LAB211 Assignment

Type:	**Short Assignment**
Code:	**J1.S.P0009**
LOC:	**50**
Slot(s):	**1**

Title

Fibonacci.

Background Context

The **Fibonacci Sequence** is the **series** of **numbers**: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, ... The next **number** is found by adding up the two **numbers** before it. The 2 is found by adding the two **numbers** before it (1+1).

Program Specifications

Design a program that displays 45 sequence Fibonacci.

Function details:

1. Use recursion method to find 45 sequence Fibonacci and display to screen.

Expectation of User interface:

```
The 45 sequence fibonacci:
0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597,
```

Guidelines

The Fibonacci numbers are the integer sequence 0, 1, 1, 2, 3, 5, 8, 13, 21, ..., in which each item is formed by adding the previous two. The sequence can be defined recursively by

$$F(n) = \begin{cases} 0 & n = 0 \\ 1 & n = 1\,. \\ F(n-1) + F(n-2) & n > 1 \end{cases}$$

Fibonacci number programs that implement this definition directly are often used as introductory examples of recursion. However, many other algorithms for calculating (or making use of) Fibonacci numbers also exist.