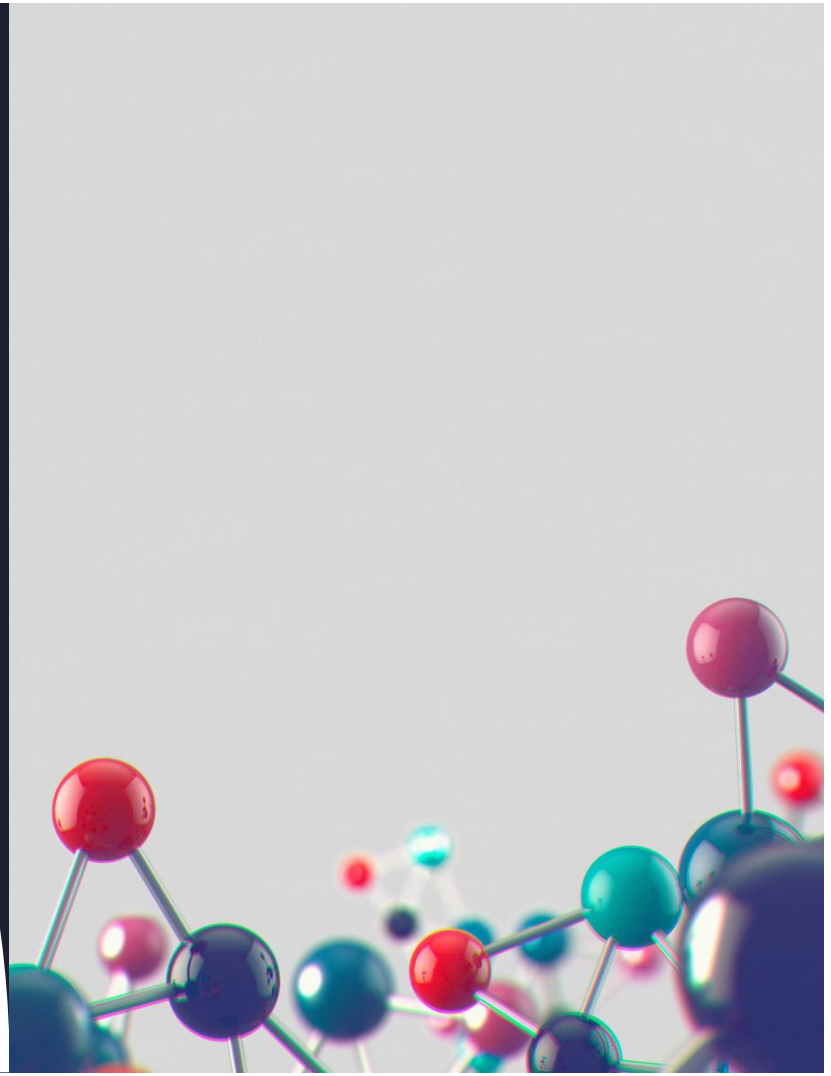
Predicting the Best location for a Restaurant in Toronto



Introduction

Identifying the best location in Toronto based on the population & neighborhood venues.

Location Data for Toronto

	PostalCode	Borough	Neighborhood	Latitude	Longitude
0	M3A	North York	Parkwoods	43.753259	-79.329656
1	M4A	North York	Victoria Village	43.725882	-79.315572
2	M5A	Downtown Toronto	Regent Park, Harbourfront	43.654260	-79.360636
3	M6A	North York	Lawrence Manor, Lawrence Heights	43.718518	-79.464763
4	M7A	Queen's Park	Ontario Provincial Government	43.662301	-79.389494

Sorted Data by Population for each Neighborhood

	PostalCode	Population_2016	Borough	Neighborhood	Latitude	Longitude
22	M2N	75897.0	North York	Willowdale South	43.770120	-79.408493
0	M1B	66108.0	Scarborough	Malvern, Rouge	43.806686	-79.194353
18	M2J	58293.0	North York	Fairview, Henry Farm, Oriole	43.778517	-79.346556
100	M9V	55959.0	Etobicoke	South Steeles, Silverstone, Humbergate, Jamest...	43.739416	-79.588437
14	M1V	54680.0	Scarborough	Milliken, Agincourt North, Steeles East, L'Amo...	43.815252	-79.284577

Top 10 venues for each Neighborhood

	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	Berczy Park	Coffee Shop	Bakery	Cocktail Bar	Seafood Restaurant	Farmers Market	Restaurant	Pharmacy	Cheese Shop	Beer Bar	Japanese Restaurant
1	Brockton, Parkdale Village, Exhibition Place	Café	Coffee Shop	Breakfast Spot	Gym	Stadium	Burrito Place	Restaurant	Climbing Gym	Performing Arts Venue	Bakery
2	CN Tower, King and Spadina, Railway Lands, Har...	Airport Lounge	Airport Service	Airport Terminal	Coffee Shop	Harbor / Marina	Bar	Rental Car Location	Plane	Boat or Ferry	Boutique
3	Central Bay Street	Coffee Shop	Café	Sandwich Place	Italian Restaurant	Restaurant	Salad Place	Bubble Tea Shop	Japanese Restaurant	Burger Joint	Spa
4	Christie	Grocery Store	Café	Park	Nightclub	Restaurant	Candy Store	Italian Restaurant	Baby Store	Coffee Shop	Donut Shop

Identifying the Cluster with high densely populated

```
In [24]: toronto_merged1 = toronto_merged.loc[toronto_merged['Cluster Labels']==0, toronto_merged.columns[[3,4]+list(range(5, toronto_merged.shape[1]))]]
         toronto_merged1.shape
Out[24]: (4, 14)

In [25]: toronto_merged2 = toronto_merged.loc[toronto_merged['Cluster Labels']==1, toronto_merged.columns[[3,4]+list(range(5, toronto_merged.shape[1]))]]
         toronto_merged2.shape
Out[25]: (1, 14)

In [26]: toronto_merged3 = toronto_merged.loc[toronto_merged['Cluster Labels']==2, toronto_merged.columns[[3,4]+list(range(5, toronto_merged.shape[1]))]]
         toronto_merged3.shape
Out[26]: (32, 14)

In [27]: toronto_merged4 = toronto_merged.loc[toronto_merged['Cluster Labels']==3, toronto_merged.columns[[3,4]+list(range(5, toronto_merged.shape[1]))]]
         toronto_merged4.shape
Out[27]: (1, 14)

In [28]: toronto_merged5 = toronto_merged.loc[toronto_merged['Cluster Labels']==5, toronto_merged.columns[[3,4]+list(range(5, toronto_merged.shape[1]))]]
         toronto_merged5.shape
Out[28]: (0, 14)
```

Result:
Best Location for starting a Restaurant