Leaving aside any question of why the program failed to check its input, this "minor" problem might never have happened if input formats were better suited to humans, and if mnemonics were used. Mnemonics make it easier for people to remember legal input and understand output, and they make it less likely that a keypunch error will transform one legal code into another one.

To illustrate, here is a part of a program which computes prices of metals of various types and weights:

```
          . . .
          KOUNT = 0
1         READ 6,WEIGHT,XMETAL
6         FORMAT(F10.1,3X,F4.1)
          KOUNT = KOUNT+1
          DATA BRAC1/0./,BRAC2/1000./,BRAC3/2000./,BRAC4/3000./,BRAC5/4000./
          DATA ALUM/1./,TIN/2./,COPPER/3./,BORON/4./
          IF(WEIGHT.LE.BRAC1)GO TO 100
          IF(WEIGHT.LT.BRAC2.AND.XMETAL.EQ.ALUM)GO TO 101
          IF(WEIGHT.LT.BRAC3.AND.XMETAL.EQ.ALUM)GO TO 102
          . . .
          IF(WEIGHT.LT.BRAC3.AND.XMETAL.EQ.BORON)GO TO 118
          IF(WEIGHT.LT.BRAC4.AND.XMETAL.EQ.BORON)GO TO 119
          IF(WEIGHT.GE.BRAC5.AND.XMETAL.EQ.BORON)GO TO 120
          METAL=XMETAL
100       PRINT 200,WEIGHT,METAL,KOUNT
200       FORMAT(1X,9HWEIGHT = ,F10.1,8HMETAL = ,I2,27HERROR FOUND IN CARD N
         1UMBER I3)
          GO TO 1
101       COST=WEIGHT*3.00
          GO TO 300
102       COST=WEIGHT*2.75
          GO TO 300
          . . .
118       COST=WEIGHT*1.50
          GO TO 300
119       COST=WEIGHT*1.25
          GO TO 300
120       COST=WEIGHT*1.00
300       METAL=XMETAL
          PRINT 301,KOUNT,METAL,WEIGHT,COST
301       FORMAT(1X,13HSHIPMENT NO.(,I2,1H),3X,7HMETAL= ,I2,3X,9HWEIGHT = ,F
         110.1,3X,7HCOST = ,F10.2)
          GO TO 1
```

Each input data card contains a weight and a numeric code for a metal. In all, there are twenty IF's to determine the weight bracket and metal to use for computation, and twenty different computations (statement numbers 101 through 120). Clearly, it would be better to put the prices in an array, indexed by metal type and weight class, and in fact the textbook from which the example was taken later gives a version of the program that does just that.

There are some other minor things to criticize. For instance, it is error-prone and inflexible to use a source card right up to the last column, as in statements 200 and 301. FORMAT 200, for example, leaves no space between the metal code and the word "ERROR". To fix this buglet, we must change both statement 200 and its continuation, then we must correct the character count (27) as well. If instead the card broke to a continuation at the end of a field, this problem would not arise, and only one change would be needed to fix the error: