

Capstone Project week 5

Introduction

Taking a look at a specific bus stop in Toronto city, located at latitude = 43.649815 and longitude = -79.342163, we can see that there aren't many places to eat. However, there are quite a few places that are related to sports such as gyms, Baseball fields and a lake for rowing.

After doing some kind of exercise, we tend to get hungry. But the only options available are two Coffee shops.

Data section

The data is based of foursquare API explore feature, listing nearby spots to a Toronto bus stop. Taking into consideration that we use a radius of 800, there are 8 spots near the bus station. Only two of which are food related, a Tim Hortons, a famous Canadian Coffee shop, and a MountainView Fare trade Coffee. Using this information, the idea is to open a new restaurant that athletes can have a meal after a long workout session.

Methodology

First, we started by importing all the libraries necessary to run everything smoothly. Some of them are Pandas, Numpy, Request, Nominatim, Folium, etc..The next step was accessing Foursquare's API by putting information relating to Foursquare's account.

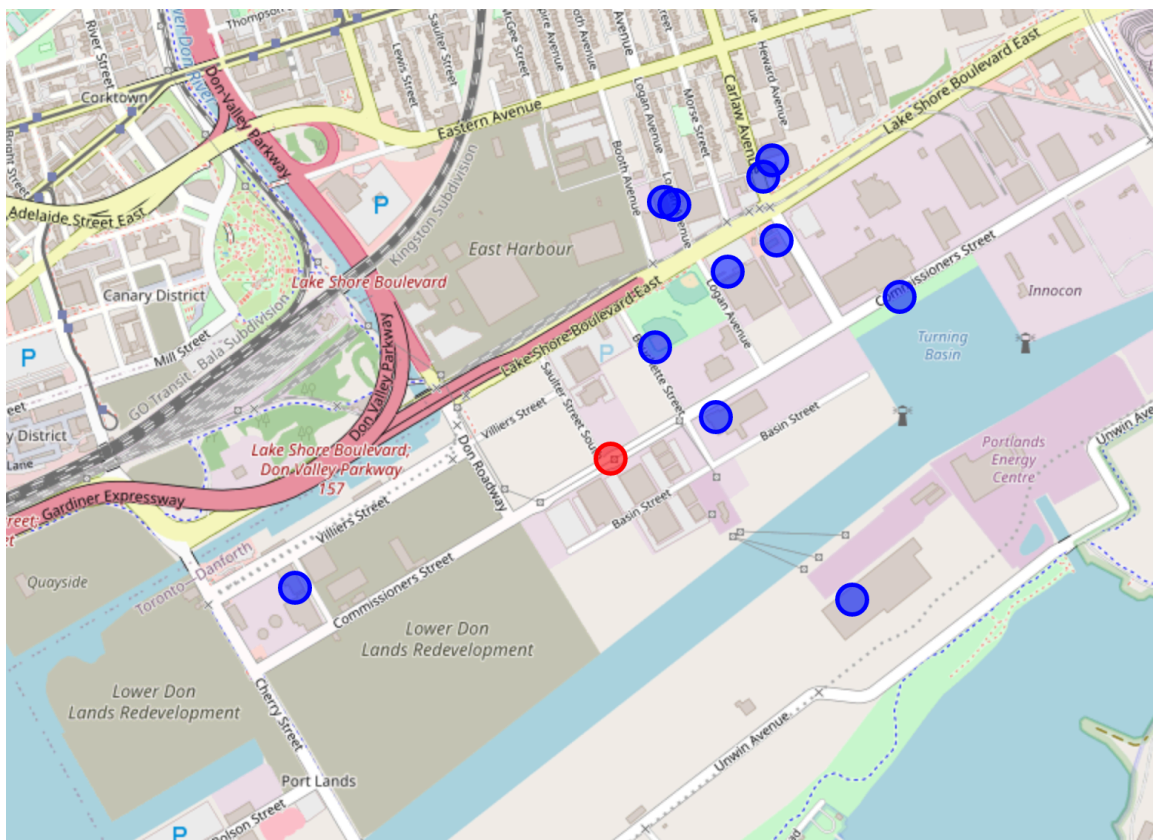
Then, we set the location we want to analyse. In the case of the project it was latitude = 43.649815 and longitude = -79.342163.

The average was taken between the distance of the bus stop and the spots near. We got an average of 605.909.

We plotted the map using the Folium feature and assigned the data to dataframe_filtered. The dataframe contains information such as distance, name of the country, address, the name of the place , state, latitude and longitude.

Results

The map plotted can be seen in the picture below and it shows in blue circles the spots near the bus station(red circle).



The analysed dataframe can also be seen below:

	name	categories	address	crossStreet	lat	lng	labeledLatLngs	distance	postalCode	cc	city	state	country	f
0	BATLgrounds	Athletics & Sports	33 Villiers St	Villiers St. & Cherry St.	43.647088	-79.351306	[{'label': 'display', 'lat': 43.647088, 'lng': -79.351306, 'distance': 796, 'postalCode': 'M5A 1A9', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	796	M5A 1A9	CA	Toronto	ON	Canada	
1	District 28	Coworking Space	28 Logan Ave	NaN	43.655174	-79.340598	[{'label': 'display', 'lat': 43.655174, 'lng': -79.340598, 'distance': 609, 'postalCode': 'M5A 1A9', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	609	NaN	CA	Toronto	ON	Canada	
2	Mayfair Racquet and Fitness Clubs	Gym	801 Lake Shore Blvd. E	NaN	43.653707	-79.338742	[{'label': 'display', 'lat': 43.653707, 'lng': -79.338742, 'distance': 513, 'postalCode': 'M5A 1A9', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	513	NaN	CA	Toronto	ON	Canada	
3	Hearn Generating Station	Government Building	440 Unwin Ave.	Cherry St.	43.646847	-79.335144	[{'label': 'display', 'lat': 43.646847, 'lng': -79.335144, 'distance': 654, 'postalCode': 'M4M 3B9', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	654	M4M 3B9	CA	Toronto	ON	Canada	
4	FedEx Ship Centre	Business Service	475 Commissioners St	NaN	43.650679	-79.339094	[{'label': 'display', 'lat': 43.650679, 'lng': -79.339094, 'distance': 265, 'postalCode': 'M4M 1A5', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	265	M4M 1A5	CA	Toronto	ON	Canada	C
5	McCleary Park	Baseball Field	Lakeshore Blvd E	at Logan	43.652116	-79.340865	[{'label': 'display', 'lat': 43.652116, 'lng': -79.340865, 'distance': 276, 'postalCode': 'M4M 1A5', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	276	NaN	CA	Toronto	ON	Canada	(
6	Tim Hortons	Coffee Shop	829 Lakeshore Blvd East	at Carlaw Ave.	43.654367	-79.337359	[{'label': 'display', 'lat': 43.654367, 'lng': -79.337359, 'distance': 637, 'postalCode': 'M4M 1B2', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	637	M4M 1B2	CA	Toronto	ON	Canada	(
7	MountainView Fare trade Coffee	Coffee Shop	26 Logan Ave	Lakeshore Blvd	43.655125	-79.340321	[{'label': 'display', 'lat': 43.655125, 'lng': -79.340321, 'distance': 609, 'postalCode': 'M4M 2M8', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	609	M4M 2M8	CA	Toronto	ON	Canada	T
8	Habitat For Humanity ReStore	Department Store	3 Carlaw Avenue	NaN	43.655695	-79.337724	[{'label': 'display', 'lat': 43.655695, 'lng': -79.337724, 'distance': 745, 'postalCode': 'M4M 1A5', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	745	NaN	CA	Toronto	ON	Canada	
9	Bayside Rowing Club	Lake	525 Commissioners St.	Carlaw Ave	43.653188	-79.333794	[{'label': 'display', 'lat': 43.653188, 'lng': -79.333794, 'distance': 771, 'postalCode': 'M4M 1A5', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	771	NaN	CA	Toronto	ON	Canada	C
10	Fortis Fitness	Gym	11 Carlaw Ave	Carlaw and Lakeshore	43.656052	-79.337474	[{'label': 'display', 'lat': 43.656052, 'lng': -79.337474, 'distance': 790, 'postalCode': 'M4M 2R6', 'cc': 'CA', 'city': 'Toronto', 'state': 'ON', 'country': 'Canada'}]	790	M4M 2R6	CA	Toronto	ON	Canada	

Discussion

From the results, we can see that the two nearest places to get food are Tim Hortons and MountainView fare Trade Coffee. However, these two places are still farther than average distance between the bus stop and near spots. The average distance is 605.9. Tim Hortons and MountainView fare Trade Coffee's distance are respectively 637 and 609. If we take a closer look, it is not a really big difference. However, a restaurant much closer to the bus stop would be ideal. Something like 100 meters away would be the perfect distance for someone who just had a workout and wanted to grab a bite and get on the bus as quick as possible.

Conclusion

In a nutshell, in this project we analysed a bus stop in Toronto city, located at latitude = 43.649815 and longitude = -79.342163 and its nearby spots. We can conclude that close to this bus stop there are many places where people can practice sports but not many places for people to eat. The average distance between the studied location and its close proximity establishments are 605.9. Although the ideal distance would have to be somewhere closer to the bus stop.