```
mainmenu.txt
IO and FORMAT in Fortran
(A78)
13
--------------------------------------------------------------------------------
 IO and FORMAT in Fortran
--------------------------------------------------------------------------------

      1 FORMAT                  /tiny examples
      2 IMPLICIT LOOP           /multiplication table
      3 SEQUENTIAL FORMATTED    /this menu
      4 DIRECT UNFORMATTED      /number sample
      5 have fun with primes    /;o) more IO

      0 exit

      choose one of the options
-1
-1



menuFor1.txt
IO and FORMAT in Fortran
(A78)
7
FORMAT 1/3                                  WRITING FORMATTED INTEGER VALUES
--------------------------------------------------------------------------------
 To specify a FORMAT that read/writes integer values use the I FORMAT.
 Here is an example of different I FORMATs and the resulting values:
 Significant values are 123, -123, 123456
 Enter 0 to quit this example.

-1
-1



menuFor2.txt
IO and FORMAT in Fortran
(A78)
7
FORMAT 2/3                                    WRITING FORMATTED FLOAT VALUES
--------------------------------------------------------------------------------
 To specify a FORMAT that read/writes float values use the F,E,D,G FORMAT.
 Here is an example of different FLOAT FORMATs and the resulting values:
 Significant values are 123.3456789
 Enter 0 to quit this example.

-1
-1
```

```
menuFor3.txt
IO and FORMAT in Fortran
(A78)
12
FORMAT 3/3                                WRITING WITH THE REPETITION INDICATOR
--------------------------------------------------------------------------------
 Syntax: r(format description)

 Where r is the repetition indicator, indicating how often the format
 description is used.

 The example uses the following format description:

 (/, 1X, 'START', /, r(I10, ' piggies', /), ' END')

 Enter 0 to quit this example.
-1
-1
```

```
menuMul.txt
IO and FORMAT in Fortran
(A78)
16
IMPLICIT LOOPS                                          MULTIPLICATION TABLE
--------------------------------------------------------------------------------
 Computes a multiplication table. The table is stored in a matrix and
 displayed using the following code:

      do i=1, 10
                write(*,'(10I4)') (A(i,j), j=1,10)
      end do

 The outer do-loop (index i) loops through the rows of the table.
 Each column is a 4 character wide integer.
 The 10 columns are written using an implicit loop (index j).
 The implicit loop is like the do-loop and written behind the
 output expression. The STEP statement is omitted in this example.
 The brackets are neccessary.
 Resume to see the table.
 -1
 -1
```

```
menuSeq1.txt
IO and FORMAT in Fortran
(A78)
14
SEQUENTIAL FILES 1/3                                                    THE MENU
--------------------------------------------------------------------------------

 Our menu file has the following structure:

 filename         / the filename
 projectname      / project identifier
 format string    / format to be read
 n                / read format n times

 DATA DATA DATA   / some data

 -1               / end of data
 -1               / end of file
-1
-1
```

```
menuSeq2.txt
IO and FORMAT in Fortran
(A78)
23
SEQUENTIAL FILES 2/3                                                    THE MENU
--------------------------------------------------------------------------------
 The channel to the file containing the menu is opened using the statement:

   open(10, FILE=fname, ERR=9001)

 By default the accessmode is sequential formatted.
 Data is read from the file using the following lines of code:

   read(10,'(A)',   END=9003, ERR=9002) filename
   read(10,'(A)',   END=9003, ERR=9002) projectname
   read(10,'(A)',   END=9003, ERR=9002) form
   read(10,'(I10)', END=9003, ERR=9002) amount
   do i=1, amount
                read(10,form,   END=9003, ERR=9002) line
                write(*,*) line
   end do

 The file is closed after all data has been read.

   close(10)

 Resume to see the menu file.
-1
-1
```

```
menuSeq3.txt
IO and FORMAT in Fortran
(A78)
19
mainmenu.txt
IO and FORMAT in Fortran
(A78)
13
--------------------------------------------------------------------------------
 IO and FORMAT in Fortran
--------------------------------------------------------------------------------

      1 FORMAT                  /tiny examples
      2 IMPLICIT LOOP           /multiplication table
      3 SEQUENTIAL FORMATTED    /this menu
      4 DIRECT UNFORMATTED      /number sample
      5 have fun with primes    /;o) more IO

      0 exit

      choose one of the options
-1
-1
-1
-1




menuDir1.txt
IO and FORMAT in Fortran
(A78)
21
DIRECT UNFORMATTED 1/2                                NUMBERS IN SCRATCH FILE
--------------------------------------------------------------------------------
 The following example reads in integer values from the keyboard and
 copies them to a direct unformatted scratch file.
 The channel is opened using the following statement:

      open(10, FILE='direct.dat', STATUS='scratch', ACCESS='direct',
     .FORM='unformatted', RECL=4, ERR=9001)

 RECL=4 means that we have records of 4 bytes length, enough for int values.
 Reading the n_th record from the scratch file:

      read(10, REC=n, ERR=9002) old

 writing a integer value into the n_th record of the scratch file:

      write(10, REC=n, ERR=9002) new

 The scratch file is deleted when the close(10) statement is executed.

 Resume to try the example...
-1
-1
```