Kevin Rothstein
SI 206
12/12/17

Goals:

My goal for this project was to see what day of the week is best to post on Facebook and on Instagram if I am concerned about the number of likes I get. With that being said, I used the Facebook and Instagram APIs for my entire project. My other goal was to create a visualization so I can easily see what day I should post on either Facebook or Instagram (bar graph using Plotly).

Accomplishments:

To my excitement, I was able to achieve both of my goals. Through utilizing the APIs from Facebook and Instagram, I was able to create a program that prints out the day and the amount of likes on each post from my Facebook and Instagram account. My program saves the data in two different easy to read json files, separating the two different data from varying websites. Also, I was able to create a table to easily read and sort the data on SQLite. Lastly, since Facebook had 100 interactions, I decided to make the visualization for Facebook. My visualization is through plotly. It's a bar graph that compares the amount of likes from posts and the day it was posted in order to easily see what day is best to post.

Problems:

My first plan was that I was going to use my Tumblr and Instagram account to compare the amount of likes I get on each website and also compare the date and time I post the pictures. However, I didn't have over 100 interactions on either site so I had to change my project. The only social media account I had over 100 interactions was Facebook. This was a problem because I didn't submit Facebook in my project plan. Therefore, I had to send my GSI Chong an email explaining him my problem. Luckily, Chong understood and allowed me to switch APIs to Facebook by checking with the other instructors. Another problem I had was finding the Facebook access token. The website made it pretty confusing for me to get the correct access token for my project. However, I worked through this problem and finally got the correct access token.

Note: I added a picture of the email that gave me permission to use the Facebook API at the very bottom.

Report:

My program generates two json files, one SQLite file, and one visualization should pop up on your screen via Plotly. The json file produced for the Facebook data is called "kevin_FB_cached_data.json. If you use the Facebook access token that I used, the data should look as follows:

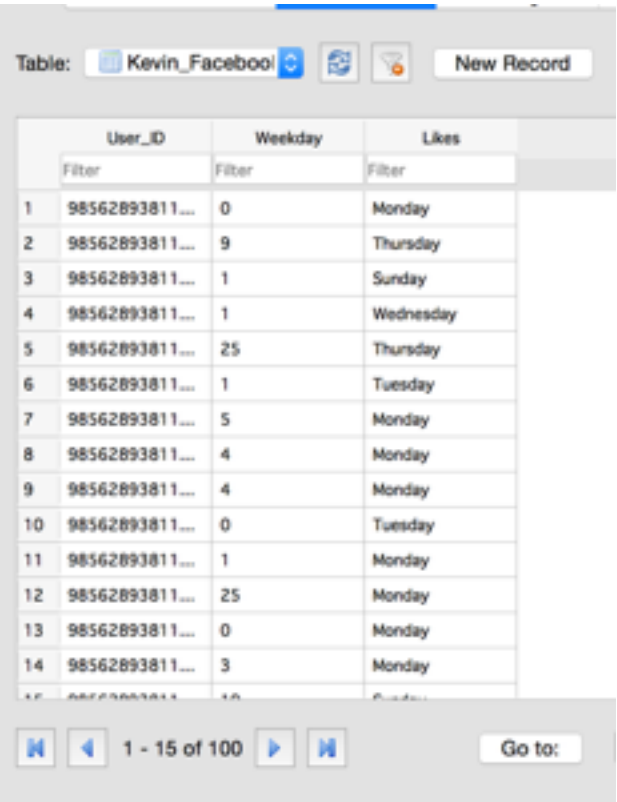
{"EAACEdEose0cBAAx0bynSrnWFvAufPk9albKiGTJCpEeHnOkZB8TKOwAJxm2t8PKw1yPlwe
XON1C30gnTdQ6rrHPD4RFoPigSyhKZCLTIUQZB0PwEwgeiFj0ZC9dHNL5z5FnD1MzxO7exa
zU2xhNvRwGZATxoM8O1VNp5zxFZA6LwoUZCGiWpbyw8sXoNhZBdV3xKG2ZC2itUT4gZDZ

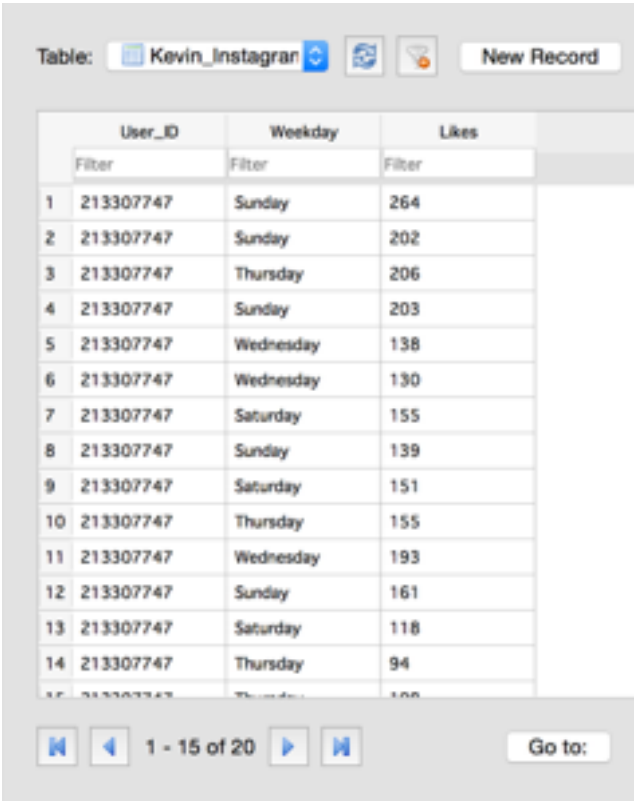
D": [["985628938117215", "Monday", 0], ["985628938117215", "Thursday", 9], ["985628938117215", "Sunday", 1], ["985628938117215", "Wednesday", 1], ["985628938117215", "Thursday", 25], ["985628938117215", "Tuesday", 1], ["985628938117215", "Monday", 5], ["985628938117215", "Monday", 4], ["985628938117215", "Monday", 4], ["985628938117215", "Tuesday", 0], ["985628938117215", "Monday", 1], ["985628938117215", "Monday", 25], ["985628938117215", "Monday", 0], ["985628938117215", "Monday", 3], ["985628938117215", "Sunday", 10], ["985628938117215", "Sunday", 20], ["985628938117215", "Friday", 1], ["985628938117215", "Tuesday", 2], ["985628938117215", "Sunday", 0], ["985628938117215", "Tuesday", 3], ["985628938117215", "Tuesday", 1], ["985628938117215", "Saturday", 7], ["985628938117215", "Monday", 3], ["985628938117215", "Monday", 1], ["985628938117215", "Thursday", 3], ["985628938117215", "Friday", 6], ["985628938117215", "Tuesday", 4], ["985628938117215", "Monday", 5], ["985628938117215", "Monday", 0], ["985628938117215", "Monday", 2], ["985628938117215", "Wednesday", 3], ["985628938117215", "Monday", 25], ["985628938117215", "Saturday", 2], ["985628938117215", "Saturday", 0], ["985628938117215", "Saturday", 6], ["985628938117215", "Wednesday", 3], ["985628938117215", "Friday", 0], ["985628938117215", "Sunday", 0], ["985628938117215", "Sunday", 0], ["985628938117215", "Sunday", 2], ["985628938117215", "Sunday", 5], ["985628938117215", "Saturday", 1], ["985628938117215", "Saturday", 2], ["985628938117215", "Saturday", 4], ["985628938117215", "Thursday", 8], ["985628938117215", "Wednesday", 4], ["985628938117215", "Saturday", 2], ["985628938117215", "Monday", 25], ["985628938117215", "Monday", 25], ["985628938117215", "Wednesday", 0], ["985628938117215", "Wednesday", 0], ["985628938117215", "Monday", 0], ["985628938117215", "Sunday", 0], ["985628938117215", "Saturday", 17], ["985628938117215", "Monday", 25], ["985628938117215", "Saturday", 1], ["985628938117215", "Sunday", 0], ["985628938117215", "Friday", 0], ["985628938117215", "Saturday", 2], ["985628938117215", "Monday", 19], ["985628938117215", "Sunday", 2], ["985628938117215", "Monday", 1], ["985628938117215", "Monday", 3], ["985628938117215", "Saturday", 0], ["985628938117215", "Friday", 25], ["985628938117215", "Friday", 1], ["985628938117215", "Friday", 7], ["985628938117215", "Friday", 13], ["985628938117215", "Thursday", 0], ["985628938117215", "Friday", 0], ["985628938117215", "Friday", 2], ["985628938117215", "Friday", 3], ["985628938117215", "Wednesday", 1], ["985628938117215", "Monday", 1], ["985628938117215", "Monday", 0], ["985628938117215", "Monday", 1], ["985628938117215", "Friday", 25], ["985628938117215", "Monday", 0], ["985628938117215", "Sunday", 1], ["985628938117215", "Sunday", 0], ["985628938117215", "Sunday", 3], ["985628938117215", "Saturday", 13], ["985628938117215", "Saturday", 1], ["985628938117215", "Thursday", 0], ["985628938117215", "Saturday", 3], ["985628938117215", "Thursday", 0], ["985628938117215", "Sunday", 0], ["985628938117215", "Thursday", 2], ["985628938117215", "Tuesday", 4], ["985628938117215", "Saturday", 1], ["985628938117215", "Saturday", 0], ["985628938117215", "Sunday", 0], ["985628938117215", "Sunday", 0], ["985628938117215", "Sunday", 4], ["985628938117215", "Saturday", 0], ["985628938117215", "Wednesday", 0], ["985628938117215", "Tuesday", 24], ["985628938117215", "Friday", 0], ["985628938117215", "Thursday", 25], ["985628938117215", "Tuesday", 2]]}

This produces the day and the amount of likes of different posts on my Facebook. However, if you want the most recent data, you will have to get a new access token to produce a different set of data. The next json file I created was for my data from Instagram. It is called “kevin_INSTA_cached_data.json”. The data should look as follows:

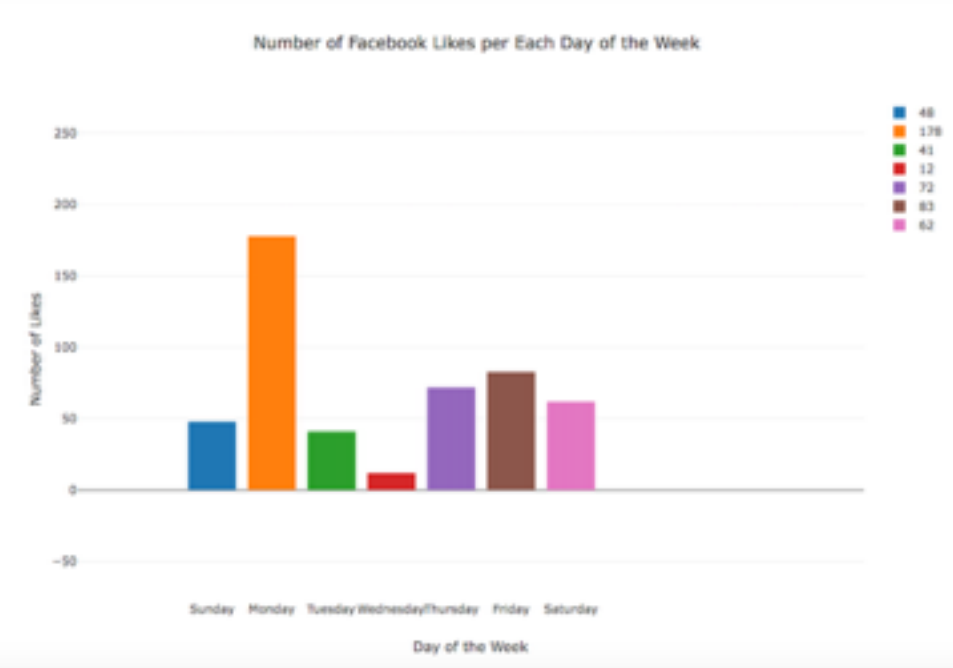
{"213307747.24c63a3.d41d2518e05045cfacaaa7d40f453bc1": [["213307747", "Sunday", 264], ["213307747", "Sunday", 202], ["213307747", "Thursday", 206], ["213307747", "Sunday", 203], ["213307747", "Wednesday", 138], ["213307747", "Wednesday", 130], ["213307747", "Saturday", 155], ["213307747", "Sunday", 139], ["213307747", "Saturday", 151], ["213307747", "Thursday", 155], ["213307747", "Wednesday", 193], ["213307747", "Sunday", 161], ["213307747", "Saturday", 118], ["213307747", "Thursday", 94], ["213307747", "Thursday", 108], ["213307747", "Thursday", 94], ["213307747", "Wednesday", 138], ["213307747", "Thursday", 101], ["213307747", "Sunday", 102], ["213307747", "Thursday", 112]]}

This data also shows the day the picture was posted and the amount of likes received. The SQLite table I created for Facebook and Instagram are shown below:





Lastly, I created a visualization through Plotly to easily visualize what day is best to post on Facebook. In other words, I wanted to see what day I got the most likes on so I added up all the likes on each day and made a bar graph to easily visualize this. The bar graph is shown below:



Instructions:

1. Make sure everything is installed (ex. Facebook, Datetime, plotly)
2. run code in terminal, code should run and plotly should pop up on your screen with the visualization.
3. if visualization doesn't come up, pull up google chrome and run it again
4. If code doesn't run then you'll need a new Facebook access token… go to https://developers.facebook.com/tools/explorer?method=GET&path=me%3F&version=v2.11 and click get token and then click get access token. Copy and paste it into kevin_info python file and save it. Then try to run it again.

Documentation for each function:

I had two functions in my project.

Function 1: get_my_facebook_information

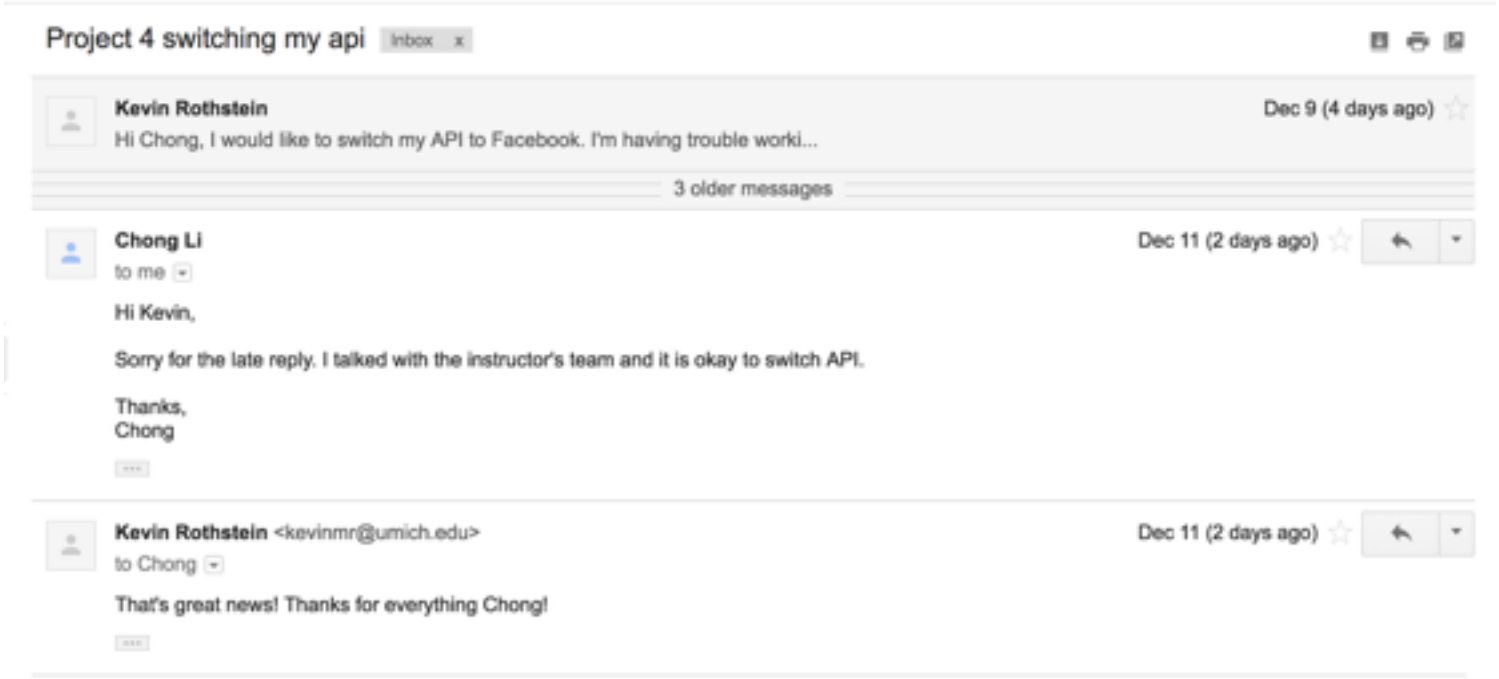
This function retrieves data from the Facebook access token and then saves it into the cache. Then it pulls the user_id, day, and amount of likes from the data and saves it in a sorted manner in a json file.
Function 2: get_my_instagram_information

This function is essentially the same thing as the first function. It uses the Instagram access token to pull data from my account and save it in a cache file. Then I pull the user_id, day the picture was posted, and the amount of likes. I then save it in a sorted manner into a json file.

Document all resources:

Date	Issue Description	Location of Resource	Result (did it solve the issue)
12/11/17	Kept getting error that says “Aw, snap! We don't have an account for ‘’." when trying to make my bar graph	https://stackoverflow.com/questions/42771076/why-python-line-plot-shows-dont-have-an-account-plot-ly	Yes, I had to add this line to access my account: py.sign_in('kevrothstein', '4SXrrz7CRGQqRyhhrGEA')
12/11/17	Did not know who to add x and y access through Plotly	https://plot.ly/python/figure-labels/	Yes, this helped me write the correct code to add my correct x and y axis
12/07	Had trouble finding Facebook access token and needed a resource to help guide me	https://towardsdatascience.com/how-to-use-facebook-graph-api-and-extract-data-using-python-1839e19d6999	Yes, this was an excellent resource to walk me through accessing a Facebook access token

Email giving me permission to switch my API to Facebook:



Project 4 switching my api Inbox x

Kevin Rothstein Dec 9 (4 days ago)

Hi Chong, I would like to switch my API to Facebook. I'm having trouble worki...

3 older messages

Chong Li Dec 11 (2 days ago)

to me

Hi Kevin,

Sorry for the late reply. I talked with the instructor's team and it is okay to switch API.

Thanks,
Chong

Kevin Rothstein <kevinmr@umich.edu> Dec 11 (2 days ago)

to Chong

That's great news! Thanks for everything Chong!