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('0VALUE =',I10)
          STOP
   2      WRITE(6,11)
  11      FORMAT('0BLANK 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
```