**FINAL REPORT**

**Capstone Project - The Battle of Neighbourhoods**

**Introduction:**

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.

Many Fortune 500 corporations are headquartered in New York City, as are a large number of multinational corporations. One out of ten private sector jobs in the city is with a foreign company. New York City has been ranked first among cities across the globe in attracting capital, business, and tourists. New York City's role as the top global centre for the advertising industry is eponymously reflected as "Madison Avenue". The city's fashion industry provides approximately 180,000 employees with $11 billion in annual wages.

With its diverse culture, comes diverse food items. There are many restaurants in New York City, each belonging to different categories like Chinese, Indian, and French etc.

**Problem:**

To find the answers to the following questions:

Q1) List and visualize all major parts of New York City that has great Indian restaurants.

Q2) what is best location in New York City for Indian Cuisine?

Q3) which areas have potential Indian Restaurant Market?

Q4) which all areas lack Indian Restaurants?

Q5) which is the best place to stay if you prefer Indian Cuisine?

**Data Section:**

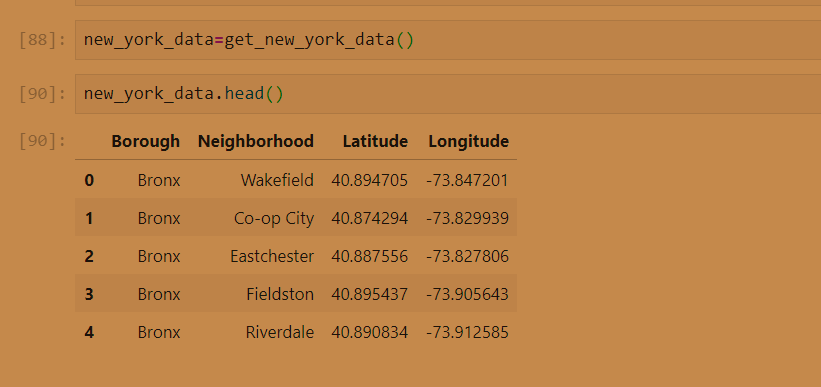
New York City's demographics show that it is a large and ethnically diverse metropolis. With its diverse culture, comes diverse food items. There are many restaurants in New York City, each belonging to different categories like Chinese, Indian, and French etc.

For this project we need the following data:

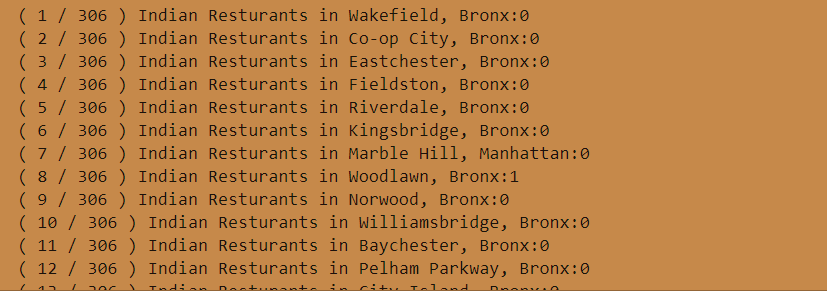
* New York City data that contains list Boroughs, Neighbourhoods along with their latitude and longitude.
* Data source : <https://cocl.us/new_york_dataset>
* Description: This data set contains the required information. And we will use this data set to explore various neighbourhoods of New York City
* Indian restaurants in each neighbourhood of New York City.
* Data source : Foursquare API
* Description: By using this API we will get all the venues in each neighbourhood. We can filter these venues to get only Indian restaurants.
* 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.

**Methodology:**

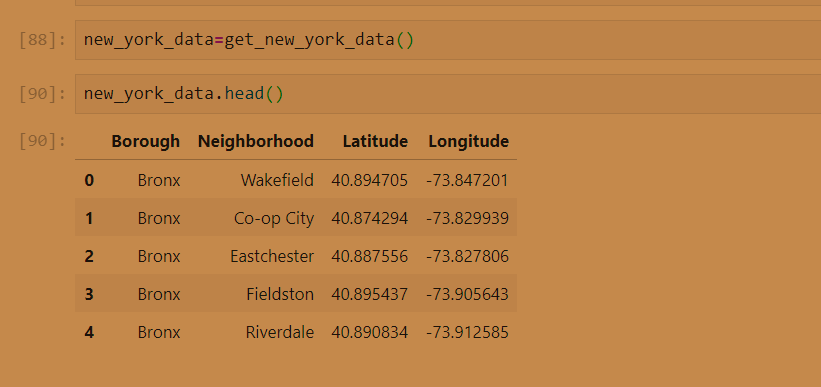
1. We begin by collecting the New York city data from the following link "[https://cocl.us/new\_york\_dataset"](https://cocl.us/new_york_dataset%22)
2. We will find all venues for each neighbourhood using Foursquare API



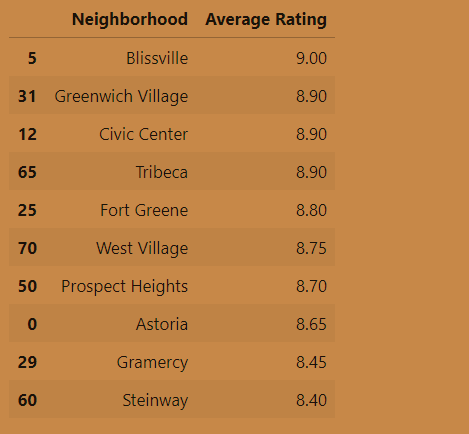
1. We will then filter out all venues with Indian restaurant by iterating over Newyork dataset.



1. Next using Foursquare API, we will find the Ratings, Tips, and Number of Likes for all the Indian Restaurants.

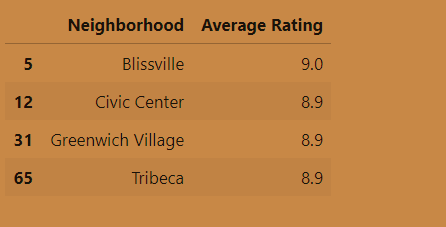


1. We will Group by Neighbourhoods and Borough .

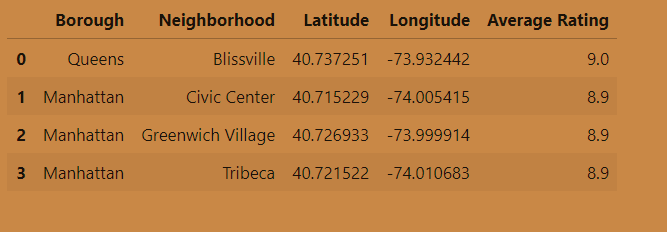




1. Next we will consider all the neighbourhoods with average rating greater or equal 8.9 to visualize on map.

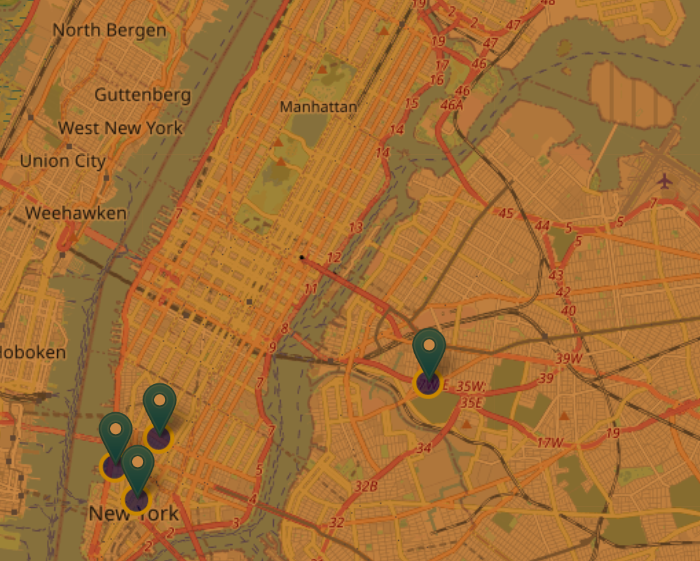


1. We will join this dataset to original New York data to get longitude and latitude for Mapping.

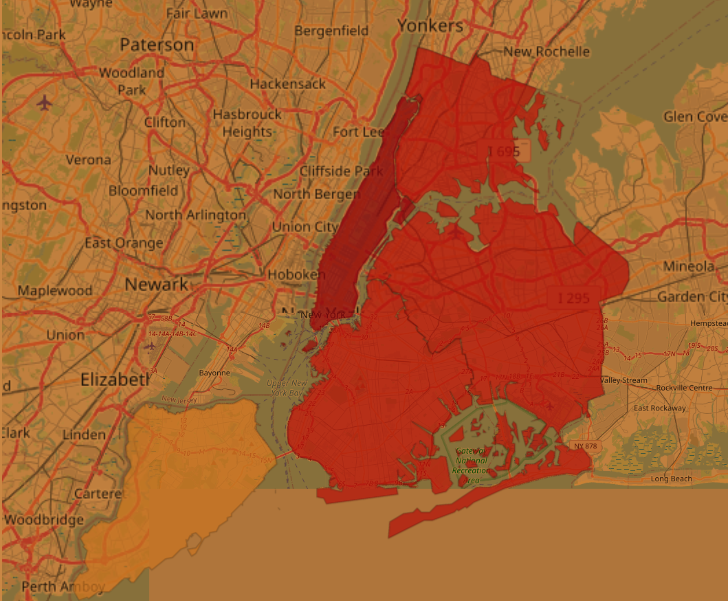


1. Finally, we will visualize the Neighbourhoods and Borough based on average Rating using python’s Folium library.

Neighbourhoods based on average rating:



Borough based on average rating(Chloropeth Map):

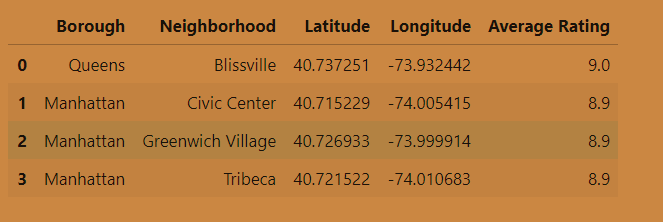


**Result**

So now we can answer the questions asked above in the Questions section:

Answers:

1. The following location in New York City has great Indian restaurants.(Basis on Rating).



#### Blissville(Queens), Civic Centre(Manhattan), Greenwich Village(Manhattan), Tribeca(Manhattan) are some of the best neighbourhoods for Indian cuisine.

#### Manhattan have potential Indian Restaurant Market.

#### Erasmus ranks last in average rating of Indian Restaurants.

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