      H4270160
      AAX2S(1,2) = AAX2S(1,2) + 4.0 - 3.0      H4270170
C*****      H4270180
      RETURN      H4270190
C*****      END OF TEST SEGMENT 427      H4270200
      END      H4270210
C*****      H4080010
C*****      H4080020
C*****      ADQ - (408)      H4080030
C*****      H4080040
C*****      H4080050
C*****      SUBROUTINE ADQ CALLED BY SEG. FSBRT(168)      H4080060

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SUBROUTINE ADQ(IWVI,IAW1I,IAW2I,IAW3I,AWVS,AW1S,AW2S,AW3S, H4080070
A      AWVD,AW1D,AW2D,AW3D,AWVC,AW1C,AW2C,AW3C, H4080080
B      AWVB,AW1B,AW2B,AW3B,KWVI,MWVI,BWVS,CWVS) H4080090
DIMENSION IAW1I(4), IAW2I(3,3), IAW3I(2,2,2), AW1S(4), AW2S(3,3), H4080100
A      AW3S(2,2,2), AW1D(2), AW2D(2,2), AW3D(2,2,2), AW1C(2), H4080110
B      AW2C(2,2), AW3C(2,2,1), AW1B(2), AW2B(2,2), H4080120
C      AW3B(2,2,2) H4080130
DOUBLE PRECISION AWVD, AW1D, AW2D, AW3D H4080140
COMPLEX AWVC, AW1C, AW2C, AW3C H4080150
LOGICAL AWVB, AW1B, AW2B, AW3B H4080160
C***** STORE INTEGER AND REAL EXPRESSIONS H4080170
IAW1I(4) = KWVI H4080180
IAW1I(2) = MWVI H4080190
AW1S(4) = BWVS H4080200
AW1S(2) = CWVS H4080210
CALL AEQ (IWVI,IAW1I,IAW2I,IAW3I,AWVS,AW1S,AW2S,AW3S) H4080220
C***** INCREMENT DOUBLE PRECISION H4080230
AWVD = AWVD + AWVD H4080240
AW1D(1) = AW1D(1) + AW1D(1) H4080250
AW2D(1,2) = AW2D(1,2) + AW2D(1,2) H4080260
AW3D(1,1,2) = AW3D(1,1,2) + AW3D(1,1,2) H4080270
C***** INCREMENT COMPLEX H4080280
AWVC = AWVC + AWVC H4080290
AW1C(1) = AW1C(1) + AW1C(1) H4080300
AW2C(1,2) = AW2C(1,2) + AW2C(1,2) H4080310
AW3C(1,2,1) = AW3C(1,2,1) + AW3C(1,2,1) H4080320
C***** CHANGE LOGICAL H4080330
AWVB = .NOT. AWVB H4080340
AW1B(1) = .NOT. AW1B(1) H4080350
AW2B(1,2) = .NOT. AW2B(1,2) H4080360
AW3B(1,1,2) = .NOT. AW3B(1,1,2) H4080370
RETURN H4080380
END H4080390
C***** H4180010
C***** H4180020
C***** AEQ - (418) H4180030
C***** H4180040
C***** H4180050
C***** SUBROUTINE AEQ CALLED BY SEG ADQ(408) WHICH IS H4180060
C***** CALLED BY SEG. FSBRT(168) H4180070
SUBROUTINE AEQ(KWVI, KAW1I, KAW2I, KAW3I, AAWVS, AAW1S, AAW2S, H4180080
A      AAW3S) H4180090
DIMENSION KAW1I(4),KAW2I(3,3),KAW3I(2,2,2),AAW1S(4),AAW2S(3,3), H4180100
A      AAW3S(2,2,2) H4180110
C***** INCREMENT INTEGERS H4180120
KWVI = KWVI + 1 H4180130
KAW1I(1) = KAW1I(1) + 1 H4180140
KAW2I(1,2) = KAW2I(1,2) + 1 H4180150
KAW3I(1,1,2) = KAW3I(1,1,2)+1 H4180160
C***** INCREMENT REAL H4180170
AAWVS = AAWVS + 1. H4180180
AAW1S(1) = AAW1S(1) + 1. H4180190
AAW2S(1,2) = AAW2S(1,2) + 1. H4180200
AAW3S(1,1,2) = AAW3S(1,1,2) + 1. H4180210
RETURN H4180220
END H4180230
C***** H4280010
C***** H4280020
C***** AFQ - (428) H4280030
C***** H4280040
C***** H4280050
C***** SUBROUTINE AFQ CALLED BY SEG. FSBRT(168) H4280060
SUBROUTINE AFQ H4280070
COMMON ABXVS, ACXVS, IAXVI, IAX1I(4), IAX2I(3,3), IAX3I(2,2,2), H4280080
A      AXVS, AX1S(4), AX2S(3,3), AX3S(2,2,2), AXVD, AX1D(2), H4280090
2      AX2D(2,2), AX3D(2,2,2),AXVC, AX1C(2), AX2C(2,2), AX3C(2,2,2) H4280100
3      ,AXVB, AX1B(2), AX2B(2,2), AX3B(2,2,2) H4280110
DOUBLE PRECISION AXVD, AX1D, AX2D, AX3D H4280120

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COMPLEX AXVC, AX1C, AX2C, AX3C	H4280130
LOGICAL AXVB, AX1B, AX2B, AX3B	H4280140
C***** SET INTEGERS TO 1	H4280150
IAXVI = 1	H4280160
IAX1I(1) = 1	H4280170
IAX2I(1,2) = 1	H4280180
IAX3I(1,1,2) = 1	H4280190
C***** SET REAL TO 2	H4280200
AXVS = 2.	H4280210
AX1S(2) = 2.	H4280220
AX2S(1,2) = 2.	H4280230
AX3S(1,1,2) = 2.	H4280240
C***** SET DP TO 4	H4280250
AXVD = 4.000	H4280260
AX10(1) = 4.000	H4280270
AX20(1,2) = 4.000	H4280280
AX30(1,1,2) = 4.000	H4280290
C***** SET COMPLEX TO 6	H4280300
AXVC = (6.0,6.0)	H4280310
AX1C(1) = (6.0,6.0)	H4280320
AX2C(1,2) = (6.0,6.0)	H4280330
AX3C(1,1,2) = (6.0,6.0)	H4280340
C***** CHANGE LOGICAL	H4280350
AXVB = .TRUE.	H4280360
AX1B(1) = .TRUE.	H4280370
AX2B(1,2) = .TRUE.	H4280380
AX3B(1,1,2) = .TRUE.	H4280390
RETURN	H4280400
END	H4280410
C*****	H4090010
C*****	H4090020
C***** BLOCKD - (409)	H4090030
C*****	H4090040
C*****	H4090050
C***** GENERAL PURPOSE	H4090060
C***** THIS SEGMENT CONTAINS ONE BLOCK DATA SUBPROGRAM.	H4090070
C***** IT IS TO BE RUN WITH SEGMENT 169	H4090080
C***** GENERAL COMMENTS	H4090090
C***** THIS SEGMENT USES ALL THE PERMISSIBLE STATEMENTS IN A	H4090100
C***** BLOCK DATA SUBPROGRAM. THE DATA STATEMENT CONSISTS OF ALL	H4090110
C***** TYPES OF VARIABLES AND ARRAYS. A HOLLERITH CONSTANT	H4090120
C***** IS ASSIGNED TO INTEGER, REAL AND LOGICAL	H4090130
BLOCK DATA	H4090140
COMMON /BLK1/JXVI, JAX1I(2), JAX2I(3,3)	H4090150
A /BLK2/0XVS, 0X1S(2), 0X2S(2,2)	H4090160
B /BLK3/DXVD, 0X1D(2), DX20(2,2)	H4090170
C /BLK4/0XVC, DX1C(2), 0X2C(2,2)	H4090180
D /BLK5/0XVB, 0X1B(2), 0X2B(2,2)	H4090190
E /BLK6/JAX3I(2,2,2), DX3S(2,2,2), 0X30(2,2,2),	H4090200
F 0Z3C(2,2,2), DX3B(2,2,2)	H4090210
DIMENSION CY3C(2,2,2)	H4090220
DOUBLE PRECISION DXVO, 0X10, DX20, DX30	H4090230
COMPLEX 0XVC, 0X1C, DX2C, 0Z3C, CY3C	H4090240
LOGICAL 0XVB, 0X1B, DX2B, 0X3B	H4090250
INTEGER JXVI	H4090260
REAL 0XVS	H4090270
EQUIVALENCE (0Z3C(1,1,1), CY3C(1,1,1))	H4090280
DATA JAX2I(1,1), JAX1I(2), JAX2I(2,1), JAX3I(2,2,1), 0X3S(1,2,1),	H4090290
A 0X1S(1), 0X2S(1,1), 0X3S(2,2,1), DX20(2,2), 0X1D(2),	H4090300
B 0X20(2,1), 0X30(2,2,1), 0X2C(2,2), 0X1C(2), 0X2C(2,1),	H4090310
C 0Z3C(2,1,1), 0X2B(2,2), DX1B(2), DX2B(2,1), 0X3B(2,2,1),	H4090320
D JAX2I(3,1), 0X3B(2,1,2), 0X2S(2,2)/4*2,4*3.0,4*4.0D0,4*(4.,5.),	H4090330
E 4*.TRUE., 2HAB, 2HAB, 2HAB/	H4090340
C***** END OF TEST SEGMENT 409	H4090350
END	H4090360
SAMPLE COMPUTER, FORTRAN COMPILER LEVEL	
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2	
OPERATING SYSTEM VERSION	


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DD NDT REAO DR WRITE RECDRD 4 . DDUBLE SPACE DN DUTPUT ID 4
DATE, INSTALLATION NAME
DO NOT READ DR WRITE RECDRD 6 DDUBLE SPACE DN DUTPUT ID 6
C***** PART12 *****H0005400
C***** H0005405
C***** ANSI FORTRAN (X3.9-1966) TEST PROGRAMS H0005410
C***** H0005415
C***** PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3 H0005420
C***** H0005425
C***** JUNE 1974 H0005430
C***** H0005435
C***** PART 12 OF 14 PARTS H0005440
C***** H0005445
C***** SEGMENTS INCLUOED H0005450
C***** H0005455
C***** BLKOA - 179 BLOCK DATA TEST H0005460
C***** H0005465
C***** BLAKO - 419 BLDCK DATA SUBPRDGRAM H0005470
C***** H0005475
C***** BLBKD - 429 BLDCK DATA SUBPRDGRAM H0005480
C***** H0005485
C***** BLCKO - 439 BLOCK DATA SUBPROGRAM H0005490
C***** H0005495
C***** UNFRW - 180 UNFORMATTED READ AND WRITE H0005500
C***** H0005505
C***** BACUP - 182 BACKSPACE TAPE H0005510
C***** H0005515
C***** OOTRM - 190 00 LOOPS (TERMINAL STATEMENTS) H0005520
C***** H0005525
C***** OOLMT - 191 00 LOOPS (INTEGER VARIABLES - PARAMETERS) H0005530
C***** H0005535
C***** OONSC - 192 00 LOOPS (COMPLETELY NESTEO NEST) H0005540
C***** H0005545
C***** OONSI - 193 00 LOOPS (INCOMPLETE) H0005550
C***** H0005555
C***** ODNSX - 194 0D LOOPS (EXTENOE0 RANGE) H0005560
C***** H0005565
C***** OONML - 195 00 LOOPS (NESTED NEST) H0005570
C***** H0005575
C***** OONID - 196 00 LOOPS (I/O TERMINAL STATEMENTS) H0005580
C***** H0005585
C***** MORDO - 197 0D LOOPS (I/D, INTRINSIC FUNCTIDN, CALL) H0005590
C***** H0005595
C***** BSFOF - 005 STATEMENT FUNCTIONS H0005600
C***** H0005605
C***** MOO - 412 SUBROUTINE SUBPROGRAM H0005610
C***** H0005615
C***** SUBR1 - 200 SUBROUTINE CALLEO H0005620
C***** H0005625
C***** SUBRO - 410 SUBRDUTINE SUBPROGRAM H0005630
C***** H0015400
C***** THE FDLOWING SPECIFICATIONS ARE TO BE USED DNLY WHEN SEGMENTS H0015405
C***** 179, 180, 182, 190, 191, 192, 193, 194, 195, 196, 197, 200 H0015410
C***** ARE RUN AS ONE MAIN PROGRAM. H0015415
C***** H0015420
C***** DIMENSION MCA11(5) H0015425
C***** DIMENSION IV11(1024), IAC11(5), AC2S(5,6) H0015430
C***** OIMENSION CMA1S(5), CMB1S(5), AC1S(25) H0015435
C***** INTEGER MCA3I(2,3,3), I3I(2,2,2) H0015440
C***** LOGICAL MCAVB, MCBVB, GH2B(1,2) H0015445
C***** DOUBBLE PRECISION CC30(7,2,2), DPAVO, DPBVD H0015450
C***** COMPLEX NUMVC, OENVC, LL1C(32) H0015455
C***** COMMON AXVS, CXVS H0015460
C***** DOUBBLE PRECISION DXVO, OX1D, OX2O, OX3O H0015465
C***** COMPLEX OXVC, DX1C, OX2C, OZ3C H0015470
C***** COMMON /BLK1/JXVI, JAX1I(2), JAX2I(3,3) H0015475
C***** A /BLK2/OXVS, OX1S(2), OX2S(2,2) H0015480
C***** B /BLK3/DXVD, DX1O(2), OX2O(2,2) H0015485

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C	/BLK4/DXVC, DX1C(2), DX2C(2,2)	H0015490
D	/BLK5/DXVB, DX1B(2), DX2B(2,2)	H0015495
E	/BLK6/JAX31(2,2,2), DX3S(2,2,2), DX3D(2,2,2),	H0015500
F	DZ3C(2,2,2), DX3B(2,2,2)// IXVI, IAX11(4)	H0015505
LOGICAL DXVB, DX1B, DX2B, DX3B		H0015510
C*****		H0015515
C*****	END OF SPECIFICATIONS FOR SEGMENTS	H0015520
C*****	179, 180, 182, 190, 191, 192, 193, 194, 195, 196, 197, 200	H0015525
C*****		H0050500
C*****		H0050510
C*****	BSFDF - (005)	H0050520
C*****		H0050530
C*****		H0050540
C*****	GENERAL PURPOSE	ASA REF H0050550
C*****	DEFINING STATEMENT FUNCTIONS THAT ARE TO BE TESTED	H0050560
C*****	IN SEGMENT 197	8.1.1 H0050570
C*****	HEADER FOR SEGMENT 005	H0050580
C*****	DEFINING EXPRESSION CONTAINS CONSTANTS AND VARIABLES	H0050590
	CMAFS(CAWVS,CBWVS) = CAWVS * 2. + CBWVS	H0050600
	CMBFS(MAWVI,MBWVI,MCWVI) = (MAWVI + MBWVI + MCWVI)/3	H0050610
	MCAFI(MAWVI,MBWVI) = MAWVI ** MBWVI	H0050620
	MCBFI(CAWVS,CBWVS,CCWVS) = (CAWVS + CBWVS + CCWVS) * 2.0	H0050630
C*****	DEFINING EXPRESSION CONTAINS CONSTANTS, VARIABLES AND	H0050640
C*****	INTRINSIC FUNCTIONS	H0050650
	CMCFS(CAWVS,CBWVS,CCWVS) = ABS(CAWVS**2 - (CBWVS+CCWVS)**2)	H0050660
	CMDFS(MAWVI,MBWVI) = ISIGN((MAWVI+MBWVI),(MAWVI-MBWVI))	H0050670
	MCCFI(MAWVI,MBWVI,CAWVS) = MAWVI**2 + MBWVI**2 + IFIX(CAWVS)**2	H0050680
	MCDFI(CAWVS,CBWVS,CCWVS,CDWVS,CEWVS) = (CAWVS + CBWVS + CCWVS +	H0050690
	1CDWVS + CEWVS) ** (ABS(CAWVS))	H0050700
C*****	DEFINING EXPRESSION CONTAINS PREVIOUSLY DEFINED STATEMENT	H0050710
C*****	FUNCTIONS AND/OR EXTERNAL FUNCTION REFERENCES	H0050720
	CMEFS(CAWVS,CBWVS) = CMBFS(1,2,3) + SQRT((CAWVS + CBWVS))	H0050730
	CMFFS(MAWVI,MBWVI,MCWVI) = MCCFI(MAWVI,MBWVI,3.0) + MCWVI **2	H0050740
	MCEFI(MAWVI,MBWVI) = MCAFI(MAWVI,MBWVI) ** MCAFI(MAWVI,MBWVI)	H0050750
	MCFFI(CAWVS,CBWVS,CCWVS) = SQRT(CAWVS) + SQRT(CBWVS) + EXP(CCWVS)	H0050760
C*****	DEFINING EXPRESSION CONTAINS CONSTANTS, VARIABLES, INTRINSIC	H0050770
C*****	OR EXTERNAL FUNCTION REFERENCES AND PREVIOUSLY DEFINED	H0050780
C*****	STATEMENT FUNCTIONS.	H0050790
	CMGFS(MAWVI,MBWVI,CAWVS,CBWVS) = FLOAT(MAWVI ** 2) - CMAFS(CAWVS,	H0050800
	1CBWVS) + SQRT((FLOAT(MAWVI + MBWVI)))	H0050810
	MCGFI(MAWVI,MBWVI,MCWVI,CAWVS) = MCEFI(MAWVI,MBWVI) - MCEFI(MAWVI,	H0050820
	1MCWVI) + IFIX(EXP(CAWVS))	H0050830
C*****	END OF TEST SEGMENT 005	H0050840
C*****		H1790010
C*****		H1790020
C*****	BLKDA - (179)	H1790030
C*****		H1790040
C*****		H1790050
C*****	GENERAL PURPOSE	ASA REF H1790060
C*****	TO TEST BLOCK DATA SUBPROGRAMS	8.5 H1790070
C*****	THIS SEGMENT IS TO BE RUN WITH SEGMENTS 419, 429, 439. THIS	H1790080
C*****	SEGMENT WRITES OUT THE DATA FORMED IN SEGMENT 419, 429, 439	H1790090
C*****		H1790100
C*****	S P E C I F I C A T I O N S SEGMENT 179	H1790110
C*****		H0015530
C*****	WHEN EXECUTING ONLY SEGMENT 179, REMOVE THE PRECEDING	H0015535
C*****	SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS WHICH APPEAR	H0015540
C*****	AS COMMENTS MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0015545
C*****		H0015550
C=	DOUBLE PRECISION DXVD, DX1D, DX2D, DX3D	H0015555
C=	COMPLEX DXVC, DX1C, DX2C, DZ3C	H0015560
C=	COMMON /BLK1/JXVI, JAX11(2), JAX21(3,3)	H0015565
C=	A /BLK2/DXVS, DX1S(2), DX2S(2,2)	H0015570
C=	B /BLK3/DXVD, DX1D(2), DX2D(2,2)	H0015575
C=	C /BLK4/DXVC, DX1C(2), DX2C(2,2)	H0015580
C=	D /BLK5/DXVB, DX1B(2), DX2B(2,2)	H0015585
C=	E /BLK6/JAX31(2,2,2), DX3S(2,2,2), DX3D(2,2,2),	H0015590
C=	F DZ3C(2,2,2), DX3B(2,2,2)	H0015595

C=	LOGICAL	DXVB, DX1B, DX2B, DX3B	H0015600
C*****			H0015605
C*****	I N P U T - O U T P U T T A P E A S S I G N M E N T S T A T E M E N T S		H1790120
	IRVI = 5		H0075400
	NUVI = 6		H0075405
	INVI = 9		H0075410
C*****	IDENTIFY THE SOURCE OF THE TEST PROGRAMS		H0075415
	WRITE(NUVI,0071)		H0075420
0071	FORMAT (41H1 F O R T R A N T E S T P R O G R A M S//		H0075425
1	42H	PREPARED BY NATIONAL BUREAU OF STANDARDS//	H0075430
3	37H	FOR USE ON LARGE FORTRAN PROCESSORS //	H0075435
4	42H	IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//	H0075440
5	23H	VERSION 3 PART 12//)	H0075445
C*****	3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER		H0075450
C	PREPARED BY USER		H0075455
C	READ, NO LIST		H0075460
C	PREPARED BY USER		H0075465
C	READ, NO LIST		H0075470
C	PREPARED BY USER		H0075475
C	READ, NO LIST		H0075480
	READ(IRVI,0070)		H0075485
	READ(IRVI,0072)		H0075490
	READ(IRVI,0073)		H0075495
0070	FORMAT(40H	BASED ON ASA FORTRAN X3.9-1966 /)	H0075500
0072	FORMAT(40H	TEST PROGRAMS /)	H0075505
0073	FORMAT(40H	FORTRAN COMPILER /)	H0075510
	WRITE(NUVI,0070)		H0075515
	WRITE(NUVI,0072)		H0075520
	WRITE(NUVI,0073)		H0075525
C*****			H0075530
C*****			H0075535
C*****	WRITE HEADING FOR SEGMENT 179		H1790130
	WRITE (NUVI,1790)		H1790140
1790	FORMAT (1H1,1X,32HBLKDA - (179) SEVERAL BLOCK DATA/ 16X,		H1790150
1	11H	SUBPROGRAMS/ 2X, 14HASA REF. - 8.5// 9H RESULTS)	H1790160
	WRITE (NUVI,1791)		H1790170
1791	FORMAT (/28H TEST IS SUCCESSFUL IF EACH/		H1790180
	A28H GROUP CONTAINS SAME VALUES)		H1790190
	WRITE (NUVI,1792)	JXVI, JAX1I(1), JAX2I(1,2), JAX3I(1,1,2), DXVS,	H1790200
A		DX1S(2), DX2S(1,2), DX3S(1,1,2), DXVD, DX1D(1),	H1790210
B		DX2D(1,2), DX3D(1,1,2), DXVC, DX1C(1),DX2C(1,2),	H1790220
C		DZ3C(1,1,2), DXVB, DX1B(1), DX2B(1,2),	H1790230
D		DX3B(1,1,2), JAX2I(1,3),	H1790240
E		DX3B(2,2,2), DX2S(2,1)	H1790250
1792	FORMAT (/ 4(I10//)		H1790260
A		4(F12.1//)	H1790270
B		4(1PD16.1//)	H1790280
C		4(OPF6.1,F6.1//)	H1790290
D		4(L10//)	H1790300
E		3(2H ,A2//)	H1790310
C*****	END OF TEST SEGMENT 179		H1790320
C*****	WHEN EXECUTING ONLY SEGMENT 179, THE STOP AND END CARDS		H1790330
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=		H1790340
C*****	IN COLUMNS 1 AND 2 REMOVED.		H1790350
C=	STOP		H1790360
C=	END		H1790370
C*****			H1800010
C*****			H1800020
C*****	UNFRW - (180)		H1800030
C*****			H1800040
C*****			H1800050
C*****	GENERAL PURPOSE	ASA REF	H1800060
C*****	TEST OF UNFORMATTED READ AND WRITE STATEMENTS	7.1.3.2.4	H1800070
C*****		7.1.3.2.5	H1800080
C*****	S P E C I F I C A T I O N S S E G M E N T 1 8 0		H1800090
C*****			H0015610
C*****	WHEN EXECUTING ONLY SEGMENT 180, THE SPECIFICATION STATEMENTS		H0015615
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=		H0015620

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C***** IN COLUMNS 1 AND 2 REMOVED. H0015625
C***** H0015630
C= DIMENSION CMA1S(5), CMB1S(5), AC1S(25) H0015635
C***** H0015640
C***** O U T P U T T A P E ASSIGNMENT STATEMENTS. NO INPUT TAPE. H1800100
C***** H0075540
C***** WHEN EXECUTING ONLY SEGMENT 180, THE FOLLOWING STATEMENTS H0075545
C***** NUVI=6 AND INVI=9 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0075550
C***** H0075555
C= NUVI = 6 H0075560
C= INVI = 9 H0075565
C***** H0075570
WRITE (NUVI,0180) H1800110
180 FORMAT(1H1,1X,30HUNFRW - (180) UNFORMATTED READ/ 14X, H1800120
122H AND WRITE STATEMENTS//36H ASA REFS - 7.1.3.2.4 AND 7.1.3.2.5 H1800130
2//10H RESULTS ) H1800140
C***** HEADER FOR SEGMENT 180 WRITTEN H1800150
CMAVS = 1.5E01 H1800160
CMBVS = -2.75E-0 H1800170
MCAVI = 5 H1800180
MCBVI = -10 H1800190
DPAVS = 1.02E0 H1800200
DPBVS = 9876.0E-2 H1800210
CMA1S(1) = 1.0E0 H1800220
CMA1S(2) = 2.0E0 H1800230
CMA1S(3) = 3.0E0 H1800240
CMA1S(4) = 4.0E0 H1800250
CMA1S(5) = 5.0E0 H1800260
C***** WRITE AND READ VARIABLES OF THE SAME TYPE H1800270
REWIND INVI H1800280
WRITE (INVI) CMAVS, CMBVS H1800290
WRITE (INVI) MCAVI, MCBVI H1800300
WRITE (INVI) DPAVS, DPBVS H1800310
WRITE (INVI) CMA1S H1800320
WRITE (INVI) (CMA1S(IVI), IVI = 1,5,1 ) H1800330
REWIND INVI H1800340
READ (INVI) CMCVS, CMDVS H1800350
READ (INVI) MCCVI, MCDVI H1800360
READ (INVI) DPCVS, DPDVS H1800370
READ (INVI) CMB1S H1800380
READ (INVI) (AC1S(IVI), IVI = 1,5,1 ) H1800390
C***** CHECK RECORDS BY SUBTRACTING CORRESPONDING VALUES. H1800400
CMEVS = CMAVS - CMCVS H1800410
CMFVS = CMBVS - CMDVS H1800420
MCEVI = MCAVI - MCCVI H1800430
MCFVI = MCBVI - MCDVI H1800440
DPEVS = DPAVS - DPCVS H1800450
DPFVS = DPBVS - DPDVS H1800460
ACVS = CMA1S(1) - CMB1S(1) H1800470
BCVS = CMA1S(2) - CMB1S(2) H1800480
CCVS = CMA1S(3) - CMB1S(3) H1800490
DCVS = CMA1S(4) - CMB1S(4) H1800500
FFCVS = CMA1S(5) - CMB1S(5) H1800510
CMGVS = CMA1S(1) - AC1S(1) H1800520
CMHVS = CMA1S(2) - AC1S(2) H1800530
CMIVS = CMA1S(3) - AC1S(3) H1800540
CMJVS = CMA1S(4) - AC1S(4) H1800550
CMKVS = CMA1S(5) - AC1S(5) H1800560
WRITE (NUVI,181) CMEVS, CMFVS, MCEVI, MCFVI, DPEVS, DPFVS, H1800570
1 ACVS, BCVS, CCVS, DCVS, FFCVS, CMGVS, CMHVS, CMIVS, CMJVS, H1800580
2 CMKVS H1800590
0181 FORMAT (/2(F20.10/),2(I19/),7(F20.10/)) H1800600
C***** READ AND WRITE VARIABLES OF DIFFERENT TYPES H1800610
REWIND INVI H1800620
WRITE (INVI) CMAVS, MCAVI H1800630
WRITE (INVI) CMA1S(1), CMA1S(2), CMBVS, MCBVI H1800640
WRITE (INVI) CMA1S(3), CMA1S(4), CMA1S(5), DPAVS, DPBVS H1800650
REWIND INVI H1800660

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READ (INVI) CMCVS, MCCVI	H1800670
READ (INVI) CMB1S(1), CMB1S(2), CMOVS, MCDVI	H1800680
READ (INVI) CMB1S(3), CMB1S(4), CMB1S(5), OPCVS, DPDVS	H1800690
CMEVS = CMAVS - CMCVS	H1800700
CMFVS = CMBVS - CMDVS	H1800710
MCEVI = MCAVI - MCCVI	H1800720
MCFVI = MCBVI - MCDVI	H1800730
OPEVS = OPAVS - OPCVS	H1800740
DPFVS = DPBVS - OPOVS	H1800750
CMGVS = CMA1S(1) - CMB1S(1)	H1800760
CMHVS = CMA1S(2) - CMB1S(2)	H1800770
CMIVS = CMA1S(3) - CMB1S(3)	H1800780
CMJVS = CMA1S(4) - CMB1S(4)	H1800790
CMKVS = CMA1S(5) - CMB1S(5)	H1800800
WRITE (NUVI,0182) CMEVS, CMFVS, MCEVI, MCFVI, DPEVS, DPFVS, CMGVS,	H1800810
1 CMHVS, CMIVS, CMJVS, CMKVS	H1800820
0182 FORMAT (/2(F20.10/),2(I19/),7(F20.10/))	H1800830
C***** TEST UNFORMATTEO READ WITH NO LIST	H1800840
REWIND INVI	H1800850
WRITE (INVI) CMAVS, MCAVI	H1800860
WRITE (INVI) CMA1S	H1800870
WRITE (INVI) CMBVS, MCBVI	H1800880
WRITE (INVI) CMA1S(5),CMA1S(4),CMA1S(3),CMA1S(2),CMA1S(1)	H1800890
C***** ENOFIE CAN NOT BE TESTEO, BUT INCLUDED FOR ACCEPTANCE AS	H1800900
C***** A STATEMENT.	H1800910
ENOFIE INVI	H1800920
REWIND INVI	H1800930
C*****CHECK THAT A RECORO IS READ WHEN NO LIST IS SUPPLIED BY COMPARING	H1800940
C***** VALUES OF THE THIRD RECORO	H1800950
READ (INVI) CMCVS, MCCVI	H1800960
READ (INVI)	H1800970
READ (INVI) CMOVS, MCOVI	H1800980
CMEVS = CMAVS - CMCVS	H1800990
CMFVS = CMBVS - CMDVS	H1801000
MCEVI = MCAVI - MCCVI	H1801010
MCFVI = MCBVI - MCDVI	H1801020
WRITE (NUVI, 0183) CMEVS, CMFVS, MCEVI, MCFVI	H1801030
183 FORMAT(/2(F20.10/),2(I19/))	H1801040
WRITE (NUVI,0184)	H1801050
184 FORMAT(37H0 ALL ABOVE ANSWERS SHOULD BE ZERO IF /	H1801060
1 37H THE READ AND WRITE RECORDS COMPARE.)	H1801070
REWIND INVI	H1801080
C***** ENO OF TEST SEGMENT 180	H1801090
C***** WHEN EXECUTING ONLY SEGMENT 180, THE STOP AND END	H1801100
C***** CAROS WHICH APPEAR AS COMMENT CAROS, MUST HAVE THE C=	H1801110
C***** IN COLUMNS 1 AND 2 REMOVED.	H1801120
C= STOP	H1801130
C= ENO	H1801140
C*****	H1820010
C*****	H1820020
C***** BACUP (182)	H1820030
C*****	H1820040
C*****	H1820050
C***** GENERAL PURPOSE	ASA REF H1820060
C***** WRITE A BLOCK, 1024 WOROS IN LENGTH, UNFORMATTEO,	7.1.3.2.5H1820070
C***** TO TAPE,BACKSPACE, READ TO MEMORY	7.1.3.3.2H1820080
C*****	7.1.3.2.4H1820090
C***** S P E C I F I C A T I O N S SEGMENT 182	H1820100
C*****	H0015645
C***** WHEN EXECUTING ONLY SEGMENT 182, THE SPECIFICATION STATEMENTS	H0015650
C***** WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C=	H0015655
C***** IN COLUMNS 1 AND 2 REMOVED.	H0015660
C*****	H0015665
C= DIMENSION IV1I(1024)	H0015670
C*****	H0015675
C***** O U T P U T T A P E ASSIGNMENT STATEMENTS. NO INPUT TAPE.	H1820110
C*****	H0075575
C***** WHEN EXECUTING ONLY SEGMENT 182, THE FOLLOWING STATEMENTS	H0075580

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C***** NUVI=6 AND IRVI=9 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0075585
C***** H0075590
C= NUVI = 6 H0075595
C= INVI = 9 H0075600
C***** H0075605
1820 FORMAT(1H1,1X,28HBACUP - (182) BACKSPACE TAPE//2X,18HASA REF. 7.1.H1820120
      33.3.2//9H RESULTS) H1820130
      WRITE(NUVI,1820) H1820140
C***** HEADER FOR SEGMENT 182 WRITTEN H1820150
C***** H1820160
      REWIND INVI H1820170
C***** CREATE A LIST, 1024 WORDS IN LENGTH, CONTAINING H1820180
C***** THE INTEGERS 1 TO 1024, ONE INTEGER PER WORD. H1820190
      ISVI = 0 H1820200
      MRRVI = 1 H1820210
1821 ISVI = ISVI + 1 H1820220
      IV1I(ISVI) = ISVI H1820230
      IF (ISVI - 1024) 1821, 1822, 1823 H1820240
C***** WRITE THE LIST TO AN INTERMEDIATE TAPE H1820250
1822 WRITE (INVI) IV1I H1820260
      WRITE(NUVI,1828) MRRVI, (IV1I(JCVI), JCVI=1,9), H1820270
      1 (IV1I(KCVI),KCVI=1016,1024) H1820280
C***** CHANGE MEMORY VALUES TO 5 TIMES THE ORIGINAL VALUES H1820290
      MRRVI = 2 H1820300
      ISVI = 0 H1820310
1825 ISVI = ISVI + 1 H1820320
      IV1I(ISVI) = 5 * ISVI H1820330
      IF (ISVI - 1024) 1825,1826,1823 H1820340
1826 BACKSPACE INVI H1820350
C***** WRITE THE CHANGED VALUES H1820360
      WRITE(NUVI,1828) MRRVI, (IV1I(JCVI), JCVI=1,9), H1820370
      1 (IV1I(KCVI),KCVI=1016,1024) H1820380
      MRRVI = 3 H1820390
C***** READ INTERMEDIATE TAPE WHICH HAS BEEN BACKSPACED H1820400
      READ(INVI) IV1I H1820410
      REWIND INVI H1820420
C***** WRITE INITIAL VALUES FROM BACKSPACED TAPE. H1820430
      WRITE(NUVI,1828) MRRVI,(IV1I(LVI), LVI=1,9),(IV1I(KVI),KVI= H1820440
      1 1016, 1024) H1820450
1823 WRITE (NUVI,1829) H1820460
1828 FORMAT(//7H GROUP,13,3(/2X,3(I6)), 3(/2X,3(I6))) H1820470
1829 FORMAT(//2X,33HGROUPS 1 AND 3 SHOULD BE THE SAME/ H1820480
      1 30H AND GROUP 2, 5 TIMES GROUP 1) H1820490
C***** END OF TEST SEGMENT 182 H1820500
C***** WHEN EXECUTING ONLY SEGMENT 182, THE STOP AND ENO H1820510
C***** CARDS WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C= H1820520
C***** IN COLUMNS 1 AND 2 REMOVED. H1820530
C= STOP H1820540
C= END H1820550
C***** H1900010
C***** H1900020
C***** OOTRM - (190) H1900030
C***** H1900040
C***** H1900050
C***** H1900060
C***** GENERAL PURPOSE ASA REF H1900070
C***** 00 LOOPS TESTED WITH ALL ALLOWABLE 7.1.2.8 H1900080
C***** TERMINAL STATEMENTS (I/O TESTED SEPARATELY) H1900090
C***** CONTINUE, ASSIGN, LOGICAL IF H1900100
C***** RESTRICTIONS OBSERVED H1900110
C***** * M1, M2 AND M3 ARE GREATER THAN ZERO 7.1.2.8/23H1900120
C***** * TERMINAL STATEMENT OF EACH 00 PHYSICALLY FOLLOWS 7.1.2.8/08H1900130
C***** THE 00 AND IS IN THE SAME PROGRAM UNIT H1900140
C***** * TERMINAL STATEMENT IS EXECUTABLE BUT NOT A 7.1.2.8/07H1900150
C***** GO TO, ARITHMETIC IF, RETURN, STOP, PAUSE OR 7.1.2.8/10H1900160
C***** 00 STATEMENT H1900170
C***** * M1, M2 AND M3 ARE NOT REDEFINED WITHIN 00 7.1.2.8.2/54H1900180
C***** * BRANCHES TO TERMINAL STATEMENT FOR MORE THAN 7.1.2.8.2/01H1900190

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C*****	ONE DO ARE CONTAINED IN INNERMOST DO OF A NEST	H1900200
C*****	* CONTROL IS NEVER PASSED INTO RANGE OF DO FROM	7.1.2.8.2/44H1900210
C*****	OUTSIDE ITS RANGE	H1900220
C*****		H1900230
C*****	S P E C I F I C A T I O N S SEGMENT 190	H1900240
C*****		H0015680
C*****	WHEN EXECUTING ONLY SEGMENT 190, THE SPECIFICATION STATEMENTS	H0015685
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0015690
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0015695
C*****		H0015700
C=	DIMENSION IAC1I(5)	H0015705
C*****		H0015710
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1900250
C*****		H0075610
C*****	WHEN EXECUTING ONLY SEGMENT 190, THE FOLLOWING STATEMENT	H0075615
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0075620
C*****		H0075625
C=	NUVI = 6	H0075630
C*****		H0075635
	WRITE (NUVI,8906)	H1900260
8906	FORMAT (1H1,1X,25H00TRM - (190) 00 TERMINAL//2X,	H1900270
	-17HASA REF - 7.1.2.8//2X,7HRESULTS)	H1900280
C*****	HEADER FOR SEGMENT 190	H1900290
C*****	CONTINUE WITH EXPLICIT INCREMENT*****7.1.2.8	H1900300
	WRITE (NUVI,8905)	H1900310
8905	FORMAT (/2X,23HTEST1 CONTINUE EXPLICIT)	H1900320
C*****	HEADER FOR CONTINUE EXPLICIT TEST	H1900330
	00 1901 JACVI = 1,4,1	H1900340
	IAC1I(JACVI) = JACVI	H1900350
1901	CONTINUE	H1900360
	IF (IAC1I(1)-1) 1909,1902,1909	H1900370
1902	IF (IAC1I(2)-2) 1909,1903,1909	H1900380
1903	IF (IAC1I(3)-3) 1909,1904,1909	H1900390
1904	IF (IAC1I(4)-4) 1909,1905,1909	H1900400
C*****	WRITE OUT ERROR MESSAGE	H1900410
1909	MRRVI=1	H1900420
	WRITE (NUVI,8904)MRRVI	H1900430
8904	FORMAT (/2X,6H**TEST,I1,1X,17HINDICATES ERROR**)	H1900440
C*****	ERROR FOR CONTINUE EXPLICIT TEST	H1900450
	GO TO 8909	H1900460
C*****	NO ERROR	H1900470
C*****	WRITE OUT CONTINUE EXPLICIT TEST IS SUCCESS	H1900480
1905	MRRVI=1	H1900490
	WRITE (NUVI,8903)MRRVI	H1900500
8903	FORMAT (/2X,6H**TEST,I1,1X,12HSUCCESSFUL**)	H1900510
C*****	SUCCESS FOR CONTINUE EXPLICIT TEST	H1900520
C*****	CONTINUE TERMINAL IMPLIED TEST*****7.1.2.8	H1900530
	WRITE (NUVI,8902)	H1900540
8902	FORMAT (/2X,22HTEST2 CONTINUE IMPLIED)	H1900550
C*****	HEADER FOR CONTINUE IMPLIED TEST	H1900560
8909	LCCVI=2	H1900570
	00 7900 KBCVI = LCCVI,4	H1900580
7900	IAC1I(KBCVI) = KBCVI + 1	H1900590
C*****	CHECK VALUES IN IAC1I ARRAY	H1900600
	IF (IAC1I(2)-3) 7909,8900,7909	H1900610
8900	IF (IAC1I(3)-4) 7909,8901,7909	H1900620
8901	IF (IAC1I(4)-5) 7909,7901,7909	H1900630
7909	MRRVI=2	H1900640
	WRITE (NUVI,8904)MRRVI	H1900650
C*****	ERROR IN CONTINUE IMPLIED TEST	H1900660
	GO TO 8908	H1900670
C*****	WRITE OUT CONTINUE IMPLIED IS SUCCESS	H1900680
7901	MRRVI=2	H1900690
	WRITE (NUVI,8903)MRRVI	H1900700
C*****	SUCCESS IN CONTINUE IMPLIED TEST	H1900710
C*****	ASSIGN TERMINAL TEST *****7.1.2.8	H1900720
	WRITE (NUVI,9908)	H1900730
9908	FORMAT (/2X,12HTEST3 ASSIGN)	H1900740

C*****	HEADER FOR ASSIGN TEST	H1900750
8908	MOCVI = 0	H1900760
	ASSIGN 7904 TO JFCVI	H1900770
	DO 7902 NECVI = 2,5,2	H1900780
	MOCVI = MOCVI +1	H1900790
7902	ASSIGN 7903 TO JFCVI	H1900800
	GO TO JFCVI, (7903,7904,7904)	H1900810
C*****	AN ERROR IN ASSIGN TEST	H1900820
7904	MRRVI=3	H1900830
	WRITE (NUVI,8904)MRRVI	H1900840
C*****	ERROR FOR ASSIGN TEST	H1900850
	GO TO 8907	H1900860
7903	IF (MOCVI-2) 7904,7905,7904	H1900870
C*****	ASSIGN TEST IS SUCCESS	H1900880
7905	MRRVI=3	H1900890
	WRITE (NUVI,8903)MRRVI	H1900900
C*****	SUCCESS FOR ASSIGN TEST	H1900910
C*****	LOGICAL IF TERMINAL TEST*****7.1.2.8	H1900920
	WRITE (NUVI,9905)	H1900930
9905	FORMAT (/2X,16HTEST4 LOGICAL IF)	H1900940
C*****	HEADER FOR LOGICAL IF TEST	H1900950
8907	KGCVI = 1	H1900960
	LHCVI = 3	H1900970
	ASSIGN 7908 TO KCVI	H1900980
	DO 7906 JCVI = 1,3	H1900990
	KGCVI = KGCVI +1	H1901000
7906	IF (KGCVI .EQ. LHCVI) ASSIGN 7907 TO KCVI	H1901010
	GO TO KCVI, (7908,7907,7908)	H1901020
C*****	TEST IS SUCCESS	H1901030
7907	MRRVI=4	H1901040
	WRITE (NUVI,8903)MRRVI	H1901050
C*****	SUCCESS FOR LOGICAL IF TEST	H1901060
	GO TO 9902	H1901070
C*****	LOGICAL IF IS NOT SUCCESS	H1901080
7908	MRRVI=4	H1901090
	WRITE (NUVI,8904)MRRVI	H1901100
C*****	ERROR FOR LOGICAL IF TEST	H1901110
9902	CONTINUE	H1901120
C*****	END OF TEST SEGMENT 190	H1901130
C*****	WHEN EXECUTING ONLY SEGMENT 190, THE STOP AND ENO CARDS	H1901140
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1901150
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1901160
C=	STOP	H1901170
C=	ENO	H1901180
C*****	*****	H1910010
C*****		H1910020
C*****	DOLMT - (191)	H1910030
C*****		H1910040
C*****	*****	H1910050
C*****	GENERAL PURPOSE	ASA REF H1910060
C*****	TEST DO LOOPS WHERE	7.1.2.8/18H1910070
C*****	INITIAL	H1910080
C*****	TERMINAL	H1910090
C*****	INCREMENT VALUES	H1910100
C*****	ARE COMPUTED AND SET AT OBJECT TIME	H1910110
C*****	RESTRICTIONS OBSERVED	H1910120
C*****	* M1, M2 AND M3 ARE GREATER THAN ZERO	7.1.2.8/21H1910130
C*****	* TERMINAL STATEMENT OF EACH DO PHYSICALLY FOLLOWS	7.1.2.8/08H1910140
C*****	THE DO AND IS IN THE SAME PROGRAM UNIT	H1910150
C*****	* TERMINAL STATEMENT IS EXECUTABLE BUT NOT A	7.1.2.8/07H1910160
C*****	GO TO, ARITHMETIC IF, RETURN, STOP, PAUSE OR	7.1.2.8/10H1910170
C*****	DO STATEMENT	H1910180
C*****	* M1, M2 AND M3 ARE NOT REDEFINED WITHIN DO	7.1.2.8.2/54H1910190
C*****	* BRANCHES TO TERMINAL STATEMENT FOR MORE THAN	7.1.2.8.2/01H1910200
C*****	ONE DO ARE CONTAINED IN INNERMOST DO OF A NEST	H1910210
C*****	* CONTROL IS NEVER PASSED INTO RANGE OF DO FROM	7.1.2.8.2/44H1910220
C*****	OUTSIDE ITS RANGE	H1910230
C*****		H1910240

C*****	O U T P U T T A P E	ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1910250
C*****			H0075640
C*****	WHEN EXECUTING ONLY SEGMENT 191, THE FOLLOWING STATEMENT		H0075645
C*****	NUVI = 6	MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0075650
C*****			H0075655
C=	NUVI = 6		H0075660
C*****			H0075665
	WRITE (NUVI,1914)		H1910260
1914	FORMAT (1H1,1X,27HDOLMT - (191) DO SET LIMITS//2X,		H1910270
	- 18HASA REF. - 7.1.2.8//2X,7HRESULTS)		H1910280
C*****	HEADER FOR SEGMENT 191 WRITTEN		H1910290
	JACVI = 1		H1910300
	KBCVI = 3		H1910310
	LCCVI = 1		H1910320
	NECVI = 0		H1910330
	DO 1911 MDCVI = JACVI, KBCVI, LCCVI		H1910340
	NECVI = NECVI + JACVI + KBCVI + MOCVI + LCCVI		H1910350
1911	CONTINUE		H1910360
	IF (NECVI-21) 1913,1912,1913		H1910370
C*****	ERROR		H1910380
1913	WRITE (NUVI,1915)		H1910390
1915	FORMAT (/2X,24H**TEST INOICATES ERROR**//2X,10H*****)		H1910400
C*****	DOLMT TEST FAILS,LIMIT VALUE SET INCORRECTLY		H1910410
	GO TO 1917		H1910420
C*****	CORRECT		H1910430
1912	WRITE (NUVI,1916)		H1910440
1916	FORMAT (/2X,19H**TEST SUCCESSFUL**)		H1910450
C*****	DOLMT TEST IS SUCCESSFUL		H1910460
1917	CONTINUE		H1910470
C*****	ENO OF TEST SEGMENT 191		H1910480
C*****	WHEN EXECUTING ONLY SEGMENT 191, THE STOP AND END CARDS		H1910490
C*****	WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C=		H1910500
C*****	IN COLUMNS 1 AND 2 REMOVED.		H1910510
C=	STOP		H1910520
C=	ENO		H1910530
C*****	*****		H1920010
C*****			H1920020
C*****	OONSC - (192)		H1920030
C*****			H1920040
C*****	*****		H1920050
C*****	GENERAL PURPOSE	ASA REF	H1920060
C*****	TEST NESTED DO LOOPS	7.1.2.8/28H	H1920070
C*****	WITH 2, 3, 4, 5 LEVELS		H1920080
C*****	SPECIAL CONSIDERATION		H1920090
C*****	5 LEVELS ARBITRARILY ASSIGNED AS MINIMUM REQUIREMENT		H1920100
C*****	RESTRICTIONS OBSERVED		H1920110
C*****	* M1, M2 AND M3 ARE GREATER THAN ZERO	7.1.2.8/21H	H1920120
C*****	* TERMINAL STATEMENT OF EACH DO PHYSICALLY FOLLOWS	7.1.2.8/08H	H1920130
C*****	THE DO AND IS IN THE SAME PROGRAM UNIT		H1920140
C*****	* TERMINAL STATEMENT IS EXECUTABLE BUT NOT A	7.1.2.8/07H	H1920150
C*****	GO TO, ARITHMETIC IF, RETURN, STOP, PAUSE OR	7.1.2.8/10H	H1920160
C*****	DO STATEMENT		H1920170
C*****	* M1, M2 AND M3 ARE NOT REDEFINED WITHIN DO	7.1.2.8.2/54H	H1920180
C*****	* BRANCHES TO TERMINAL STATEMENT FOR MORE THAN	7.1.2.8.2/01H	H1920190
C*****	ONE DO ARE CONTAINED IN INNERMOST DO OF A NEST		H1920200
C*****			H1920210
C*****	S P E C I F I C A T I O N S	SEGMENT 192	H1920220
C*****			H0015715
C*****	WHEN EXECUTING ONLY SEGMENT 192, THE SPECIFICATION STATEMENTS		H0015720
C*****	WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C=		H0015725
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0015730
C*****			H0015735
C=	INTEGER MCA3I(2,3,3)		H0015740
C*****			H0015745
C*****	O U T P U T T A P E	ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1920230
C*****			H0075670
C*****	WHEN EXECUTING ONLY SEGMENT 192, THE FOLLOWING STATEMENT		H0075675
C*****	NUVI = 6	MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0075680

C*****		H0075685
C=	NUVI = 6	H0075690
C*****		H0075695
	WRITE (NUVI,8920)	H1920240
8920	FORMAT (1H1,1X,26HDONSC - (192) NESTED LOOPS// 2X,	H1920250
	-18HASA REF. - 7.1.2.8//2X,7HRESULTS)	H1920260
C*****	HEADER FOR SEGMENT 192 WRITTEN	H1920270
C*****	TWO LEVELS OF NESTING*****	H1920280
	MRRVI=2	H1920290
	WRITE (NUVI,8921)MRRVI	H1920300
8921	FORMAT (/2X,11,1X,17HLEVELS OF NESTING)	H1920310
C*****	HEADER FOR TWO LEVELS	H1920320
	JACVI = 0	H1920330
	DO 1922 KBCVI = 1, 2, 1	H1920340
	JACVI = KBCVI*3 + JACVI	H1920350
	DO 1921 LCCVI = 1,5, 2	H1920360
	JACVI = JACVI + LCCVI	H1920370
1921	CONTINUE	H1920380
1922	CONTINUE	H1920390
C*****	TEST JACVI FOR VALUE OF 27	H1920400
	IF (JACVI-27) 1924,1923,1924	H1920410
C*****	CORRECT	H1920420
1923	WRITE (NUVI,8922)	H1920430
8922	FORMAT (2X,19H**TEST SUCCESSFUL**)	H1920440
C*****	TWO LEVELS OF NESTING IS CORRECT	H1920450
	GO TO 7927	H1920460
C*****	ERROR	H1920470
1924	WRITE (NUVI,8923)	H1920480
8923	FORMAT (2X,24H**TEST INDICATES ERROR**)	H1920490
C*****	TWO LEVELS OF NESTING IN ERROR	H1920500
C*****	THREE LEVELS OF NESTING*****	H1920510
7927	MRRVI=3	H1920520
	WRITE (NUVI,8921)MRRVI	H1920530
C*****	HEADER FOR THREE LEVELS	H1920540
	MDCVI = 0	H1920550
	DO 1927 LCCVI = 6,7	H1920560
	DO 1926 KBCVI = 8,10,2	H1920570
	DO 1925 JACVI = 1,3,1	H1920580
	MDCVI = MDCVI + JACVI + KBCVI + LCCVI	H1920590
1925	CONTINUE	H1920600
1926	CONTINUE	H1920610
1927	CONTINUE	H1920620
C*****	TEST MDCVI FOR VALUE OF 210	H1920630
	IF (MDCVI - 210) 1928,1929,1928	H1920640
C*****	ERROR	H1920650
1928	WRITE (NUVI,8923)	H1920660
C*****	THREE LEVELS OF NESTING IN ERROR	H1920670
	GO TO 7928	H1920680
C*****	CORRECT	H1920690
1929	WRITE (NUVI,8922)	H1920700
C*****	THREE LEVELS OF NESTING IS CORRECT	H1920710
C*****	FOUR LEVELS OF NESTING*****	H1920720
7928	MRRVI=4	H1920730
	WRITE (NUVI,8921)MRRVI	H1920740
C*****	HEADER FOR FOUR LEVELS	H1920750
	IHDVI = 0	H1920760
	IGDVI = 0	H1920770
	IFDVI = 0	H1920780
	IEDVI = 0	H1920790
	ICVI = 1	H1920800
	DO 7920 MDCVI = 2,3	H1920810
	IHDVI = IHDVI + MDCVI + IEDVI	H1920820
	DO 7920 LCCVI = 3,5,3	H1920830
	IGDVI = IGDVI + LCCVI + IHDVI	H1920840
	DO 7920 KBCVI = 1,2,1CVI	H1920850
	IFDVI = IFDVI + KBCVI + IGDVI	H1920860
	DO 7920 JACVI = 4,5,2	H1920870
	IEDVI = IEDVI + JACVI + IFDVI	H1920880

7920	CONTINUE	H1920890
C*****	TEST IEDVI FOR VALUE OF 185	H1920900
	IF (IEDVI - 185) 7921,7922,7921	H1920910
C*****	ERROR	H1920920
7921	WRITE (NUVI,8923)	H1920930
C*****	FOUR LEVELS OF NESTING IN ERROR	H1920940
	GO TO 7929	H1920950
C*****	CORRECT	H1920960
7922	WRITE (NUVI,8922)	H1920970
C*****	FOUR LEVELS OF NESTING IS CORRECT	H1920980
C*****	FIVE LEVELS OF NESTING*****	H1920990
7929	MRRVI=5	H1921000
	WRITE (NUVI,8921)MRRVI	H1921010
C*****	HEADER FOR FIVE LEVELS	H1921020
	IGDVI = 0	H1921030
	DO 7923 NECVI = 10,11,1	H1921040
	DO 7923 MDCVI = 4,5,1	H1921050
	DO 7924 LCCVI = 1,2,3	H1921060
	DO 7924 KBCVI = 6, 8, 4	H1921070
	DO 7924 JACVI = 1,3,2	H1921080
	IGDVI=IGDVI+JACVI-KBCVI+LCCVI-MDCVI+NECVI	H1921090
7924	CONTINUE	H1921100
7923	CONTINUE	H1921110
C*****	TEST IGDVI FOR VALUE OF 24	H1921120
	IF (IGDVI - 24) 7925, 7926,7925	H1921130
C*****	ERROR	H1921140
7925	WRITE (NUVI,8923)	H1921150
C*****	FIVE LEVELS IN ERROR	H1921160
	GO TO 9923	H1921170
7926	WRITE (NUVI,8922)	H1921180
C*****	FIVE LEVELS CORRECT	H1921190
C*****	CONTROL VARIABLES FOR 3 DO LOOPS USED IN SUBSCRIPT EXPRESSIONS	H1921200
C*****	FOR A 3 DIMENSIONAL ARRAY	H1921210
9923	WRITE(NUVI, 9920)	H1921220
9920	FORMAT(/2X,34HCONTROL VARIABLE USED IN SUBSCRIPT)	H1921230
	IVI = 1	H1921240
	KVI = 0	H1921250
8924	KVI = KVI + 1	H1921260
	JVI = 0	H1921270
8925	JVI = JVI + 1	H1921280
	MCA3I(IVI,JVI,KVI) = IVI + 2*(JVI-1)+ 6*(KVI-1)	H1921290
	MCA3I(IVI+1,JVI,KVI) = IVI+1 +2*(JVI-1)+6*(KVI-1)	H1921300
	IF(JVI-3) 8925,8926,8929	H1921310
8926	IF(KVI-3)8924,8927,8929	H1921320
8927	IIVI = 1	H1921330
	DO 8928 KVI =1,3	H1921340
	DO 8928 JVI = 1,3	H1921350
	DO 8928 IVI = 1,2	H1921360
	IAVI =MCA3I(IVI,JVI,KVI) - IIVI	H1921370
	IF (IAVI) 8929, 8928, 8929	H1921380
8928	IIVI = IIVI + 1	H1921390
	WRITE (NUVI, 8922)	H1921400
	GO TO 9921	H1921410
8929	WRITE (NUVI, 8923)	H1921420
9921	CONTINUE	H1921430
C*****	END OF TEST SEGMENT 192	H1921440
C*****	WHEN EXECUTING ONLY SEGMENT 192, THE STOP AND END CARDS	H1921450
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1921460
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1921470
C=	STOP	H1921480
C=	END	H1921490
C*****	*****	H1930010
C*****		H1930020
C*****	DONSI - (193)	H1930030
C*****		H1930040
C*****	*****	H1930050
C*****	GENERAL PURPOSE	ASA REF H1930060
C*****	TESTS INCOMPLETE DO LOOP	7.1.2.8.1/19H1930070

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C***** RESTRICTIONS OBSERVED H1930080
C***** * M1, M2 AND M3 ARE GREATER THAN ZERO 7.1.2.8/21H1930090
C***** * TERMINAL STATEMENT OF EACH DO PHYSICALLY FOLLOWS 7.1.2.8/08H1930100
C***** THE DO AND IS IN THE SAME PROGRAM UNIT H1930110
C***** * TERMINAL STATEMENT IS EXECUTABLE BUT NOT A 7.1.2.8/07H1930120
C***** GO TO, ARITHMETIC IF, RETURN, STOP, PAUSE OR 7.1.2.8/10H1930130
C***** DO STATEMENT H1930140
C***** * M1, M2 AND M3 ARE NOT REDEFINED WITHIN DO 7.1.2.8.1/54H1930150
C***** * BRANCHES TO TERMINAL STATEMENT FOR MORE THAN 7.1.2.8.1/01H1930160
C***** ONE DO ARE CONTAINED IN INNERMOST DO OF A NEST H1930170
C***** H1930180
C***** O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE. H1930190
C***** H0075700
C***** WHEN EXECUTING ONLY SEGMENT 193, THE FOLLOWING STATEMENT H0075705
C***** NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0075710
C***** H0075715
C= NUVI = 6 H0075720
C***** H0075725
WRITE (NUVI,1935) H1930200
1935 FORMAT (1H1,1X,27HDONSI - (193) INCOMPLETE DO//2X, H1930210
- 18HASA REF. - 7.1.2.8//2X,7HRESULTS) H1930220
C***** HEADER FOR SEGMENT 193 WRITTEN H1930230
KBCVI = 0 H1930240
DO 1931 JACVI = 1,5,1 H1930250
KBCVI = KBCVI + JACVI H1930260
IF(KBCVI - 6) 1931, 1930, 1931 H1930270
1930 GO TO 1932 H1930280
1931 CONTINUE H1930290
C***** ERROR EXIT H1930300
WRITE (NUVI,1936) H1930310
1936 FORMAT (1H0,2X,28H**INCOMPLETE LOOP IN ERROR**) H1930320
C***** INCOMPLETE LOOP TEST IN ERROR H1930330
GO TO 1937 H1930340
C***** TEST JACVI FOR VALUE OF 3 7.1.2.8.1/21H1930350
1932 IF (JACVI - 3) 1933,1934,1933 H1930360
C***** ERROR IN INDUCTION VARIABLE H1930370
1933 WRITE (NUVI,1938) H1930380
1938 FORMAT (1H0,2X,31H**INDUCTION VARIABLE IN ERROR**) H1930390
C***** INDUCTION VARIABLE SET INCORRECTLY OUTSIDE LOOP H1930400
GO TO 1937 H1930410
1934 WRITE (NUVI,1939) H1930420
1939 FORMAT (1H0,1X,30H**INCOMPLETE LOOP SUCCESSFUL**) H1930430
C***** INCOMPLETE LOOP TEST SUCCESS H1930440
1937 CONTINUE H1930450
C***** END OF TEST SEGMENT 193 H1930460
C***** WHEN EXECUTING ONLY SEGMENT 193, THE STOP AND END CARDS H1930470
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H1930480
C***** IN COLUMNS 1 AND 2 REMOVED. H1930490
C= STOP H1930500
C= END H1930510
C***** H1940010
C***** H1940020
C***** DON SX - (194) H1940030
C***** H1940040
C***** H1940050
C***** GENERAL PURPOSE ASA REF H1940060
C***** TESTS EXTENDED RANGE OF DO LOOP VARIABLE 7.1.2.8.2H1940070
C***** RESTRICTIONS OBSERVED H1940080
C***** * M1, M2 AND M3 ARE GREATER THAN ZERO 7.1.2.8/21H1940090
C***** * TERMINAL STATEMENT OF EACH DO PHYSICALLY FOLLOWS 7.1.2.8/08H1940100
C***** THE DO AND IS IN THE SAME PROGRAM UNIT H1940110
C***** * TERMINAL STATEMENT IS EXECUTABLE BUT NOT A 7.1.2.8/07H1940120
C***** GO TO, ARITHMETIC IF, RETURN, STOP, PAUSE OR 7.1.2.8/10H1940130
C***** DO STATEMENT H1940140
C***** * M1, M2 AND M3 ARE NOT REDEFINED WITHIN DO 7.1.2.8.2/54H1940150
C***** * BRANCHES TO TERMINAL STATEMENT FOR MORE THAN 7.1.2.8.2/01H1940160
C***** ONE DO ARE CONTAINED IN INNERMOST DO OF A NEST H1940170
C***** * THE EXTENDED RANGE OF A DO DOES NOT CONTAIN A 7.1.2.8.2/48H1940180

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C*****	DO OF THE SAME PROGRAM UNIT THAT HAS AN	H1940190
C*****	EXTENDED RANGE.	H1940200
C*****		H1940210
C*****	S P E C I F I C A T I O N S SEGMENT 194	H1940220
C*****		H0015750
C*****	WHEN EXECUTING ONLY SEGMENT 194, THE SPECIFICATION STATEMENTS	H0015755
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0015760
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0015765
C*****		H0015770
C=	DIMENSION IAC11(5)	H0015775
C=	INTEGER I31(2,2,2)	H0015780
C*****		H0015785
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1940230
C*****		H0075730
C*****	WHEN EXECUTING ONLY SEGMENT 194, THE FOLLOWING STATEMENT	H0075735
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0075740
C*****		H0075745
C=	NUVI = 6	H0075750
C*****		H0075755
	WRITE (NUVI,8944)	H1940240
8944	FORMAT (1H1,1X,31HDON SX - (194) EXTENDED DO RANGE//2X,	H1940250
	120HASA REF. - 7.1.2.8.2//2X,7HRESULTS)	H1940260
C*****	HEADER FOR SEGMENT 194 WRITTEN	H1940270
C*****	EXTENDED RANGE FROM SINGLE LEVEL*****	H1940280
	MRRVI=1	H1940290
	WRITE (NUVI,8942)MRRVI	H1940300
8942	FORMAT (/2X,26HEXTENDED RANGE FROM LEVEL ,I1)	H1940310
C*****	HEADER FOR SINGLE LEVEL WRITTEN	H1940320
	DO 1941 JACVI = 1,4,2	H1940330
	IAC11(JACVI) = JACVI	H1940340
	GO TO 1942	H1940350
1943	IF(JACVI-1) 1945,1941,1945	H1940360
1941	CONTINUE	H1940370
	GO TO 1949	H1940380
C*****	TEST JACVI FOR VALUE OF 1	H1940390
1942	IF (JACVI - 1) 1946,1943,1946	H1940400
C*****	TEST IAC11(1) AND IAC11(3) FOR VALUES OF 1 AND 3	H1940410
1946	IF (IAC11(1)-1) 1947,7946,1947	H1940420
7946	IF (IAC11(3)-3) 1947,1943,1947	H1940430
C*****	ERROR	H1940440
1947	WRITE (NUVI,7947)	H1940450
7947	FORMAT (/2X,24H**TEST INDICATES ERROR**)	H1940460
C*****	ERROR IN SETTING OF IAC11 ARRAY, LOOP NOT WORKING	H1940470
	GO TO 8940	H1940480
C*****	TEST JACVI FOR VALUE OF 3	H1940490
1945	IF (JACVI - 3) 1948,1941,1948	H1940500
C*****	ERROR	H1940510
1948	WRITE (NUVI,7947)	H1940520
C*****	ERROR IN SETTING OF INDUCTION VARIABLE	H1940530
	GO TO 8940	H1940540
1949	WRITE (NUVI,7949)	H1940550
7949	FORMAT (/2X,19H**TEST SUCCESSFUL**)	H1940560
C*****	EXTENDED RANGE SUCCESS FOR SINGLE LEVEL	H1940570
8940	MRRVI=2	H1940580
C*****	EXTENDED RANGE FROM DOUBLE LEVEL*****	H1940590
	WRITE (NUVI,8942)MRRVI	H1940600
C*****	HEADER FOR DOUBLE LEVEL WRITTEN	H1940610
	DO 7940 KBCVI = 3,4	H1940620
	DO 7940 JACVI = 1,2,3	H1940630
	GO TO 7941	H1940640
8947	IGDVI= 1	H1940650
7940	CONTINUE	H1940660
C*****	TEST JACVI FOR VALUE OF 1	H1940670
7941	IF (JACVI-1) 7942,7943,7942	H1940680
C*****	ERROR	H1940690
7942	WRITE (NUVI,7947)	H1940700
C*****	DOUBLE LEVEL NESTING IN ERROR	H1940710
	GO TO 8946	H1940720

C*****	TEST KBCVI FOR VALUE OF 3 OR 4	H1940730
7943	IF (KBCVI-3) 7942,8947,7944	H1940740
7944	IF (KBCVI-4) 7942,7945,7942	H1940750
C*****	CORRECT	H1940760
7945	WRITE (NUVI,7949)	H1940770
C*****	DOUBLE LEVEL TEST CORRECT	H1940780
8946	CONTINUE	H1940790
	I3I(1,1,1) = 2	H1940800
	I3I(2,1,1) = 4	H1940810
	I3I(1,2,1) = 1	H1940820
	I3I(2,2,1) = 2	H1940830
	I3I(1,1,2) = -2	H1940840
	I3I(2,1,2) = 0	H1940850
	I3I(1,2,2) = -3	H1940860
	I3I(2,2,2) = -2	H1940870
8952	FORMAT(/2X,40EXTENDED RANGE CONTAINING A DO STATEMENT)	H1940880
	WRITE(NUVI, 8952)	H1940890
	DO 8948 IVI = 1,2	H1940900
	I3I(1,1,IVI) = I3I(1,1,IVI) + 1	H1940910
	DO 8948 JVI = 1,2	H1940920
	I3I(1,JVI,IVI) = I3I(1,JVI,IVI) + 2	H1940930
	GO TO 8949	H1940940
8951	CONTINUE	H1940950
8948	CONTINUE	H1940960
	WRITE (NUVI, 8950) I3I	H1940970
8950	FORMAT(8(/15) /30H THE ABOVE 8 VALUES SHOULD BE/	H1940980
	1 33H IN DESCENDING ORDER FROM 8 TO 1)	H1940990
	GO TO 8953	H1941000
8949	DO 8954 KVI = 1,2	H1941010
	I3I(KVI,JVI,IVI) = I3I(KVI,JVI,IVI) + 3	H1941020
8954	CONTINUE	H1941030
	GO TO 8951	H1941040
8953	CONTINUE	H1941050
C*****	END OF TEST SEGMENT 194	H1941060
C*****	WHEN EXECUTING ONLY SEGMENT 194, THE STOP AND END CARDS	H1941070
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1941080
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1941090
C=	STOP	H1941100
C=	END	H1941110
C*****		H1950010
C*****		H1950020
C*****	DONML - (195)	H1950030
C*****		H1950040
C*****		H1950050
C*****	GENERAL PURPOSE	ASA REF H1950060
C*****	TESTS TWO INDEPENDENT LOOPS NESTED	7.1.2.8/28H1950070
C*****	WITHIN LARGER ONE	H1950080
C*****	RESTRICTIONS OBSERVED	H1950090
C*****	* M1, M2 AND M3 ARE GREATER THAN ZERO	7.1.2.8/21H1950100
C*****	* TERMINAL STATEMENT OF EACH DO PHYSICALLY FOLLOWS	7.1.2.8/08H1950110
C*****	THE DO AND IS IN THE SAME PROGRAM UNIT	H1950120
C*****	* TERMINAL STATEMENT IS EXECUTABLE BUT NOT A	7.1.2.8/07H1950130
C*****	GO TO, ARITHMETIC IF, RETURN, STOP, PAUSE OR	7.1.2.8/10H1950140
C*****	DO STATEMENT	H1950150
C*****	* M1, M2 AND M3 ARE NOT REDEFINED WITHIN DO	7.1.2.8.1/54H1950160
C*****	* BRANCHES TO TERMINAL STATEMENT FOR MORE THAN	7.1.2.8.1/01H1950170
C*****	ONE DO ARE CONTAINED IN INNERMOST DO OF A NEST	H1950180
C*****		H1950190
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H1950200
C*****		H0075760
C*****	WHEN EXECUTING ONLY SEGMENT 195, THE FOLLOWING STATEMENT	H0075765
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0075770
C*****		H0075775
C=	NUVI = 6	H0075780
C*****		H0075785
	WRITE (NUVI,1950)	H1950210
1950	FORMAT (1H1,1X,30HDONML - (195) MULT-LEVEL LOOPS//2X,	H1950220
	- 18HASA REF. - 7.1.2.8//2X,7HRESULTS)	H1950230

C*****	HEADER FOR SEGMENT 195 WRITTEN	H1950240
	IHDVI = 1	H1950250
	IGDVI = 2	H1950260
	IFDVI = 3	H1950270
	DO 1951 JACVI = 1,2	H1950280
	IFDVI = IFDVI + JACVI	H1950290
	DO 1952 KBCVI = 2,4,1	H1950300
	IGDVI = IGDVI + 1	H1950310
1952	CONTINUE	H1950320
	IFDVI = IFDVI + IGDVI	H1950330
	DO 1953 LCCVI = 6,7,3	H1950340
	IHDVI = 1 + IHDVI	H1950350
1953	CONTINUE	H1950360
	IFDVI = IFDVI + IHDVI	H1950370
1951	CONTINUE	H1950380
C*****	TEST IFDVI FOR VALUE OF 24	H1950390
	IF (IFDVI - 24) 1954,1955,1954	H1950400
C*****	ERROR	H1950410
1954	WRITE (NUVI,1956)	H1950420
1956	FORMAT (/2X,24H**TEST INDICATES ERROR**)	H1950430
C*****	MULTI-LEVEL TEST IN ERROR	H1950440
	GO TO 1958	H1950450
C*****	CORRECT	H1950460
1955	WRITE (NUVI,1957)	H1950470
1957	FORMAT (/2X,19H**TEST SUCCESSFUL**)	H1950480
C*****	MULTI-LEVEL TEST CORRECT	H1950490
1958	CONTINUE	H1950500
C*****	END OF TEST SEGMENT 195	H1950510
C*****	WHEN EXECUTING ONLY SEGMENT 195, THE STOP AND END CARDS	H1950520
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H1950530
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1950540
C=	STOP	H1950550
C=	END	H1950560
C*****	*****	H1960010
C*****		H1960020
C*****	DONIO - (196)	H1960030
C*****		H1960040
C*****	*****	H1960050
C*****	GENERAL PURPOSE	ASA REF H1960060
C*****	TO TEST DO LOOPS WHICH HAVE I/O TERMINAL	7.1.2.8 H1960070
C*****	STATEMENTS (FORMATTED READ, FORMATTED WRITE	7.1.3.2.2H1960080
C*****	AND REWIND ARE USED AS TERMINAL STATEMENTS)	7.1.3.2.3H1960090
C*****		7.1.3.3.1H1960100
C*****	RESTRICTIONS OBSERVED	H1960110
C*****	* M1, M2 AND M3 ARE GREATER THAN ZERO	7.1.2.8/21H1960120
C*****	* TERMINAL STATEMENT OF EACH DO PHYSICALLY FOLLOWS	7.1.2.8/08H1960130
C*****	THE DO AND IS IN THE SAME PROGRAM UNIT	H1960140
C*****	* TERMINAL STATEMENT IS EXECUTABLE BUT NOT A	7.1.2.8/07H1960150
C*****	GO TO, ARITHMETIC IF, RETURN, STOP, PAUSE OR	7.1.2.8/10H1960160
C*****	DO STATEMENT	H1960170
C*****	* M1, M2 AND M3 ARE NOT REDEFINED WITHIN DO	7.1.2.8.2/54H1960180
C*****	* BRANCHES TO TERMINAL STATEMENT FOR MORE THAN	7.1.2.8.2/01H1960190
C*****	ONE DO ARE CONTAINED IN INNERMOST DO OF A NEST	H1960200
C*****		H1960210
C*****	S P E C I F I C A T I O N S SEGMENT 196	H1960220
C*****		H0015790
C*****	WHEN EXECUTING ONLY SEGMENT 196, THE SPECIFICATION STATEMENTS	H0015795
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0015800
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0015805
C*****		H0015810
C=	DIMENSION IAC1I(5),AC2S(5,6)	H0015815
C=	LOGICAL MCAVB,MCBVB,GH2B(1,2)	H0015820
C=	DOUBLE PRECISION CC3D(7,2,2),DPAVD,DPBVD	H0015825
C=	COMPLEX NUMVC,DENVC,LL1C(32)	H0015830
C*****		H0015835
C*****	O U T P U T T A P E ASSIGNMENT STATEMENTS. NO INPUT TAPE.	H1960230
C*****		H0075790
C*****	WHEN EXECUTING ONLY SEGMENT 196, THE FOLLOWING STATEMENTS	H0075795

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C***** NUVI=6 AND INVI=9 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0075800
C***** H0075805
C= NUVI = 6 H0075810
C= INVI = 9 H0075815
C***** H0075820
WRITE (NUVI,1960) H1960240
1960 FORMAT (1H1,1X,31HDO - (196) DO LOOPS WITH I/O/16X, H1960250
119HINTERMINAL STATEMENTS/ 20H ASA REF. - 7.1.2.8/ 9H RESULTS) H1960260
C***** HEADER FOR SEGMENT 196 WRITTEN H1960270
KCAVI = 1 H1960280
CKAVS = 1.0 H1960290
DPBVD = 1.0D0 H1960300
DENVC = (1.0,1.0) H1960310
MCBVB = .TRUE. H1960320
IAC1I(2) = 1 H1960330
AC2S(4,3) = 1. H1960340
CC3D(5,1,2) = 1.0D0 H1960350
LL1C(2) = (1.0,1.0) H1960360
GH2B(1,1) = .TRUE. H1960370
WRITE (INVI,1965) KCAVI, CKAVS, DPBVD, DENVC, MCBVB, IAC1I(2), H1960380
1 AC2S(4,3), CC3D(5,1,2), LL1C(2), GH2B(1,1) H1960390
REWIND INVI H1960400
DO 1964 JACVI = 1,3,1 H1960410
C***** H1960420
DO 1961 KBCVI = 1,1,1 H1960430
1961 READ (INVI,1965) MCAVI, CMAVS, DPAVD, NUMVC, MCAVB, IAC1I(KBCVI), H1960440
1 AC2S(5,4), CC3D(6,1,2), LL1C(3), GH2B(KBCVI,2) H1960450
C***** H1960460
DO 1962 LCCVI = 1,2,1 H1960470
1962 REWIND INVI H1960480
C***** H1960490
DO 1963 MDCVI = 1,1,1 H1960500
1963 WRITE (NUVI,1966) MCAVI, IAC1I(1), CMAVS, AC2S(5,4), DPAVD, H1960510
1 CC3D(6,1,2), NUMVC, LL1C(3), MCAVB, H1960520
2 GH2B(MDCVI, MDCVI+1) H1960530
1964 CONTINUE H1960540
WRITE (NUVI,1967) H1960550
C***** FORMAT STATEMENTS FOR THIS SEGMENT H1960560
1965 FORMAT (2(I5,F5.1,D8.1,2(F5.1),L5)) H1960570
1966 FORMAT ( // 2(I10/),2(F11.1/),2(D15.1/),2(F5.1,F6.1/),2(L10/)) H1960580
1967 FORMAT ( //30H THIS TEST IS SUCCESSFUL IF 3/38H IDENTICAL GROUP H1960590
1S OF OUTPUT HAVE BEEN/12H GENERATED.) H1960600
C***** END OF SEGMENT 196 H1960610
C***** WHEN EXECUTING ONLY SEGMENT 196, THE STOP AND END CARDS H1960620
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H1960630
C***** IN COLUMNS 1 AND 2 REMOVED. H1960640
C= STOP H1960650
C= END H1960660
C***** H1970010
C***** H1970020
C***** MORDO - (197) H1970030
C***** H1970040
C***** H1970050
C***** GENERAL PURPOSE ASA REF H1970060
C***** A MORE COMPLICATED SEGMENT TESTING THE DO STATEMENT 7.1.2.8 H1970070
C***** H1970080
C***** S P E C I F I C A T I O N S SEGMENT 197 H1970090
C***** H0015840
C***** WHEN EXECUTING ONLY SEGMENT 197 THE SPECIFICATION STATEMENTS H0015845
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H0015850
C***** IN COLUMNS 1 AND 2 REMOVED. H0015855
C***** H0015860
C= DIMENSION IAC1I(5), MCA1I(5) H0015865
C***** H0015870
C***** WHEN EXECUTING ONLY SEGMENT 197, THE SEGMENT 005, WHICH H1970100
C***** CONTAINS THE STATEMENT FUNCTIONS BEING USED HERE, MUST BE H1970110
C***** INSERTED AFTER THE SPECIFICATION STATEMENTS OF SEGMENT 197. H1970120
C***** H1970130

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C***** O U T P U T T A P E ASSIGNMENT STATEMENTS. NO INPUT TAPE. H1970140
C***** H0075825
C***** WHEN EXECUTING ONLY SEGMENT 197, THE FOLLOWING STATEMENTS H0075830
C***** NUVI=6 AND INVI=9 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0075835
C***** H0075840
C= NUVI = 6 H0075845
C= INVI = 9 H0075850
C***** H0075855
WRITE (NUVI,1970) H1970150
1970 FORMAT (1H1, 1X,37HMORDO - (197) A MORE COMPLICATED SEG./16X, H1970160
1 16HOF DO STATEMENTS// H1970170
2 35H ASA REFS - 7.1.2.8 AND 7.1.2.8.1 // 9H RESULTS ) H1970180
C***** HEADER FOR SEGMENT 197 WRITTEN H1970190
C***** TEST OF DO WITH STATEMENT FUNCTIONS AND INTRINSIC FUNCTIONS H1970200
C***** REFERENCED WITHIN ITS RANGE. TO BE RUN WITH SEG. 005 AND 412 H1970210
ASSIGN 9190 TO MVI H1970220
MCBVI = 0 H1970230
MCHVI = 1971 H1970240
DO 1971 MCAVI = 4,8,4 H1970250
CMAVS = CMAFS(1.0, FLOAT(MCAVI)) H1970260
1971 MCBVI = MCBVI + MCAFI(MCAVI,IFIX(CMAVS) - (MCAVI+2)) H1970270
IF (MCBVI - 2) 9966, 9190, 9966 H1970280
9190 MCHVI = 1973 H1970290
C***** TEST OF DO WITH CALL STATEMENTS REFERENCED WITHIN ITS RANGE H1970300
IVI = 0 H1970310
ASSIGN 9968 TO MVI H1970320
DO 1973 MCAVI = 1,3 H1970330
1973 CALL MDQ( MCAVI, IVI) H1970340
IF(IVI - 6) 9966, 9968, 9966 H1970350
C***** TEST OF DO WITH THE FOLLOWING FEATURES COMBINED - H1970360
C***** 1. AN EXIT FROM THE RANGE OF A DO BY THE EXECUTION OF A H1970370
C***** GO-TO STATEMENT, THE CONTROL VARIABLE OF THE DO IS H1970380
C***** DEFINED 7.1.2.8.1/19-23H1970390
C***** 2. A GO TO STATEMENT CAUSES CONTROL TO PASS FROM AN H1970400
C***** INNER DO TO THE OUTER DO (WITHIN THE NESTED RANGE) H1970410
9968 MCHVI = 1976 H1970420
ASSIGN 9191 TO MVI H1970430
MCBVI = 0 H1970440
DO 1976 MCAVI = 1,1,1 H1970450
9192 MCBVI = MCBVI + 1 H1970460
DO 1975 MCCVI = 1,3,1 H1970470
MCBVI = MCBVI + 1 H1970480
IF(MCBVI - 4) 9197, 9192, 1975 H1970490
9197 GO TO (1975, 1975, 9966), MCCVI H1970500
1975 CONTINUE H1970510
1976 CONTINUE H1970520
IF (MCBVI - 8) 9966, 9191, 9966 H1970530
C***** TEST THAT THE STATEMENT LABEL OF THE TERMINAL STATEMENT H1970540
C***** OF MORE THAN ONE DO CAN BE USED IN ANY GO TO OR ARITHMETIC H1970550
C***** IF STATEMENT THAT OCCURS IN THE RANGE OF THE MOST DEEPLY H1970560
C***** CONTAINED DO WITH THAT TERMINAL STATEMENT. 7.1.2.8.2/1-6 H1970570
C***** ALSO THE CONTROL VARIABLE IS DEFINED WHEN EXIT IS MADE BY THE H1970580
C***** EXECUTION OF AN ARITHMETIC IF STATEMENT. H1970590
9191 ASSIGN 9194 TO MVI H1970600
MCHVI = 1977 H1970610
MCEVI = -24 H1970620
DO 1977 MCAVI = 1,2 H1970630
MCEVI = MCEVI + 1 H1970640
DO 1977 MCBVI = 1,2 H1970650
MCEVI = MCEVI + 1 H1970660
DO 1977 MCCVI = 1,5,1 H1970670
MCEVI = MCEVI + 1 H1970680
IF(MCEVI ) 1977, 1977, 1978 H1970690
1977 CONTINUE H1970700
C***** ERROR IF LOOP TERMINATES THRU CONTINUE H1970710
GO TO 9966 H1970720
C***** CONTROL VARIABLE DEFINED ON FIRST LEVEL ON ARITH. IF H1970730
1978 MCEVI = MCAVI + MCBVI + MCCVI H1970740

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	MCHVI = 1978	H1970750
	IF(MCEVI - 8) 9966, 9194, 9966	H1970760
9194	MCHVI = 1974	H1970770
	MCEVI = 0	H1970780
	ASSIGN 9961 TO MVI	H1970790
	00 1974 MCAVI = 1, 2	H1970800
	00 1974 MCBVI = 1, 2, 1	H1970810
	DO 1974 MCCVI = 4, 5, 1	H1970820
	DO 1974 MCDVI = 2, 3	H1970830
	GO TO 9193	H1970840
9195	GO TO 1974	H1970850
9193	MCEVI = MCAVI + MCBVI + MCCVI + MCDVI + MCEVI	H1970860
	GO TO 9195	H1970870
1974	CONTINUE	H1970880
	IF(MCEVI - 160) 9966, 9961, 9966	H1970890
C*****	TEST OF 00 WITH I/O STATEMENTS REFERENCED WITHIN ITS RANGE.	H1970900
C*****	REWIND, UNFORMATTED READ AND WRITE ARE REFERENCED. THE	H1970910
C*****	FOLLOWING 3 DOS MUST BE KEPT TOGETHER FOR SELF-CHECKING	H1970920
C*****	PURPOSES	H1970930
9961	MCHVI = 1972	H1970940
	ASSIGN 9196 TO MVI	H1970950
	REWIND INVI	H1970960
	00 9963 MCAVI = 1, 4	H1970970
	MCA11(MCAVI) = MCAVI	H1970980
	WRITE (INVI) (MCA11(MCBVI), MCBVI = 1, MCAVI, 1)	H1970990
9963	CONTINUE	H1971000
	DO 9964 MCCVI = 1, 4	H1971010
9964	REWIND INVI	H1971020
	00 1972 MCDVI = 1, 4	H1971030
	READ (INVI) (IAC11(MCEVI), MCEVI = 1, MCDVI)	H1971040
	00 1972 MCFVI = 1, MCDVI	H1971050
	MCGVI = IAC11(MCFVI) - MCA11(MCFVI)	H1971060
	IF (MCGVI) 9966, 1972, 9966	H1971070
1972	CONTINUE	H1971080
9196	WRITE(NUVI, 9969)	H1971090
	GO TO 9198	H1971100
C*****	ERROR MESSAGES IF 00 STATEMENT IS EXECUTED IN ERROR.	H1971110
9966	WRITE (NUVI, 9967) MCHVI	H1971120
9967	FORMAT (// 36H DO RANGE ENOING AT STATEMENT LABEL, 15,	H1971130
	114H IS IN ERROR.)	H1971140
9969	FORMAT(// 35H THIS SEGMENT SUCCESSFULLY TESTEO /	H1971150
	222H IF NO ERROR MESSAGES)	H1971160
	GO TO MVI, (9190, 9968, 9191, 9194, 9961, 9196)	H1971170
9198	REWIND INVI	H1971180
C*****	END OF TEST SEGMENT 197	H1971190
C*****	WHEN EXECUTING ONLY SEGMENT 197, THE STOP AND ENO CAROS	H1971200
C*****	WHICH APPEAR AS COMMENT CAROS MUST HAVE THE C=	H1971210
C*****	IN COLUMNS 1 AND 2 REMOVED.	H1971220
C=	STOP	H1971230
C=	ENO	H1971240
C*****	*****	H2000010
C*****	*****	H2000020
C*****	SUBR1 - (200)	H2000030
C*****	*****	H2000040
C*****	*****	H2000050
C*****	GENERAL PURPOSE	ASA REF. H2000060
C*****	TO TEST SUBROUTINE SUBPROGRAM WITHOUT AN ARGUMENT LIST 8.4.1.1	H2000070
C*****	GENERAL COMMENTS	H2000080
C*****	IT IS TO BE RUN WITH SEGMENT 410	H2000090
C*****	RESTRICTIONS OBSERVED	H2000100
C*****	SYMBOLIC NAME OF A SUBROUTINE MAY NOT APPEAR IN ANY 8.4.1.1/56	H2000110
C*****	STATEMENT IN THIS SUBROUTINE EXCEPT IN THE	H2000120
C*****	SUBROUTINE STATEMENT ITSELF	H2000130
C*****	* SYMBOLIC NAMES OF DUMMY ARGUMENTS MAY NOT APPEAR 8.4.1.1/39	H2000140
C*****	IN EQUIVALENCE OR COMMON STATEMENTS IN THE SUBPROGRAM	H2000150
C*****	* SUBROUTINES MAY NOT CONTAIN A FUNCTION STATEMENT, 8.4.1.1/45	H2000160
C*****	ANOTHER SUBROUTINE STATEMENT, OR ANY STATEMENT THAT	H2000170
C*****	DIRECTLY OR INDIRECTLY REFERENCES THE SUBROUTINE	H2000180

C*****	BEING DEFINED	H2000190
C*****	* AT LEAST ONE RETURN STATEMENT MUST BE IN A SUBROUTINE	H2000200
C*****	8.4.1.1/49	H2000210
C*****	S P E C I F I C A T I O N S SEGMENT 200	H2000220
C*****		H0015875
C*****	WHEN EXECUTING ONLY SEGMENT 200, THE SPECIFICATION STATEMENTS	H0015880
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H0015885
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0015890
C=	COMMON AXVS, CXVS, IXVI, IAX1I(4)	H0015895
C*****		H0015900
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H2000230
C*****	WHEN EXECUTING ONLY SEGMENT 200, THE FOLLOWING STATEMENTS	H0075860
C*****	NUVI=6 AND INVI=9 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0075865
C*****		H0075870
C=	NUVI = 6	H0075875
C=	INVI = 9	H0075880
	WRITE(NUVI, 0200)	H2000240
200	FORMAT(39H1 SUBR1 - (200) SUBROUTINE SUBPROGRAM /15X,	H2000250
	124HWITHOUT AN ARGUMENT LIST //18H ASA REF. - 8.4.1//9H RESULTS)	H2000260
	IXVI = NUVI	H2000270
	IAX1I(1) = INVI	H2000280
	CALL SUBRO	H2000290
	CONTINUE	H2000300
C*****	END OF SEGMENT 200	H2000310
C*****	WHEN EXECUTING ONLY SEGMENT 200, THE STOP AND ENO CARDS	H2000320
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H2000330
C*****	IN COLUMNS 1 AND 2 REMOVED.	H2000340
C=	STOP	H2000350
C=	END	H2000360
	STOP	H9999995
	END	H9999999
C*****		H4100010
C*****		H4100020
C*****	SUBRO - (410)	H4100030
C*****		H4100040
C*****		H4100050
C*****	THIS SEGMENT TESTS THAT A VARIETY OF FORTRAN STATEMENTS	H4100060
C*****	CAN BE USED IN A SUBROUTINE. IT IS TO BE RUN WITH SEGMENT 200	H4100070
	SUBROUTINE SUBRO	H4100080
8867	FORMAT (/36H DO RANGE ENDING AT STATEMENT LABEL,15,14H IS IN ERH	H4100090
	1ROR.)	H4100100
	DIMENSION KCA1I(5), KAC1I(5)	H4100110
	COMMON BXVS, DXVS, NXVI, IXVI	H4100120
C*****	DEFINE ARITHMETIC STATEMENT FUNCTION	H4100130
	CKAFS(CEWVS,CFWVS) = CEWVS*2. + CFWVS	H4100140
8868	FORMAT (/35H THIS SEGMENT SUCCESSFULLY TESTED /	H4100150
	1 23H IF NO ERROR MESSAGES.)	H4100160
	KCAFI(KEWVI,KFWVI) = KEWVI**KFWVI	H4100170
C*****	TEST OF OO WITH STATEMENT FUNCTIONS	H4100180
	KCHVI = 4101	H4100190
	ASSIGN 4102 TO MVI	H4100200
	KCBVI = 0	H4100210
	DO 4101 KCAVI = 4,8,4	H4100220
	CKAVS = CKAFS(1.0, FLOAT(KCAVI))	H4100230
4101	KCBVI = KCBVI + KCAFI(KCAVI,IFIX(CKAVS) - (KCAVI + 2))	H4100240
	IF(KCBVI - 2) 8866, 4102, 8866	H4100250
C*****	TEST OF DO WITH THE FOLLOWING FEATURES COMBINED -	H4100260
C*****	1. AN EXIT FROM THE RANGE OF A DO BY THE EXECUTION OF A	H4100270
C*****	GO-TO STATEMENT, THE CONTROL VARIABLE OF THE DO IS	H4100280
C*****	DEFINED	H4100290
C*****	2. A GO TO STATEMENT CAUSES CONTROL TO PASS FROM AN	H4100300
C*****	INNER OO TO THE OUTER OO (WITHIN THE NESTED RANGE)	H4100310
4102	KCHVI = 4106	H4100320
	ASSIGN 8870 TO MVI	H4100330
	KCBVI = 0	H4100340
	OO 4106 KCAVI = 1,1,1	H4100350
8872	KCBVI = KCBVI + 1	H4100360
	OO 4105 KCCVI = 1,3,1	H4100370

KCBVI = KCBVI + 1	H4100380
IF (KCBVI - 4) 8873, 8872, 4105	H4100390
8873 GO TO (4105,4105,8866), KCCVI	H4100400
4105 CONTINUE	H4100410
4106 CONTINUE	H4100420
IF(KCBVI - 8) 8866, 8870, 8866	H4100430
C***** TEST THAT THE STATEMENT LABEL OF THE TERMINAL STATEMENT	H4100440
C***** OF MORE THAN ONE DO CAN BE USED IN ANY GO TO OR ARITHMETIC	H4100450
C***** IF STATEMENT THAT OCCURS IN THE RANGE OF THE MOST DEEPLY	H4100460
C***** CONTAINED DO WITH THAT TERMINAL STATEMENT	H4100470
8870 ASSIGN 8876 TO MVI	H4100480
KCHVI = 4107	H4100490
KCEVI = -24	H4100500
DO 4107 KCAVI = 1,2	H4100510
KCEVI = KCEVI + 1	H4100520
DO 4107 KCBVI = 1,2	H4100530
KCEVI = KCEVI + 1	H4100540
DO 4107 KCCVI = 1,5,1	H4100550
KCEVI = KCEVI + 1	H4100560
IF(KCEVI) 4107,4107,4104	H4100570
4107 CONTINUE	H4100580
C*****ERROR IF LOOP TERMINATES THRU CONTINUE	H4100590
GO TO 8866	H4100600
C*****CONTROL VARIABLE DEFINED ON FIRST LEVEL ON ARITH. IF	H4100610
4104 KCEVI = KCAVI + KCBVI + KCCVI	H4100620
KCHVI = 4104	H4100630
IF(KCEVI - 8) 8866,8876,8866	H4100640
8876 KCHVI = 4103	H4100650
KCEVI = 0	H4100660
ASSIGN 8871 TO MVI	H4100670
DO 4103 KCAVI =1,2	H4100680
DO 4103 KCBVI = 1,2,1	H4100690
DO 4103 KCCVI = 4,5,1	H4100700
DO 4103 KCDVI = 2,3	H4100710
GO TO 8878	H4100720
8877 GO TO 4103	H4100730
8878 KCEVI = KCAVI + KCBVI + KCCVI + KCDVI + KCEVI	H4100740
GO TO 8877	H4100750
4103 CONTINUE	H4100760
IF(KCEVI - 160)8866,8871,8866	H4100770
C***** TEST OF DO WITH I/O STATEMENTS	H4100780
8871 ASSIGN 8860 TO MVI	H4100790
KCHVI = 4108	H4100800
REWIND IXVI	H4100810
DO 8863 KCAVI = 1,4	H4100820
KCA1I(KCAVI) = KCAVI	H4100830
WRITE(IXVI)(KCA1I(KCBVI),KCBVI = 1,KCAVI,1)	H4100840
8863 CONTINUE	H4100850
DO 8864 KCCVI =1,4	H4100860
8864 REWIND IXVI	H4100870
DO 4108 KCDVI = 1,4	H4100880
READ(IXVI)(KAC1I(KCEVI),KCEVI = 1,KCDVI)	H4100890
DO 4108 KCFVI = 1, KCDVI	H4100900
KCGVI = KAC1I(KCFVI)-KCA1I(KCFVI)	H4100910
IF(KCGVI) 8866,4108,8866	H4100920
4108 CONTINUE	H4100930
8860 WRITE(NXVI,8868)	H4100940
GO TO 8869	H4100950
8866 WRITE(NXVI,8867) KCHVI	H4100960
GO TO MVI,(8860,4102,8870,8871,8876)	H4100970
8869 REWIND IXVI	H4100980
RETURN	H4100990
C***** END OF TEST SEGMENT 410	H4101000
END	H4101010
C*****	H4120010
C*****	H4120020
C***** MDQ - (412)	H4120030
C*****	H4120040


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C*****H4120050
C***** GENERAL PURPOSE ASA REF H4120060
C***** THIS SUBROUTINE IS USED WITH SEGMENT 197 TO H4120070
C***** SHOW THAT SUBROUTINES MAY BE CALLED FROM DO LOOPS H4120080
SUBROUTINE MDQ(MWVI,IWVI) H4120090
IWVI = MWVI + IWVI H4120100
RETURN H4120110
C***** END OF TEST SEGMENT 412 H4120120
END H4120130
C*****H4190010
C*****H4190020
C***** BLAKD - (419) H4190030
C*****H4190040
C*****H4190050
C***** GENERAL PURPOSE H4190060
C***** THIS SEGMENT CONTAINS THE FIRST OF THREE BLOCK DATA SUBPROGRAMSH4190070
C***** TO BE RUN WITH SEGMENT 179 H4190080
C***** THESE SEGMENTS USE ALL THE PERMISSIBLE STATEMENTS IN A H4190090
C***** BLOCK DATA SUBPROGRAM. THE DATA STATEMENTS CONSIST OF ALL H4190100
C***** TYPES OF VARIABLES AND ARRAYS. A HOLLERITH CONSTANT IS H4190110
C***** ASSIGNED TO INTEGER , REAL, AND LOGICAL H4190120
BLOCK DATA H4190130
DOUBLE PRECISION DXVD, DX1D, DX2D H4190140
COMMON /BLK1/JXVI, JAX1I(2), JAX2I(3,3) H4190150
A /BLK2/ DXVS, DX1S(2), DX2S(2,2) H4190160
B /BLK3/ DXVD, DX1D(2), DX2D(2,2) H4190170
INTEGER JXVI H4190180
REAL DXVS H4190190
DATA JXVI, JAX1I(1), JAX2I(1,2), DXVS, DX1S(2) H4190200
A ,DX2S(1,2), DXVD, DX1D(1), DX2D(1,2)/ 3 * 1 H4190210
B ,3 * 2.0,3*4.0D0/, JAX2I(1,3),DX2S(2,1)/2HHP,2HHP/ H4190220
C***** END OF TEST SEGMENT 419 H4190230
END H4190240
C*****H4290010
C*****H4290020
C***** BLBKD - (429) H4290030
C*****H4290040
C*****H4290050
C***** TO BE RUN WITH SEGMENT 179 H4290060
C***** THIS SEGMENT CONTAINS THE 2ND OF THREE BLOCK DATA SUBPROGRAMS H4290070
C***** TO BE RUN WITH SEGMENT 179 H4290080
BLOCK DATA H4290090
COMPLEX DXVC, DX1C, DX2C H4290100
COMMON /BLK4/ DXVC,DX1C(2), DX2C(2,2) H4290110
C /BLK5/DXVB, DX1B(2), DX2B(2,2) H4290120
LOGICAL DXVB, DX1B, DX2B H4290130
DATA DXVC, DX1C(1), DX2C(1,2),DXVB, DX1B(1),DX2B(1,2)/ H4290140
D 3 * (3.,4.), 3 *.FALSE./ H4290150
C***** END OF TEST SEGMENT 429 H4290160
END H4290170
C*****H4390010
C*****H4390020
C***** BLCKD - (439) H4390030
C*****H4390040
C*****H4390050
C***** THIS SEGMENT CONTAINS THE THIRD OF THREE BLOCK DATA SUBPROGRAMSH4390060
C***** TO BE RUN WITH SEGMENT 179 H4390070
BLOCK DATA H4390080
COMMON /BLK6/JAX3I(2,2,2),DX3S(2,2,2),DX3D(2,2,2) H4390090
E ,DZ3C(2,2,2), DX3B(2,2,2) H4390100
DOUBLE PRECISION DX3D H4390110
DIMENSION CY3C(2,2,2) H4390120
COMPLEX DZ3C,CY3C H4390130
EQUIVALENCE (DZ3C(1,1,1), CY3C(1,1,1)) H4390140
LOGICAL DX3B H4390150
DATA JAX3I(1,1,2),DX3S(1,1,2),DX3D(1,1,2),CY3C(1,1,2),DX3B(1,1,2)/H4390160
F 1, 2.0, 4.0D0, (3.,4.),.FALSE./ ,DX3B(2,2,2)/ H4390170
G 2HHP/ H4390180

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C***** END OF TEST SEGMENT 439 H4390190
END H4390200
SAMPLE COMPUTER, FORTRAN COMPILER LEVEL
DO NOT READ OR WRITE RECORD 2 . DOUBLE SPACE ON OUTPUT. ID 2
OPERATING SYSTEM VERSION
DO NOT READ OR WRITE RECORD 4 . DOUBLE SPACE ON OUTPUT ID 4
DATE, INSTALLATION NAME
DO NOT READ OR WRITE RECORD 6 DOUBLE SPACE ON OUTPUT ID 6
C***** PART13 *****H0006000
C***** H0006005
C***** ANSI FORTRAN (X3.9-1966) TEST PROGRAMS H0006010
C***** H0006015
C***** PREPARED BY THE NATIONAL BUREAU OF STANDARDS VERSION 3 H0006020
C***** H0006025
C***** JUNE 1974 H0006030
C***** H0006035
C***** PART 13 OF 14 PARTS H0006040
C***** H0006045
C***** SEGMENTS INCLUDED H0006050
C***** H0006055
C***** LOGIF - 300 LOGICAL IF STATEMENTS H0006060
C***** H0006065
C***** SMCQ - 411 SUBROUTINE H0006070
C***** H0006075
C***** BARIF - 301 ARITHMETIC IF STATEMENTS H0006080
C***** H0006085
C***** FARIF - 302 ARITHMETIC IF STATEMENTS H0006090
C***** H0006095
C***** IOFMT - 310 FORMATTED READ, WRITE H0006100
C***** H0006105
C***** RDFMT - 312 FORMATS IN ARRAYS H0006110
C***** H0006115
C***** FMTQ - 462 SUBROUTINE H0006120
C***** H0006125
C***** THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN SEGMENTS H0016000
C***** 300, 301, 302, 310, 312 ARE RUN AS ONE MAIN PROGRAM. H0016005
C***** H0016010
C***** REAL MVS H0016015
C***** DIMENSION L1I(10) H0016020
C***** DIMENSION IAC2I(2,7),ZU1S(13),ZU3S(3,2,2),ZU2S(4,2),ZT1S(4) H0016025
C***** DIMENSION A1S(5),A2S(2,2),A3S(3,3,3),YER1S(7),EP1S(33) H0016030
C***** DIMENSION IAC1I(5),MCA1I(5),AC1S(25),AC2S(5,6),CMA1S(5) H0016035
C***** INTEGER AVI,IU2I(4,2),IT3I(4,2,2),IU3I(2,3,3),MCA3I(2,3,3) H0016040
C***** LOGICAL MCAVB,MCBVB,MCA1B(7),AVB,BVB,CVB,GG1B(2),A1B(2) H0016045
C***** COMPLEX CHAVC,CHBVC H0016050
C***** DOUBLE PRECISION MCAVD,MCBVD,MCCVD,A1D(4),A2D(2,2),A3D(2,2,2) H0016055
C***** 1 ,DPAVD,DPBVD,DPCVD,DPEVD,DPFVD,DPHVD,DPOVD,AAAVD H0016060
C***** H0016065
C***** END OF SPECIFICATIONS FOR SEGMENTS 300, 301, 302, 310, 312 H0016070
C***** H3000010
C***** H3000020
C***** LOGIF - (300) H3000030
C***** H3000040
C***** H3000050
C***** GENERAL PURPOSE ASA REF H3000060
C***** TEST LOGICAL IF STATEMENT 7.1.2.3H3000070
C***** GENERAL COMMENT H3000080
C***** ASSIGNED GO TO,INTRINSIC FUNCTION,ARITHMETIC IF,CALL, H3000090
C***** COMPUTED GO TO AND I/O STATEMENTS ASSUMED WORKING. H3000100
C***** H3000110
C***** S P E C I F I C A T I O N S SEGMENT 300 H3000120
C***** H0016075
C***** WHEN EXECUTING ONLY SEGMENT 300, REMOVE THE PRECEDING H0016080
C***** SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS, WHICH APPEAR H0016085
C***** AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0016090
C***** H0016095
C= LOGICAL MCAVB,MCBVB,MCA1B(7) H0016100
C= DOUBLE PRECISION DPAVD,DPBVD,DPCVD,DPOVD,DPEVD,DPFVD H0016105

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C*****		H0016110
C*****	I N P U T - O U T P U T T A P E ASSIGNMENT STATEMENTS.	H3000130
	IRVI = 5	H0076000
	NUVI = 6	H0076005
C*****	IDENTIFY THE SOURCE OF THE TEST PROGRAMS	H0076010
	WRITE(NUVI,0071)	H0076015
0071	FORMAT (41H1 F O R T R A N T E S T P R O G R A M S//	H0076020
1	42H PREPARED BY NATIONAL BUREAU OF STANDARDS//	H0076025
3	37H FOR USE ON LARGE FORTRAN PROCESSORS //	H0076030
4	42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//	H0076035
5	23H VERSION 3 PART 13///)	H0076040
C*****	3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER	H0076045
C	PREPARED BY USER	H0076050
C	READ, NO LIST	H0076055
C	PREPARED BY USER	H0076060
C	READ, NO LIST	H0076065
C	PREPARED BY USER	H0076070
C	READ, NO LIST	H0076075
	READ(IRVI,0070)	H0076080
	READ(IRVI,0072)	H0076085
	READ(IRVI,0073)	H0076090
0070	FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 /)	H0076095
0072	FORMAT(40H TEST PROGRAMS /)	H0076100
0073	FORMAT(40H FORTRAN COMPILER /)	H0076105
	WRITE(NUVI,0070)	H0076110
	WRITE(NUVI,0072)	H0076115
	WRITE(NUVI,0073)	H0076120
	WRITE (NUVI,3000)	H3000140
3000	FORMAT (1H1, 1X,34HLOGIF - (300) LOGICAL IF STATEMENT//	H3000150
	120H ASA REF. - 7.1.2.3//10H RESULTS //	H3000160
	2/37H TEST EXPLICITLY WRITTEN SIGNED ZERO/2X)	H3000170
C*****	HEADER FOR SEGMENT 300 WRITTEN	H3000180
	MACVI = 0	H3000190
	MCAVB = .TRUE.	H3000200
	MCBVB = .FALSE.	H3000210
	MCA1B(1) = .TRUE.	H3000220
	MCA1B(2) = .FALSE.	H3000230
C*****	TEST THAT MINUS ZERO AND PLUS ZERO ARE TREATED	4.2/11H3000240
C*****	AS EQUAL VALUES	H3000250
	IVI = -8	H3000260
	IIVI = -8	H3000270
	JVI = +0	H3000280
	JJVI = -0	H3000290
	KVI = 8	H3000300
	KKVI = 8	H3000310
	AVS = -0.5	H3000320
	AAVS = -0.5	H3000330
	BVS = +0.0	H3000340
	BBVS = -0.0	H3000350
	CVS = 0.5	H3000360
	CCVS = 0.5	H3000370
	DPAVD = -0.500	H3000380
	DPBVD = -0.500	H3000390
	DPCVD = +0.000	H3000400
	DPDVD = -0.000	H3000410
	DPEVD = 0.500	H3000420
	DPFVD = 0.500	H3000430
C*****	TEST FOR EXPLICITLY WRITTEN -0 EQUAL TO +0	H3000440
	IF((JVI) .EQ. (JJVI))MACVI = MACVI + 1	H3000450
	IF((JJVI) .EQ. (JVI)) MACVI = MACVI + 1	H3000460
	IF((+0) .EQ. (-0)) MACVI = MACVI + 1	H3000470
	IF((-0) .EQ. (+0)) MACVI = MACVI + 1	H3000480
	IF (MACVI - 4) 9951, 9954, 9951	H3000490
9951	WRITE (NUVI, 9953)	H3000500
	GO TO 9955	H3000510
9952	FORMAT(14H +0 EQUALS -0)	H3000520
9953	FORMAT(17H +0 NOT EQUAL -0)	H3000530
9954	WRITE (NUVI, 9952)	H3000540

9955	MACVI = 0	H3000550
C*****	TEST EXPLICITLY WRITTEN +0.0 EQUALS -0.0	H3000560
	IF ((BVS) .EQ. (BBVS)) MACVI = MACVI + 1	H3000570
	IF ((BBVS) .EQ. (BVS)) MACVI = MACVI + 1	H3000580
	IF ((+0.0) .EQ. (-0.0)) MACVI = MACVI + 1	H3000590
	IF ((-0.0) .EQ. (0.0)) MACVI = MACVI + 1	H3000600
	IF (MACVI - 4) 9944, 9947, 9944	H3000610
9944	WRITE (NUVI, 9946)	H3000620
	GO TO 9948	H3000630
9945	FORMAT (18H +0.0 EQUALS -0.0)	H3000640
9946	FORMAT (21H +0.0 NOT EQUAL -0.0)	H3000650
9947	WRITE (NUVI, 9945)	H3000660
C*****	TEST EXPLICITLY WRITTEN +0.0D0 EQUALS -0.0D0	H3000670
9948	MACVI = 0	H3000680
	IF ((DPCVD) .EQ. (DPDVD)) MACVI = MACVI + 1	H3000690
	IF ((DPDVD) .EQ. (DPCVD)) MACVI = MACVI + 1	H3000700
C*****		H3000710
	IF ((+0.0D0) .EQ. (-0.0D0)) MACVI = MACVI + 1	H3000720
	IF ((-0.0D0) .EQ. (0.0D0)) MACVI = MACVI + 1	H3000730
	IF (MACVI - 4) 9949, 9957, 9949	H3000740
9949	WRITE (NUVI, 9960)	H3000750
	GO TO 9958	H3000760
9959	FORMAT (22H +0.0D0 EQUALS -0.0D0)	H3000770
9960	FORMAT (25H +0.0D0 NOT EQUAL -0.0D0)	H3000780
9957	WRITE (NUVI, 9959)	H3000790
9958	MACVI = 0	H3000800
	WRITE (NUVI, 7950)	H3000810
7950	FORMAT (33H0 TEST COMPUTATIONAL SIGN OF ZERO/2X)	H3000820
C*****	TEST FOR COMPUTATIONALLY CREATED +0 AND -0	H3000830
	IF ((IVI * JVI) .EQ. (JVI)) MACVI = MACVI + 1	H3000840
	IF ((JVI) .EQ. (JVI * IIVI)) MACVI = MACVI + 1	H3000850
	IF ((JVI / IVI) .EQ. (+0)) MACVI = MACVI + 1	H3000860
	IF ((IVI + KVI) .EQ. (JVI)) MACVI = MACVI + 1	H3000870
	IF ((KKVI + IIVI) .EQ. (JVI)) MACVI = MACVI + 1	H3000880
	IF ((IIVI - IVI) .EQ. (JVI)) MACVI = MACVI + 1	H3000890
	IF ((KVI - KKVI) .EQ. (JVI)) MACVI = MACVI + 1	H3000900
	IF (MACVI - 7) 9956, 9940, 9956	H3000910
9956	WRITE (NUVI, 9953)	H3000920
	GO TO 7955	H3000930
9940	WRITE (NUVI, 9952)	H3000940
C*****	TEST FOR COMPUTATIONALLY CREATED +0.0 AND -0.0	H3000950
7955	MACVI = 0	H3000960
	IF ((AVS * BVS) .EQ. (BVS)) MACVI = MACVI + 1	H3000970
	IF ((BVS) .EQ. (BVS * AAVS)) MACVI = MACVI + 1	H3000980
	IF ((BVS / AVS) .EQ. (0.0)) MACVI = MACVI + 1	H3000990
	IF ((AVS + CVS) .EQ. (BVS)) MACVI = MACVI + 1	H3001000
	IF ((CCVS + AAVS) .EQ. (BVS)) MACVI = MACVI + 1	H3001010
	IF ((AAVS - AVS) .EQ. (BVS)) MACVI = MACVI + 1	H3001020
	IF ((CVS - CCVS) .EQ. (BVS)) MACVI = MACVI + 1	H3001030
	IF (MACVI - 7) 7951, 7952, 7951	H3001040
7951	WRITE (NUVI, 9946)	H3001050
	GO TO 7953	H3001060
7952	WRITE (NUVI, 9945)	H3001070
C*****	TEST FOR COMPUTATIONALLY CREATED +0.0D0 AND -0.0D0	H3001080
7953	MACVI = 0	H3001090
	IF ((DPAVD * DPCVD) .EQ. (DPCVD)) MACVI = MACVI + 1	H3001100
	IF ((DPCVD) .EQ. (DPCVD * DPBVD)) MACVI = MACVI + 1	H3001110
	IF ((DPCVD / DPAVD) .EQ. (0.0D0)) MACVI = MACVI + 1	H3001120
	IF ((DPAVD + DPEVD) .EQ. (DPCVD)) MACVI = MACVI + 1	H3001130
	IF ((DPFVD + DPBVD) .EQ. (DPCVD)) MACVI = MACVI + 1	H3001140
	IF ((DPBVD - DPAVD) .EQ. (DPCVD)) MACVI = MACVI + 1	H3001150
	IF ((DPEVD - DPFVD) .EQ. (DPCVD)) MACVI = MACVI + 1	H3001160
	IF (MACVI - 7) 7954, 9939, 7954	H3001170
7954	WRITE (NUVI, 9960)	H3001180
	GO TO 9941	H3001190
9939	WRITE (NUVI, 9959)	H3001200
9941	MCAVI = 0	H3001210
	WRITE (NUVI, 9942)	H3001220

9942	FORMAT(31H0 TEST -LOGICAL IF- FOLLOWED BY/	H3001230
	131H DIFFERENT KINDS OF STATEMENTS)	H3001240
C*****	TEST 1	H3001250
C*****	LOGICAL IF FOLLOWED BY SIMPLE ASSIGNMENT STATEMENT	H3001260
C*****	CORRECT RESULT = 0, OTHERWISE RESULT = 1	H3001270
	IF (MCA1B(2)) MCAVI = 1	H3001280
	WRITE (NUVI,3009) MCAVI	H3001290
C*****	TEST 2	H3001300
C*****	LOGICAL IF FOLLOWED BY USE OF INTRINSIC FUNCTION	H3001310
C*****	CORRECT RESULT =0, OTHERWISE RESULT =2	H3001320
	MCAVI = 2	H3001330
	IF (MCAVB) MCAVI = IFIX(5.0 - 4.0 - 1.0)	H3001340
	WRITE (NUVI,3009) MCAVI	H3001350
	MCAVI = 0	H3001360
C*****	TEST 3	H3001370
C*****	LOGICAL IF FOLLOWED BY ARITHMETIC STATEMENT	H3001380
C*****	CORRECT RESULT =0, OTHERWISE RESULT =3	H3001390
	IF (MCAVB .AND. MCBVB) MCAVI = 3* 2 / 2	H3001400
	WRITE (NUVI,3009) MCAVI	H3001410
C*****	TEST 4	H3001420
C*****	LOGICAL IF FOLLOWED BY GO TO STATEMENT	H3001430
C*****	CORRECT RESULT =0, OTHERWISE RESULT =4	H3001440
	MCAVI = 0	H3001450
	IF (MCAVB .AND. MCBVB .OR. MCA1B(1)) GO TO 3001	H3001460
	MCAVI = 4	H3001470
3001	WRITE (NUVI,3009) MCAVI	H3001480
C*****	TEST 5	H3001490
C*****	LOGICAL IF FOLLOWED BY CALL STATEMENT	H3001500
C*****	CORRECT RESULT =0, OTHERWISE RESULT =5	H3001510
	MCAVI =0	H3001520
	IF (MCBVB .OR. (1 .GE. 2) .AND..FALSE.) CALL SMCQ(MCAVI)	H3001530
	WRITE (NUVI,3009) MCAVI	H3001540
C*****	TEST 6	H3001550
C*****	LOGICAL IF FOLLOWED BY NESTED USE OF INTRINSIC FUNCTIONS	H3001560
C*****	CORRECT RESULT =0, OTHERWISE RESULT =6	H3001570
	MCAVI = 6	H3001580
	IF (.TRUE. .OR. ((1. .LE. (0.1 + 1.5)) .AND. (MCA1B(1) .OR. .TRUE	H3001590
	1.)) .AND. MCBVB) MCAVI = IFIX(REAL((0.0,1.0)))	H3001600
	WRITE (NUVI,3009) MCAVI	H3001610
C*****	TEST 7	H3001620
C*****	LOGICAL IF FOLLOWED BY ASSIGNED GO TO STATEMENT	H3001630
C*****	CORRECT RESULT =0, OTHERWISE RESULT =7	H3001640
	ASSIGN 3002 TO MCBVI	H3001650
	MCAVI = 7	H3001660
	IF (.NOT. (MCAVB .AND. MCBVB .AND. .FALSE. .OR. (.NOT. .TRUE.)))	H3001670
	1GO TO MCBVI,(3001,3002,3003)	H3001680
	GO TO 3003	H3001690
3002	MCAVI = 0	H3001700
3003	WRITE (NUVI,3009) MCAVI	H3001710
C*****	TEST 8	H3001720
C*****	LOGICAL IF FOLLOWED BY ARITHMETIC IF STATEMENT	H3001730
C*****	CORRECT RESULT =0, OTHERWISE RESULT =8	H3001740
	MCAVI = 0	H3001750
	IF (.NOT. (.NOT.(.TRUE. .OR. MCAVB .AND. (8. .NE. 7.))))	H3001760
	1IF (MCAVI) 3004,3005,3004	H3001770
3004	MCAVI = 8	H3001780
3005	WRITE (NUVI,3009) MCAVI	H3001790
C*****	TEST 9	H3001800
C*****	LOGICAL IF FOLLOWED BY I/O STATEMENT	H3001810
C*****	CORRECT RESULT =0, OTHERWISE RESULT =9	H3001820
	MCAVI = 0	H3001830
	IF ((8.0D0 .EQ. (1. + 7.)) .AND. (.NOT. (3 .NE. 3)))	H3001840
	1WRITE (NUVI,3009) MCAVI	H3001850
C*****	TEST 10	H3001860
C*****	LOGICAL IF FOLLOWED BY COMPUTED GO TO STATEMENT	H3001870
C*****	CORRECT RESULT =0, OTHERWISE RESULT =10	H3001880
	MCAVI = 2	H3001890
	IF (.TRUE. .AND. (8 .GE. 6) .OR. (.FALSE.)) GO TO (9950,3006),	H3001900

1MCAVI	H3001910
9950 MCAVI = 10	H3001920
GO TO 3007	H3001930
3006 MCAVI = 0	H3001940
3007 WRITE (NUVI,3009) MCAVI	H3001950
WRITE (NUVI,3008)	H3001960
C***** TEST EXPRESSIONS IN LOGICAL IF STATEMENTS	H3001970
C***** TEST 11 .LT. EXPRESSION, RELATION, EXPRESSION (TRUE)	H3001980
MCAVI = 11	H3001990
IF((SNGL(DABS(-DSIGN(DBLE(2.0),1.0D0))))).LT.AMIN1((FLOAT(IDIM	H3002000
1 (1 + 2, 0))), (AIMAG(CMPLX(1.0,2.0)))) + 1.0) MCAVI = 0	H3002010
WRITE (NUVI, 3009) MCAVI	H3002020
C***** TEST 12 .LT. EXPRESSION, RELATION, CONSTANT (TRUE)	H3002030
MACVI = 12	H3002040
IF((AMIN1(FLOAT(IDIM(4 - 1.0)) , AIMAG(CMPLX(1.0,2.0))))).LT. 4.0)	H3002050
1MACVI = 0	H3002060
WRITE (NUVI, 3009) MACVI	H3002070
C***** TEST 13 .LT. CONSTANT(O.P.),RELATION, EXPRESSION (REAL)(TRUE)	H3002080
MACVI = 13	H3002090
C*****IF (1.(D0).LT. (SNGL(OABS(DSIGN(DBLE(4.0),1.000)))))) MACVI = 0	H3002100
C*****WRITE (NUVI, 3009) MACVI	H3002110
C***** TEST 14 .LE. .AND. .LE. (SHOULD BE LESS AND EQUAL) (TRUE)	H3002120
MACVI = 14	H3002130
IF((REAL(CONJG((1.0,-2.0))) + AIMAG((16.0,-4.0)) .LE.	H3002140
1 AIMAG(CONJG((1.0,-2.0))) + REAL((-4.0,16.0)) + 1.0) .AND.	H3002150
2 (AIMAG(CONJG((2.0,-4.0))) + REAL((-8.0,16.0)).LE.	H3002160
3 REAL(CONJG((4.0,-2.0))) + AIMAG((16.0,-8.0)))MACVI = 0	H3002170
WRITE (NUVI, 3009) MACVI	H3002180
C***** TEST 15 .LE. (FALSE)	H3002190
MACVI = 0	H3002200
IF (MAX1((AMAX0(4,2,-(1 * 4))),16.0) .LE. 2 * 3)MACVI = 15	H3002210
WRITE (NUVI, 3009) MACVI	H3002220
C***** TEST 16 .NE. .AND. .EQ. (TRUE)	H3002230
MACVI = 16	H3002240
IF(((AINT(AINT(AINT(1.4 + 2.9)+1.6)-8.1)).NE.(-8.0)).AND.(-1.0.EQ.	H3002250
1AINT(AINT(AINT(2.6 + 4.8) + 1.4)-9.2)))MACVI = 0	H3002260
WRITE (NUVI, 3009) MACVI	H3002270
C***** TEST 17 .GT. (TRUE)	H3002280
MACVI = 17	H3002290
IF((FLOAT(IABS(IFIX(ABS(-5.0+ SIGN(-1.0,2.0)))))) .GT. 2.0D0)	H3002300
1MACVI = 0	H3002310
WRITE (NUVI, 3009) MACVI	H3002320
C***** TEST 18 .GE. EQUAL (TRUE)	H3002330
MACVI = 18	H3002340
IF((8.0).GE.(FLOAT(IABS(IFIX(ABS(-4.0+SIGN(4.0,-2.0))))))MACVI=0	H3002350
WRITE (NUVI, 3009) MACVI	H3002360
C***** TEST 19 .GE. GREATER (TRUE)	H3002370
MACVI = 19	H3002380
IF((MACVI).GE.(IABS(IFIX(ABS(-4.0 + SIGN(8.0,-4.0))))))MACVI = 0	H3002390
WRITE (NUVI, 3009) MACVI	H3002400
C***** TEST 20 .GT. (FALSE) .OR. .EQ. (TRUE)	H3002410
MACVI = 20	H3002420
IF((-MACVI) .GT. (MAX1 (AMAX0(8,-(2*4),4) ,16.0)).OR. .NOT.(IABS	H3002430
1 (-20) .NE. MACVI))MACVI = 0	H3002440
WRITE (NUVI, 3009) MACVI	H3002450
WRITE (NUVI, 9943)	H3002460
9943 FORMAT(28H0 ALL VALUES SHOULD BE ZERO. /	H3002470
137H A VALUE OTHER THAN ZERO WILL BE THE /	H3002480
234H NUMBER OF THE TEST WHICH FAILED.)	H3002490
3008 FORMAT(34H0 THERE SHOULD BE 10 VALUES ABOVE, /	H3002500
131H IF ONLY 9, TEST 9 HAS FAILED.)	H3002510
3009 FORMAT(12X, 110)	H3002520
C***** ENO OF TEST SEGMENT 300	H3002530
C***** WHEN EXECUTING ONLY SEGMENT 300, THE STOP AND ENO CARDS	H3002540
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H3002550
C***** IN COLUMNS 1 AND 2 REMOVED.	H3002560
C= STOP	H3002570
C= ENO	H3002580

C*****	H3010010
C*****	H3010020
C*****	BARIF - (301)
C*****	H3010030
C*****	H3010040
C*****	H3010050
C*****	GENERAL PURPOSE
C*****	ASA REF H3010060
C*****	TEST BASIC FORTRAN ARITHMETIC IF STATEMENT
C*****	7.1.2.2H3010070
C*****	GENERAL COMMENTS
C*****	H3010080
C*****	BASIC INTRINSIC FUNCTIONS ASSUMED WORKING
C*****	H3010090
C*****	H3010100
C*****	S P E C I F I C A T I O N S SEGMENT 301
C*****	H3010110
C*****	H0016115
C*****	WHEN EXECUTING ONLY SEGMENT 301, THE SPECIFICATION STATEMENTS
C*****	H0016120
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=
C*****	H0016125
C*****	IN COLUMNS 1 AND 2 REMOVED.
C*****	H0016130
C=	DIMENSION L11(10)
C*****	H0016135
C=	DIMENSION MCA11(5),CMA1S(5)
C*****	H0016140
C*****	H0016145
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.
C*****	H3010120
C*****	H0076125
C*****	WHEN EXECUTING ONLY SEGMENT 301, THE FOLLOWING STATEMENT
C*****	H0076130
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.
C*****	H0076135
C*****	H0076140
C=	NUVI = 6
C*****	H0076145
C*****	H0076150
C*****	WRITE (NUVI,3010)
C*****	H3010130
3010	FORMAT (1H1,1X,27HBARIF - (301) BASIC FORTRAN/15X,
1	24HH3010140
1	ARITHMETIC IF STATEMENT/2X,18HASA REF. - 7.1.2.2/2X,7HRESULTS)
C*****	H3010150
C*****	HEADER FOR SEGMENT 301 WRITTEN
C*****	H3010160
C*****	MCA11(1) = 5
C*****	H3010170
C*****	MCAVI = 0
C*****	H3010180
C*****	MCBVI = 21
C*****	H3010190
C*****	JACVI = -0
C*****	H3010200
C*****	CMA1S(1) = 10.5
C*****	H3010210
C*****	CMAVS = -0.0
C*****	H3010220
C*****	CMBVS = -15.E0
C*****	H3010230
C*****	TEST FOR SIGN OF ZERO - TYPE INTEGER
C*****	4.2/11 H3010240
C*****	DO 8335 IVI = 1,9
C*****	H3010250
8335	L11(IVI) = 0
C*****	H3010260
C*****	MVI = 1
C*****	H3010270
C*****	KVI = 0
C*****	H3010280
C*****	JVI = -0
C*****	H3010290
C*****	BVS = -0.0
C*****	H3010300
C*****	NVI = 1
C*****	H3010310
C*****	WRITE (NUVI, 8300)
C*****	H3010320
C*****	IF (-0) 8311, 8314, 8317
C*****	H3010330
8320	IF (0) 8312, 8315, 8318
C*****	H3010340
8321	IF (+0) 8313, 8316, 8319
C*****	H3010350
8322	NVI = 10
C*****	H3010360
C*****	IF (JVI + (-0)) 8311, 8314, 8317
C*****	H3010370
8323	IF (-IABS(JVI)) 8312, 8315, 8318
C*****	H3010380
8324	IF (-JVI + (+0)) 8313, 8316, 8319
C*****	H3010390
8325	WRITE (NUVI, 8303)(L11(IVI), IVI = 1,9)
C*****	H3010400
C*****	TEST FOR SIGN OF ZERO - TYPE REAL
C*****	H3010410
C*****	MVI = 2
C*****	H3010420
C*****	KVI = 0
C*****	H3010430
C*****	NVI = 1
C*****	H3010440
C*****	DO 8336 IVI = 1,9
C*****	H3010450
8336	L11(IVI) = 0
C*****	H3010460
C*****	WRITE (NUVI, 8304)
C*****	H3010470
C*****	IF (-0.0) 8311, 8314, 8317
C*****	H3010480
8326	IF (0.0) 8312, 8315, 8318
C*****	H3010490
8327	IF (+0.0) 8313, 8316, 8319
C*****	H3010500
8328	NVI = 10
C*****	H3010510
C*****	IF (BVS + (-0.0)) 8311, 8314, 8317
C*****	H3010520
8329	IF (-ABS(BVS)) 8312, 8315, 8318
C*****	H3010530
8330	IF (-BVS + (+0.0)) 8313, 8316, 8319
C*****	H3010540
8331	WRITE (NUVI, 8303) (L11(IVI), IVI = 1,9)
C*****	H3010550

WRITE (NUVI, 8337)	H3010560
GO TO 8305	H3010570
C***** SWITCH FOR INTEGER AND REAL TESTS	H3010580
8332 KVI = KVI + 1	H3010590
GO TO (8333, 8334), MVI	H3010600
C***** RETURNS FOR TEST SIGN OF INTEGER ZERO	H3010610
8333 GO TO (8320, 8321, 8322, 8323, 8324, 8325), KVI	H3010620
C***** RETURNS FOR TEST SIGN OF REAL ZERO	H3010630
8334 GO TO (8326, 8327, 8328, 8329, 8330, 8331), KVI	H3010640
C***** TALLY RESULTS OF CONTROL TRANSFERS	H3010650
8311 L1I(1) = L1I(1) + NVI	H3010660
GO TO 8332	H3010670
8312 L1I(2) = L1I(2) + NVI	H3010680
GO TO 8332	H3010690
8313 L1I(3) = L1I(3) + NVI	H3010700
GO TO 8332	H3010710
8314 L1I(4) = L1I(4) + NVI	H3010720
GO TO 8332	H3010730
8315 L1I(5) = L1I(5) + NVI	H3010740
GO TO 8332	H3010750
8316 L1I(6) = L1I(6) + NVI	H3010760
GO TO 8332	H3010770
8317 L1I(7) = L1I(7) + NVI	H3010780
GO TO 8332	H3010790
8318 L1I(8) = L1I(8) + NVI	H3010800
GO TO 8332	H3010810
8319 L1I(9) = L1I(9) + NVI	H3010820
GO TO 8332	H3010830
8300 FORMAT(/ 38H TEST FOR SIGN OF ZERO - TYPE INTEGER// 29H PATH * FH	H3010840
10RM OF EXPRESSION */ 29H OF IF * -0 * 0 * +0 *)	H3010850
8303 FORMAT(1H ,7(4H****)/ 1H ,4(6X,1H*)/ 8H NEG. *,3(I4,3H *)/1H ,4H	H3010860
1(6X,1H*)/8H ZERO *,3(I4,3H *)/1H ,4(6X,1H*)/8H POS. *,3(I4,	H3010870
23H *)/1H , 4(6X,1H*)/1H)	H3010880
8304 FORMAT(/ 35H TEST FOR SIGN OF ZERO - TYPE REAL // 29H PATH * FO	H3010890
1RM OF EXPRESSION */ 29H OF IF * -0.0 * 0.0 * +0.0 *)	H3010900
8337 FORMAT(/34H ALL ENTRIES SHOULD BE 0 EXCEPT /36H THE ZERO PATH,	H3010910
1 WHICH SHOULD BE 11 /33H IN EACH COLUMN. OTHER TESTS MAY / 31H	H3010920
2 FAIL IF THESE RESULTS DIFFER.//37H TEST EXPRESSIONS IN IF	H3010930
3ATEMENTS /1H)	H3010940
C***** ARITHMETIC IF WITH EXPRESSIONS OF TYPE INTEGER	H3010950
C***** TEST 1 - SHOULD TAKE ZERO BRANCH	H3010960
8305 IF (MCA1I(1) - 5) 9981,3011,9981	H3010970
C***** TEST 2 - SHOULD TAKE ZERO BRANCH	H3010980
3011 IF (MCA1I(1) + 5 - IFIX(CMA1S(1))) 9982,3012,9982	H3010990
C***** TEST 3 - SHOULD TAKE MINUS BRANCH	H3011000
3012 IF ((MCBVI * 2 / 7) - IABS(IFIX(10.5 - 10.4)) - 7) 3013,9983,9983	H3011010
C***** TEST 4 - SHOULD TAKE PLUS BRANCH	H3011020
3013 IF ((MCA1I(1) - 4) ** 99 / (MCBVI - 4 * MCA1I(1))) 9984,9984,3014	H3011030
C***** ARITHMETIC IF WITH EXPRESSION OF TYPE REAL	H3011040
C***** TEST 5 - SHOULD TAKE ZERO BRANCH	H3011050
3014 IF (CMA1S(1) - 10.5) 9985,3015,9985	H3011060
C***** TEST 6 - SHOULD TAKE MINUS BRANCH	H3011070
3015 IF (CMA1S(1) * 2.0 - (FLOAT(MCBVI) ** 1) - 1.0) 3016,9986,9986	H3011080
C***** TEST 7 - SHOULD TAKE PLUS BRANCH	H3011090
3016 IF (CMBVS * (-2.0) ** (MCBVI - 4 * MCA1I(1)) - 29.0) 9987,9987,3017	H3011100
C***** TEST 8 - SHOULD TAKE ZERO BRANCH	H3011110
3017 IF (MCAVI) 9988,3018,9980	H3011120
3018 WRITE (NUVI,3019)	H3011130
GO TO 9980	H3011140
3019 FORMAT (18H TESTS SUCCESSFUL)	H3011150
9981 MCAVI = 1	H3011160
IF (IABS(MCA1I(1) - 5)) 8301,8302,8301	H3011170
8301 WRITE (NUVI,9989) MCAVI	H3011180
GO TO 3011	H3011190
8302 WRITE (NUVI,8306) MCAVI	H3011200
8306 FORMAT (/2X,14HERROR IN TEST ,I2,23H BECAUSE MINUS ZERO WAS/	H3011210
1 30H TREATED AS A NEGATIVE NUMBER)	H3011220
GO TO 3011	H3011230

9982	MCAVI = 2	H3011240
	IF (IABS(MCA1I(1) + 5 - IFIX(CMA1S(1)))) 8307,8308,8307	H3011250
8307	WRITE (NUVI,9989) MCAVI	H3011260
	GO TO 3012	H3011270
8308	WRITE (NUVI,8306) MCAVI	H3011280
	GO TO 3012	H3011290
9983	MCAVI = 3	H3011300
	WRITE (NUVI,9989) MCAVI	H3011310
	GO TO 3013	H3011320
9984	MCAVI = 4	H3011330
	WRITE (NUVI,9989) MCAVI	H3011340
	GO TO 3014	H3011350
9985	MCAVI = 5	H3011360
	IF (ABS(CMA1S(1) - 10.5)) 8309,8310,8309	H3011370
8309	WRITE (NUVI,9989) MCAVI	H3011380
	GO TO 3015	H3011390
8310	WRITE (NUVI,8306) MCAVI	H3011400
	GO TO 3015	H3011410
9986	MCAVI = 6	H3011420
	WRITE (NUVI,9989) MCAVI	H3011430
	GO TO 3016	H3011440
9987	MCAVI = 7	H3011450
	WRITE (NUVI,9989) MCAVI	H3011460
	GO TO 3017	H3011470
9988	MCAVI = 8	H3011480
	WRITE (NUVI,9989) MCAVI	H3011490
9989	FORMAT (6H TEST,12,7H FAILED)	H3011500
9980	CONTINUE	H3011510
C*****	END OF TEST SEGMENT 301	H3011520
C*****	WHEN EXECUTING ONLY SEGMENT 301, THE STOP AND END CARDS	H3011530
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H3011540
C*****	IN COLUMNS 1 AND 2 REMOVED.	H3011550
C=	STOP	H3011560
C=	END	H3011570
C*****	*****	H3020010
C*****		H3020020
C*****	FARIF - (302)	H3020030
C*****		H3020040
C*****	*****	H3020050
C*****	GENERAL PURPOSE	ASA REF H3020060
C*****	TEST OF FULL FORTRAN ARITHMETIC IF STATEMENT	7.1.2.2H3020070
C*****	GENERAL COMMENTS	H3020080
C*****	INTRINSIC FUNCTIONS ASSUMED WORKING	H3020090
C*****		H3020100
C*****	S P E C I F I C A T I O N S SEGMENT 302	H3020110
C*****		H0016150
C*****	WHEN EXECUTING ONLY SEGMENT 302, THE SPECIFICATION STATEMENTS	H0016155
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0016160
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0016165
C*****		H0016170
C=	DIMENSION MCA1I(5),AC2S(5,6)	H0016175
C=	DOUBLE PRECISION MCAVD,MCBVD	H0016180
C=	COMPLEX CHAVC	H0016185
C*****		H0016190
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H3020120
C*****		H0076155
C*****	WHEN EXECUTING ONLY SEGMENT 302, THE FOLLOWING STATEMENT	H0076160
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0076165
C*****		H0076170
C=	NUVI = 6	H0076175
C*****		H0076180
	WRITE (NUVI,3020)	H3020130
3020	FORMAT (1H1,1X,26HFARIF - (302) FULL FORTRAN/ 16X,24HARITHMETIC I	H3020140
	1F STATEMENTS/	H3020150
	220H ASA REF. - 7.1.2.2/2X,7HRESULTS)	H3020160
C*****	HEADER FOR SEGMENT 302 WRITTEN	H3020170
	MCA1I(1) = 5	H3020180
	MCAVI = 0	H3020190

AC2S(1,1) = 10.5	H3020200
MCAVO = -15.000	H3020210
CHAVC = (1.0,2.0)	H3020220
MCBVO = -0.000	H3020230
C***** ARITHMETIC IF WITH EXPRESSION OF TYPE DOUBLE PRECISION	H3020240
C***** TEST THAT MINUS ZERO IS TREATED AS ZERO	4.2/11H3020250
IF (MCBVO) 9301,9303,9301	H3020260
9301 WRITE (NUVI,9302)	H3020270
9302 FORMAT (/2X,37HERROR, MINUS ZERO TREATED AS NEGATIVE/	H3020280
1 36H NUMBER - OTHER TESTS MAY FAIL AS A/	H3020290
2 8H RESULT)	H3020300
MCAVI = 0	H3020310
C***** TEST 1 - SHOULD TAKE ZERO BRANCH	H3020320
9303 IF (MCAVD + 15.000) 3028,3021,3028	H3020330
C***** TEST 2 - SHOULD TAKE MINUS BRANCH	H3020340
3021 IF (MCAVD / DBLE(FLOAT(MCA1I(1))) * 2.00) 3022,3029,3029	H3020350
C***** TEST 3 - SHOULD TAKE MINUS BRANCH	H3020360
3022 IF (MCAVD/(-15.000) + 6.000 - 2.000 ** 3) 3023,9971,9971	H3020370
C***** TEST 4 - SHOULD TAKE PLUS BRANCH	H3020380
3023 IF (OSIGN(1.000,DBLE(REAL(CHAVC)))) 9972,9972,3024	H3020390
C***** TEST 5 - SHOULD TAKE ZERO BRANCH	H3020400
3024 IF (2.000 ** 2 - 4.000 / 1.000) 9973, 3025, 9973	H3020410
3025 IF (MCAVI) 9974,3026,9970	H3020420
3026 WRITE (NUVI,3027)	H3020430
GO TO 9970	H3020440
3027 FORMAT (/34H SEGMENT 302 TESTED SUCCESSFULLY.)	H3020450
3028 MCAVI = 1	H3020460
IF (OABS(MCAVO + 15.000))9304,9305,9304	H3020470
9304 WRITE (NUVI,9975) MCAVI	H3020480
GO TO 3021	H3020490
9305 WRITE (NUVI,9306) MCAVI	H3020500
9306 FORMAT (/2X,14HERROR IN TEST ,12,23H BECAUSE MINUS ZERO WAS/	H3020510
1 30H TREATED AS A NEGATIVE NUMBER)	H3020520
GO TO 3021	H3020530
3029 MCAVI = 2	H3020540
WRITE (NUVI,9975) MCAVI	H3020550
GO TO 3022	H3020560
9971 MCAVI = 3	H3020570
WRITE (NUVI,9975) MCAVI	H3020580
GO TO 3023	H3020590
9972 MCAVI = 4	H3020600
WRITE (NUVI,9975) MCAVI	H3020610
GO TO 3024	H3020620
9973 MCAVI = 5	H3020630
IF (OABS(2.000 ** 2 - 4.000 / 1.000)) 9307, 9308, 9307	H3020640
9307 WRITE (NUVI,9975) MCAVI	H3020650
GO TO 3025	H3020660
9308 WRITE (NUVI,9306) MCAVI	H3020670
GO TO 3025	H3020680
9974 MCAVI = 6	H3020690
WRITE (NUVI,9975) MCAVI	H3020700
9975 FORMAT (/6H TEST,13,8H FAILED.)	H3020710
9970 CONTINUE	H3020720
C***** END OF TEST SEGMENT 302	H3020730
C***** WHEN EXECUTING ONLY SEGMENT 302, THE STOP AND END CARDS	H3020740
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H3020750
C***** IN COLUMNS 1 AND 2 REMOVED.	H3020760
C= STOP	H3020770
C= ENO	H3020780
C*****	H3100010
C*****	H3100020
C***** IOFMT - (310)	H3100030
C*****	H3100040
C*****	H3100050
C***** GENERAL PURPOSE	ASA REF3100060
C***** TO TEST ADDITIONAL FEATURES OF FORMATTED READ	7.1.3.2.H3100070
C***** AND WRITE STATEMENTS AND FORMAT STATEMENTS	7.1.3.2.H3100080
C***** RESTRICTIONS OBSERVED	H3100090

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C***** H0016215
C= DIMENSION A1S(5),A2S(2,2),A3S(3,3,3),EP1S(33) H0016220
C= DIMENSION IAC1I(5),IAC2I(2,7),AC1S(25),AC2S(5,6) H0016225
C= INTEGER MCA3I(2,3,3) H0016230
C= REAL MVS H0016235
C= DOUBLE PRECISION MCAVD,MCBVD,MCCVD,A1D(4),A2D(2,2),A3D(2,2,2) H0016240
C= DOUBLE PRECISION DPAVD,DPBVD,DPCVD,DPOVD,DPEVD,DPFVD,DPHVD,AAAVD H0016245
C***** H0016250
C***** I N P U T - O U T P U T TAPE ASSIGNMENT STATEMENTS H0016250
C***** H0016250
C***** WHEN EXECUTING ONLY SEGMENT 310, THE FOLLOWING STATEMENTS H0016250
C***** NUVI = 6 , IRVI = 5 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED. H0016250
C= NUVI = 6 H0016250
C= IRVI = 5 H0016250
C***** H0016250
C***** HEADER FORMAT STATEMENT H0016250
3100 FORMAT (1H1,1X,38HIOFMT - (310) ADDITIONAL FORMATTED I/O H0016250
1 //2X,38HASA REFS - 7.1.3.2.2 7.1.3.2.3 7.2.3//2X,7HRESULTS) H0016250
WRITE (NUVI,3100) H0016250
JACVI = 11111 H0016250
IAC1I(1) = -2345 H0016250
IAC2I(1,1) = 9999 H0016250
MCA3I(1,1,1) = 2 H0016250
ACVS = 1.2 H0016250
BCVS = -.34E-3 H0016250
A1S(1) = 34.56 H0016250
A1S(2) = 456.789E+02 H0016250
A2S(1,1) = -7899.3 H0016250
A2S(2,1) = +9876.543E-01 H0016250
A3S(1,1,1) = .543 H0016250
A3S(2,1,1) = 4.33E+1 H0016250
AAAVD = +2.22D+01 H0016250
A1D(1) = -.33456D-01 H0016250
A2D(1,1) = 9987.76D+2 H0016250
A3D(1,1,1) = 44.D-2 H0016250
C***** FORMATS TO TEST THAT BLANK INPUT FIELDS ARE 7.2.3.6/45 H0016250
C***** TREATED AS ZEROS. I, E, F AND D FIELDS ARE TESTED H0016250
C***** CARDS 1 AND 2 H0016250
3101 FORMAT (4(I5), 4(F3.1), 4(E11.4)/ 4(D15.8)) H0016250
READ (IRVI,3101) JACVI, IAC1I(1), IAC2I(1,1), MCA3I(1,1,1), ACVS, H0016250
1 A1S(1), A2S(1,1), A3S(1,1,1), BCVS, A1S(2), A2S(2,1), H0016250
2 A3S(2,1,1), AAAVD, A1D(1), A2D(1,1), A3D(1,1,1) H0016250
3102 FORMAT ( /2X,16HTEST BLANK INPUT/2X,26HEACH ANSWER SHOULD BE ZERO, H0016250
1 4(/I6) / 4(/F8.1) / 4(/E12.1) / 4(/D12.1)) H0016250
WRITE (NUVI,3102) JACVI, IAC1I(1), IAC2I(1,1), MCA3I(1,1,1), ACVS, H0016250
1 A1S(1), A2S(1,1), A3S(1,1,1), BCVS, A1S(2), A2S(2,1), H0016250
2 A3S(2,1,1), AAAVD, A1D(1), A2D(1,1), A3D(1,1,1) H0016250
C***** TEST THAT DECIMAL POINTS APPEARING IN INPUT FIELDS 7.2.3.6/47 H0016250
C***** OVERRIDE THE SPECIFICATIONS SUPPLIED BY E, F AND H0016250
C***** D FIELD DESCRIPTORS H0016250
3103 FORMAT (/34H TEST DEC. PT. SPECIFIED BY INPUT/ 36H 3 LINES IN EAH3101100
1CH GROUP SHOULD MATCH / 26H * LINE IS HOLLERITH DATA ) H0016250
WRITE (NUVI,3103) H0016250
CMAVS = 1.23456 H0016250
CMBVS = 987654. H0016250
CMEVS = 0.1234E+01 H0016250
CMFVS = -0.987654E+02 H0016250
DPAVD = 0.234567891011D+06 H0016250
DPBVD = -0.109876D-04 H0016250
C***** CARD 3. H0016250
3104 FORMAT (2(F7.3), 2(E12.5), 2(D20.11)) H0016250
READ (IRVI,3104) ACVS, BCVS, FFCVS, GGCVS, MCAVD, MCBVD H0016250
3105 FORMAT (/12H * 1.23456,2(/F12.5)//13H * 987654.0,2(/F13.1) / H0016250
1 /15H * 0.1234E+01,2(/E15.4)//17H * -0.987654E+02,2(/E17.6) / H0016250
2 /23H * 0.234567891011D+06, 2(/D23.12)//17H * -0.109876D-04, H0016250
3 2(/D17.6) ) H0016250
WRITE (NUVI,3105) CMAVS, ACVS, CMBVS, BCVS, CMEVS, FFCVS, CMFVS, H0016250
1 GGCVS, DPAVD, MCAVD, DPBVD, MCBVD H0016250

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C*****	TEST SIMPLE REPETITION OF FORMAT DESCRIPTORS	7.2.3.4/	H3101280
C*****	WHEN ADDITIONAL ITEMS REMAIN IN AN I/O LIST	7.1.3.2.1/	H3101290
C*****	AND THE LAST RIGHT PARENTHESIS HAS BEEN REACHED		H3101300
C*****	IN THE CORRESPONDING FORMAT STATEMENT		H3101310
3106	FORMAT (35H1 TEST FORMAT DESCRIPTOR REPETITION/ 32H ALL LINES		H3101320
	1IN EACH GROUP SHOULD/ 14H BE IDENTICAL)		H3101330
	WRITE (NUVI,3106)		H3101340
	JACVI = +12345		H3101350
	KBCVI = 3		H3101360
	CMAVS = 1.1		H3101370
	CMBVS = 1.23		H3101380
	CMEVS = 33.9567		H3101390
	CMGVS = 1.4E+03		H3101400
	DPAVD = 962951342.44D-5		H3101410
	DPBVD = 2.0D1		H3101420
C*****	CARDS 4, 5, 6, 7, 8		H3101430
3107	FORMAT (I5)		H3101440
	READ (IRVI,3107) IAC1I		H3101450
C*****	CARDS 9, 10, 11, 12		H3101460
3108	FORMAT (F3.1)		H3101470
	READ (IRVI,3108) AZS		H3101480
C*****	CARDS 13, 14, 15		H3101490
9320	FORMAT (E13.6)		H3101500
	READ (IRVI,9320) A1S(1), HHCVS, A1S(2)		H3101510
C*****	CARDS 16, 17, 18, 19		H3101520
9321	FORMAT (D18.11)		H3101530
	READ (IRVI,9321) A2D		H3101540
C*****	CARDS 20, 21		H3101550
9322	FORMAT (I1,F4.2,E9.2,D8.1)		H3101560
	READ (IRVI,9322) LCCVI, DCVS, AC2S(5,6), A3D(1,2,2), MDCVI, FFCVS,		H3101570
	1 GGCVS, AAADV		H3101580
9323	FORMAT (/10H * 12345)		H3101590
	WRITE (NUVI,9323)		H3101600
9324	FORMAT (I10)		H3101610
	WRITE (NUVI,9324) JACVI, IAC1I		H3101620
9325	FORMAT (/ 8H * 1.1)		H3101630
	WRITE (NUVI,9325)		H3101640
9326	FORMAT (F8.1)		H3101650
	WRITE (NUVI,9326) CMAVS, AZS		H3101660
9329	FORMAT (/17H * 0.339567E+02)		H3101670
	WRITE (NUVI,9329)		H3101680
9330	FORMAT (E17.6)		H3101690
	WRITE (NUVI,9330) CMEVS, A1S(1), HHCVS, A1S(2)		H3101700
9331	FORMAT (/22H * 0.96295134244D+04)		H3101710
	WRITE (NUVI,9331)		H3101720
9332	FORMAT (D22.11)		H3101730
	WRITE (NUVI,9332) DPAVD, A2D		H3101740
9333	FORMAT (/31H * 3 1.23 0.14E+04 0.2D+02)		H3101750
	WRITE (NUVI,9333)		H3101760
9334	FORMAT (I6,F6.2,E10.2,D9.1)		H3101770
	WRITE (NUVI,9334) KBCVI, CMBVS, CMGVS, DPBVD, LCCVI, DCVS,		H3101780
	1 AC2S(5,6), A3D(1,2,2), MDCVI, FFCVS, GGCVS, AAADV		H3101790
C*****	TEST THAT FORMAT CONTROL PASSES TO THE GROUP	7.2.3.4/03H	H3101800
C*****	ENCLOSED BY THE LAST PRECEDING RIGHT PAREN.	7.1.3.2.1/39H	H3101810
C*****	WHEN THE I/O LIST CONTAINS MORE ELEMENTS THAN		H3101820
C*****	THE NUMBER OF DESCRIPTORS IN THE FORMAT STMT.		H3101830
	JACVI = +4444		H3101840
	KBCVI = -333		H3101850
	LCCVI = 22		H3101860
	MDCVI = 11		H3101870
	ACVS = 5.555		H3101880
	BCVS = -6.666		H3101890
	CCVS = +7.77		H3101900
	DCVS = 65432.1		H3101910
	CMAVS = -0.13579E+5		H3101920
	CMBVS = 0.4545E-04		H3101930
	CMCVS = 0.9989E12		H3101940
	CMDVS = -0.747E-2		H3101950

CMEVS = +0.549E+00	H3101960
CMFVS = 0.662E-0	H3101970
CMGVS = 0.468E-10	H3101980
DPAVD = +59.542D02	H3101990
DPBVD = -0.0123456789D-2	H3102000
DPCVD = -1395624534.D-10	H3102010
DPDVD = +129.D4	H3102020
DPEVD = 4.12D+20	H3102030
DPFVD = 36.8D-7	H3102040
DPHVD = 0.6D00	H3102050
FFCVS = -44.6666	H3102060
GGCVS = +.549327E+2	H3102070
HHCVS = 848.	H3102080
MVS = -.987	H3102090
CMHVS = 1.23E-1	H3102100
CMIVS = 646.E-2	H3102110
C***** CARDS 22, 23, 24, 25, 26	H3102120
9335 FORMAT (E12.5, (I4))	H3102130
READ (IRVI,9335) A1S(2), IAC1I	H3102140
C***** CARDS 27, 28	H3102150
9336 FORMAT (I4, (F6.3), E11.4)	H3102160
READ (IRVI,9336) MRRVI, AC1S(1), EP1S(1), A3S(1,1,1), AC2S(2,2)	H3102170
C***** CARDS 29, 30	H3102180
9337 FORMAT (F4.2, (2(E10.3)), I2)	H3102190
READ (IRVI,9337) A2S(2,2), A3S(2,1,1), EP1S(2), MCA3I(1,1,1),	H3102200
1 BVS, AC2S(2,1), NECVI	H3102210
C***** CARDS 31, 32	H3102220
9338 FORMAT (D12.5, (F8.4, D17.10))	H3102230
READ (IRVI,9338) MCAVD, EP1S(3), A1D(1), A2S(1,2), A2D(2,1)	H3102240
C***** CARDS 33, 34, 35, 36	H3102250
C***** THIS READ CAUSES AN INPUT DATA CARD TO BE SKIPPED	H3102260
9339 FORMAT(F7.1, (/2(E10.3), 2(D10.3)), D10.3)	H3102270
READ (IRVI,9339) CVS, A2S(2,1), A3S(1,2,2), A3D(1,1,1),	H3102280
1 A3D(1,2,1), A2D(2,2), A3S(1,2,1), EP1S(4),	H3102290
2 A1D(2), MCBVD, MCCVD	H3102300
9340 FORMAT (/16H * -0.13579E+05,2(/E16.5))/9H * 4444,6(/I9))	H3102310
WRITE (NUVI,9340) CMAVS, A1S(2), JACVI, IAC1I	H3102320
9341 FORMAT (/ 8H * -333, 2(/I8)/ 10H1 * 5.555, 2(/F10.3) //	H3102330
115H * 0.4545E-04, 2(/E15.4))/ 10H * -6.666, 2(/F10.3) //	H3102340
215H * 0.9989E+12, 2(/E15.4))	H3102350
WRITE (NUVI,9341) KBCVI, MRRVI, ACVS, AC1S(1), CMBVS, EP1S(1),	H3102360
1 BCVS, A3S(1,1,1), CMCVS, AC2S(2,2)	H3102370
9342 FORMAT (/9H * 7.77, 2(/F9.2))/14H * -0.747E-02, 2(/E14.3) //	H3102380
1 14H * 0.549E+00, 2(/E14.3) //7H * 22, 2(/I7) //	H3102390
2 14H * 0.662E+00, 2(/E14.3) //14H * 0.468E-10, 2(/E14.3) //	H3102400
3 7H * 11, 2(/I7))	H3102410
WRITE (NUVI,9342) CCVS, A2S(2,2), CMDVS, A3S(2,1,1), CMEVS,	H3102420
1 EP1S(2), LCCVI, MCA3I(1,1,1), CMFVS, BVS, CMGVS, AC2S(2,1),	H3102430
2 MDCVI, NECVI	H3102440
9343 FORMAT (/16H * 0.59542D+04,2(/D16.5))/12H * -44.6666,2(/F12.4)/	H3102450
1/21H * -0.1234567890D-03,2(/D21.10))/12H1 * 54.9327,2(/F12.4)//	H3102460
2 21H * -0.1395624534D+00,2(/D21.10))	H3102470
WRITE (NUVI,9343) DPAVD, MCAVD, FFCVS, EP1S(3), DPBVD, A1D(1),	H3102480
1 GGCVS, A2S(1,2), DPCVD, A2D(2,1)	H3102490
9344 FORMAT (/12H * 65432.1/ 2(F12.1) / 14H * 0.848E+03/	H3102500
1 3(E14.3) / 14H * 0.129D+07/ 3(D14.3) / 14H * 0.412D+21/	H3102510
2 2(D14.3) / 14H * -0.987E+00/ 3(E14.3) / 12H * 0.6D+00/	H3102520
3 3(D12.1) / 14H * 0.368D-05, 2(/D14.3))	H3102530
WRITE (NUVI,9344) DCVS, CVS, HHCVS, A2S(2,1), A3S(1,2,2), DPDVD,	H3102540
1 A3D(1,1,1), A3D(1,2,1), DPEVD, A2D(2,2),	H3102550
2 MVS, A3S(1,2,1), EP1S(4), DPHVD, A1D(2), MCBVD,	H3102560
3 DPFVD, MCCVD	H3102570
9345 FORMAT (/14H * 0.777E+01/ (E14.3))	H3102580
WRITE (NUVI,9345) CCVS, A2S(2,2)	H3102590
9346 FORMAT (/ 22H * -333 0.59542D+04/I8, D14.5)	H3102600
WRITE (NUVI,9346) KBCVI, DPAVD, MRRVI, MCAVD	H3102610
9347 IF (MRRVI - 5) 9348, 9349, 9348	H3102620
C***** CARD 37	H3102630

9348	READ (IRVI, 9336) MRRVI	H3102640
	GO TO 9347	H3102650
C*****	* ADDITIONAL SCALE FACTOR ON INPUT-OUTPUT	H3102660
C*****	CARD 38	H3102670
9349	READ(IRVI, 9327) A1S(3), A1S(4), A1D(4)	H3102680
9327	FORMAT (1PE10.3, -1PE10.2, D10.3)	H3102690
	WRITE(NUVI, 9328) A1S(3), A1S(4), A1D(4)	H3102700
9328	FORMAT(/22H1 SCALE FACTOR ON READ/ 31H IN ORDER OF FORMAT OCCURRH	H3102710
	2ENCE/28H NO EXPONENT ON INPUT DATA //	H3102720
3	40H CARD 987654 8647.86 987.654/	H3102730
4	40H DESC 1PE10.3 -1PE10.2 D10.3/	H3102740
5	40H TO BE .988E+02 .8648E+05 .9877D+04/	H3102750
6	4H IS, E12.3, E12.4, D12.4)	H3102760
C*****	END OF TEST SEGMENT 310	H3102770
C*****	WHEN EXECUTING ONLY SEGMENT 310, THE STOP AND END CARDS	H3102780
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H3102790
C*****	IN COLUMNS 1 AND 2 REMOVED.	H3102800
C=	STOP	H3102810
C=	END	H3102820
C*****	*****	H3120010
C*****		H3120020
C*****	RDFMT - (312)	H3120030
C*****		H3120040
C*****	*****	H3120050
C*****	GENERAL PURPOSE	ASA REF
C*****	TO TEST FORMATTED READ AND WRITE STATEMENTS	7.2.3.10H
C*****	IN WHICH THE FORMAT STATEMENT IS CONTAINED IN	H3120080
C*****	AN ARRAY	H3120090
C*****	RESTRICTIONS OBSERVED	H3120100
C*****	* AN H DESCRIPTOR MAY NOT BE PART OF A FORMAT	7.2.3.10/48H
C*****	STATEMENT IN AN ARRAY	H3120120
C*****	* ALL FORMAT STATEMENTS ARE LABELED	7.2.3 /57H
C*****	* H AND X DESCRIPTORS ARE NEVER REPEATED	7.2.3.3/54H
C*****	* FOR W.D DESCRIPTORS, D IS ALWAYS SPECIFIED AND	7.2.3.1/31H
C*****	W IS EQUAL TO OR GREATER THAN D	7.2.3.1/33H
C*****	* FIELD WIDTH IS NEVER ZERO	7.2.3 /18H
C*****	* IF THERE IS AN I/O LIST, THE FORMAT STATEMENT	7.2.3.4/22H
C*****	CONTAINS AT LEAST ONE FIELD DESCRIPTOR (OTHER	H3120190
C*****	THAN H OR X)	H3120200
C*****	* ITEMS IN I/O LIST CORRESPOND TO FORMAT DESCRIPTORS	7.2.3.4/36H
C*****	* NEGATIVE OUTPUT VALUES ARE SIGNED	7.2.3.6/56H
C*****	* FIELD WIDTH NEVER EXCEEDED BY OUTPUT	7.2.3.6/01H
C*****	* FOR I CONVERSION, EXTERNAL INPUT FIELDS ARE	7.2.3.6.1/07H
C*****	INTEGER CONSTANTS	H3120250
C*****	TEST HOLLERITH IN ARGUMENT OF A CALL	H3120260
C*****	ARRAY NAME IN ARGUMENT LIST USED AS FORMAT SPECIFIER	H3120270
C*****	SUBROUTINE FMTQ ALSO TESTS THE EMPTY FORMAT STATEMENT	H3120280
C*****	THE FOLLOWING DATA STATEMENTS INITIALIZE SOME	7.2.3.10/50H
C*****	ARRAYS WITH FORMAT STATEMENTS TO BE USED FOR	H3120300
C*****	READING WITH A, F AND D CONVERSION AND FOR	H3120310
C*****	WRITING WITH I, E AND L CONVERSION	H3120320
C*****		H3120330
C	INPUT DATA TO THIS SEG. CONSISTS OF 13 CARD IMAGES IN COLS. 1 - 80	H3120340
C	COLS. 1-----50	H3120350
CARD 1	(15,6X, 14, 2(13), 12)	H3120360
CARD 2	(E 9.2,3(E13.6))	H3120370
CARD 3	(L1 ,2(L2),L3)	H3120380
CARD 4	(2X,A2,5(A2))	H3120390
CARD 5	(2X,F5.3, F4.0, 2(F7.2))	H3120400
CARD 6	(2X , D 16.9,D9.2)	H3120410
CARD 7	4756 -867224+39-6	H3120420
CARD 8	23498.-77.27547.18	H3120430
CARD 9	-.0076+11+08.93421E-13 893.421E-15+08.93421E-13	H3120440
CARD 10	-0.357901246D+00 +0.52D-2	H3120450
CARD 11	TTA FF9S	H3120460
CARD 12	AB	H3120470
CARD 13	CDE**=123	H3120480
CARD	COLS. NOT MENTIONED ARE BLANK	H3120490

C*****		H3120500
C*****	S P E C I F I C A T I O N S S E G M E N T 3 1 2	H3120510
C*****		H0016255
C*****	WHEN EXECUTING ONLY SEGMENT 312, THE SPECIFICATION STATEMENTS	H0016260
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0016265
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0016270
C*****		H0016275
C=	DIMENSION L11(10),A3S(3,3,3),YER1S(7),IAC1I(5),AC1S(25)	H0016280
C=	DIMENSION 2U3S(3,2,2),2T1S(4),2U1S(12),2U2S(4,2),IAC2I(2,7)	H0016285
C=	INTEGER AVI,IU2I(4,2),IT3I(4,2,2),IU3I(2,3,3),MCA3I(2,3,3)	H0016290
C=	LOGICAL AV8,BV8,CV8,GG1B(2),A1B(2)	H0016295
C=	DOUBLE PRECISION DPAVD,DPBVD,DPCVD,A1D(4)	H0016300
C=	COMPLEX CHAVC,CHBVC	H0016305
C*****		H0016310
C*****	I N P U T - O U T P U T T A P E A S S I G N M E N T S T A T E M E N T S	H3120520
C*****		H0076215
C*****	WHEN EXECUTING ONLY SEGMENT 312, THE FOLLOWING STATEMENTS	H0076220
C*****	NUVI=6 AND IRVI=5 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0076225
C*****		H0076230
C=	NUVI = 6	H0076235
C=	IRVI = 5	H0076240
C*****		H0076245
	DATA IU2I(1,1),IU2I(2,1),IU2I(3,1),IU2I(4,1),IU2I(1,2),IU2I(2,2),	H3120530
1	IU2I(3,2)/2H(A,2H2/,2H2X,2H,5,2H(A,2H2),1H) /	H3120540
	DATA 2U1S(1),2U1S(2),2U1S(3),2U1S(4),2U1S(5),2U1S(6),2U1S(7),	H3120550
1	2U1S(8),2U1S(9),2U1S(10),2U1S(11),2U1S(12) /	H3120560
2	2H(,2H ,2HF3,2H.3,1H,,2HF3,2H.0,2H, ,2H2(,2HF6,2H.2,2H)) /	H3120570
	DATA IU3I(1,1,1),IU3I(2,1,1),IU3I(1,2,1),IU3I(2,2,1),IU3I(1,3,1),	H3120580
1	IU3I(2,3,1),IU3I(1,1,2),IU3I(2,1,2) /	H3120590
2	2H(,2H D,2H16,2H.9,2H, ,1HD,2H9.,2H2) /	H3120600
	DATA IT3I(1,1,1),IT3I(2,1,1),IT3I(3,1,1),IT3I(4,1,1),IT3I(1,2,1),	H3120610
1	IT3I(2,2,1),IT3I(3,2,1),IT3I(4,2,1),IT3I(1,1,2),IT3I(2,1,2),	H3120620
2	IT3I(3,1,2),IT3I(4,1,2),IT3I(1,2,2) /2H(2,2HX,,2H15,2H,1,	H3120630
3	2HX,,2H14,2H,1,2H4,,2H1X,2H,1,2H2,,2H13,1H) /	H3120640
	DATA 2T1S(1),2T1S(2),2T1S(3),2T1S(4)/2H(E,2H11,2H.2,1H) /	H3120650
	DATA 2U3S(1,1,1),2U3S(2,1,1),2U3S(3,1,1),2U3S(1,2,1),2U3S(2,2,1),	H3120660
1	2U3S(3,2,1) / 2H(4,2H(E,2H14,2H.6,2H/),1H) /	H3120670
	DATA 2U2S(1,1),2U2S(2,1),2U2S(3,1),2U2S(4,1),2U2S(1,2),2U2S(2,2),	H3120680
2	2U2S(3,2) / 2H(L,2H3,,2H2(,2HL2,2H),,2HL3,1H) /	H3120690
C*****	THE FOLLOWING READ STATEMENTS INITIALIZE SOME 7.2.3.10/51	H3120700
C*****	ARRAYS WITH FORMAT STATEMENTS TO BE USED FOR	H3120710
C*****	READING WITH I, E AND L CONVERSIONS AND FOR	H3120720
C*****	WRITING WITH A, F AND D CONVERSIONS	H3120730
C*****		H3120740
	WRITE (NUVI,3120)	H3120750
C*****	CARD 1	H3120760
	READ (IRVI,3121) AC1S(1), AC1S(2), AC1S(3), AC1S(4), AC1S(5),	H3120770
1	AC1S(6),AC1S(7),AC1S(8),AC1S(9),AC1S(10),AC1S(11),AC1S(12)	H3120780
C*****	CARD 2	H3120790
	READ (IRVI,3122) L11	H3120800
C*****	CARD 3	H3120810
	READ (IRVI,3121) A3S	H3120820
C*****	CARD 4	H3120830
	READ (IRVI,3123) YER1S	H3120840
C*****	CARD 5	H3120850
	READ (IRVI,3124) MCA3I	H3120860
C*****	CARD 6	H3120870
	READ (IRVI,3124) IAC2I	H3120880
C*****		H3120890
C*****		H3120900
C*****	THE FOLLOWING STATEMENTS MAKE USE OF THE FORMATS	H3120910
C*****	CONTAINED IN THE ARRAYS	H3120920
C*****		H3120930
C*****	READ AND WRITE WITH I CONVERSION USING FORMATS IN ARRAYS	H3120940
	JACVI = 4756	H3120950
	KBCVI = -867	H3120960
	LCCVI = 224	H3120970
	MDCVI = +39	H3120980

NECVI = -6	H3120990
C***** CARD 7 WITH CARD 1 AS FORMAT	H3121000
READ (IRVI,AC1S) AVI, MRRVI, IAC1I(1), IAC1I(2), IAC1I(3)	H3121010
WRITE (NUVI,3125)	H3121020
WRITE(NUVI,IT3I)JACVI, KBCVI, LCCVI, MDCVI, NECVI, AVI, MRRVI,	H3121030
1 IAC1I(1), IAC1I(2), IAC1I(3)	H3121040
C***** READ AND WRITE WITH F CONVERSION USING FORMATS IN ARRAYS	H3121050
AVS = .234	H3121060
BVS = 98.	H3121070
CHAVC = (-77.27,+547.18E0)	H3121080
C***** CARD 8 FORMAT IS (F3.3,F3.0,2(F6.2))	H3121090
READ (IRVI,2U1S) CVS, DVS, CHBVC	H3121100
WRITE (NUVI,3127)	H3121110
WRITE (NUVI,MCA3I) AVS, BVS, CHAVC	H3121120
WRITE (NUVI,MCA3I) CVS, DVS, CHBVC	H3121130
C***** READ AND WRITE WITH E CONVERSION USING FORMATS IN ARRAYS	H3121140
AVS = -0.76E+9	H3121150
BVS = +08.93421E-13	H3121160
C***** CARD 9 WITH CARD 2 AS FORMAT	H3121170
READ (IRVI,L1I) ZU3S(2,2,2),CVS,DVS,ZU3S(1,2,2)	H3121180
WRITE (NUVI,3128)	H3121190
WRITE(NUVI,2T1S) AVS, ZU3S(2,2,2)	H3121200
WRITE (NUVI,3129)	H3121210
WRITE (NUVI, ZU3S) BVS,ZU3S(1,2,2),CVS, DVS	H3121220
C***** READ AND WRITE WITH D CONVERSION USING FORMATS IN ARRAYS	H3121230
DPAVD = -0.357901246D+00	H3121240
DPBVD = +.00052D+1	H3121250
C***** CARD 10 FORMAT IS (D16.9,D9.2)	H3121260
READ (IRVI,IU3I) A1D(1), DPCVD	H3121270
WRITE (NUVI,9930)	H3121280
WRITE (NUVI,IAC2I) DPAVD,DPBVD,A1D(1),DPCVD	H3121290
C***** READ AND WRITE WITH L CONVERSION USING FORMATS IN ARRAYS	H3121300
AVB = .TRUE.	H3121310
BVB = .FALSE.	H3121320
C***** CARD 11 WITH CARD 3 AS FORMAT	H3121330
READ (IRVI,A3S) A1B(1), A1B(2), CVB, GG1B(2)	H3121340
WRITE (NUVI,9931)	H3121350
WRITE (NUVI, 2U2S) AVB, AVB, BVB, BVB	H3121360
WRITE (NUVI,ZU2S) A1B(1), A1B(2), CVB, GG1B(2)	H3121370
C***** READ AND WRITE WITH A CONVERSION USING FORMATS IN ARRAYS	H3121380
C***** CARDS 12 AND 13 FORMAT IS (A2/2X,5(A2))	H3121390
READ (IRVI,IU2I) JACVI, AVS, IAC1I(1), GG1B, BVB	H3121400
WRITE (NUVI,3126)	H3121410
WRITE (NUVI,YER1S) JACVI, AVS, IAC1I(1), GG1B, BVB	H3121420
C*****	H3121430
CALL FMTQ (NUVI,2T1S,0.9999,2HH0,2HLL,2HER,2HIT,2HH ,2HCO,2HNS,	H3121440
1 2HTA,2HNT,2HS ,2HAS,2H C,2HAL,2HL ,2HAR,2HGU,2HME,2HNT,1HS)	H3121450
C*****	H3121460
C***** ADDITIONAL FORMAT STATEMENTS REQUIRED BY THIS SEGMENT	H3121470
C*****	H3121480
C***** THE FOLLOWING FORMAT STATEMENTS ARE USED TO 7.2.3.10/51	H3121490
C***** READ FORMATS INTO ARRAYS	H3121500
3121 FORMAT (27(A2))	H3121510
3122 FORMAT (10(A2))	H3121520
3123 FORMAT (7(A2))	H3121530
3124 FORMAT (18(A2))	H3121540
C***** THE FOLLOWING ARRAYS ARE USED TO WRITE OUT ALL 7.2.3.10/48	H3121550
C***** COLLERITH INFORMATION, SINCE H FIELD DESCRIPTORS	H3121560
C***** 1A NOT BE PART OF A FORMAT WITHIN AN ARRAY	H3121570
3120 FORMAT (1H1,1X,31HRDFMT - (312) FORMATS IN ARRAYS//	H3121580
1 2H ASA REFS. - 7.2.3.10//34H EACH GROUP OF LINES SHOULD MATCH)	H3121590
3125 FORMAT (/ 22H 4756 -867 224 39 -6)	H3121600
3126 FORMAT (/ 13H ABCDE+*=123)	H3121610
3127 FORMAT (/ 25H 0.234 98. -77.27 547.18)	H3121620
3128 FORMAT (/11H -0.76E+09)	H3121630
3129 FORMAT (/14H 0.893421E-12)	H3121640
9930 FORMAT (/ 27H -0.357901246D+00 0.52D-02)	H3121650
9931 FORMAT (/ 10H T T F F)	H3121660

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C***** END OF TEST SEGMENT 312 H3121670
C***** WHEN EXECUTING ONLY SEGMENT 312, THE STOP AND END CARDS H3121680
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C= H3121690
C***** IN COLUMNS 1 AND 2 REMOVED. H3121700
C= STOP H3121710
C= END H3121720
STOP H9999995
END H9999999
C***** H4110010
C***** H4110020
C***** SMCQ - (411) H4110030
C***** H4110040
C***** H4110050
C***** GENERAL PURPOSE H4110060
C***** TO DEFINE SUBROUTINE SMCQ WHICH IS USED IN SEGMENT 300 H4110070
SUBROUTINE SMCQ(MWVI) H4110080
MWVI = MWVI + 5 H4110090
RETURN H4110100
C***** END OF TEST SEGMENT 411 H4110110
END H4110120
C***** H4620010
C***** H4620020
C***** FMTQ - (462) H4620030
C***** H4620040
C***** H4620050
C***** GENERAL PURPOSE H4620060
C***** TO DEFINE SUBROUTINE FMTQ WHICH IS USED IN SEGMENT 312 H4620070
C***** TO TEST FORMAT IN AN ARRAY PASSED AS AN ARGUMENT, AN H4620080
C***** EMPTY FORMAT STATEMENT, AND H4620090
C***** HOLLERITH IN A CALL ARGUMENT H4620100
SUBROUTINE FMTQ(NWVI,ZTWIS,AWVS,IWVH,JWVH,KWVH,LWVH,MWVH,NWVH, H4620110
1 IIWVH,JJWVH,KKWVH,LLWVH,MMWVH,NNWVH,IJWVH,IKWVH, H4620120
2 ILWVH,IMWVH,INWVH,JIWVH,JKWVH) H4620130
DIMENSION ZTWIS(4) H4620140
WRITE (NWVI, 4620) H4620150
4620 FORMAT(/11H +.10E+01 ) H4620160
C*****FORMAT LABELED ZTWIS PASSED AS ARGUMENT IS (E11.2) H4620170
WRITE (NWVI, 2TWIS) AWVS H4620180
WRITE (NWVI, 4621) H4620190
4621 FORMAT(/39H HOLLERITH CONSTANTS AS CALL ARGUMENTS ) H4620200
WRITE (NWVI,4622) IWVH, JWVH,KWVH,LWVH,MWVH,NWVH,IIWVH,JJWVH, H4620210
KKWVH, LLWVH,MMWVH,NNWVH,IJWVH,IKWVH,ILWVH, H4620220
IMWVH,INWVH,JIWVH,JKWVH H4620230
4622 FORMAT(2X, 19A2) H4620240
WRITE (NWVI,4623) H4620250
4623 FORMAT(/29H TEST EMPTY FORMAT STATEMENT / H4620260
136H THE FOLLOWING LINE SHOULD BE BLANK ) H4620270
WRITE(NWVI,4624) H4620280
4624 FORMAT( ) H4620290
WRITE(NWVI,4625) H4620300
4625 FORMAT(23H END EMPTY FORMAT TEST //22H END SEGMENT 312 TEST ) H4620310
RETURN H4620320
END H4620330

SAMPLE COMPUTER, FORTRAN COMPILER LEVEL
DO NOT READ OR WRITE RECORD 2. DOUBLE SPACE ON OUTPUT ID 2
OPERATING SYSTEM VERSION
DO NOT READ OR WRITE RECORD 4. DOUBLE SPACE ON OUTPUT ID 4
DATE, INSTALLATION NAME
DO NOT READ OR WRITE RECORD 6. DOUBLE SPACE ON OUTPUT ID 6
. . . 0. E+00 + . E00
+ + D+00 . D0
1.23456987654. +1.234E-0 -98.7654E+0 + 2345.67891011+2 - .109876-4.
12345
12345
12345
12345
12345
1.1

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C*****	SPEC2 - 360 COMMON, DIMENSION, EQUIVALENCE	H0006530
C*****		H0016400
C*****	THE FOLLOWING SPECIFICATIONS ARE TO BE USED ONLY WHEN SEGMENTS	H0016405
C*****	350, 351, 352, 360 ARE RUN AS ONE MAIN PROGRAM.	H0016410
C*****		H0016415
	DIMENSION J(2), JJ(1,1), JJJ(1,1,1), JJJJ(1,1),	H0016420
1	JJJJJ(1), JJJJJJ(1)	H0016425
	DIMENSION GOTO(2,2), IF(5)	H0016430
	DIMENSION MX1I(3), TX1S(3)	H0016435
	DIMENSION MMY1I(400),NNY3I(20,10,2)	H0016440
	DIMENSION MX2I(2,3), TX2S(2,2), WAZ2S(3,2), RVY1S(2), RVY2S(1,2)	H0016445
	DIMENSION JY2I(2,2), JY1I(5), NZ1I(4), NZ2I(4,2), WAZ1S(2)	H0016450
	COMMON MX1I, MX2I, NZ1I, NZVI, NZ2I	H0016455
	COMMON MXVI	H0016460
	COMMON IAXVI	H0016465
	COMMON WAZ1S	H0016470
	COMMON TX1S, TX2S, JBZVI, WAZ2S	H0016475
	EQUIVALENCE (MMY1I(1),NNY3I(1,1,1)),(NZ1I(1),NNY3I(1))	H0016480
	EQUIVALENCE (MYVI,NZVI), (IYVI,NZ1I(1)), (NZ2I(4,1), JYVI)	H0016485
	EQUIVALENCE (NZ2I(3), KYVI), (AAYVS,JBZVI,JY2I(1), RVY1S(2))	H0016490
	EQUIVALENCE (RVY2S(1,1),WAZ1S(2))	H0016495
	EQUIVALENCE (JY1I(3),RVY1S(2))	H0016500
	EQUIVALENCE (WAZ2S(1),BBYVS,CCYVS), (WAZ2S(2,1),DDYVS)	H0016505
C*****	END OF SPECIFICATIONS FOR SEGMENTS 350, 351, 352, 360	H0016510
C*****		H3500010
C*****		H3500020
C*****	MISC5 - (350)	H3500030
C*****		H3500040
C*****		H3500050
C*****	GENERAL PURPOSE	ASA REF H3500060
C*****	TO TEST SPECIFICATIONS FOR PROGRAM FORM	3.2 H3500070
C*****		3.2.1 H3500080
C*****		3.4 H3500090
C*****		3.5 H3500100
C*****	GENERAL COMMENTS	H3500110
C*****	* AMONG OTHER THINGS, THIS SEGMENT TESTS THAT COMMENTS ARE	H3500120
C*****	NOT EXECUTED AND, AS A RESULT OF THIS TEST, THE COMPILER	H3500130
C*****	MAY GENERATE SOME WARNING MESSAGES.	H3500140
C*****	* BECAUSE OF THE NATURE OF THE TESTS BEING PERFORMED, SOME	H3500150
C*****	LABELS AND NAMES DO NOT FOLLOW THE CONVENTIONS	H3500160
C*****	SPECIFIED IN THE USERS MANUAL.	H3500170
C*****		H3500180
C*****	S P E C I F I C A T I O N S SEGMENT 350	H3500190
C*****		H0016515
C*****	WHEN EXECUTING ONLY SEGMENT 350, REMOVE THE PRECEDING	H0016520
C*****	SPECIFICATIONS. THE FOLLOWING SPECIFICATIONS, WHICH APPEAR	H0016525
C*****	AS COMMENT CARDS MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0016530
C*****		H0016535
C=	DIMENSION J(2), JJ(1,1), JJJ(1,1,1), JJJJ(1,1),JJJJJ(1), JJJJJJ(1)	H0016540
C*****		H0016545
C*****	I N P U T - O U T P U T T A P E ASSIGNMENT STATEMENTS.	H3500200
	IRVI = 5	H0076400
	NUVI = 6	H0076405
C*****	IDENTIFY THE SOURCE OF THE TEST PROGRAMS	H0076410
	WRITE(NUVI,0071)	H0076415
0071	FORMAT (41H1 F O R T R A N T E S T P R O G R A M S//	H0076420
	1 42H PREPARED BY NATIONAL BUREAU OF STANDARDS//	H0076425
	3 37H FOR USE ON LARGE FORTRAN PROCESSORS //	H0076430
	4 42H IN ACCORDANCE WITH ASA FORTRAN X3.9-1966//	H0076435
	5 23H VERSION 3 PART 14//)	H0076440
C*****	3 OF 6 INPUT CARDS IDENTIFY THE USERS SYSTEM AND COMPILER	H0076445
C	PREPARED BY USER	H0076450
C	READ, NO LIST	H0076455
C	PREPARED BY USER	H0076460
C	READ, NO LIST	H0076465
C	PREPARED BY USER	H0076470
C	READ, NO LIST	H0076475
	READ(IRVI,0070)	H0076480

READ(IRVI,0072)	H0076485
READ(IRVI,0073)	H0076490
0070 FORMAT(40H BASED ON ASA FORTRAN X3.9-1966 /)	H0076495
0072 FORMAT(40H TEST PROGRAMS /)	H0076500
0073 FORMAT(40H FORTRAN COMPILER /)	H0076505
WRITE(NUVI,0070)	H0076510
WRITE(NUVI,0072)	H0076515
WRITE(NUVI,0073)	H0076520
WRITE (NUVI,3500)	H3500210
3500 FORMAT (1H1,1X,32HMISC5 - (350) SPECIFICATIONS FOR/ 16X, 12HPRON	H3500220
1GRAM FORM//2X,32HASA REFS. - 3.2 3.2.1 3.4 3.5//	H3500230
2 2X,35HTEST THAT COMMENTS ARE NOT EXECUTED)	H3500240
C***** HEADER FOR SEGMENT 350 WRITTEN	H3500250
C***** TEST THAT COMMENTS ARE NOT EXECUTED 3.2.1/36	H3500260
C*****WRITE (NUVI,3501)	H3500270
3501 FORMAT (2X,34HERROR - COMMENT STATEMENT EXECUTED)	H3500280
C*****GO TO 3504	H3500290
3502 MRRVI = 0	H3500300
C*****IF (MRRVI) 3504, 3504, 3504	H3500310
3503 MRRVI = 1	H3500320
C*****MRRVI = -1	H3500330
IF (MRRVI) 3504,3504,3505	H3500340
3504 WRITE (NUVI,3501)	H3500350
3505 WRITE (NUVI,3506)	H3500360
3506 FORMAT (2X,35HTEST SUCCESSFUL IF NO ERROR MESSAGE)	H3500370
GO TO 3509	H3500380
C***** TEST THAT ALL 72 CHARACTERS IN A LINE MAY BE USED 3.2/24	H3500390
3509 WRITE (NUVI,8100)	H3500400
8100 FORMAT(///2X,22HTEST 72 CHARACTER LINE)	H3500410
WRITE (NUVI,8101)	H3500420
8101 0FORMAT(/2X,29H12345678910111213141516171819/2X,29H123456789101112H	H3500430
113141516171819)	H3500440
WRITE (NUVI,8102)	H3500450
8102 FORMAT (/2X,36HTEST SUCCESSFUL IF 2 LINES ABOVE ARE/2X,19HDIGITS	H3500460
11 THROUGH 19)	H3500470
C***** TEST THAT STATEMENT LABELS MAY BE 1, 2, 3, 4 OR 5 3.4/12	H3500480
C***** DIGITS LONG	H3500490
WRITE (NUVI,8112)	H3500500
8112 FORMAT (//2X,37HTEST 1,2,3,4,5 CHARACTER STMT. LABEL/)	H3500510
GO TO 1	H3500520
8113 GO TO 22	H3500530
8114 GO TO 333	H3500540
8115 GO TO 8099	H3500550
8097 GO TO 22255	H3500560
1 MRRVI = 1	H3500570
WRITE (NUVI,8118) MRRVI	H3500580
GO TO 8113	H3500590
22 MRRVI = 2	H3500600
WRITE (NUVI,8118) MRRVI	H3500610
GO TO 8114	H3500620
333 MRRVI = 3	H3500630
WRITE (NUVI,8118) MRRVI	H3500640
GO TO 8115	H3500650
8099 MRRVI = 4	H3500660
WRITE(NUVI, 8118) MRRVI	H3500670
GO TO 8097	H3500680
22255 MRRVI = 5	H3500690
WRITE (NUVI,8118) MRRVI	H3500700
8118 FORMAT (2X,11,1X,24HCHARACTER LABEL ACCEPTED)	H3500710
C***** TEST THAT VARIABLE AND ARRAY NAMES MAY BE 3.5/21	H3500720
C***** 1, 2, 3, 4 OR 5 CHARACTERS LONG	H3500730
WRITE (NUVI,8098)	H3500740
8098 FORMAT (//2X,36HTEST 1,2,3,4,5,6 CHARACTER VARIABLES/2X,	H3500750
115HAND ARRAY NAMES)	H3500760
M = 1	H3500770
MM = 1	H3500780
MMM = 1	H3500790
MMMM = 1	H3500800

MMMMM = 1	H3500810
MMMMMM = 1	H3500820
J(1) = 1	H3500830
JJ(1,1) = 1	H3500840
JJJ(1,1,1) = 1	H3500850
JJJJ(1,1) = 1	H3500860
JJJJJ(1) = 1	H3500870
JJJJJJ(1) = 1	H3500880
IF (M-1) 8119, 8103, 8119	H3500890
8103 IF (MM-1) 8119,8104,8119	H3500900
8104 IF (MMM-1) 8119,8105,8119	H3500910
8105 IF (MMMM-1) 8119, 8106,8119	H3500920
8106 IF (MMMMM-1) 8119,8096,8119	H3500930
8096 IF (MMMMMM-1) 8119, 8107, 8119	H3500940
8107 IF (J(1)-1) 8119,8108,8119	H3500950
8108 IF (JJ(1,1)-1) 8119,8109,8119	H3500960
8109 IF (JJJ(1,1,1)-1) 8119,8110,8119	H3500970
8110 IF (JJJJ(1,1)-1) 8119,8111,8119	H3500980
8111 IF (JJJJJ(1)-1) 8119,8095,8119	H3500990
8095 IF (JJJJJJ(1)-1) 8119,8121,8119	H3501000
8119 WRITE (NUVI,8120)	H3501010
8120 FORMAT (/ 2X,21H**TEST UNSUCCESSFUL**)	H3501020
GO TO 8123	H3501030
8121 WRITE (NUVI,8122)	H3501040
8122 FORMAT (/ 2X,38H**TEST SUCCESSFUL-ALL NAMES ACCEPTED**)	H3501050
C***** TEST THAT STATEMENT LABELS MAY BE PLACED	3.4/13H3501060
C***** ANYWHERE IN COLUMNS 1 TO 5 AND THAT LEADING	3.4/17H3501070
C***** ZEROS ON STATEMENT LABELS ARE NOT SIGNIFICANT	H3501080
8123 WRITE (NUVI,8116)	H3501090
8116 FORMAT (/2X,34HTEST PLACEMENT OF STATEMENT LABELS/2X,	H3501100
1 29HAND LABELS WITH LEADING ZEROS/)	H3501110
MRRVI = 1	H3501120
GO TO 10	H3501130
2 MRRVI = 2	H3501140
GO TO 010	H3501150
3 MRRVI = 3	H3501160
GO TO 0010	H3501170
4 MRRVI = 4	H3501180
GO TO 0010	H3501190
5 MRRVI = 5	H3501200
GO TO 0010	H3501210
06 MRRVI = 6	H3501220
GO TO 0010	H3501230
007 MRRVI = 7	H3501240
GO TO 0010	H3501250
0008 MRRVI = 8	H3501260
GO TO 0010	H3501270
0009 MRRVI = 9	H3501280
0010 WRITE (NUVI,11) MRRVI	H3501290
011 FORMAT (I10)	H3501300
GO TO (02,3,004,0005,6,7,8,009,8117), MRRVI	H3501310
8117 WRITE (NUVI,012)	H3501320
12 FORMAT (/2X,28HTEST SUCCESSFUL IF 9 NUMBERS/2X,	H3501330
1 31HIN SEQUENTIAL ORDER FROM 1 TO 9/2X,	H3501340
2 17HARE WRITTEN ABOVE//2X,18HEND OF SEGMENT 350)	H3501350
C***** END OF TEST SEGMENT 350	H3501360
C***** WHEN EXECUTING ONLY SEGMENT 350, THE STOP AND END CARDS	H3501370
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H3501380
C***** IN COLUMNS 1 AND 2 REMOVED.	H3501390
C= STOP	H3501400
C= END	H3501410
C*****	H3510010
C*****	H3510020
C***** FUNMX - (351)	H3510030
C*****	H3510040
C*****	H3510050
C***** GENERAL PURPOSE	ASA REF H3510060
C***** THIS SEGMENT FURTHER TESTS SOME	8.3.3 H3510070

C*****	BASIC EXTERNAL FUNCTIONS BY USING TRIGONOMETRIC	H3510080
C*****	FORMULAE	H3510090
C*****		H3510100
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H3510110
C*****		H0076525
C*****	WHEN EXECUTING ONLY SEGMENT 351, THE FOLLOWING STATEMENT	H0076530
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0076535
C*****		H0076540
C=	NUVI = 6	H0076545
C*****		H0076550
	WRITE (NUVI,3510)	H3510120
3510	FORMAT (1H1,2X,13HFUNMX - (351)//1X,22H THIS SEGMENT FURTHER	H3510130
	1 5HTESTS /21H SOME BASIC EXTERNAL,	H3510140
	2 10H FUNCTIONS /33H BY USING TRIGONOMETRIC FORMULAE//	H3510150
	319H ASA REFS. - 8.3.3//2X,7HRESULTS)	H3510160
C*****	HEADER FOR SEGMENT 351 WRITTEN	H3510170
C*****	TEST STATEMENTS USING ORDINARY TRIGONOMETRIC FUNCTIONS	H3510180
	CMAVS = 1.75	H3510190
	CMCVS = ALOG(EXP(CMAVS)) - 1.75	H3510200
	CMDVS = EXP(ALOG(CMAVS)) - 1.75	H3510210
	CMEVS = (SIN(2.0)) ** 2 + (COS(2.0)) ** 2 - 1.0	H3510220
	CMFVS = (1.0/COS(1.2)) ** 2 - ((SIN(1.2) / COS(1.2)) ** 2) - 1.0	H3510230
	WRITE (NUVI,3511) CMCVS, CMDVS, CMEVS, CMFVS	H3510240
	CMCVS = SIN(.78) - SQRT(1. - COS(0.78) ** 2)	H3510250
	CMDVS = COS(1.57) - SQRT(1.0 - SIN(1.57) ** 2)	H3510260
	CMEVS = SQRT((1.0/COS(0.5236))**2-1.0)-SIN(0.5236)/COS(0.5236)	H3510270
	CMFVS = ATAN2(SIN(0.5),COS(0.5)) - 0.5	H3510280
	WRITE (NUVI,3511) CMCVS, CMDVS, CMEVS, CMFVS	H3510290
C*****	TEST STATEMENTS USING HYPERBOLIC FUNCTIONS	H3510300
	CMAVS = EXP(1.85)	H3510310
	CMBVS = EXP(-1.85)	H3510320
	CMCVS = TANH(1.85) - ((CMAVS - CMBVS) / (CMAVS + CMBVS))	H3510330
	CMEVS = 2./(EXP(1.05) + EXP(-1.05)) - SQRT(1.0-TANH(1.05)**2)	H3510340
	CMFVS = TANH(2.01)/ (SQRT(1.0 - TANH(2.01)**2))- .5*(EXP(2.01) -	H3510350
	1 EXP(-2.01))	H3510360
	WRITE (NUVI,3512) CMCVS, CMEVS, CMFVS	H3510370
	WRITE (NUVI,3513)	H3510380
3511	FORMAT (/4(F15.5/))	H3510390
3512	FORMAT (/3(F15.5/))	H3510400
3513	FORMAT (/39H ALL ABOVE ANSWERS SHOULD BE 0 PLUS OR /	H3510410
	1 40H MINUS AN ERROR FACTOR OF NOT MORE THAN /	H3510420
	2 12H 10 ** (-4))	H3510430
C*****	END OF TEST SEGMENT 351	H3510440
C*****	WHEN EXECUTING ONLY SEGMENT 351, THE STOP AND END CARDS	H3510450
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H3510460
C*****	IN COLUMNS 1 AND 2 REMOVED.	H3510470
C=	STOP	H3510480
C=	END	H3510490
C*****		H3520010
C*****		H3520020
C*****	NAMES - (352)	H3520030
C*****		H3520040
C*****		H3520050
C*****	GENERAL PURPOSE ASA REF	H3520060
C*****	TO TEST THE CAPABILITY OF COMPILERS TO IDENTIFY DATA 10.1.7/54	H3520070
C*****	NAMES THAT RESEMBLE FORTRAN VERBS AND/OR PREDEFINED	H3520080
C*****	FUNCTION NAMES.	H3520090
C*****	GENERAL COMMENTS	H3520100
C*****	BECAUSE OF THE NATURE OF THIS TEST SEGMENT, NAMING	H3520110
C*****	CONVENTIONS THAT EXISTED IN OTHER SEGMENTS WILL NOT	H3520120
C*****	BE OBSERVED.	H3520130
C*****		H3520140
C*****	S P E C I F I C A T I O N S SEGMENT 352	H3520150
C*****		H0016550
C*****	WHEN EXECUTING ONLY SEGMENT 352, THE SPECIFICATION STATEMENTS	H0016555
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=	H0016560
C*****	IN COLUMNS 1 AND 2 REMOVED.	H0016565
C*****		H0016570

C=	DIMENSION GOTO(2,2), IF(5)	H0016575
C*****		H0016580
C*****	O U T P U T T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.	H3520160
C*****		H0076555
C*****	WHEN EXECUTING ONLY SEGMENT 352, THE FOLLOWING STATEMENT	H0076560
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.	H0076565
C*****		H0076570
C=	NUVI = 6	H0076575
C*****		H0076580
	WRITE (NUVI,3520)	H3520170
3520	FORMAT (1H1,1X,13HNAMES - (352)//2X,36HTEST OF THE COMPILERS CAPA	H3520180
	1BILITY OF /2X,37HIDENTIFYING DATA NAMES THAT RESEMBLE /2X,	H3520190
	2 32HFORTRAN VERBS AND/OR PREDEFINED /2X,15HFUNCTION NAMES //	H3520200
	3 22H ASA REFS. - 10.1.7/4 //2X,7HRESULTS)	H3520210
C*****	HEADER FOR SEGMENT 352 WRITTEN	H3520220
	INTEG = 0	H3520230
	REAL = 2.0	H3520240
	GOTO5 = REAL - 2.0	H3520250
	GOTO(1,2) = 10.0 - 5.0 * 2.0	H3520260
	00131 = INTEG	H3520270
13	D014J = INTEG +0	H3520280
14	IF(2) = 5-5	H3520290
	CALL = 0	H3520300
	STOP7 = REAL - 2.0	H3520310
	PAUSE = REAL / 2.0 - 1.0	H3520320
	READ6 = 0.0 ** 5	H3520330
	WRITE = 7.0 - 7.0	H3520340
	WRITE (NUVI,3521) GOTO5, GOTO(1,2), D0131, D014J, IF(2), CALL,	H3520350
	1 STOP7, PAUSE, READ6, WRITE	H3520360
3521	FORMAT (/10(F10.5/))	H3520370
C*****	TEST THAT THE SAME INTRINSIC FUNCTION NAMES OF	H3520380
C*****	A PROGRAM UNIT OF AN EXECUTABLE PROGRAM CAN BE	H3520390
C*****	USED TO IDENTIFY SOME OTHER ENTITY IN A DIFFERENT	H3520400
C*****	PROGRAM UNIT OF THAT EXECUTABLE PROGRAM	H3520410
	MCAVI = IABS(-5)	H3520420
	CALL MAQQ(MCAVI,IVI)	H3520430
	MCCVI = IVI	H3520440
	MCBVI = ISIGN(1,-2)	H3520450
	CALL MBQQ(MCBVI,IVI)	H3520460
	MCOVI = IVI	H3520470
	CMAVS = FLOAT(5 + 7)	H3520480
	CALL AMQQ(CMAVS,AVS)	H3520490
	CMCVS = AVS	H3520500
	CMBVS = ABS(-10.0 - 8.00)	H3520510
	CALL BMQQ(CMBVS,AVS)	H3520520
	CMOVS = AVS	H3520530
	WRITE (NUVI,3522) MCCVI, MCDVI, CMCVS, CMOVS	H3520540
3522	FORMAT (/2(I10/)//2(F10.5/)//35H ALL ABOVE ANSWERS SHOULD BE 0 FOR	H3520550
	1R/36H THIS TEST SEGMENT TO BE SUCCESSFUL)	H3520560
C*****	END OF TEST SEGMENT 352	H3520570
C*****	WHEN EXECUTING ONLY SEGMENT 352, THE STOP AND ENO CARDS	H3520580
C*****	WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H3520590
C*****	IN COLUMNS 1 AND 2 REMOVED.	H3520600
C=	STOP	H3520610
C=	END	H3520620
C*****		H3600010
C*****		H3600020
C*****	SPEC2 - (360)	H3600030
C*****		H3600040
C*****		H3600050
C*****	GENERAL PURPOSE	ASA REFS H3600060
C*****	* TO TEST COMMON, DIMENSION AND EQUIVALENCE	7.2.1.2H3600070
C*****	STATEMENTS	7.2.1.3H3600080
C*****	* TO TEST THAT VARIABLES AND ARRAYS WHICH ARE	7.2.1.4H3600090
C*****	EQUATED AND/OR IN COMMON MAY BE USED IN A	H3600100
C*****	VARIETY OF FORTRAN STATEMENTS	H3600110
C*****	RESTRICTIONS OBSERVED	H3600120
C*****	* NO DUMMY ARGUMENTS APPEAR IN COMMON OR EQUIVALENCE	7.2.1.4/40H3600130

C*****	STATEMENTS	8.4.1.1/23	H3600140
C*****	* NUMBER OF SUBSCRIPTS IN EQUIVALENCE STATEMENTS		H3600150
C*****	CORRESPOND TO ARRAY DIMENSIONALITY OR IS ONE	7.2.1.4/09	H3600160
C*****	* COMMON NEVER LENGTHENED BY EQUIVALENCE IN A	7.2.1.4/31	H3600170
C*****	BACKWARD DIRECTION		H3600180
C*****	* ONLY ONE OF AN EQUATED PAIR OF ITEMS APPEARS	7.2.1.4/36	H3600190
C*****	IN COMMON		H3600200
C*****	* VARIABLES ARE NEVER EQUATED TO MORE THAN ONE	7.2.1.4/42	H3600210
C*****	ELEMENT OF THE SAME ARRAY		H3600220
C*****	GENERAL COMMENTS		H3600230
C*****	THIS SEGMENT FOLLOWS THE ORDER OF SPECIFICATION STATEMENTS		H3600240
C*****	REQUIRED IN BASIC FORTRAN (SEE 9.1.2/56 IN BASIC ASA BOOK)		H3600250
C*****			H3600260
C*****	S P E C I F I C A T I O N S SEGMENT 360		H3600270
C*****			H0016585
C*****	WHEN EXECUTING ONLY SEGMENT 360, THE SPECIFICATION STATEMENTS		H0016590
C*****	WHICH APPEAR AS COMMENT CARDS, MUST HAVE THE C=		H0016595
C*****	IN COLUMNS 1 AND 2 REMOVED.		H0016600
C*****			H0016605
C=	DIMENSION MX1I(3), TX1S(3)		H0016610
C=	DIMENSION MX2I(2,3), TX2S(2,2), WAZ2S(3,2), RVY1S(2), RVY2S(1,2)		H0016615
C=	DIMENSION JY2I(2,2), JY1I(5), NZ1I(4), NZ2I(4,2), WAZ1S(2)		H0016620
C=	DIMENSION MMY1I(400), NNY3I(20,10,2)		H0016625
C=	EQUIVALENCE (MMY1I(1), NNY3I(1,1,1)), (NZ1I(1), NNY3I(1))		H0016630
C=	COMMON MX1I, MX2I, NZ1I, NZVI, NZ2I		H0016635
C=	COMMON MXVI		H0016640
C=	COMMON IAXVI		H0016645
C=	COMMON WAZ1S		H0016650
C=	COMMON TX1S, TX2S, JBZVI, WAZ2S		H0016655
C=	EQUIVALENCE (MYVI, NZVI), (IYVI, NZ1I(1)), (NZ2I(4,1), JYVI)		H0016660
C=	EQUIVALENCE (NZ2I(3), KYVI), (AAYVS, JBZVI, JY2I(1), RVY1S(2))		H0016665
C=	EQUIVALENCE (RVY2S(1,1), WAZ1S(2))		H0016670
C=	EQUIVALENCE (JY1I(3), RVY1S(2))		H0016675
C=	EQUIVALENCE (WAZ2S(1), BBYVS, CCYVS), (WAZ2S(2,1), OYVS)		H0016680
C*****			H3600280
C*****	SOME OF THE ITEMS DEFINED ABOVE ARE USED IN A VARIETY		H3600290
C*****	OF FORTRAN STATEMENTS		H3600300
C*****			H3600310
C*****	DEFINE THE SYMBOLIC OUTPUT UNIT FOR USE IN THIS	7.1.3/22	H3600320
C*****	SEGMENT		H3600330
C*****	O U T P U T - T A P E ASSIGNMENT STATEMENT. NO INPUT TAPE.		H3600340
C*****			H3600350
C*****	WHEN EXECUTING ONLY SEGMENT 360, THE FOLLOWING STATEMENT		H0076585
C*****	NUVI = 6 MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.		H0076590
C*****			H0076595
C=	NUVI = 6		H0076600
C*****			H0076605
	JY2I(1,1) = NUVI		H3600360
C*****	WRITE HEADER FOR THIS SEGMENT		H3600370
	WRITE (JBZVI,3600)		H3600380
3600	FORMAT (1H1, 1X,36HSPEC2 - (360) COMMON AND EQUIVALENCE//		H3600390
1	2X,36HASA REFS - 7.2.1.2 7.2.1.3 7.2.1.4// 2X,7HRESULTS)		H3600400
C*****			H3600410
C*****	TEST THAT EQUIVALENCE WORKS - ASSOCIATED ITEM OF	10.2.2/51	H3600420
C*****	SAME TYPE BECOMES DEFINED WHEN EQUATED ITEM IS		H3600430
C*****	DEFINED		H3600440
	MYVI = 2		H3600450
	WAZ1S(2) = 2.0		H3600460
	WRITE (JBZVI,3601) NZVI, RVY2S(1,1)		H3600470
3601	FORMAT(/27H LINE 1 BELOW IS HOLLERITH		H3600480
1	// 11H 2 2.0/I6,F5.1)		H3600490
C*****	USE DEFINED ITEMS IN ARITHMETIC STATEMENTS	7.1.1.1	H3600500
	JYVI = 4		H3600510
	MXVI = 5		H3600520
	NZVI = 3		H3600530
	JY1I(1) = 1		H3600540
	MX1I(2) = 0		H3600550
	NZ1I(4) = 2		H3600560

JY2I(2,1) = -8	H3600570
MX2I(1,3) = 9	H3600580
N22I(3,2) = 7	H3600590
MX1I(3) = MX2I(1,3) * (N2VI - JY1I(1)) - 18	H3600600
MX2I(1,1) = MX2I(1,3) * (MYVI - JY1I(1)) - 18	H3600610
MX1I(1) = JYVI + JY2I(2,1) + N2VI - MX1I(2) + JY1I(1)	H3600620
IAXVI = N22I(4,1) + JY1I(4) + MYVI - MX1I(2) + JY1I(1)	H3600630
N22I(1,1) = MXVI ** N21I(4) - MXVI ** N21I(4)	H3600640
BBYVS = 2.0	H3600650
TX1S(3) = 1.0E1	H3600660
WA22S(1,2) = -3.0E00	H3600670
RVY1S(1) = .04E+2	H3600680
DDYVS = RVY1S(1) ** (WA22S(1,2)-5.0+TX1S(3)) -13.0 + WA22S(1,2)	H3600690
WA22S(2,1) = TX2S(2,2)**(WA22S(1,2)-5.0+TX1S(3))-13.0+WA22S(1,2)	H3600700
WRITE (JBZVI,3602) MX1I(3), MX1I(1), N22I(1,1), DDYVS	H3600710
WRITE(JBZVI,7367) MX2I(1,1), IAXVI, N22I(1,1), WA22S(2,1)	H3600720
3602 FORMAT (/34H ANSWERS BELOW SHOULD BE 0 OR 0.0//	H3600730
1 3(I6/), F8.1)	H3600740
C***** USE ITEMS IN ARITHMETIC IF STATEMENTS 7.1.2.2	H3600750
IF (WA22S(1,2)) 3603,3604,3604	H3600760
3603 IF (MX1I(2)) 3604,3605,3604	H3600770
3605 IF (TX2S(2,2) + CCYVS ** N21I(4) + TX1S(3)) 3604, 3604, 3606	H3600780
3604 WRITE (JBZVI,3607)	H3600790
3607 FORMAT (/22H ARITHMETIC IF FAILED)	H3600800
GO TO 3609	H3600810
3606 WRITE (JBZVI,3608)	H3600820
3608 FORMAT (/26H ARITHMETIC IF SUCCESSFUL)	H3600830
C***** USE ITEMS IN DO LOOP 7.1.2.8	H3600840
3609 DO 7360 JYVI = 1,N2VI,1	H3600850
TX1S(3) = TX1S(3) + 1.0	H3600860
7360 CONTINUE	H3600870
WRITE (JBZVI,7361) TX1S(3)	H3600880
7361 FORMAT (/29H ANSWER BELOW SHOULD BE 13.0// F8.1)	H3600890
C***** USE ITEM IN COMPUTED GO TO 7.1.2.1.3	H3600900
GO TO (7362,7362,7364), NZVI	H3600910
7362 WRITE (JBZVI,7363)	H3600920
7363 FORMAT (/23H COMPUTED GO TO FAILED)	H3600930
GO TO 7366	H3600940
7364 WRITE (JBZVI,7365)	H3600950
7365 FORMAT (/27H COMPUTED GO TO SUCCESSFUL)	H3600960
7367 FORMAT (3(I6/), F8.1)	H3600970
7366 CONTINUE	H3600980
C***** TEST EQUIVALENCE EXTENOS COMMON	H3600990
C***** ARRAYS- NNY3I(20,10,2) EQUIVALENCED TO ARRAY MMY1I(400) WHICH IS	H3601000
C***** EQUIVALENCED TO THE 10TH STORAGE LOCATION IN BLANK 7.2.1.4/29	H3601010
C***** COMMON (N21I(1))	H3601020
WRITE (NUVI, 8366)	H3601030
8366 FORMAT (34H0 TEST EQUIVALENCE EXTENDS COMMON)	H3601040
DO 7368 IVI = 1, 400	H3601050
7368 MMY1I(IVI) = IVI	H3601060
IVI = 0	H3601070
DO 7369 LVI = 1, 2	H3601080
DO 7369 KVI = 1, 10	H3601090
DO 7369 JVI = 1, 20	H3601100
IF(NNY3I(JVI,KVI,LVI)-(JVI+20*(KVI+10*LVI) - 220))7369,8360,7369	H3601110
8360 IVI = IVI + 1	H3601120
7369 CONTINUE	H3601130
IF (IVI - 400) 8363, 8361, 8363	H3601140
8363 WRITE (NUVI, 8364)	H3601150
8364 FORMAT(13H0 TEST FAILED)	H3601160
GO TO 8365	H3601170
8361 WRITE (NUVI, 8362)	H3601180
8362 FORMAT(17H0 TEST SUCCESSFUL)	H3601190
8365 CONTINUE	H3601200
C***** ENO OF TEST SEGMENT 360	H3601210
C***** WHEN EXECUTING ONLY SEGMENT 360, THE STOP AND ENO CARDS	H3601220
C***** WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=	H3601230
C***** IN COLUMNS 1 AND 2 REMOVED.	H3601240

C=	STOP	H3601250
C=	END	H3601260
	STOP 77777	H9999995
	END	H9999999
C*****		H4130010
C*****		H4130020
C*****	MAQQ - (413)	H4130030
C*****		H4130040
C*****		H4130050
C*****	GENERAL PURPOSE	H4130060
C*****	THIS SEGMENT CONTAINS A SUBROUTINE WHICH IS CALLED	H4130070
C*****	BY SEGMENT 352.	H4130080
C*****	GENERAL COMMENTS	H4130090
C*****	SUBROUTINE MAQQ BEING DEFINED	H4130100
	SUBROUTINE MAQQ(MWVI,IWVI)	H4130110
	IABS = MWVI	H4130120
	IWVI = IABS + ISIGN(MWVI, -MWVI)	H4130130
	RETURN	H4130140
	END	H4130150
C*****		H4630010
C*****		H4630020
C*****	MBQQ - (463)	H4630030
C*****		H4630040
C*****		H4630050
C*****	GENERAL PURPOSE	H4630060
C*****	THIS SEGMENT CONTAINS A SUBROUTINE WHICH IS CALLED	H4630070
C*****	BY SEGMENT 352	H4630080
C*****	GENERAL COMMENTS	H4630090
C*****	SUBROUTINE MBQQ BEING DEFINED	H4630100
	SUBROUTINE MBQQ(MWVI, IWVI)	H4630110
	ISIGN = -MWVI	H4630120
	IWVI = ISIGN + MWVI	H4630130
	RETURN	H4630140
	END	H4630150
C*****		H4730010
C*****		H4730020
C*****	AMQQ - (473)	H4730030
C*****		H4730040
C*****		H4730050
C*****	GENERAL PURPOSE	H4730060
C*****	THIS SEGMENT CONTAINS A SUBROUTINE WHICH IS CALLED	H4730070
C*****	BY SEGMENT 352	H4730080
C*****	GENERAL COMMENTS	H4730090
C*****	SUBROUTINE AMQQ BEING DEFINED	H4730100
C*****	STATEMENT FUNCTION NAME IS THE SAME AS SUBROUTINE NAME CALLED BY	H4730110
C*****	SEGMENT 352, STAT. FUNCTION DUMMY ARGUMENT NAME SAME AS SUBROUTINE	H4730120
C*****	DUMMY ARGUMENT NAME, VARIABLE IS REFERENCED IN STAT. FUNCTION	H4730130
	SUBROUTINE AMQQ(CWVS, AWVS)	H4730140
	BMQQ(CWVS) = CWVS + BVS	H4730150
	FLOAT = AVS	H4730160
	BVS = CWVS	H4730170
	AWVS = BMQQ(FLOAT) - (BVS + 1.0)	H4730180
	DATA AVS /1.0/	H4730190
	RETURN	H4730200
	END	H4730210
C*****		H4830010
C*****		H4830020
C*****	BMQQ - (483)	H4830030
C*****		H4830040
C*****		H4830050
C*****	GENERAL PURPOSE	H4830060
C*****	THIS SEGMENT CONTAINS A SUBROUTINE WHICH IS CALLED	H4830070
C*****	BY SEGMENT 352	H4830080
C*****	GENERAL COMMENTS	H4830090
C*****	SUBROUTINE BMQQ BEING DEFINED	H4830100
	SUBROUTINE BMQQ(CWVS, AWVS)	H4830110
	ABS = CWVS	H4830120
	AWVS = FLOAT(ISIGN(IFIX(ABS), - 2)) + 18.0	H4830130

RETURN	H4830140
C***** END OF TEST SEGMENT 483	H4830150
END	H4830160
SAMPLE COMPUTER, FORTRAN COMPILER LEVEL	
DD NOT READ OR WRITE RECORD 2. DOUBLE SPACE ON OUTPUT.	ID 2
OPERATING SYSTEM VERSION	
DD NOT READ OR WRITE RECORD 4. DOUBLE SPACE ON OUTPUT.	ID 4
DATE, INSTALLATION NAME	
DD NOT READ OR WRITE RECORD 6. DOUBLE SPACE ON OUTPUT.	ID 6

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			14. Sponsoring Agency Code	
15. SUPPLEMENTARY NOTES Volumes 1, 2, and 3 contain the documentation, Version 1 program listing, Version 3 program listing, respectively. The magnetic tape containing the NBS FORTRAN Test Programs is available in 7-track BCD, 9-track ASCII or EBCDIC recording.				
16. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.) The NBS FORTRAN test programs, written ⁱⁿ Standard FORTRAN are designed to test whether a FORTRAN compiler accepts the forms and interpretations of the FORTRAN language as described in the American National Standard FORTRAN document X3.9-1966. The test programs comprised of 116 test units, are structured into two versions, each containing approximately 14,500 punch card images. The test units may be used as separate executable FORTRAN programs, or may be linked end to end with other test units, with a minimum of user effort, to improve operating efficiency. Version 1 is structured into 116 executable FORTRAN programs, and Version 3, containing the same 116 test units, is structured into 14 executable FORTRAN programs for use on large FORTRAN processors. The test program design criteria was to: <ul style="list-style-type: none"> Constrain all test programs to the FORTRAN Standard X3.9-1966. Reduce the effect of those areas in which the FORTRAN Standard does not prescribe a method or solution, e.g., range, precision, size of computer, etc. Simplify the use of the FORTRAN test programs. Test FORTRAN language elements before they are used in support of other tests. Maintain an open ended system so that tests may be changed or added. The test programs require the use of a card reader, printer and one intermediate tape unit.				
17. KEY WORDS (six to twelve entries; alphabetical order; capitalize only the first letter of the first key word unless a proper name; separated by semicolons) Computer Programming language; FORTRAN; FORTRAN validation; language validation; standard FORTRAN; test program design.				
18. AVAILABILITY ☐ For Official Distribution. Do Not Release to NTIS ☒ Order From Sup. of Doc., U.S. Government Printing Office Washington, D.C. 20402, SD Cat. No. C13.10:399/V. 3 ☐ Order From National Technical Information Service (NTIS) Springfield, Virginia 22151		19. SECURITY CLASS (THIS REPORT) UNCLASSIFIED		21. NO. OF PAGES 226
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