Do Now: **With a partner, consider the following question:**

What does the word "manipulate" mean, in terms of data?

At this time, make sure that you have your notes AND a Repl.it window open!

We will be taking notes and testing code throughout today's lesson.

As we go through the Python code, think about it may be similar/different than Javascript.

Variable Re-Assignment

```
boy_name = "Kevin"

boy_name = "Carl"

print boy_name # what do you think will
happen?
```

Try it!

Variable Re-Assignment

```
boy_name = "Kevin"

boy_name = "Carl"

print boy_name # what do you think will happen?
```

Carl overrides Kevin. WHY?

```
score = 5

print "If you get one more point, you'll

have " + str(score+1) + " points."

print score # what do you think will

happen?
```

Variable Updating

```
score = 5

score+1

print score    # what do you think will happen?

score = 5

score = score+1

print score    # what do you think will happen?
```

Variable Updating (shortcut)

```
score = score + 1
```

Shorthand: (it means the *exact* same thing)

```
score += 1
```
add 1 to the current value of **score**, then assign that value back to **score**

This also works for other operations

```
score -= 1
```
decrease **score** by 1

```
score *= 2
```
double **score**

```
score /= 2
```
cut **score** in half

Variable Updating (strings)

```
story = "I woke up. "

story += "Then I went to school. "

print story   # what do you think will happen?
```

Variable Manipulation Practice (5 minutes!)

Write a program that…

- Stores at least one variable
- Overwrites at least one variable
- Updates at least one variable
- Prints the values of all variables

Variables are used to store information. Typically input from the user.

How can we collect input from the user?

1) Explain the following code from Scratch:
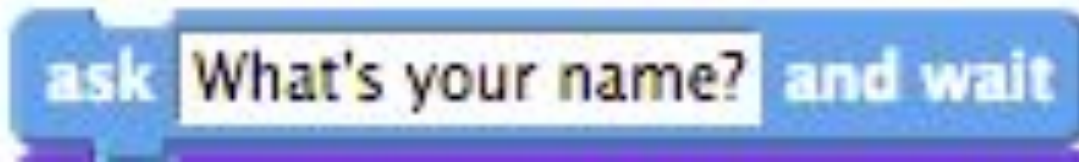

2) Explain this code from Javascript:

```
var name = prompt("What is your name?");
println("Hello " + name + "!");
```

Code in Scratch:

Code in Javascript:

var name = prompt("What is your name?");

Code in Python:

```
user_name = input("What's your name?")
```

```
user_name = input("What's your name?")
```

1. "What's your name?" (gets printed)
2. Program prompts the user for an input
3. Value gets stored in a *variable* called `user_name`

input() Practice

Using your variables program from earlier in the period, **write a program that…**

- Collects information about the user to be stored in variables:
  - name
  - age
  - choose your own!

- Responds back to the user's input & collects a different input

  Sample result:

  - **Program**: What's your name?
  - **User**: Alejandro
  - **Program**: Hello Alejandro! How old are you?
  - **User**: 15
  - **Program**: Only 10 more years until you can rent a car!
  - …

Summary: Discuss with a partner!

	Luke	Jenna

1)

```
luke_color = "green"
jenna_color = "blue"
luke_color = jenna_color
```
● #what are the values of each variable?
```
jenna_color = "red"
```
● # what are the values of each variable?

2) In what way(s) did you feel successful?
What was challenging about the tasks today?