

Data

For this project, we will first need neighborhood data of Toronto. Hence, we scrape neighborhood data from the Wikipedia page available at,

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

Next, we wrangle the data and clean them to generate the following dataframe (Please note that it is only an abstract view of the entire dataset, and the original dataset has 103 records). The obtained dataset is composed of three columns: PostalCode, Borough, and Neighborhood. Note that we do not consider the records where the borough is "Not assigned". The records where one postal code having more than one neighborhood are merged into one record.

	PostalCode	Borough	Neighborhood
0	M3A	North York	Parkwoods
1	M4A	North York	Victoria Village
2	M5A	Downtown Toronto	Regent Park, Harbourfront
3	M6A	North York	Lawrence Manor, Lawrence Heights
4	M7A	Queen's Park	Ontario Provincial Government
5	M9A	Etobicoke	Islington Avenue
6	M1B	Scarborough	Malvern, Rouge
7	M3B	North York	Don Mills North
8	M4B	East York	Parkview Hill, Woodbine Gardens
9	M5B	Downtown Toronto	Garden District, Ryerson
10	M6B	North York	Glencairn
11	M9B	Etobicoke	West Deane Park, Princess Gardens, Martin Grov...

Once the above dataframe is created, we merge the latitude and the longitude data of each location (each record) using the CSV file that has the geographical coordinates of each postal code available at

https://github.com/courseraassignmentcapstone/Coursera_Capstone/blob/main/Geospatial_Coordinates.csv.

Once the latitude and the longitude data are available, we can utilize Foursquare location data to further analyze the dynamics of the dataset to accomplish the necessary tasks of the project. An abstract view of the dataset with the latitude and longitude information is given below.

Note: In order to access Foursquare services, we need to have a valid developer account at <https://foursquare.com/>.

	PostalCode	Borough	Neighborhood	Latitude	Longitude
0	M1B	Scarborough	Malvern, Rouge	43.806686	-79.194353
1	M1C	Scarborough	Rouge Hill, Port Union, Highland Creek	43.784535	-79.160497
2	M1E	Scarborough	Guildwood, Morningside, West Hill	43.763573	-79.188711
3	M1G	Scarborough	Woburn	43.770992	-79.216917
4	M1H	Scarborough	Cedarbrae	43.773136	-79.239476
5	M1J	Scarborough	Scarborough Village	43.744734	-79.239476
6	M1K	Scarborough	Kennedy Park, Ionview, East Birchmount Park	43.727929	-79.262029
7	M1L	Scarborough	Golden Mile, Clairlea, Oakridge	43.711112	-79.284577
8	M1M	Scarborough	Cliffside, Cliffcrest, Scarborough Village West	43.716316	-79.239476
9	M1N	Scarborough	Birch Cliff, Cliffside West	43.692657	-79.264848
10	M1P	Scarborough	Dorset Park, Wexford Heights, Scarborough Town...	43.757410	-79.273304
11	M1R	Scarborough	Wexford, Maryvale	43.750072	-79.295849

We obtain the data related to population density, availability of other restaurants (competition), income in Toronto from

<http://map.toronto.ca/wellbeing/#eyJ0b3ItZ2lkZ2V0LWNsYXNzYnJlYWsiOjSACGVyY2Vu dE9wYWNpdHnElzcwSwiY3VzxIjYcSTYcSXxIBuZWlnaGJvdXJob29kc8S2fcSrxIHEg8SFxI fEicSLdGFixYXEmCLEo3RpdmVUxZBJZMSXxYnEhMWPYi1pbmRpY2HEgnLFhcWIYWd zTWFwxLYiesWCbcSXMTPErHjEly04ODM3NzYzLjXGhDcyN8SsxKc6NTQxMjksMS4yN MaDMjg1xYjFpMWmxajFqsWSxIDFmMWraW9uxJcyxKxzxarNbGXFhsSsxZZtZXPEm2nGt sayxK3Ev8STxJ9JxaXFp8WpxINNxyPGsToixq1uxq0%2FGscWH>