

# Best location to start a new restaurant

## 1. Introduction:

The problem statement is that if a person is willing to start new business such as a restaurant in a specific city. The purpose of the project now is to show the person the best place to open gain more profit based on location advantages.

In order to start a new business, many factors should be taken into consideration. The main factor is the location of the place, so you can know the number of people in that location and if they spend money on restaurants.

Another factor is to check if there is similar restaurants in that location, because there will be a huge competition and there will be no much profits.

Therefore, before a person should start a new restaurant a person should have a full insight of the locality.

In order to find the data mentioned above, foursquare location data services provides information on how the data can be retrieved and how that can be used to get the insights from the data to solve the problem.

## 2. Data:

### 2.1 Data Acquisition:

The data required for this project by using the Wikipedia page:

[https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M).

We have the dataset which is having four columns postal code, borough, neighborhood, and lat, long of the neighborhoods. We can get the venues of that neighborhood by passing the lat and long of the neighborhood to the four square API.

We can also get the most common venue at a given location and to which venue most people are willing to go. We can then analyze the neighborhood and suggest the place that is best suitable for establishing the new business. We can take the features like the distribution of the businesses, density of the locality, living habits, popular venues.

## 2.2 Data Cleaning:

After scraping the data from the Wikipedia page using the beautiful soup, I then cleaned and created a data frame that contained the postal codes, boroughs, and neighborhoods.

Fig 1: Data after removing the Not Assigned places

[9]:

	Postcode	Borough	Neighbourhood
0	M1B	Scarborough	Rouge, Malvern
1	M1C	Scarborough	Highland Creek, Rouge Hill, Port Union
2	M1E	Scarborough	Guildwood, Morningside, West Hill
3	M1G	Scarborough	Woburn
4	M1H	Scarborough	Cedarbrae

Fig 2: Data after combining the places and their coordinates:

[13]:

	Postcode	Borough	Neighbourhood	Postcode	Latitude	Longitude
0	M1B	Scarborough	Rouge, Malvern	M1B	43.806686	-79.194353
1	M1C	Scarborough	Highland Creek, Rouge Hill, Port Union	M1C	43.784535	-79.160497
2	M1E	Scarborough	Guildwood, Morningside, West Hill	M1E	43.763573	-79.188711
3	M1G	Scarborough	Woburn	M1G	43.770992	-79.216917
4	M1H	Scarborough	Cedarbrae	M1H	43.773136	-79.239476

Fig 3: Map of Toronto showing the places



### **3. Methodology**

The focus of this project is to identify the suitable place in which one can start a new restaurant in the city of Toronto.

The steps included in order to achieve our task are listed below.

One: Retrieve the data of the Toronto city venues using the Foursquare API.

Two: Combine the venues of each neighborhood using K Means clustering algorithm.

Three: Get the top most venues of each location.

Four: Take the least venue where there are less number of restaurants available, so that one can get more profits because of less competition.

Five: The obtained Results can then be used to identify the suitable location for starting a new restaurant

## **4. Results**

- After doing all our analysis on exploring Toronto city, we got the places where there are less number of restaurants. The person who is planning to start a new business in the city of Toronto can use these places.
- I used the less common places where the restaurants are available, so that one can use these places for starting a new restaurant

## **5. Conclusion**

The main purpose of this project is to find the places where one can start their new business such as a restaurant. Not only the restaurant, but also we can also predict the places such as spa, parks, and Coffee shops and many other places. These can be further used to explore the city to find the prospective place for starting a new business.