

(since it doesn't clash with our earlier test for @FIRST in line 1430) is to set up a procedure to be executed after all the records have been written, in which a special flag (of the form @END, perhaps) can be written at the end. A test can then be inserted into *RDINFL* to abort the loop when @END is encountered.

The third method is to make use of the EOF (End Of File) function offered on some computers, which is really an automated version of the second method. These computers have an EOF flag, which is normally set to 0 that is, FALSE but takes on another value (typically 1 to represent TRUE) when the end of file has been reached. Some BASICS allow the EOF flag to be tested as a BASIC variable; in which case, a construct of the form:

```
WHILE NOT EOF(N) (N is the file number)
DO
  INPUT #N, data to read in)
ENDWHILE
```

will handle the problem. On other machines, the EOF flag is represented as a single bit that must be accessed using the PEEK statement. To find out if your machine has an EOF function, you will need to consult the instruction manual. Because it differs so greatly between machines, we will not be using EOF in our program. But as an exercise, readers might like to attempt to modify the *RDINFL* subroutine for all three possible methods of dealing with files of less than 50 entries.

Generally, it is always a great deal easier to write programs that deal with files of fixed length, but tackling the problem of 'dynamic length' files at this early stage will enable us to modify the program later to cope with files with more than 50 entries.

```
4000 REM *EXECUT* SUBROUTINE
4010 REM
4019 IF CHCI = 6 THEN GOSUB 10000: REM SEE
  FOOTNOTE
4020 REM NORMALLY 'ON CHOI GOSUB etc' --
  SEE FOOTNOTE
4030 REM
4040 REM 1 IS *FNBREC*
4050 REM 2 IS *FNBMS*
4060 REM 3 IS *FNBTDW*
4070 REM 4 IS *FNBINT*
4080 REM 5 IS *MOBREC*
4090 REM 6 IS *ADDREC*
4100 REM 7 IS *MODREC*
4110 REM 8 IS *DELREC*
4120 REM 9 IS *EXPROG*
4130 REM
4140 RETURN
```

The *EXECUT* routine would not normally have line 4019 (hence the odd line number), and line 4020 would normally be either:

ON CHOI GOSUB number,number,number etc

or a series of:

```
IF CHOI = 1 THEN GOSUB number
IF CHOI = 2 THEN GOSUB number etc
```

Line 4019 is included so that the program will work even though the other *EXECUT* subroutines have not yet been coded.

```
10 REM 'MAINFG'
20 REM *INITIL*
30 GOSUB 1000
40 REM *GREET*
50 GOSUB 3000
60 REM *CHOOSE*
70 GOSUB 3500
80 REM *EXECUT*
90 GOSUB 4000
100 END

1000 REM *INITIL* SUBROUTINE
1010 GOSUB 1100: REM *CREARR* (CREATE ARRAYS) SUBROUTINE
1020 GOSUB 1400: REM *RDINFL* (READ IN FILE) SUBROUTINE
1030 GOSUB 1600: REM *SETFLG* (SET FLAGS) SUBROUTINE
1040 REM
1050 REM
1060 REM
1070 REM
1080 REM
1090 RETURN

1100 REM *CREARR* (CREATE ARRAYS) SUBROUTINE
1110 DIM NAMFLD$(50)
1120 DIM MODFLD$(50)
1130 DIM TWNFLD$(50)
1140 DIM CNTFLD$(50)
1150 DIM TELFLD$(50)
1160 DIM NDXFLD$(50)
1170 REM
1180 REM
1190 REM
1200 REM
1210 LET SIZE = 0
1220 LET RMOD = 0
1230 LET SVED = 0
1240 LET CURR = 0
1250 REM
1260 REM
1270 REM
1280 REM
1290 REM
1300 RETURN

10000 REM *ADDREC* SUBROUTINE
10010 PRINT CHR$(12): REM CLEAR SCREEN
10020 INPUT "ENTER NAME";NAMFLD$(SIZE)
10030 INPUT "ENTER STREET";STRFLD$(SIZE)
10040 INPUT "ENTER TOWN";TWNFLD$(SIZE)
10050 INPUT "ENTER COUNTY";CNTFLD$(SIZE)
10060 INPUT "ENTER TELEPHONE NUMBER";TELFLD$(SIZE)
10070 LET RMOD = 1: REM 'RECORD MODIFIED' FLAG SET
10080 LET NDXFLD$(SIZE) = STR$(SIZE)
10090 LET SIZE = SIZE + 1
10100 LET TEST$ = ""
10110 REM INSERT CALL TO *MODNAM* HERE
10120 REM
10130 REM
10140 REM
10150 RETURN
```

Basic Flavours



Because the Spectrum has the facility for saving or loading whole arrays using the command SAVE-DATA, as explained on page 318, the *RDINFL* subroutine will be completely different — reading in each of the arrays (NAMFLDS, MODFLDS etc.) in succession. When we begin writing the data in the next instalment, we will publish a complete version of the relevant subroutines for this machine. In the meantime, as an exercise, Spectrum owners can tackle the problem of how to create the dummy file containing @FIRST, as well as determining how many valid entries there are in the array, when reading the file in.

Sinclair machines do not accept program line numbers above 9999. In the full Spectrum listing that will appear in Issue 23 the ADDREC subroutine begins at line 4200 and line numbers increase in steps of 10

See 'Basic Flavours' page 319.

