**Neighbourhoods comparison between Paris and London**

**Introduction**

In this project, I will compare the neighbourhoods of Paris and London in terms of common places and venues. I will then cluster the neighbourhoods within each city using DBSCAN algorithm which is an unsupervised machine learning algorithm and then I will explore what are the common venues within each cluster.

**Interest**

The findings of this project will help travellers and people who never been to these cities to get to know them very well and choose which city to visit based on the venues within them.

**Data**

In this project, I will use the following data:

* Neighbourhood data using web scraping.
* Coordinates data using geopy library.
* Venues using Foursquare API.

**Methodology**

In this project, I will use the Foursquare API to explore the neighbourhoods within each city. Then, I will use the DBSCAN, which is an unsupervised machine learning algorithm. DBSCAN will identify a number of clusters and outliers within neighbourhoods. The DBSCAN did not work with this data because we don't have many data points and DBSCAN requires high density data, So I will use K-means instead.

**Conclusion**

In this project, I tried to compare the neighbourhoods of Paris and London. I used web scraping to get neighbourhood data for the cities. Then, I used the Foursquare API to discover venues within neighbourhoods. After that, I tried to use the DBSCAN algorithm to cluster the neighbourhoods based on their latitude, longitude, and the top 10 venues. Unfortunately, due to the low density of the data points, DBSCAN did not provide and meaningful results. So, I used k-means instead.

**Note: In the final execution of the notebook, I faced problems with Foursquare API; from the API not from my side; so I couldn't get the output cells in the final notebook. Please take this into consideration when grading my work. Thank you.**