

Assignment 5

Q 1. Write a function **space(x)** that can be used to provide a space of x positions between two output numbers. Demonstrate its application.

Q 2. Use recursive function calls to evaluate

$$f(x) = x - x^3/3! + x^5/5! - x^7/7! + \dots$$

Q 3. The Fibonacci numbers are defined recursively as follows:

$$F_1=1$$

$$F_2=1$$

$$F_n=F_{n-1}+F_{n-2}, n > 2$$

Write a function that will generate and print the first n Fibonacci numbers. Test the function for n =5, 10, and 15.

Q 4. Develop a top_down modular program to implement a calculator. The program should request the user to input two numbers and display one of the following as per the desire of the user:

- (a) Sum of the numbers
- (b) Difference of the numbers
- (c) Product of the numbers
- (d) Division of the numbers

Provide separate functions for performing various tasks such as reading, calculating and displaying. Calculating module should call second level modules to perform the individual mathematical operations. The main function should have only function calls.