Final Project—A program for photographers event

1. Introduction

ABC is a company based in Toronto for organizing events, currently it works on a project to organize an event for 5 days for a group of photographers from all over the world.The company has to put a good program, including a hotel of residence, a hall for meetings, places of landscape to visit, stores for shopping, restaurants and cafes. So the company's purpose is to make a list of places of landscape in Toronto, including the nearest restaurants, cafes, and shopping stores for each place.

2. Data Description

The data used in this project is provided by Foursquare location data. The data are grouped by landscape area, and each area included the information about this area and all information about restaurants, cafes, and stores which in this area.

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4. Data Analysis

4.1 Preparation

The preparation work that we are going to do include:

1. import libraries such as pandas, numpy, folium and so on,
2. define foursquare credentials using your client_id and client_secret,
3. define the city and get its latitude & longitude using package geopy.

4.2 Hotel Data

While we finish the work like search for hotels using APIs, transform the data frame and then clean the useless data, we can get dataset like this:

	name	categories	address	lat	lng	postalCode	state
0	Sheraton Centre Toronto Hotel	Hotel	123 Queen Street West	43.651144	-79.384329	M5H 2M9	ON
21	Grand Ballroom	Event Space	123 Queen St. W	43.651217	-79.383771	M5H 2M9	ON

By following the same process, we can get datasets of park, restaurant, cafeteria and shopping store.

4.3 Parks Data

	name	categories	address	lat	lng	postalCode	state
4	Queen's Park	Park	University Ave.	43.663946	-79.392180	M5R 2E8	ON
8	Trinity Bellwoods Park	Park	1053 Dundas St. W.	43.647072	-79.413756	M5H 2N2	ON
10	Bellevue Square Park	Park	btwn Bellevue & Augusta Ave.	43.653610	-79.402199	M5T 2N4	ON
14	High Park	Park	1873 Bloor St. W	43.646479	-79.463425	M6R 2Z3	ON
17	Canoe Landing Park	Park	50 Fort York Blvd	43.638762	-79.397067	M5V 3Z1	ON

4.4 Restaurant Data

	name	categories	address	lat	lng	postalCode	state
0	Hemispheres Restaurant & Bistro	American Restaurant	110 Chestnut Street	43.654884	-79.385931	M5G 1R3	ON
1	360 Restaurant	Wine Bar	301 Front St W	43.642537	-79.387042	M5V 2T6	ON
2	Azure Restaurant & Bar	Restaurant	225 Front St W	43.644749	-79.385113	M5V 2X3	ON
3	Rol San Restaurant 龍笙棧	Dim Sum Restaurant	323 Spadina Ave.	43.654318	-79.398650	M5T 2E9	ON
4	Swatow Restaurant 汕頭小食家	Chinese Restaurant	309 Spadina Ave.	43.653866	-79.398334	M5T 2E6	ON

4.5 Cafeteria Data

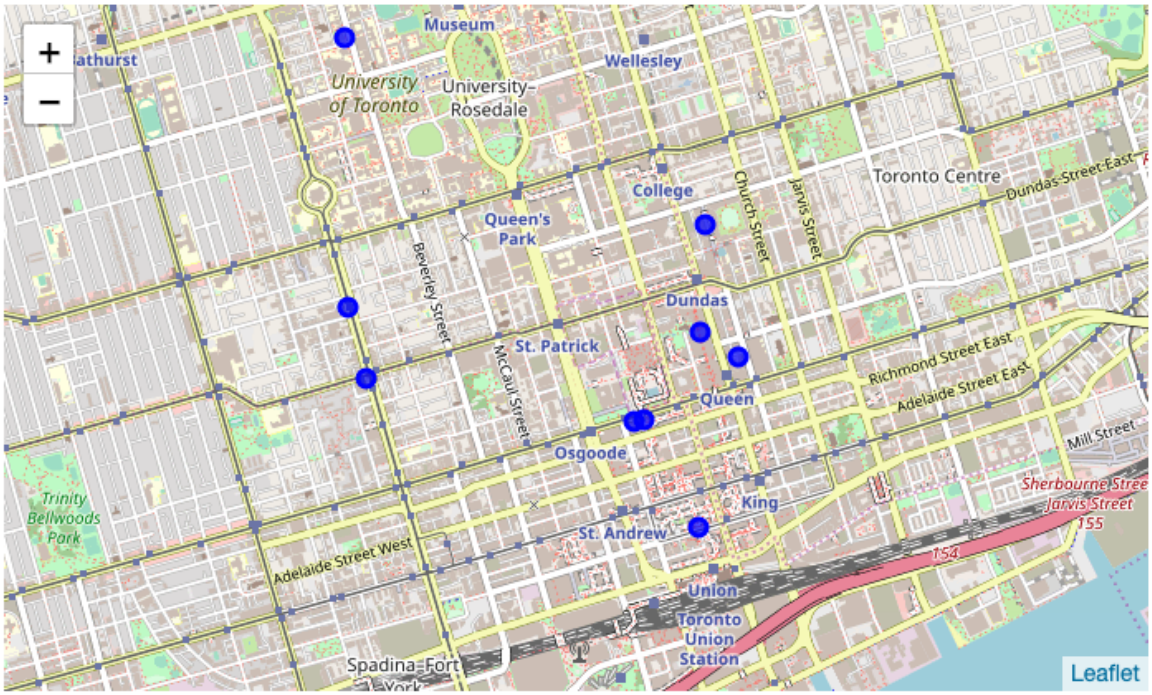
	name	categories	address	lat	lng	state	postalCode
1	Stay Cafeteria 慢走	Asian Restaurant	388 Spadina Ave	43.655454	-79.399163	ON	M5T 2G5
7	De La Salle College Cafeteria	College Cafeteria	131 Farnham Avenue	43.683003	-79.397815	ON	M4V 1H7
20	The Hub	College Cafeteria	350 Victoria St.	43.658585	-79.380622	ON	M5B 2K3
21	Marketeria	Restaurant	30 Bond St.	43.653585	-79.378843	ON	M5B 1W8
24	Innis College	Student Center	2 Sussex Ave	43.665556	-79.399298	ON	M5S 1J5

4.6 Shopping Stores

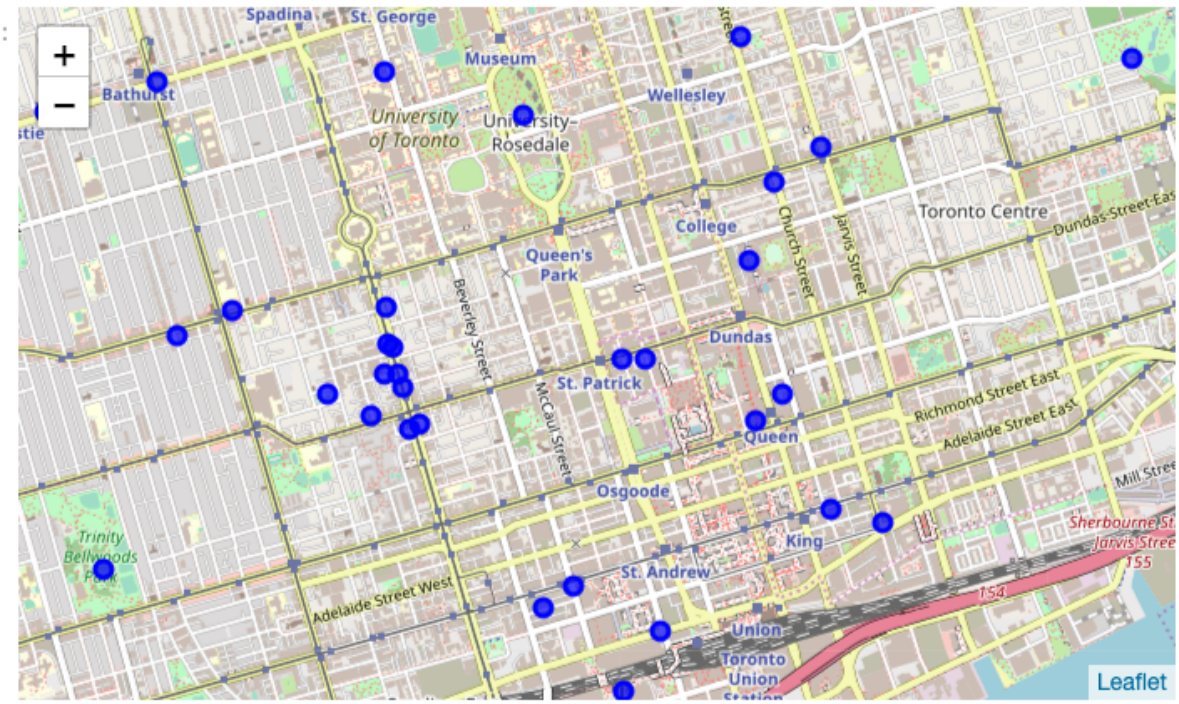
	name	categories	address	lat	lng	postalCode	state
0	Dragon City Shopping Mall 龍城	Shopping Mall	280 Spadina Ave	43.652774	-79.398222	M5T 3A5	ON
1	CF Toronto Eaton Centre	Shopping Mall	220 Yonge St	43.654539	-79.380864	M5B 2H1	ON
2	TD Centre Shopping Concourse	Shopping Mall	66 Wellington St W	43.647184	-79.380932	M5K 1A1	ON

4.7 Visualization

We can use folium library to draw the map and pin markers on the map to see the clusters.



Maps of hotels , shopping stores and cafeterias.



Maps of parks, restaurants, and cafeterias.

5. Conclusion

From the Map above, we can see that no matter the park, the restaurant or the shopping stores, they are distributed uniformly in the main street of Toronto. So it will be very convinient for them to have the conference while visiting this city.