WELCOME TO CLASS!

BLACK HAT PYTHON3

RALEIGH ISSA

INTRODUCTIONS

LOGISTICS 1

- Web class Wednesdays 7:00 - 8:30 EDT
- Interaction during class
- Discord Channel to help each other
  https://discord.gg/WR23qUj
- Discord Office Hour Monday, 7:00 - 8:00
- Direct message on Discord or email: tim@reachtim.com

LOGISTICS 2

- GitHub Repo of class materials/updated code https://github.com/tiarno/bhp3_class
- Based on Black Hat Python by Jason Seitz.
  - Recommended, not required.
  - https://www.amazon.com/Black-Hat-Python-Programming-Pentesters/dp/1593275900

PILOT CLASS: INTERACTION

- Need class interaction
  - During Class:
    - use your microphone, ask questions!
    - use chat window
  - After Class:
    - use the Discord chat

PILOT CLASS: FEEDBACK

- Need feedback:
  - class length
  - class frequency
  - class speed
  - subjects of interest

STRUCTURE OF THE REPO

```
bhp3_class/
    Install.md
    README.md
    setup.py
    bhp3_class/
      __init__.py
      networking/
      packets/
      web/
      areas_for_class/
        Class.md
        demo_plus/
        networking/
        packets/
        web/
```

EVERY CLASS WE'LL HAVE UPDATES:

```
areas_for_class/
    Class.md
    demo_plus/
    networking/
    packets/
    web/
```

SYLLABUS

Class will cover chapters 2, 3, 4, and 5 of the book Black Hat Python. We'll follow this order:

- `web`
- `packets`
- `networking`

WHAT YOU NEED TO HAVE

- Linux OS (I'm using Kali and Mac)
- Python 3.x (I'm using Python 3.6)
- IDE or text editor (I'm using VSCode)

WHAT YOU NEED TO KNOW

- Not a beginner's class, that's coming.
- Get 70% or better average on these areas from this location: https://www.programiz.com/python-programming/quiz
  - Introduction
  - Object and Class
  - Native Data Types
  - Files and Exceptions
  - Functions

OPTIONAL

Use the installation instructions at the top level of this repo if you want to install a Kali VM in VirtualBox and the VSCode IDE.

GIT NOTES

- Never push creds!
- Use your .gitignore file
- push often
- code with pep8

VIRTUALENVS AND `pipenv`

Activity

- Install the github repo
  - https://github.com/tiarno/bhp3_class
  - download or clone
- `apt-get install -y python3-pip`
- `pip3 install pipenv`
- cd into `bhp3_class`

INSTALL DEPENDENCIES

Activity

- pipenv install scapy
- pipenv install lxml
- pipenv install requests
- pipenv install paramiko
- pipenv install pylint
- pipenv install -e .

START A PYTHON PROCESS

Activity

- `pipenv shell`
- `python`

```
Python 3.6.3 (default, Oct  3 2017, 21:16:13)
[GCC 7.2.0] on linux
Type "help", "copyright", "credits" or "license" for more info
>>> import scapy
>>>
```

DOWNLOAD WORDPRESS

Activity

https://wordpress.org/latest.tar.gz

We'll use this later on in this part of the class.

OKAY!

Where we're going...

OS.WALK

Demo

CODE HYGIENE AND `pep8`

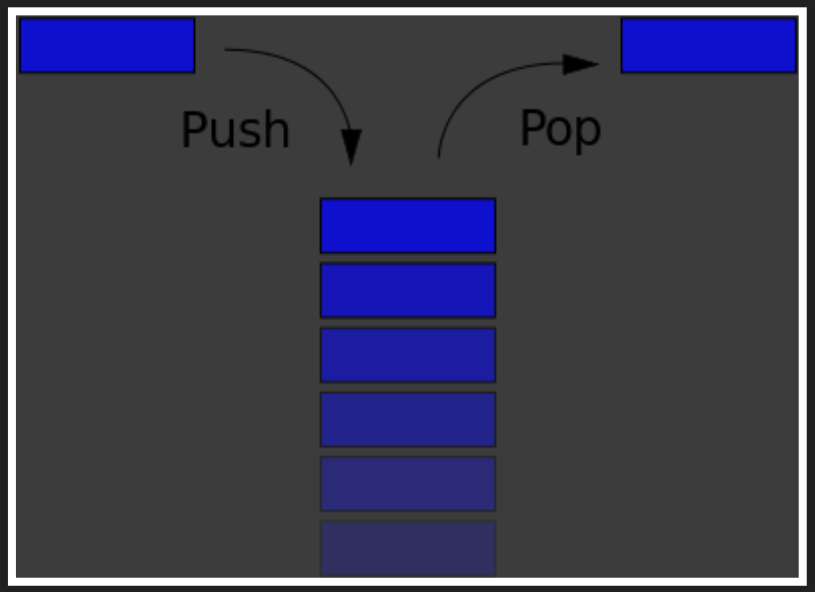
Demo

- `__main__`
- import order
- variable names
- encapsulate functionality
- avoid globals

LISTS, QUEUES, AND DEQUEUES

Demo

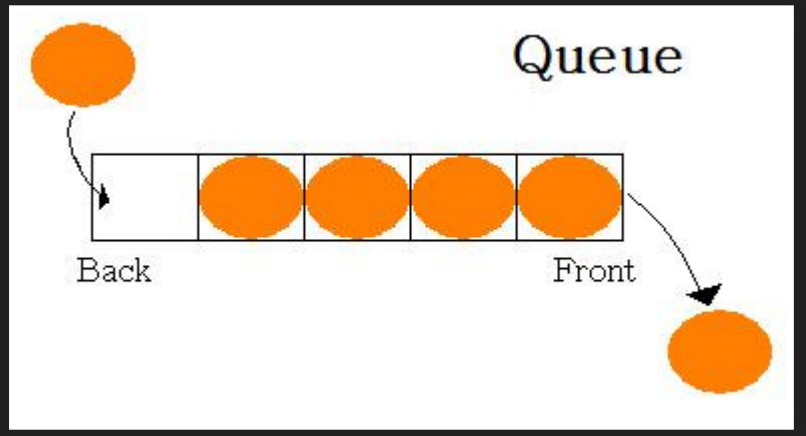
- `mylist.append()`



- `mylist.pop()`
- LIFO (last in, first out) # stack

QUEUES

Demo



- `myqueue .put(), .get()
- `mydequeue .append() .popleft()`
- FIFO (first in, first out) # queue (ice-cream line)

CLASSES AND FUNCTIONS

- incline toward functions
- If you find yourself passing data structures among functions, think about a class.

THE `requests` MODULE

http://docs.python-requests.org/en/master/

THREADS VS PROCESSES

Demo

Generally:

Multithreading is for responsive apps.

Multiprocessing is for parallelism.

SUMMARY 1

- Feedback
- Python, Linux, Dependencies
- pipenv

SUMMARY 2

- `os.walk`
- threading

READING 1

- BHP, Chapter 5 (web hacking)
- GitHub Repo: https://github.com/tiarno/bhp3_class
- PEP-8: https://www.datacamp.com/community/tutorials/pep-tutorial-python-code

READING 2

- Requests http://docs.python-requests.org/en/master/
- Threading: https://docs.python.org/3.6/library/threading.html

YOUR JOB

- Set up your repo
- Install Python 3.x
- Become familiar with your editor or IDE
- Read/Scan the reading list.