

# IBM Capstone Project

## Final Report

### Explore Japanese Restaurant In NYC

#### 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 2018, 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. This final project explores the best locations for Japanese restaurants throughout the city of New York. In particular, the location of the restaurant is one of the most important factors that will affect whether it will have success or a failure.

#### Business Problem

The objective of this project is to analyze and select the best locations in NYC to open a new Japanese restaurant. Using all the knowledge and tools we have learned in previous courses, this project aims to provide solutions to answer the business question: What location would be optimal if to open a new Japanese restaurant in NYC?

#### Data Description

- New York City data containing the neighborhoods and boroughs.
- Latitude and longitude coordinates of those neighborhoods.
- Venue data, particularly about restaurants.

#### Methodology

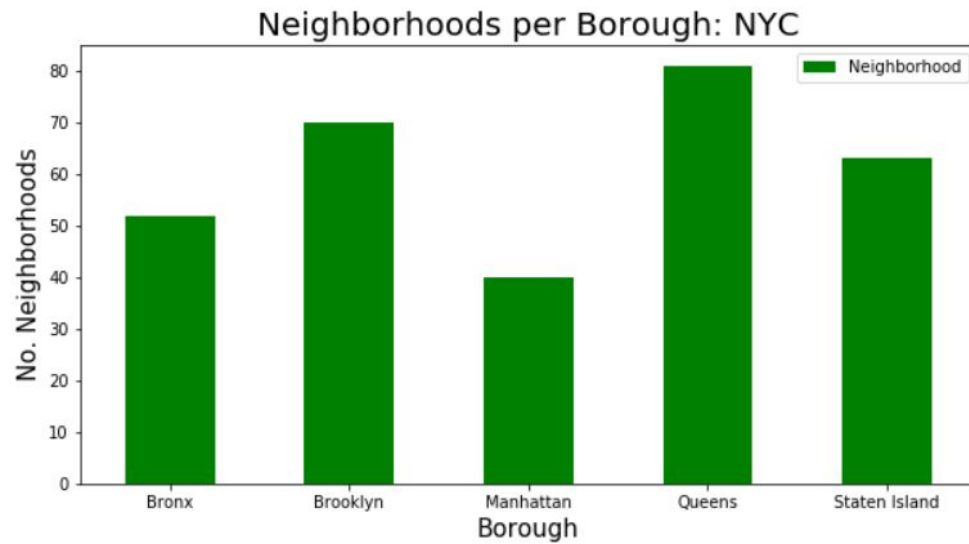
- Data will be collected from [https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset)
- FourSquare is used to locate all venues and then filtered by Japanese restaurants. Ratings, tips, and likes etc.
- Data will be sorted based on rankings.
- Data will be visualized using appropriate tools.

## Result

A.

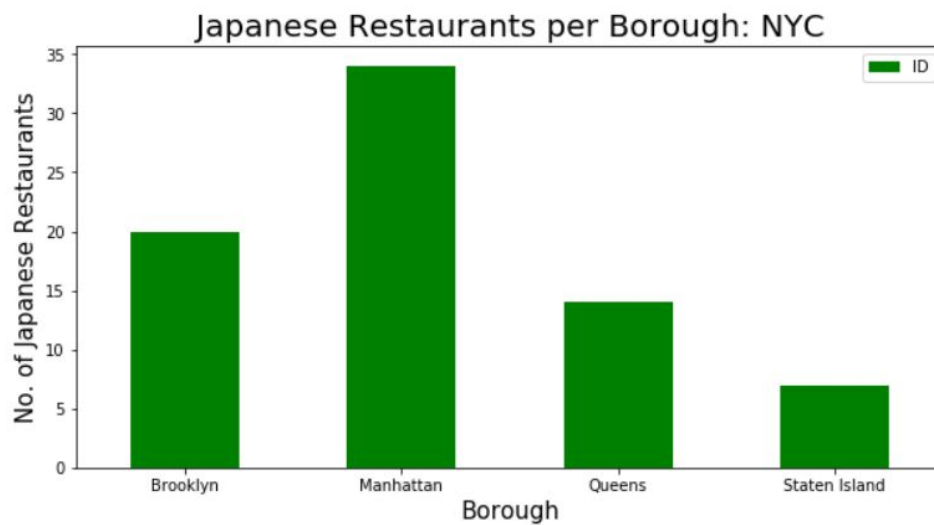
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In [5]: ny_data.shape
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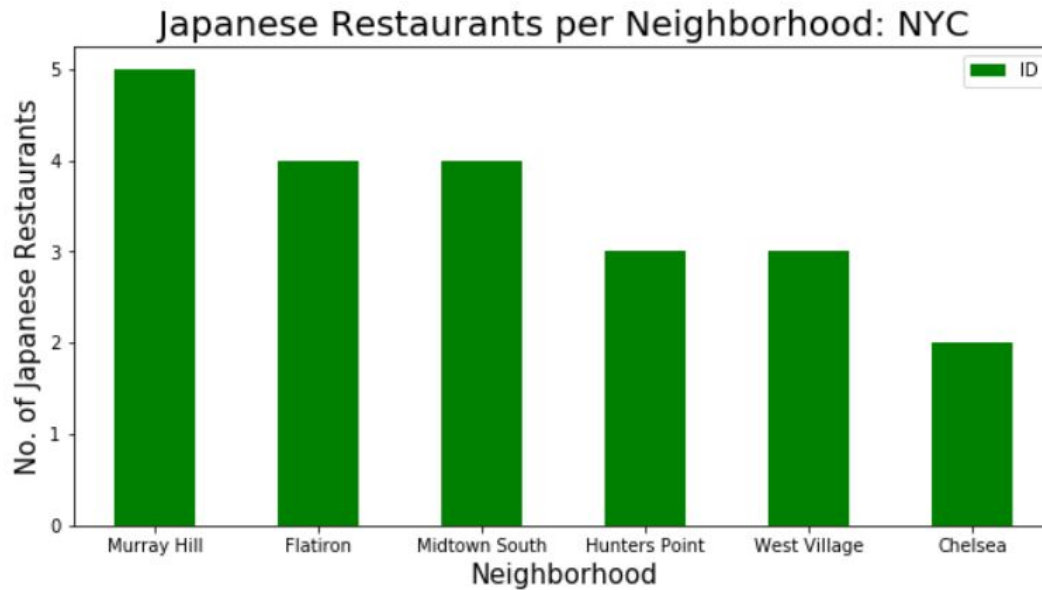
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Out[5]: (306, 4)
```



There are 306 neighborhoods in NYC with Queens having the highest number and Manhattan having the lowest number of neighborhoods.

B.





Having the lowest number of neighborhoods in NYC, in contrast, Manhattan has the most number of Japanese restaurants in NYC. This means that Manhattan has the highest density of Japanese restaurants in NYC. Furthermore, Murray Hill has most Japanese Restaurants per neighborhood.

C.



Manhattan has the highest average rating for Japanese restaurants, and Brooklyn is the second best.

## Discussion Section

Manhattan and Brooklyn have the best rated Japanese restaurants on average. Staten Island and The Bronx have the least amount of Japanese restaurants per borough. Despite Manhattan having the least number of neighborhoods in all five boroughs, it has the most number of Japanese restaurants.

Based on the above information, I would state that Manhattan and Brooklyn are the best locations for Japanese cuisine in NYC. But due to COVID-19, tourists' visits are forced to halt and most restaurants are suffering from a lack of customers. However, real estate prices are dropping and the borrowing rate has reached a very low level, so the initial investment on opening a new Japanese restaurant would be lower than that of before the pandemic. The key to success is trying to attract more customers while maintaining a healthy store cash flow.

## Conclusion

In the project we have gone through the process from identifying the business problem to providing a recommendation. During the project, I applied different tools we learned to get the answer to our main question: "What location would be optimal if to open a new Japanese restaurant in NYC?" The findings will help the speculative investor make decisions in terms of opening a new Japanese restaurant in NYC. However, all of the above analysis depends on the accuracy of Four Square data and is just for the purpose of this project. This analysis should not be used for a real business consultation purpose. A more comprehensive analysis is needed in a practical business environment.