PS 2: Problems 0, 1, and 2

Problem 0: Reading and response

Put your response to the reading below.

The most interesting idea in this article to me was the notion that tools like ChatGPT could return incorrect information. The reason this notion stood out to me was because I, probably like many people interested in the tool, assumed it only returned correct information. I don't use the tool often, but in the future I will be even more discriminative with the answers it provides me.

Problem 1: Tracing function calls

global variables

a	b
7	3
16	3

bar's local variables

a	b
14	7
6	3
10	5

foo's local variables

a	b	c
3	7	6
3	16	6

output (the lines printed by the program)

```
7 3
bar: 14 7
7 3
bar: 6 3
bar: 10 5
16 3
```

Problem 2: Thinking recursively

2-1)

```
mystery(3, 7)
-------------
    a = 3
    b = 7
    myst_rest = mystery(2, 5) = 8
    return 7 + 8 = 15

    mystery(2, 5)
    -----------------
        a = 2
        b = 5
        myst_rest = mystery(1, 3) = 3
        return 5 + 3 = 8

           mystery(1, 3)
           -----------------
                a = 1
                b = 3
                myst_rest = mystery(0, 1) = 0
                return 3 + 0 = 3

                mystery(0,1)
                -----------------
                     a = 0
                     b = 1
                     return 0
```

2-2) The value returned is 15.

2-3) Five including the global stack frame.

2-4) Two specific values of a and b that would produce infinite recursion are a = -2 and b = -3, as subtracting from negative integers will never allow one of the integers to equal zero, and therefore multiplying the integers by each other would never equate to zero.