CHAPTER 2 EXPRESSION 29

2.5 The following program counts sentences, words and characters in a text. A slash marks the end of the text. Rewrite it using logical IF's instead of arithmetic IF's. How many labels are now necessary?

```
INTEGER C, KT, BUFR (72), BLANK, COMMA, SCOL, DASH, SLSH, PEROD, NW, NC, NS
    REAL AWS. ASW
    DATA BLANK, COMMA, SCOL, DASH, SLSH, PEROD/' ',',',';','-','/','.'/,
   * NW,NC,NS,KT,C/0,0,0,73,
101 FORMAT(1H1,35%,'INPUT TEXT')
102 FORMAT (72A1)
103 FORMAT(4X,72A1)
104 FORMAT(///,26X,'NUMBER OF SENTENCES=',18,/,19X,'AVERAGE NUMBER OF
   *WORDS/SENTENCE=',F8.2,/20%,'AVERAGE NUMBER OF SYMBOLS/WORD=',F8.2)
    WRITE(6,101)
 10 READ(5,102) BUFR
    WRITE(6,103) BUFR
    KT=KT-72
    IF(C-PEROD) 20,35,20
 20 C=BUFR(KT)
 25 IF(C-PEROD) 40,30,40
 30 NS=NS+1
    NW=NW+1
    KT=KT+3
    IF(KT-72) 35,35,10
 35 C=BUFR(KT)
    IF(C-SLSH) 25,75,25
 40 IF(C-BLANK) 50,45,50
 45 NW=NW+1
 GO TO 70
50 IF(C-COMMA) 55,70,55
55 IF(C-SCOL) 60,70,60
60 IF(C-DASH) 65,70,65
 65 NC=NC+1
 70 KT=KT+1
    IF(KT-72) 20,20,10
 75 AWS=FLOAT(NW)/NS
    ASW=FLOAT (NC) /NW
    WRITE(6,104) NS,AWS,ASW
    CALL EXIT
```

2.6 In the preceding program, what happens if a period occurs in column 71 or 72 of an input card? What happens if more than one blank separates two words? What happens if there are leading or trailing blanks on a line? What happens if a sentence ends with a question mark? What else happens? Rewrite the program to make it less vulnerable.