Staff Lecture: Python + Twitter
Announcements

Fill out course evaluations!

- we care a lot about what you think!
- due Wednesday, 4/18

Today

- staff lectures
Plan for Today
Plan for Today

Use Python to grab and analyze data on a specific hashtag from Twitter
Plan for Today

Use Python to grab and analyze data on a specific hashtag from Twitter

tweepy

$ pip3 install tweepy
Plan for Today

Use Python to grab and analyze data on a specific hashtag from Twitter

tweepy

$ pip3 install tweepy

- created specifically to pull data from Twitter
Plan for Today

Use Python to grab and analyze data on a specific hashtag from Twitter

tweepy

$ pip3 install tweepy

- created specifically to pull data from Twitter
- no need to index into large dictionaries or format request URLs
Plan for Today

Use Python to grab and analyze data on a specific hashtag from Twitter

**tweepy**

$ pip3 install tweepy

- created specifically to pull data from Twitter
- no need to index into large dictionaries or format request URLs

**matplotlib**

`pip3 install matplotlib`
Plan for Today

Use Python to grab and analyze data on a specific hashtag from Twitter

tweepy

$ pip3 install tweepy

- created specifically to pull data from Twitter
- no need to index into large dictionaries or format request URLs

matplotlib

pip3 install matplotlib

- good for plotting data
Plan for Today

Use Python to grab and analyze data on a specific hashtag from Twitter

tweepy

```bash
$ pip3 install tweepy
```

- created specifically to pull data from Twitter
- no need to index into large dictionaries or format request URLs

matplotlib

```bash
pip3 install matplotlib
```

- good for plotting data
- "not the best out there, but easy to use" - Amrit
Let's get started!
Step 1: Starter Code
Step 1: Starter Code

Have the slides? Great! Starter code is here.

Don't have the slides? No problem! Go to https://tinyurl.com/398-pyt
Step 1: Starter Code

Have the slides? Great! Starter code is here.

Don't have the slides? No problem! Go to https://tinyurl.com/398-pyt

bot.py contains starter code for the Python program
Step 1: Starter Code

Have the slides? Great! Starter code is here.

Don't have the slides? No problem! Go to https://tinyurl.com/398-pyt

**bot.py** contains starter code for the Python program

**secret.py** will hold your API keys and tokens

- you want to keep your API keys secret, which is why they are placed in a separate file from your program.
- if you choose to put your project on GitHub, DO NOT commit **secret.py**
Step 2: Generate Twitter API Keys and Tokens
Step 2: Generate Twitter API Keys and Tokens

Go to https://apps.twitter.com
Step 2: Generate Twitter API Keys and Tokens

Go to https://apps.twitter.com

NOTE: You will need a Twitter account from this point on.
Step 2: Generate Twitter API Keys and Tokens

Go to https://apps.twitter.com

NOTE: You will need a Twitter account from this point on.

- sign into Twitter, then click "Create New App" in the upper right
Step 2: Generate Twitter API Keys and Tokens

Go to https://apps.twitter.com

NOTE: You will need a Twitter account from this point on.

- sign into Twitter, then click "Create New App" in the upper right
- fill out the name, description, and website for your application. Check the "Developer Agreement" box and finish creating your app!
Step 2: Generate Twitter API Keys and Tokens

Go to https://apps.twitter.com

NOTE: You will need a Twitter account from this point on.

- sign into Twitter, then click "Create New App" in the upper right
- fill out the name, description, and website for your application. Check the "Developer Agreement" box and finish creating your app!
- under the name of your application, find and click the "Keys and Access Tokens" tab
Step 2: Generate Twitter API Keys and Tokens
Step 2: Generate Twitter API Keys and Tokens

Consumer Keys

- located under Application Settings
- copy and paste these keys into secret.py
Step 2: Generate Twitter API Keys and Tokens

Consumer Keys

- located under Application Settings
- copy and paste these keys into secret.py

Access Tokens

- scroll down and click "Authorize my Application"
- located under "Your Access Token"
- copy and paste these keys into secret.py
Why?
Why?

Verification!
Step 3: Let's get coding!
Step 3: Let's get coding!

TODO: import libraries

- `import tweepy`
- `import matplotlib`
- `from secret import *`
Step 4: Twitter
Step 4: Twitter

TODO: create a new Twitter session

- check out the tweepy documentation on getting started
- use keys/tokens from `secret.py` to create the session
Step 4: Twitter

TODO: create a new Twitter session

- check out the tweepy documentation on getting started
- use keys/tokens from `secret.py` to create the session

TODO: user input

- ask the user (you) what hashtag to search
Step 4: Twitter
Step 4: Twitter

TODO: search for hashtag

- create new Tweet objects for each result
- we only need the time each tweet was posted, but other data may be useful for debugging or other data analysis
Step 5: Let's graph it!
Step 5: Let's graph it!

TODO: graph timestamps from tweets in a histogram

- check out the matplotlib documentation on histograms and subplots
- this is just one analysis you could do on Twitter data
- try something on your own!
Congratulations!

You now know how to grab data from Twitter and display it in a meaningful way.