Results of Test Program Run Through
DAVE to Produce all Error, Warning,
and Message Diagnostics

by

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****************************************************
*                                                  *
*             DAVE   TERMINATION   NORMAL          *
*                                                  *
****************************************************
```

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..........................................................................
.                                                                        .
.    NOTE -- FOR MISSING SUBPROGRAMS THE FOLLOWING I/O BEHAVIOR          .
.            HAS BEEN SIMULATED.                                         .
.            A.   FOR FUNCTION SUBPROGRAMS, THE FUNCTION NAME HAS        .
.                 BEEN CLASSIFIED AS STRICT OUTPUT AND ALL ARGU-         .
.                 MENTS AS STRICT INPUT, NON-OUTPUT.                     .
.            B.   FOR SUBROUTINE SUBPROGRAMS, ALL ARGUMENTS HAVE         .
.                 BEEN CLASSIFIED AS STRICT INPUT, NON-OUTPUT.           .
.                                                                        .
.            A SIMULATED SUBPROGRAM IS ASSUMED TO USE NO COMMON          .
.            VARIABLES.  THE NUMBER AND DIMENSIONS OF ITS DUMMY          .
.            ARGUMENTS HAVE BEEN INFERRED FROM THE FIRST INVO-           .
.            CATION OF THE SUBPROGRAM BY THE PROGRAM UNIT                .
.            INDICATED BELOW.                                            .
.                                                                        .
.            SIMULATED SUBPROGRAM              CALLER                    .
.            --------------------              ------                    .
.               ---*FSIM*--                 -*SYSMAIN*-                  .
.               --*SUBSIM*-                 -*SYSMAIN*-                  .
.                                                                        .
..........................................................................
```

USER OPTIONS SPECIFIED THIS RUN
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1.   SIMULATE I/O BEHAVIOR FOR MISSING SUBPROGRAMS (SI= ON).

2.   RE-START OF PREVIOUS RUN   (RE=OFF).

3.   SUPPRESS DIAGNOSTICS (SU=OFF).

DIAGNOSTIC SUMMARY -- PART 1

FREQUENCY

SUBPROGRAM	ERRORS	WARNINGS	MESSAGES
SYSMAIN	24	48	5
BLKDATA			1
E101	2	5	1
SUB103	1	4	2
SUB302	1	5	2
SUB105		2	1
SUB106	1	1	2
SUB208	2	1	1
W201		4	1
SUB215		1	1
SUB		4	1
FUN	1	2	1
FSIM			1
SUBSIM			1

DIAGNOSTIC SUMMARY -- PART 2

ERRORS		WARNINGS		MESSAGES	
IDENT.NO.	FREQUENCY	IDENT.NO.	FREQUENCY	IDENT.NO.	FREQUENCY
101	1	201	1	301	2
102	2	202	1	302	2
103	4	203	1	303	3
104	1	204	5	304	14
105	1	205	1		
106	2	206	1		
107	2	207	2		
108	2	208	1		
109	2	209	1		
110	4	210	3		
111	2	211	1		
112	9	212	1		
		213	2		
		214	2		
		215	1		
		216	5		
		217	2		
		218	1		
		219	1		
		220	1		
		221	1		
		222	1		
		223	2		

224	1
225	1
226	1
227	1
228	1
229	12
230	1
231	1
232	2
233	2
234	1
235	1
236	10
237	4

CALL GRAPH

SUBPROGRAM	CALLED BY	CALLS
SYSMAIN		E101
		SUB103
		SUB105
		SUB106
		SUB208
		W201
		SUB215
		SUB
		FSIM
		SUBSIM
E101	SYSMAIN	
	SUB106	
SUB103	SYSMAIN	SUB302
SUB302	SUB103	SUB106
SUB105	SYSMAIN	SUB106
SUB106	SYSMAIN	E101
	SUB302	
	SUB105	
SUB208	SYSMAIN	
W201	SYSMAIN	
SUB215	SYSMAIN	
SUB	SYSMAIN	
FUN		
FSIM	SYSMAIN	
SUBSIM	SYSMAIN	

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

```
BLOCK                        SOURCE


0   C   PROGRAM TO TEST ALL DAVES ERRORS WARNINGS AND MESSAGES.
0   C   BEFORE EACH PIECE OF CODE IS A SHORT DESCRIPTION OF THE
0   C    TYPE OF ERROR WARNING OR MESSAGE TO BE OUTPUT.
0   C
0   C   .
1           COMMON/B1/CA1,BA
1           COMMON/BLK1/CA,D218,Y228(6)
1           EXTERNAL SUBEX
1           DIMENSION XDAT(5),XDT(5,2)
1           INTEGER I236
1           DATA I220/1/ ,X221/1./
1           LASRF(X,Y)=5.*E101(C)+X+Y
2           C=1.
3           B=1.
0   C
0   C   WARNING 209
0   C      COMMON VAR REFERENCED BEFORE BEING DEFINED
0   C
4           IF(A.EQ.B)
5         $ X = CA1
0   C
0   C   ERROR 109
0   C      COMMON VAR IS REF BEFORE BEING DEFINED
0   C
6           X = M+CA
0   C
0   C   GENERATES ERROR 101 INSIDE FUNCTION
0   C   GENERATES ERROR 102 INSIDE FUNCTION
0   C
7           R = E101(1.)
0   C
0   C   ERROR 103
0   C       ACTUAL ARGUMENT IS CONSTANT OR EXPRESSION AND IS ASSIGNED A
0   C       VALUE ON ALL PATHS IN CALLED SUBPROGRAM
0   C   WARNING 203
0   C       SAME AS 103 BUT SOME PATHS
0   C
8           CALL SUB103(3,B+C,Y+1)
0   C
0   C   ERROR 104
0   C      NUMBER OF ARGUMENTS DOESNT MATCH
0   C
9           CALL SUB103(A)
0   CC
0   C   ERROR 105
0   C       EXTERNAL IS USED AS A VAR IN CALLED ROUTINE
0   C
0   C   WARNING 204
0   C       CONSTANT IS NEVER REF IN SUBPROGRAM
```

```
  0  C
 10         CALL SUB105(SUBEX,3)
  0  C
  0  C  ERROR 106
  0  C     EXTERNAL IS ASSIGNED A VALUE ON ALL PATHS IN SUBPROGRAM
  0  C  WARNING 203
  0  C     CONSTANT IS ASSIGNED A VALUE ON SOME PATHS
  0  C  WARNING 213
  0  C       ARGUMENTS HAVE DIFFERENT DATA TYPES
  0  C
 11         CALL SUB106(SUBEX,3)
  0  C
  0  C  WARNING 208
  0  C   COMMON VAR (CA) IS USED AS A DUMMY ARG. AND IS COMMON IN SUBPROGRAM
  0  C
 12         CALL SUB208(A,CA)
  0  C
  0  C  ERROR 111
  0  C     CONTROL VAR IS REF OUTSIDE OF LOOP
  0  C  ERROR 112
  0  C     LOCAL VAR IS REF BUT NOT DEFINED
  0  C
 13         DO 10 I = 1 , 10
 14         K = LOC + 1
 15      10 CONTINUE
 16         K = I + 6
  0  C
  0  C  WARNING 205 AND 206
  0  C     EXTERNAL ,SUBEX, IS REFERENCED AS A VAR ON SOME PATHS
  0  C     AND IS ASSIGNED A VALUE ON SOME PATHS
  0  C
 17         CALL SUB(1.,SUBEX)
  0  C
  0  C
  0  C  ERROR 108
  0  C     COMMON VAR IS ASSOCIATED WITH A DUMMY VAR
  0  C  FUNCTION W201 CAUSES WARNING 201 AND 202
  0  C
 18         I = W201(CA)
  0  C
  0  C
  0  C  WARNING 215
  0  C       ARGUMENTS HAVE DIFFERENT DIMENSIONALITY
  0  C  WARNINGS 216 AND 217
  0  C     COMMON VARIABLE ASSIGNED A VALUE ON ALL(SOME) PATHS BUT
  0  C     BLOCK NOT AVAILABLE TO CALLER
  0  C  WARNINGS 218 AND 219
  0  C     COMMON VARIABLE INITIALIZED IN BLOCK DATA IS ASSIGNED A VALUE
  0  C     ON ALL(SOME) PATHS BUT BLOCK IS NOT AVAILABLE TO CALLER
 19         CALL SUB215(XDAT,B,C)
  0  C  WARNING 226
  0  C     TYPE II ANOMALY ON ALL PATHS, COMMON VAR. IN MAIN PROGRAM
 20         CA = 1.
 21         CA = 2.
  0  C
  0  C  WARNING 227
  0  C     TYPE II ANOMALY ON SOME PATHS, COMMON VAR. IN MAIN PROGRAM
 22         BA=CA
  0  C
 23         IF(D219.EQ.0)
 24       $ CA=3.+BA
  0  C
```

```
 0   C   WARNING 228
 0   C      COMMON ARRAY IS ASSIGNED A VALUE AND NOT REFERENCED
 0   C
25           Y228(1)=6.
 0   C
 0   C   WARNING 229
 0   C      LOCAL VAR IS ASSIGNED A VALUE AND NOT REFERENCED
 0   C
26           X229=6.
 0   C
 0   C   WARNING 229
 0   C      SAME AS ABOVE BUT ASSIGNED A VALUE AGAIN
 0   C
27           X230 = 1.
28           IF(CA.EQ.L)
29          $X230=3.
 0   C
 0   C   WARNING 231
 0   C      LOCAL ARRAY XDAT IS ASSIGNED A VALUE AND NOT USED
 0   C
30           XDAT(5)=1.
 0   C
 0   C   WARNING 232
 0   C      ILLEGAL SIDE EFFECT . VAR APPEARS TWICE IN BELOW STMT.
 0   C
31           I = W201(X)+X
 0   C
 0   C   WARNING 233
 0   C      SAME AS 232 BUT WITH COMMON VAR
 0   C
32           I = W201(CA)+CA
 0   C
 0   C   WARNING 234
 0   C      GLOBAL VAR C IS USED TWICE
 0   C
33           I = LASRF(2.,5.)+C
 0   C
 0   C   SIMULATION OF FUNCTION CALL
 0   C
34           I = FSIM(CA)
 0   C
 0   C   SIMULATE SUBROUTINE CALL
 0   C
35           CALL SUBSIM(X,A,B,D)
36           STOP
 1           END
```

E R R O R S
- - - - -

ERROR NUMBER	DESCRIPTION

** 103 **   BLOCK NO.   7
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS ASSIGNED A VALUE ON ALL PATHS.
                        CALLING SUBPROGRAM   CALLED SUBPROGRAM

```
                              -*SYSMAIN*-          ---*E101*--
            ARGUMENT            REAL               ----*A*----
            POSITION             1                     1
```

** 103 **   BLOCK NO.   8
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS ASSIGNED A VALUE ON ALL PATHS.
                              CALLING SUBPROGRAM CALLED SUBPROGRAM
                              -*SYSMAIN*-   --*SUB103*-
            ARGUMENT   INTEGER   ----*I*----
            POSITION   1   1

** 103 **   BLOCK NO.   8
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS ASSIGNED A VALUE ON ALL PATHS.
                              CALLING SUBPROGRAM CALLED SUBPROGRAM
                              -*SYSMAIN*-   --*SUB103*-
            ARGUMENT   EXPRESSION   ----*X*----
            POSITION   2   2

** 103 **   BLOCK NO.   11
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS ASSIGNED A VALUE ON ALL PATHS.
                              CALLING SUBPROGRAM CALLED SUBPROGRAM
                              -*SYSMAIN*-   --*SUB106*-
            ARGUMENT   INTEGER   ----*Z*----
            POSITION   2   2

** 104 **   BLOCK NO.   9
            THE NUMBER OF DUMMY ARGUMENTS IN CALLED SUBPROGRAM --*SUB103*-
            DOES NOT AGREE WITH THE NUMBER OF ACTUAL ARGUMENTS SUPPLIED
            BY CALLING SUBPROGRAM -*SYSMAIN*-.

** 105 **   BLOCK NO.   10
            AN ACTUAL ARGUMENT IS A PROCEDURE DECLARED EXTERNAL, YET THE
            CORRESPONDING DUMMY ARGUMENT IS REFERENCED AS A VARIABLE
            ON ALL PATHS.
                              CALLING SUBPROGRAM CALLED SUBPROGRAM
                              -*SYSMAIN*-   --*SUB105*-
            ARGUMENT   --*SUBEX*--   ----*X*----
            POSITION   1   1

** 106 **   BLOCK NO.   10
            AN ACTUAL ARGUMENT IS A PROCEDURE DECLARED EXTERNAL, YET THE
            CORRESPONDING DUMMY ARGUMENT, USED AS A VARIABLE, IS ASSIGNED
            A VALUE ON ALL PATHS.
                              CALLING SUBPROGRAM CALLED SUBPROGRAM
                              -*SYSMAIN*-   --*SUB105*-
            ARGUMENT   --*SUBEX*--   ----*X*----
            POSITION   1   1

** 106 **   BLOCK NO.   11
            AN ACTUAL ARGUMENT IS A PROCEDURE DECLARED EXTERNAL, YET THE
            CORRESPONDING DUMMY ARGUMENT, USED AS A VARIABLE, IS ASSIGNED
            A VALUE ON ALL PATHS.

** 108 **   BLOCK NO.   18
             A SUBPROGRAM REFERENCE CAUSES DUMMY ARGUMENT ----*X*----
             TO BECOME ASSOCIATED WITH A COMMON VARIABLE IN THE CALLED
             SUBPROGRAM.   ----*X*---- IS ASSIGNED A VALUE ON ALL PATHS.
                              CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                  -*SYSMAIN*-   ---*W201*--
                  ARGUMENT   ----*CA*---   ----*X*----
         COMMON VARIABLE   ----*CA*---   ----*CA*---

** 108 **   BLOCK NO.   32
             A SUBPROGRAM REFERENCE CAUSES DUMMY ARGUMENT ----*X*----
             TO BECOME ASSOCIATED WITH A COMMON VARIABLE IN THE CALLED
             SUBPROGRAM.   ----*X*---- IS ASSIGNED A VALUE ON ALL PATHS.
                              CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                  -*SYSMAIN*-   ---*W201*--
                  ARGUMENT   ----*CA*---   ----*X*----
         COMMON VARIABLE   ----*CA*---   ----*CA*---

** 109 **   COMMON VARIABLE ---*Y228*-- IN COMMON BLOCK ---*BLK1*-- IS
             REFERENCED ON ALL PATHS IN THE MAIN PROGRAM, YET IT HAS NOT
             PREVIOUSLY BEEN ASSIGNED A VALUE, NOR HAS IT BEEN INITIALIZED
             IN BLOCK DATA.   (SEE NOTE 1)

** 109 **   COMMON VARIABLE ----*CA*--- IN COMMON BLOCK ---*BLK1*-- IS
             REFERENCED ON ALL PATHS IN THE MAIN PROGRAM, YET IT HAS NOT
             PREVIOUSLY BEEN ASSIGNED A VALUE, NOR HAS IT BEEN INITIALIZED
             IN BLOCK DATA.   (SEE NOTE 1)

** 110 **   COMMON VARIABLE ----*M*---- IS REFERENCED ON ALL PATHS IN
             CALLED SUBPROGRAM ---*E101*--, YET IS NOT INITIALIZED.   IT
             DOES NOT APPEAR IN BLOCK DATA, AND ITS COMMON BLOCK ---*E110*--
             IS NOT AVAILABLE TO CALLING SUBPROGRAM -*SYSMAIN*-.   (SEE
             NOTE 1)

** 110 **   COMMON VARIABLE ----*B*---- IS REFERENCED ON ALL PATHS IN
             CALLED SUBPROGRAM --*SUB103*-, YET IS NOT INITIALIZED.   IT
             DOES NOT APPEAR IN BLOCK DATA, AND ITS COMMON BLOCK ---*BLK*---
             IS NOT AVAILABLE TO CALLING SUBPROGRAM -*SYSMAIN*-.   (SEE
             NOTE 1)

** 110 **   COMMON VARIABLE ----*D*---- IS REFERENCED ON ALL PATHS IN
             CALLED SUBPROGRAM --*SUB208*-, YET IS NOT INITIALIZED.   IT
             DOES NOT APPEAR IN BLOCK DATA, AND ITS COMMON BLOCK ---*BLK*---
             IS NOT AVAILABLE TO CALLING SUBPROGRAM -*SYSMAIN*-.   (SEE
             NOTE 1)

** 111 **   CONTROL VARIABLE ----*I*---- BECOMES UNDEFINED UPON SATISFACTION
             OF ITS DO LOOP AT BLOCK NO.   15, YET IS REFERENCED ON ALL
             PATHS THEREAFTER.

** 112 **   LOCAL VARIABLE ---*XDAT*-- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               1 - 19

** 112 **   LOCAL VARIABLE ----*A*---- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               1 - 4

** 112 **   LOCAL VARIABLE ----*M*---- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               1 - 6

** 112 **   LOCAL VARIABLE ----*Y*---- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               1 - 8

** 112 **   LOCAL VARIABLE ---*LOC*--- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               1 - 14

** 112 **   LOCAL VARIABLE ---*D219*-- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               1 - 23

** 112 **   LOCAL VARIABLE ----*L*---- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               1 - 28

** 112 **   LOCAL VARIABLE ----*D*---- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               1 - 35

                        W A R N I N G S
                        - - - - - - - -

WARNING
NUMBER   DESCRIPTION
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** 203 **   BLOCK NO.   8
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS ASSIGNED A VALUE ON SOME PATHS.
                                CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                   -*SYSMAIN*-   --*SUB103*-
                   ARGUMENT   EXPRESSION   ----*Y*----
                   POSITION   3   3

** 204 **   BLOCK NO.   7
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS NEVER REFERENCED.
                                CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                   -*SYSMAIN*-   ---*E101*--
                   ARGUMENT   REAL   ----*A*----
                   POSITION   1   1

** 204 **   BLOCK NO.   8
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS NEVER REFERENCED.
                                CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                   -*SYSMAIN*-   --*SUB103*-
                   ARGUMENT   INTEGER   ----*I*----
                   POSITION   1   1

** 204 **   BLOCK NO.   8
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS NEVER REFERENCED.
                                CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                   -*SYSMAIN*-   --*SUB103*-
                   ARGUMENT   EXPRESSION   ----*X*----
                   POSITION   2   2

** 204 **   BLOCK NO.   10
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS NEVER REFERENCED.
                                CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                   -*SYSMAIN*-   --*SUB105*-
                   ARGUMENT   INTEGER   ----*I*----
                   POSITION   2   2

** 204 **   BLOCK NO.   11
            AN ACTUAL ARGUMENT IS AN EXPRESSION OR CONSTANT, YET THE
            CORRESPONDING DUMMY ARGUMENT IS NEVER REFERENCED.
                                CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                   -*SYSMAIN*-   --*SUB106*-
                   ARGUMENT   INTEGER   ----*Z*----
                   POSITION   2   2

** 205 **   BLOCK NO.   17
            AN ACTUAL ARGUMENT IS A PROCEDURE DECLARED EXTERNAL, YET THE
            CORRESPONDING DUMMY ARGUMENT IS REFERENCED AS A VARIABLE ON
            SOME PATHS.
                                CALLING SUBPROGRAM   CALLED SUBPROGRAM
                                   -*SYSMAIN*-   ---*SUB*---

** 206 ** BLOCK NO.   17
AN ACTUAL ARGUMENT IS A PROCEDURE DECLARED EXTERNAL, YET THE
CORRESPONDING DUMMY ARGUMENT, USED AS A VARIABLE, IS ASSIGNED
A VALUE ON SOME PATHS.

	CALLING SUBPROGRAM	CALLED SUBPROGRAM
	-*SYSMAIN*-	---*SUB*---
ARGUMENT	--*SUBEX*--	----*B*----
POSITION	2	2

** 208 ** BLOCK NO.   12
A SUBPROGRAM REFERENCE CAUSES DUMMY ARGUMENT ----*X*----
TO BECOME ASSOCIATED WITH A COMMON VARIABLE IN THE CALLED
SUBPROGRAM.   ----*X*---- IS ASSIGNED A VALUE ON SOME PATHS.

	CALLING SUBPROGRAM	CALLED SUBPROGRAM
	-*SYSMAIN*-	--*SUB208*-
ARGUMENT	----*CA*---	----*X*----
COMMON VARIABLE	----*CA*---	----*CA*---

** 209 ** COMMON VARIABLE ---*CA1*--- IN COMMON BLOCK ----*B1*--- IS
REFERENCED ON SOME PATHS IN THE MAIN PROGRAM, YET IT HAS NOT
PREVIOUSLY BEEN ASSIGNED A VALUE, NOR HAS IT BEEN INITIALIZED
IN BLOCK DATA.   (SEE NOTE 1)

** 210 ** COMMON VARIABLE ----*C*---- IS REFERENCED ON SOME PATHS IN
CALLED SUBPROGRAM --*SUB103*-, YET IS NOT INITIALIZED.
IT DOES NOT APPEAR IN BLOCK DATA, AND ITS COMMON BLOCK
---*BLK*--- IS NOT AVAILABLE TO CALLING SUBPROGRAM
-*SYSMAIN*-.   (SEE NOTE 1)

** 210 ** COMMON VARIABLE ----*D*---- IS REFERENCED ON SOME PATHS IN
CALLED SUBPROGRAM --*SUB103*-, YET IS NOT INITIALIZED.
IT DOES NOT APPEAR IN BLOCK DATA, AND ITS COMMON BLOCK
---*BLK*--- IS NOT AVAILABLE TO CALLING SUBPROGRAM
-*SYSMAIN*-.   (SEE NOTE 1)

** 210 ** COMMON VARIABLE ----*B*---- IS REFERENCED ON SOME PATHS IN
CALLED SUBPROGRAM --*SUB208*-, YET IS NOT INITIALIZED.
IT DOES NOT APPEAR IN BLOCK DATA, AND ITS COMMON BLOCK
---*BLK*--- IS NOT AVAILABLE TO CALLING SUBPROGRAM
-*SYSMAIN*-.   (SEE NOTE 1)

** 213 ** BLOCK NO.   9
CORRESPONDING ARGUMENTS HAVE DIFFERENT DATA TYPES.

	CALLING SUBPROGRAM	CALLED SUBPROGRAM
	-*SYSMAIN*-	--*SUB103*-
ARGUMENT	----*A*----	----*I*----
POSITION	1	1
DATA TYPE	REAL	INTEGER

** 213 ** BLOCK NO.   11
CORRESPONDING ARGUMENTS HAVE DIFFERENT DATA TYPES.

	CALLING SUBPROGRAM -*SYSMAIN*-	CALLED SUBPROGRAM --*SUB106*-
ARGUMENT	INTEGER	----*Z*----
POSITION	2	2
DATA TYPE	INTEGER	REAL

** 214 ** CORRESPONDING COMMON VARIABLES IN COMMON BLOCK ---*BLK1*--
HAVE DIFFERENT DATA TYPES.

	CALLING SUBPROGRAM -*SYSMAIN*-	CALLED SUBPROGRAM --*SUB103*-
VARIABLE	----*CA*---	----*J*----
DATA TYPE	REAL	INTEGER

** 215 ** BLOCK NO.   19
CORRESPONDING ARGUMENTS HAVE DIFFERENT DIMENSIONALITY.

	CALLING SUBPROGRAM -*SYSMAIN*-	CALLED SUBPROGRAM --*SUB215*-
ARGUMENT	---*XDAT*--	---*XDAT*--
POSITION	1	1
DIMENSIONS	1	2

** 216 ** COMMON VARIABLE ----*M*---- IS ASSIGNED A VALUE ON ALL PATHS
IN CALLED SUBPROGRAM ---*E101*--, YET ITS COMMON BLOCK
---*E110*-- IS NOT AVAILABLE TO CALLING SUBPROGRAM -*SYSMAIN*-.
HENCE, A COMPUTED VALUE WILL BE LOST. (SEE NOTE 1)

** 216 ** COMMON VARIABLE ----*B*---- IS ASSIGNED A VALUE ON ALL PATHS
IN CALLED SUBPROGRAM --*SUB103*-, YET ITS COMMON BLOCK
---*BLK*--- IS NOT AVAILABLE TO CALLING SUBPROGRAM -*SYSMAIN*-.
HENCE, A COMPUTED VALUE WILL BE LOST. (SEE NOTE 1)

** 216 ** COMMON VARIABLE ----*D*---- IS ASSIGNED A VALUE ON ALL PATHS
IN CALLED SUBPROGRAM --*SUB103*-, YET ITS COMMON BLOCK
---*BLK*--- IS NOT AVAILABLE TO CALLING SUBPROGRAM -*SYSMAIN*-.
HENCE, A COMPUTED VALUE WILL BE LOST. (SEE NOTE 1)

** 216 ** COMMON VARIABLE ----*C*---- IS ASSIGNED A VALUE ON ALL PATHS
IN CALLED SUBPROGRAM --*SUB215*-, YET ITS COMMON BLOCK
---*BLK*--- IS NOT AVAILABLE TO CALLING SUBPROGRAM -*SYSMAIN*-.
HENCE, A COMPUTED VALUE WILL BE LOST. (SEE NOTE 1)

** 217 ** COMMON VARIABLE ----*C*---- IS ASSIGNED A VALUE ON SOME PATHS
IN CALLED SUBPROGRAM --*SUB103*-, YET ITS COMMON BLOCK
---*BLK*--- IS NOT AVAILABLE TO CALLING SUBPROGRAM
-*SYSMAIN*-. HENCE, A COMPUTED VALUE MAY BE LOST. (SEE
NOTE 1)

** 217 ** COMMON VARIABLE ----*D*---- IS ASSIGNED A VALUE ON SOME PATHS
IN CALLED SUBPROGRAM --*SUB215*-, YET ITS COMMON BLOCK
---*BLK*--- IS NOT AVAILABLE TO CALLING SUBPROGRAM
-*SYSMAIN*-. HENCE, A COMPUTED VALUE MAY BE LOST. (SEE
NOTE 1)

** 218 **   COMMON VARIABLE ----*T*---- IS INITIALIZED IN BLOCK DATA.
IT IS ASSIGNED A VALUE ON ALL PATHS IN CALLED SUBPROGRAM
--*SUB215*-, YET ITS COMMON BLOCK ---*IBD*--- IS NOT AVAILABLE
TO CALLING SUBPROGRAM -*SYSMAIN*-. HENCE, UNDEFINITION WILL
OCCUR UPON EXIT FROM --*SUB215*-. (SEE NOTE 2)

** 219 **   COMMON VARIABLE ----*W*---- IS INITIALIZED IN BLOCK DATA.
IT IS ASSIGNED A VALUE ON SOME PATHS IN CALLED SUBPROGRAM
--*SUB215*-, YET ITS COMMON BLOCK ---*IBD*--- IS NOT AVAILABLE
TO CALLING SUBPROGRAM -*SYSMAIN*-. HENCE, UNDEFINITION MAY
OCCUR UPON EXIT FROM --*SUB215*-. (SEE NOTE 2)

** 226 **   IN THE MAIN PROGRAM, COMMON VARIABLE ----*CA*--- IS
ASSIGNED A VALUE IN BLOCK NO.   20 AND IS EITHER
ASSIGNED A VALUE THEREAFTER BEFORE BEING REFERENCED,
OR IS NOT SUBSEQUENTLY REFERENCED, ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
     20   21

** 227 **   IN THE MAIN PROGRAM, COMMON VARIABLE ----*BA*--- IS
ASSIGNED A VALUE IN BLOCK NO.   22 AND IS EITHER
ASSIGNED A VALUE THEREAFTER BEFORE BEING REFERENCED,
OR IS NOT SUBSEQUENTLY REFERENCED, ON SOME PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
     22   23   25 - 36

** 228 **   IN THE MAIN PROGRAM, AN ELEMENT OF THE COMMON ARRAY
   ---*Y228*-- IS ASSIGNED A VALUE IN BLOCK NO.   25
AND THE ARRAY IS NOT SUBSEQUENTLY REFERENCED ON ANY PATH.

** 229 **   LOCAL VARIABLE ---*I220*-- IS ASSIGNED A VALUE IN BLOCK
NO.   1 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
     1 - 36

** 229 **   LOCAL VARIABLE ---*X221*-- IS ASSIGNED A VALUE IN BLOCK
NO.   1 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
     1 - 36

** 229 **   LOCAL VARIABLE ----*X*---- IS ASSIGNED A VALUE IN BLOCK
NO.   5 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
     5   6

** 229 **   LOCAL VARIABLE ----*K*---- IS ASSIGNED A VALUE IN BLOCK
NO.   14 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,

ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
   14   15   16

** 229 ** LOCAL VARIABLE ---*X229*-- IS ASSIGNED A VALUE IN BLOCK
NO.   26 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
   26 - 36

** 229 ** LOCAL VARIABLE ---*X230*-- IS ASSIGNED A VALUE IN BLOCK
NO.   27 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
   27   28   29

** 231 ** AN ELEMENT OF THE LOCAL ARRAY ---*XDAT*-- IS ASSIGNED A VALUE
IN BLOCK NO.   30 AND THE ARRAY IS NOT SUBSEQUENTLY
REFERENCED ON ANY PATH.

** 232 ** BLOCK NO.   31
A POSSIBLE ILLEGAL SIDE EFFECT HAS BEEN DETECTED. IT OCCURS
VIA A VARIABLE PASSED IN AN ARGUMENT LIST. THIS VARIABLE
HAS APPEARED AT LEAST TWICE IN A STATEMENT -- IN ONE
APPEARANCE IT IS USED AS STRICT INPUT AND IN THE OTHER AS
STRICT OUTPUT.

	CALLING SUBPROGRAM	CALLED SUBPROGRAM
	-*SYSMAIN*-	---*W201*--
ARGUMENT	----*X*----	----*X*----
POSITION	1	1

** 232 ** BLOCK NO.   32
A POSSIBLE ILLEGAL SIDE EFFECT HAS BEEN DETECTED. IT OCCURS
VIA A VARIABLE PASSED IN AN ARGUMENT LIST. THIS VARIABLE
HAS APPEARED AT LEAST TWICE IN A STATEMENT -- IN ONE
APPEARANCE IT IS USED AS STRICT INPUT AND IN THE OTHER AS
STRICT OUTPUT.

	CALLING SUBPROGRAM	CALLED SUBPROGRAM
	-*SYSMAIN*-	---*W201*--
ARGUMENT	----*CA*---	----*X*----
POSITION	1	1

** 233 ** BLOCK NO.   18
A POSSIBLE ILLEGAL SIDE EFFECT HAS BEEN DETECTED. IT OCCURS
VIA A COMMON VARIABLE WHICH HAS BEEN REFERENCED (POSSIBLY
INDIRECTLY) AT LEAST TWICE IN A STATEMENT -- IN ONE APPEAR-
ANCE IT IS USED AS STRICT INPUT AND IN THE OTHER AS STRICT
OUTPUT.

	CALLING SUBPROGRAM	CALLED SUBPROGRAM
	-*SYSMAIN*-	---*W201*--
VARIABLE	----*CA*---	----*CA*---
COMMON BLOCK	---*BLK1*--	---*BLK1*--

** 233 ** BLOCK NO.   32
           A POSSIBLE ILLEGAL SIDE EFFECT HAS BEEN DETECTED. IT OCCURS
           VIA A COMMON VARIABLE WHICH HAS BEEN REFERENCED (POSSIBLY
           INDIRECTLY) AT LEAST TWICE IN A STATEMENT -- IN ONE APPEAR-
           ANCE IT IS USED AS STRICT INPUT AND IN THE OTHER AS STRICT
           OUTPUT.

	CALLING SUBPROGRAM	CALLED SUBPROGRAM
	-*SYSMAIN*-	---*W201*--
VARIABLE	----*CA*---	----*CA*---
COMMON BLOCK	---*BLK1*--	---*BLK1*--

** 234 ** BLOCK NO.   33
           A POSSIBLE ILLEGAL SIDE EFFECT HAS BEEN DETECTED. IT OCCURS
           VIA A GLOBAL VARIABLE REFERENCED IN AN ARITHMETIC STATEMENT
           FUNCTION. THIS VARIABLE HAS APPEARED AT LEAST TWICE IN A
           STATEMENT -- IN ONE APPEARANCE IT IS USED AS STRICT INPUT AND
           IN THE OTHER AS STRICT OUTPUT.

	CALLING SUBPROGRAM	CALLED SUBPROGRAM
	-*SYSMAIN*-	--*LASRF*--
VARIABLE	----*C*----	--* *-

** 236 ** LOCAL VARIABLE ---*XDT*--- IS NEVER ASSIGNED A VALUE.

** 236 ** LOCAL VARIABLE ---*I236*-- IS NEVER ASSIGNED A VALUE.

** 236 ** LOCAL VARIABLE -----*M*---- IS NEVER ASSIGNED A VALUE.

** 236 ** LOCAL VARIABLE -----*Y*---- IS NEVER ASSIGNED A VALUE.

** 236 ** LOCAL VARIABLE ---*LOC*--- IS NEVER ASSIGNED A VALUE.

** 236 ** LOCAL VARIABLE ---*D219*-- IS NEVER ASSIGNED A VALUE.

** 236 ** LOCAL VARIABLE -----*L*---- IS NEVER ASSIGNED A VALUE.

** 236 ** LOCAL VARIABLE -----*D*---- IS NEVER ASSIGNED A VALUE.

M E S S A G E S
- - - - - - - -

MESSAGE NUMBER	DESCRIPTION
------	-----------

** 301 ** COMMON VARIABLE ---*D218*-- IN BLOCK ---*BLK1*-- OF
           SUBPROGRAM -*SYSMAIN*- IS INITIALIZED IN BLOCK DATA.

** 301 ** COMMON VARIABLE ----*W*---- IN BLOCK ---*IBD*--- OF
            SUBPROGRAM --*SUB215*- IS INITIALIZED IN BLOCK DATA.

** 303 ** THE FOLLOWING DATA FLOW OCCURS THROUGH COMMON WHEN SUBPROGRAM
            --*SUB103*- IS CALLED.

COMMON BLOCK	VARIABLE	INPUT CLASSIFICATION	OUTPUT CLASSIFICATION
---*BLK1*--	----*CA*---	STRICT	NON
---*BLK1*--	---*D218*--	STRICT	OUTPUT
---*BLK1*--	---*Y228*--	STRICT	OUTPUT

** 303 ** THE FOLLOWING DATA FLOW OCCURS THROUGH COMMON WHEN SUBPROGRAM
            ---*W201*-- IS CALLED.

COMMON BLOCK	VARIABLE	INPUT CLASSIFICATION	OUTPUT CLASSIFICATION
---*BLK1*--	----*CA*---	STRICT	NON

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
            FOR -*SYSMAIN*-

        COMMON BLOCK   ----*B1*---

            AVAILABILITY = ORIGINAL

        ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	---*CA1*---	INPUT	NON
2	----*BA*---	NON	STRICT

        COMMON BLOCK   ---*BLK1*--

            AVAILABILITY = ORIGINAL

        ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*CA*---	STRICT	STRICT
2	---*D218*--	STRICT	OUTPUT
3	---*Y228*--	STRICT	STRICT

                    --*LASRF*--

        ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*X*----	STRICT	NON
2	----*Y*----	STRICT	NON

NOTE 1   ALTHOUGH DETECTED IN THIS SUBPROGRAM, THE CAUSE FOR THIS
---- -   DIAGNOSTIC MAY HAVE OCCURRED AT A DEEPER LEVEL OF SUBPROGRAM
            REFERENCES AND BEEN PROPAGATED UP TO THIS ONE.

NOTE 2   IF MESSAGE 301 CONCERNING THIS VARIABLE APPEARS IN THE
---- -   OUTPUT, IT MAY PROVIDE ADDITIONAL USEFUL INFORMATION
            ABOUT THE DATA FLOW AMONG SUBPROGRAMS.

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE

     1   BLOCK DATA
     1   COMMON/IBD/B,C,D
     1   COMMON /BLK1/CA,D218,Y228(6)
     1   DATA B,C,D/1.,2.,3./
     1   DATA D218/1./
     1   END

                    ** N O   E R R O R S **
                    - -   - - - - - -

                 ** N O   W A R N I N G S **
                 - -   - - - - - - - -

                    M E S S A G E S
                    - - - - - - -

MESSAGE
NUMBER   DESCRIPTION
------   -----------

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
          FOR *BLOCKDATA*

          COMMON BLOCK   ---*IBD*---

             AVAILABILITY = ORIGINAL

          ARGUMENTS
             POSITION   NAME   INPUT CLASS   OUTPUT CLASS

                1   ----*B*----   NON   STRICT
                2   ----*C*----   NON   STRICT
                3   ----*D*----   NON   STRICT

          COMMON BLOCK   ---*BLK1*--

             AVAILABILITY = ORIGINAL

          ARGUMENTS
             POSITION   NAME   INPUT CLASS   OUTPUT CLASS

                1   ----*CA*---   NON   NON
                2   ---*D218*--   NON   STRICT

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE

```
   1            FUNCTION E101(A)
   1            COMMON/BLK/B,C,D
   1            COMMON/E110/M
   0    C
   0    C  FUNCTION CAUSES ERROR101
   0    C      FUNCTION NAME REF BEFORE BEING ASSIGNED A VALUE
   0    C  ERROR 102
   0    C      FUNCTION NEVER ASSIGNED A VALUE
   2            A = 1
   0    C
   3            R = E101
   0    C
   0    C  ERROR 110
   0    C      VAR M NOT INITIALIZED
   0    C
   4            X = M+1
   0    C
   0    C  WARNING 212
   0    C      LOCAL VAR REFERENCED BEFORE BEING ASSIGNED ON SOME PATHS
   0    C
   5            IF(X.EQ.R)
   6          $ K=I
   0    C  WARNING 211
   0    C        CONTROL VARIABLE REFERENCED ON SOME PATHS AFTER BECOMING
   0    C        UNDEFINED
   7            DO 5 K=1,10
   8            M=K*M+M
   9          5 CONTINUE
  10            IF(M.GT.100)
  11           $RETURN
  12            A=K
  13            RETURN
   1            END
```

E R R O R S
- - - - - -

ERROR
NUMBER   DESCRIPTION
------   -----------

** 101 **   FUNCTION NAME ---*E101*-- IS REFERENCED BEFORE BEING ASSIGNED
             A VALUE ON ALL PATHS.
             ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                    1   2   3

** 102 ** FUNCTION NAME ---*E101*-- IS NEVER ASSIGNED A VALUE.

W A R N I N G S
- - - - - - -

WARNING
NUMBER   DESCRIPTION
------   -----------

** 211 ** CONTROL VARIABLE ----*K*---- BECOMES UNDEFINED UPON SATISFACTION
          OF ITS DO LOOP AT BLOCK NO.   9, YET IS REFERENCED ON SOME
          PATHS THEREAFTER.
          ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
              9   10   12

** 212 ** LOCAL VARIABLE ----*I*---- IS REFERENCED BEFORE BEING
          ASSIGNED A VALUE ON SOME PATHS.
          ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
              1 -   6

** 223 ** DUMMY ARGUMENT ----*A*---- IS ASSIGNED A VALUE IN BLOCK
          NO.   2 AND IS ASSIGNED A VALUE THEREAFTER BEFORE BEING
          REFERENCED, ON SOME PATHS.
          ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
              2 - 10   12

** 229 ** LOCAL VARIABLE ----*K*---- IS ASSIGNED A VALUE IN BLOCK
          NO.   6 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
          BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
          ON ALL PATHS.
          ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
              6   7

** 236 ** LOCAL VARIABLE ----*I*---- IS NEVER ASSIGNED A VALUE.

M E S S A G E S
- - - - - - -

MESSAGE
NUMBER   DESCRIPTION
------   -----------

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
          FOR FUNCTION   ---*E101*--

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
0	---*E101*--	STRICT	NON
1	----*A*----	NON	STRICT

COMMON BLOCK   ---*BLK*---

    AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*B*----	NON	NON
2	----*C*----	NON	NON
3	----*D*----	NON	NON

COMMON BLOCK   ---*E110*--

    AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*M*----	STRICT	STRICT

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE

```
   1            SUBROUTINE SUB103(I,X,Y)
   1            COMMON/BLK/B,C,D
   1            COMMON/BLK1/J,Y(7)
   2            I=4
   3            X=6.
   4            IF(Y.GT.X)
   5           $Y=X
   6            B=B+1
   0    C
   0    C  CALL IS TO HELP GENERATE MESSAGE 302
   0    C
   7            CALL SUB302
   0    C
   0    C  HELPS GENERATE WARNING 210 IN MAIN PROGRAM
   0    C
   8            IF(B.EQ.1.)
   9           $ C=D
   0    C
   0    C  WARNING 224
   0    C     COMMON REDEFINED ON ALL PATHS BEFORE BEING REFERENCED
   0    C
  10            B=1.
  11            B=2.
   0    C
   0    C  WARNING 225
   0    C     SAME AS 224 BUT ON SOME PATHS
  12            D = B
  13            IF(X.EQ.C)
  14           $ D=B+1
  15            RETURN
   1            END
```

E R R O R S
- - - - - -

ERROR
NUMBER   DESCRIPTION
- - - - - -   - - - - - - - - - - -

** 107 **   THE NAME ----*Y*---- IS USED TO REPRESENT BOTH A DUMMY
            ARGUMENT AND A COMMON VARIABLE IN THIS SUBPROGRAM.

W A R N I N G S
- - - - - - -

** 214 ** CORRESPONDING COMMON VARIABLES IN COMMON BLOCK ---*BLK1*--
           HAVE DIFFERENT DATA TYPES.

	CALLING SUBPROGRAM --*SUB103*-	CALLED SUBPROGRAM --*SUB302*-
VARIABLE	----*Y*----	----*K*----
DATA TYPE	REAL	INTEGER

** 224 ** COMMON VARIABLE ----*B*---- IS ASSIGNED A VALUE IN BLOCK
           NO.   10 AND IS ASSIGNED A VALUE THEREAFTER BEFORE BEING
           REFERENCED, ON ALL PATHS.
           ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                10   11

** 225 ** COMMON VARIABLE ----*D*---- IS ASSIGNED A VALUE IN BLOCK
           NO.   12 AND IS ASSIGNED A VALUE THEREAFTER BEFORE BEING
           REFERENCED, ON SOME PATHS.
           ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                12   13   14

** 237 ** CORRESPONDING COMMON VARIABLES IN COMMON BLOCK ---*BLK1*--
           HAVE DIFFERENT DATA TYPES IN SUBPROGRAM --*SUB103*-
           AND BLOCK DATA.

	SUBPROGRAM --*SUB103*-	BLOCK DATA
VARIABLE	----*J*----	----*CA*---
DATA TYPE	INTEGER	REAL

M E S S A G E S
- - - - - - - -

** 303 ** THE FOLLOWING DATA FLOW OCCURS THROUGH COMMON WHEN SUBPROGRAM
           --*SUB302*- IS CALLED.

COMMON BLOCK	VARIABLE	INPUT CLASSIFICATION	OUTPUT CLASSIFICATION
---*BLK1*--	----*Y*----	STRICT	NON
---*BLK1*--	----*J*----	STRICT	NON

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
         FOR SUBROUTINE --*SUB103*-

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*I*----	NON	STRICT
2	----*X*----	NON	STRICT
3	----*Y*----	STRICT	OUTPUT

COMMON BLOCK   ---*BLK*---

    AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*B*----	STRICT	STRICT
2	----*C*----	INPUT	OUTPUT
3	----*D*----	INPUT	STRICT

COMMON BLOCK   ---*BLK1*--

    AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*J*----	STRICT	NON
2	----*Y*----	STRICT	OUTPUT

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE


```
1          SUBROUTINE SUB302
0    C  WARNING 214
0    C    COMMON VARIABLES HAVE DIFFERENT DATA TYPES IN CALLING AND CALLED
0    C  WARNING 237
0    C    COMMON VARIABLES HAVE DIFFERENT DATA TYPES HERE AND IN BLOCK DATA
0    C
1          COMMON/BLK1/K(8)
0    C
0    C  SUBROUTINE WILL HELP GENERATE MESSAGE 302
0    C
2          CALL SUB106(X,Y)
3          I=1+K(1)
0    C
0    C  ERROR 111
0    C    CONTROL VAR IS REFERENCED OUTSIDE OF LOOP
0    C
4          DO 100 J = 1 , 5
5          X = 1
6      100 CONTINUE
7          I = J
8          RETURN
1          END
```


E R R O R S
- - - - - -

ERROR
NUMBER   DESCRIPTION
- - - - - -   - - - - - - - - - - -

** 111 **   CONTROL VARIABLE ----*J*---- BECOMES UNDEFINED UPON SATISFACTION
            OF ITS DO LOOP AT BLOCK NO.   6, YET IS REFERENCED ON ALL
            PATHS THEREAFTER.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                 6   7

W A R N I N G S
- - - - - - - -

WARNING

** 229 **   LOCAL VARIABLE ----*X*---- IS ASSIGNED A VALUE IN BLOCK
             NO.   5 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
             BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
             ON ALL PATHS.
             ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                5 -   8

** 229 **   LOCAL VARIABLE ----*I*---- IS ASSIGNED A VALUE IN BLOCK
             NO.   · 3 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
             BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
             ON ALL PATHS.
             ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                3 -   7

** 237 **   CORRESPONDING COMMON VARIABLES IN COMMON BLOCK ---*BLK1*--
             HAVE DIFFERENT DATA TYPES IN SUBPROGRAM --*SUB302*-
             AND BLOCK DATA.
                                   SUBPROGRAM   BLOCK DATA
                                   --*SUB302*-
                      VARIABLE   ----*K*----   ---*Y228*--
                      DATA TYPE   INTEGER   REAL

** 237 **   CORRESPONDING COMMON VARIABLES IN COMMON BLOCK ---*BLK1*--
             HAVE DIFFERENT DATA TYPES IN SUBPROGRAM --*SUB302*-
             AND BLOCK DATA.
                                   SUBPROGRAM   BLOCK DATA
                                   --*SUB302*-
                      VARIABLE   ----*K*----   ----*CA*---
                      DATA TYPE   INTEGER   REAL

** 237 **   CORRESPONDING COMMON VARIABLES IN COMMON BLOCK ---*BLK1*--
             HAVE DIFFERENT DATA TYPES IN SUBPROGRAM --*SUB302*-
             AND BLOCK DATA.
                                   SUBPROGRAM   BLOCK DATA
                                   --*SUB302*-
                      VARIABLE   ----*K*----   ---*D218*--
                      DATA TYPE   INTEGER   REAL

                          M E S S A G E S
                          - - - - - - - -

MESSAGE
NUMBER   DESCRIPTION
------   -----------

** 302 **   THE FOLLOWING COMMON BLOCKS, ALTHOUGH NOT EXPLICITLY IN
             SUBPROGRAM --*SUB302*-, ARE AVAILABLE TO IT.

---*BLK*---   ALWAYS
** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
   FOR SUBROUTINE --*SUB302*-
          THERE ARE NO PARAMETERS OR COMMON BLOCKS

COMMON BLOCK   ---*BLK1*--

     AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*K*----	STRICT	NON

COMMON BLOCK   ---*BLK*---

     AVAILABILITY = ALWAYS

VARIABLE NAMES TAKEN FROM SUBPROGRAM --*SUB106*-

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*B*----	NON	NON
2	----*C*----	NON	NON
3	----*D*----	NON	NON

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE


```
1           SUBROUTINE SUB105(X,I)
0   C
0   C   ERROR 105  GENERATED BY THIS ROUTINE IN MAIN PROGRAM
0   C   ALSO AIDS IN GENERATION OF MESSAGE 302
2           Y = X+4
3           CALL SUB106(X,Y)
4           RETURN
1           END
```


** N O   E R R O R S **
- - - - - - - -

W A R N I N G S
- - - - - - -

WARNING
NUMBER   DESCRIPTION
------   -----------

** 207 **   DUMMY ARGUMENT ----*I*---- IS NEVER USED.

** 229 **   LOCAL VARIABLE ----*Y*---- IS ASSIGNED A VALUE IN BLOCK
            NO.   2 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
            BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
            ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                2   3

M E S S A G E S
- - - - - - - -

MESSAGE
NUMBER   DESCRIPTION
------   -----------

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
          FOR SUBROUTINE --*SUB105*-

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*X*----	STRICT	STRICT
2	----*I*----	NON	NON

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE


```
1           SUBROUTINE SUB106(X,Z)
0    C
0    C  SUBROUTINE WILL GENERATE ERROR 106 IN MAIN PROGRAM
0    C
2           X=6.
0    C
0    C  AID WITH MESSAGE 302
3           Y=E101(Z)
0    C
0    C  WILL GENERATE WARNING 203 IN MAIN PROGRAM
0    C
4           IF(Y.LT.X)
5          $Z=3
6           RETURN
1           END
```


                       E R R O R S
                       - - - - - -

ERROR
NUMBER   DESCRIPTION
------   -----------

** 110 **   COMMON VARIABLE ----*M*---- IS REFERENCED ON ALL PATHS IN
            CALLED SUBPROGRAM ---*E101*--, YET IS NOT INITIALIZED. IT
            DOES NOT APPEAR IN BLOCK DATA, AND ITS COMMON BLOCK ---*E110*--
            IS NOT AVAILABLE TO CALLING SUBPROGRAM --*SUB106*-. (SEE
            NOTE 1)

                       W A R N I N G S
                       - - - - - - - -

WARNING
NUMBER   DESCRIPTION
------   -----------

** 216 **   COMMON VARIABLE ----*M*---- IS ASSIGNED A VALUE ON ALL PATHS
            IN CALLED SUBPROGRAM ---*E101*--, YET ITS COMMON BLOCK
            ---*E110*-- IS NOT AVAILABLE TO CALLING SUBPROGRAM --*SUB106*-.

HENCE, A COMPUTED VALUE WILL BE LOST. (SEE NOTE 1)   33

M E S S A G E S
- - - - - - -

MESSAGE NUMBER	DESCRIPTION

** 302 ** THE FOLLOWING COMMON BLOCKS, ALTHOUGH NOT EXPLICITLY IN
SUBPROGRAM --*SUB106*-, ARE AVAILABLE TO IT.

COMMON BLOCK	AVAILABILITY
---*BLK*---	SOMETIMES

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
FOR SUBROUTINE --*SUB106*-

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*X*----	NON	STRICT
2	----*Z*----	NON	STRICT

COMMON BLOCK   ---*BLK*---

AVAILABILITY = SOMETIMES

VARIABLE NAMES TAKEN FROM SUBPROGRAM ---*E101*--

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*B*----	NON	NON
2	----*C*----	NON	NON
3	----*D*----	NON	NON

NOTES

NOTE 1   ALTHOUGH DETECTED IN THIS SUBPROGRAM, THE CAUSE FOR THIS
---- -   DIAGNOSTIC MAY HAVE OCCURRED AT A DEEPER LEVEL OF SUBPROGRAM
REFERENCES AND BEEN PROPAGATED UP TO THIS ONE.

NOTE 2   IF MESSAGE 301 CONCERNING THIS VARIABLE APPEARS IN THE
---- -   OUTPUT, IT MAY PROVIDE ADDITIONAL USEFUL INFORMATION
ABOUT THE DATA FLOW AMONG SUBPROGRAMS.

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE


```
   1          SUBROUTINE SUB208(B,X)
   1          COMMON/BLK1/CA
   1          COMMON/BLK/B,C,D
   0   C
   0   C  ERROR 107
   0   C     COMMON VARIABLE IS ALSO USED AS A DUMMY ARGUMENT
   0   C
   2          IF(Y.EQ.D)
   3        $ GO TO 100
   4          X=B
   5    100 RETURN
   1          END
```


E R R O R S
- - - - - -

ERROR
NUMBER   DESCRIPTION
------   -----------

** 107 **   THE NAME ----*B*---- IS USED TO REPRESENT BOTH A DUMMY
            ARGUMENT AND A COMMON VARIABLE IN THIS SUBPROGRAM.

** 112 **   LOCAL VARIABLE ----*Y*---- IS REFERENCED BEFORE BEING ASSIGNED
            A VALUE ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                 1   2

W A R N I N G S
- - - - - - - -

WARNING
NUMBER   DESCRIPTION
------   -----------

** 236 **   LOCAL VARIABLE ----*Y*---- IS NEVER ASSIGNED A VALUE.

M E S S A G E S
- - - - - - - -

MESSAGE NUMBER	DESCRIPTION

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
FOR SUBROUTINE --*SUB208*-

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*B*----	INPUT	NON
2	----*X*----	NON	OUTPUT

COMMON BLOCK   ---*BLK1*--

AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*CA*---	NON	NON

COMMON BLOCK   ---*BLK*---

AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*B*----	INPUT	NON
2	----*C*----	NON	NON
3	----*D*----	STRICT	NON

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE


```
  1           FUNCTION W201(X)
  1           COMMON/BLK1/CA
  0    C
  0    C   WARNING 202
  0    C       FUNCTION NAME IS UNDEFINED ON SOME PATHS
  0    C
  2           Y=5
  0    C
  0    C   WARNING 222
  0    C       DUMMY VAR IS CHANGED BEFORE BEING REF ON ALL PATHS
  0    C
  3           X = 1
  4           X=CA
  5           IF(Y.GT.X)
  6         $ GO TO 100
  7           RETURN
  0    C
  0    C   WARNING 201
  0    C       FUNCTION NAME IS REF BEFORE BEING ASSIGNED ON SOME PATHS
  0    C
  8      100 I=W201
  9           W201=1.
 10           RETURN
  1           END
```

** N O   E R R O R S **
- - - - - - -

W A R N I N G S
- - - - - - -

WARNING
NUMBER   DESCRIPTION
------   -----------

** 201 **   FUNCTION NAME ---*W201*-- IS REFERENCED BEFORE BEING
            ASSIGNED A VALUE ON SOME PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                1 - 6   8

** 202 **   FUNCTION NAME ---*W201*-- IS NOT ASSIGNED A VALUE ON SOME PATHS.

DUMMY ARGUMENT ----*X*---- IS ASSIGNED A VALUE IN BLOCK
NO.   3 AND IS ASSIGNED A VALUE THEREAFTER BEFORE BEING
REFERENCED, ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
      3   4

** 229 ** LOCAL VARIABLE ----*I*---- IS ASSIGNED A VALUE IN BLOCK
NO.   8 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
ON ALL PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
      8   9   10

M E S S A G E S
- - - - - - - -

MESSAGE
NUMBER   DESCRIPTION
------   -----------

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
FOR FUNCTION   ---*W201*--

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
0	---*W201*--	INPUT	OUTPUT
1	----*X*----	NON	STRICT

COMMON BLOCK   ---*BLK1*--

AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*CA*---	STRICT	NON

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK		SOURCE
1		SUBROUTINE SUB215(XDAT,A,B)
1		COMMON/IBD/W,V,T
1		COMMON/BLK/B1,C,D
1		DIMENSION XDAT(5,2)
0	C	WARNING 223
0	C	TYPE II ANOMALY, DUMMY ARGUMENT
0	C	
0	C	
2		B=XDAT(2,1)
3		A =2.
4		IF(XDAT(1,1).EQ.2.)
5		$ B=3.
6		Y=1
7		IF(B.EQ.3)
8		$ B=Y
9		C=B*Y
10		T=W*Y+B
11		IF(C.GT.100)
12		$GO TO 10
13		D=A*B
14		W=B**2
15		10 RETURN
1		END

** N O E R R O R S **
- - - - - - - -

W A R N I N G S
- - - - - - - -

WARNING NUMBER	DESCRIPTION
------	----------

** 223 **   DUMMY ARGUMENT ----*B*---- IS ASSIGNED A VALUE IN BLOCK
            NO.   2 AND IS ASSIGNED A VALUE THEREAFTER BEFORE BEING
            REFERENCED, ON SOME PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
               2 -   5

MESSAGE
NUMBER   DESCRIPTION
------   -----------

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
          FOR SUBROUTINE --*SUB215*-

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	---*XDAT*--	STRICT	NON
2	----*A*----	NON	STRICT
3	----*B*----	NON	STRICT

COMMON BLOCK   ---*IBD*---

     AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*W*----	STRICT	OUTPUT
2	----*V*----	NON	NON
3	----*T*----	NON	STRICT

COMMON BLOCK   ---*BLK*---

     AVAILABILITY = ORIGINAL

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
1	----*B1*---	NON	NON
2	----*C*----	NON	STRICT
3	----*D*----	NON	OUTPUT

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE


```
   1          SUBROUTINE SUB(A,B)
   1          DATA X,Y/1.,2./
   0   C  WARNING 220 AND 221
   0   C      LOCAL VARIABLE INITIALIZED IN DATA STATEMENT IS ASSIGNED
   0   C      A VALUE ON ALL(SOME) PATHS
   2          Y=A
   3          IF(A.LT.0)
   4         $X=B
   5          IF(X.LT.Y)
   6         $ RETURN
   7          B=1
   8          RETURN
   1          END
```


                    ** N O   E R R O R S **
                    - - - - - - - -

                      W A R N I N G S
                      - - - - - - - -

WARNING
NUMBER   DESCRIPTION
------   -----------

** 220 **   LOCAL VARIABLE ----*Y*----, INITIALIZED IN A DATA STATEMENT,
            IS ASSIGNED A VALUE ON ALL PATHS. UNDEFINITION WILL OCCUR
            UPON EXIT FROM THIS SUBPROGRAM.

** 221 **   LOCAL VARIABLE ----*X*----, INITIALIZED IN A DATA STATEMENT,
            IS ASSIGNED A VALUE ON SOME PATHS. UNDEFINITION MAY OCCUR
            UPON EXIT FROM THIS SUBPROGRAM.

** 229 **   LOCAL VARIABLE ----*Y*---- IS ASSIGNED A VALUE IN BLOCK
            NO.   1 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE
            BEING REFERENCED, OR IS NOT SUBSEQUENTLY REFERENCED,
            ON ALL PATHS.
            ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
                  1   2

** 230 **   LOCAL VARIABLE ----*X*---- IS ASSIGNED A VALUE IN BLOCK
            NO.   1 AND IS EITHER ASSIGNED A VALUE THEREAFTER BEFORE

ON SOME PATHS.
ONE SUCH PATH, INDICATED BY BLOCK NUMBERS, IS
     1 -   4

M E S S A G E S
- - - - - - - -

MESSAGE
NUMBER   DESCRIPTION
------   -----------

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
          FOR SUBROUTINE ---*SUB*---

          ARGUMENTS
                POSITION   NAME   INPUT CLASS   OUTPUT CLASS

                   1   ----*A*----   STRICT   NON
                   2   ----*B*----   INPUT   OUTPUT

$ IN THE CONTINUATION FIELD INDICATES THE EXPANSION
OF THE LOGICAL IF STATEMENT ON THE PREVIOUS LINE

BLOCK   SOURCE

1   FUNCTION FUN(X)
0   C
0   C   FUNCTION IS NEVER REFERENCED
0   C
2   RETURN
1   END

E R R O R S
- - - - - -

ERROR
NUMBER   DESCRIPTION
------   -----------

** 102 **   FUNCTION NAME ---*FUN*--- IS NEVER ASSIGNED A VALUE.

W A R N I N G S
- - - - - - - -

WARNING
NUMBER   DESCRIPTION
------   -----------

** 207 **   DUMMY ARGUMENT ----*X*---- IS NEVER USED.

** 235 **   SUBPROGRAM ---*FUN*--- IS NEVER CALLED.

M E S S A G E S
- - - - - - - -

MESSAGE
NUMBER   DESCRIPTION
------   -----------

ARGUMENTS

POSITION	NAME	INPUT CLASS	OUTPUT CLASS
0	---*FUN*---	NON	NON
1	----*X*----	NON	NON

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
         FOR FUNCTION   ---*FSIM*--

           ARGUMENTS
                POSITION   NAME   INPUT CLASS   OUTPUT CLASS

                   0   ---*FSIM*--   NON   STRICT
                   1   DUMMY PARM.   STRICT   NON

** 304 ** I/O CLASSIFICATION OF ARGUMENTS AND COMMON VARIABLES
         FOR SUBROUTINE --*SUBSIM*-

               ARGUMENTS
                   POSITION   NAME   INPUT CLASS   OUTPUT CLASS

                      1   . DUMMY PARM.   STRICT   NON
                      2   DUMMY PARM.   STRICT   NON
                      3   . DUMMY PARM.   STRICT   NON
                      4   DUMMY PARM.   STRICT   NON

STOP
/cost
 JOB COST - 76/11/23, 15.24.13, $ 19.10
COST.
/