Solution Review: Compute nth Fibonacci Number

This lesson will explain how to compute the nth Fibonacci number using recursion.

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we'll cover the following ^
• Solution: Use Recursion
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The Fibonacci sequence is obtained by adding the previous two consecutive terms; they are defined by the sequence,

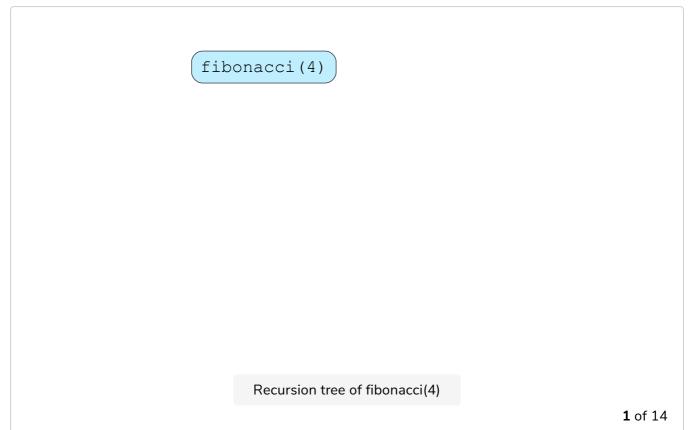
```
fibonacci(0) = 0 # base case
fibonacci(1) = 1

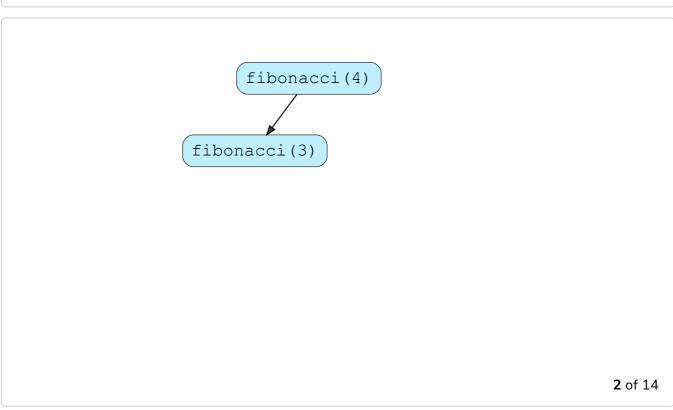
fibonacci(n) = fibonacci(n - 1) + fibonacci(n - 2) for n >= 2 # recursiv
e case
```

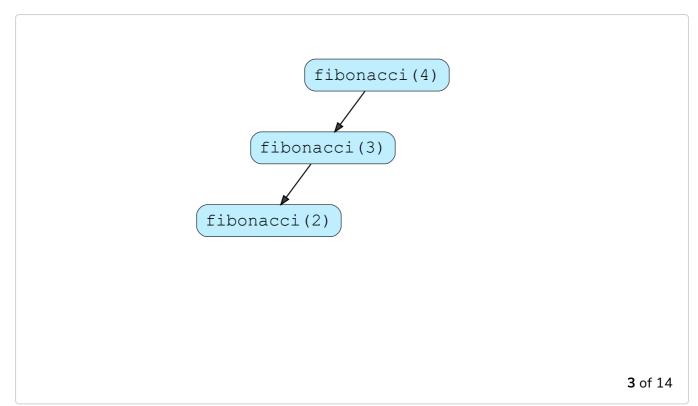
For example,

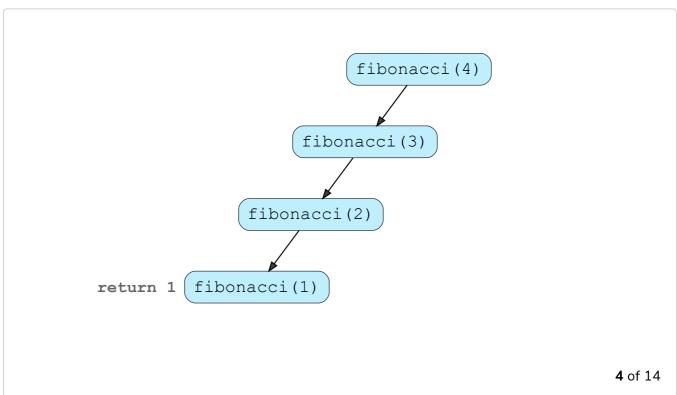
```
0,1,1,2,3,5,8,.....
if n=2, f(n)=3
```

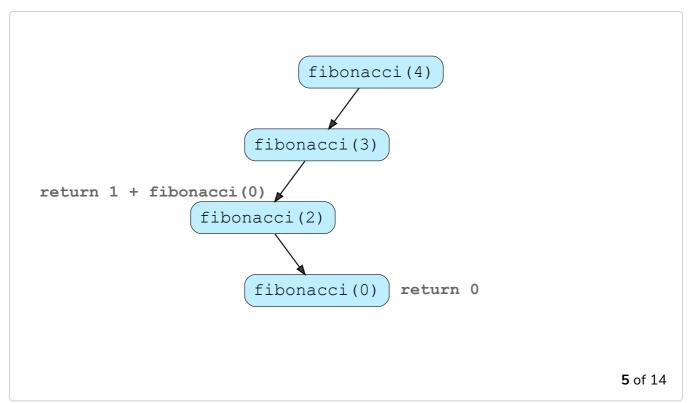
The following illustration explains the concept by calculating the **fourth** Fibonacci number.

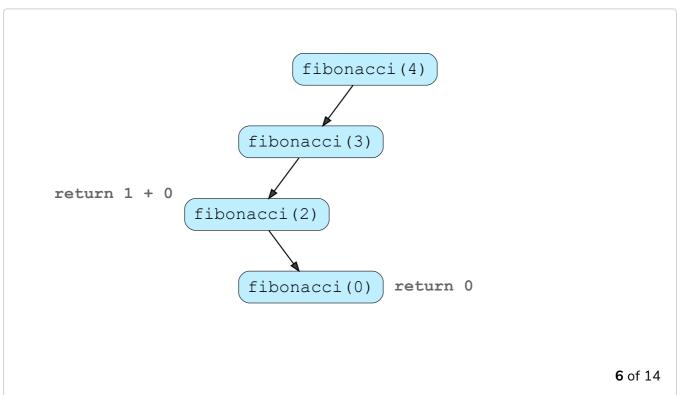


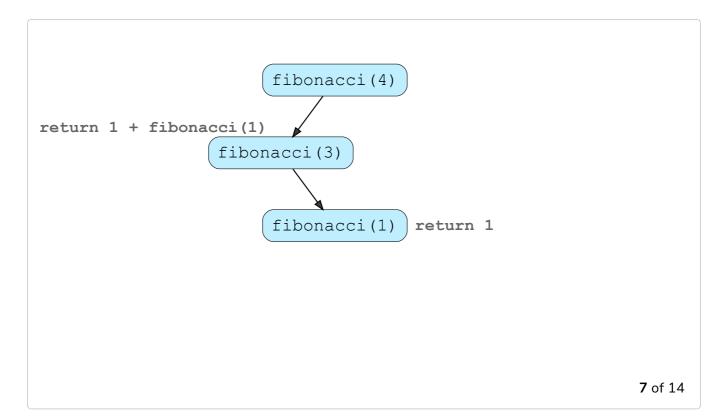


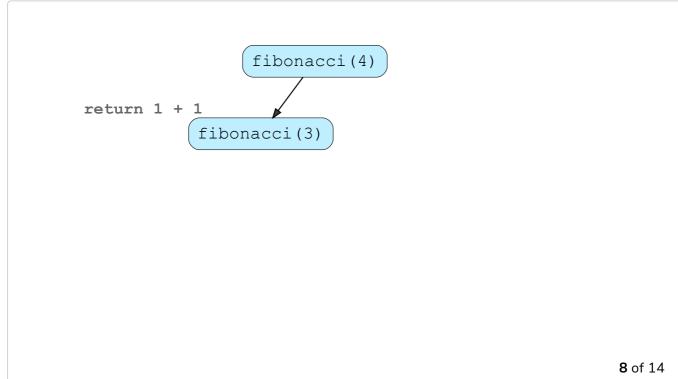


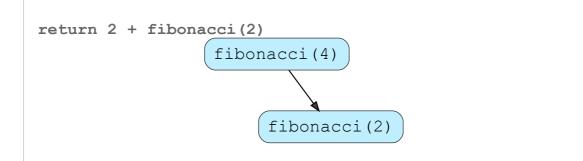




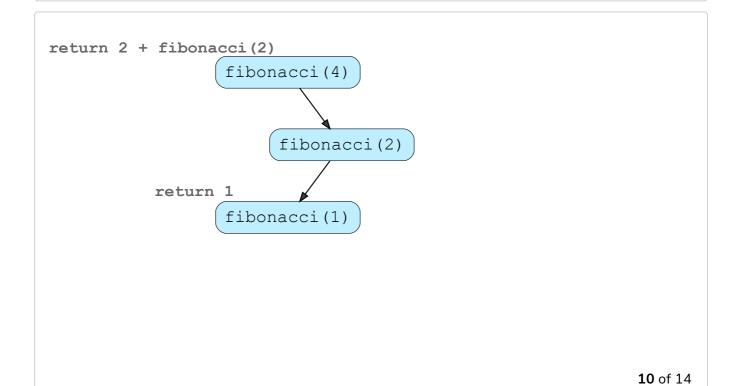


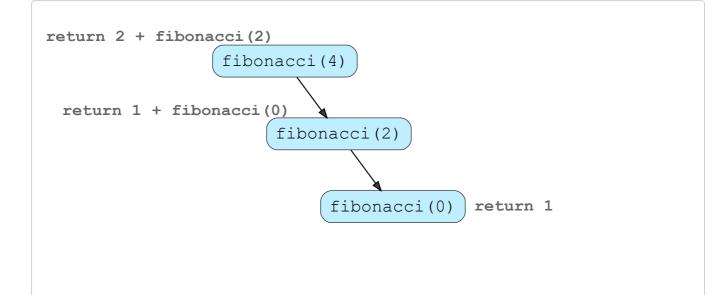




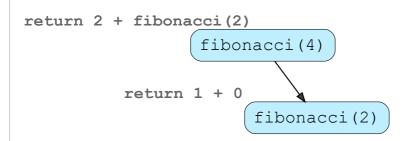


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```
return 2 + 1
             fibonacci(4)
                                                          13 of 14
```

fibonacci(4) = 3

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The following python code demonstrates how to find the nth fibonacci number:

```
def fibonacci(n):
                                                                                     if n <= 1:
      return n
 else:
      return(fibonacci(n-1) + fibonacci(n-2))
```



Let's move on to the next problem.