Problem 1

Please answer the following questions about yourself:

- What is your class year?
- What is/are your (intended) concentration(s)?
- What are you hoping to get out of CS16 and CS16 section?

Problem 2

Read the following slides and use the call stack example to answer the question at the end.
Recursion Simulation
- \( n \neq 1 \), so we return \( n! \times \text{factorial}(n-1) \)
which includes a call to \( \text{factorial}(2) \).

```python
def factorial(n):
    if n == 1:
        return 1
    else:
        return n * factorial(n-1)
```

Recursion Simulation
- \( n \neq 1 \), so we return \( n! \times \text{factorial}(n-1) \) again. In this case, there’s a call to \( \text{factorial}(1) \).

```python
def factorial(n):
    if n == 1:
        return 1
    else:
        return n * factorial(n-1)
```

Recursion Simulation
- Now \( n = 1 \), so we return 1!
Now that you have read the slides, go through the following code for a function $fib(n)$ that finds the $n$th number of the Fibonacci Sequence. Draw out the call stack for $fib(4)$. Follow the format used in the factorial example from the slides.

```python
def fib(n):
    if n == 0:
        return 0
    if n == 1:
        return 1
    return fib(n-1) + fib(n-2)
```