

# CS4051 Fundamentals of Computing

## Lab work – week 3

1. Write a program that asks the user to enter 2 numbers and outputs the greater of the 2 numbers.
2. Write a program that takes a number as input and prints out whether it is an odd or an even number.
3. Write a program that asks the user to input the current day of the week, if it's a weekday the program should print out "Happy weekday! Work hard!" else the output should be "Enjoy your weekend!".
4. Write a program that asks the user to enter the name of a student and marks obtained in any 5 subjects of your choice. The program should calculate the average marks obtained by the student and assign the overall grade according to the following criteria:

|          |   |
|----------|---|
| 70 – 100 | A |
| 60 – 69  | B |
| 50 – 59  | C |
| 43 – 49  | D |
| 40 – 42  | E |
| 0 – 39   | F |

The output of the program should include the name of the student, the marks obtained in the 5 subjects, the average marks and the overall grade.

5. Write a program that takes a number as input and prints out whether it is a prime number or not. (*Use while loop*)

6. Write a program that takes two numbers as input and finds out the GCD (greatest common divisor) of the two numbers using the Euclidean algorithm. *(Use while loop)*
7. The factorial of a non-negative integer N, denoted by N!, is the product of all positive integers less than or equal to N.

$$5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$$

Write a program that takes a non-negative integer N as input and prints out its factorial. *(Use while loop)*

8. A Fibonacci sequence is characterized by the fact that every number after the first two is the sum of the two preceding ones. By definition, the first two numbers in the Fibonacci sequence are 1 and 1.

$$1, 1, 2, 3, 5, 8, 13, 21, 34, 55 \dots$$

Write a program that generates the first N numbers of the Fibonacci sequence and prints them out. N should be taken as input from the user.  
*(Use for loop)*