

Capstone - The Battle of Neighborhoods

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.

Due to its diversity, here are different kinds of restaurants in New York city which offers different cuisines. Italian, chinese, Indian, Mediterranean to name a few.

- **Business Problem**

The business problem we are currently posing is: how could we provide support to different people to list and visualise all major parts of New York City that has great Chinese restaurants?

Reference: (https://en.wikipedia.org/wiki/Demographics_of_New_York_City)

Data section

For this project we need following data:

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

Data source : <https://data.cityofnewyork.us/api/views/7t3b-yvww/rows.json?accessType=DOWNLOAD>

Description : This data set contains the required information. And we will use this data set to explore various neighborhoods of new york city.*

- **Chinese resturants in each neighborhood of new york city:**

Data source : Foursquare APIs

Description : By using this api we will get all the venues in each neighborhood. We can filter these venues to get only Chinese resturants.

- **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 the map

Approach

- Collect the new york city data
- Using FourSquare API we will find all venues for each neighborhood.
- Filter out all venues that are Indian Restaurants.
- Find rating , tips and like count for each Indian Restaurants using FourSquare API.
- Using rating for each restaurant , we will sort that data.
- Visualize the Ranking of neighborhoods using folium library(python)

Questions that can be asked using the above mentioned datasets

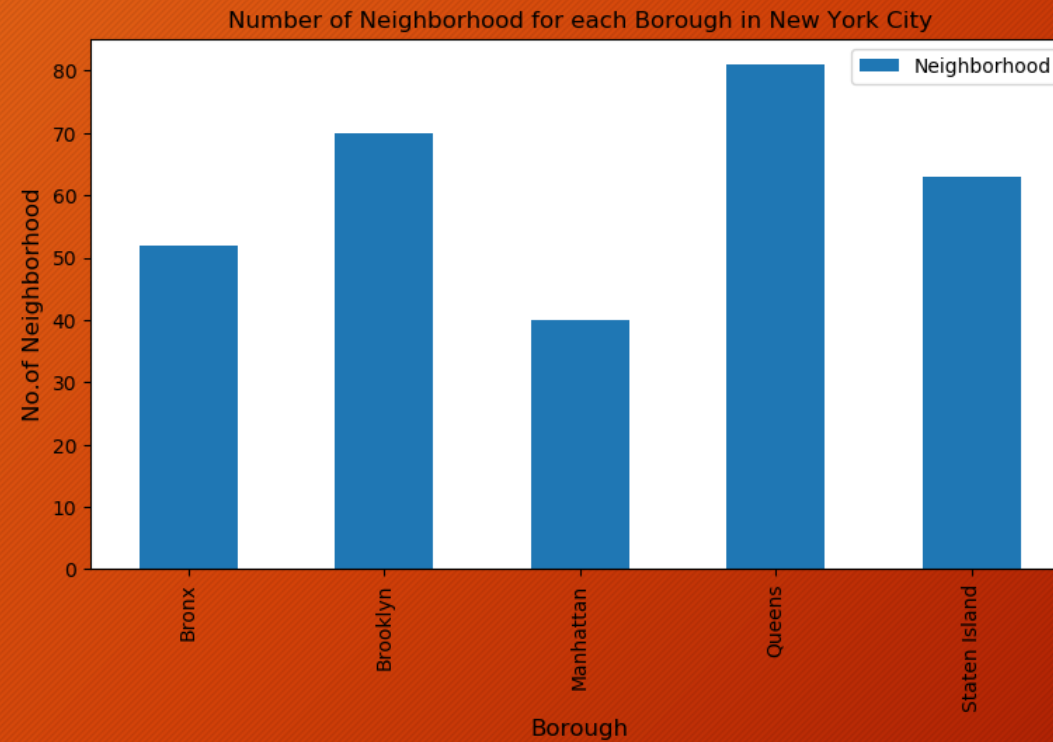
- What is best location in New York City for Chinese Cuisine ?
- Which areas have potential Chinese Restaurant Market ?
- Which all areas lack Chinese Restaurants ?
- Which is the best place to stay if I prefer Chinese Cuisine ?

Analysis

- Full Analysis and code can be found here: <https://github.com/dsinghra123/DataScienceCapstone/blob/master/Capstone-The%20Btl%20of%20Nborhoods%20Notebook.ipynb>

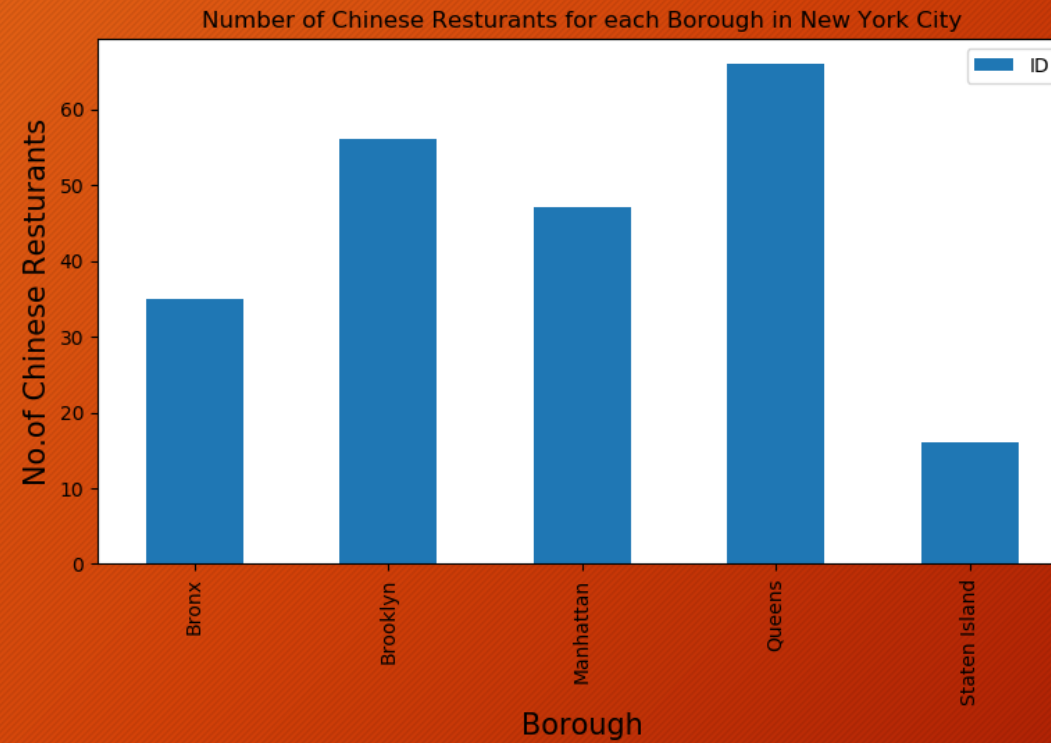
Results

1. We see that Queens has the highest number of Neighbourhoods



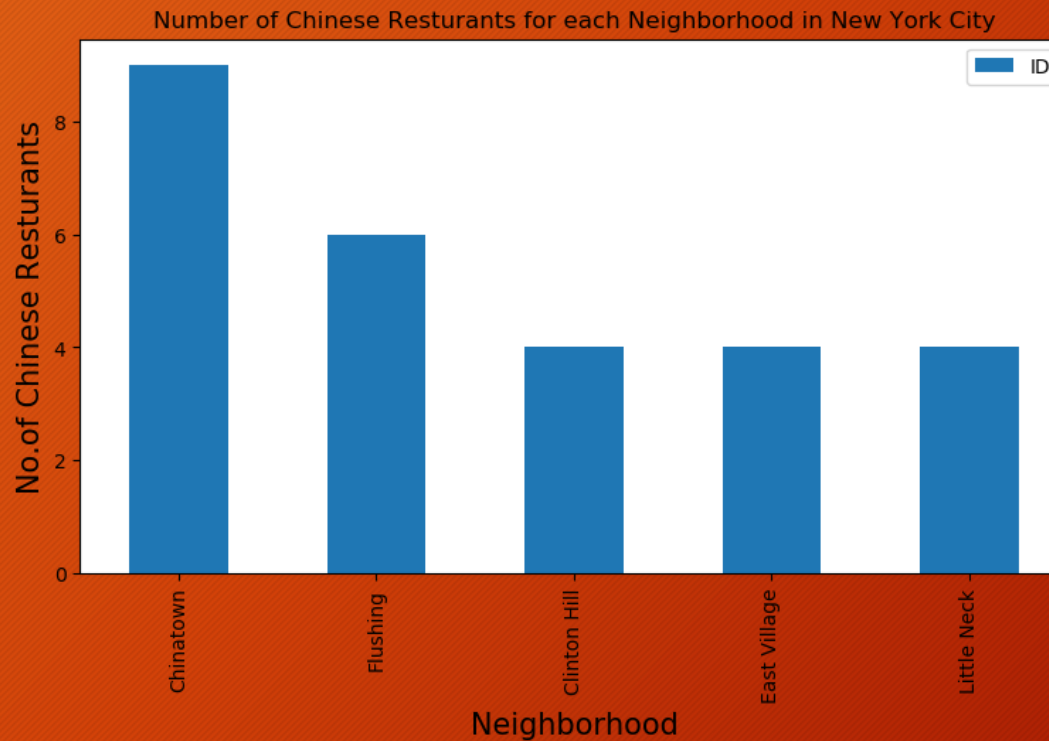
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2. Also, Queens has the highest number of Chinese Restaurants



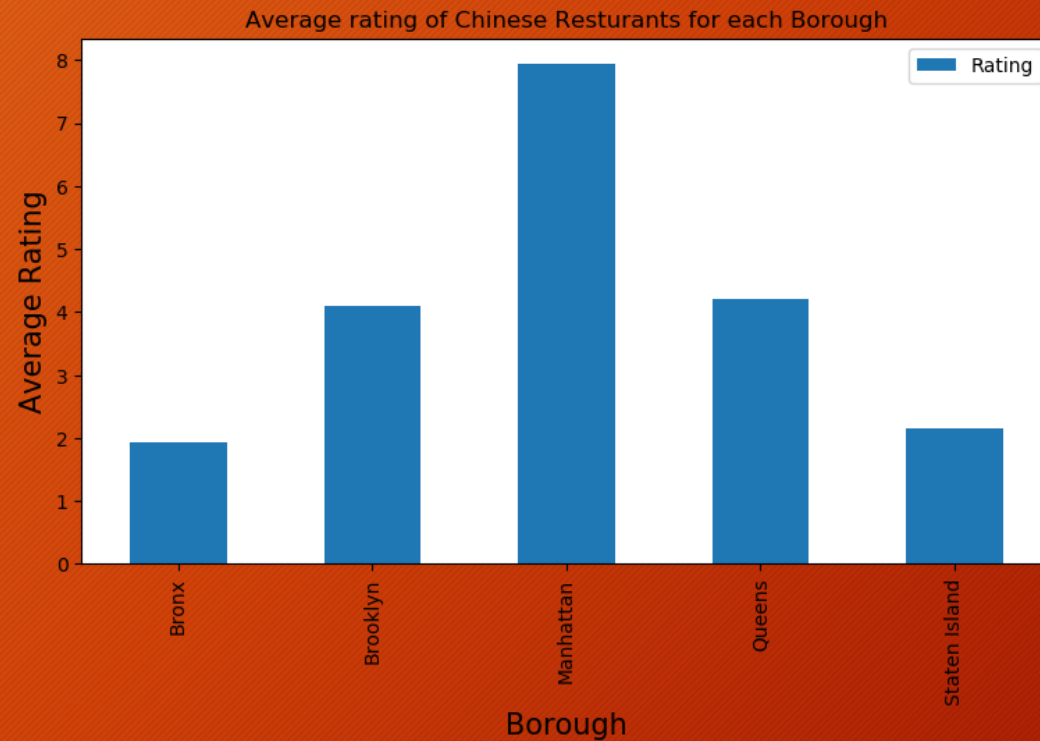
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3. Chinatown in Manhattan has the highest number of Chinese Restaurants with a total count of 9.



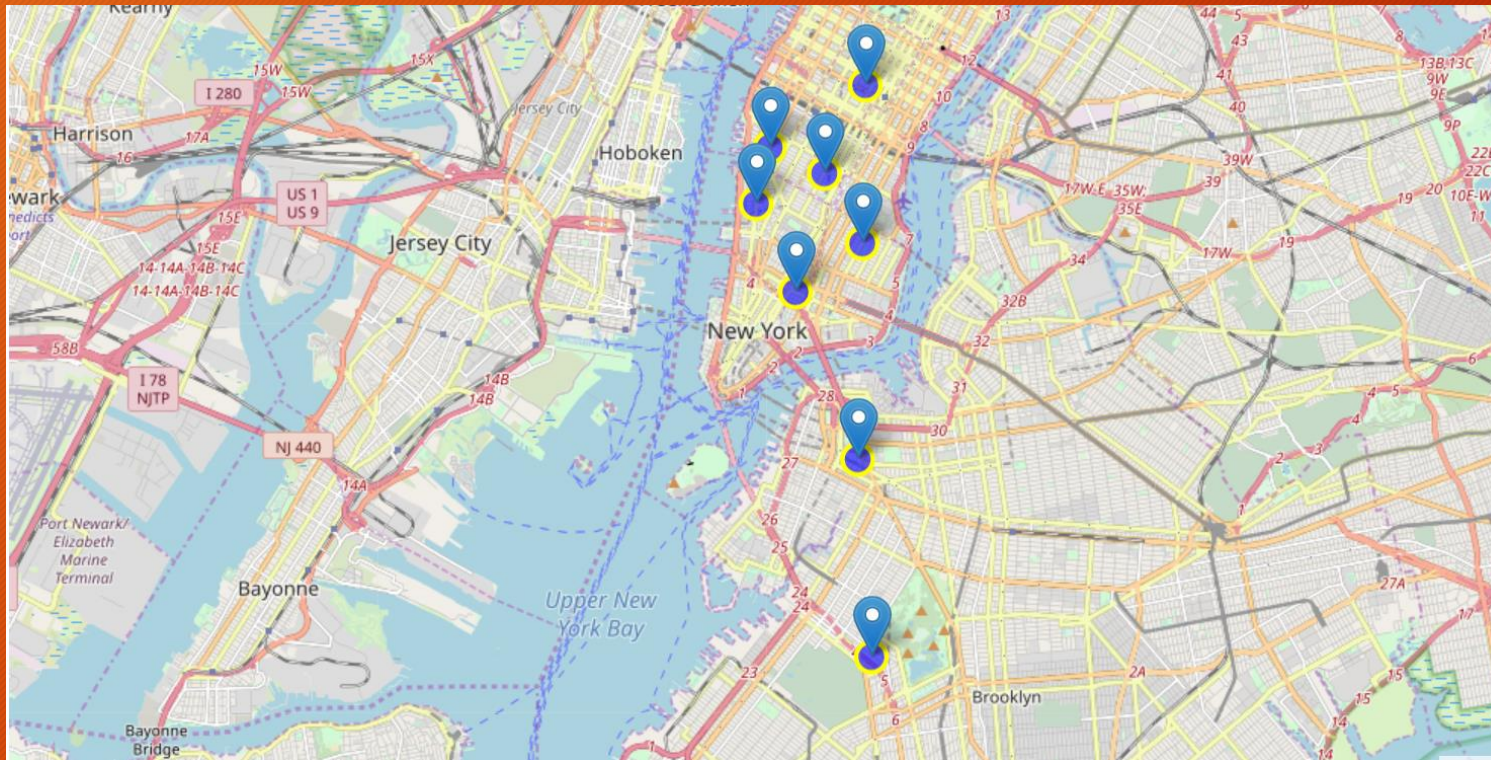
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4. Manhattan has the highest average rating for Chinese Restaurants.



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5. Best neighbourhoods in New York that has highest average rating for Chinese Restaurants



Conclusion

- Chelsea(Manhattan), Chelsea(State Island), Flatiron(Manhattan) are some of the best neighborhoods for Chinese cuisine.
- Manhattan have potential Chinese Restaurant Market.
- Brooklyn ranks last in average rating of Chinese Restaurants.
- Manhattan is the best place to stay if you prefer Chinese Cuisine.

Limitation

- The ranking is purely on basis of rating of resturants
- The accuracy of data depends purely depends on the data provided by FourSquare