Best Place for an Italian Restaurant In New York

A. Introduction

A.1. Description & Discussion of the Background:

New York as a city has 50,153 eating places where the estimated revenue is 51.6 billion. New York restaurants created 865,800 jobs and they count for 9% for the employment in the state. According to Quora.com, there are 993 Italian restaurants in New York. A big Italian restaurant could generate between 200-300k dollar per month. An Italian investing company wants to invest in creating a new Italian restaurant in New York and they were looking for the best neighborhood.

The best neighborhood would be one who doesn't have any Italian restaurants and also where the number of restaurants is less than 5.They want to create a new Italian restaurant experience and this is what they are looking for.

A.2. Data Description

To consider the problem we can list the datas as below:

- Neighborhood has a total of 5 boroughs and 306 neighborhoods, I used the data from previous weeks:
  https://cocl.us/new_york_dataset
- I used Foursquare API to get the most common eating venues of each neighborhoods.

B. Methodology

-First, I downloaded the data:

```
[5]: neighborhoods_data[0]
```

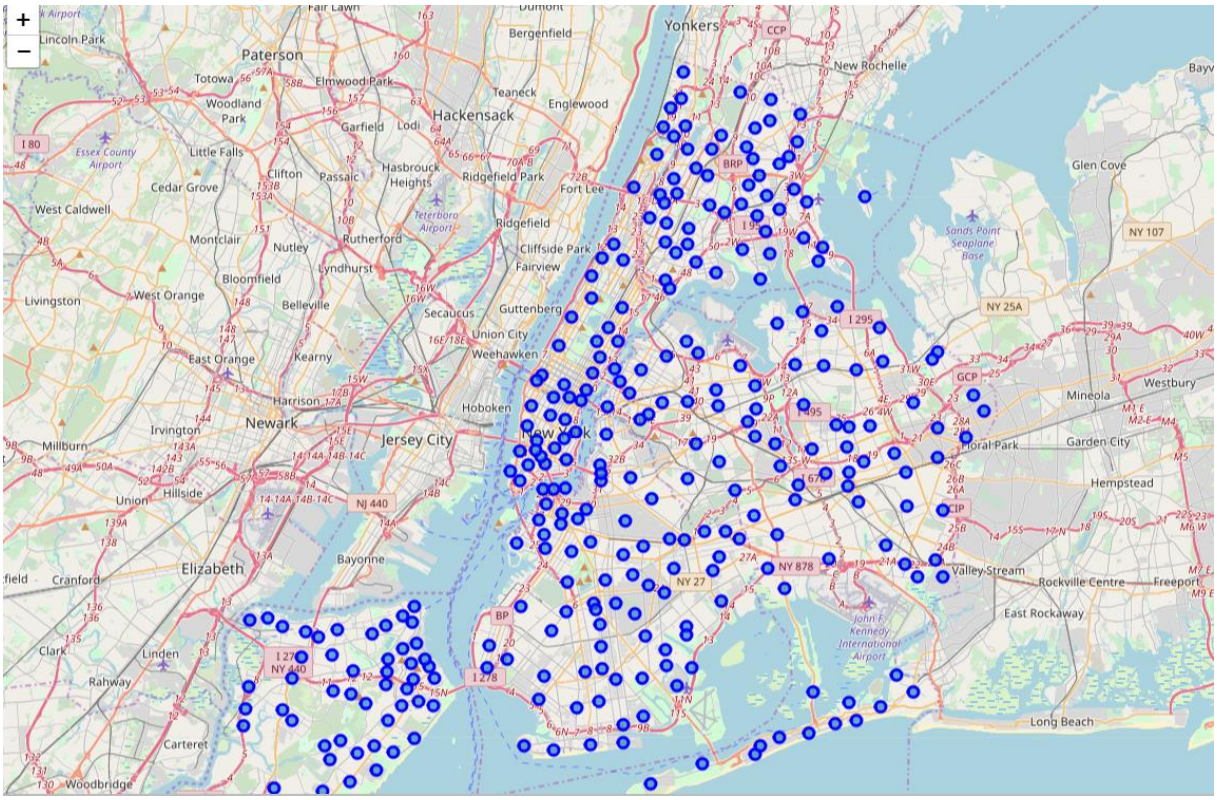
```
[5]: {'type': 'Feature',
 'id': 'nyu_2451_34572.1',
 'geometry': {'type': 'Point',
  'coordinates': [-73.84720052054902, 40.89470517661]},
 'geometry_name': 'geom',
 'properties': {'name': 'Wakefield',
  'stacked': 1,
  'annoline1': 'Wakefield',
  'annoline2': None,
  'annoline3': None,
  'annoangle':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

-Second, I did some cleaning on the data:

[20]:

	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

-Then I created a map of New York with all the neighborhoods on it:



-Then I used the Foursquare API to get all the eating Venues in all Neighborhoods:

[202]:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue Name	Venue Latitude	Venue Longitude	Venue Category
0	Wakefield	40.894705	-73.847201	Baychester Avenue Food Truck	40.892293	-73.843230	Food Truck
1	Wakefield	40.894705	-73.847201	Taste the Island Bakery & Caribbean Food	40.899265	-73.846916	None
2	Wakefield	40.894705	-73.847201	Foodtown White Plains Rd	40.890900	-73.851403	Supermarket
3	Co-op City	40.874294	-73.829939	Food Universe Marketplace	40.876740	-73.828980	Grocery Store
4	Co-op City	40.874294	-73.829939	Food Universe Marketplace	40.870520	-73.828550	Supermarket
5	Co-op City	40.874294	-73.829939	Compare Foods	40.870647	-73.828425	Miscellaneous Shop

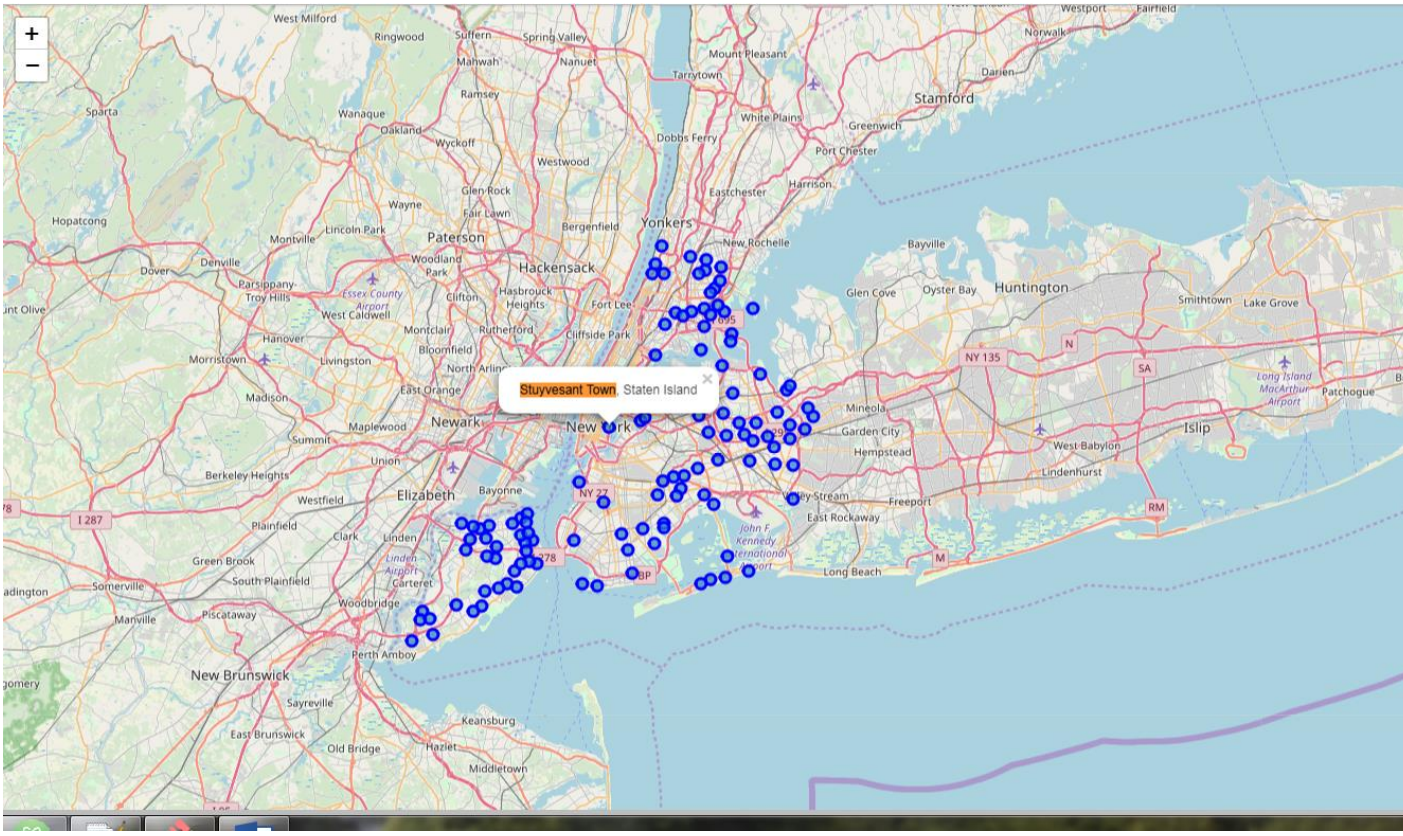
-Then I Selected Neighborhoods which have no Italian restaurants and the number of restaurants is less than 5:

[261]:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	TotalSum
1	Arlington	40.635325	-74.165104	3
2	Arrochar	40.596313	-74.067124	2
3	Arverne	40.589144	-73.791992	1
5	Astoria Heights	40.770317	-73.894680	2
10	Bay Terrace	40.553988	-74.139166	1

C. Results :

-Finally, I drew a folium map of New York with all the selected neighborhoods:



D. Discussion

One of the best locations which has no Italian restaurants, number of restaurants in general is less than 5 and in Manhattan is: **Stuyvesant Town**

To be done:

Is to find a dataset of the price of leasing a square meter in New York to find the cheapest place in terms of rent and also determine the profitability.