

```

      FUNCTION KTOSS(KRAND)
C
C THIS FUNCTION GENERATES THE OUTCOME OF A RANDOM TOSS OF TWO DICE
C
      KTOSS=0
      DO 6 I=1,2
      X=KRAND(KRAND)
      IF (X.GT.0.1666667) GO TO 1
      KTOSS=KTOSS+1
      GO TO 6
1     IF (X.GT.0.3333333) GO TO 2
      KTOSS=KTOSS+2
      GO TO 6
2     IF (X.GT.0.5) GO TO 3
      KTOSS=KTOSS+3
      GO TO 6
3     IF (X.GT.0.6666667) GO TO 4
      KTOSS=KTOSS+4
      GO TO 6
4     IF (X.GT.0.8333333) GO TO 5
      KTOSS=KTOSS+5
      GO TO 6
5     KTOSS=KTOSS+6
6     CONTINUE
      RETURN
      END

```

3.4 The following program prints the basic grid for a plotting package. Improve its data structure to improve the plotting accuracy and use the DO loop better.

```

      SUBROUTINE GRAPH1 (PLOT)
      LOGICAL*1 PLOT(50,100)
      LOGICAL*1 BLANK/' '/,DOT/'.'/,A/'A'/,B/'B'/,C/'C'/
      DO 200 L4=1,50
      DO 200 L2=1,100
200   PLOT(L4,L2)=BLANK
      DO 210 L2=1,100
210   PLOT(1,L2)=DOT
      DO 211 L2=1,100
211   PLOT(10,L2)=DOT
      DO 212 L2=1,100
212   PLOT(20,L2)=DOT
      DO 213 L2=1,100
213   PLOT(30,L2)=DOT
      DO 214 L2=1,100
214   PLOT(40,L2)=DOT
      DO 215 L2=1,100
215   PLOT(50,L2)=DOT
      DO 220 L4=1,50
220   PLOT(L4,1)=DOT
      DO 221 L4=1,50
221   PLOT(L4,20)=DOT
      DO 222 L4=1,50
222   PLOT(L4,40)=DOT
      DO 223 L4=1,50
223   PLOT(L4,60)=DOT
      DO 224 L4=1,50
224   PLOT(L4,80)=DOT
      DO 225 L4=1,50
225   PLOT(L4,100)=DOT
      RETURN
      END

```