

**P1.** In order to extract 1,000 unique links from Tweets, I used the template found at:

<http://adilmoujahid.com/posts/2014/07/twitter-analytics/>

Template:

```
#Import the necessary methods from tweepy library
from tweepy.streaming import StreamListener
from tweepy import OAuthHandler
from tweepy import Stream

#Variables that contains the user credentials to access Twitter API
access_token = "ENTER YOUR ACCESS TOKEN"
access_token_secret = "ENTER YOUR ACCESS TOKEN SECRET"
consumer_key = "ENTER YOUR API KEY"
consumer_secret = "ENTER YOUR API SECRET"

#This is a basic listener that just prints received tweets to stdout.
class StdOutListener(StreamListener):

    def on_data(self, data):
        print data
        return True

    def on_error(self, status):
        print status

if __name__ == '__main__':

    #This handles Twitter authentication and the connection to Twitter Streaming API
    l = StdOutListener()
    auth = OAuthHandler(consumer_key, consumer_secret)
    auth.set_access_token(access_token, access_token_secret)
    stream = Stream(auth, l)

    #This line filter Twitter Streams to capture data by the keywords: 'python', 'javascript', 'ruby'
    stream.filter(track=['python', 'javascript', 'ruby'])
```

Using this template, I created a python file to handle the code. In addition to this, I made an app on Twitter so that I could gain access to the API.

Then, I replaced the access token, access token secret, consumer key, and consumer key secret with my own authentication information.

## Assignment2APIKeys

Test OAuth

Details Settings Keys and Access Tokens Permissions

### Application Settings

Keep the "Consumer Secret" a secret. This key should never be human-readable in your application.

Consumer Key (API Key)	fyZD1WdvbYU72CZJQf5ynv1xh
Consumer Secret (API Secret)	Uqs3JNunlw8cFJ1d41TB2BGq3j4LS1IpEnDi1BIUbwwKGpnRM
Access Level	Read and write (modify app permissions)
Owner	koidumpling
Owner ID	721752096169705476

### Application Actions

Regenerate Consumer Key and Secret Change App Permissions

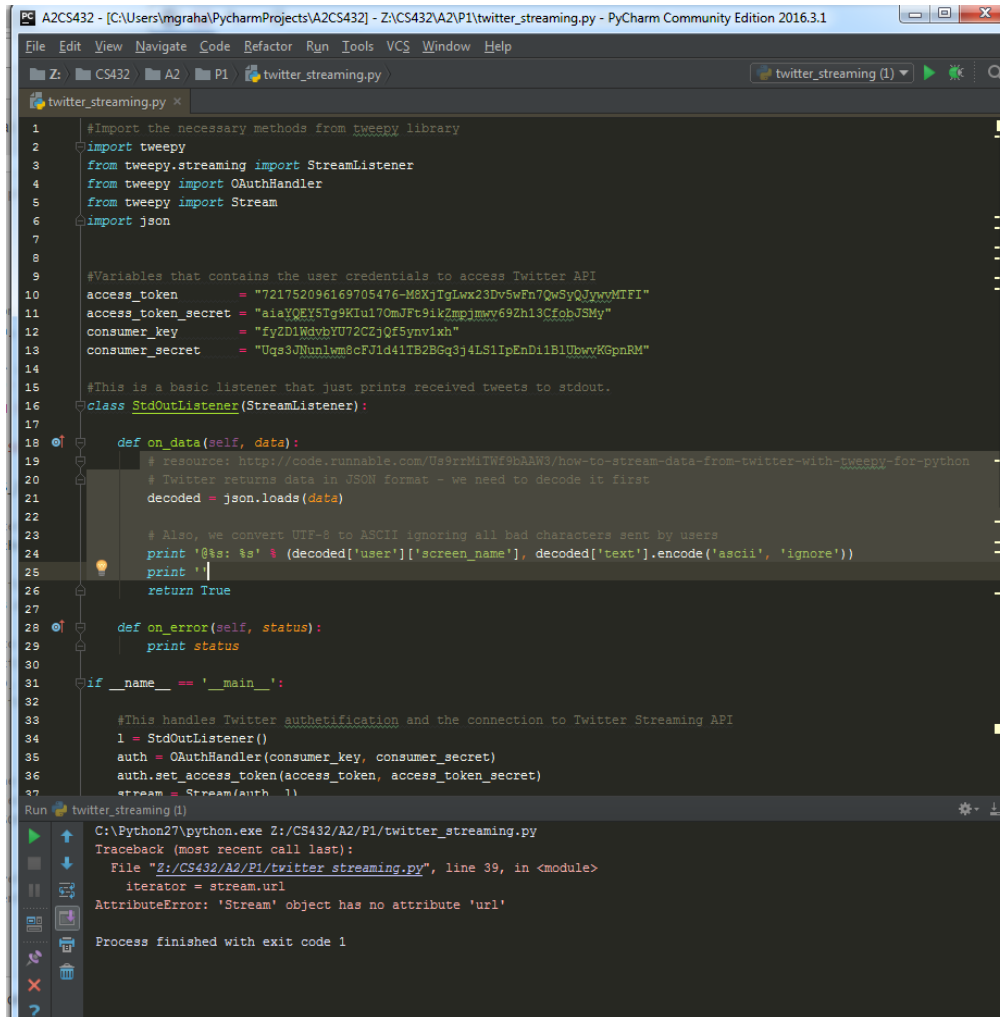
### Your Access Token

This access token can be used to make API requests on your own account's behalf. Do not share your access token secret with anyone.

Access Token	721752096169705476-M8XjTgLwx23Dv5wFn7QwSyQjywwMTFI
Access Token Secret	alaYQEY5Tg9Klu17OmJFt9IkZmpjmwv69Zh13CfobJSMY
Access Level	Read and write
Owner	koidumpling
Owner ID	721752096169705476

After doing this, I ran into an issue of trying to figure out what exactly "data" was referring to. It returned a bunch of unwanted data and I wanted to limit it to just the Tweet itself, keywords/ hashtags, users, and the unique urls. I had a hard time figuring this out. Luckily, I was able to find another example with a data limiter that also made it more readable.

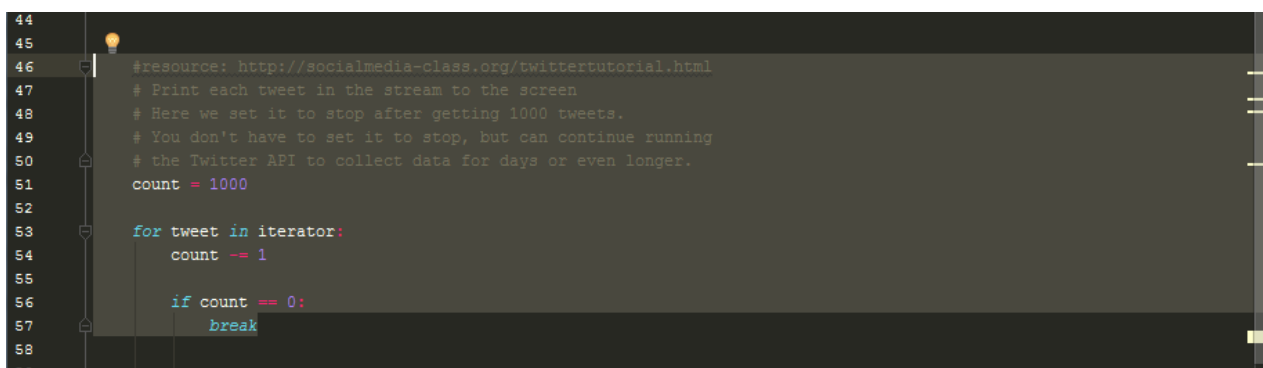
Resource: <http://code.runnable.com/Us9rrMiTWf9bAAW3/how-to-stream-data-from-twitter-with-tweepy-for-python>



```
1 #Import the necessary methods from tweepy library
2 import tweepy
3 from tweepy.streaming import StreamListener
4 from tweepy import OAuthHandler
5 from tweepy import Stream
6 import json
7
8
9 #Variables that contains the user credentials to access Twitter API
10 access_token = "721752096169705476-M8XjTgLwx23Dv5wFn7Qw3yQJywyMTPI"
11 access_token_secret = "aiaYQeYStg9KIu17OmJFt91k2mpjmrV69Zhl3CfobJSMY"
12 consumer_key = "fyZD1WdvbYU72C2jQf5ynv1xh"
13 consumer_secret = "Uqs3UNun1wm8cFJ1d41TB2BGq3j4LS1IpEnD11B1UbWvKGPnRM"
14
15 #This is a basic listener that just prints received tweets to stdout.
16 class StdOutListener(StreamListener):
17
18     def on_data(self, data):
19         # resource: http://code.runnable.com/Us9rrMiTWf9bAAW3/how-to-stream-data-from-twitter-with-tweepy-for-python
20         # Twitter returns data in JSON format - we need to decode it first
21         decoded = json.loads(data)
22
23         # Also, we convert UTF-8 to ASCII ignoring all bad characters sent by users
24         print '@%s: %s' % (decoded['user']['screen_name'], decoded['text'].encode('ascii', 'ignore'))
25         print ''
26         return True
27
28     def on_error(self, status):
29         print status
30
31 if __name__ == '__main__':
32
33     #This handles Twitter authentication and the connection to Twitter Streaming API
34     l = StdOutListener()
35     auth = OAuthHandler(consumer_key, consumer_secret)
36     auth.set_access_token(access_token, access_token_secret)
37     stream = Stream(auth, l)
38
39     iterator = stream.url
40     AttributeError: 'Stream' object has no attribute 'url'
```

Lastly, I attempted to create a counter so that the program would execute after 1,000 iterations. However, I didn't really figure out how to initialize an iterator. Everything else is identical to the initial template.

Resource: <http://socialmedia-class.org/twittertutorial.html>



```
44
45
46 #resource: http://socialmedia-class.org/twittertutorial.html
47 # Print each tweet in the stream to the screen
48 # Here we set it to stop after getting 1000 tweets.
49 # You don't have to set it to stop, but can continue running
50 # the Twitter API to collect data for days or even longer.
51 count = 1000
52
53 for tweet in iterator:
54     count -= 1
55
56     if count == 0:
57         break
58
59
```

To count all of the resulting URIs, I opened the text file that I dumped the data into with Microsoft Word- the layout is prettier and it enables the use of a search function to facilitate the counting.

Sample Result:

Navigation

FILE TOOLS VIEW

twitter\_data [Read-Only] - Word

Navigation

t.co

Result 86 of 3368

HEADINGS PAGES RESULTS

Create an interactive outline of your document.

It's a great way to keep track of where you are or quickly move your content around.

To get started, go to the Home tab and apply Heading styles to the headings in your document.

@henisusan82: RT @matchpool: Theres a big spike in dating app activity around February 7, as people scramble for a #Valentines date: <https://t.co/6dAiB>

@Ab\_i\_d: This Valentines Day Ill spell out the feelings your love inspires in me  
Alluring  
Exciting  
Nice  
Intriguing  
Naughty  
@Happy #Valentine's @day

@Jessica02905863: @GerbsSeeds #Valentine #Tshirts #Couple GET YOURS HERE: ==&gt; <https://t.co/q7eZ4iTfis>  
<https://t.co/OQTskAiZ17>

@ACraftyHoneybee: RT @jsismee: @AITCNY - Helps You Make Valentine's Day Extra Special! #ValentinesDayGiftGuide  
<https://t.co/Wj1UrUqsxP>

@andmorejewelry: RT Look at this on eBay  
<https://t.co/819EDQ07pv> #rings #ebaydeals #jewelry #ebayfinds #pinterest #silverjewelry #  
<https://t.co/j7dZUJ255g>

@andmorejewelry: RT Look at this on eBay  
<https://t.co/guYXpVnBcv> #rings #ebaydeals #ebayfinds #jewelry #gemstones #Valentine's Day  
<https://t.co/6BehGyZj1T>

@andmorejewelry: RT RT jj4378: Look at this on eBay  
<https://t.co/819EDQ07pv> #rings #ebaydeals #jewelry #ebayfinds #pinterest #silv <https://t.co/TI3iMS8JmI>

@andmorejewelry: RT Look at this on eBay  
<https://t.co/egjw8kkvmD> #rings #ebaydeals #ebayfinds #pinterest #silverjewelry #unicorns  
<https://t.co/X3Kq02wNiN>

@andmorejewelry: RT Look at this on eBay  
<https://t.co/YL13KTy0UJ> #rings #ebaydeals #jewelry

#ebayfinds #pinterest #silverjewelry #  
<https://t.co/PyNczoMjI6>

@andmorejewelry: RT Look at this on eBay  
<https://t.co/5hrmZV8pYp> #rings #ebaydeals #jewelry #ebayfinds #pinterest #silverjewelry #  
<https://t.co/Gcq5VTWYvv>

@carmen\_manning: RT @Applegate: Make a breakfast that's easy to prepare yet impressive for your #valentine:  
<https://t.co/MoQJzZSowU> <https://t.co/TpjjRDGhLF>

@BigFitFamily: RT @jsismee: @AITCNY - Helps You Make Valentine's Day Extra Special! #ValentinesDayGiftGuide  
<https://t.co/Wj1UrUqsxP>

@kksakurai2: RT @Rakuten\_Eagles:  
1  
#RakutenEagles #valentine #1 <https://t.co/Wj1UrUqsxP>

@ethangriffith7: RT @animalag: How the #chicken gets from farm to table...<https://t.co/ojfmh1kDun>  
<https://t.co/oa920xhHtL>

@evettedabney: RT @evettedabney: #groovy 2 set #tone 4 #ValentinesDay! @FIGat7th #look 2 C #Valentine #blog w/ #wonderful things #comingsoon on

@beesnoni2: I need these <https://t.co/eLq7aOb96J>

@nightcomp: RT @Kwik\_Fit: #Win 1 of 14 chocolate boxes for your #Valentine from @ContiUK ! Simply visit <https://t.co/ORFPZOLsjR> to enter!

@supurgeng: #valentine pussy sexy college grils  
<https://t.co/2psruLuAMA>

@evaswani: RT @GrabOnIn: #OneForLove Hint for Question #3: <https://t.co/8PzsKMzucS>

#ContestAlert #ValentinesDay #Contest #giftideas

I checked the validity of some of the links manually, but I did not do so exhaustively.

P2.