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Requirements:

- python 2/3
- Tweepy
- numpy
- Pandas
- sklearn
- matplotlib
- (May also require python-tk if not already installed)

Installation:

Linux/Mac

```
$ git clone https://github.com/tweepy/tweepy.git
$ pip install {tweepy, numpy, pandas, sklearn, matplotlib}
```

Usage:

The Programs were written with different files according to each question. Some of the files require a commandline argument and can be run as demonstrated below.

Use the followings command to run the code:

1. This program takes a list of user's screen names and provides basic infomation about the user's profile.

```
 p ython getUserInfo.py twitterUsers.txt //or any list of users you might
have
```

2. This program displays a the friends and followers of a given list of user's screen names

```
$ python getUserConnections.py twitterUsers.txt
```

3. (Part a) Given specific keywords, this program obtains the first 50 tweets containing those words.

```
$ python searchTweetsByKeyword.py
```

3. (Part b) This program obtains the first 50 tweets found within the Dayton region.

```
$ python searchTweetsByLocation.py
```

4. The program here is a simple program that obtains the stock price (close) of a company in this case (Zoom) over a 7 month period, then predicts the stock price of the next 30 days. Finally, the graph displayed contains the predicted price and the eventual stock price for the given time period. To see the program run more procedurally, see simple_stock_predictor.pdf

```
$ python simple_stock_predictor.py
```

Output Sample:

```
(base) etern@Lord-Etern:~/CPS570/assignments/CPS570/asg2$ python getUserInfo.py twitterUsers.txt

 Screen name:  BreakingNews
User ID:  6017542
Location:  NYC, LA, London
User Description:
The number of Followers:  9649127
The number of friends:  547
THe number of tweets:  105452
User URL:  https://t.co/yjD4mOeepa
                                                3 / 5

 Screen name:  FoxNews
User ID:  1367531
Location:  U.S.A.
User Description:  Follow America's #1 cable news network, delivering you breaking news, insightful analysis, and must-see videos.
The number of Followers:  19895397
The number of friends:  267
THe number of tweets:  420787
User URL:  http://t.co/ZYG58XZtAC

 Screen name:  abcnews
User ID:  2768501
Location:  Australia
User Description:  Latest news updates from the Australian Broadcasting Corp. This is an official @abcaustralia account.
The number of Followers:  1717810
The number of friends:  1203
THe number of tweets:  306377
User URL:  http://t.co/knlFvfwxkf
```

```
(base) etern@Lord-Etern:~/CPS570/assignments/CPS570/asg2$ python getUserConnections.py twitterUsers.txt
User:  BreakingNews
Friends:  547
1     JoeWSJ
2     TwitterMoments
3     thereportnbc
4     thebrandedgirl
5     NBCNewsTech
6     NBCInvestigates
7     NBCNewsClimate
8     HallieJackson
9     Tom_Winter
10    Brosner85
11    maddow
12    VaughnHillyard
13    GeoffRBennett
14    maggieNYT
15    BreakingChesky
16    achorowitz
17    JoshNBCNews
18    Evan_Rosenfeld
19    JaneFerguson5
20    RyanBeckler


Followers:  9649146
1     wangni36590826
2     Adeel85381615
3     EGilarska
4     QaisarA74908375
5     AdilkhanManezay
6     mazclau
7     Khan00999201
8     BillDisby
9     JoJo18364330
10    Haniph_Slaj
11    omnivora1
12    dbaechtel
13    MariaHa53371057
14    fawazhere
15    MauricioLator18
16    EnnissCourtney
17    Temitopeseun19
18    mynamesmarcos
19    MasoudBC
20    SarasaimO
```

```
(base) etern@Lord-Etern:~/CPS570/assignments/CPS570/asg2$ python searchTweetsByKeyword.py
Using the Seach API:
PottersPasties :   Join us tonight @imminentbrewing. It's perfect pasty and pints weather out there. https://t.co/M2Al2DLrXL
Twin Cities, Minnesota

DBuonocora :   @PeterAlexander Trump takes care of his hair in windy weather than his supporters in extreme heat and cold.
Houston, TX

nerdy_sage_ :   RT @mayor_cyber: See weather. Jesu!


realJOELP :   @yashar Yes, but how is the weather?
Los Angeles

SimonWIParker :   Day 22, #BritainByBike, Penrith to Arnside, 47 miles. Easily the worst weather I've faced so far on this jou
Woodstock, England

jaetheicon :   RT @AeshaLashae: Ladies I now have stacked sweatpants Available 😍In 3 different colors weather is changing tim
Alaska, USA

kristinennguyen :   RT @iluvvlehtzy: it feels so good outside i love this weather
New Orleans, LA

CoraCarmack :   RT @CNN: At least five people have died and more than 2.3 million customers are without power after Zeta hit t
Austin, TX

Jeff_Jones15 :   RT @CauseWereGuys: Weather looks promising for the weekend 👐🟫 https://t.co/jGWbExzftT
Bridgman, MI
```

```
Using the Stream API
JbthomJohn :  RT @mmpadellan: Despite trump telling everyone that "we're rounding the corner" with COVID-19, the REPUBLICAN Governor of Ohio, Mike DeWine…
tesenls :  😔
RodolfoFlores96 :  This weather tho
segvro :  RT @PrinceT0xic: Un réseau de trafic humain d'une ampleur historique a été démantelé. 45 enfants disparus ont été retrouvés sur un total de…
sarah73041654 :  🔴 Live▶ Olentangy vs. Perry - Ohio High School Football Streamed Live on◖◖◖ https://t.co/kHT7YFek5o ,Date : 30-Oct-20 - Time : 7:00 PM
SunStatement :  RT @weatherchannel: 7.0 earthquake leaves damage in Greece and Turkey. A tsunami has also been reported: https://t.co/QOR47cyNnE https://t.…
MeetInCanton :  RT @EFrantzMP: Ohio high school football Week 10: OHSAA schedules, stats, scores &amp; more https://t.co/tTSvwIGYgJ @MaxPreps @DUteOHSAA @jack_…
680CJOB :  RT @globalwinnipeg: Here's Weather Specialist @KahlaEvans with a look at our #Halloween forecast #wpg #mb https://t.co/jxzjVtUyTJ
alliecohen27 :  RT @WeingardenRyan: "My parents live in Ohio. I live in the moment" @JoshRadnor @OfficialHIMYM #NFID21 https://t.co/xKFma9D5D7
QuitevisBailey :  RT @yunghank: This should be bigger news
bettinagalo :  En esta se la juega la libertad del mundo: ##Trump -katejón político- a favor de la Ley de Dios y #Biden… https://t.co/MC0QgVn0gu
rosiemissie :  RT @rosiecandoitall: Filo oomfs, stay safe!
Cindy93927041 :  RT @MeidasTouch: This is big! Literally. Today we are taking the giant Baby Trump balloon on tour to Maine and Ohio!
NWSWakefieldVA :  The Flood Warning Is Extended. https://t.co/Te5nRtjTtx ##vawx #mdwx #ncwx https://t.co/uDpzz9zfHY
janicecondes16 :  Payts kay in ani nga weather ba niya naa kay ka cuddle.😩
wxyqr :  Regina SK Weather, Temp:-1.7ºC; Dew:-9.3ºC; Pressure:1012.20hPa.; Wind:0/kph@35.0 Wind Chill:-1.7°C Humidity:56;… https://t.co/LSb8VMnvz2
MProsenjeet :  RT @realDonaldTrump: Texas, Pennsylvania, Ohio, and others, please watch. His party, and Joe, will stop Fracking immediately. Millions of j…
kringbyronII :  lamias weather oy
xlesliieee :  RT @Chinohoven: FORTY FIVE MISSING KIDS!!!!!!!!!!! Why isn't anyone talking about this
fattestmallon :  Carr can't win in arrowhead either
Nicole_Dantoine :  RT @gucci: Softly structured #GGMarmont bags are embellished with pastel colors and the Double G hardware. The styles are part of #TowardsT…
```

```
(base) etern@Lord-Etern:~/CPS570/assignments/CPS570/asg2$ /home/etern/anaconda3/bin/python /home/etern/CPS570/assignments/CPS570/asg2/searchTweetsByLocation.py
Most recent tweets in the Dayton OH region using the Streaming API:
Note: the location displayed is based on the user profile.

eliseemckennaa :  @apppleorchard @daisydolans_ your body is also a collection of cells love and i can't get away with killing you     n… https://t.co/t1U19cAkRQ
Location:  Ohio, USA

lillyatkins30 :  We need a bring your dog to work day at least 3 times a week.
Location:  Logan, OH

tmj_OHD_NURSING :  Kettering Health Network is hiring in #Beavercreek, OH! Click the link in our bio to apply: RN - Soin Medical Cente… https://t.co/VuFdsWDdZX
Location:  Dayton, OH

micah_simm :  @gothdads37 LMAO WTF
Location:  quarantined in hell.

trelliage :  @terribletara2 Wow, Thank you  CA Canada!
Location:  Ohio, USA

Barbara73797753 :  @rey_atl Get the house this year and it's a done deal. Most of the stupid rinos are gone now
Location:  North Ridgeville, OH

charaaeco :  HUUHHHHHH
Location:  614

trelliage :  @nadinect23 @lynnejay00 @terribletara2 @gojoe_joe Awesome
Location:  Ohio, USA

dodgegrrl :  .@colpolicelive there's no audio on your livestream right now.
Location:  politically homeless

SHeroes_Movies :  Hmmm this is about right haha.
Location:  Ohio, USA

MLSchultze :  By all accounts, vote early, in-person if you can. But for college students and others living too far from their Bo… https://t.co/Tmi4XLk8Mw
Location:  Northeast Ohio
```
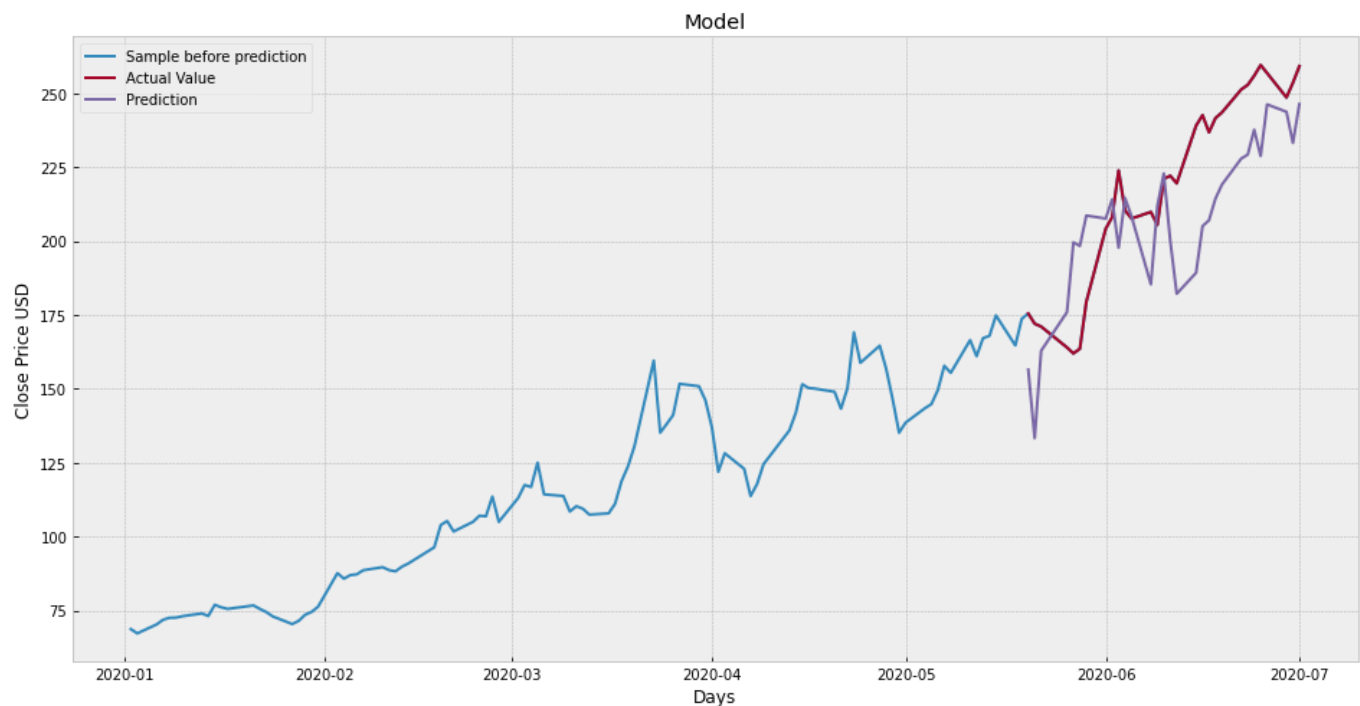

Lessons

Using Tweepy to access the twitter API for basic crawling. Using Twitter APIs:

- REST APIs
- Streaming APIs
- Search API

To Do

Optimise program efficiency and reduce complexity.