**OOSD Exercises (week 12)**

**Exercise 1:** Write a Python function to read a string and return the longest word. Use the function to read text from a file and return the longest word in the file.

**Exercise 2:** Write a Python function that returns the number of words in string. Use the function to read text from a file and return the total number of words in the file.

**Exercise 3:** Write a function **divisors(n)** that returns a list of the divisors of the integer n including 1 but excluding the number itself.

For example, divisors (24) → [1,2,3,4,6,8,12]

Write a small test program that asks the user for a number and prints the divisors of that number.

**Exercise 4:** Write a Python program that will simulate “Guess the number” game.

The computer thinks of a secret number between 1 and 100 (you can randomly generate that number). You are asked to enter your guess and the computer will print if the secret number is larger or smaller than the number you guessed. The game stops when you guess the number, or when you enter 0 to exit.

Sample interaction:

*>I’m thinking of a secret number between 1 and 100. What is your guess? Enter 0 to exit.*

*>20*

*>You guessed too low.*

*Try again. Enter 0 to exit.*

*>60*

*You guessed too high.*

*Try again. Enter 0 to exit.*

*>40*

*CORRECT!*

**Exercise 4A:** Extend your program to only allow 10 attempts. If the user doesn’t guess after 10 attempts the game ends.