

#### Fourth Quiz

Like the program `sequence` of the third quiz, the program `sequence2`, given below, reads 1000 numbers between 0 and 1 from a file called `inp.dat`. This sequence of numbers may contain sub-sequences in which all the numbers are larger than 0.5. Having read the numbers, the program is supposed to find the length of the longest such sub-sequence and write this length on the screen. However, the program `sequence2` is erroneous. Can you find why?

```
program sequence2
implicit none
double precision:: x(1000)
integer:: i, maxlength, length
open(3,file='inp.dat')
do i=1,1000
  read(3,*)x(i)
enddo
maxlength = 0
length = 0
do i=1,1000
  if(x(i) > 0.5d0)then
    length = length + 1
  else
    if(length > maxlength)then
      maxlength = length
    endif
    length = 0
  endif
enddo
write(*,*)maxlength
end program sequence2
```