

IBM Applied Data Science Capstone

Capstone Project - The Battle of Neighborhoods

Opening a Japanese restaurant in New York

Introduction/Business Problem

New York is the most populous city in the United States and one of the largest metropolises in the world. Its food culture is influenced by the history of urban immigration. For example: Central and Eastern European immigrants brought bagels, cheesecakes and hot dogs to the city. Italian immigrants brought pizza and pasta into the city, and Chinese and other Asian restaurants are all over the city.

New York City has attracted many people to start businesses in the food industry. Among them, the Japanese restaurant is very popular because of its exquisite health and convenience.

This report explores which neighborhoods and districts in New York City have the most and best Japanese restaurant. In addition, I will try to answer the question "Where should I open a Japanese restaurant?" And "If I want great Japanese restaurant, where should I go?"

Target Audience of this project and some demographic facts

This project is useful to people who are looking to open or invest a Japanese restaurant in the New York City. As mentioned before, there are many restaurant

in New York City. We decide to focus on Japanese restaurant in our project because healthy lifestyle is prevalent nowadays, and Japanese restaurants offer a healthy alternative to regular American eating habits

Data

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

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

New York City data containing neighborhood boundaries will be obtained from the data source: <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm>

All data related to locations and quality of Italian restaurants will be obtained via the FourSquare API utilized via the Request library in Python.

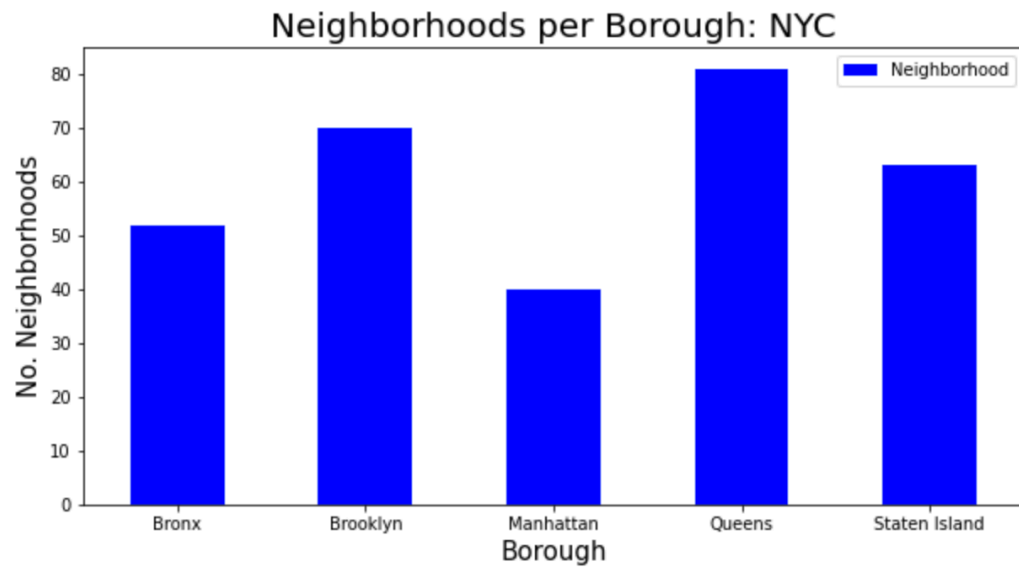
Methodology

1. Data will be collected from https://cocl.us/new_york_dataset and cleaned and processed into a dataframe.
2. FourSquare be used to locate all venues and then filtered by Japanese restaurants. Ratings, tips, and likes by users will be counted and added to the dataframe.
3. Data will be sorted based on rankings
4. Finally, the data be will be visually assessed using graphing from various Python libraries.

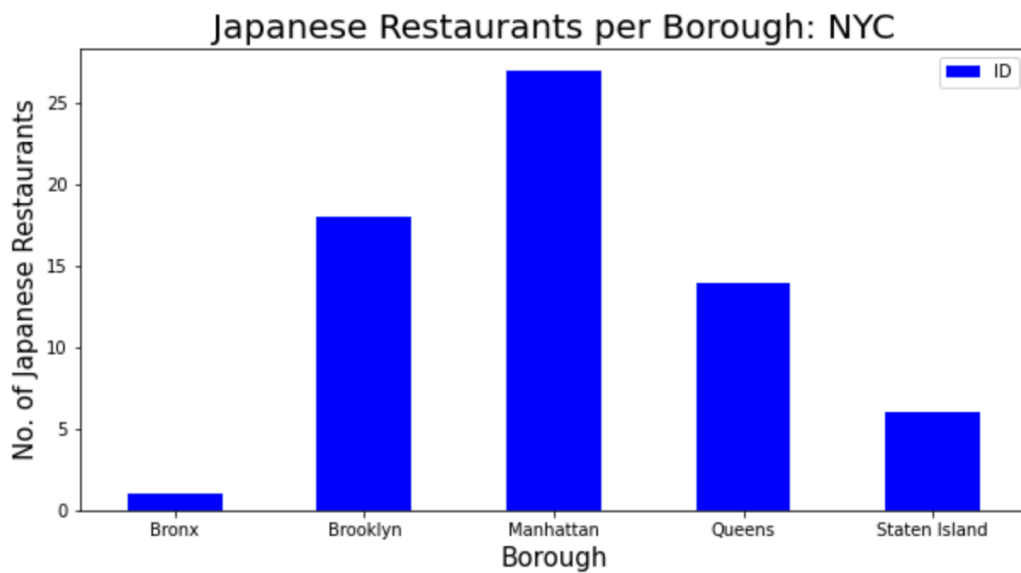
Results

The results of our analysis showed below:

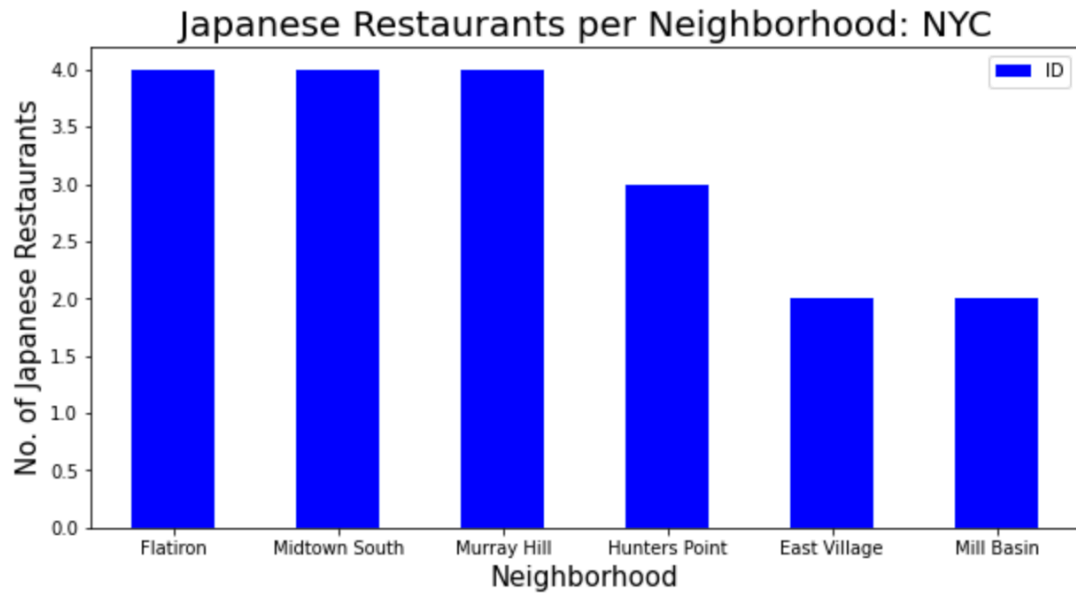
1. Queens has the highest number of neighborhoods.



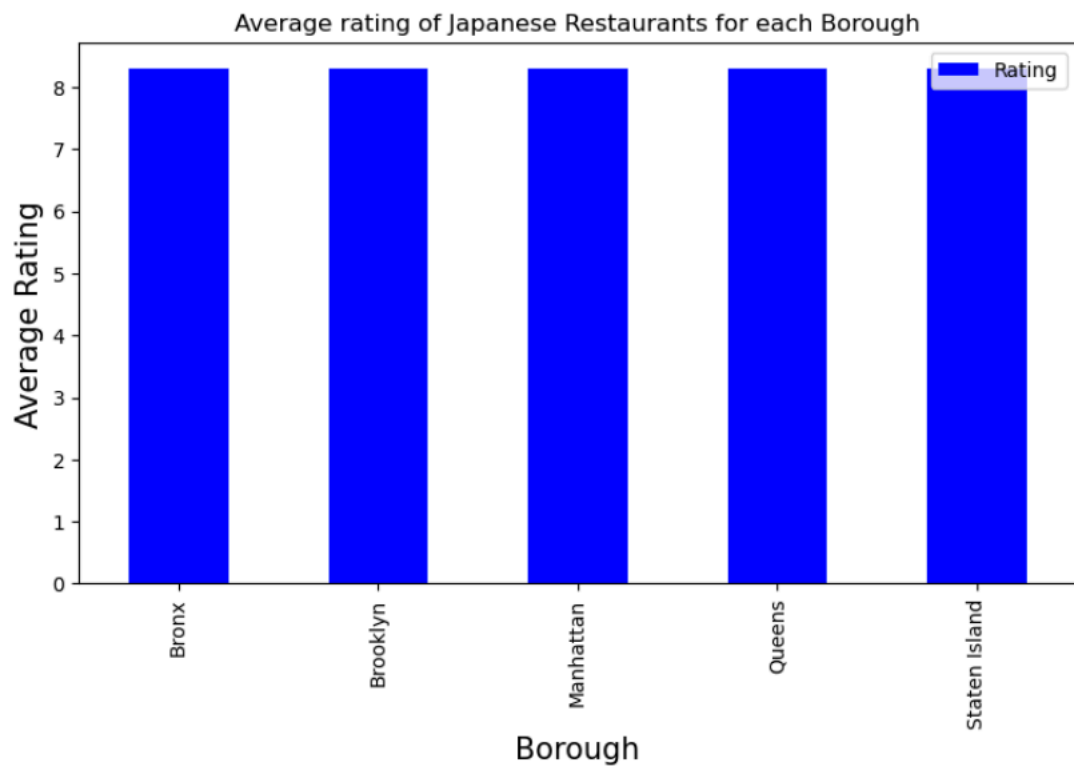
2. Manhattan has the highest number of Japanese restaurants.



3. Flatiron, Midtown South and Murray Hill have the highest number of Japanese restaurants with count 4.



4. The average rating for Japanese Restaurants are the same for all borough.



5. Visualization of the distribution of these Japanese restaurants in NYC.



Discussion

Manhattan and Brooklyn have the largest number of Japanese restaurants. Staten Island and the Bronx have the least number of Japanese restaurants. However, since the average rating of all boroughs are the same, the scores cannot provide a reliable reference value. In New York City, Flatiron, Midtown South and Murray Hill have the largest number of Japanese restaurants. Although Manhattan has the least number of communities in all five boroughs, it has the most number of Japanese restaurants. Based on the above information, I would like to point out that Manhattan and Brooklyn are the best places for Japanese cuisine in New York City. For the greatest success, I will recommend open a Japanese restaurant in Brooklyn. Brooklyn has multiple neighborhoods with an average score of 8.3, and there are fewer Japanese restaurants than Manhattan, which makes competition easier. Similarly, we should remember that real estate prices in Brooklyn are much cheaper than in Manhattan.

Conclusion

We have explored the Japanese restaurant data to understand the distribution and rating of various Japanese restaurants in all borough of New York City, this helped us choose the best borough to open a Japanese restaurant. Similarly, data can also be used to solve other similar problems. As a result, for those types of Japanese restaurant which provide quick services and moderate flavor with moderate price, they should consider locations in a busy area and close to other light meals restaurant. For those aiming to provide delicious Japanese cuisine to most picky gourmet, they should open their pizza place at places close to their target customers or customers with a particular background.