POINTS TO PONDER

3.1 Rewrite procedure DATES, using just one array of cumulative days instead of a separate array for leap years:

```
DECLARE NDAYS(0:12)
   INITIAL (0,31,59,90,120,151,181,212,243,273,304,334,365);
```

Rewrite it using one non-cumulative table of days:

```
DECLARE NDAYS(0:12)
   INITIAL (0,31,28,31,30,31,30,31,31,30,31,30,31);
```

How do these approaches compare with the ones we showed?

3.2 Revise the following program, after determining what it does.

```
IF X = Y & X = Z & X = W THEN IF X = 0 THEN GO TO DONE;
                              ELSE L1: DO;
                                       SUM = 4*X;
                                       PUT SKIP DATA(SUM);
                                        END L1;
ELSE IF X <= Y THEN
       IF X <= Z THEN
         IF X <= W THEN
           IF Y <= Z THEN
             IF Y <= W THEN
               IF Z <= W THEN PUT SKIP DATA(X,Y,Z,W);
               ELSE PUT SKIP DATA(X,Y,W,Z);
             ELSE PUT SKIP DATA(X,W,Y,Z);
           ELSE IF W < Z THEN PUT SKIP DATA(X,W,Z,Y);
                ELSE IF Y <= W THEN PUT SKIP DATA(X,Z,Y,W);
                     ELSE PUT SKIP DATA(X,Z,W,Y);
         ELSE IF Y <= Z THEN PUT SKIP DATA(W,X,Y,Z);
              ELSE PUT SKIP DATA(W,X,Z,Y);
       ELSE IF W < Z THEN PUT SKIP DATA(W,Z,X,Y);
            ELSE IF W < X THEN PUT SKIP DATA(Z,W,X,Y);
                 ELSE IF  W < Y THEN PUT SKIP DATA(Z,X,W,Y);
                      ELSE PUT SKIP DATA(Z,X,Y,W);
    ELSE IF Y <= Z THEN
           IF Y <= W THEN
             IF X <= Z THEN
               IF X <= W THEN
                 IF Z <= W THEN PUT SKIP DATA(Y,X,Z,W);
                 ELSE PUT SKIP DATA(Y,X,W,Z);
               ELSE PUT SKIP DATA(Y,W,X,Z);
             ELSE IF W < Z THEN PUT SKIP DATA(Y,W,Z,X);
                  ELSE IF X <= W THEN PUT SKIP DATA(Y,Z,X,W);
                       ELSE PUT SKIP DATA(Y,Z,W,X);
           ELSE IF X <= Z THEN PUT SKIP DATA(W,Y,X,Z);
                ELSE PUT SKIP DATA(W,Y,Z,X);
         ELSE IF W < Z THEN PUT SKIP DATA(W,Z,Y,X);
              ELSE IF W < Y THEN PUT SKIP DATA(Z,W,Y,X);
                   ELSE IF W < X THEN PUT SKIP DATA(Z,Y,W,X);
                        ELSE PUT SKIP DATA(Z,Y,X,W);
```

3.3 Rewrite the following Fortran function, attempting to make better use of the regularity of the situation.