

# Discussion 4: Scoping and Mutability

## Scoping

1. For each of the following code snippets, write what the Sprite would say after the script executes. If you believe the code produces an error, write "Error."

a. Assume we create a global variable named `global` (and no other global variables) and then run the script below. [Explanation at this link](#)

```

set global to true
Headache
say global
say local
    
```

```

+ Headache +
script variables local
set local to false
set global to false
    
```

false

Error

b. Assume we create a global variable named `Dan` and then run the script below.

```

set Dan to Garcia
script variables Dan
set Dan to Professor
say join words Dan Function Dan
    
```

```

+ Function + input +
report Dan
    
```

Professor Garcia

[Explanation at this link](#)

c.

```

script variables input result
set input to 0
set result to 0
change result by mystery1 input
say result - input
    
```

```

+ mystery1 + input +
change input by 10
report input
    
```

10

[Explanation at this link](#)

d.

```

script variables val
set val to 10
add 10 to val
say val for 2 secs
    
```

```

+ add + 10 + to + val +
change val by 10
say val for 2 secs
    
```

20

10

[Explanation at this link](#)

# Mutability

1. What are the values of x and y after the scripts below stop running?

a.

x: 123

y: list 1 2 3

[Explanation at this link](#)

b.

x: 123

y: list 1 2 3 6

[Explanation at this link](#)

c.

x: list 1 2 3 5

y: list a b c

[Explanation at this link](#)

2. Fill in the block copy below so that after the script to the right runs, x is list 1 2 3 4 and y is list 1 2 3.

copy of (list):