IBM CAPSTONE PROJECT – The Battle of Neighborhoods:
Korean restaurants analysis in NYC

Introduction

New York City is the largest city in the United States, which has a long history and a lot of international immigrants. If one person is new to New York City, he/she may want to find the best restaurant to have a great experience in this beautiful city. But how can we find the best restaurant and where is it?

This final project will focus on exploring the best locations for Korean restaurants throughout the city of New York. Also, as with any business, if you are an investor, to open a new restaurant will need a lot of considerations and is more complicated than they think. Especially, the location of the restaurant is one of the most important factors that will affect whether it will succeed or not. Hence, this project will try to answer the questions:

Where should the investor open a Korean Restaurant?

Where should I go If I want great Korean food?

Data

In order to answer the above questions, we will need the data on New York City neighborhoods, boroughs to include boundaries, latitude, longitude, restaurants, and restaurant ratings and tips.

New York City data containing the neighborhoods and boroughs, latitudes, and longitudes will be obtained from the data source: https://cocl.us/new_york_dataset

Other data related to locations and quality of Korean restaurants will be obtained via the FourSquare API.

Methodology

• Data will be collected from https://cocl.us/new_york_dataset and cleaned and processed into a dataframe.

• Utilize FourSquare with venues and then filtered by Korean restaurants. Ratings, tips, and likes by users will be counted and added to the dataframe.

• Data will be sorted based on rankings.

• Finally, the data be will be visually assessed using graphing from Python libraries.
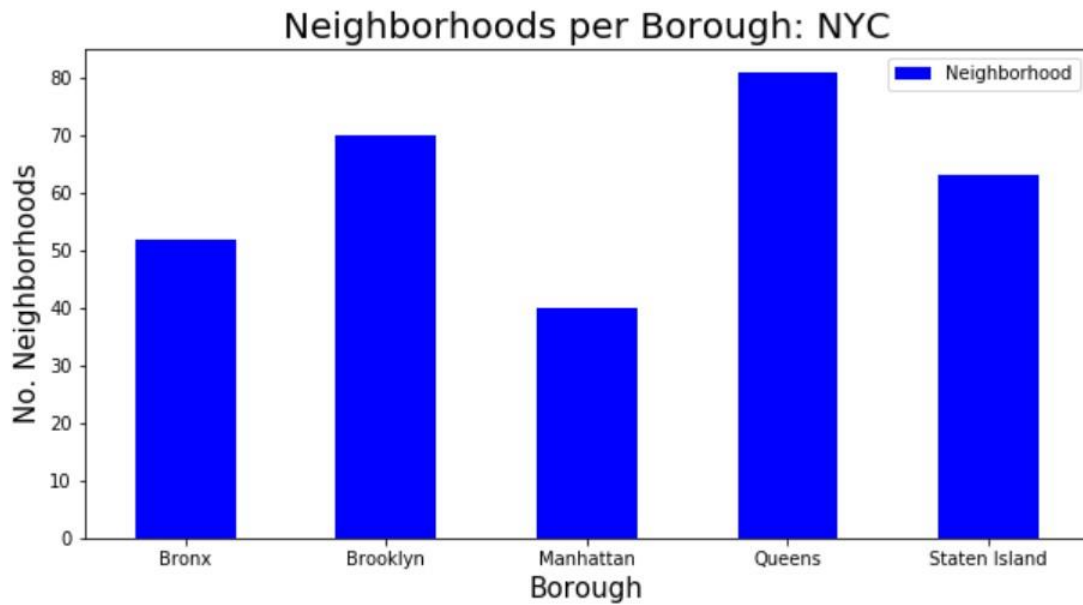
Problem

What is / are the best location(s) for Korean restaurants in New York City?

In what Neighborhood and/or borough should the investor open a Korean restaurants to have the best chance of being successful?
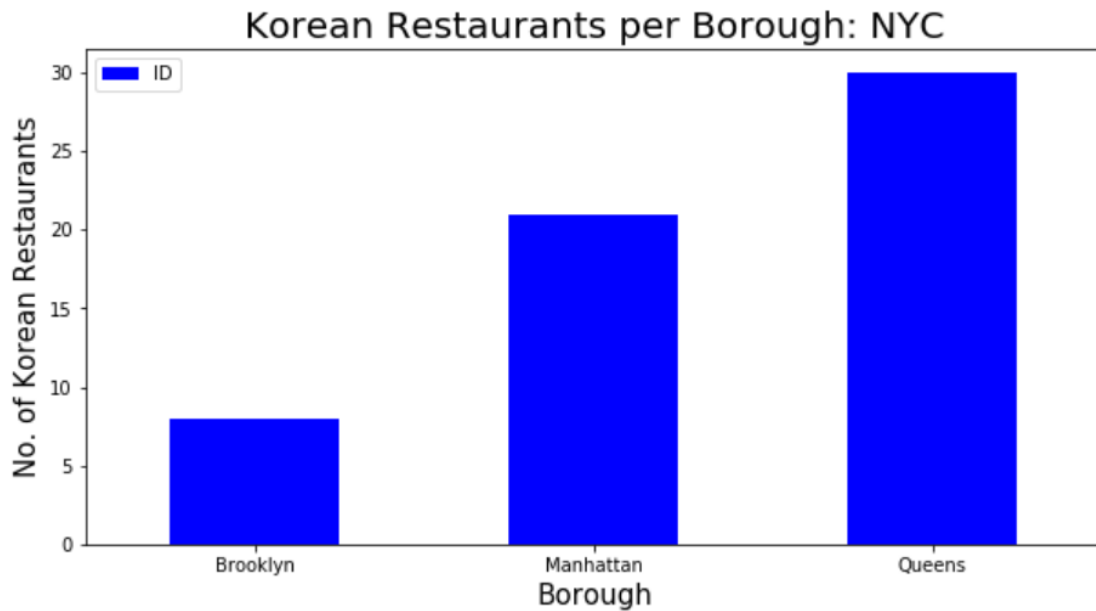
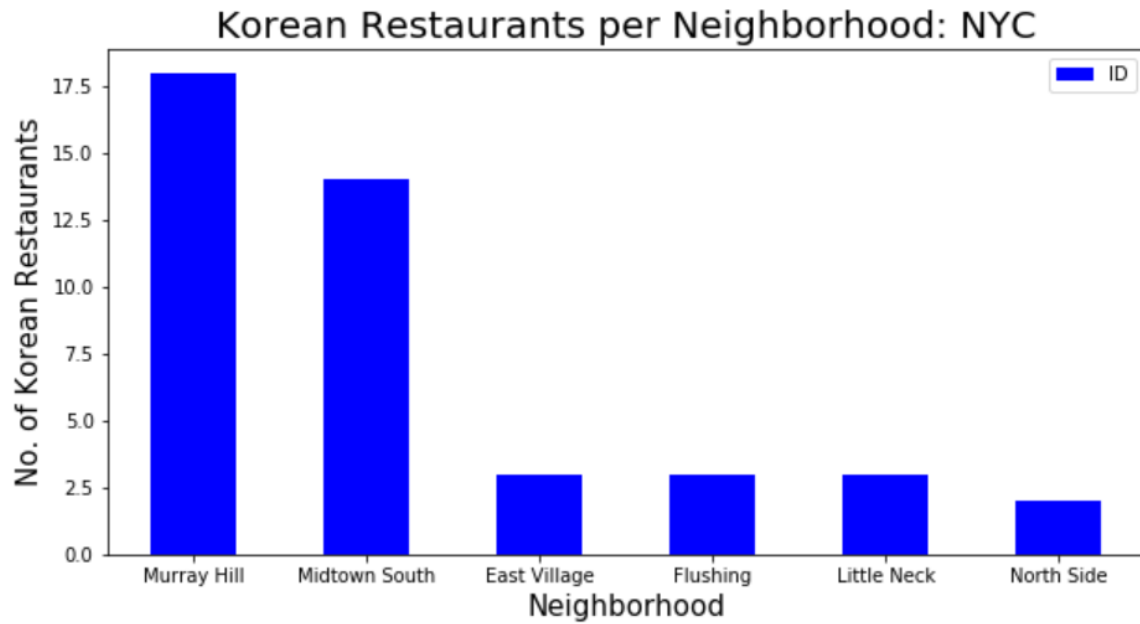Where would I go in New York City to have the best Korean food?

Results

1. We find that Queens has the highest number of neighborhoods.

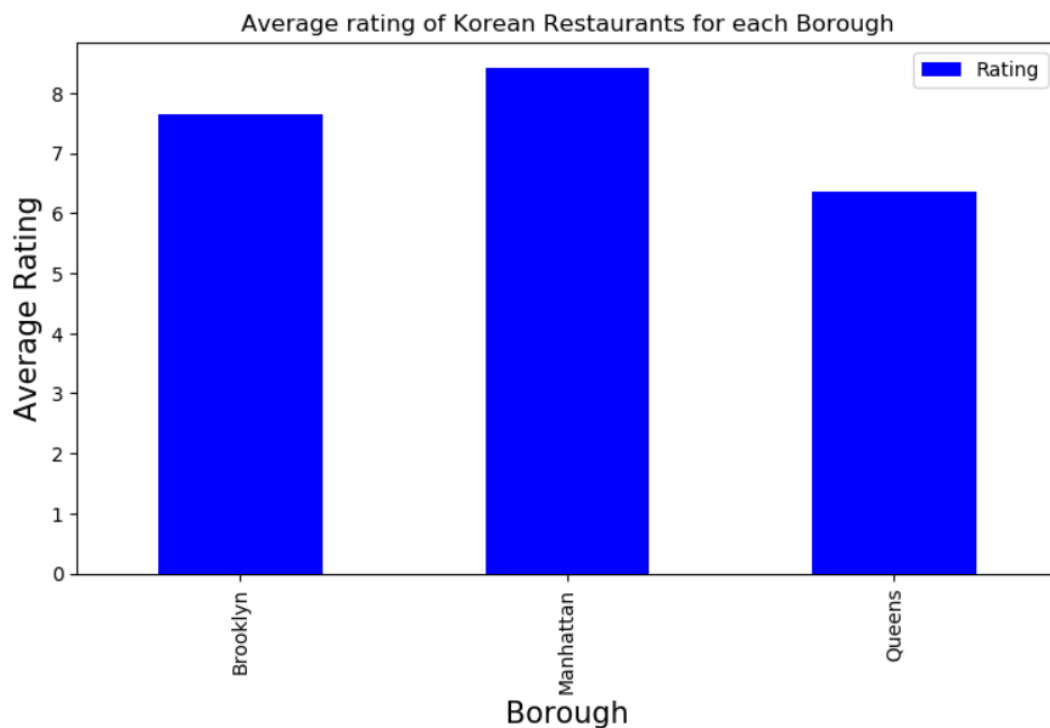Neighborhoods per Borough: NYC

2. Korean restaurants are only located in three boroughs, and Queens has the most number of Korean restaurants.

Korean Restaurants per Borough: NYC

3. The Murray Hill in Manhattan has the highest number of Korean restaurants.
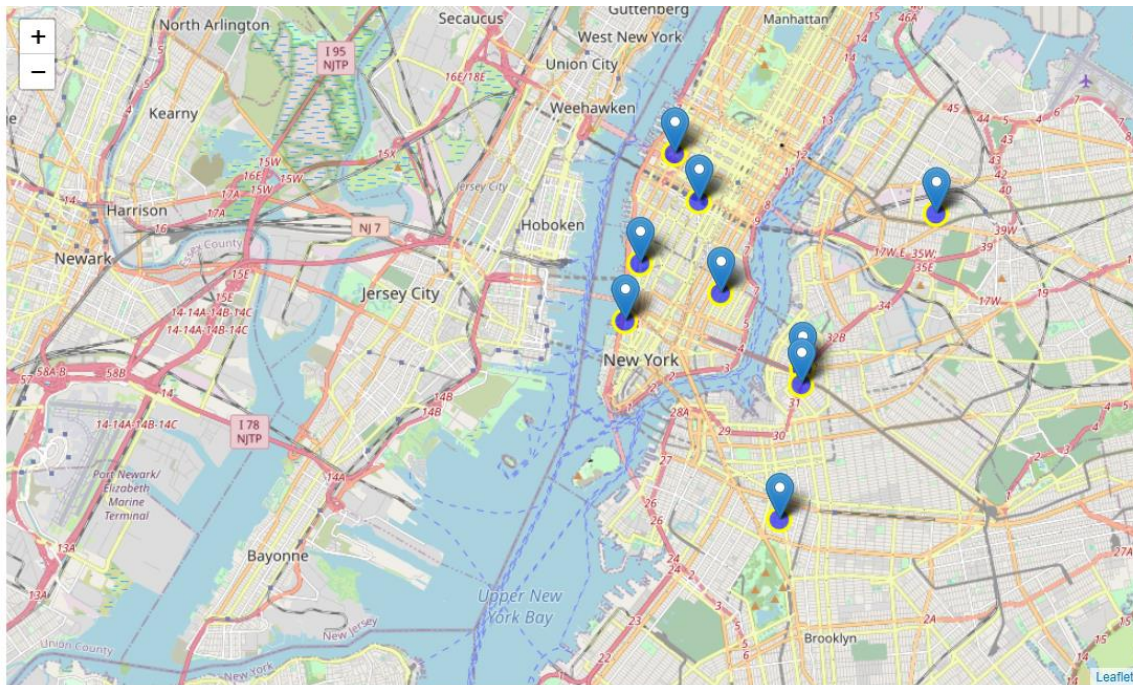
Korean Restaurants per Neighborhood: NYC

4. We can see that Manhattan has the highest average ratings of Korean restaurants, although Queens has the most number of Korean restaurants, the average rating of them is the lowest.

Average rating of Korean Restaurants for each Borough

5. Top ten of the neighborhoods with highest average rating Korean restaurants.

	Borough	Neighborhood	Latitude	Longitude	Average Rating
0	Manhattan	Clinton	40.759101	-73.996119	8.400000
1	Manhattan	East Village	40.727847	-73.982226	8.733333
2	Manhattan	Manhattan Valley	40.797307	-73.964286	8.000000
3	Manhattan	Midtown South	40.748510	-73.988713	8.357143
4	Brooklyn	Prospect Heights	40.676822	-73.964859	8.400000
5	Brooklyn	South Side	40.710861	-73.958001	8.400000
6	Queens	Sunnyside Gardens	40.745652	-73.918193	8.000000
7	Manhattan	Tribeca	40.721522	-74.010683	8.900000
8	Manhattan	West Village	40.734434	-74.006180	8.300000
9	Brooklyn	Williamsburg	40.707144	-73.958115	8.400000

6. Plot the top 10 neighborhoods with highest avg rating of Korean restaurants in map.

Discussion

Manhattan have the best rated Korean restaurants on average, and Murray Hill in Manhattan has the highest number of Korean Restaurants in all of NY. Despite Queens having the most number of Korean restauratns, the avrerage rating of them are the lowest in all of NY. Brooklyn also has a realtively high average rating on Korean restaurants, just a little bit lower than Manhattan. Based

on the above information, I would say that Manhattan and Brooklyn are the best locations for Korean cuisine in NYC.

If you want to open a new Korean restaurant, I will suggest Brooklyn, because the number of korean restaurants in Brooklyn is the least, and the average rating is relatively high. That means, if you open a new korean restaurant, you will not have a lot of competitors. Finally, I would go to BCD Tofu House in Manhattan for the best Korean food based on 1229 likes.

Conclusion

In this project, we have analyzed the Korean restaurants in NYC, and we find that Manhattan has the highest avg rating of the Korean restaurants, while Queens has the most number of Korean restaurants but the avg rating is the lowest one. Hence, if you visit NYC and want to find some Korean food, go to Manhattan.