Coursera Capstone

IBM Data Science Capstone
Recommended Location for
Starting Pharmacy in Brooklyn

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Business Problem

o The pandemic has brought in un precedented needs for having pharmacies available to densely populated cities.

o The area under focus is Brooklyn

o Business Question

   o Since Brooklyn already has quite a number of pharmacies available. What is the ideal location for opening a new one for the stakeholders to make a thoughtful decision

Methodology

o Web Scraping Wikipedia to get the neighborhood list.

o Get Latitude And Longitude using Geo Coder.

o Use Foursquare API to get the pharmacy data.

o Group neighborhood data the density

o Perform Clustering using k-means algorithm for finding the optimal location.

Results

o After clustering Cluster 7 came out to be the one with least density

Neighborhood	Cluster Labels	Borough	CommunityBoard	Area	Census	Latitude	Longitude	Pharmacy_Name	Pharma_Latitude	Pharma_Longitude
Coney Island	7	2	2	2	2	2	2	2	2	2
Cypress Hills	7	1	1	1	1	1	1	1	1	1
Fulton Ferry	7	1	1	1	1	1	1	1	1	1
Gerritsen Beach	7	1	1	1	1	1	1	1	1	1
Gowanus	7	1	1	1	1	1	1	1	1	1
Mapleton	7	1	1	1	1	1	1	1	1	1
Remsen Village	7	2	2	2	2	2	2	2	2	2
Rugby	7	1	1	1	1	1	1	1	1	1
Bushwick	7	1	1	1	1	1	1	1	1	1
Carroll Gardens	7	2	2	2	2	2	2	2	2	2
Greenwood Heights	7	2	2	2	2	2	2	2	2	2

	Borough	Neighborhood	Latitude	Longitude
0	Brooklyn	Coney Island	40.543439	-74.197644
1	Brooklyn	Cypress Hills	40.543439	-74.197644
2	Brooklyn	Fulton Ferry	40.543439	-74.197644
3	Brooklyn	Gerritsen Beach	40.543439	-74.197644
4	Brooklyn	Gowanus	40.543439	-74.197644
5	Brooklyn	Mapleton	40.543439	-74.197644
6	Brooklyn	Remsen Village	40.543439	-74.197644
7	Brooklyn	Rugby	40.543439	-74.197644
8	Brooklyn	Bushwick	40.543439	-74.197644
9	Brooklyn	Carroll Gardens	40.543439	-74.197644
10	Brooklyn	Greenwood Heights	40.543439	-74.197644

Discussion And Recommendation

After reviewing the pharmacies across the Brooklyn neighborhoods, the above locations came out as the least number of pharmacies. Which can be considered for further evaluation and decision making.

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