Battle of Neighborhood's

New York

Introduction & Business Problem

- Objective of the final assignment of IBM Capstone Project were to define a real-life business problem, scrap data from the web and use Foursquare location data to compare different neighbourhood in New York to find out which neighbourhood is suitable for starting a restaurant business.
- The problem we are trying to solve here is to find a place in New York to open a new restaurant. Opening any type of business, you need to consider so many things for example Location, Niche, population around the location chosen and so on.
- We will follow the following steps to solve this problem –
- 1) Data – Explore different sources from we will gather data.
- 2) Data Analysis on the data

Data Gathering

- **Source 1:** The source of New York city data is going to be https://cocl.us/new_york_dataset. From this source we can get the list of neighbourhoods and boroughs of New York city.

Out[13]:

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585

Data Gathering (Contd.)

- **Source 2:** The co-ordinates that we got from for New York city will be passed in Foursquare API, that will give us the list of Indian restaurants for each neighbourhood. We will then use that information in further analysing the data.

Out[27]:

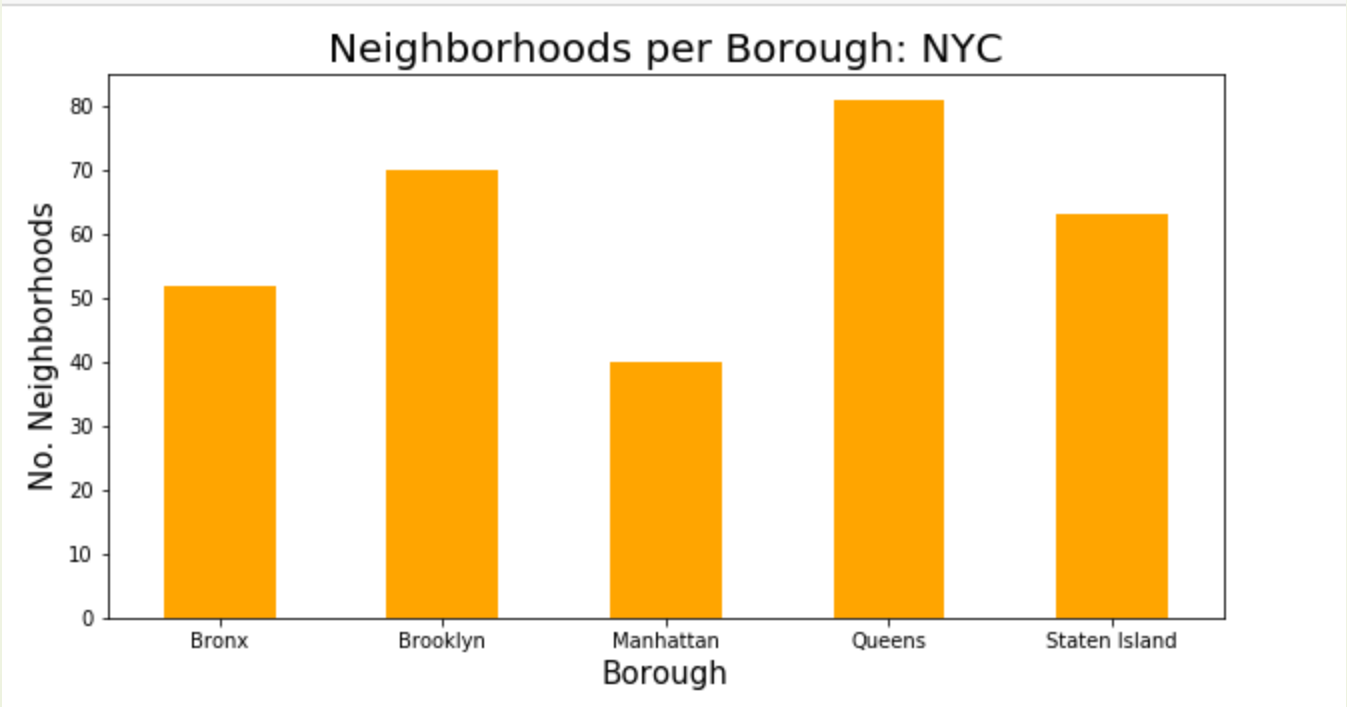
	Borough	Neighborhood	ID	Name
31	Manhattan	Civic Center	50b02338e4b047828b2277c1	Benares
32	Queens	Jamaica Hills	4c434b2bd691c9b6ef8f8f0a	Sagar Restaurant
33	Manhattan	Sutton Place	4a63bfb4f964a520b3c51fe3	Chola Eclectic Indian Cuisine
34	Manhattan	Sutton Place	4fe4fb50c2eee335e4fea69d	Moti Mahal Delux
35	Queens	Sunnyside Gardens	4c48da9f3013a59356c5f0e1	Saffron Garden

Data Gathering (Contd.)

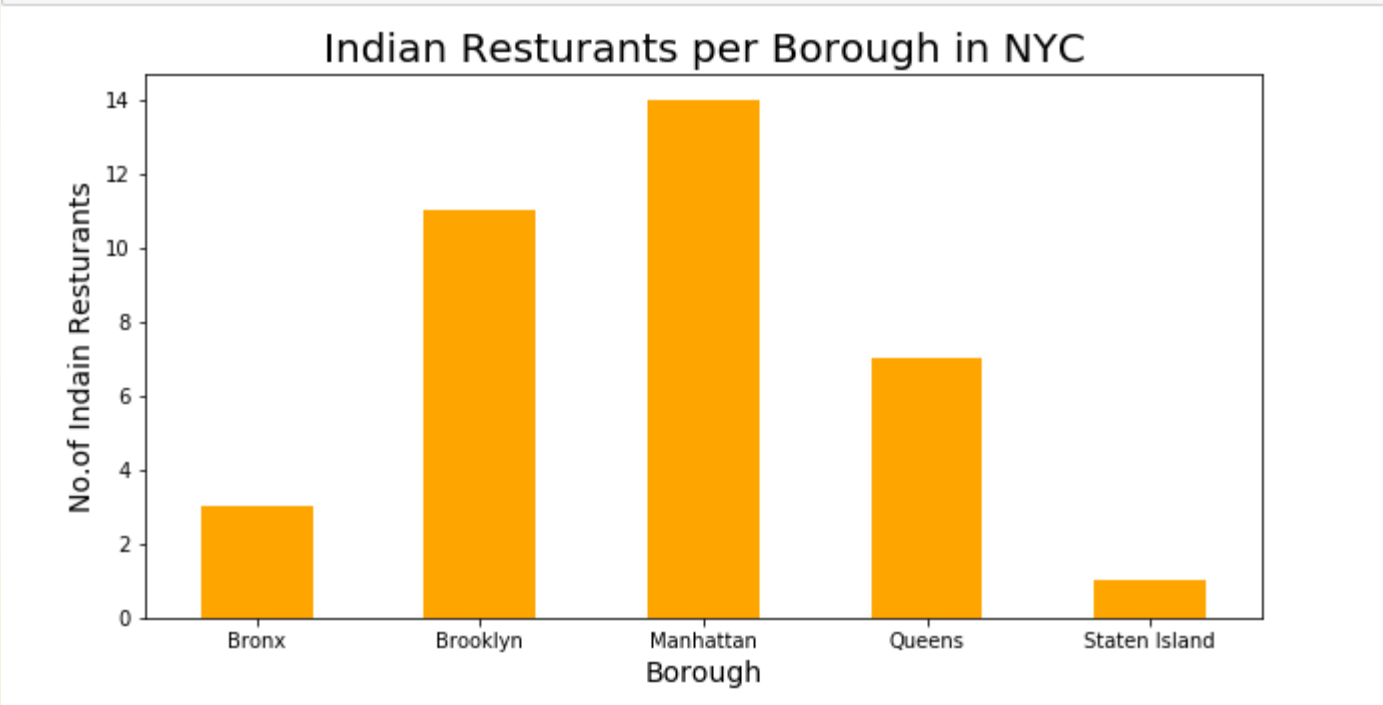
- **Source 3 :** To analyse the population of New York City scrapped the data from Wikipedia page https://en.wikipedia.org/wiki/Demographics_of_New_York_City. I used the pandas to scrap the data from the Wikipedia page.

	Jurisdiction		Population
	Borough	County	Estimate (2019)[12]
0	The Bronx	Bronx	1418207
1	Brooklyn	Kings	2559903
2	Manhattan	New York	1628706
3	Queens	Queens	2253858
4	Staten Island	Richmond	476143
5	City of New York	City of New York	8336817
6	State of New York	State of New York	19453561

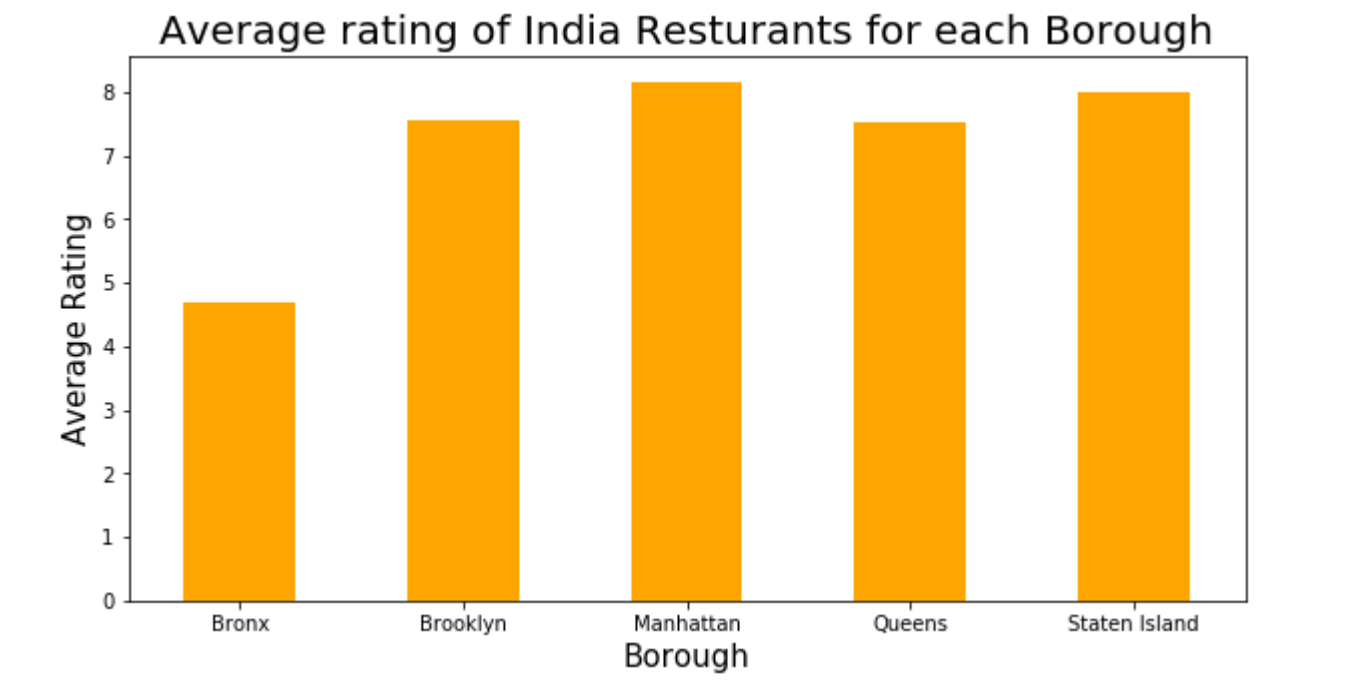
Data Analysis – Analysis of Neighbourhood & Boroughs data



Data Analysis – Analysis of Indian Restaurants data from FoureSquare API



Data Analysis – Analysis of Ratings data



Data Analysis – Analysis of population data

- Manhattan is the geographically smallest and most densely populated borough.
- Brooklyn on the western tip of long island is the city's most populous borough.
- Queens on long island north and east of Brooklyn, is geographically the largest borough.

Out[32]:

New York City's five boroughsvte							
	Jurisdiction		Population	Gross Domestic Product		Land area	
	Borough	County	Estimate (2019)[12]	billions(2012 US$)[13]	per capita(US$)	square miles	squarekm
0	The Bronx	Bronx	1418207	42.695	30100	42.10	109.04
1	Brooklyn	Kings	2559903	91.559	35800	70.82	183.42
2	Manhattan	New York	1628706	600.244	368500	22.83	59.13
3	Queens	Queens	2253858	93.310	41400	108.53	281.09
4	Staten Island	Richmond	476143	14.514	30500	58.37	151.18
5	City of New York	City of New York	8336817	842.343	101000	302.64	783.83

Conclusion

- This analysis is performed on limited data. This may be right or may be wrong. But if good amount of data is available there is scope to come up with better results. If there are lot of restaurants probably there is a lot of demand. Brooklyn d Manhattan has high concentration of restaurant business. Very competitive market. Bronx, Queens and Staten island also has good number of restaurants but not as many as required. So we can explore this area.
- But looking at data that we have now I will recommend opening an Indian restaurant in
- **First Choice-** Queens
- **Second Choice -** Staten Island