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MP1 – Project Write-up

For project one, I created a program that searches Twitter for posts relating to political figures and runs sentiment analysis on the results. Twitter is known as an excellent place to conduct research into current events, as it is common medium that has hundreds of millions of contributors regularly posting their thoughts and opinions in a compact fashion. I decided to use Twitter in order to conduct mini opinion polls relating to current Presidential candidates, one of the biggest topics being debated today. I ended up creating two variations on my original project idea: one that takes a prompt from the user, then searches Twitter for it and runs sentiment analysis on it before immediately returning the results, and one that runs over a predefined length of time and periodically searches and analyses for a list of search prompts and saves the results into text files, designed for use during an event such as a debate.

My code uses the Pattern for Python package, which both implements the Twitter API and provides sentiment analysis functions. Using Pattern, my programs send a request to Twitter for tweets and accompanying data relating to the prompted searches. Upon retrieval, the program runs analysis on the tweets, and depending on which program, either prints it to the command line or saves the results into text files. I primarily utilized lists, as it was a simple and effective way to temporarily store the data, and Python provides plenty of functions allowing for manipulation of them. Either program can be ran as a Python script in the command line in Ubuntu, and the user follows prompts to provide the required information to the program.

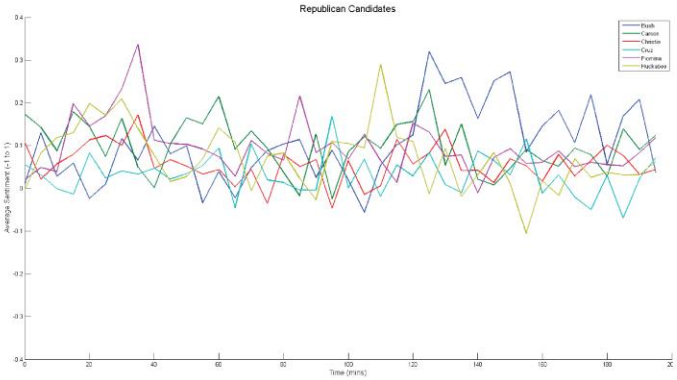
Program 1 outputs:

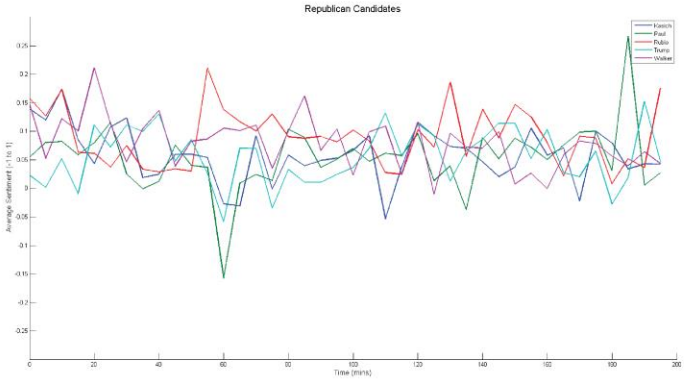
```
This program measures the average sentiment of the populous towards a political
candidate through the analysis of recent tweets

Enter the name of a candidate:
> trump
Enter number of tweets to search (max = 100)
> 10
Result:
Somewhat negative
-0.0108928571429 out of -1.0
Do you want to read the tweets? (y/n)
> n
```

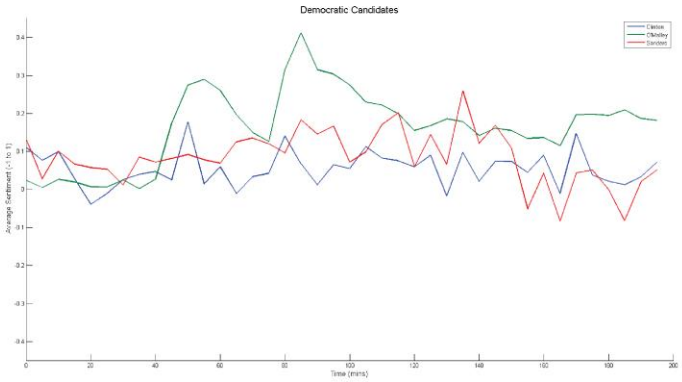
Program 2 outputs:

```
brett@brett-VirtualBox:~/Documents/pyscripts/SoftwareDesignFall15/mop1$ python pr
oject1_2.py
Running...
Complete
```

It outputs text files with the date and time as the file name: one file contain just the sentiment analysis and search prompt, and one containing all the tweet info. Plots I generated in MATLAB using the data I collected during a Presidential debate are below.







Overall, my project went pretty well. I ended up spending a lot of time on it at the beginning of the project time period, but other work caught up with me later on, and I didn't have as much time to improve on it as I would have liked. Improvements that could have been made include data visualization within Python and finding more elegant methods of completing tasks within my code, and I would have implemented these if I had more time to work on the project. I thought it was fairly well scoped, as I learned a lot while working on the scripts.