The Battle of Neighbourhoods
Mónica González Machorro
Final Report

1.   Introduction

In this scenario, a person is planning to open a cafe in the city of Toronto, Canada. The objective, therefore, is to propose the most optimal location to the cafe, taking into account the restaurants and cafes in the area and its proximity to the city center. Thus, we would adopt machine learning tools to answer this question.

2. Data

Data was collected from the wikipedia page:
https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M, which includes a list of postal codes of Toronto. We also used FOURSQUARE API to access the venues in the city.

3. Methodology

Firstly, data was cleaned as a follow-up of the "Segmenting and Clustering Neighbourhoods in Toronto" (https://github.com/monicagoma/github-example-repository/blob/master/Segmenting-Toronto.ipynb). The dataset consisted of postal code, neighbourhood and borough. The dataframe has 10 boroughs and 103 neighbourhoods. Secondly, we added the latitude and longitude.
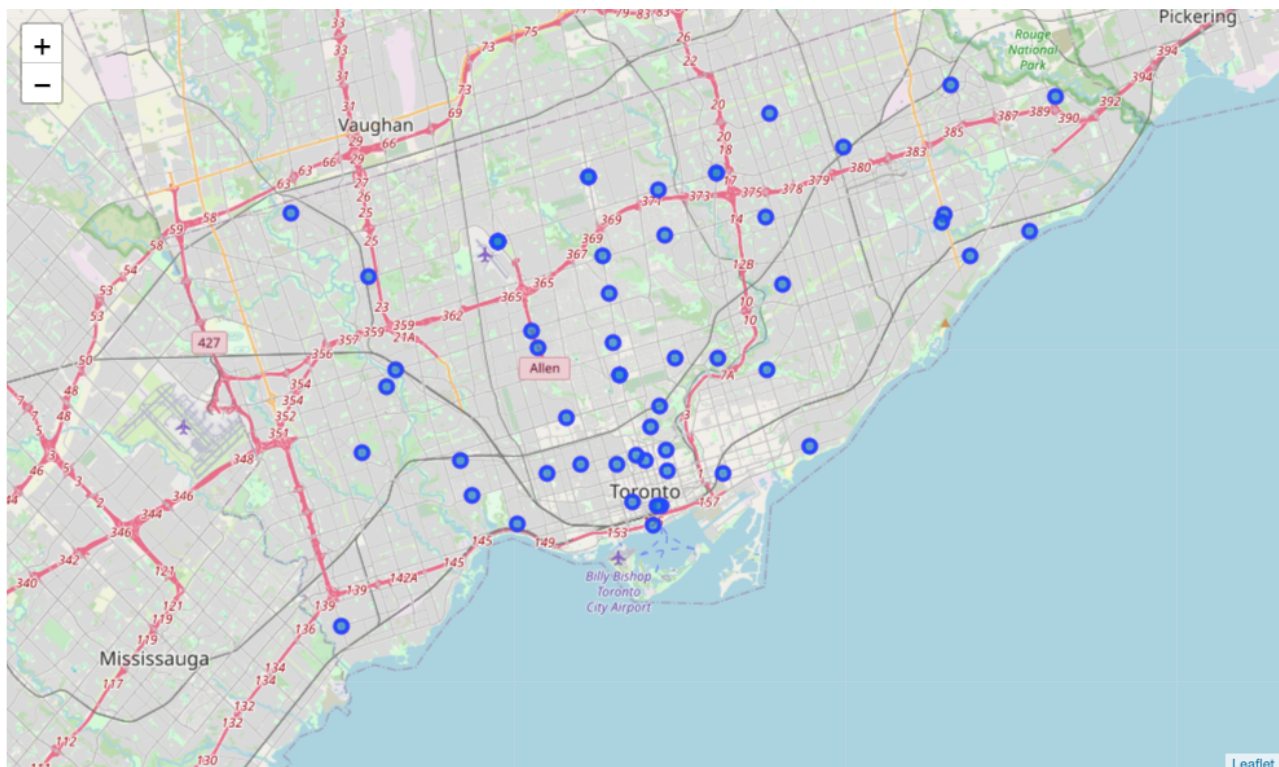
K-Cluster Algorithm was used to solve the problem. It is a form of exploratory analysis and it aims to make groups based on similarities and differences. A cluster is a group of objects that are similar objects in the cluster and dissimilar to data points in other cluster. It predicts categorical class labels. In this analysis the number of clusters defined was 5, following the analysis carried out by Alex Aklson and Polong Lin in the lab notebook (https://labs.cognitiveclass.ai/tools/jupyterlab/lab/tree/labs/DP0701EN/DP0701EN-3-3-2-Neighborhoods-New-York-py-v1.0.ipynb).

4. Results and Discussion

The results showed that Cluster 1 and Cluster 4 have the highest number of Coffee shops. However, it is important to keep in mind that this is only an initial analysis and there are other factors that should be taken into account when choosing the location of a new cafe, for example, the inhabitants per square meter and the monthly rent. In other words, even though in Cluster 4 there are many Coffee shops, it is the closest to the city center, therefore, the demand is higher.

5. Conclusion

To sum up, it is necessary to carry out a more in-depth analysis to make a final decision and the owner of the coffee shop should have a clear idea of what is he looking for.