**RESULT**

**Intro**

This problem is about a man who has two job offers on the table one at Toronto and the other in New York

We will help him to decide which neighbourhood should he relocate to based on what his family members want.

His son wants a soccer field in the neighbourhood where as the wife wants a Gym.

The target for this obviously someone who is willig to relocate

**Data**

The data (in json format) for New York was taken from <https://cocl.us/new_york_dataset>

Whereas the data for Toronto was taken from 'https://en.wikipedia.org/wiki/List\_of\_postal\_codes\_of\_Canada:\_M' then it was converted into a pandas data frame for analysis

**Methodology**

Once the data was cleaned, integrated and transformed to the desired form the analysis of data begun.

We used simple K means clustering algorithm to perform Clustering

In this method any random points from the data set are chosen as centeroids, the number of centeroids depend on the number of clusters we want to form , in our case 3.

Once 3 centeroids are chosen clusters are formed by adding points closest to the center.

Then we take the distance of each point from the center and find the mean.

This process is repeated till the mean has minimum value

This k means is performed for the top 200 values within 500 meters of the Borough

**Result**

We find that neighbourhood in Brooklyn, Marine Park has both a Gym and a Soccer Field in top 200 on Foursquare.

**Observations**

We find that from all of three clusters for both North York and Brooklyn one cluster has more datasets (i.e. Neighbourhoods) than others.

These are generally neighbourhoods that have either a gym or a soccer field

The lesser popular clusters represent neighbourhoods with both or neither a gym or Soccer field

**Conclusion**

We can conclude by saying that ‘Marine Park’ is the best neighbourhood for the man as it has both a Gym and Soccer Field, in the Borough where his office is.

I would also like to thank all the Mentors in all the modules and courses for such clear and crisp explanation.