Coursera Capstone Project

Coursera IBM data science certification

FINAL PROJECT
THE BATTLE OF NEIGHBORHOOD

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INTRODUCTION

Scenario and Background

One of the most common business problems that can affect the success of a business is location. Some hotels or cinemas are next to each other or close to highways, schools or shopping malls. There are some factors to influence the customer targeted group along with business purposes. Where each business should locates? Should they locate close to schools, highways or far away? Hotels are the most convenient place for tourists and visitors the stay. Before reservation, some people look at the price and locations, and others look at the amenities.

INTRODUCTION

Business Problem

the business problem we are currently posing is: how could we provide support to visitors to reserve a suitable hotel in New York in this uncertain economic and financial scenario? If any investor is going to build new hotel, where is the best location? .

Data section

Since we have already looked at New York and Toronto's neighborhood data, I am going to accomplish my project on comparing two cities of New York. Besides of the New York neighborhoods dataset, I will use the population and capita of each neighborhood for the city. I used the neighborhoods dataset provided in the lab to bring in location (latitude, longitude) information of the two boroughs. And use FourSquare to generate maps. Data for capita and population were extracted from (https://en.wikipedia.org/wiki/Boroughs_of_New_York_City).

METHODOLOGY

Methodology section

The Methodology section will describe the main components of our analysis and predication system. The Methodology section comprises four stages:

- Collect Inspection Data
- Explore and Understand Data
- Data preparation and preprocessing
- Modeling

EXECUTION AND RESULTS

Population and capita

	Borough	Population	GDP	per capita	square miles	persons /sq.mi
0	Bronx	1471160	28.787	19570	42.10	34653
1	Brooklyn	2648771	63.303	23900	70.82	37137
2	Manhattan	1664727	629.682	378250	22.83	72033
3	Queens	2358582	73.842	31310	108.53	21460
4	Staten Island	479458	11.249	23460	58.37	8112

Source:
https://cocl.us/new_york_dataset/newyork_data.json

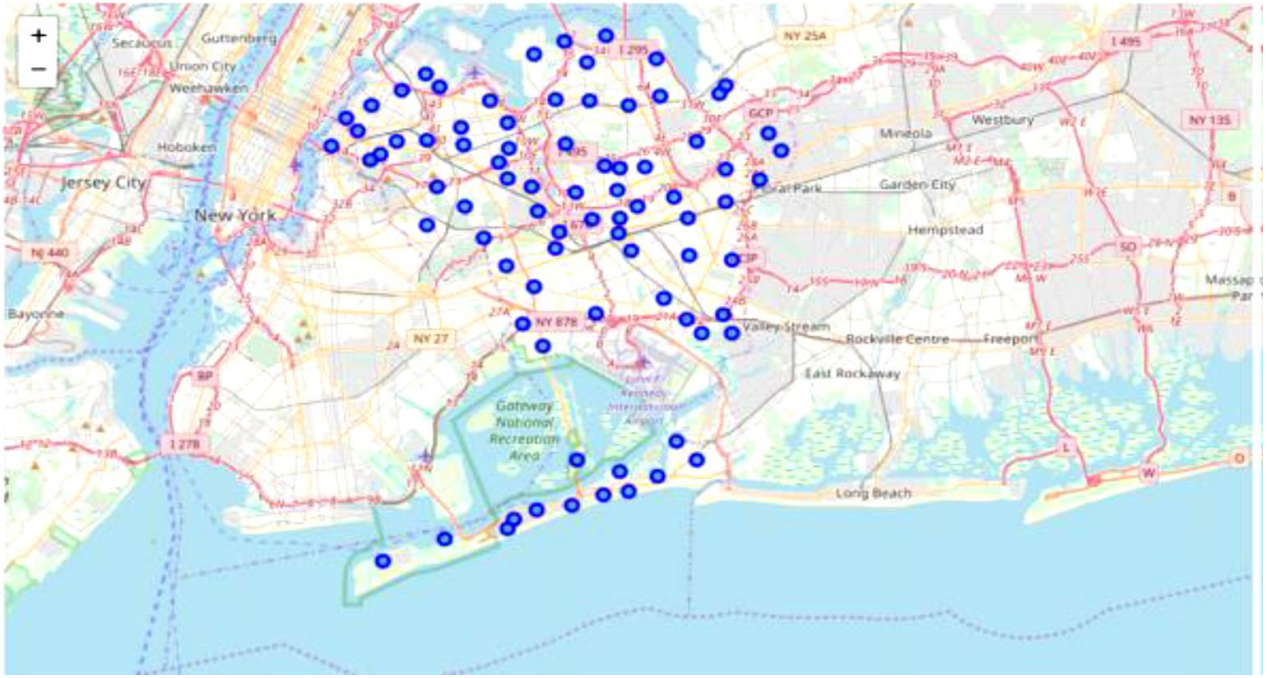
EXECUTION AND RESULTS

Neighborhoods distribution

Brooklyn

EXECUTION AND RESULTS

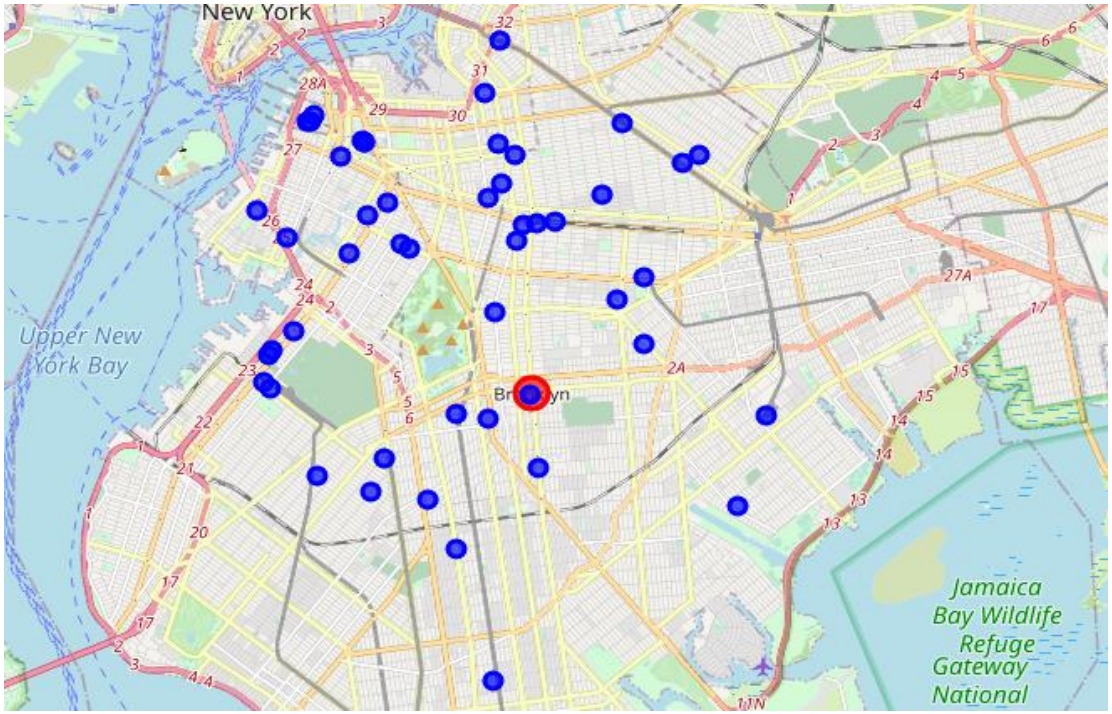
Neighborhoods distribution



Queen

EXECUTION AND RESULTS

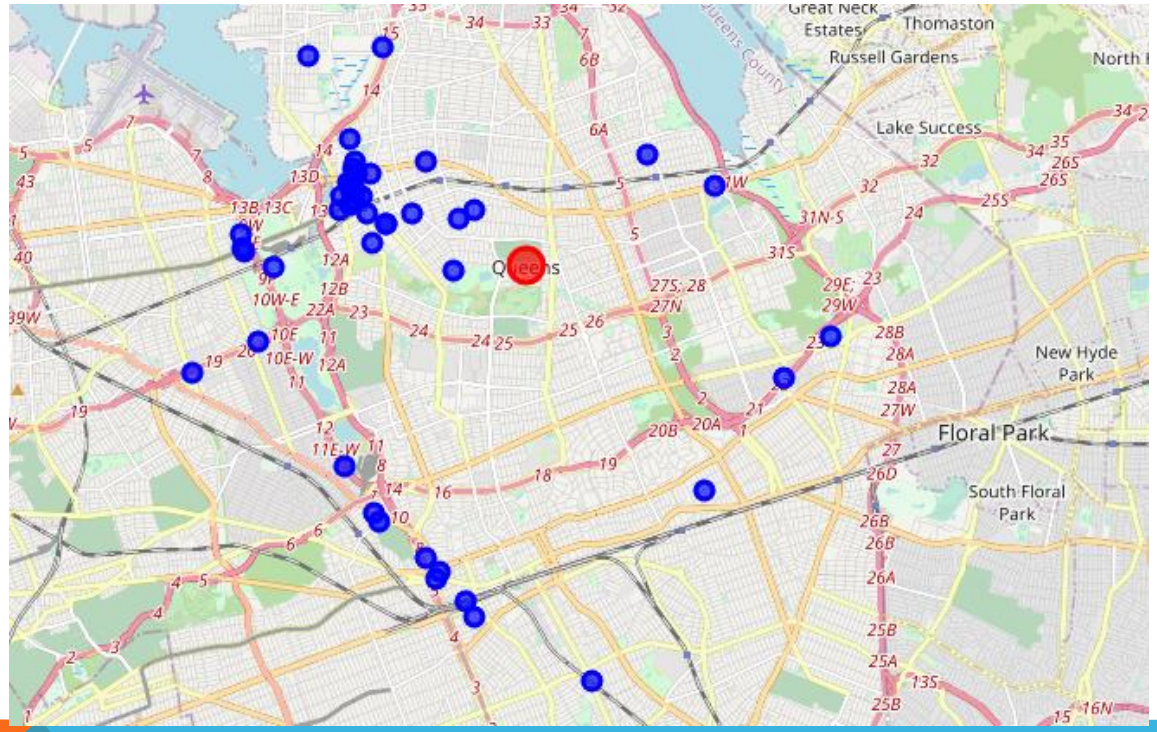
hotels distribution



Brooklyn

EXECUTION AND RESULTS

hotels distribution



Queen

EXECUTION AND RESULTS

Hotel amenities

categories	name	address	lat	lng	labeledLatLngs	distance	postalCode	cc	city	state	country	formattedAddress	crossStreet	neighborhoc
Breakfast Spot	1	0	1	1	1	1	0	1	1	1	1	1	0	
Building	1	1	1	1	1	1	1	1	1	1	1	1	1	
Convenience Store	1	1	1	1	1	1	1	1	1	1	1	1	1	
Dive Bar	1	0	1	1	1	1	0	1	1	1	1	1	0	
General Travel	1	0	1	1	1	1	0	1	1	1	1	1	0	
Gym / Fitness Center	1	1	1	1	1	1	1	1	1	1	1	1	0	
Historic Site	1	0	1	1	1	1	0	1	1	1	1	1	0	
Hookah Bar	1	0	1	1	1	1	1	1	1	1	1	1	0	
Hostel	2	1	2	2	2	2	1	2	2	2	2	2	0	
Hotel	27	22	27	27	27	27	24	27	26	27	27	27	11	
Hotel Bar	3	1	3	3	3	3	1	3	3	3	3	3	0	

Brooklyn

EXECUTION AND RESULTS

Hotel amenities

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categories	name	address	lat	lng	labeledLatLngs	distance	postalCode	cc	city	state	country	formattedAddress	crossStreet	neighborhooc
Apres Ski Bar	1	1	1	1	1	1	0	1	1	1	1	1	0	(
Asian Restaurant	1	1	1	1	1	1	1	1	1	1	1	1	0	(
Bed & Breakfast	1	1	1	1	1	1	1	1	1	1	1	1	0	(
Building	1	0	1	1	1	1	0	1	1	1	1	1	0	(
Convention Center	1	0	1	1	1	1	0	1	0	1	1	1	0	(
Event Space	1	1	1	1	1	1	1	1	1	1	1	1	1	(
Hotel	29	25	29	29	29	29	27	29	28	29	29	29	8	1
Hotel Bar	1	0	1	1	1	1	1	1	1	1	1	1	0	(
Indian Restaurant	2	0	2	2	2	2	2	2	2	2	2	2	0	(
Motel	1	0	1	1	1	1	0	1	0	1	1	1	0	(
Music	1	0	1	1	1	1	0	1	1	1	1	1	0	(

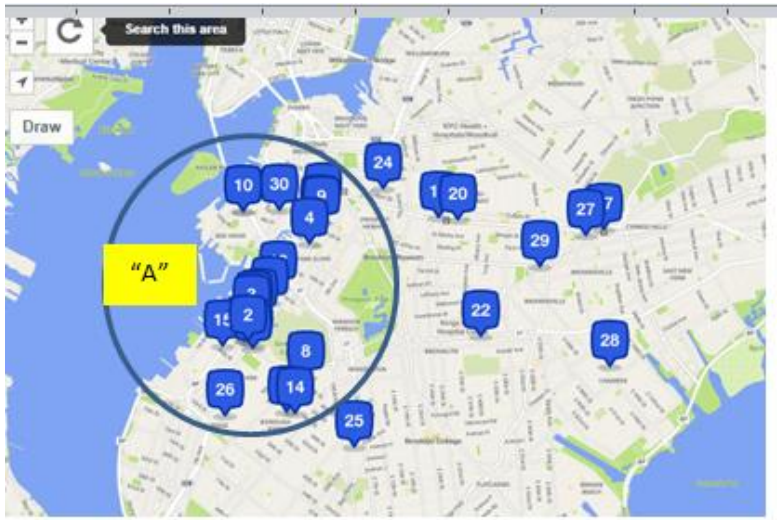
Queen

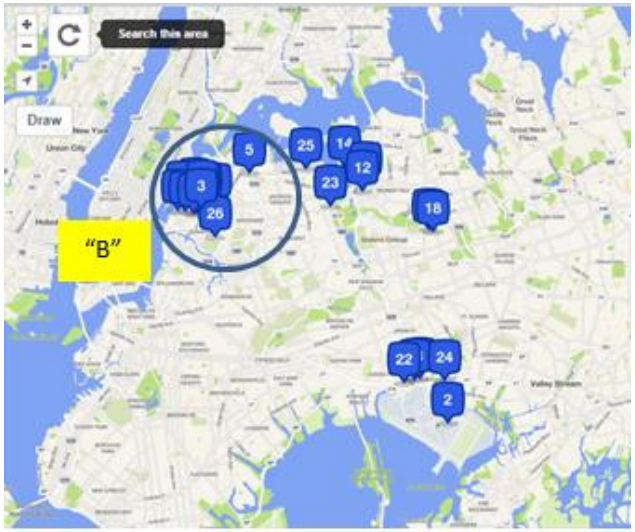
RESULTS AND DISCUSSION SECTION

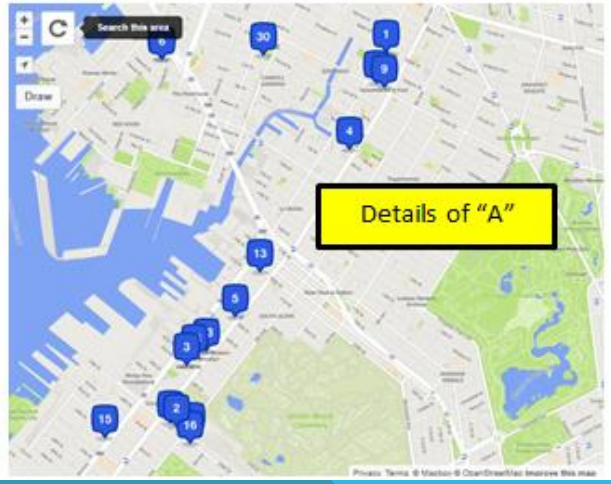
It is interesting to note that, most of the hotels have been considered to be close to subway stations to facilitate access to other areas. Using the current restaurants dataset I gathered from FourSquare, I generate a trending map for each area. From the maps, we can clearly say that the most hotels at Brooklyn are on the 4th Avenue and close to subway stations facing Bay ridge channel.

While in Queen District, where hotels are more scattered, mainly placed and focused on the area that are close to Manhattan and have access to Manhattan subway as well as the highways.

POSSIBLE LOCATIONS







Brooklyn

Queen