



COMPARE
NEIGHBORHOODS
OF NEW YORK AND
TORONTO



INTRODUCTION

- We explored New York City and the city of Toronto and segmented and clustered their neighbourhoods. Both cities are very diverse and are the financial capitals of their respective countries in module 3.
- How are the two cities similar or dissimilar?



INTRODUCTION

- This project we will try to find out the similarity of the two city and we can identify similar districts of the two city.
- If people would like to move from Toronto to New York or vice versa, they can choose a similar district to reside, so that they do not need too much time to integrate to the community.

DATA – TORONTO

- We collect neighbourhoods data from Wikipedia (https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M) and location data from https://cocl.us/Geospatial_data

	Postalcode	Borough	Neighborhood	Latitude	Longitude
0	M4E	East Toronto	The Beaches	43.676357	-79.293031
1	M4K	East Toronto	The Danforth West, Riverdale	43.679557	-79.352188
2	M4L	East Toronto	India Bazaar, The Beaches West	43.668999	-79.315572
3	M4M	East Toronto	Studio District	43.659526	-79.340923
4	M4N	Central Toronto	Lawrence Park	43.728020	-79.388790

DATA – NEW YORK

- We collect neighborhoods data from https://cocl.us/new_york_dataset
- We also collected data from foursquare for the venue data

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	Borough	Neighborhood	Latitude	Longitude
0	Manhattan	Marble Hill	40.876551	-73.910660
1	Manhattan	Chinatown	40.715618	-73.994279
2	Manhattan	Washington Heights	40.851903	-73.936900
3	Manhattan	Inwood	40.867684	-73.921210
4	Manhattan	Hamilton Heights	40.823604	-73.949688

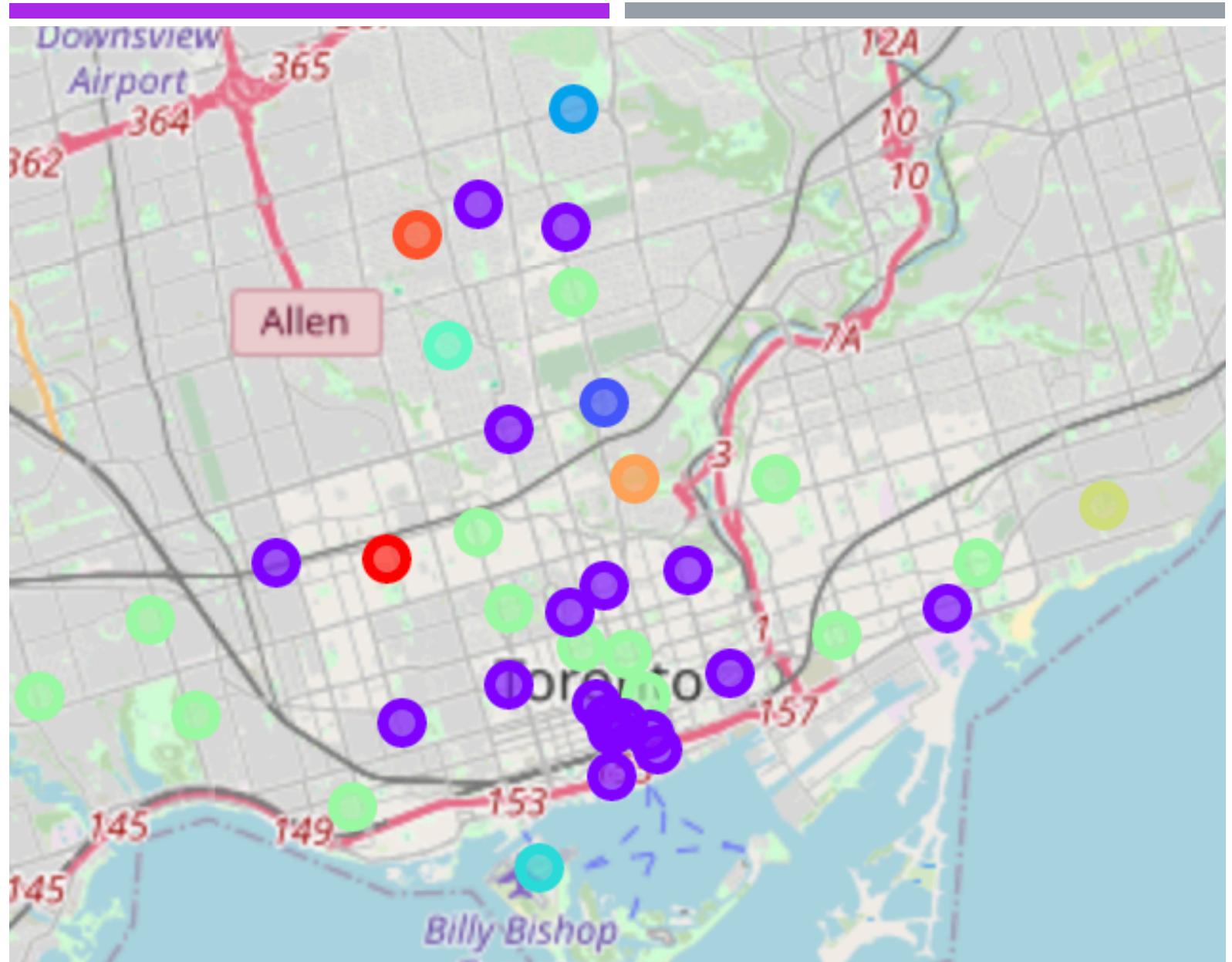
METHODS

- We first encode the data of different type of venue in different district using one-hot encoding. And then grouping to 10 different group different district using k-mean squared method.

	Neighborhood	Yoga Studio	Accessories Store	Adult Boutique	Afghan Restaurant	African Restaurant	Airport	Airport Food Court	Airport Gate	Airport Lounge	...
0	Battery Park City	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000
1	Berczy Park	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000
2	Brockton, Parkdale Village, Exhibition Place	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000
3	Business reply mail Processing Centre, South C...	0.062500	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000
4	CN Tower, King and Spadina, Railway Lands, Har...	0.000000	0.000000	0.0	0.0	0.0	0.055556	0.055556	0.055556	0.111111	0.000000
...
74	Upper East Side	0.033708	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000
75	Upper West Side	0.012195	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000
76	Washington Heights	0.000000	0.011364	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000
77	West Village	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000
78	Yorkville	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.000000	0.000000	0.000000

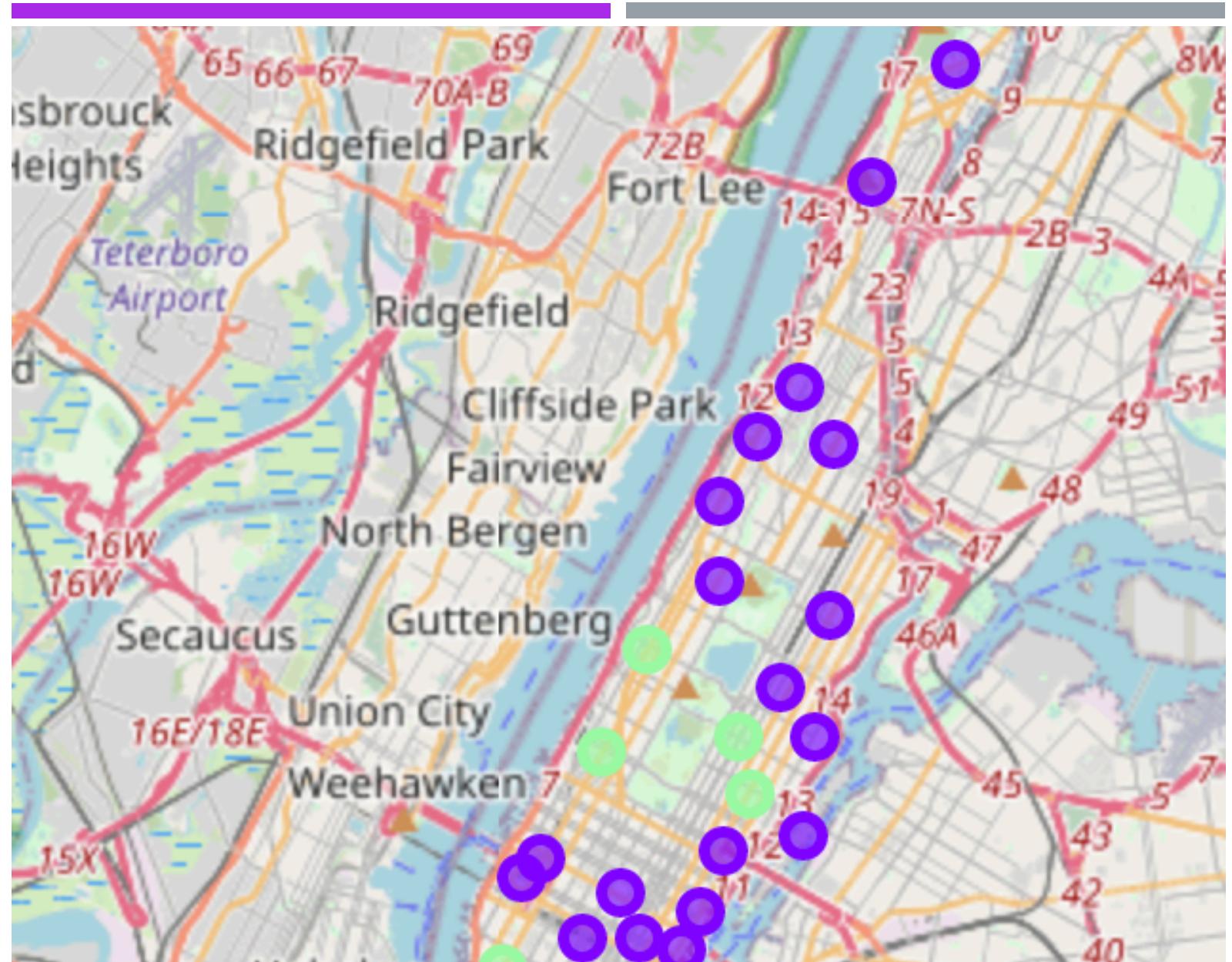
RESULT

- After clustering, we have got the following result:
- Toronto:



RESULT

- After clustering, we have got the following result:
- Manhattan:



CONCLUSION

- Most of the neighbourhoods in Toronto and Manhattan fall into Cluster 2 and 7 (as in the jupyter notebook). And every district in Manhattan is like most of the district in Toronto. With only a few district in Toronto is unique.
- People should easily move from one place to another without any issues.