MITx: 6.00.1x Introduction to Computer Science and Programming Using Python

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L5 PROBLEM 10 (5 points possible)

Help

Ben Bitdiddle tried to implement fibMetered with global variables, to count the number of recursive calls needed for each Fibonacci number calculated. But he made a mistake in using the global variable! Examine his code below carefully and then answer the questions:

```
def fibMetered(x):
    global numCalls
    numCalls += 1
    if x == 0 or x == 1:
        return 1
    else:
        return fibMetered(x-1) + fibMetered(x-2)

def testFib(n):
    global numCalls
    numCalls = 0
    for i in range(n+1):
        print('fib of ' + str(i) + ' = ' + str(fibMetered(i)))
        print ('fib called ' + str(numCalls) + ' times')
testFib(10)
```

What function is the mistake in?

fibMetered

testFib

What line should be changed to make this code work? Paste the original line in the following box:

What do the printed <code>numCall</code> values in this buggy code stand for?

- Number of recursive function calls that happened for each specific Fibonacci number
- Number of recursive function calls to fibMetered that have happened up to that point
- Number of total addition operations that happened up to that point in testFib

Check

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