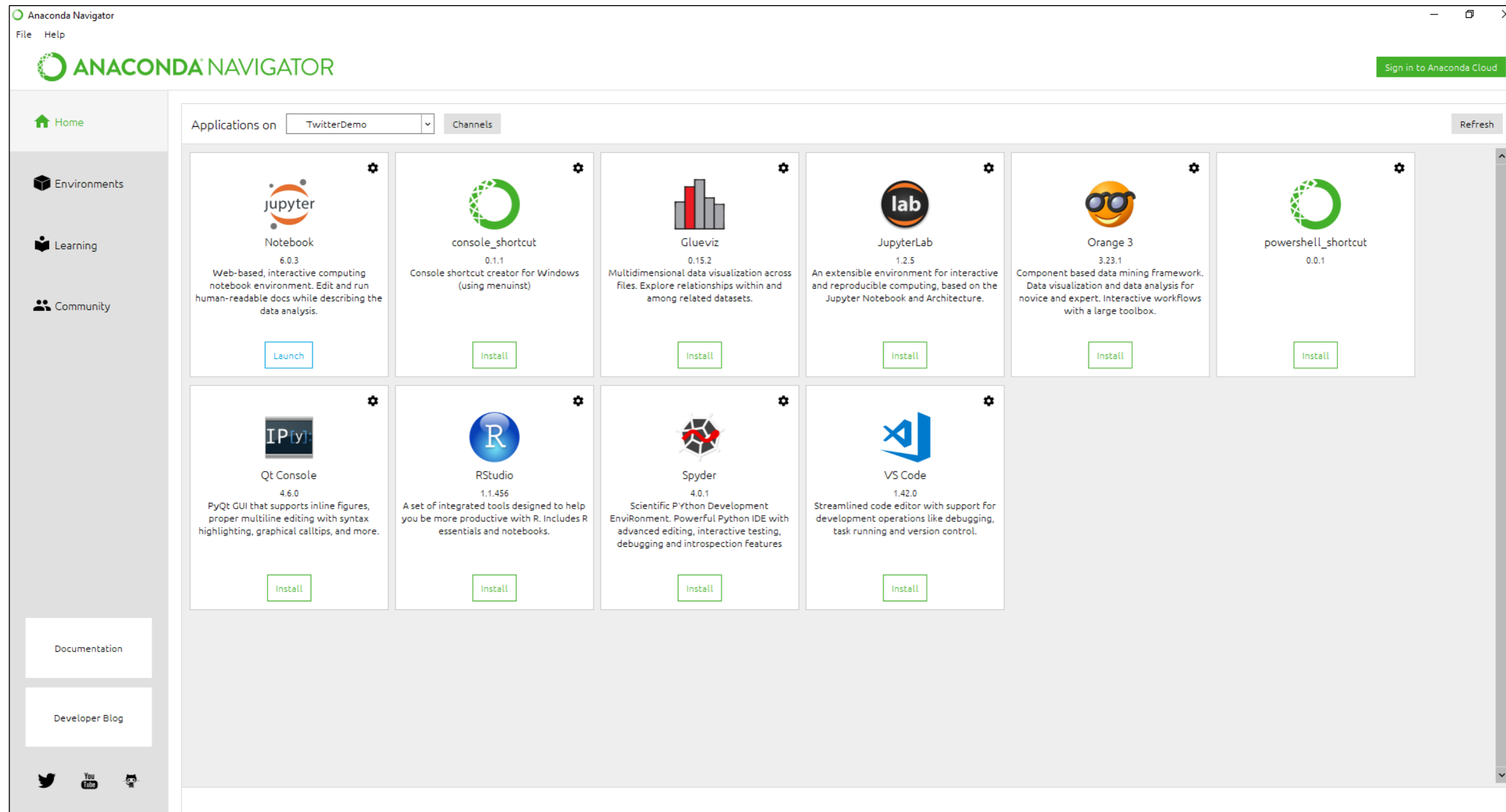
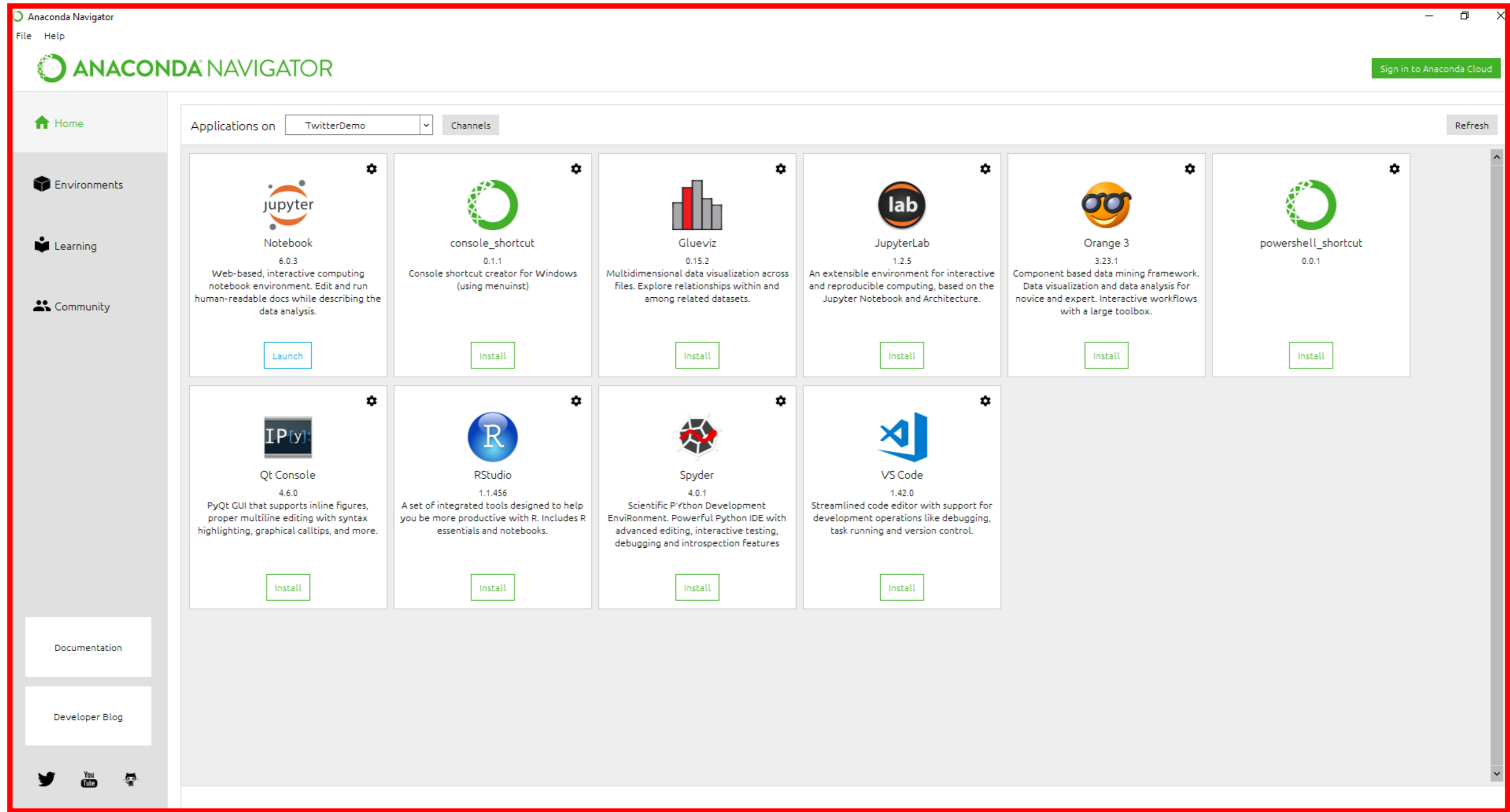


Scraping Twitter with Python

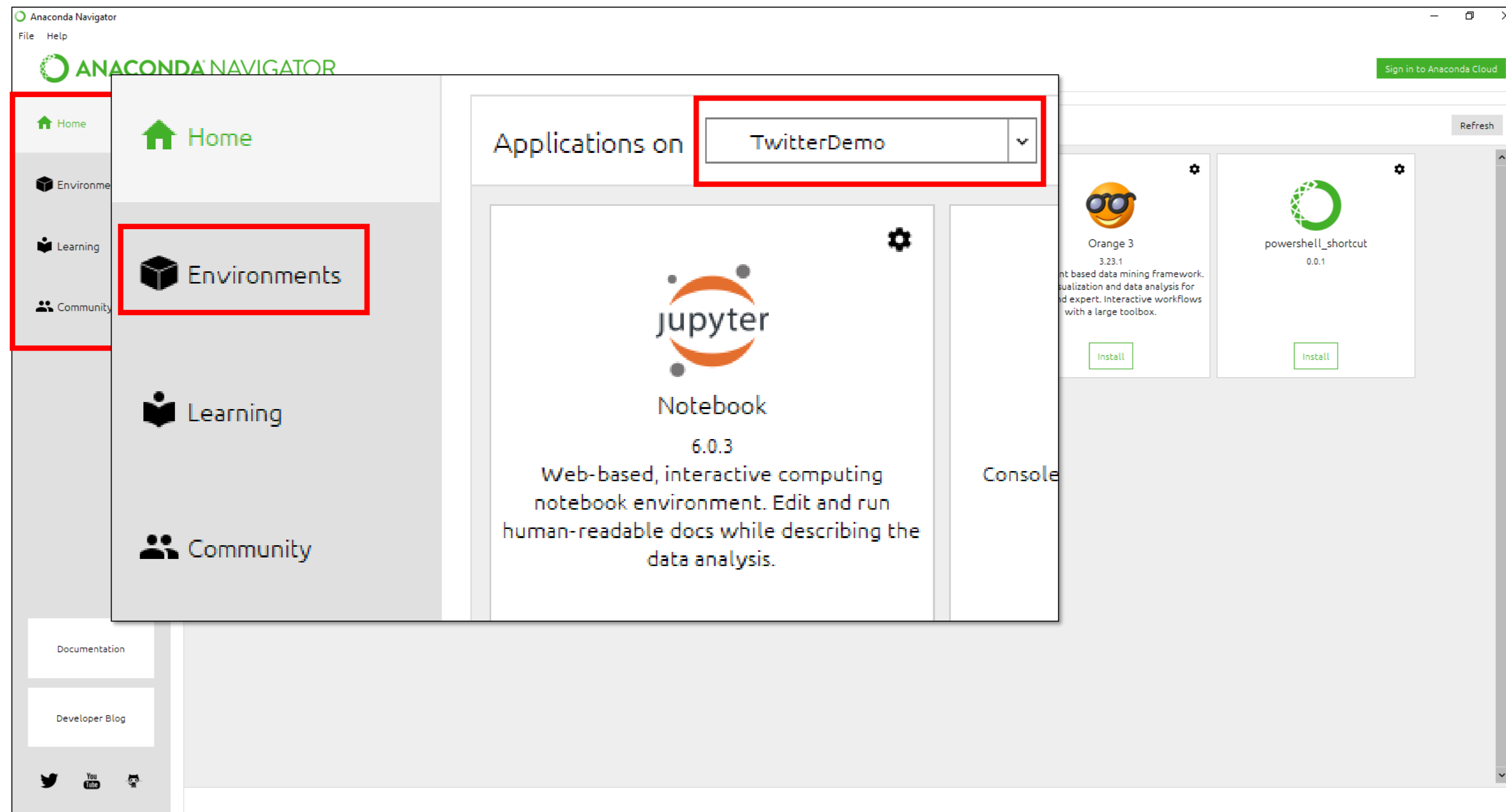
Ken Blake, Ph.D.



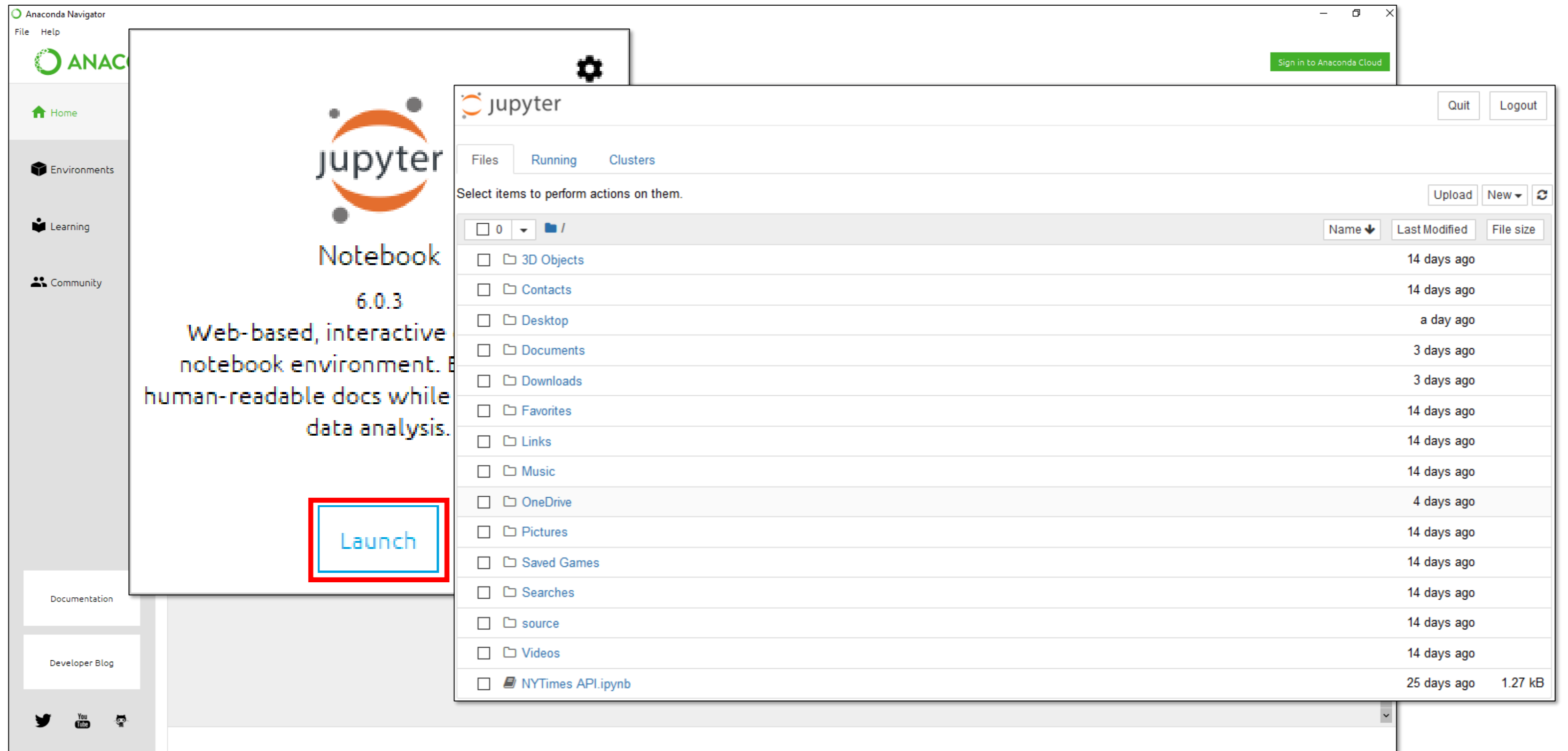
Part 1: Starting Anaconda, setting up an environment, installing and launching Jupyter Notebook, and opening the scraper program.



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Part 1: Starting Anaconda, setting up an environment, installing and launching Jupyter Notebook, and opening the scraper program.

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| | 14 days ago | |
| | 25 days ago | 1.27 kB |

TwitterScrapper Demo

A Python program for scraping Twitter content, given search criteria.

Installing required libraries. These steps are necessary only once per Anaconda environment. To run them, remove the "#" from the code. For each, wait for output indicating that the installation is complete.

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In [ ]: # pip install twitterscraper==1.1.0
```

```
In [ ]: # pip install pandas
```

```
In [ ]: # pip install xlsxWriter
```

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In [ ]: # from twitterscraper import query_tweets
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Setting parameters for the search. Edit the begin_date, end_date, limit and lang values in the code as desired.

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In [ ]: # begin_date = dt.date(2014,8,9)
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Part 1: Starting Anaconda, setting up an environment, installing and launching Jupyter Notebook, and opening the scraper program.



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Desk files



Python Notebooks



TwitterScraper



Ask me anything



9:55 AM

2/10/2020



TwitterScrapper Demo

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In [ ]: # begin_date = dt.date(2014,8,9)
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In [ ]: # tweets = query_tweets("Ferguson", begindate=begin_date, enddate = end_date, limit = limit, lang = lang)
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The next line of code imports the retrieved tweets into a Pandas dataframe. Pandas is a data analysis program. A dataframe is a type of dataset that Pandas can read.

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In [ ]: # df = pd.DataFrame(t.__dict__ for t in tweets)
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The next three lines of code are optional. Remove the "#" to run them. The "df.head (20)" code will show the first 20 records in the Pandas dataframe containing the retrieved tweets, just to verify that the program has worked. The "df.sample (20)" code will show a random sample of 20, if at least 20 are available. The "df.tail (20)" will show the last 20.

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The next two code boxes load the ExcelWriter program and save the data in the Pandas dataframe to an Excel file on your computer's hard drive. The Excel file will be stored in the same directory as this program. You may customize the name of the Excel file by customizing the 'Pompeotweets.xlsx' name given in the code in the second box. The 'Tweets' parameter is also customizable. It specifies the name that will be given to the tab in the Excel file where the program will store the data.

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In [ ]: # from pandas import ExcelWriter
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In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
df.to_excel(writer, 'Tweets')
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In a notebook, adding a “Markdown” box lets you type notes, instructions and other non-code content into the program.

TwitterScraper Demo

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“Code” boxes let you edit and run lines of code. They also display output.


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Click on either type of box to edit its content. To run code, click its box, then press Shift/Enter. Or click the box's triangle/bar symbol.

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An asterisk will appear here while the code is running. When the asterisk disappears, the code has finished.

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A Python program for scraping Twitter content, given search criteria.

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These are programs designed to be run by the Python coding language.

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The code installs them in whatever environment you're using.

TwitterScraper Demo

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Installation is needed only once per environment. You'll have to delete the # symbols in order to run the code.

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“Import” commands activate parts of the installed programs – sort of like opening Word after having installed Microsoft Office.

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Enter your search term or terms into the code below, between the quote marks after `query_tweets(` and before `begindate=begindate`. See search tool, <https://twitter.com/search-advanced?lang=en>, for constructing complex searches using additional search criteria. Run the code until the "Done" message to appear.

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This part of the program allows you to customize what you want to search Twitter for.

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```

```
In [ ]: import datetime as dt
import pandas as pd
```

```
In [ ]: begin_date = dt.date(2014, 8, 9)
end_date = dt.date(2014, 8, 25)
limit = 1000
lang = 'english'
```

Enter your search term or terms into the code below, between the quote marks after `query_tweets(` and before `begindate=begindate`. See search tool, <https://twitter.com/search-advanced?lang=en>, for constructing complex searches using additional search criteria. Run the code until the "Done" message to appear.

```
In [ ]: tweets = query_tweets("Ferguson", begindate=begin_date, enddate = end_date, limit = limit, lang = lang)
print('Done')
```

The next two code boxes load the ExcelWriter program and save the data in the Pandas dataframe to an Excel file on your computer's hard drive. The Excel file will be stored in the same directory as this program. You may customize the name of the Excel file by customizing the 'Fergusontweets.xlsx' name given in the code in the second box. The 'Tweets' parameter is also customizable. It specifies the name that will be given to the tab in the Excel file where the program will store the data.

```
In [ ]: from pandas import ExcelWriter
```

```
In [ ]: writer = ExcelWriter('Fergusontweets.xlsx')
df.to_excel(writer, 'Tweets')
writer.save()
```

Specify your beginning and ending dates here.

TwitterScraper Demo

A Python program for scraping Twitter content, given search criteria.

Installing required libraries. These steps are necessary only once per Anaconda environment. To run them, remove the "#" from the code. For each, wait for output indicating that the installation is complete.

```
In [ ]: # pip install twitterscraper==1.1.0
```

```
In [ ]: # pip install pandas
```

```
In [ ]: # pip install xlsxWriter
```

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```
In [ ]: # import datetime as dt
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```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
df.to_excel(writer, 'Tweets')
writer.save()
```

Here, specify the maximum number of Tweets you want the program to capture. The bigger the number, the longer the run time.

TwitterScrapper Demo

A Python program for scraping Twitter content, given search criteria.

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```

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In [ ]: tweets = query_tweets("Ferguson", begindate=begin_date, enddate = end_date, limit = limit, lang = lang)
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```
In [ ]: from pandas import ExcelWriter
```

```
In [ ]: writer = ExcelWriter('Fergusontweets.xlsx')
df.to_excel(writer, 'Tweets')
writer.save()
```

This code limits the search to English-language tweets. Or at least tries to. It doesn't seem to work all that well.

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```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
df.to_excel(writer, 'Tweets')
writer.save()
```

Type your search term or terms here. This is also the code that, when run, finds and captures the tweets.

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```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
df.to_excel(writer, 'Tweets')
writer.save()
```

You can use advanced search syntax from Twitter, too. The provided link will help you build the syntax you want.

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```
In [ ]: # pip install twitterscraper==1.1.0
```

```
In [ ]: # pip install pandas
```

```
In [ ]: # pip install xlsxWriter
```

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```
In [ ]: # from twitterscraper import query_tweets
```

```
In [ ]: df = pd.DataFrame(t.__dict__ for t in tweets)
```

The next three lines of code are optional. Remove the "#" to run containing the retrieved tweets, just to verify that the program is available. The "df.tail (20)" will show the last 20.

```
In [ ]: #df.shape
```

```
In [ ]: #df.head (20)
```

```
In [ ]: #df.sample (20)
```

```
In [ ]: #df.tail (20)
```

These lines import the captured tweets into the Pandas data analysis program.

```
data.
```

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')  
# df.to_excel(writer, 'Tweets')  
# writer.save()
```

TwitterScraper Demo

A Python program for scraping Twitter content, given search criteria.

Installing required libraries. These steps are necessary only once per Anaconda environment. To run them, remove the "#" from the code. For each, wait for output indicating that the installation is complete.

```
In [ ]: # pip install twitterscraper==1.1.0
```

```
In [ ]: # pip install pandas
```

```
In [ ]: # pip install xlsxWriter
```

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```
In [ ]: # from twitterscraper import query_tweets
```

```
In [ ]: df = pd.DataFrame(t.__dict__ for t in tweets)
```

The next three lines of code are optional. Remove the "#" to run containing the retrieved tweets, just to verify that the program is available. The "df.tail (20)" will show the last 20.

```
In [ ]: #df.shape ←
```

```
In [ ]: #df.head (20)
```

```
In [ ]: #df.sample (20)
```

```
In [ ]: #df.tail (20)
```

If you'd like to see how many rows and columns of data you got, delete the # and run this line of code.

data.

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')  
# df.to_excel(writer, 'Tweets')  
# writer.save()
```

TwitterScraper Demo

A Python program for scraping Twitter content, given search criteria.

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```
In [ ]: # pip install twitterscraper==1.1.0
```

```
In [ ]: # pip install pandas
```

```
In [ ]: # pip install xlsxWriter
```

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```
In [ ]: # from twitterscraper import query_tweets
```

```
In [ ]: df = pd.DataFrame(t.__dict__ for t in tweets)
```

The next three lines of code are optional. Remove the "#" to run containing the retrieved tweets, just to verify that the program is available. The "df.tail (20)" will show the last 20.

```
In [ ]: # df.shape
```

```
In [ ]: # df.head (20) ←
```

```
In [ ]: # df.sample (20)
```

```
In [ ]: # df.tail (20)
```

Running this one (minus the #) will show you the first 20 captured tweets.

data.

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
# df.to_excel(writer, 'Tweets')
# writer.save()
```


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A Python program for scraping Twitter content, given search criteria.

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```
In [ ]: # pip install twitterscraper==1.1.0
```

```
In [ ]: # pip install pandas
```

```
In [ ]: # pip install xlsxWriter
```

Importing tools the program needs in order to run. You must run these lines of code every time you use the program. To run a line of code, click on its box, then press "Shift / Enter." Or, click the triangle/bar symbol next to the box.

```
In [ ]: # from twitterscraper import query_tweets
```

```
In [ ]: df = pd.DataFrame(t.__dict__ for t in tweets)
```

The next three lines of code are optional. Remove the "#" to run containing the retrieved tweets, just to verify that the program is available. The "df.tail (20)" will show the last 20.

```
In [ ]: # df.shape
```

```
In [ ]: # df.head (20)
```

```
In [ ]: # df.sample (20)
```

```
In [ ]: # df.tail (20)
```

This one will show you a randomly selected 20 of the tweets you captured.

data.

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
# df.to_excel(writer, 'Tweets')
# writer.save()
```

TwitterScraper Demo

A Python program for scraping Twitter content, given search criteria.

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```
In [ ]: # pip install twitterscraper==1.1.0
```

```
In [ ]: # pip install pandas
```

```
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```

Importing tools the program needs in order to run. You must run these lines of code every time you use the program. To run a line of code, click on its box, then press "Shift / Enter." Or, click the triangle/bar symbol next to the box.

```
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```

```
In [ ]: df = pd.DataFrame(t.__dict__ for t in tweets)
```

The next three lines of code are optional. Remove the "#" to run containing the retrieved tweets, just to verify that the program is available. The "df.tail (20)" will show the last 20.

```
In [ ]: #df.shape
```

```
In [ ]: #df.head (20)
```

```
In [ ]: #df.sample (20)
```

```
In [ ]: #df.tail (20) ←
```

This one will show you the last 20 tweets you captured. Again, these lines are optional. Remove the # to run them.

data.

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
# df.to_excel(writer, 'Tweets')
# writer.save()
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TwitterScrapper Demo

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```
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```
In [ ]: # from twitterscraper import query_tweets
```

```
In [ ]: # import datetime as dt
# import pandas as pd
```

Setting parameters for the search. Edit the begin_date, end_date, limit and lang values in the code as desired.

```
In [ ]: # begin_date = dt.date(2014,8,9)
# end_date = dt.date(2014,8,25)
# limit = 1000
# lang = 'english'
```

Enter your search term or terms into the code below, between the quote marks after query_tweets(and before begindate=begindate. See Twitter's advanced search tool, <https://twitter.com/search-advanced?lang=en>, for constructing complex searches using additional search criteria. Run the code, and wait for a "Done" message to appear.

```
In [ ]: # tweets = query_tweets("Ferguson", begindate=begin_date, enddate = end_date, limit = limit, lang = lang)
# print('Done')
```

The next line of code imports the retrieved tweets into a Pandas dataframe. Pandas is a data analysis program. A dataframe is a type of dataset that Pandas can read.

```
In [ ]: # df = pd.DataFrame(t.__dict__ for t in tweets)
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The next three lines of code are optional. Remove the "#" to run them. The "df.head (20)" code will show the first 20 records in the Pandas dataframe containing the retrieved tweets, just to verify that the program has worked. The "df.sample (20)" code will show a random sample of 20, if at least 20 are available. The "df.tail (20)" will show the last 20.

```
In [ ]: # df.shape
```

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
# df.to_excel(writer, 'Tweets')
# writer.save()
```

This last part of the code saves the captured tweets to your computer as an Excel file.

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```
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```

```
In [ ]: # pip install pandas
```

```
In [ ]: # pip install xlswriter
```

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```
In [ ]: # df.shape
```

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
# df.to_excel(writer, 'Tweets')
# writer.save()
```

Change this text to whatever name you want the saved Excel file to have.

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In [ ]: # from twitterscraper import query_tweets
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In [ ]: # df.shape
```

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
# df.to_excel(writer, 'Tweets')
# writer.save()
```

The Excel file will be saved on your computer in the same directory as the program.

TwitterScrapper Demo

A Python program for scraping Twitter content, given search criteria.

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```
In [ ]: # df.shape
```

```
In [ ]: # from pandas import ExcelWriter
```

```
In [ ]: # writer = ExcelWriter('Fergusontweets.xlsx')
# df.to_excel(writer, 'Tweets')
# writer.save()
```

If there's already an Excel file there with the same name, the original Excel file will be overwritten.

TwitterScrapper Demo

A Python program for scraping Twitter content, given search criteria.

Installing required libraries. These steps are necessary only once per Anaconda environment. To run them, remove the "#" from the code. For each, wait for the output indicating that the installation is complete.

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```

```
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```

```
In [ ]: # pip install xlsxWriter
```

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```
In [ ]: # from twitterscraper import query_tweets
```

```
In [ ]: # import datetime as dt
# import pandas as pd
```

Setting parameters for the search. Edit the begin_date, end_date, limit and lang values in the code as desired.

```
In [ ]: # begin_date = dt.date(2014,8,9)
# end_date = dt.date(2014,8,25)
# limit = 1000
# lang = 'english'
```

Enter your search term or terms into the code below, between the quote marks after query_tweets(and before begin_date=end_date. See Twitter's advanced search tool, <https://twitter.com/search-advanced?lang=en>, for constructing complex searches using additional search criteria. Run the code, and wait for a "Done" message to appear.

```
In [ ]: # tweets = query_tweets("Ferguson", begin_date=begin_date, end_date=end_date, limit=limit, lang=lang)
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```

The next line of code imports the retrieved tweets into a Pandas dataframe. Pandas is a data analysis program. A dataframe is a type of dataset that Pandas can read.

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In [ ]: # df = pd.DataFrame(t.__dict__ for t in tweets)
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The next three lines of code are optional. Remove the "#" to run them. The "df.head (20)" code will show the first 20 records in the Pandas dataframe containing the retrieved tweets, just to verify that the program has worked. The "df.sample (20)" code will show a random sample of 20, if at least 20 are available. The "df.tail (20)" will show the last 20.

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In [ ]: # df.shape
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```
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# df.to_excel(writer, 'Tweets')
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Here's what running the program looks like.

TwitterScrap Demo

A Python program for scraping Twitter content, given search criteria.

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Time to go look at the Excel file containing the captured tweets.

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I'll also demonstrate a simple framing analysis one could perform.

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The captured tweets all mentioned "Ferguson" and appeared during the initial August 2014 wave of unrest in Ferguson, Missouri.

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Some observers called the unrest a "riot." Others called it a "protest." If present, these terms cue very different frames.

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The analysis looks at which were more common: tweets mentioning "riot," or tweets mentioning "protest."

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It finds that most tweets mentioned neither, but that "protest" tweets significantly outnumbered "riot" tweets.

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A caveat: I did not take the time to find and eliminate duplicate tweets. I have done so in the past, though. The results were similar.

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Of course, a closer qualitative examination of the tweets would be both possible and wise.

| | | | | | | | | | | |
|----|-----------------|---------------------|--------------------|--|---------------------|---|---|---|---|-----------|
| 16 | TheFinalWordPod | TheFinalWordPodcast | 498981981221158912 | /TheFinalWordPod/status/498981981221158912 | 2014-08-11 23:59:09 | Craig Ferguson Best Interview Ever #RobinWil... | 0 | 0 | 0 | class: js |
| 17 | KierstPowers | Kiersten Powers | 498981978239012864 | /KierstPowers/status/498981978239012864 | 2014-08-11 23:59:08 | LZ: How many unarmed people must die? http://u... | 0 | 1 | 1 | class: js |
| 18 | FlowerTea75 | FlowerTea Nguyen | 498981972572516352 | /FlowerTea75/status/498981972572516352 | 2014-08-11 23:59:07 | The NAACP meeting tonight in STL is not what w... | 0 | 0 | 1 | class: js |
| 19 | KingCanaxbi318 | Towelie | 498981961172795393 | /KingCanaxbi318/status/498981961172795393 | 2014-08-11 23:59:04 | Did any of the big news stations cover Ferguson? | 0 | 0 | 0 | class: js |

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In [ ]: #df.sample (20)
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Here's how to save your program and exit both Jupyter Notebook and Anaconda gracefully.

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| 16 | TheFinalWordPod | TheFinalWordPodcast | 498981981221158912 | /TheFinalWordPod/status/498981981221158912 | 2014-08-11 23:59:09 | Craig Ferguson Best Interview Ever #RobinWil... | 0 | 0 | 0 | class: js |
| 17 | KierstPowers | Kiersten Powers | 498981978239012864 | /KierstPowers/status/498981978239012864 | 2014-08-11 23:59:08 | LZ: How many unarmed people must die? http://u... | 0 | 1 | 1 | class: js |
| 18 | FlowerTea75 | FlowerTea Nguyen | 498981972572516352 | /FlowerTea75/status/498981972572516352 | 2014-08-11 23:59:07 | The NAACP meeting tonight in STL is not what w... | 0 | 0 | 1 | class: js |
| 19 | KingCanaxbi318 | Towelie | 498981961172795393 | /KingCanaxbi318/status/498981961172795393 | 2014-08-11 23:59:04 | Did any of the big news stations cover Ferguson? | 0 | 0 | 0 | class: js |

```
In [ ]: #df.sample (20)
```

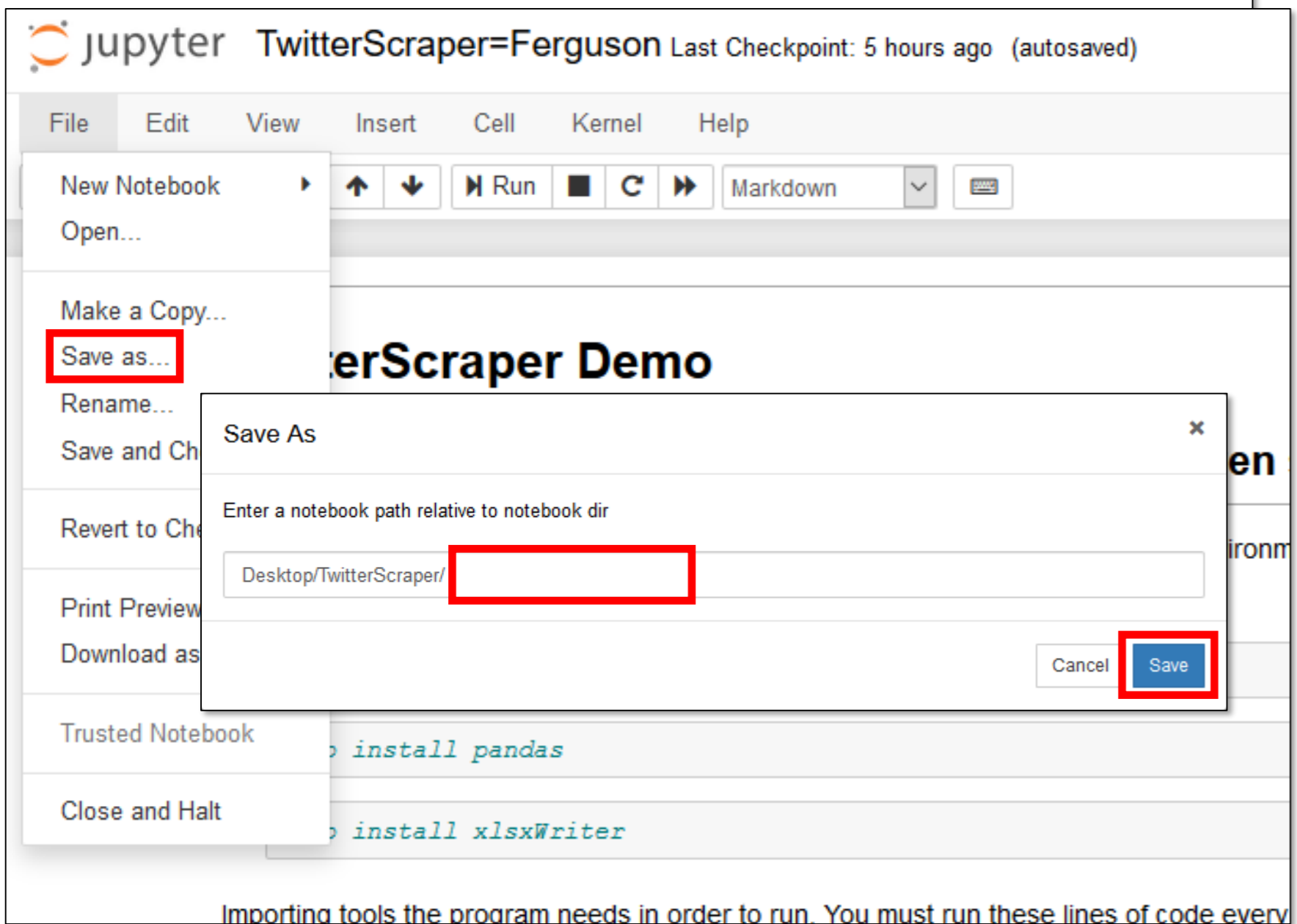
```
In [ ]: #df.tail (20)
```

The next two code boxes load the ExcelWriter program and save the data in the Pandas dataframe to an Excel file on your computer's hard drive. The Excel file will be stored in the same directory as this program. You may customize the name of the Excel file by customizing the 'Pompeotweets.xlsx' name given in the code in the second box. The 'Tweets' parameter is also customizable. It specifies the name that will be given to the tab in the Excel file where the program will store the data.

```
In [11]: from pandas import ExcelWriter
```

```
In [12]: writer = ExcelWriter('Fergusontweets.xlsx')
df.to_excel(writer, 'Tweets')
writer.save()
```

```
In [ ]:
```



The video does not show how to save your notebook as a new file. But it's the usual "Save as ..." procedure.

The next three lines of code are optional. Remove the "#" to run them. The "df.head (20)" code will show the first 20 records in the Pandas dataframe containing the retrieved tweets, just to verify that the program has worked. The "df.sample (20)" code will show a random sample of 20, if at least 20 are available. The "df.tail (20)" will show the last 20.

```
In [ ]: #df.shape
In [ ]: #df.head (20)
In [ ]: #df.sample (20)
In [ ]: #df.tail (20)
```

The next two code boxes load the ExcelWriter program and save the data in the Pandas dataframe to an Excel file on your computer's hard drive. The Excel file will be stored in the same directory as this program. You may customize the name of the Excel file by customizing the 'Pompeotweets.xlsx' name given in the code in the second box. The 'Tweets' parameter is also customizable. It specifies the name that will be given to the tab in the Excel file where the program will store the data.

```
In [ ]: from pandas import ExcelWriter
In [ ]: writer = ExcelWriter('Fergusontweets.xlsx')
df.to_excel(writer, 'Tweets')
writer.save()
```

Scraping Twitter with Python

Ken Blake, Ph.D.