Lecture 1

Programming class

First steps

- Python runs code in interactive mode and in script mode.
- From command line, python will start interactive mode
- You get a big old calculator!

```
$ python
Python 3.5.2 (default, Nov 23 2017, 16:37:01)
[GCC 5.4.0 20160609] on linux
Type "help", "copyright", "credits" or "license" for more i
>>> 1 + 5
6
```

- To exit, Ctrl+D, or type quit()

Running a script

- ▶ Create a file in your favorite editor (Atom, Notepad++, etc.)
- ▶ Call it "helloworld.py"
- ▶ Write:

```python
print("Hello world!")
```

- ▶ Run it in the command line:

```
$ python helloworld.py
Hello world!
```

Variables

- Variables hold values
- Bools (False, True)
- Integers (- 10, 1, 2, 5, . . .)
- Floats (-1010.1, 0.0, 0.3, 1e81, etc.)
- String ("Hello", "t", "¯\\(ツ)/¯")
- Lists, dicts, object instances, etc.

```
a = 10
a *= 2
print(a)
b = 15
b = a + b
print(b)
```

Numbers

- Calculator: $+$, $-$, $*$, $/$, $\%$, $**$
- Compare: $>$, $<$, $<=$, $>=$, $==$
- Don't forget the parentheses: ()

```
gretzky = 99
print((10 ** 2) > gretzky)
```

Strings

- \+ concatenates two string pieces

```
h = "Hello"
w = "world!"
print(h + " " + w)
```

If/else

```
if 2 + 2 == 4:
  print("Everything is right with the world.")
else:
  print("Mayhem!")
print("The end.")
```

- The indentation is critical!

Challenge

- I give you a big number, a = 650
- Write me a program that prints "gotcha" if a is divisible by 7, otherwise print "nope"