THAI RESTAURANTS IN NEW YORK CITY

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INTRODUCTION

- New York City is the most diverse and populated city in the United States (the city has a population density of over 27,000 people per square mile). In New York, you'll find almost every race and language you can think of under the sun, hence the common moniker, "the melting pot of the world." The city is made up of 5 boroughs: Manhattan, Brooklyn, Queens, the Bronx and Staten Island, all of which were "grouped" together into a single city in 1898.

- Due to the prosperity and grandeur of New York City resulting in people from many countries want to come to New York City whether coming to work or coming to study. Many Thai people also have come to New York for traveling, working, and studying that make Thai food is one of the popular foods in New York City.

BUSINESS PROBLEM

- Because many Thai people come to live in New York City. These people usually eat Thai food in their everyday life so they need to live in the area that has many Thai restaurants so that they can easily find a good Thai food.

- In addition, there are also many group of tourists whether Thai tourists who miss their home country food, people from other countries who like Thai food or even people who want to try Thai food would like to know information about which area in New York has many Thai restaurants so that there are many options for them.

- Therefore, I will solve this problem by answer the questions as following:

  - Which neighborhood in New York City have the most Thai restaurants?

  - Which neighborhood in New York City have the best average rating for Thai restaurants?

TARGET AUDIENCE

- Main target audience is Thai people who living in New York City want to live in an area with a variety of Thai restaurants.

- Secondary target audience is tourists who interested in Thai food.

DATA SECTION

New York City Neighborhoods Data

- I will use New York City neighborhoods dataset that published from New York (City). Department of City Planning on the following url: https://geo.nyu.edu/catalog/nyu_2451_34572

- This dataset contains 5 boroughs and 306 neighborhoods that exist in each borough as well as the latitude and the longitude coordinates of each neighborhood.

- In this dataset, I will extract borough, neighborhood, latitude and longitude to visualize the data New York City map.

Thai Restaurants Data

- I will use Foursquare API which is well-known location data provider to extract venue data for Thai restaurant in New York City using Thai Restaurant (4bf58dd8d48988d149941735) venue category.

METHODOLOGY

- Extract borough, neighborhood, latitude and longitude of New York City from
  https://geo.nyu.edu/catalog/nyu_2451_34572

```
{'type': 'Feature',
 'id': 'nyu_2451_34572.1',
 'geometry': {'type': 'Point',
  'coordinates': [-73.84720052054902, 40.89470517661]},
 'geometry_name': 'geom',
 'properties': {'name': 'Wakefield',
  'stacked': 1,
  'annoline1': 'Wakefield',
  'annoline2': None,
  'annoline3': None,
  'annoangle': 0.0,
  'borough': 'Bronx',
  'bbox': [-73.84720052054902,
   40.89470517661,
   -73.84720052054902,
   40.89470517661]}}
```

METHODOLOGY

- Convert data into pandas dataframe format for easy to analyze.

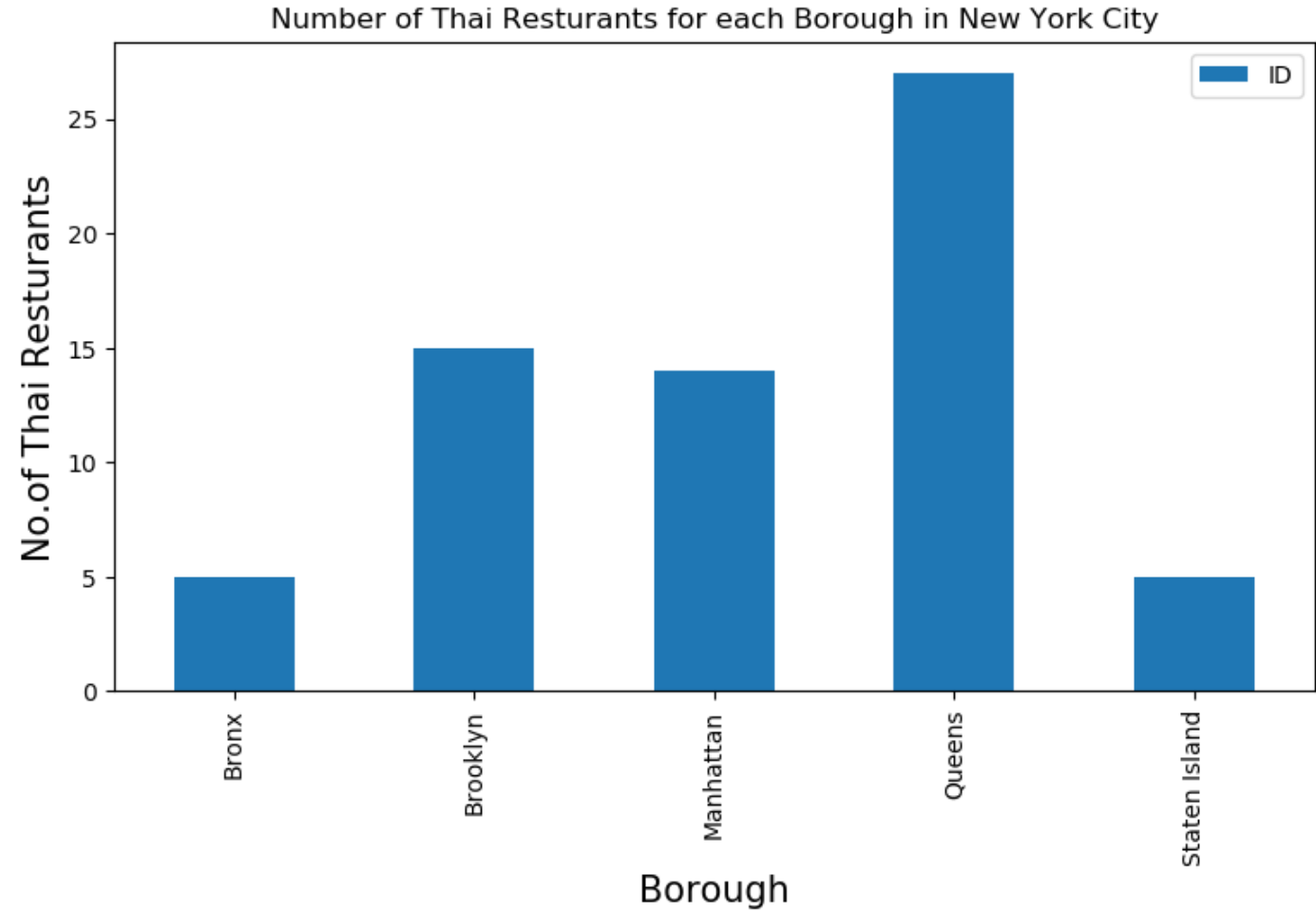|	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585

METHODOLOGY

- Extract Thai restuarants data in each neighborhood from Foursqare API and convert data into pandas dataframe and csv.

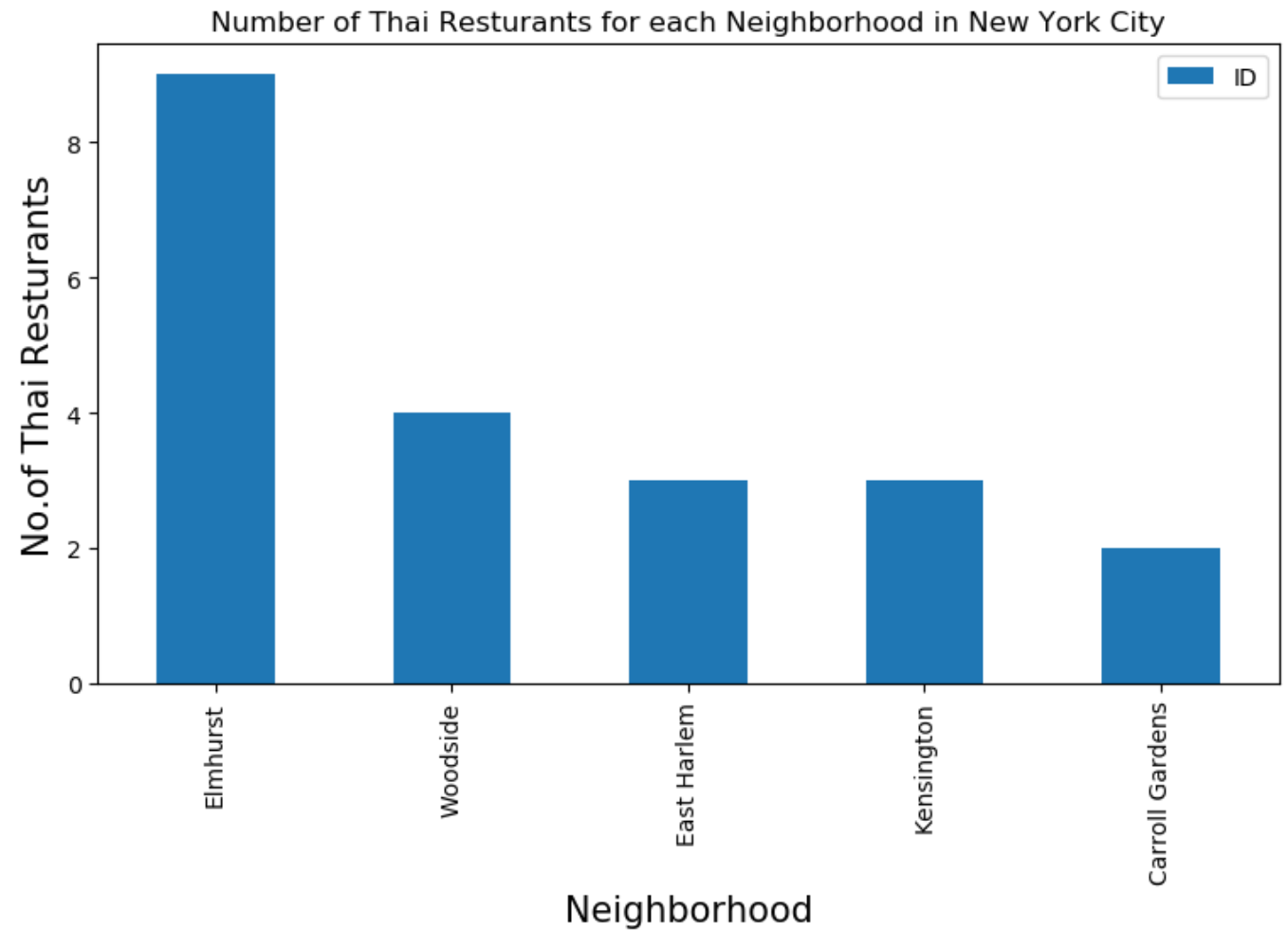|	Borough	Neighborhood	ID	Name
0	Bronx	Woodlawn	4dc5d0b47d8b14fb463525e9	Accent Thai
1	Bronx	Parkchester	5585c948498e0bd8a8a706f1	Thai Cuisine
2	Bronx	Van Nest	5585c948498e0bd8a8a706f1	Thai Cuisine
3	Bronx	North Riverdale	4dc5d0b47d8b14fb463525e9	Accent Thai
4	Bronx	Pelham Bay	4b4c90d3f964a52046b626e3	Honey's Thai Pavilion

METHODOLOGY

- Then, let's see which borough has the most Thai restaurants.

Number of Thai Resturants for each Borough in New York City

METHODOLOGY

- Then let's see which neighborhood has the most Thai restaurants.

Number of Thai Resturants for each Neighborhood in New York City

METHODOLOGY

- Then, let's get more insight on each restaurant (Rating, Tips, Like) from Foursquare API.

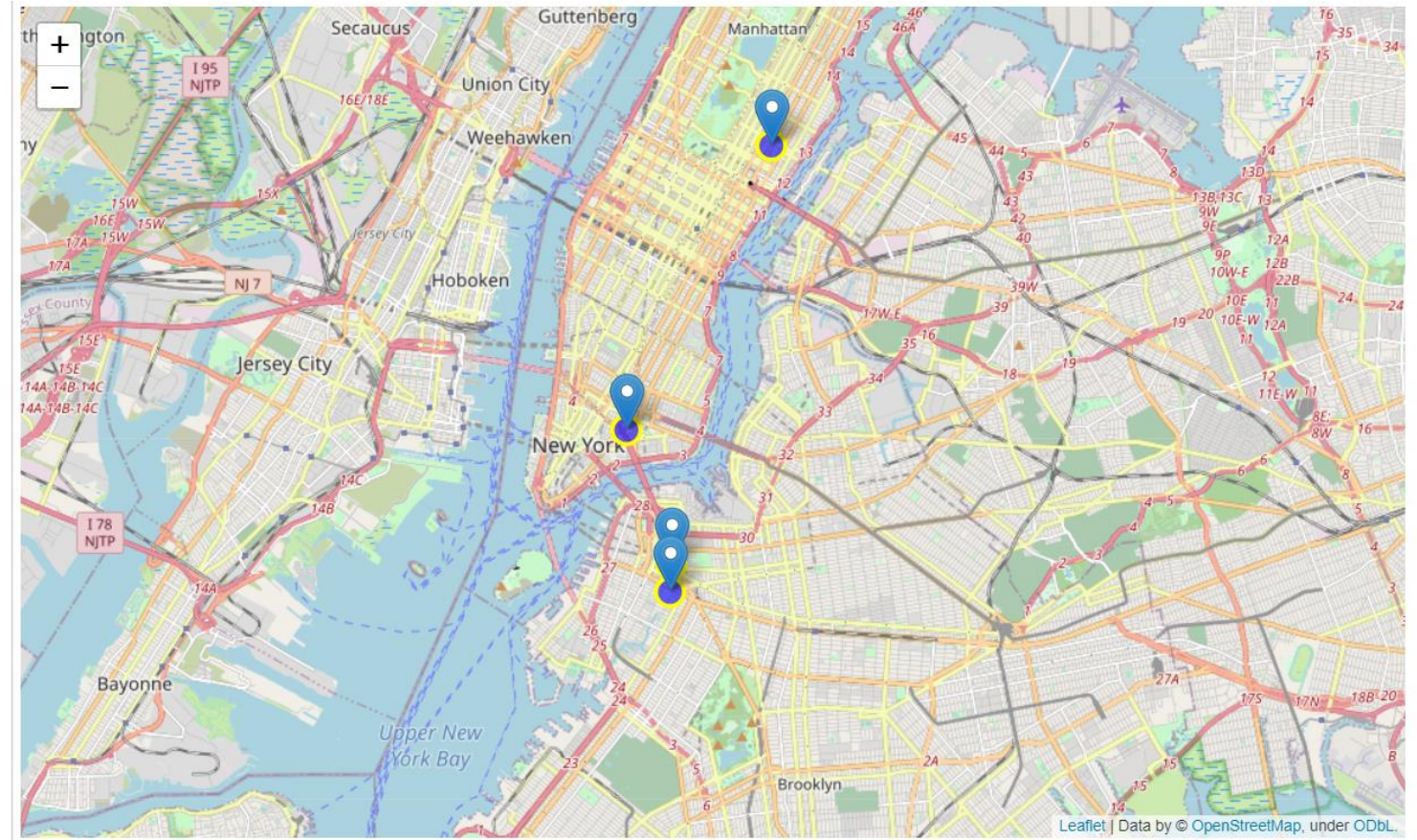|	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
0	Bronx	Woodlawn	4dc5d0b47d8b14fb463525e9	Accent Thai	14	8.4	4
1	Bronx	Parkchester	5585c948498e0bd8a8a706f1	Thai Cuisine	17	7.5	1
2	Bronx	Van Nest	5585c948498e0bd8a8a706f1	Thai Cuisine	17	7.5	1
3	Bronx	North Riverdale	4dc5d0b47d8b14fb463525e9	Accent Thai	14	8.4	4
4	Bronx	Pelham Bay	4b4c90d3f964a52046b626e3	Honey's Thai Pavilion	19	7.2	28

METHODOLOGY

- Select only neighborhoods which average rating more than 9.0

	Neighborhood	Average Rating
2	Boerum Hill	9.00
6	Chinatown	9.20
9	Downtown	9.00
23	Lenox Hill	9.05

METHODOLOGY

- Finally, Let's visualize the location of each neighborhood which highest average rating in the map.

RESULTS

So now we can answer the questions of the research as following.

- Which neighborhood in New York City have the most Thai restaurants?

  - We found that Elmhurst neighborhood in Queens borough has the most Thai restaurants (9 Thai restaurants here) followed by Woodside, East Harlem, Kensington and Carroll Gardens.

- Which neighborhood in New York City have the best average rating for Thai restaurants?

  - We found that Chinatown neighborhood in Manhattan borough has the best average rating for Thai restaurant followed by Lenox Hill, Downtown and Boerum Hill.

DISCUSSION

- Regarding the results, I will be recommended if you are Thai people who usually eat Thai foods in your everyday life and want variety of Thai foods you should live in Elmhurst neighborhood which has the most Thai restaurants in New York City.

- But if you really care about taste of foods, you should live in Chinatown because this neighborhood has the best average rating for Thai restaurant in New York City.

CONCLUSION

There are limitations of this research as following.

- All results refer to this dataset and Foursquare API. Which may not be representative of all Thai restaurants in New York City.

- This data analysis does not include advance statistical analysis.

- The result is base on average rating but in the future research you can use multi-feature to represent the better recommendation.