Exploring the Best Place to Live in North York, Toronto

Capstone Project - The Battle of Neighborhoods
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Provide a list of living place recommendations for non-local, who wish to move to North York

Explore transport, cultural development, restaurants, shops and recreational facilities

Give a broad picture of how people there live

Provide a list of living place recommendations

Data Section

Geographical information	Foursquare API	Apply Python

https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

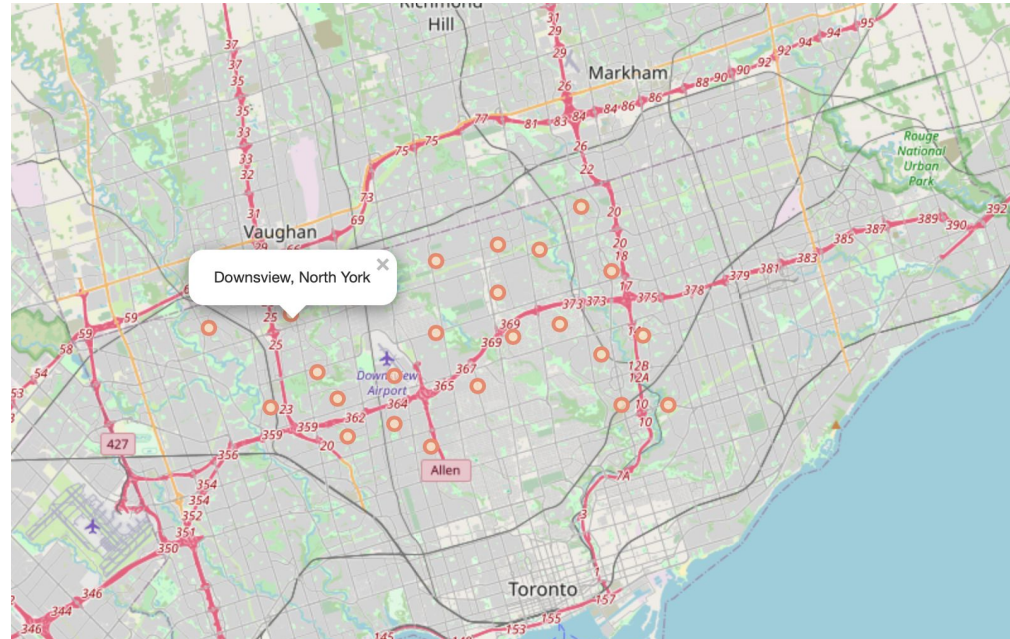Receive the location data of shops and facilities in North York

Use JupyterLab, pandas, numpy, matplotlib, folium, geopy, sklearn, etc. to perform data analyze

https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

Methodology section

Neighbourhoods in North York

	Postal Code	Borough	Neighbourhood	Latitude	Longitude
17	M2H	North York	Hillcrest Village	43.803762	-79.363452
18	M2J	North York	Fairview, Henry Farm, Oriole	43.778517	-79.346556
19	M2K	North York	Bayview Village	43.786947	-79.385975
20	M2L	North York	York Mills, Silver Hills	43.757490	-79.374714
21	M2M	North York	Willowdale, Newtonbrook	43.789053	-79.408493
22	M2N	North York	Willowdale, Willowdale East	43.770120	-79.408493
23	M2P	North York	York Mills West	43.752758	-79.400049

[68]:

A map of North York with neighbourhoods superimposed on top is created using folium

Get the venues nearby North York using Foursquare API

	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
0	Bathurst Manor, Wilson Heights, Downsview North	Coffee Shop	Park	Bank	Sandwich Place	Middle Eastern Restaurant	Community Center	Mobile Phone Shop	Deli / Bodega	Bridal Shop	Pharmacy
1	Bayview Village	Chinese Restaurant	Café	Bank	Intersection	Japanese Restaurant	Women's Store	Dog Run	Construction & Landscaping	Convenience Store	Cosmetics Shop
2	Bedford Park, Lawrence Manor East	Coffee Shop	Italian Restaurant	Sandwich Place	Juice Bar	Liquor Store	Butcher	Pharmacy	Pizza Place	Café	Hobby Shop
3	Don Mills	Gym	Japanese Restaurant	Restaurant	Coffee Shop	Beer Store	Construction & Landscaping	Café	Italian Restaurant	Discount Store	Asian Restaurant
4	Downsview	Construction & Landscaping	Park	Gas Station	Grocery Store	Vietnamese Restaurant	Coffee Shop	Other Repair Shop	Moving Target	Latin American Restaurant	Liquor Store

The top 10 most common venues of each neighbourhood

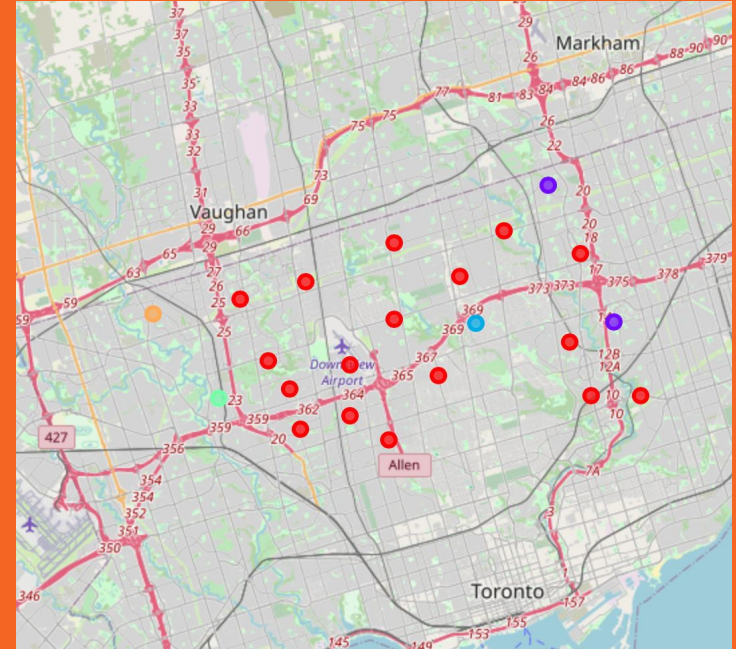# Run k-means to cluster the neighbourhood into 5 clusters

	Postal Code	Borough	Neighbourhood	Latitude	Longitude	Cluster Labels	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
0	M2H	North York	Hillcrest Village	43.803762	-79.363452	1.0	Golf Course	Tennis Court	Mediterranean Restaurant	Pool	Dog Run	Fried Chicken Joint	French Restaurant
1	M2J	North York	Fairview, Henry Farm, Oriole	43.778517	-79.346556	0.0	Clothing Store	Coffee Shop	Juice Bar	Restaurant	Bank	Pharmacy	Department Store
2	M2K	North York	Bayview Village	43.786947	-79.385975	0.0	Chinese Restaurant	Café	Bank	Intersection	Japanese Restaurant	Women's Store	Dog Run
3	M2N	North York	Willowdale, Willowdale East	43.770120	-79.408493	0.0	Ramen Restaurant	Coffee Shop	Korean Restaurant	Café	Juice Bar	Sandwich Place	Movie Theater
4	M2P	North York	York Mills West	43.752758	-79.400049	2.0	Park	Gym Pool	Convenience Store	Women's Store	Dog Run	Comfort Food Restaurant	Community Center

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A data frame that includes the cluster and the top 10 venues for each neighborhood

Result

There are five clusters in North York:

Cluster #	Name of Neighbourhood	Colour of Dot
Cluster 0	Downsview	Red dots
Cluster 1	Hillcrest Village	Purple dots
Cluster 2	York Mills West	Blue dot
Cluster 3	Humberlea, Emery	Green dot
Cluster 4	Humber Summit	Yellow dot

Suitable target groups

Cluster 0 - Downsview

- fly frequently
- drive their cars
- cook their own meals
- love Vietnamese cuisine
- coffee-addicted

Cluster 1 - Hillcrest Village

- golf, tennis or swimming lovers
- dog owners
- people who love Mediterranean cuisine

Suitable target groups

Cluster 2 - York Mills

- runners
- swimmers
- busy urbanites who rely on convenience stores
- women who love shopping and dog owners

Cluster 3 - Humberlea, Emery

- office owners
- home designers
- shoe lovers
- baseball players

Suitable target groups

Cluster 4 - Humber Summit

- love to decorate their home with artworks and crafts
- pizza lovers
- business owners
- women who like shopping

Neighbourhoods have distinct cultural

Bayview Village

-	Chinese restaurants, cafes and Japanese restaurants

Willowdale and Willowdale East

-	ramen restaurants, coffee shops, Korean restaurants, cafes, juice bars and sandwich places

Glencairn

-	sushi restaurants, Japanese restaurants and grocery stores

Victoria Village

-	hockey arena, French restaurants and Portuguese restaurants

Conclusion

Help you pick the most suitable neighbourhood!

5 clusters are suggested for people with different living styles and habits.

4 neighbourhoods having special features and facilities are also mentioned.