FINDING NEIGHBORHOOD WITH THE BEST INDIAN RESTAURANT IN NEW YORK BASED ON THE RANKING GIVEN ON THE FOURSQUARE API

ALONG WITH THAT, ALSO IDENTIFYING THE NEIGHBORHOOD WHICH HAS THE HIGHEST COUNT FOR IT'S INDIAN RESTAURANTS

Applied Data Science Capstone

IBM Data Science Professional Certificate

INTRODUCTION

As an Indian student, I wanted to visualize the extent of the spread of the Indian cuisines across the world. As we worked on the data sets which were related to the prime locations, like New York and Toronto, so I chose New York as the city of interest to find out the number of restaurants serving the Indian cuisines and based on the ratings of the visitors of these restaurants taken from the Foursquare API, in order decide the best restaurant amongst all and also to find out the neighborhood in New York city with the highest count of the Indian restaurants.

REQUIRED DATASETS

For this project the following data is used:

New York City Data that contains list Boroughs, Neighborhoods along with their latitude and longitude.

Data source: https://cocl.us/new_york_dataset

Description: This data set will be used to explore various neighborhoods of New York city.

Indian restaurants in each neighborhood of New York city.

Data source: Foursquare API

Description: By using this API we will get all the venues in each neighborhood. We can filter these venues to get only Indian restaurants.

FOURSQUARE API

Connecting to Foursquare and Retrieving Locational Data for Each Venue in Every Neighborhood.

After finding the list of neighborhoods, we then connect to the Foursquare API to gather information about venues inside each and every neighborhood. For each neighborhood, we have chosen the radius to be 1000 meters.

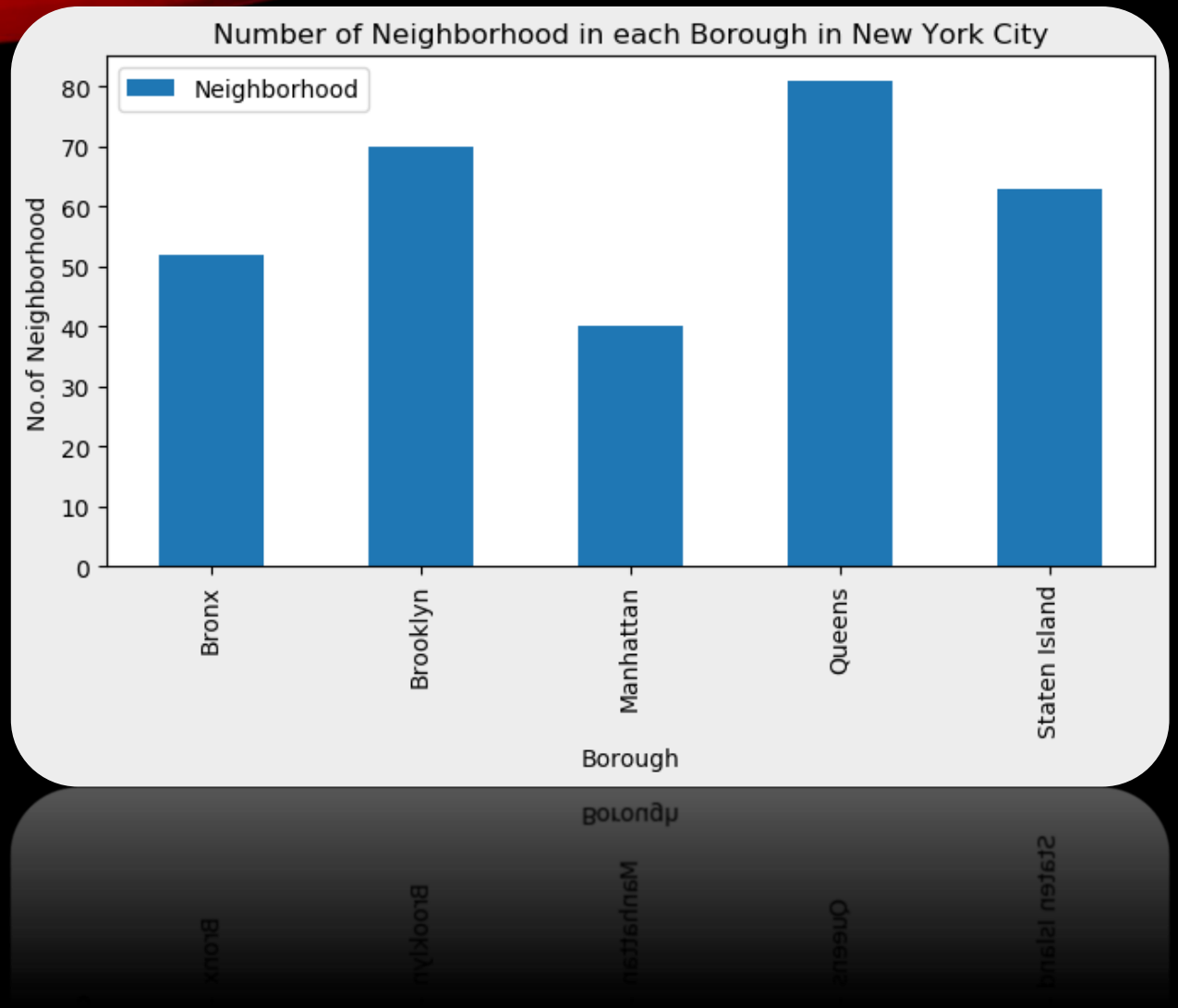
DATA PREPROCESSING

Processing the Retrieved Data and Creating a Data Frame for All the Venues inside the Scarborough

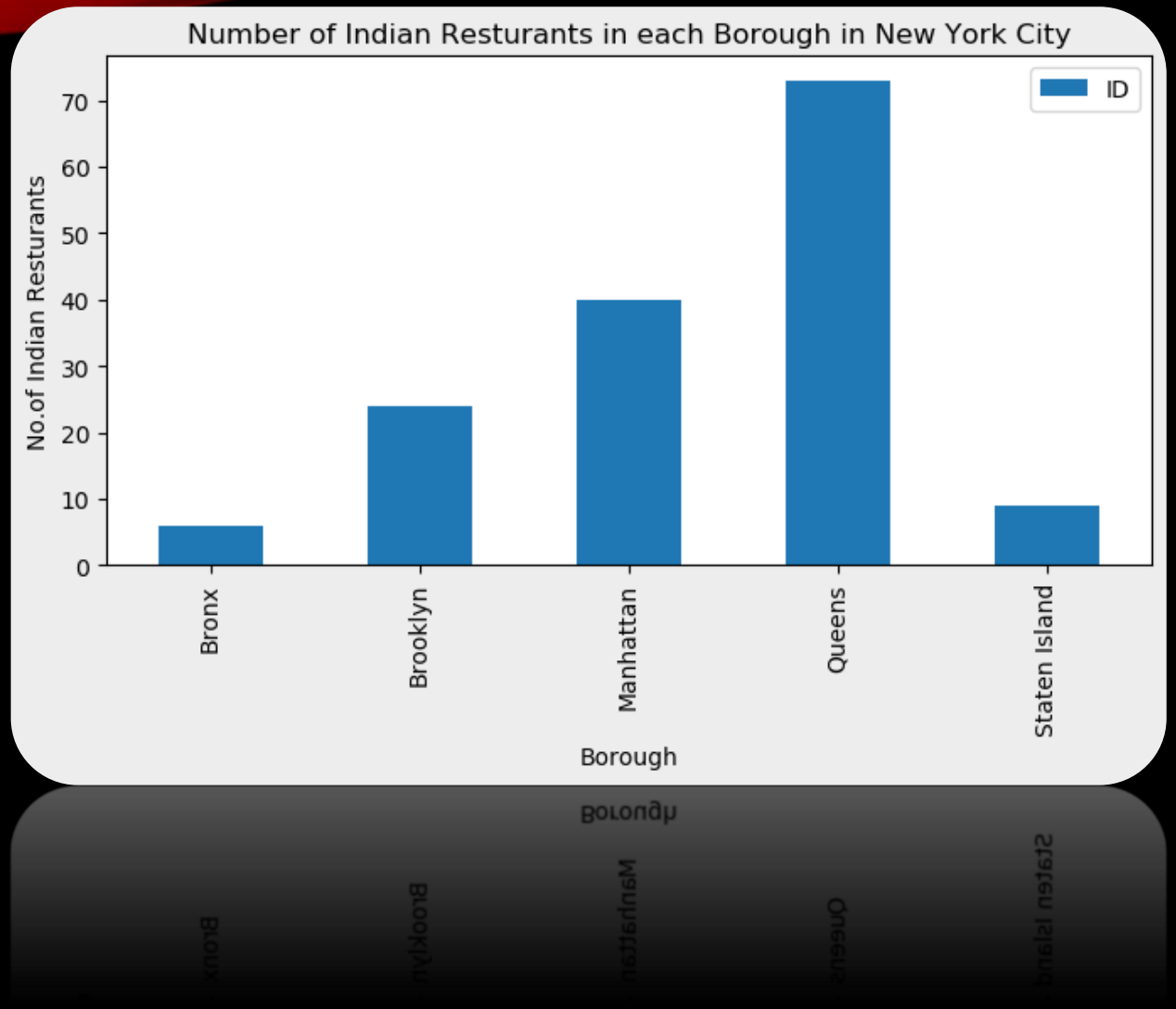
When the data is completely gathered, we will perform processing on that raw data to find our desirable features for each venue. Our main feature is the category of that venue. After this stage, the column "Venue's Category" will be One-hot encoded and different venues will have different feature-columns.

OBSERVATIONS

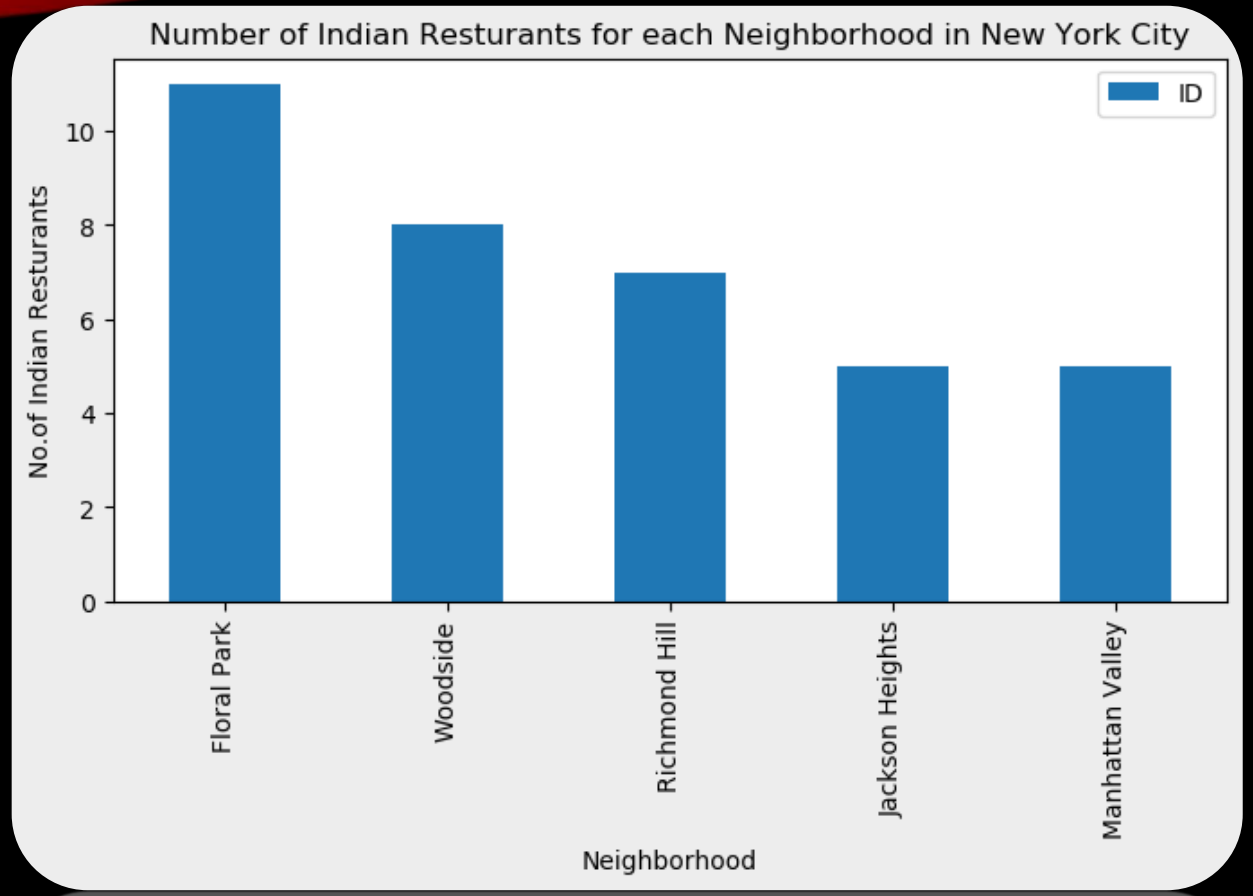
Plotted various graphs:
No of Neighborhood in NY vs Boroughs
No of Indian Restaurants in each Borough vs Boroughs
No of Indian Restaurants in each Neighborhood vs Boroughs
Average Rating of Indian Restaurants for each Borough vs Boroughs



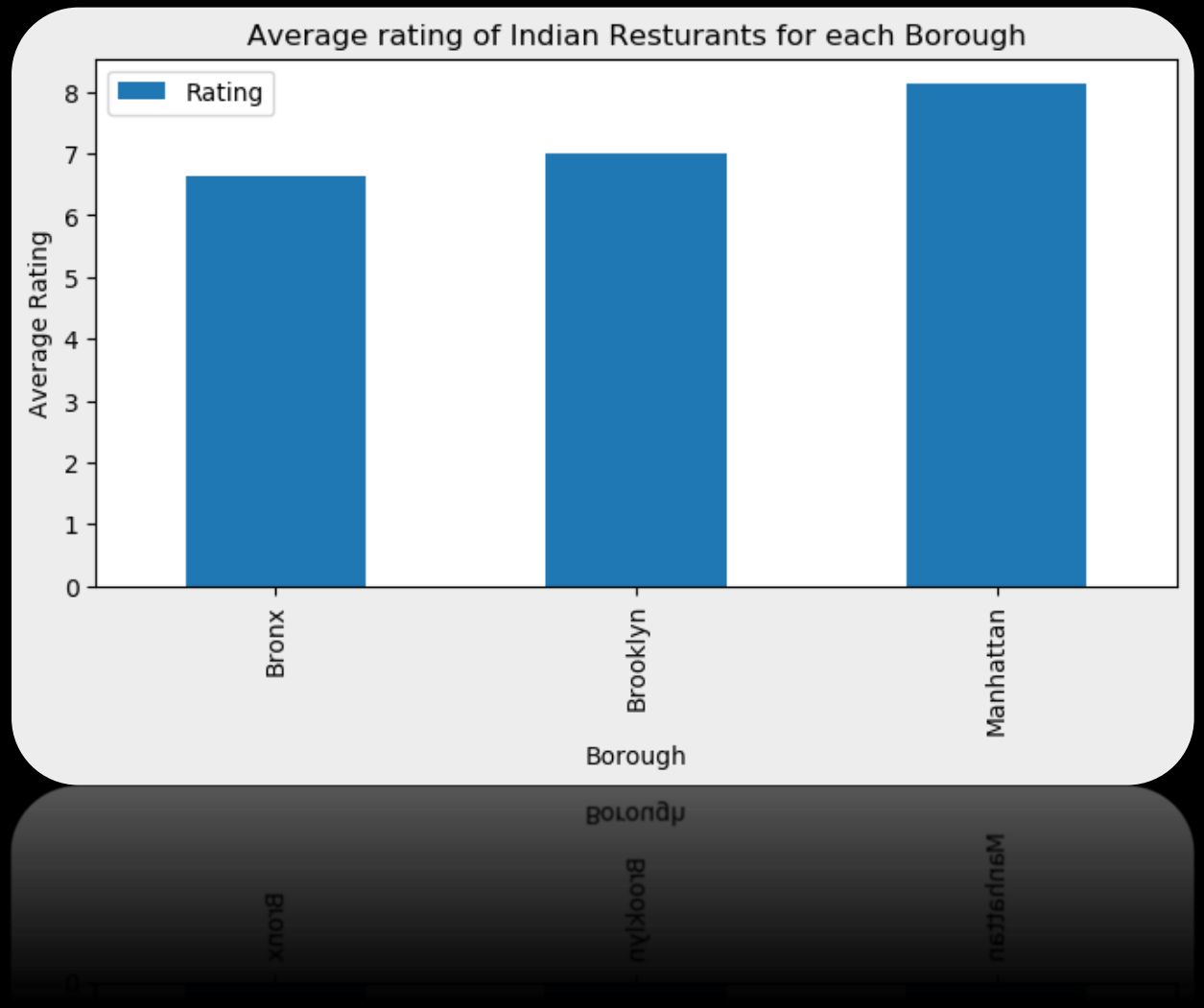
From the Plot we can infer that Queens(Borough) in New York has the highest number of Neighborhoods followed by Brooklyn, Staten Island, Bronx and than Manhattan.



From the Plot we can infer that Queens(Borough) in New York has the highest number of Indian Restaurants followed by Manhattan and Brooklyn.



From the Plot we can infer that in Queens(Borough) in New York, Floral Park has the highest number of Indian Restaurants.



	Borough	Average Rating
2	Manhattan	8.134615
1	Brooklyn	7.005263
0	Bronx	6.640000

From the Plot we can infer that in New York among all the Boroughs, Manhattan has on an average the highest rating, among other Boroughs.

	Neighborhood	Average Rating
29	Tribeca	9.1
13	Greenwich Village	8.9
33	West Village	8.8
20	Murray Hill	8.8
3	Chelsea	8.7
5	Clinton Hill	8.7
10	Fort Greene	8.7
12	Gramercy	8.7
24	Prospect Lefferts Gardens	8.6
35	Yorkville	8.5

On the basis of average ratings of the Indian Restaurants in New York:

Tribeca in Manhattan has received the maximum likes and ratings.

RESULTS

1. Gramercy(Neighborhood) in Manhattan has the received the highest tips.
2. Tribeca(Neighborhood) in Manhattan has received the maximum likes and ratings.
3. As far as the average ratings are considered than Manhattan has the highest average ratings.

Although Queens has the highest count of Indian restaurants but Manhattan has neighbors with highest ratings.

Thank you!