

```

program fio

integer choice, n, show_file, show_mul_table
integer show_seq, show_direct, show_form

10 call mycls()
   n = show_file('mainmenu.txt')
   if (n .lt. 0) goto 9000
   read(*,'(I1)') choice
   if (choice .eq. 6) then
       goto 9999
   else if (choice .eq. 1) then
       n = show_form()
   else if (choice .eq. 2) then
       n = show_mul_table()
   else if (choice .eq. 3) then
       n = show_seq()
   else if (choice .eq. 4) then
       n = show_direct()
   else if (choice .eq. 5) then
       call prim
   else
       write(*,*) 'choose a valid option!'
       call mypause()

   endif
   if (n .lt. 0) goto 9000
   goto 10

9000 write(*,*) 'ABNORMAL PROGRAM TERMINATION'

9999 continue

end

c-----show_seq
c function show_seq() = errorCode
c
c errCode n = Error in Function show_file() See show_file()
c
c-----

function show_seq()

integer show_seq

integer show_file, n

n = 0
call mycls()
n = show_file('menuSeq1.txt')
if (n .lt. 0) goto 9000
call mypause()

call mycls()
n = show_file('menuSeq2.txt')
if (n .lt. 0) goto 9000
call mypause()

call mycls()
n = show_file('menuSeq3.txt')
if (n .lt. 0) goto 9000

9000 call mypause()

show_seq = n

end

```

```

c-----show_form
c function show_form() = errorCode
c
c errCode n = Error in Function show_file() See show_file()
c
c-----

function show_form()

integer show_form

integer show_file, n, in, i, r
double precision d
character form*60

c Int Format
10 call mycls()
   n = show_file('menuFor1.txt')
   if (n .lt. 0) goto 9000
   write(*,'(1X,A)') 'Enter a integer value : '
   read(*,'(I11)') in
   write(*,*)
   write(*,'(1X,A,I5 )',ERR=6001) 'write(*,'(I5 )')' |',in
6001 write(*,'(1X,A,I5.2)',ERR=6002) 'write(*,'(I5.2)')' |',in
6002 write(*,'(1X,A,I5.4)',ERR=6003) 'write(*,'(I5.4)')' |',in
6003 write(*,'(1X,A,I5.5)',ERR=6004) 'write(*,'(I5.5)')' |',in
6004 call mypause()
   if (in .ne. 0) goto 10

c Float Format
20 call mycls()
   n = show_file('menuFor2.txt')
   if (n .lt. 0) goto 9000
   write(*,'(1X,A)') 'Enter a float value : '
   read(*,*) d
   call mycls()
   write(*,'(1X,F20.10,A)',ERR=6006) d, ' in F FORMAT'
6006 form='(1X,A,F10.$)'
   do i = 0,5
       form(11:11)=char(ichar('0')+i)
       write(*,form,ERR=6005)
   .write(*,'(//form(7:11)//)') |',d
6005 enddo
   continue

   enddo
   write(*,'(1X,F20.10,A)',ERR=6007) d, ' in E FORMAT'
6007 form='(1X,A,E10.$)'
   do i = 1,5
       form(11:11)=char(ichar('0')+i)
       write(*,form) 'write(*,'(//form(7:11)//)') |',d
   enddo
   write(*,'(1X,F20.10,A)',ERR=6008) d, ' in G FORMAT'
6008 form='(1X,A,G10.$)'
   do i = 1,5
       form(11:11)=char(ichar('0')+i)
       write(*,form) 'write(*,'(//form(7:11)//)') |',d
   enddo
   call mypause()
   if (d .ne. 0) goto 20

c Repetition indicator
30 call mycls()
   n = show_file('menuFor3.txt')
   if (n .lt. 0) goto 9000
   write(*,'(2X,A)') 'Enter a repetition indicator (integer+) : '
   read(*,'(I10)') r
   write(form, '(I10)') r
   form = '(/, 1X, 'START', /, '//form(1:10)//
   .'(I10, ' piggies', /), ' END')'
   write(*,form) (i, i=1, r)
   call mypause()
   if (r .ne. 0) goto 30
   goto 9999

```

```

9000 call mypause()
9999 show_form = n

      end

c-----show_direct
c function show_direct() = errCode
c
c errCode n = Error in Function show_file(). See show_file()
c          -5 => I/O Error Can not open the file 'direct.dat'
c          -6 => I/O Error Can not read/write the file 'direct.dat'
c-----
      function show_direct()

      integer show_direct

      integer show_file, n, in, counter, old, new

      call mycls()
      n = show_file('menuDir1.txt')
      if (n .lt. 0) goto 9000
      call mypause()
      call mycls()

      open(10, FILE='direct.dat', STATUS='UNKNOWN',ACCESS='DIRECT',
        .FORM='UNFORMATTED',RECL=4, ERR=9005)

      counter = 0
      write(*,'(1X,A/)) 'Enter valid int values (-1 to stop): '
      read(*,'(I11)') in
10      if (in .eq. -1) goto 20
          counter = counter + 1
          write(10,REC=counter) in
          goto 10

20      write(*,'(1X,A,I10,A)') 'Wrote ', counter, ' int values.'
          write(*,'(1X,A,I10,A)') 'Index of a record to change [1,',
            .counter,'] ? '
          read(*,'(I11)') in
          read(10, REC=in, ERR=9006) old
          write(*,'(1X,A,I11,A)') 'old value is ', old, ' new value ? '
          read(*,'(I11)') new
          write(10, REC=in, ERR=9006) new

          write(*,*) 'VALUES in scratch file are now...'
          do in=1, counter
              read(10, REC=in, ERR=9006) old
              write(*,*) old
          end do

          goto 9000

9005 n = -5
      write(*,*) 'ERROR OPENING FILE direct.dat'
      goto 9000

9006 n = -6
      write(*,*) 'ERROR READING/WRITING FILE direct.dat'
      goto 9000

9000 call mypause()
      close(10,STATUS='DELETE')
      show_direct = n

      end

```

```

c-----show_file
c function show_file(fname) = errCode

```

```

c
c fname = the file which will be printet on Standart Out
c
c errCode n 0 => no Error
c          -1 => I/O Error Can not open the file
c          -2 => I/O Error Can not read the file
c          -3 => I/O Error UNEXPECTED END OF FILE
c          -4 => I/O Error EXPECTED END OF DATA NOT FOUND IN FILE
c-----
      function show_file(fname)

      character*(*) fname
      integer show_file

      character*78 line
      character*40 filename, projectname, form
      integer n, i, amount

      open(10, FILE=fname,STATUS='UNKNOWN',ERR=9001)
      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
      read(10,'(I10)', END=9003, ERR=9004) n
      if (n .ne. -1) goto 9004
      n = 0
      goto 9999

9001 write(*,*) 'ERROR OPEN FILE ' ! // fname
      n = -1
      goto 9999

9002 write(*,*) 'CANNOT READ FROM FILE ' !// fname
      write(*,*) 'filename ' // filename
      write(*,*) 'projectname ' // projectname
      write(*,*) 'format ' // form
      write(*,'(1X,A,I10)') 'amount ', amount
      n = -2
      goto 9999

9003 write(*,*) 'UNEXPECTED END OF FILE ' !// fname
      write(*,*) 'filename ' // filename
      write(*,*) 'projectname ' // projectname
      write(*,*) 'format ' // form
      write(*,'(1X,A,I10)') 'amount ', amount
      n = -3
      goto 9999

9004 write(*,*) 'EXPECTED END OF DATA NOT FOUND IN FILE' !// fname
      write(*,*) 'filename ' // filename
      write(*,*) 'projectname ' // projectname
      write(*,*) 'format ' // form
      write(*,'(1X,A,I10)') 'amount ', amount
      n = -4
      goto 9999

9999 continue
      close(10)
      show_file = n

      end

```

```

c-----show_mul_table
c function show_mul_table() = errCode

```

```

c
c errCode n = Error in Function show_file(). See show_file()
c
c-----
function show_mul_table()
integer show_mul_table

integer A(10,10), i,j, show_file, n
n = 0
call mycls()
n = show_file('menuMul.txt')
if (n .lt. 0) goto 9000

call mypause()
call mycls()
call c_mul_table(10,10,A)
write(*,*) 'MULTIPLICATION TABLE'
do i=1, 10
    write(*,'(1X,10I4)') (A(i,j), j=1,10)
end do
write(*,*)

9000 call mypause()
show_mul_table = n

end

c-----c_mul_table
c subroutine c_mul_table(n,m,A)
c
c
c returns an array A(n*m). Each element contain the multplication from its
index
c-----
subroutine c_mul_table(n,m,A)

integer n,m
integer A(n,m)

integer i,j

do i=1, n
    do j=1, m
        A(i,j) = i*j
    end do
end do

end

c-----mycls
c subroutine mycls()
c
c clear the screen and the cursor position is in the left upper edge
c
c-----
subroutine mycls()

c DOS
c call system('cls')

c VMS
write(*,1000) char(27), char(27), char(27)
1000 FORMAT(A1,'[0m',A1,'[1;1H',A1,'[0J')

end
    
```

```

c-----mypause
c subroutine mypause()
c
c wait on key_pressed
c
c-----
subroutine mypause()

character*10 x

c DOS
c print *, ""
c call system("PAUSE")

c VMS
write(*,*) 'Press Enter to continue'
read(*,'(A)') x

end
    
```