Capstone Project - The Battle of Neighborhoods

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1.Introduction

- ### Background

  New York City's demographics show that it is a large and ethnically diverse metropolis. It is the largest city in the United States with a long history of international immigration. New York City was home to nearly 8.5 million people in 2014, accounting for over 40% of the population of New York State and a slightly lower percentage of the New York metropolitan area, home to approximately 23.6 million. Over the last decade the city has been growing faster than the region. The New York region continues to be by far the leading metropolitan gateway for legal immigrants admitted into the United States. Throughout its history, New York City has been a major point of entry for immigrants; the term "melting pot" was coined to describe densely populated immigrant neighborhoods on the Lower East Side. As many as 800 languages are spoken in New York, making it the most linguistically diverse city in the world. English remains the most widely spoken language, although there are areas in the outer boroughs in which up to 25% of people speak English as an alternate language, and/or have limited or no English language fluency. English is least spoken in neighborhoods such as Flushing, Sunset Park, and Corona

- ### Problem Statement

  With it's diverse culture , comes diverse food items. There are many resturants in New york City, each belonging to different categories like Chinese , Indian , French etc.

So as part of this project , we will list and visualize all major parts of New York City that has great indian resturants.

2.Data acquisition and cleaning

- **Data sources**

   For this project we need the following data :

   o 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 contains the required information. And we will use this data set to explore various neighborhoods of new york city.
   o Indian resturants in each neighborhood of new york city.
      - Data source : Fousquare API
      - Description : By using this api we will get all the venues in each neighborhood. We can filter these venues to get only indian resturants.
   o GeoSpace data
      - Data source : https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm
      - Description : By using this geo space data we will get the New york Borough boundaries that will help us visualize choropleth map.

   Approach

   Collect the new york city data from
   https://cocl.us/new_york_dataset
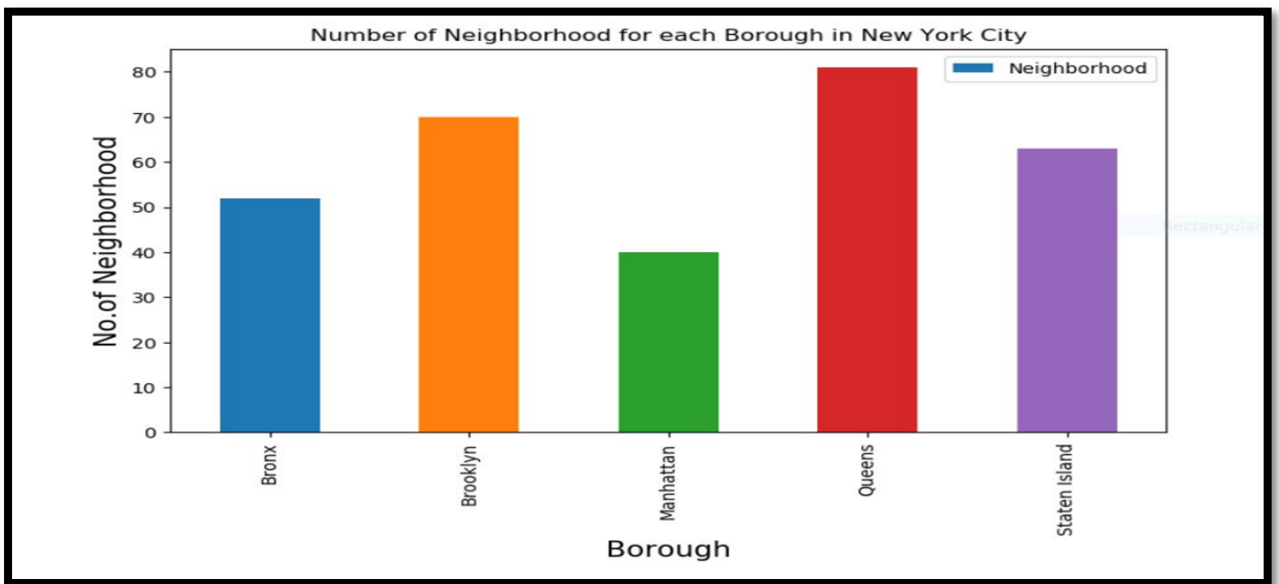   Using FourSquare API we will find all venues for each neighborhood.
   Filter out all venues that are Indian Resturants.
   Find rating , tips and like count for each Indian Resturants using FourSquare API.
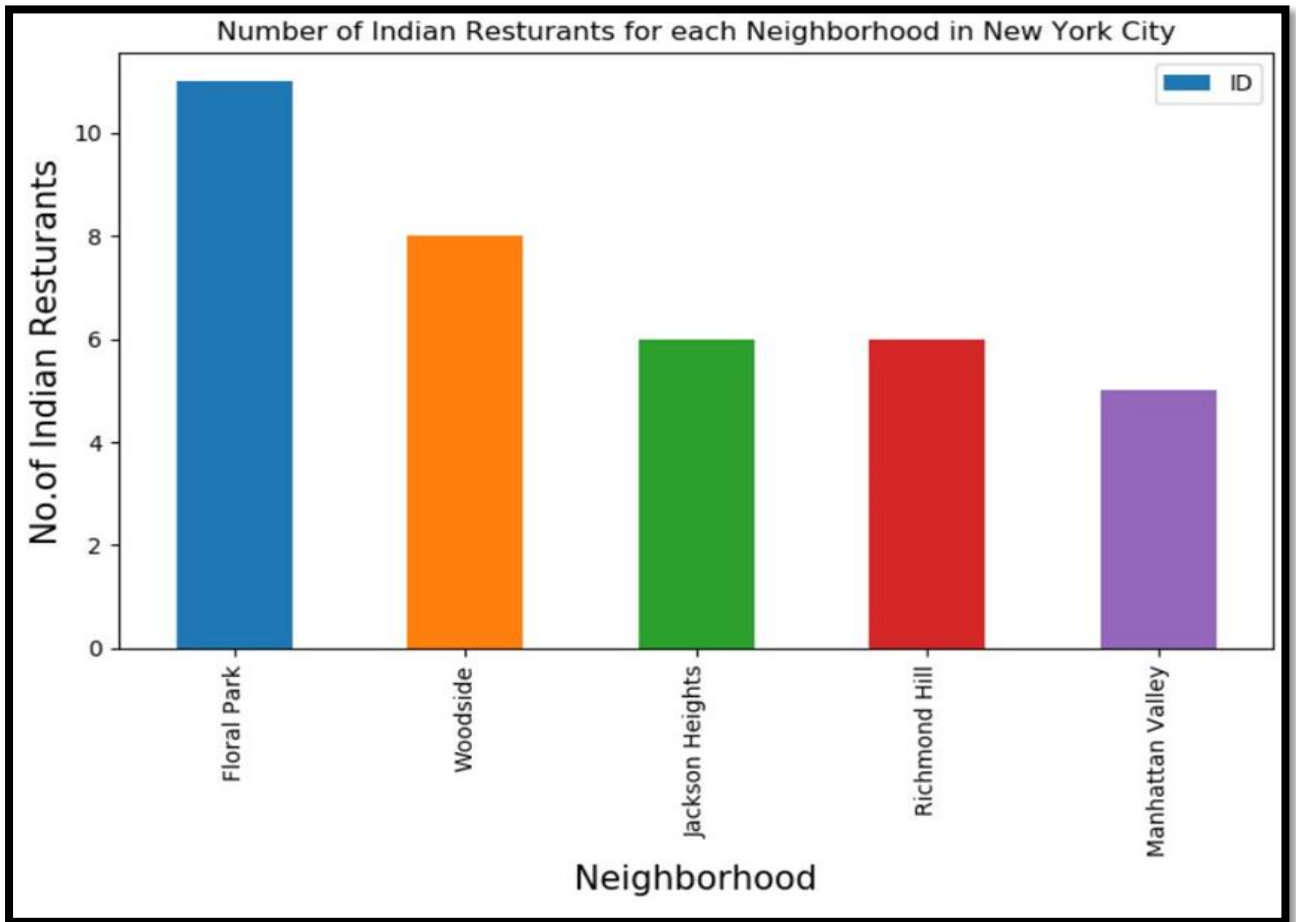   Using rating for each resturant , we will sort that data.
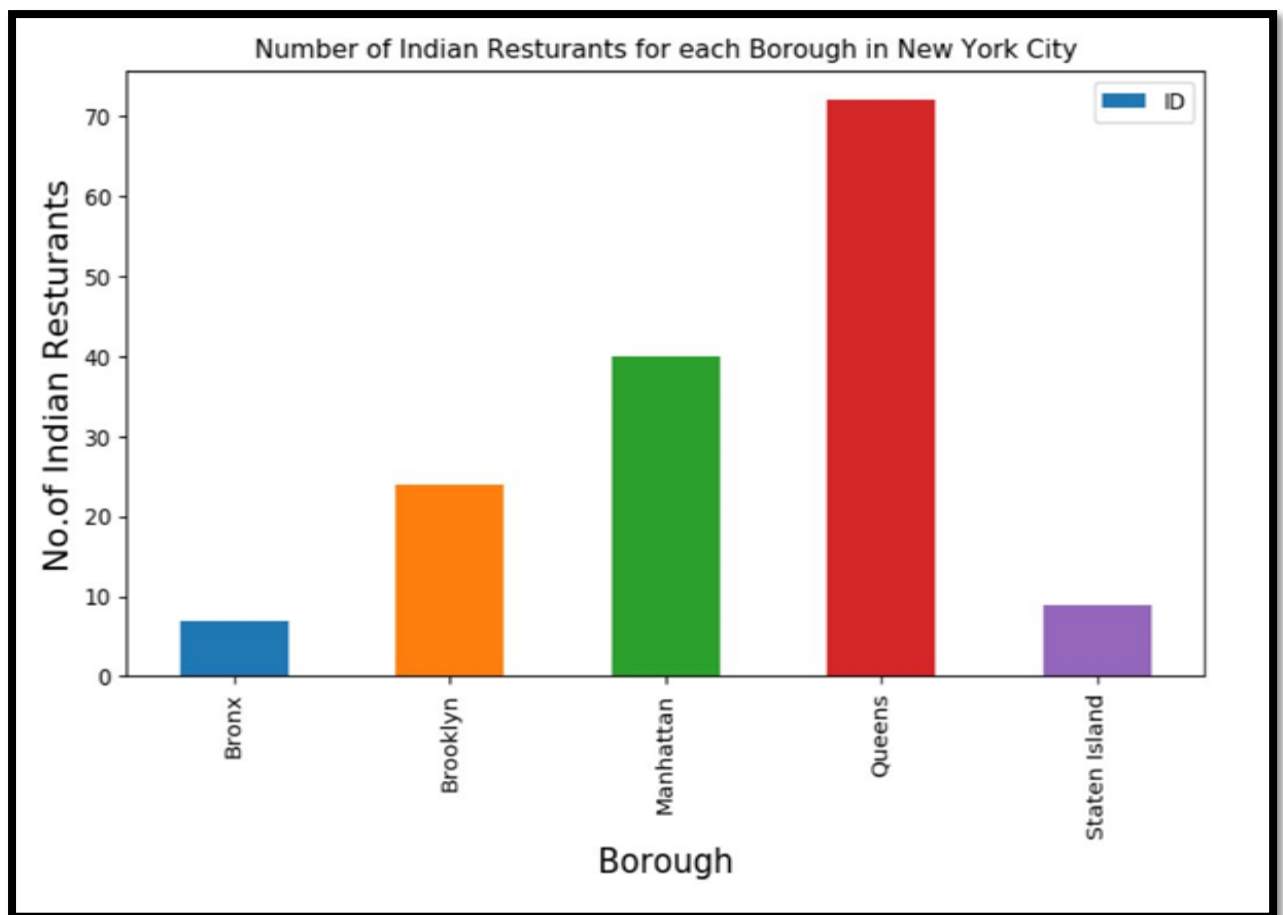   Visualize the Ranking of neighborhoods using folium library(python)
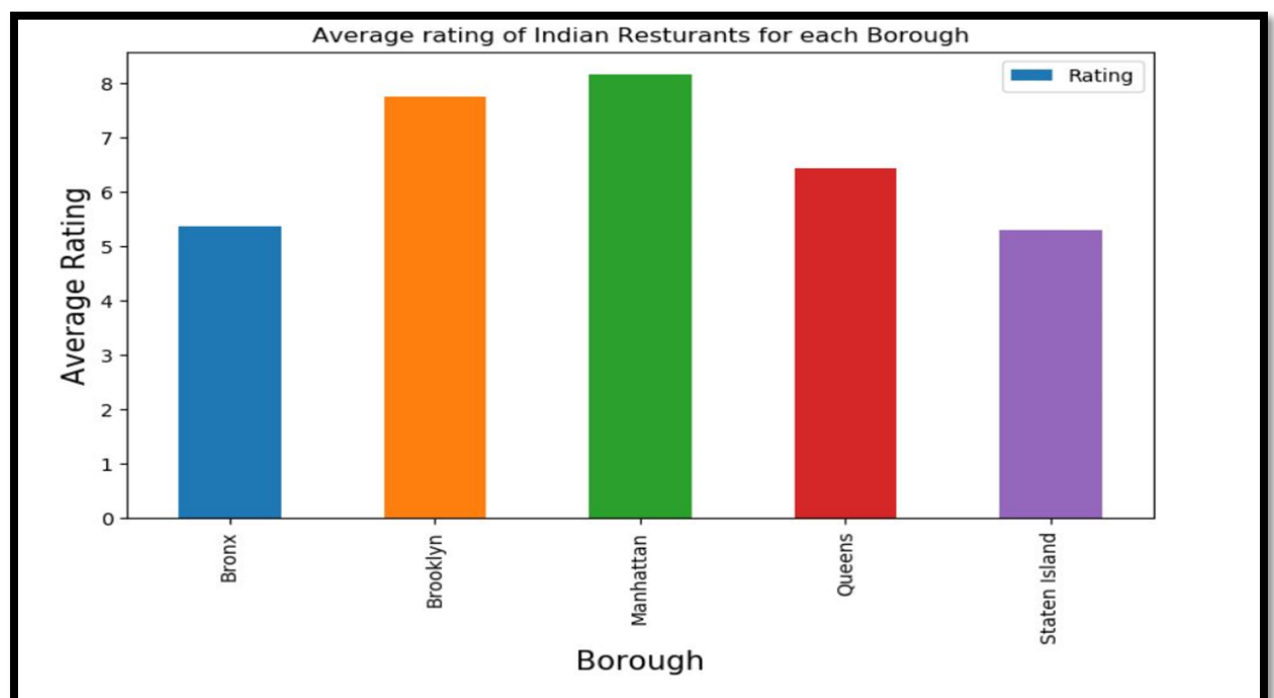
3. Loading New York City Neighborhoods

Number of Neighborhood for each Borough in New York City

4. Indian Restaurants in each Neighbourhood of New York city

Number of Indian Resturants for each Neighborhood in New York City

Indian Restaurants in each Borough of New York city

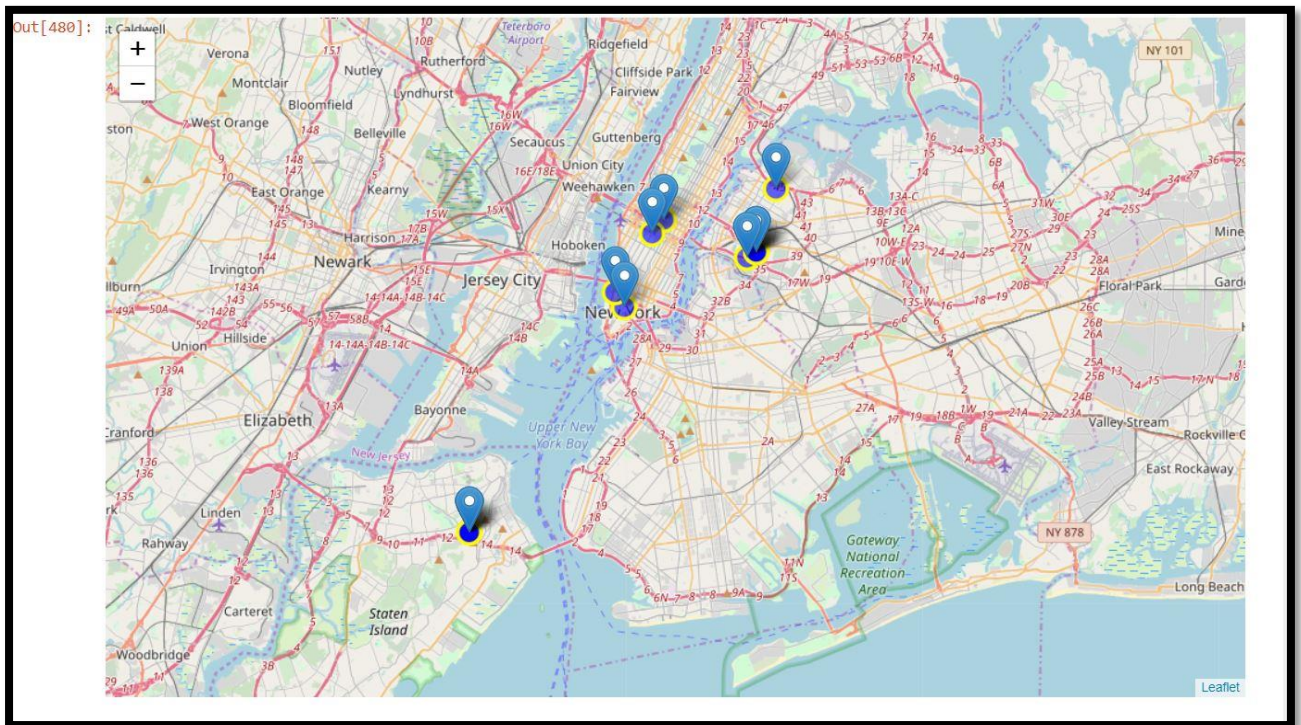Number of Indian Resturants for each Borough in New York City

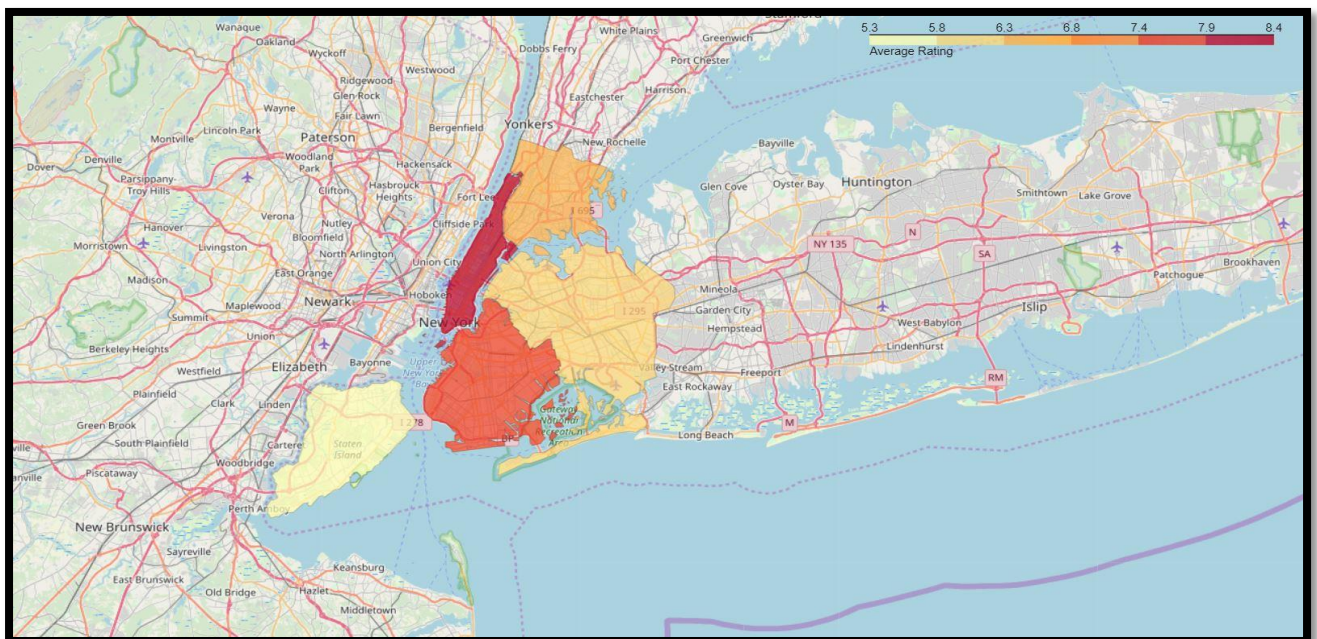## 5. Average rating of Indian Restaurants for each Borough

Average rating of Indian Resturants for each Borough

6. Visualize the top 5 Neighbourhoods.

7. Visualize Boroughs based on average Rating

Conclusion

* Astoria(Queens), Blissville(Queens), Civic Center(Manhattan) are some of the best neighborhoods for indian cuisine.

* Manhattan have potential Indian Restaurant Market

* Staten Island ranks last in average rating of Indian Restaurants.

* Manhattan is the best place to stay if you prefer Indian Cuisine.