Capstone Project

Select top neighborhood at Brooklyn NY to stablish a food court

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Introduction

In this project, we studied all Brooklyn neighborhoods to find the best place to establish a new food court and we also propose the best cousins to be presented at the new food court. According to Wikipedia definition, A food court is generally an indoor plaza or common area within a facility that is contiguous with the counters of multiple food vendors and provides a common area for self-serve dinner. The most important element to succeed the food court is the location popularity. Foodcourt should be in a crowded area with a large demand for to have a specific variety of food. The first important element to find a good location. The second element is the smart selection of provided cousins. For instant having an Indian food unit in the area that the available data shows that there is no interested in that type of food can be the important reason for food court failure. In this project, we are using data of the Brooklyn NY and using foursquare database and post-process the data we are trying to propose the best location for the food court.

Data

In order to accomplish this goal, locations a data of places in Brooklyn was be needed. I used Foursquare services to gain data of Brooklyn neighborhood venue and nearby areas, in order plot them on map. 'https://data.gov.in/' is a Government of India website that provide opensource data to public. I utilized this website to gain insights on employers in India, and Hospitals in National Capital Region. Luckily, this dataset exists for free on the web. Here is the link to the dataset:

 https://geo.nyu.edu/catalog/nyu_2451_34572

Methodology

After getting Brooklyn neighborhood data such as name and location, we used this information to feed the foursquare database to get venue information. So the plan was to answer two questions:

1- Where is the best neighborhood?

 To answer this question, sort all source of data which shows the popularity of all types of restaurant within Brooklyn. Top five neighborhood is selected

 2- Which kind of cousin should be provided?

In the end, the most popular restaurant for top popular neighborhoods was studied to propose the list of cuisines

Results and Discussions

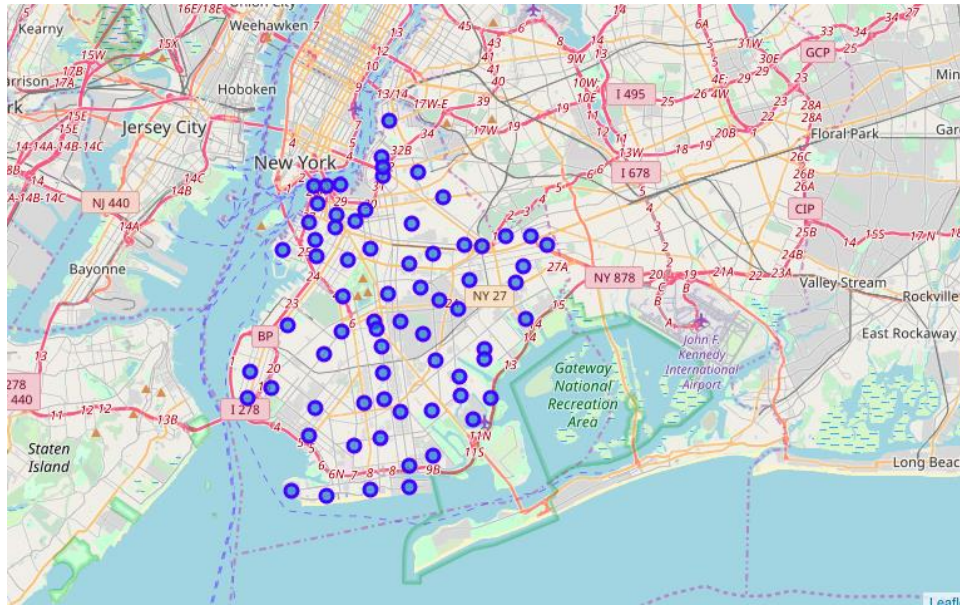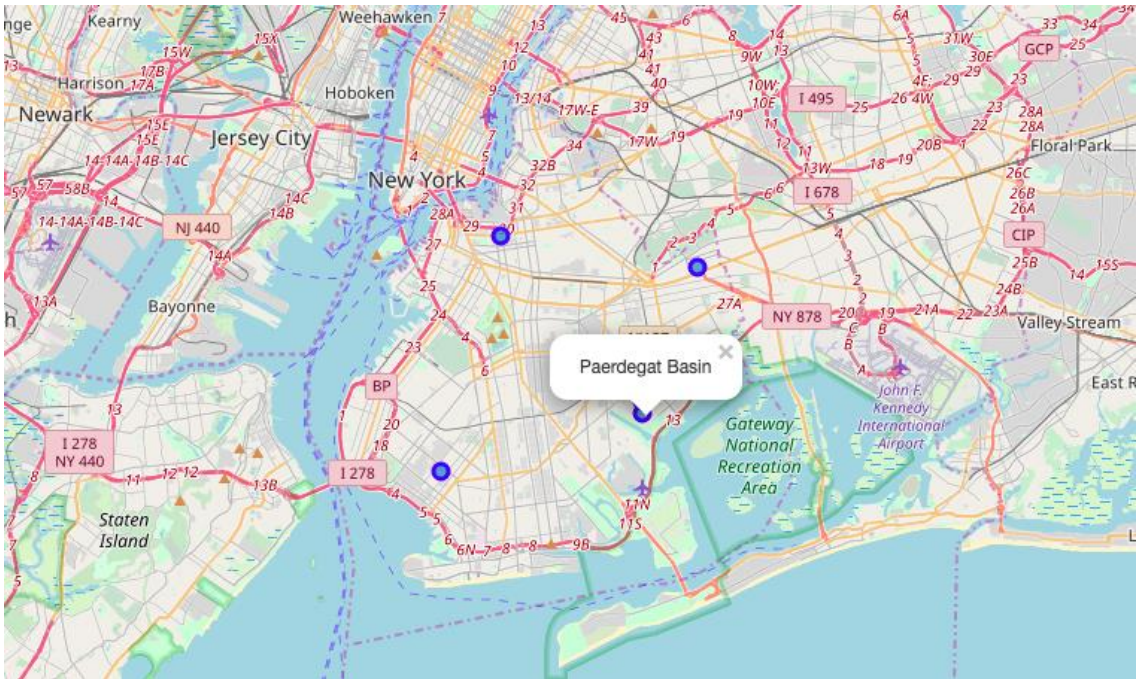In the figure 1, all neighborhood at Brooklyn is shown.

Figure 1: Brooklyn has 70 neighborhoods.

The Next step, I group rows by neighborhood and by taking the mean of the frequency of occurrence of each category to find the popularity of different venues for each neighboorhood. I also select only venues under the category of "Restaurant" and with the summation of frequency rates, I could generate the chart to show the top 5 most popular spots at Brooklyn for restaurants. Table 1 shows the tope five neighborhoods

Neighborhood	Popularity
Paerdegat Basin	0.500000
Canarsie	0.428571
Clinton Hill	0.414894
Bensonhurst	0.400000
Cypress Hills	0.371429

Table 1: Most popular restaurant spots at Brooklyn

According to this Table, Paerdegat basin is the most promising neighborhood to have a new food court. We can find these neighborhoods on the map as follows

Now we should decide which kind of cuisine we are proposing. In the following Let's print each neighborhood along with the top 5 most common restaurants

Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
Paerdegat Basin	Asian Restaurant	Chinese Restaurant	Vietnamese Restaurant	Ethiopian Restaurant	Israeli Restaurant
Canarsie	Asian Restaurant	Caribbean Restaurant	Chinese Restaurant	Vietnamese Restaurant	Falafel Restaurant
Clinton Hill	Italian Restaurant	Mexican Restaurant	Japanese Restaurant	Indian Restaurant	Thai Restaurant
Bensonhurst	Chinese Restaurant	Sushi Restaurant	Vietnamese Restaurant	Dumpling Restaurant	Hotpot Restaurant
Cypress Hills	Spanish Restaurant	Latin American Restaurant	Fast Food Restaurant	Chinese Restaurant	Seafood Restaurant

Table 2: Most common restaurant types

Accordingly, by reading the popular restaurant for example at Paerdegat basin, we can say that providing Chines, Vietnamese, Ethiopian, and Israelis cuisine would be a good idea