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CS 581

Homework 7 - Using the Twitter API to access Twitter Data

I pledge my honor that I have abided by the Stevens Honor System - Chloe Quinto

Purpose

The purpose of this assignment is to get an understanding of Twitter Data. This assignment encapsulates ideas such as data search/retrieval and processing/analysis. It utilizes Tweepy API which is an easy to use Python library for accessing Twitter API.

Input

To run this program, navigate to directory and type in

`python3 main.py`

The script asks the user

“What Twitter User Account do you want to analyze? Type “STOP” to end program”

The input to this question can be any twitter account. In the example below, I typed in

`@realDonaldTrump` and `@BarackObama`

or

`realDonaldTrump` and `BarackObama`

Output

```
MacBook-Pro-7:a07 chloequinto$ python3 main.py
=====
What Twitter User Account do you want to analyze? Type "STOP" to end program
realDonaldTrump

=====
User Name: Donald J. Trump
User Screen Name: realDonaldTrump
User ID: 25073877
User Description: 45th President of the United States of America 🇺🇸
Number of Followers: 75808646
=====

=====
Most Recent Tweet by realDonaldTrump
RT @WhiteHouse: LIVE: Press Briefing with Coronavirus Task Force https://t.co/L80j4W1c80
=====

=====
Screen Names of First 10 Followers of realDonaldTrump
Follower 1: yenabaragi4
Follower 2: wassim_hafid
Follower 3: Twit065
Follower 4: TJ53069438
Follower 5: nguyenthanhba4
Follower 6: rsantulli1
Follower 7: JOHNSTE97441054
Follower 8: jmcrof
Follower 9: lyricshotz
Follower 10: NADJI78240499
=====

What Twitter User Account do you want to analyze? Type "STOP" to end program
STOP
Sorry to see you go! Come back again!
MacBook-Pro-7:a07 chloequinto$
```

Figure 1: @realDonaldTrump

```

MacBook-Pro-7:a07 chloequinto$ python3 main.py
=====
What Twitter User Account do you want to analyze? Type "STOP" to end program
BarackObama

=====
User Name: Barack Obama
User Screen Name: BarackObama
User ID: 813286
User Description: Dad, husband, President, citizen.
Number of Followers: 115067814
=====

=====
Most Recent Tweet by BarackObama
It's Census Day and we all have a crucial role to play. Filling out the 2020 Census determines what the next decade... https://t.co/e90Xk9eFk1
=====

=====
Screen Names of First 10 Followers of BarackObama
Follower 1: jcheev
Follower 2: Adanaomi2
Follower 3: Tiffany51185621
Follower 4: owobrenu
Follower 5: SpidaLil
Follower 6: Hannah05502709
Follower 7: victor_mwene
Follower 8: ogbaub
Follower 9: SonuKatwar
Follower 10: RitaTullyCPA
=====

What Twitter User Account do you want to analyze? Type "STOP" to end program
STOP
Sorry to see you go! Come back again!
MacBook-Pro-7:a07 chloequinto$ _

```

Figure 2: @BarackObama

What it does

main.py is the script used to access twitter data. main.py first prompts the user, “What Twitter User Account do you want to analyze? Type “STOP” to end program.”.

```

if __name__ == "__main__":
    print("=====")
    user_screen_name = input("What Twitter User Account do you want to analyze? Type \"STOP\" to end program\n")

    while user_screen_name != "STOP":
        getUser(user_screen_name)
        getMostRecentTweet()
        getFollowers()
        user_screen_name = input("What Twitter User Account do you want to analyze? Type \"STOP\" to end program\n")

    if user_screen_name == "STOP":
        print("Sorry to see you go! Come back again!")
        exit()

    print("=====")

```

While the input is not “STOP”, it calls three main functions: getUser(), getMostRecentTweet(), and getFollowers().

```

def getUser(user_screen_name):
    """
    Function gets information about a twitter user account information
    Such as: User Name, User Screen Name, User ID, User Description, Number of Followers
    """

    global screen_name
    try:
        twitter_user = API.get_user(user_screen_name)

        print("\n=====")
        # User Name
        user_name = twitter_user.name

        # User Screen Name
        screen_name = twitter_user.screen_name

        # User ID
        user_id = twitter_user.id

        # User Description
        user_description = twitter_user.description

        # Number of Followers
        num_followers = twitter_user.followers_count

        print("User Name:", user_name)
        print("Screen Name:", screen_name)
        print("User ID:", user_id)
        print("User Description:", user_description)
        print("Number of Followers:", num_followers)
        print("=====\n")

    except:
        print("[ERROR] Could not get twitter user information")
        return None

```

getUser() takes in the input user account name as its input and calls the tweepy API to get the following: user name, user screen name, user id, user description, and number of followers.

Then the script calls getMostRecentTweets() to print the user's most recent tweet.

```

def getMostRecentTweet():
    """
    Function print the user's most recent tweet with appropriate label
    """

    global screen_name
    try:
        print("=====")
        recent_tweet = API.get_user(screen_name = screen_name)
        print("Most Recent Tweet by " + screen_name + " \n" + recent_tweet.status.text)
        print("=====\n")
    except:
        print("[ERROR] Coult not get most recent twitter information")

```

Then the script calls `getFollowers()` to print the user's first 10 followers.

```
def getFollowers():
    """
    Function gets screen names of the first 10 followers of the Twitter User Account
    """
    global screen_name
    print("=====")
    print("Screen Names of First 10 Followers of " + screen_name)
    try:
        count = 0
        for users in tweepy.Cursor(API.followers, id = screen_name).items():
            if count == 10:
                break
            count += 1
            print("Follower " + str(count) + ": " + users.screen_name)
    except:
        print("[ERROR] Could not get followers")

    print("=====\n")

    return None
```

Finally, the script prompts the user again if they would like to analyze another twitter user account and repeats. If the user types "STOP", the script says "Sorry to see you go! Come back again!"