Battle of Neighbourhoods (week 2) Assignment - Report

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.

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.

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

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

Data

Data For this project we need the following data:
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. Greek 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. 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 Four-square API we will find all venues for each neighbourhood.
- Filter out all venues that are Greek Restaurants.
- Find rating, tips and like count for each Greek Restaurants using Four-square API.
- Using rating for each restaurant, we will sort that data.
- Visualize the Ranking of neighbourhoods using folium library(python)

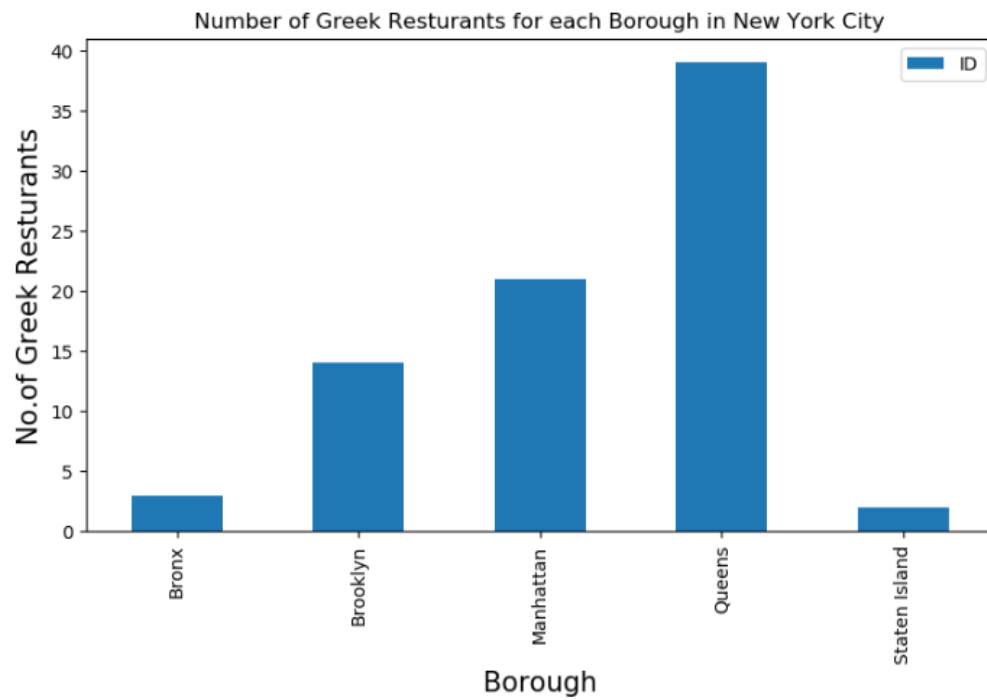# Queries that can be answered using above dataset

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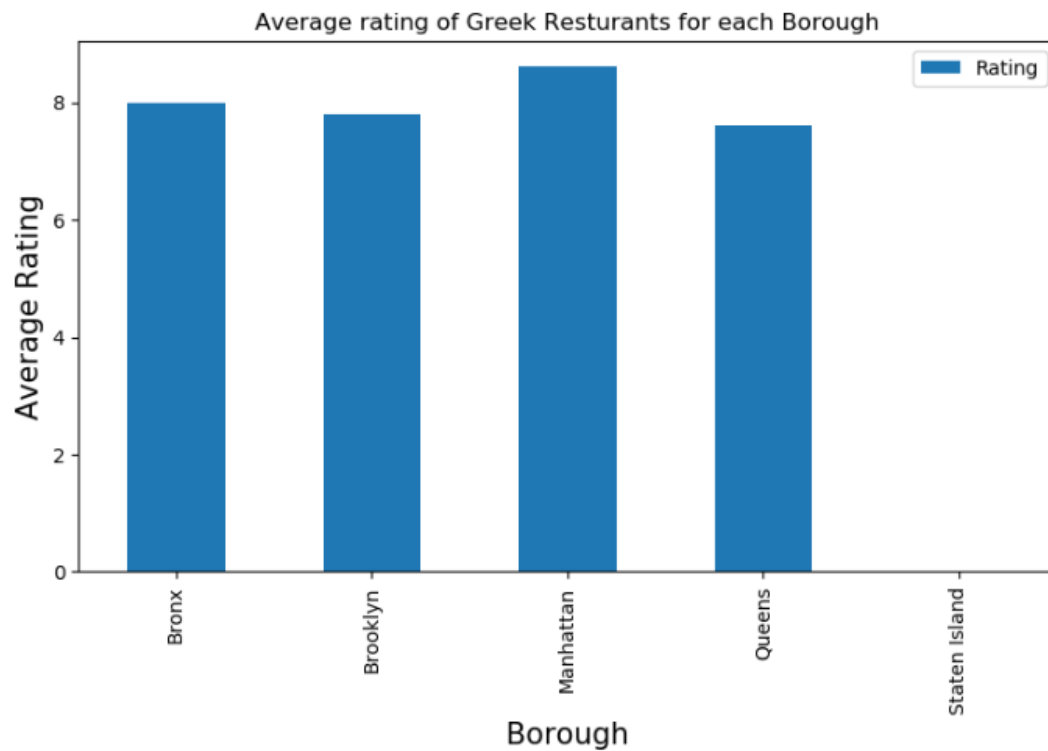- Which is the best place to stay if I prefer Greek Cuisine?

Analysis

Required Libraries

- Pandas and numpy for handling data.
- Request module for using Four-square API.
- Geopy to get co-ordinates of City of New York.
- folium to visualize the results on a map

Results

Number of Greek Resturants for each Borough in New York City

➢ Queens, Manhattan and Brooklyn are the areas that gather the most Greek restaurants where Staten Island and Bronx the fewer.

Average rating of Greek Resturants for each Borough

➢ Manhattan's Greek restaurants have the highest ratings, followed by Bronx and Brooklyn

	Borough	Neighborhood	Latitude	Longitude	Average Rating
0	Brooklyn	Carroll Gardens	40.680540	-73.994654	8.80
1	Manhattan	Chinatown	40.715618	-73.994279	9.10
2	Manhattan	East Village	40.727847	-73.982226	9.00
3	Manhattan	Gramercy	40.737210	-73.981376	9.00
4	Manhattan	Lower East Side	40.717807	-73.980890	8.80
5	Manhattan	Noho	40.723259	-73.988434	8.80
6	Manhattan	Stuyvesant Town	40.731000	-73.974052	8.95

➢ Taking into account that Bronx also does not include the majority of the restaurants but manages to have one of the best, we can deduct that certainy, if you prefer Greek cuisine, you can give it a try

Discussion

➢ The fact that one area has a larger amount of the restaurants for the cuisine you may be looking for DOES NOT guarantee that it will also have the best restaurants

➢ As travellers we tend to assume that high crime rate areas, will not include great food options.

➢ The average rating of restaurants in Bronx, Brooklyn and Queens, is high and no that far from the Manhattan restaurants.

➢ Comparing the restaurants based on prices and prioritizing according to this factor may have "turned the tables" literally.

Conclusions

• Chinatown (Manhattan), East Village (Manhattan) and Gramecy (Manhattan) are some of the best neighborhoods for Greek cuisine.

• Manhattan is the best place to stay if you prefer Greek Cuisine.

• Bronx and Staten Island lack Greek cuisine among other Boroughs

• The analysis went well, but not taking into account factors like prices or accessibility. These are both factors that could alter the conclusions entirely for those interested in tasting Greek cuisine in New York.

Limitations

The ranking is purely on basis of rating of restaurants. The accuracy of data depends purely depends on the data provided by Four-square.