Workshop: Intro to Python

ByteHacks 2018

About Us

Anji, Glenn, & Jackie

BLINK HEALTH

About You!

Today's Goals

- Learn basic Python concepts
- Write example code together
- Build a tic tac toe game!

Get Set Up

- For this workshop we'll be using this website: https://repl.it/languages/python3

- To install on your computer later: https://www.python.org/downloads/
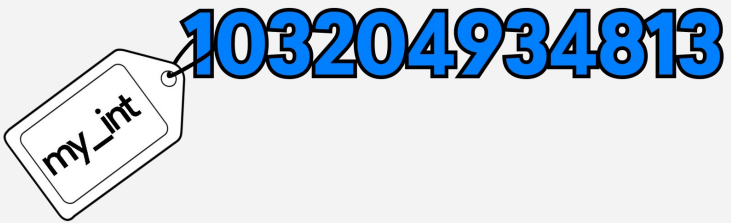
Our First Program

- "Hello world!"

- `print('hi friends!')`

Objects & Types

- Objects are how Python represents data
- There are different types of objects:
    - string
    - integer
    - boolean
    - None
    - ... and more!

Variables

- A variable is a "name" for an object

- = (assignment operator)

103204934813

my_int

```
my_int = 103204934813

my_string = 'hello'
```

Functions

- A function is a block of code that can be reused
- They look like this:

```
def function_name(input):
    # do some stuff...
    return output
```

- **def** & **return**
- Whitespace is important!

Conditional Logic

```
if this condition is True:
     do this stuff
else:
    do something different
```

- Some operators to try:
  - == (equals)
  - != (not equals)
  - >, <, >=, <=
  - in
  - and, or, not
  - ... and more!

Lists

- A list is a data structure that can hold multiple objects
- Square brackets:

```
cool_numbers = [1, 2, 3]
```

- You can get an individual item using its index:

```
cool_numbers[0]
```

- Start counting at 0!

Loops

- We can use loops to repeat a block of code
- A **for** loop looks like this:

```
for item in this_list:
    do stuff w/ the item
    more stuff
```

More Loops

- Another kind of loop is a **while** loop:

```
while this is True:
    do stuff
```

- infinite loops 🔥🚨🚨

Classes

- A class is like a blueprint for creating a new type of object
- Example: a `Friend` class
- We can create multiple instances of `Friend`

Questions?

This is where the fun begins.

```
board = [0, 1, 2, 3,
4, 5, 6, 7, 8]
```

0	1	2
3	4	5
6	7	8

MORE
Questions?

Resources

- Official docs: https://docs.python.org/3/tutorial/index.html
- Beginner guides: https://www.learnpython.org/en/Welcome
  https://wiki.python.org/moin/BeginnersGuide/NonProgrammers
  https://wiki.python.org/moin/BeginnersGuide/Programmers
- Packages: https://pypi.org/
- Google! or other search engine :)

Thanks for coming!

Slack channel:
[#python-workshop](#)

Also check out:
https://www.blinkhealth.com/