SI 106 FINAL PROJECT README

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*** In ~2-3 sentences, what does your project do?**

If you enter a twitter hashtag in the input request on block 5, line 2, the project will find the most common word in the most recent 200 tweets that contain the previously entered hashtag, excluding stopwords such as 'you', 'I', and 'we'. From there, the project will use the most common word to create a CSV file that contains the relevant songs with their title, artist, album, and length from a search in iTunes, ordered from the longest song to shortest.

*** What files (by name) are included in your submission? List them all! MAKE SURE YOU INCLUDE EVERY SINGLE FILE YOUR PROGRAM NEEDS TO RUN, as well as a sample of what its output file contains.**

The files that are included, and what they do, are as follows:

- SI106_finalproject.ipynb : The project code itself, that runs the above described function.
- songs.cvs : The CSV file that contains the relevant songs with their title, artist, album, and length from a search in iTunes, ordered from the longest song to shortest.
- creds.txt : A text file containing information necessary to run the Twitter API/
- Example CSV Output : A screenshot of what a CSV output from the project would look like when run properly.

*** What Python modules must be pip installed in order to run your submission? List them ALL (e.g. including requests, requests_oauthlib... anything someone running it will need that isn't part of the standard python distribution!). Note that your project must run in Python 3. You should be able to generate this list by looking at all your import statements.**

- import requests_oauthlib
- import json
- import string
- import csv

*** Explain SPECIFICALLY how to run your code. We should very easily know, after reading this:**

To run the project code, start by opening the file 'SI106_finalproject.ipynb'. Once you have the file open in an application that is able to run Python 3, such as Jupyter Notebook, you

will need to obtain specific Twitter API keys to run the code, although my personal keys are already entered.

To get these keys, you will have to do the following in order. Get client_key and client_secret from the Twitter website, by going to ‘https://apps.twitter.com/’ and creating an "app". Don't fill in a callback_url; instead, put in a placeholder for the website. Visit the Keys and Access Tokens tab for your app and grab the following two values; ‘client_key’ and ‘client_secret’.

In block 5, line 2, you will be asked to enter a twitter hashtag, which will be used to search for songs on iTunes. You will have to input a hashtag to make the code run, and be sure to enter a ‘#’ while searching. For example, if you want to search the hashtag ‘GoBlue’, it should be entered as ‘#GoBlue’ in this input. From there, a CSV file will be created, titles ‘songs.csv’ that contains the relevant songs with their title, artist, album, and length from a search in iTunes, ordered from the longest song to shortest.

REQUIREMENTS LIST:

*** Get and cache data from 2 REST APIs (list the lines where the functions to get & cache data begin and where they are invoked):**

- Twitter Rest API) Block 2: Lines 1-34, Block 3: Lines 1-11, Block 4: Lines 1-5, Block 5: Lines 1-4
- iTunes Rest API) Block 10: Lines 1-5, Block 11: Lines 1-7

*** If you relied upon FB data and did not cache it, say so here:**

- Used uncached Twitter Data

*** Define at least 2 classes, each of which fulfill the listed requirements:**

- Class Tweet) Block 7: Lines 1-24
- Class Song) Block 12: Lines 1-17

*** Create at least 1 instance of each class:**

- Tweet) Block 8: Line 4 (Stored in list on Block 8: Line 1)
- Song) Block 14: Line 4 (Stored in list on Block 14: Line 1)

*** Invoke the methods of the classes on class instances:**

- Tweet) Block 8: Lines 9-10
- Song) Block 15: Lines 4-5

*** At least one sort with a key parameter:**

- Sorted Songs) Block 14: Line 7

*** Define at least 2 functions outside a class (list the lines where function definitions begin):**

- Function get_tokens) Block 2: Line 1
- Function get_itunes) Block 10: Line 1

*** Invocations of functions you define:**

- Invoke get_tokens) Block 3: Lines 1-11
- Invoke get_itunes) Block 11: Line 1

*** Create a readable file:**

- Create CSV) Block 15: Lines 1-7

*** Citations:**

- Twitter API Key Instructions: https://umsi106.umsi.io/user/ajestes/notebooks/Lecture/L21/SI%20106%20Lecture%202 1.ipynb

*** Explain in a couple sentences what should happen as a RESULT of your code running: what CSV or text file will it create? What information does it contain? What should we expect from it in terms of how many lines, how many columns, which headers...?**

The result of running the above code will result in a CSV file that contains the relevant songs, according to the hashtag entered, from a search in iTunes, ordered from the longest song to shortest, with four columns; title, artist, album, and length. The length of this list will vary, depending on the number of relevant search items that iTunes displays, but all of the items will be of the media type ‘music’.