**Recursion: Fibonacci Numbers**

<https://www.hackerrank.com/challenges/ctci-fibonacci-numbers/problem>

The Fibonacci sequence appears in nature all around us, in the arrangement of seeds in a sunflower and the spiral of a nautilus for example.

The Fibonacci sequence begins with fibonacci(0) = 0 and fibonacci(1) = 1 as its first and second terms. After these first two elements, each subsequent element is equal to the sum of the previous two elements.

Programmatically:

* fibonacci(0) = 0
* fibonacci(1) = 1
* fibonacci(n) = fibonacci(n-1) + fibonacci(n-2)

Given n, return the nth number in the sequence.

**Example**  
n = 5

The Fibonacci sequence to 6 is fs = [0, 1, 1, 2, 3, 5, 8]. With zero-based indexing, f[5] = 5.

**Function Description**

Complete the recursive function fibonacci in the editor below.

fibonacci has the following parameter(s):

* int n: the index of the sequence to return

**Returns**  
- int: the nth element in the Fibonacci sequence

**Input Format**

The integer n.

**Constraints**

* 0 <= n <= 30

**Sample Input**

STDIN Function

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3 n = 3

**Sample Output**

2

**Explanation**

The Fibonacci sequence begins as follows:

fibonacci(0) = 0

fibonacci(1) = 1

fibonacci(2) = (0 + 1) = 1

fibonacci(3) = (1 + 1) = 2

fibonacci(4) = (1 + 2) = 3

fibonacci(5) = (2 + 3) = 5

fibonacci(1) = (3 + 5) = 8  
...

In the sequence above, fibonacci(3) is 2.