

Opening a Indian restaurant in Queens, NY

Module 9, Week 5

June 2019

Background

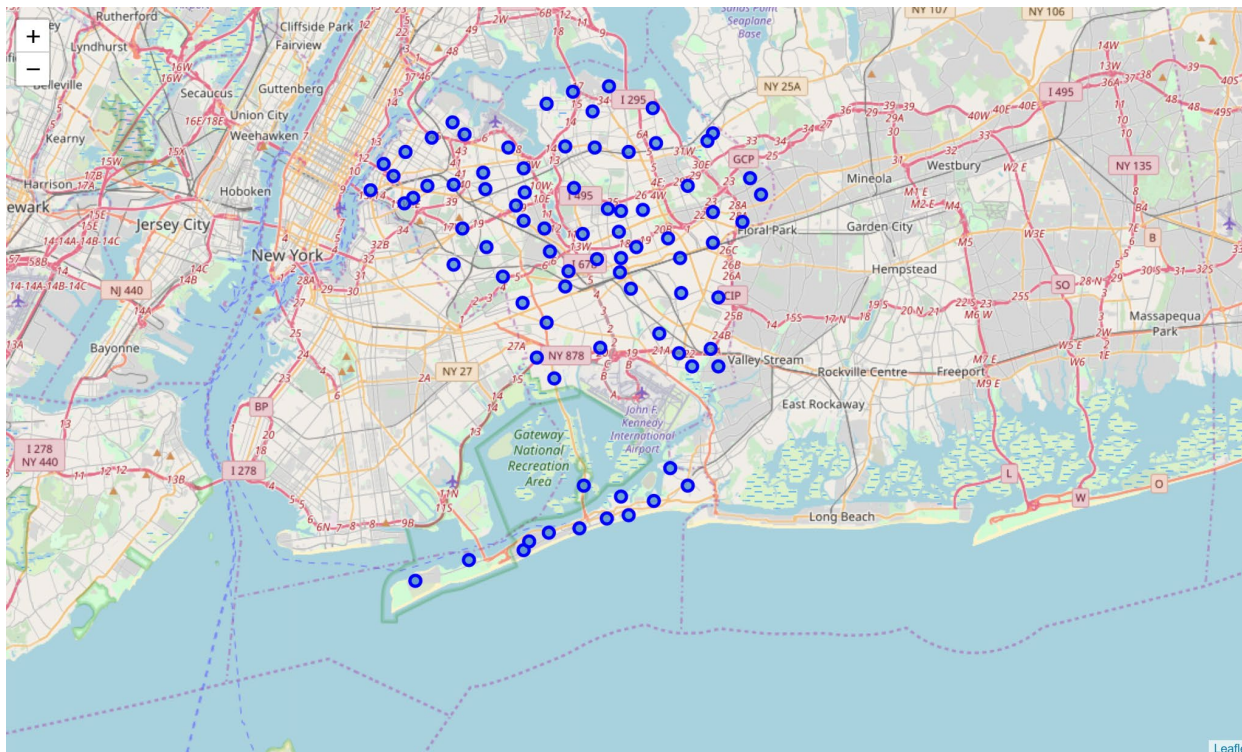
- In a city of New York, if someone is looking to open an Indian restaurant, in Queens borough of New York.
- The intention is to open this restaurant in Queens borough as there is a general knowledge and understanding that there is high Indian population in Queens.
- Before a lease is signed for a restaurant's location, homework must be done.
- If it turns out that it wasn't a good location for a restaurant, it could cost a lot of money.

Data

- New York primary has 5 boroughs and 300+ neighborhoods.
- The process outlined here for Queens can be used for other borough as well.
- In order to determine whether Queens, NY is a good location to open the Indian restaurant, the neighborhoods were segmented and explored.
- The dataset was used from NYU Spatial Data Repository from year 2014.
- The Foursquare APIs were used to explore the neighborhoods.

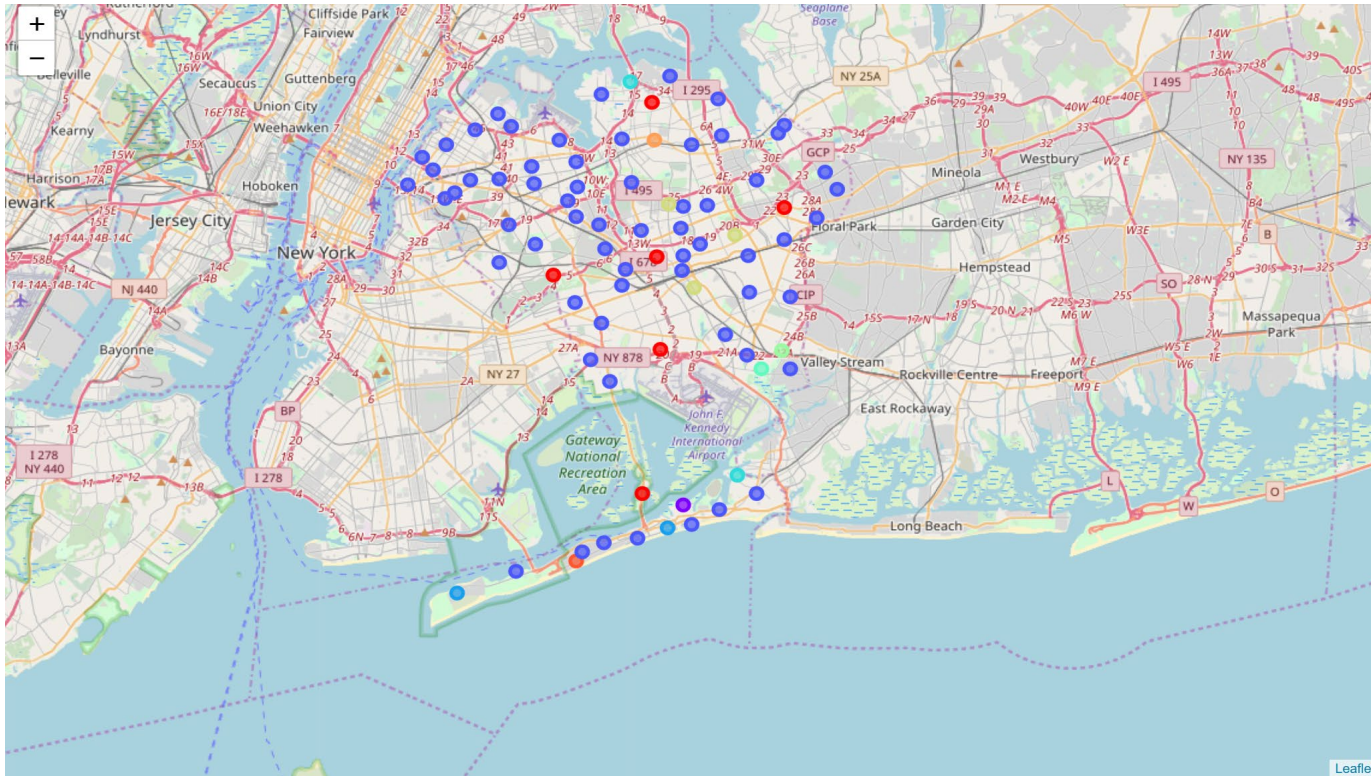
Queens Neighborhoods

- For illustration purposes, the map was simplified, segmented and clustered for only the neighborhoods in Queens.



Clustering

- k-means was run to cluster the neighborhood into clusters.



Clusters data with top Venues (sample)

- k-means was run to cluster the neighborhood into clusters.

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	11th Most Common Venue	12th Most Common Venue	13th Most Common Venue	14th Most Common Venue	15th Most Common Venue	16th Most Common Venue	17th Most Common Venue	18th Most Common Venue	19th Most Common Venue	20th Most Common Venue	21th Most Common Venue	22th Most Common Venue	23rd Most Common Venue
15	Glendale	Food & Drink Shop	Brewery	Deli / Bodega	Arts & Crafts Store	Fast Food Restaurant	Empanada Restaurant	Event Space	Falafel Restaurant	Farm	Farmers Market	Filipino Restaurant	Egyptian Restaurant	Fish & Chips Shop	Fish Market	Flower Shop	Food	Electronics Store	Women's Store	Eastern European Restaurant	Food Court	Dry Cleaner	Donut Shop	Dog R
19	South Ozone Park	Deli / Bodega	Park	Hotel	Food Truck	Donut Shop	Fast Food Restaurant	Sandwich Place	Bar	Empanada Restaurant	Egyptian Restaurant	Electronics Store	Farm	Event Space	Falafel Restaurant	Farmers Market	Filipino Restaurant	Fish & Chips Shop	Fish Market	Eastern European Restaurant	Dry Cleaner	Dumpling Restaurant	Food	Dog R
21	Whitestone	Bubble Tea Shop	Dance Studio	Deli / Bodega	Train	Women's Store	Farm	Electronics Store	Empanada Restaurant	Event Space	Falafel Restaurant	Fast Food Restaurant	Farmers Market	Eastern European Restaurant	Filipino Restaurant	Fish & Chips Shop	Fish Market	Flower Shop	Egyptian Restaurant	Dry Cleaner	Dumpling Restaurant	Food & Drink Shop	Donut Shop	Dog R
30	Briarwood	Deli / Bodega	Convenience Store	Arts & Crafts Store	Bus Station	Fast Food Restaurant	Coffee Shop	Gym	Mexican Restaurant	Indian Restaurant	Empanada Restaurant	Food	Flower Shop	Fish Market	Fish & Chips Shop	Filipino Restaurant	Cycle Studio	Dance Studio	Farmers Market	Farm	Falafel Restaurant	Event Space	Dessert Shop	Dim Si Restauri
42	Broad Channel	Other Nightlife	Pizza Place	Deli / Bodega	Dive Bar	Bus Station	Farm	Electronics Store	Empanada Restaurant	Event Space	Falafel Restaurant	Farmers Market	Eastern European Restaurant	Fast Food Restaurant	Filipino Restaurant	Fish & Chips Shop	Fish Market	Flower Shop	Egyptian Restaurant	Women's Store	Dumpling Restaurant	Cosmetics Shop	Dry Cleaner	Dor Sh
65	Bellaire	Deli / Bodega	Convenience Store	Italian Restaurant	Moving Target	Bus Station	Bus Stop	Chinese Restaurant	Greek Restaurant	Coffee Shop	Grocery Store	Discount Store	Empanada Restaurant	Fish & Chips Shop	Cycle Studio	Filipino Restaurant	Fast Food Restaurant	Dance Studio	Department Store	Farmers Market	Farm	Falafel Restaurant	Event Space	Electron Str

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63	Somerville	Park	Women's Store	Dumpling Restaurant	Flower Shop	Fish Market	Fish & Chips Shop	Filipino Restaurant	Fast Food Restaurant	Farmers Market	Farm	Falafel Restaurant	Event Space	Empanada Restaurant	Electronics Store	Egyptian Restaurant	Eastern European Restaurant	Dry Cleaner	Food & Drink Shop	Donut Shop	Dog Run	Dive Bar	Discount Store	Diner	Dim Sun Restauran

Clusters data with top Venues (sample)

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	11th Most Common Venue	12th Most Common Venue	13th Most Common Venue	14th Most Common Venue	15th Most Common Venue	16th Most Common Venue	17th Most Common Venue	18th Most Common Venue	19th Most Common Venue	20th Most Common Venue	21th Most Common Venue	22th Most Common Venue	23th Most Common Venue	24th Most Common Venue	25th Most Common Venue
0	Astoria	Bar	Middle Eastern Restaurant	Hookah Bar	Greek Restaurant	Seafood Restaurant	Bakery	Italian Restaurant	Mediterranean Restaurant	Salon / Barbershop	Café	Pub	Coffee Shop	Deli / Bodega	Pizza Place	Latin American Restaurant	Food Truck	Indian Restaurant	Ice Cream Shop	Gourmet Shop	Grocery Store	Gym	Food & Drink Shop	Gym / Fitness Center	Japanese Restaurant	Salad Place
1	Woodside	Grocery Store	Deli / Bodega	Bakery	Thai Restaurant	Latin American Restaurant	Filipino Restaurant	American Restaurant	Bar	Pizza Place	Donut Shop	Pub	Ice Cream Shop	Sandwich Place	Café	Restaurant	Mexican Restaurant	Chinese Restaurant	Gourmet Shop	Gym / Fitness Center	Pharmacy	Spa	Metro Station	Mobile Phone Shop	Empanada Restaurant	Coffee Shop
2	Jackson Heights	Latin American Restaurant	South American Restaurant	Peruvian Restaurant	Mobile Phone Shop	Bakery	Thai Restaurant	Spanish Restaurant	Mexican Restaurant	Pizza Place	Clothing Store	Diner	Empanada Restaurant	Supplement Shop	Grocery Store	Pharmacy	School	Cuban Restaurant	Kids Store	Laundromat	Shoe Store	Shipping Store	Bubble Tea Shop	Burger Joint	Cajun / Creole Restaurant	Lounge
3	Elmhurst	Thai Restaurant	Mexican Restaurant	Chinese Restaurant	Indonesian Restaurant	Bubble Tea Shop	Vietnamese Restaurant	South American Restaurant	Malay Restaurant	Sushi Restaurant	Donut Shop	Bar	Bank	Colombian Restaurant	Gym / Fitness Center	Snack Place	Ice Cream Shop	Hotpot Restaurant	Park	Argentinian Restaurant	Food	Pizza Place	Salon / Barbershop	Egyptian Restaurant	Farmers Market	Farm
4	Howard Beach	Italian Restaurant	Bagel Shop	Fast Food Restaurant	Pharmacy	Sandwich Place	Chinese Restaurant	Donut Shop	Tapas Restaurant	Diner	Sushi Restaurant	Supermarket	Cosmetics Shop	Fried Chicken Joint	Japanese Restaurant	Spa	Breakfast Spot	Mexican Restaurant	Seafood Restaurant	Sporting Goods Shop	Clothing Store	Bank	Deli / Bodega	Convenience Store	Construction & Landscaping	Gym / Fitness Center
5	Corona	Mexican Restaurant	Pizza Place	Italian Restaurant	Convenience Store	Food & Drink Shop	Empanada Restaurant	Supermarket	School	Sandwich Place	Donut Shop	Bakery	Restaurant	South American Restaurant	Park	Deli / Bodega	Ice Cream Shop	Diner	Dance Studio	Cosmetics Shop	Fast Food Restaurant	Creperie	Farmers Market	Cuban Restaurant	Farm	Falafel Restaurant
6	Forest Hills	Gym	Gym / Fitness Center	Pizza Place	Thai Restaurant	Park	Yoga Studio	Pharmacy	Convenience Store	Business Service	Sandwich Place	Liquor Store	Italian Restaurant	Snack Place	Peruvian Restaurant	Spa	Food Truck	Donut Shop	Chinese Restaurant	Supermarket	Supplement Shop	Farmers Market	Bakery	Bagel Shop	Gift Shop	Optical Shop
7	Kew Gardens	Chinese Restaurant	Park	Pharmacy	Pizza Place	Indian Restaurant	Donut Shop	Bank	Bar	Deli / Bodega	South American Restaurant	Food	Spa	Bubble Tea Shop	Pub	Juice Bar	Diner	Fish Market	Sandwich Place	Italian Restaurant	New American Restaurant	Movie Theater	Sushi Restaurant	Bakery	Trail	Wine Shop
8	Richmond Hill	Pizza Place	Lounge	Latin American Restaurant	Discount Store	Spanish Restaurant	Bus Station	Supermarket	Caribbean Restaurant	Sandwich Place	Bank	Donut Shop	Clothing Store	Metro Station	Diner	Gym / Fitness Center	Indian Restaurant	Pet Service	Empanada Restaurant	Filipino Restaurant	Fast Food Restaurant	Farmers Market	Cuban Restaurant	Cycle Studio	Farm	Falafel Restaurant
9	Flushing	Chinese Restaurant	Hotpot Restaurant	Spa	Bubble Tea Shop	Karaoke Bar	Korean Restaurant	Asian Restaurant	Bakery	Gym / Fitness Center	Gym	Construction & Landscaping	Supermarket	Food Truck	Pool Hall	Dumpling Restaurant	Church	Yoga Studio	Ramen Restaurant	Resort	Cantonese Restaurant	Malay Restaurant	Shipping Store	Shanghai Restaurant	Seafood Restaurant	Café
10	Long Island City	Hotel	Coffee Shop	Pizza Place	Bar	Café	Mexican Restaurant	Donut Shop	Gym	Deli / Bodega	Chinese Restaurant	Restaurant	Bus Station	Post Office	Sandwich Place	Steakhouse	Mobile Phone Shop	Spa	Bookstore	Food Truck	Residential Building (Apartment / Condo)	Fast Food Restaurant	Brewery	Cocktail Bar	Italian Restaurant	Climbing Gym
11	Sunnyside	Pizza Place	Italian Restaurant	South American Restaurant	Chinese Restaurant	Discount Store	Hotel	Coffee Shop	Bakery	Liquor Store	Seafood Restaurant	Laundromat	Spa	Fast Food Restaurant	Bus Station	Bus Stop	Restaurant	Mexican Restaurant	Romanian Restaurant	Korean Restaurant	Clothing Store	Pub	Diner	Deli / Bodega	Peruvian Restaurant	Latin American Restaurant
12	East Elmhurst	Donut Shop	School	Supermarket	Lake	Hotel Bar	South American Restaurant	Ice Cream Shop	Gas Station	Bus Station	Rental Car Location	Coffee Shop	Liquor Store	Electronics Store	Empanada Restaurant	Women's Store	Event Space	Egyptian Restaurant	Farm	Farmers Market	Fast Food Restaurant	Filipino Restaurant	Fish & Chips Shop	Falafel Restaurant	Dumpling Restaurant	Eastern European Restaurant
13	Maspeth	Pizza Place	Diner	Pharmacy	Mobile Phone Shop	Grocery Store	Bank	Japanese Restaurant	Sandwich Place	Sports Bar	Donut Shop	Sushi Restaurant	Chinese Restaurant	Taco Place	Discount Store	Bakery	Lounge	Gourmet Shop	Dessert Shop	Park	Pub	Ice Cream Shop	Deli / Bodega	Flower Shop	Eastern European Restaurant	Event Space
14	Ridgewood	Pizza Place	Bakery	Deli / Bodega	Grocery Store	Greek Restaurant	Mobile Phone Shop	Bank	Egyptian Restaurant	Eastern European Restaurant	Sandwich Place	Liquor Store	Italian Restaurant	Restaurant	Diner	Noodle House	Supplement Shop	Sushi Restaurant	Dessert Shop	Mexican Restaurant	Café	Convenience Store	Bar	German Restaurant	Polish Restaurant	Pet Store
16	Rego Park	Bakery	Grocery Store	Sandwich Place	Sushi Restaurant	Restaurant	Pizza Place	Pharmacy	Donut Shop	Plaza	Diner	Bubble Tea Shop	Shanghai Restaurant	Chinese Restaurant	Coffee Shop	Park	Discount Store	Spanish Restaurant	Nail Salon	Mediterranean Restaurant	Martial Arts Dojo	Liquor Store	Flower Shop	Kosher Restaurant	Furniture / Home Store	Japanese Restaurant
17	Woodhaven	Pharmacy	Deli / Bodega	Bank	Pizza Place	Dive Bar	Mexican Restaurant	Mobile Phone Shop	Spa	Fried Chicken Joint	Latin American Restaurant	Supermarket	Sandwich Place	Nail Salon	Donut Shop	Restaurant	Thai Restaurant	Japanese Restaurant	Bagel Shop	Hookah Bar	Park	Gift Shop	Cycle Studio	Falafel Restaurant	Event Space	Creperie
18	Ozone Park	Pharmacy	Diner	Gym	Bank	Pizza Place	Deli / Bodega	Sporting Goods Shop	Spanish Restaurant	Breakfast Spot	Fast Food Restaurant	Shop & Service	Mobile Phone Shop	Café	Department Store	Sandwich Place	Latin American Restaurant	Donut Shop	Dance Studio	Coffee Shop	Dessert Shop	Restaurant	Bowling Alley	Gym / Fitness Center	Train Station	Indian Restaurant
20	College Point	Chinese Restaurant	Asian Restaurant	Deli / Bodega	Latin American Restaurant	Bar	Pharmacy	Sandwich Place	Pizza Place	Donut Shop	Food & Drink Shop	Mexican Restaurant	Karaoke Bar	Spanish Restaurant	Supermarket	Steakhouse	Caribbean Restaurant	Bakery	Gift Shop	Nightclub	Diner	Buffet	Dessert Shop	Seafood Restaurant	Hotel Bar	Video Store
22	Bayside	Bar	Pizza Place	Spa	American Restaurant	Mexican Restaurant	Indian Restaurant	Italian Restaurant	Pub	Sushi Restaurant	Bakery	Donut Shop	Greek Restaurant	French Restaurant	Shipping Store	Gym	Shanghai Restaurant	Burger Joint	Sandwich Place	Salon / Barbershop	Bus Station	Café	Cajun / Creole Restaurant	Health & Beauty Service	Gymnastics Gym	Pharmacy
23	Auburndale	Italian Restaurant	Hookah Bar	Gymnastics Gym	Furniture / Home Store	Noodle House	Bar	Discount Store	Mobile Phone Shop	Toy / Game Store	Supermarket	Train	Athletics & Sports	Miscellaneous Shop	Ice Cream Shop	Fast Food Restaurant	Deli / Bodega	American Restaurant	Pet Store	Pharmacy	Korean Restaurant	Farmers Market	Farm	Falafel Restaurant	Filipino Restaurant	Event Space

Clusters data with top Venues (sample)

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43	Breezy Point	Beach	American Restaurant	Board Shop	Monument / Landmark	Trail	Women's Store	Farmers Market	Empanada Restaurant	Event Space	Falafel Restaurant	Farm	Filipino Restaurant	Fast Food Restaurant	Egyptian Restaurant	Fish & Chips Shop	Fish Market	Flower Shop	Food	Electronics Store	Eastern European Restaurant	Food Court	Dumpling Restaurant	Dry Cleaner	Diner
78	Hammels	Beach	Southern / Soul Food Restaurant	Diner	Café	Shoe Store	Gym / Fitness Center	Dog Run	Bus Stop	Bus Station	Fast Food Restaurant	Deli / Bodega	Food Truck	Farmers Market	Empanada Restaurant	Filipino Restaurant	Farm	Fish & Chips Shop	Falafel Restaurant	Fish Market	Event Space	Women's Store	Electronics Store	Flower Shop	Eastern European Restaurant

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77	Malba	Rest Area	Tennis Court	Flower Shop	Fish Market	Fish & Chips Shop	Filipino Restaurant	Fast Food Restaurant	Farmers Market	Dumpling Restaurant	Farm	Falafel Restaurant	Event Space	Empanada Restaurant	Electronics Store	Egyptian Restaurant	Eastern European Restaurant	Women's Store	Dry Cleaner	Food & Drink Shop	Donut Shop	Dog Run	Dive Bar	Discount Store	Diner
79	Bayswater	Tennis Court	Playground	Park	Falafel Restaurant	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	Event Space	Women's Store	Dumpling Restaurant	Farmers Market	Fast Food Restaurant	Filipino Restaurant	Fish & Chips Shop	Fish Market	Farm	Donut Shop	Dry Cleaner	Food	Dog Run	Dive Bar	Discount Store	Diner

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64	Brookville	Deli / Bodega	Women's Store	Eastern European Restaurant	Food	Flower Shop	Fish Market	Fish & Chips Shop	Filipino Restaurant	Fast Food Restaurant	Farmers Market	Farm	Falafel Restaurant	Event Space	Empanada Restaurant	Electronics Store	Egyptian Restaurant	Dumpling Restaurant	Food Court	Dry Cleaner	Donut Shop	Dog Run	Dive Bar	Discount Store	Diner

Conclusion

- In this study, I analyzed the neighborhoods of Queens borough of NY and tried to understand what type of top venues there are and how they are clustered. This data helped to determine whether there is opportunity to open an Indian restaurant in Queens. The data gathered ed were eyeballed to determine the next steps. Further analysis to categorize venues, specific distances among them may predict whether to open an Indian restaurant. Regression analysis maybe performed as well.
- Above analysis should have shown a good number of Indian restaurants in top 25 venues and 10 clusters. But that does not seem to be case. The cluster data and top venues indicate that there is definitely an opportunity to open up an Indian restaurant in Queens borough. There are enough venues around which can also increase the foot traffic to the Indian restaurant.