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THE BATTLE OF NEIGHBORHOODS
RESTURANTS DATA ANALYSIS

INTRODUCTION

1. This final project explores the best locations for Italian restaurants throughout the city of New York, as Italian food is my favorite cuisine.
2. According to Food Business News it stated that worldwide pasta sales were up for the second year in a row with the United Sates holding the largest market [3].
3. New York is a major metropolitan area with more than 8.4 million [7] (Quick Facts, 2018) people living within city limits. The need to find and enjoy Italian cuisine is on the rise [1].
4. This report explores which neighborhoods and boroughs of New York City have the most as well as the best Italian restaurants.
5. Hence, I will attempt to answer the questions "Where should I open an Italian Restaurant?" and "Where should I stay If I want great Italian food?"

DATA

Three Steps involved for analysis:

1. 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

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

3. 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 data frame.

2. FourSquare be used to locate all venues and then filtered by Italian 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.

DIFFICULTIES?

1. What is / are the best location(s) for Italian cuisine in New York City?
2. Where would I go in New York City to have the best Italian food?
3. In what Neighborhood and/or borough should I open an Italian restaurant to have the best chance of success?
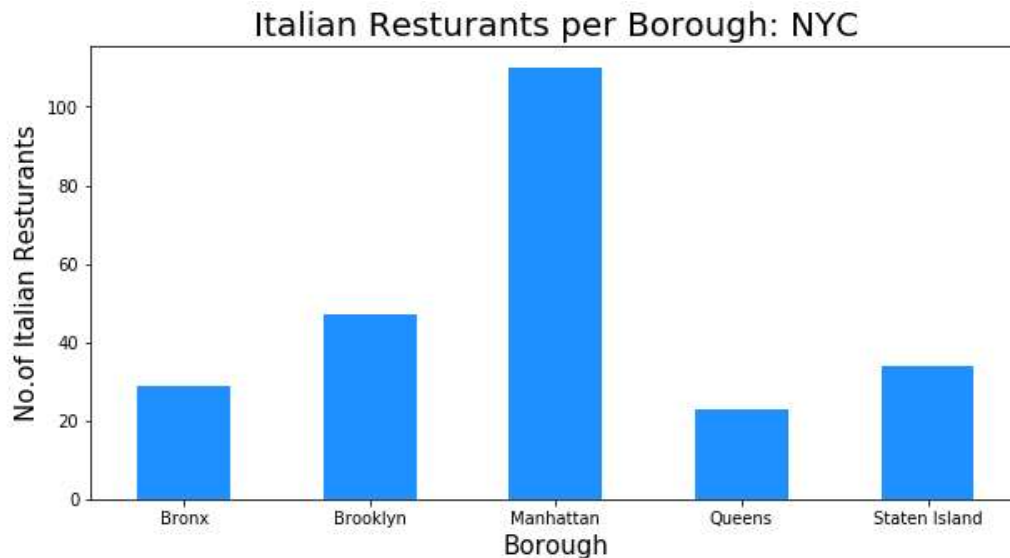
Procedure:

1. INITIAL DATA:

|	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

**2. ANALYZING DATA:**

3. OBSERVATIONS:

- Although Manhattan had the least number of neighborhoods, it does have the highest number if Italian restaurants.
- Top 6 restaurants in the neighborhoods.
- The neighborhood of Belmont has highest number of Italian restaurants in all of NYC
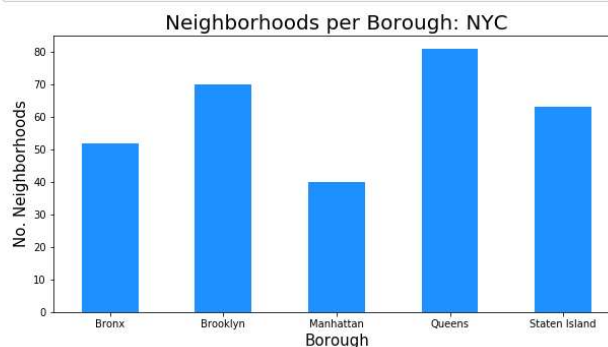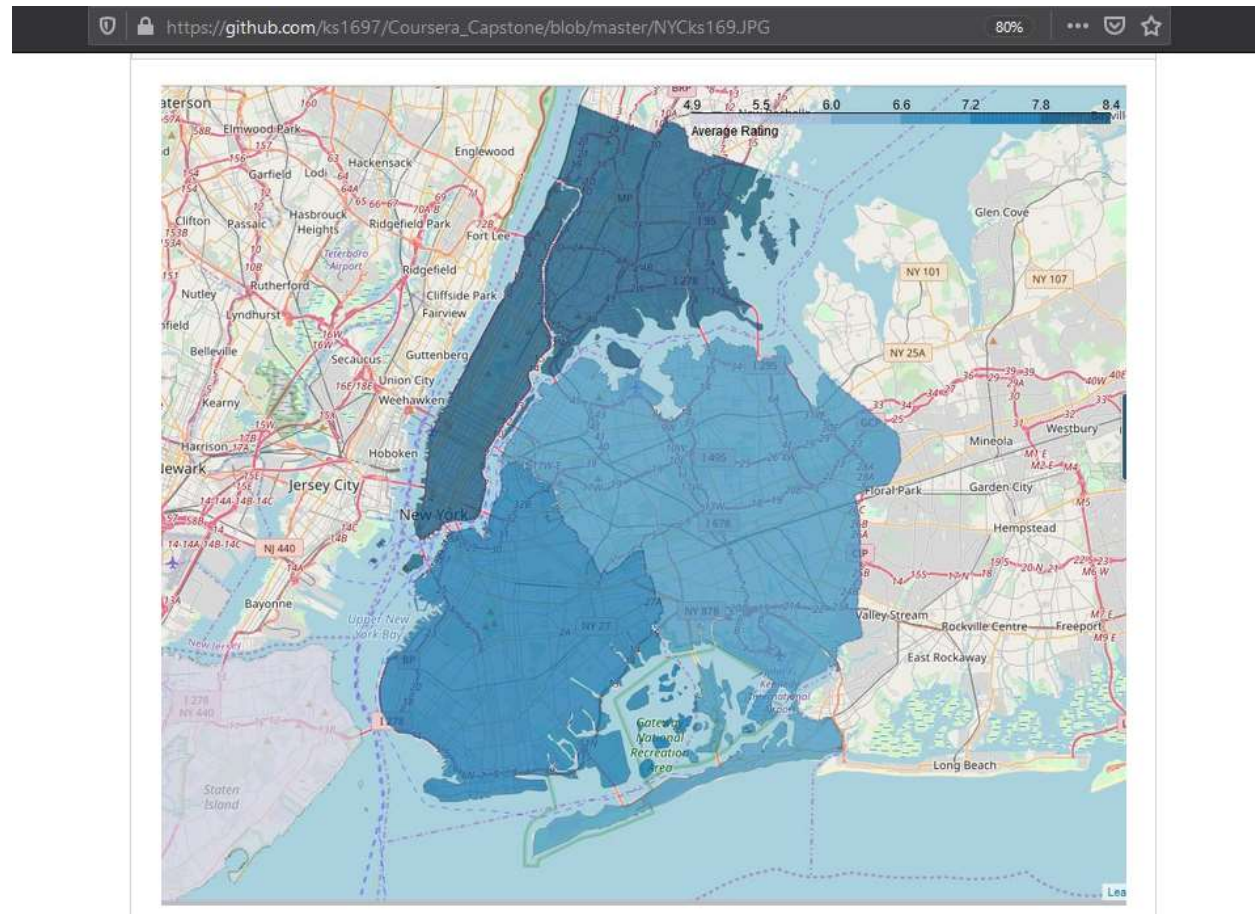
4. ITALIAN RESTAURANTS PER NEIGHBORHOOD:
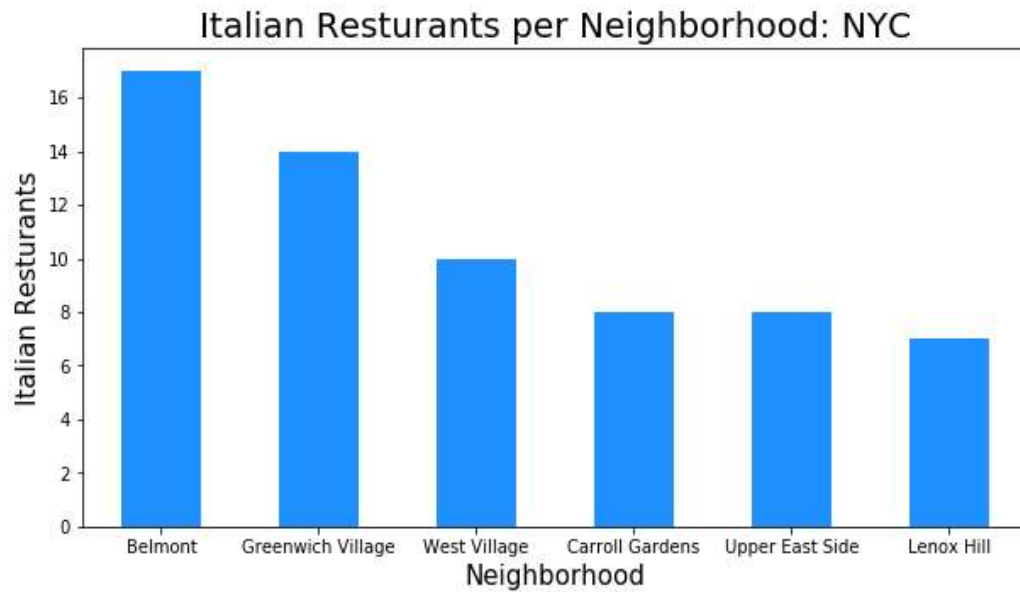
5. AVERAGE RATING OF ITALIAN RESTAURANTS FOR EACH BOROUGH:
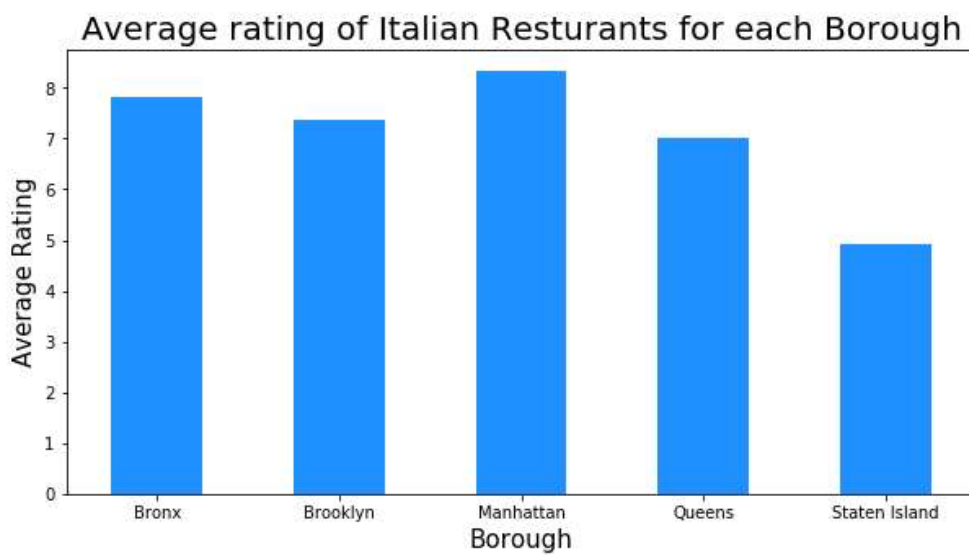
6. Chorpleth Map Distribution of Average Rating:

7. RESULTS:

- Manhattan and Queens have the best rated Italian restaurants on average.
- Queens and The Bronx have the least amount of Italian restaurants per borough.
- Despite Manhattan having the least number of neighborhoods in all five boroughs, it has the most Italian restaurants.
- Based on above information, I would state that Manhattan and Queens are the best locations for Italian cuisine in NYC. To have the best shot of success, I would open an Italian restaurants in Queens.
- I would go to Gramercy in Manhattan for the best Italian food based on 131 likes.
- Thus all of the above analysis is depended on the adequacy and accuracy of Foursquare data. A more comprehensive analysis and future work would need to incorporate data from other external databases.