Business decision based on neighborhood popularity

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Introduction

A contractor is asking where should he/she to start his/her business.

To start the work, we should first know what kind of business is more popular in a given area. Based on that information, we could plot a map with top 5 business kinds in each area.

The assumption is that if a business is more popular, the possiblity of new business success is higher
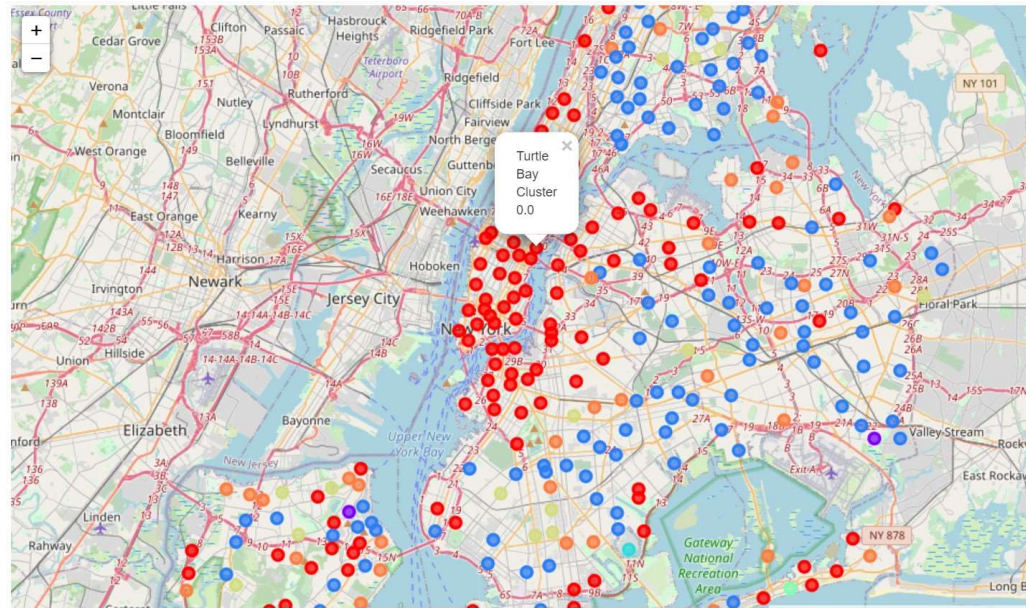
Data

After processing, featured data shows as following

	Borough	Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Bronx	Wakefield	40.894705	-73.847201	2.0	Pharmacy	Donut Shop	Ice Cream Shop	Deli / Bodega	Caribbean Restaurant
1	Bronx	Co-op City	40.874294	-73.829939	2.0	Fast Food Restaurant	Pizza Place	Baseball Field	Bagel Shop	Salon / Barbershop
2	Bronx	Eastchester	40.887556	-73.827806	6.0	Caribbean Restaurant	Deli / Bodega	Diner	Fast Food Restaurant	Bowling Alley
3	Bronx	Fieldston	40.895437	-73.905643	0.0	Music Venue	Plaza	Filipino Restaurant	Ethiopian Restaurant	Event Service
4	Bronx	Riverdale	40.890834	-73.912585	0.0	Home Service	Gym	Plaza	Women's Store	Ethiopian Restaurant

Methodology

By applying Kmean clustering algo, plot the clustering result as following:

Results

As project's output, one could select a neighborhood name and a target business idea to the application. Then a suggestion will be provided. The algo will evaluate the result.

If it's in the most popular business, good idea is shown.

e.g:

business = "Hotel"

neighborhood = "Battery Park City"

The algo will output:

> *It's a good idea to setup Hotel in Battery Park City*

Otherwise, it lists proposed business for the region.

business = "Chinese restaurant"

neighborhood = "Battery Park City"

The algo will output:

> *Try to setup ['Coffee Shop', 'Hotel', 'Clothing Store', 'Gym', 'Plaza'] in Battery Park City*

Conclusion

Whether the proposal is good or not still needs to be verified for the real world. We should continue to tune.