Exercise 4
Recursion

Exercise Objectives:
1. To solve mathematical problems using non-recursive and recursive function.

Recursion

There are two approaches to writing repetitive algorithms. One uses **iteration**; the other uses **recursion**. **Recursion** is a repetitive process in which an algorithm calls itself.

Hands-on Exercises:

[10_Recursion]

Create a program, *with their corresponding flowcharts*, that solve the following mathematical problems using non-recursive and recursive functions:

Factorial: the product of all positive integers less than or equal to n
Fibonacci: each subsequent number is the sum of the previous two
Sum: numbers are added sequentially from 1 to n

[1] Factorial series using non-recursive function.
[2] Factorial series using recursive function.
[3] Fibonacci series using non-recursive function.
[4] Fibonacci series using recursive function.
[5] Sum series using non-recursive function.
[6] Sum series using recursive function.