Aim: What is Python?

Do Now:

1) Have your notebook ready to take notes!

2) Go to www.python.org and explore!

Use Python for... >>> More

Web Programming: Django, Pyramid, Bottle, Tornado, Flask, web2py

GUI Development: wxPython, tkInter, PyGtk, PyGObject, PyQt

Scientific and Numeric: SciPy, Pandas, IPython

Software Development: Buildbot, Trac, Roundup

System Administration: Ansible, Salt, OpenStack
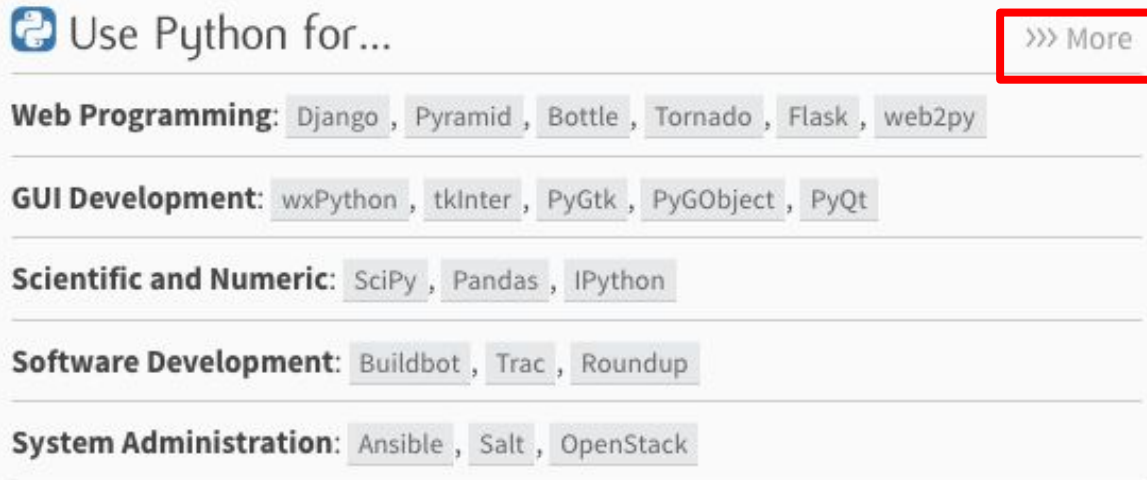
python.org/about/apps

Block-based vs Text-based programming

Scratch

Python

```
1  if x ==1:
2      currentpos = currentpos + 1
3      print "if block in Python"
```



```
1  """ Lotto number generator for dojo"""
2  import random
3  balls = [1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
4  picks = random.sample(balls,6)
5  print picks
```
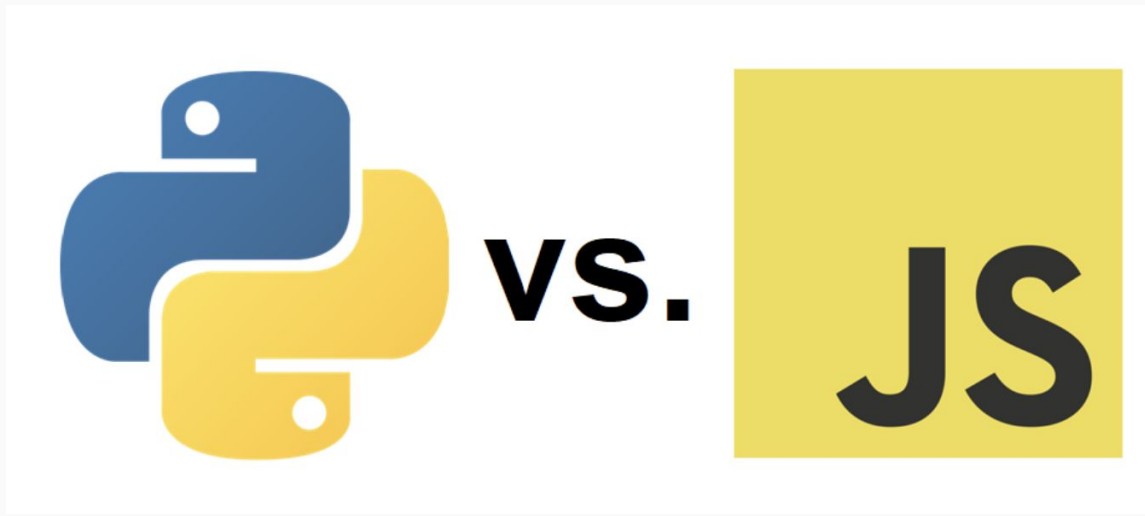
Block-based vs Text-based programming

Similarities

- Numbers, Text, Variables, User Input
- Conditionals, Lists, Loops, Functions

Differences

- Block advantages
  - Easy to learn fundamentals of programming
  - No syntax headaches
- Text advantages
  - Faster to write, test, and debug

  - **You can do WAY more than block-based**

What are some differences and similarities between **Python** and **Javascript**?

Take 5 minutes with a partner to look through the article. When time is up, we will discuss this question whole class!

https://www.freecodecamp.org/news/python-vs-javascript-what-are-the-key-differences-between-the-two-popular-programming-languages/

REPL

A read--eval--print loop (REPL) is a simple, interactive computer programming environment that reads programmer inputs, evaluates them, prints the result, and then loops again.

Let's check it out! Please go to:

replit.com/languages/python3

Editor   **Interpreter**

- Write a script
  - that contains multiple lines of code

- Run the script
  - Can also use as a single-line REPL

Every coder's first program: Hello World

print("Hello World")

```
1  print("Hello World")
```

Any predictions why we need "quotes" ?

The anatomy of this line of code

We are "calling" the print **function** that has already been defined by Python developers

Anything that goes inside of parenthesis of a function is called an **argument**

```
1  print("Hello World")
```

In this case, our argument is the **string** (which just means text) "Hello World". Strings are always surrounded by quotes.

Write a few lines of code that tell a story.

Use another **print()** every time you want a new line!

You can also start learning on your own at:

docs.python.org/3.10/tutorial/index.html

Make a prediction...

```
print('5+5')

print(5+5)

'5+5'
```

Summary

Based on what you know so far, what are some advantages, for you personally, of using Python over Javascript?