Introduction

For people who want to open a new coffee shop in Toronto, a main question is in which neighborhoods the coffee shop are most popular. So in this project, I will investigate the popularity of coffee shop in neighborhoods of Toronto, and clustering the neighborhoods according to the top 5 venues in the neighborhoods. By analyzing the ranks of coffee shop in each clusters and by the top 5 venues in each cluster, I want to give advice for the choice of locations for coffee shop.

Data

I obtain the neighborhoods information of Toronto from Wikipedia, and then obtain the latitude and longitude of them by CSV file in http://cocl.us/Geospatial_data. Combining them to get a data frame of neighborhoods information；

	Postal Code	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

Then I use Foursquare API to collect the information of popular venues in each neighborhood, I choose the top 5 venues in each neighborhoods and make a new data frame:

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Agincourt	Chinese Restaurant	Coffee Shop	Restaurant	Pharmacy	Cantonese Restaurant
1	Alderwood, Long Branch	Coffee Shop	Fast Food Restaurant	Department Store	Pizza Place	Breakfast Spot
2	Bathurst Manor, Wilson Heights, Downsview North	Coffee Shop	Pizza Place	Park	Bank	Deli / Bodega
3	Bayview Village	Park	Chinese Restaurant	Coffee Shop	Shopping Mall	Bank
4	Bedford Park, Lawrence Manor East	Coffee Shop	Sushi Restaurant	Italian Restaurant	Bakery	Sandwich Place