

POINTS TO PONDER

5.1 Write a free-form input subroutine that works from a pre-specified array of variable names. How much more work is required to allow for defaults? Once you have such a subroutine, how much harder is it to input variables of different types (say `INTEGER` as well as `REAL` variables)? How much harder is it to input elements of an array?

5.2 Here is a routine that does part of the job suggested in the previous problem — it converts characters into integers. Improve its structure.

```

      DIMENSION IDIG(10),IA(80)
      DATA IBLK,IDIG,IPLS,IMIN/' ','0','1','2','3','4','5','6','7','8','
19','+', '-', /
      READ(5,1) IA
1     FORMAT(80A1)
      IDG=0
      NUM=0
      J=0
3     J=J+1
      IF(J.GT.80) GO TO 2
      IF(IA(J).EQ.IBLK) GO TO 3
      IS=+1
      IF(IA(J).NE.IMIN) GO TO 4
      IS=-1
      J=J+1
      GO TO 5
4     IF(IA(J).EQ.IPLS) J=J+1
5     IF(J.GT.80) GO TO 6
      DO 7 I=1,10
      IF(IA(J).EQ.IDIG(I)) GO TO 8
7     CONTINUE
      IF(IA(J).NE.IBLK) GO TO 9
      IF(IDG.EQ.0) GO TO 9
12    NUM=NUM*IS
      WRITE(6,10) NUM
10    FORMAT('OVALUE =',I10)
      STOP
2     WRITE(6,11)
11    FORMAT('OBLANK CARD')
      STOP
6     IF(IDG.NE.0) GO TO 12
9     WRITE(6,13) IA,J
13    FORMAT(6X,80A1/6X,'INVALID CHARACTER NEAR COLUMN',I3)
      STOP
8     NUM=NUM*10+I-1
      IDG=1
      J=J+1
      GO TO 5
      END

```