A comparative study between Canadian cities and United-States cities

New York

Toronto

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INTRODUCTION

- Tourism is one of the pillar industries in Toronto and New York;

- they have accumulated a set of more perfect and mature management system in travel agency and operation mechanism.

- The comparative study of Toronto and New York will promote our tourism industry management process.

- The study focuses on the difference of the Toronto and New York's venues categories.

Business Problem

- We suppose that a person who wants to choose the best place to travel during his vacation,
- so the chosen place should represent his preferences as much as possible.

New York

Toronto

Data acquisition and cleaning

- Toronto Dataset was downloaded and scraped from multiple sources and combined into one table.

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Regent Park , Harbourfront	43.65426	-79.360636	Roselle Desserts	43.653447	-79.362017	Bakery
1	Regent Park , Harbourfront	43.65426	-79.360636	Tandem Coffee	43.653559	-79.361809	Coffee Shop
2	Regent Park , Harbourfront	43.65426	-79.360636	Morning Glory Cafe	43.653947	-79.361149	Breakfast Spot
3	Regent Park , Harbourfront	43.65426	-79.360636	Cooper Koo Family YMCA	43.653249	-79.358008	Distribution Center
4	Regent Park , Harbourfront	43.65426	-79.360636	Body Blitz Spa East	43.654735	-79.359874	Spa

Data acquisition and cleaning

- New York Dataset was downloaded from multiple sources and combined into one table.

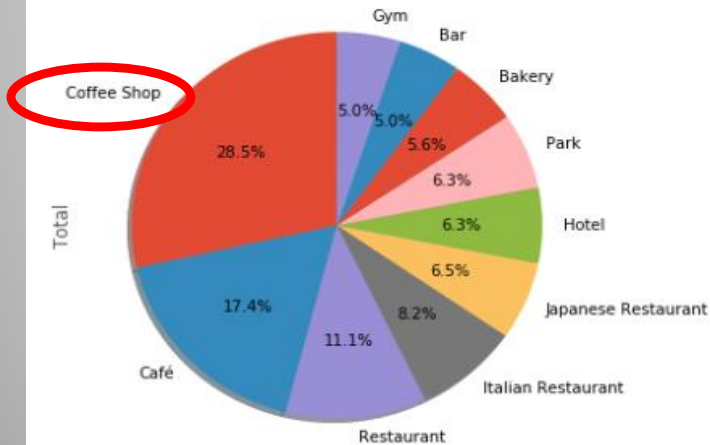|	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Marble Hill	40.876551	-73.91066	Arturo's	40.874412	-73.910271	Pizza Place
1	Marble Hill	40.876551	-73.91066	Bikram Yoga	40.876844	-73.906204	Yoga Studio
2	Marble Hill	40.876551	-73.91066	Tibbett Diner	40.880404	-73.908937	Diner
3	Marble Hill	40.876551	-73.91066	Starbucks	40.877531	-73.905582	Coffee Shop
4	Marble Hill	40.876551	-73.91066	Dunkin'	40.877136	-73.906666	Donut Shop

Exploratory Data Analysis

- Comparing the most popular Toronto Venues categories by 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	Cocktail Bar	Restaurant	Seafood Restaurant	Bakery	Beer Bar	Cheese Shop	Café	Gourmet Shop	Pub
1	Brockton, Parkdale Village, Exhibition Place	Café	Coffee Shop	Breakfast Spot	Bar	Intersection	Nightclub	Grocery Store	Gym	Convenience Store	Furniture / Home Store
2	Business reply mail Processing Centre	Yoga Studio	Skate Park	Fast Food Restaurant	Light Rail Station	Auto Workshop	Spa	Farmers Market	Recording Studio	Pizza Place	Burrito Place
3	CN Tower, King and Spadina, Railway Lands, Har...	Airport Lounge	Airport Service	Airport Terminal	Coffee Shop	Harbor / Marina	Sculpture Garden	Boat or Ferry	Rental Car Location	Plane	Boutique
4	Central Bay Street	Coffee Shop	Italian Restaurant	Café	Sandwich Place	Burger Joint	Bar	Japanese Restaurant	Salad Place	Thai Restaurant	Bubble Tea Shop

Exploratory Data Analysis

- Comparing the most popular New York Venues categories by neighborhood

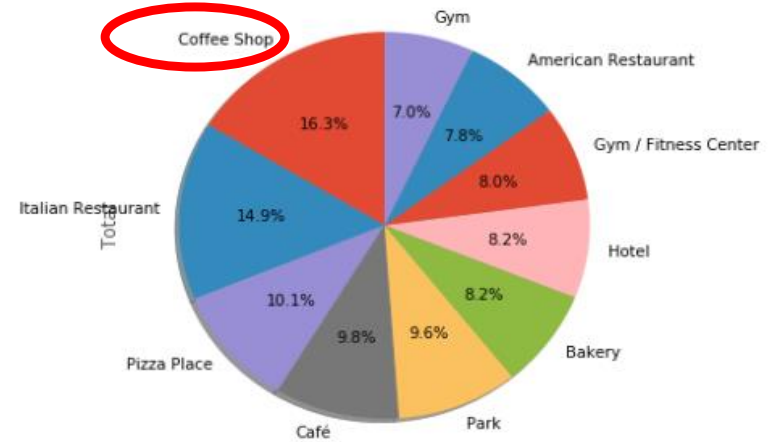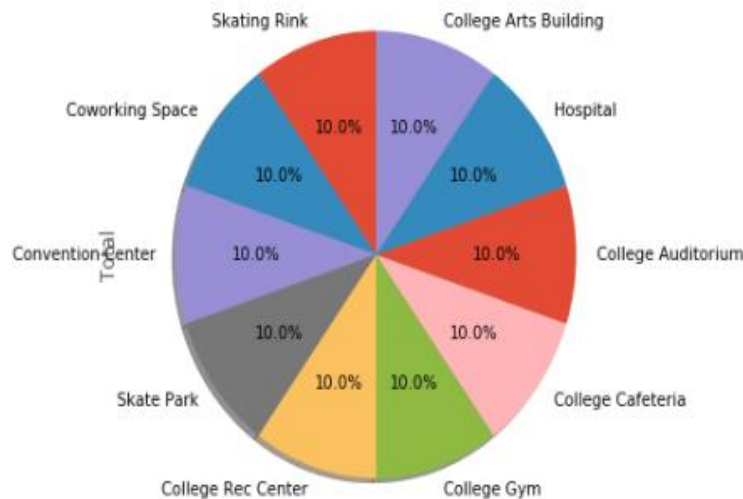|	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Battery Park City	Park	Hotel	Memorial Site	Gym	Coffee Shop	Food Court	Beer Garden	Shopping Mall	Gourmet Shop	Boat or Ferry
1	Carnegie Hill	Coffee Shop	Grocery Store	Pizza Place	Japanese Restaurant	Gym / Fitness Center	Gym	Yoga Studio	Café	Bookstore	Bar
2	Central Harlem	African Restaurant	Cosmetics Shop	Chinese Restaurant	French Restaurant	American Restaurant	Bar	Seafood Restaurant	Public Art	Bookstore	Library
3	Chelsea	Art Gallery	Coffee Shop	Italian Restaurant	Ice Cream Shop	Boutique	Cycle Studio	Park	Café	Theater	Market
4	Chinatown	Chinese Restaurant	Bakery	Cocktail Bar	Coffee Shop	American Restaurant	Spa	Optical Shop	Salon / Barbershop	Noodle House	Hotel

Exploratory Data Analysis

- **Comparing the top 10 popular Venues categories in New York and Toronto**
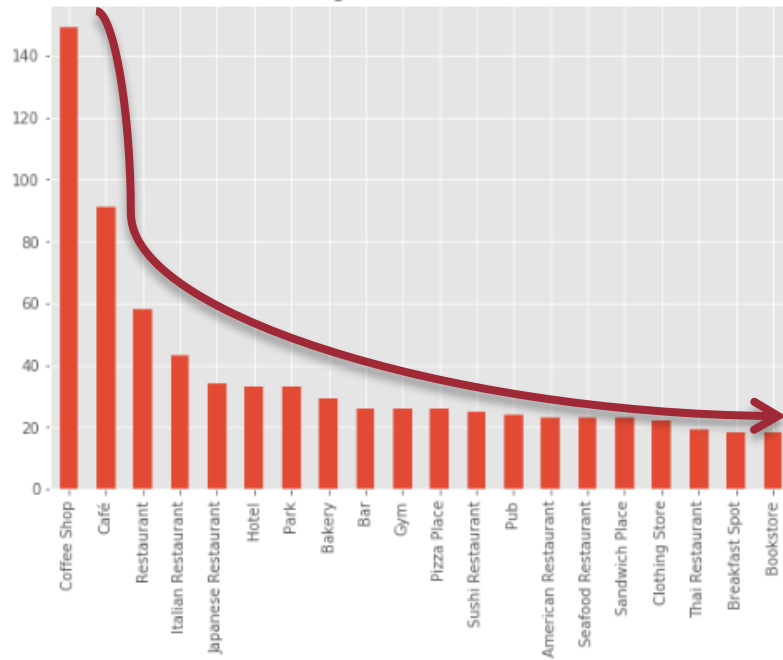
Exploratory Data Analysis
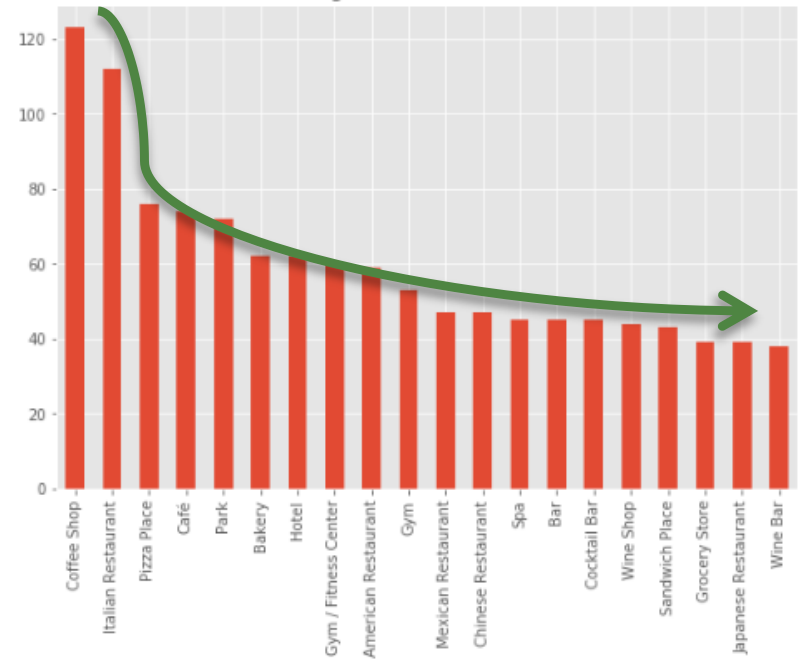
- Comparing the 10 least Venues categories in New York and Toronto.
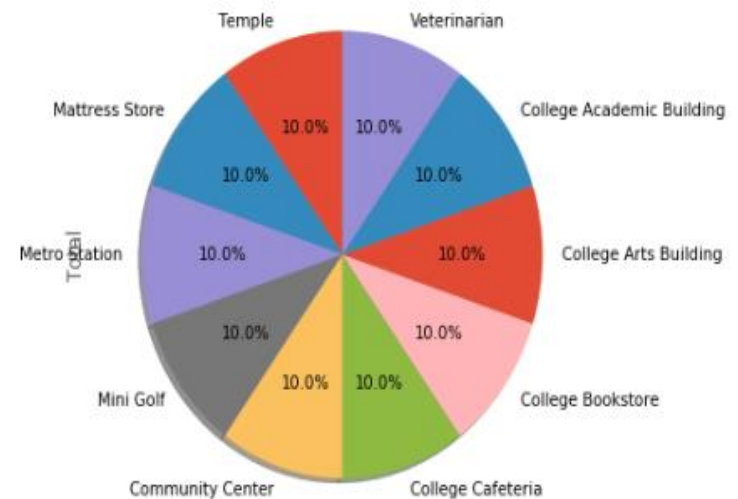
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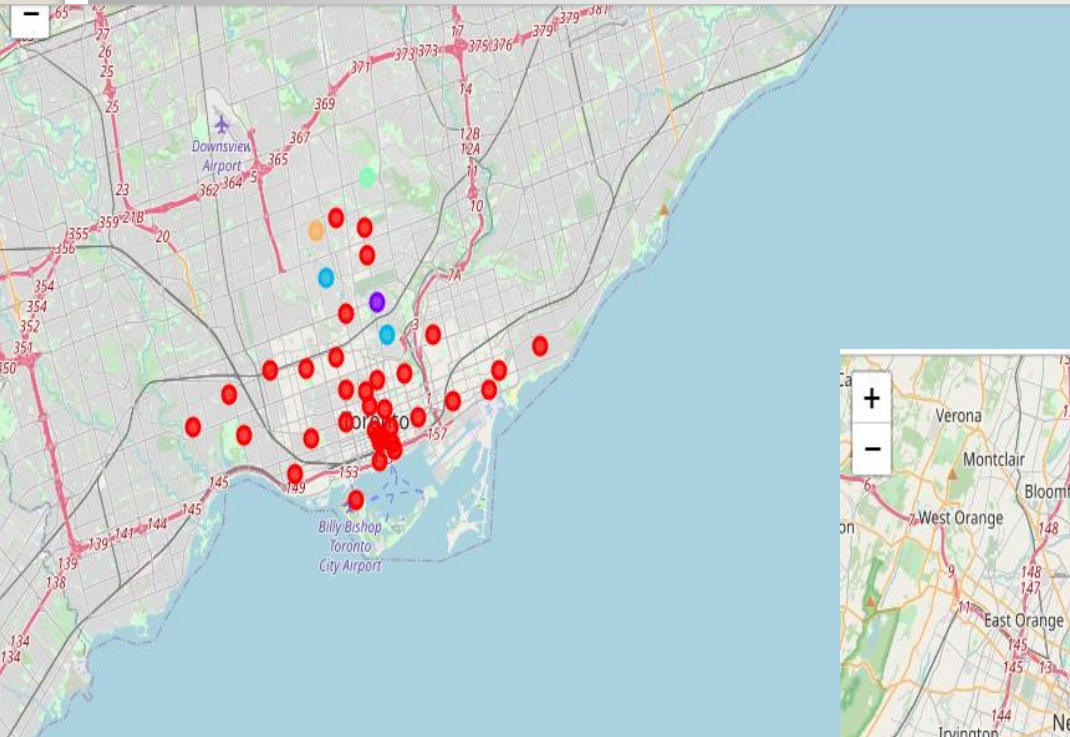
- Comparison between the Venues Categories Distribution of New York and Toronto.
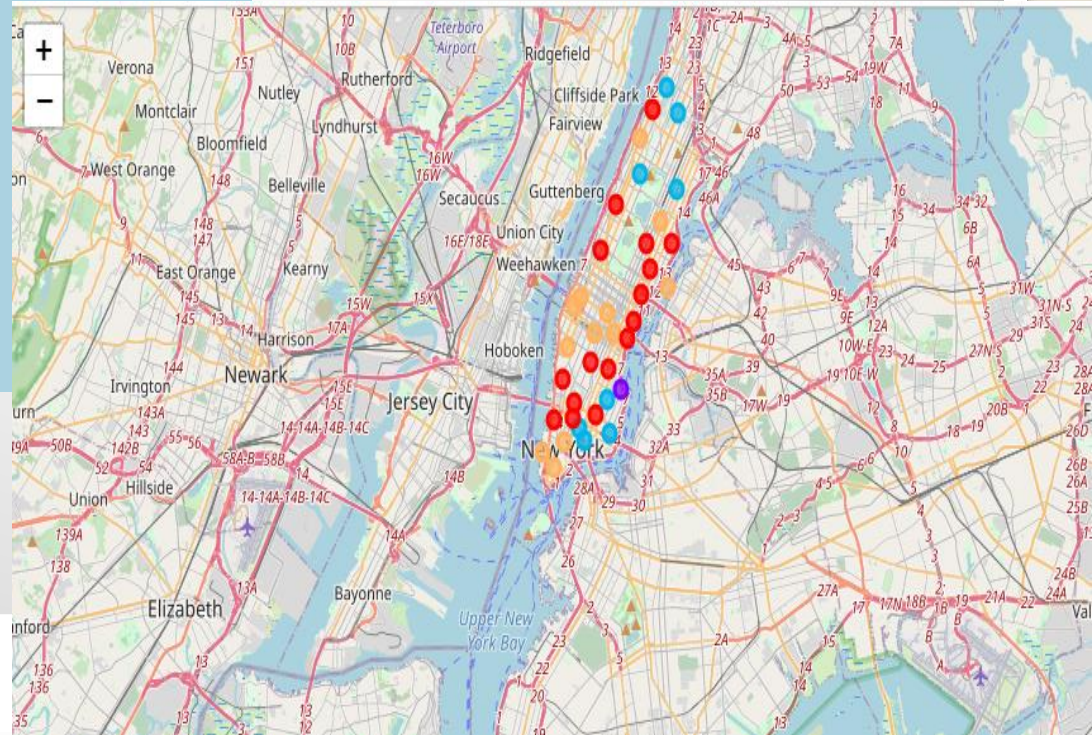
Clustering

Toronto Clustering

New York Clustering

Note that the most popular cluster in the two maps is the red cluster.

Conclusions

- This study can allow travelers to determine the right place to travel depending on their preferences.

- This study shows us the most popular services by neighborhood.

- This study shows us the least existing venues categories in Toronto and in New York.

- In this way, the traveler can easily detect the place that best meets their needs.

- Finally, we showed the different clusters in a map for Toronto and also for New York.

Perspectives

- It is very important to note that we focused in this study only in the comparison of Toronto and New York .

- For future study, we can compare between more Canadian cities and more United-States cities.