

## Problem Set 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 is how that I.B.M researchers and this article used a jeopardy winner of over 70 times for the development of new technology. Watson's technology might contribute to hospitalization issues, instead of going through many types of medical treatments, in the future there might be something that just figures it all out at once. Watson-style thinking uses more quick-decisions based on his inputs. However, human thinking might ask more questions to single out an answer, but in a medical sense, it's harder to remember all of the illnesses and effects that come with medical symptoms.

### Problem 1: Tracing function calls

global variables

a	b	c	d
3	5	2	4
3	5	2	7

hello's local variables

a	b	c	d
3	5	2	4

goodbye's local variables

a	c	b
5	4	
5	4	7

adios's local variables

a	b	c	d
5	5	4	4
3	4	5	5

output (the lines printed by the program)

```
3 5 2 4
5 5 4 4
3 4 5 5
hello 3 5 7 6
3 5 2 7
```

## Problem 2: Thinking recursively

2-1)

mystery(0, 9)

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a = 0

b = 9

myst\_rest = mystery(1, 7) = 15

return 24

mystery(2, 5)

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a = 2

b = 5

myst\_rest = mystery(3, 3) = 3

return 8

2-2) 24

2-3) When the base case is reached there's 4 extra stacks including the global stack.

2-4) An infinite recursion would be if you had an A that started out bigger than B, so 10 as variable a and 1 as variable b. A will never equal to b, as the function doesn't allow it.