

# Programming Exercise 15.2

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## Fibonacci Series

**Purpose.** The purpose is for you give you a chance to apply recursion, by writing your own recursive solution.

**Requirements.** Write `MyFibonacci.java`, which should calculate a value in the "Fibonacci number" series. This series is: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34,..., where 0 is the zeroth number in the series, 1 is the first, 1 is the second, and so on. Note that for each number after the opening 0 and 1, the value equals the sum of the two values that precede it. For example,  $13 + 21 = 34$ .

So here's what we know: the Fibonacci number for index 0 or 1 equals the index. There are no negative index values -- you can ignore that possibility. The Fibonacci number for any other index equals the sum of the Fibonacci numbers for the index-1 and the index-2.

The program should prompt the user for an series index (greater or equal to zero) and print the Fibonacci number corresponding to that index.

**Program I/O.** Input from the console keyboard: one number, a sequence number equal to zero or greater. Output: the Fibonacci number corresponding to the sequence number input.

**Example.** Your program's console I/O should look something like this, with user input in blue:

```
Enter an index [0 or greater]: 6
The Fibonacci number at index 6 is 8.
```