```
C     OBTAINS SOLUTIONS OF THE EQUATION A*X**2 + B*X + C = 0
C
   10 READ(5,8000) A,B,C
 8000 FORMAT(3F10.5)
C     A IN COLUMNS 1-10, B IN COLUMNS 11-20, C IN COLUMNS 21-30
      WRITE(6,9000) A,B,C
 9000 FORMAT(4H0A = F12.5,3X,3HB = ,F12.5,3X,3HC = ,F12.5)
C     TEST FOR TWO ZEROS
      IF(B.EQ.0..AND.C.EQ.0.)  GO TO 15
C     AT THIS POINT EITHER B, OR C, OR BOTH MAY BE NONZERO
      IF(B.NE.0..AND.C.NE.0.)  GO TO 50
C     AT THIS POINT EITHER B IS 0 OR C IS ZERO
      IF(A) 30,20,30
   15 IF(A.EQ.0.) STOP
   20 WRITE(6,9010)
 9010 FORMAT(33H TRIVIAL CASE. TWO OR MORE ZEROS.)
      GO TO 10
C     NOW TEST FOR C = 0 CASE.
   30 IF(C)  60,40,60
   40 XA = B/A
      XB = 0.
      GO TO 100
   50 IF(A.NE.0.)  GO TO 60
      XA = -C/B
      XB = 0.
      GO TO 100
C     START OF MAIN COMPUTATION
   60 Q = B*B-4.*A*C
      XX = -B/(2.*A)
      IF(Q)  80,70,80
   70 XA = XX
      XB = XX
      GO TO 100
   80 QA = ABS(Q)
      XS = SQRT(QA)/(2.*A)
      IF(Q)  110,110,90
   90 XA = XX + XS
      XB = XX - XS
  100 WRITE(6,9020) XA,XB
 9020 FORMAT(5H X1 = ,F12.5,3X,4HX2 = ,F12.5)
      GO TO 10
  110 XA = XS
      XB = -XS
      WRITE(6,9030) XX,XA,XX,XB
 9030 FORMAT(5H X1 = ,F12.5,2H + ,F12.5,2H I,5X,4HX2 = ,F12.5,2H +,
     1 F12.5,2H I)
      GO TO 10
      END
```

A painful trace through the logic reveals several small errors. The most significant is statement 40, the case where only C is zero, which should have a minus sign:

```
   40 XA = -B/A
```

Statement 20 writes "TRIVIAL CASE. TWO OR MORE ZEROS.", even though the case where all three coefficients are zero is eliminated by the STOP at statement 15. Worse, the same message is delivered for the equations