

Capstone Project

The Battle of Neighborhoods

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Introduction

New York City besides having the world's major commercial, financial and cultural centers also has some of the best Universities of the world like Columbia University, New York University etc.

Being an undergraduate student from India, I'm planning to pursue my higher studies in the U.S.A and mainly aiming to get a seat in the New York University. And hence would like to get familiar with the place beforehand.

In this process, using knowledge from these learnt courses I would like to list out the top Indian Cuisine restaurants in New York City.

Problem Statements

List out the places in New York city where Indian Restaurants can be found and also find out which place would be preferred to stay if a person prefers Indian Cuisine ?

Data Selection

The following data will be used in this project

1) http://cocl.us/new_york_dataset, (this dataset contains latitudes and longitudes of the neighbours of New York city.)

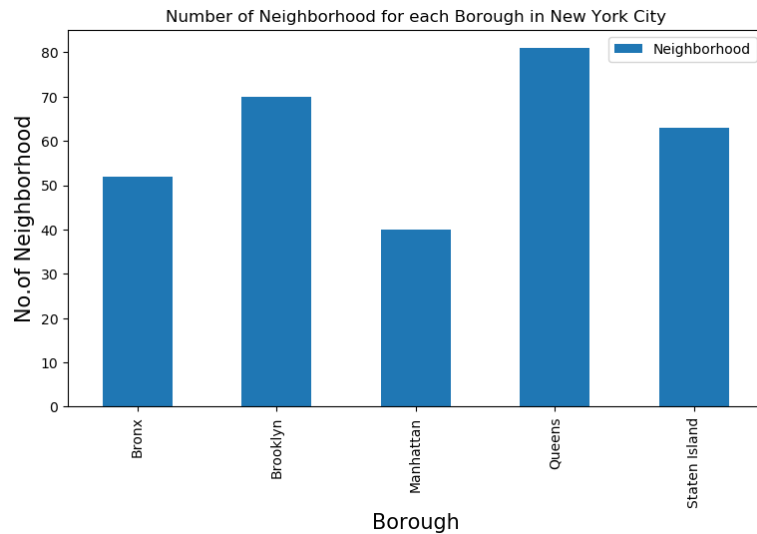
2) Foursquare API, (this dataset contains all the venues of restaurants in neighbourhood and using this we can shortlist Indian restaurants venues)

3) <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm> (contains maps which can be used for visualization)

Methodology

The following steps have been followed to arrive at the final list of restaurants

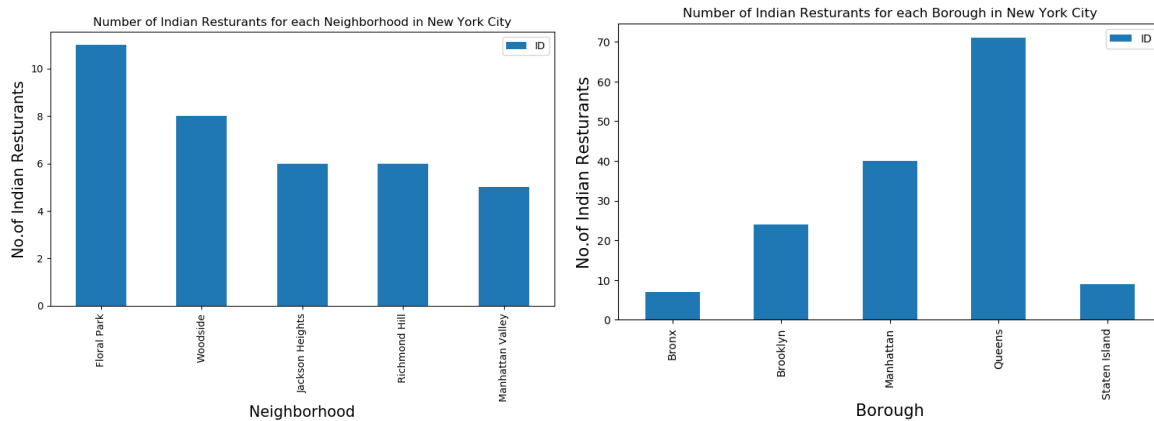
1)The New York city data has been collected from the above given link and from here I've arrived to the below graph



2)Using the FourSquare API ,all the venues in the above dataset are collected

3)Then the Indian restaurants venues are seperated.

4)Again using the FourSquare we get the ratings ,likes etc for the above Indian restaurants which leads to the below result.



Out[56]:

	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
0	Bronx	Woodlawn	4c0448d9310fc9b8bf1dc781	Curry Spot	5	7.8	10
1	Bronx	Parkchester	4c194831838020a13e78e561	Melanies Roti Bar And Grill	3	5.8	2
2	Bronx	Spuyten Duyvil	4c04544df423a593ac83d116	Cumin Indian Cuisine	13	6.1	9
3	Bronx	Concourse	551b7775498e86c00a0ed2e1	Hungry Bird	8	6.9	3
4	Bronx	Unionport	4c194831838020a13e78e561	Melanies Roti Bar And Grill	3	5.8	2
5	Bronx	Unionport	0		0	0.0	0
6	Brooklyn	Bay Ridge	4b5a4dc8f964a520a2bb28e3	Taj Mahal	38	8.4	26
7	Brooklyn	Brighton Beach	4af0d31bf964a5207ddf21e3	Pak Nasheman	9	7.5	4
8	Brooklyn	Flatbush	52213c4211d295d4c57a507c	Ashoka Grill	8	7.0	14
9	Brooklyn	Flatbush	564d283d498e86e851df79d87	Great Indian Curry	3	6.8	2
10	Brooklyn	East Flatbush	512a9ea9e4b004fb8eeb84e5	Silver Krust	12	8.1	3
11	Brooklyn	Kensington	4db0f4371e729fcc56497f20	Mashallah	19	7.5	7

5)The above dataset has been sorted according to the average ratings and then has been mixed with the original new york data set to obtain the locations latitudes and longitudes.

6)Finally these locations have been plotted on the Map

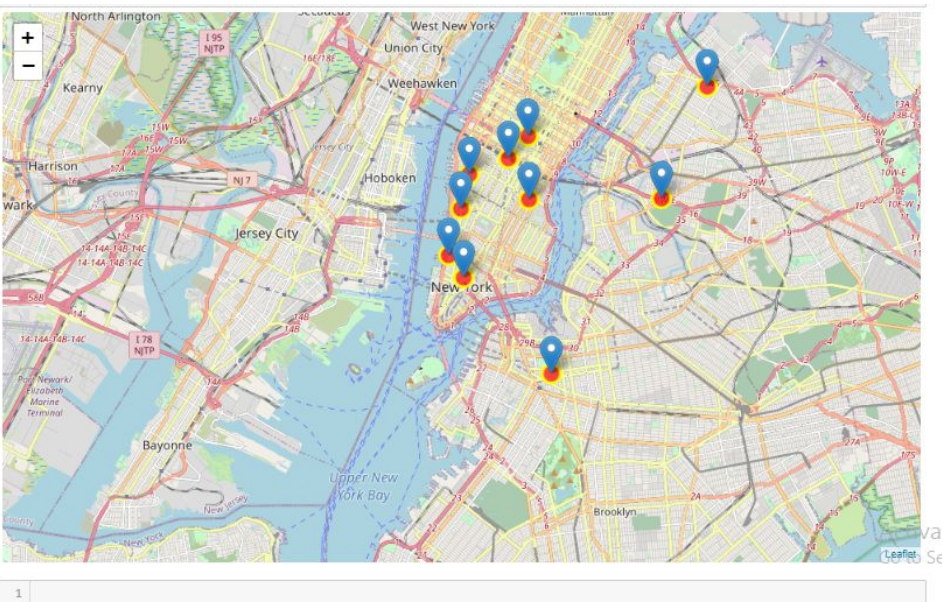
Results

The following is the list of top 10 restaurants,which borough and neighbourhood they are located in along with their ratings.

Out[82]:

	Borough	Neighborhood	Latitude	Longitude	Avg_Rating
0	Manhattan	Civic Center	40.715229	-74.005415	9.100000
1	Manhattan	Tribeca	40.721522	-74.010683	9.100000
2	Queens	Astoria	40.768509	-73.915654	9.000000
3	Queens	Blissville	40.737251	-73.932442	9.000000
4	Manhattan	West Village	40.734434	-74.006180	8.800000
5	Manhattan	Midtown South	40.748510	-73.988713	8.800000
6	Manhattan	Midtown	40.754691	-73.981669	8.800000
7	Manhattan	Gramercy	40.737210	-73.981376	8.733333
8	Brooklyn	Fort Greene	40.688527	-73.972906	8.700000
9	Manhattan	Chelsea	40.744035	-74.003116	8.700000

These on the map are shown below



The details of restaurant with top rating and likes respectively are shown below

Now we will find the restaurant with max rating

```
In [59]: 1
          2 indian_rest_stats_ny_csv.iloc[indian_rest_stats_ny_csv['Rating'].idxmax()]

Out[59]: Borough      Manhattan
          Neighborhood  Tribeca
          ID            4bbb9dbded7776b0e1ad3e51
          Name          Tamarind TriBeCa
          Likes          589
          Rating         9.1
          Tips           146
          Name: 40, dtype: object
```

Below is the code to find restaurant with maximum likes

```
In [60]: 1
          2 indian_rest_stats_ny_csv.iloc[indian_rest_stats_ny_csv['Likes'].idxmax()]

Out[60]: Borough      Manhattan
          Neighborhood  Midtown
          ID            49d91c12f964a520015e1fe3
          Name          The Kati Roll Company
          Likes          837
          Rating         8.8
          Tips           260
          Name: 37, dtype: object
```

Therefore Manhattan would be a preferred place if the person wants to have Indian Cuisine and the top 10 restaurants around New York city have been listed above.

Conclusion

There has been a lot of learning process throughout this project and the results could be more accurate if the data was a bit more larger.

The similar procedure can be used for finding restaurants of people's choice but mainly students walking into New York from different parts of world.