LAB EXERCISE

Fibonacci

Background:

The Fibonacci number series is defined as follows:

Position	0	1	2	3	4	5	6	7	8	etc.
Fib number	0	1	1	2	3	5	8	13	21	etc.

Positions 0 & 1 are definition values. For positions greater than 1, the corresponding Fibonacci value of position `N = Fib (N-1) + Fib (N-2)`.

Assignment:

1. Write a recursive method that takes in a single integer (`x >= 0`) and returns the appropriate Fibonacci number of the Fibonacci number series.

2. Write a non-recursive Fibonacci method that solves the same problem as the recursive version.

3. Write a method that solves a multiplication problem recursively. Use this method header:

```
int mult(int a,  int b)
//  solves for (a * b) by recursively adding a, b times.
//  precondition:  0 <= a <= 10;  0 <= b <= 10.
```

Instructions:

Use these sample run output values:

Recursive fibonacci: `fib(0)`, `fib(3)`, `fib(11)`

Non-recursive Fibonacci: `nonRecFib(1)`, `nonRecFib(5)`, `nonRecFib(14)`

Recursive multiplication: `mult(0,4)`, `mult(3,1)`, `mult(7,8)`, `mult(5,0)`