**Introduction / Business Problem**

A multinational company based in Bratislava, Slovakia, is considering to broaden the scope of the activities performed in this country. This would imply the increase in the number of squads, for which they need to hire new people. Management team has confirmed that they would not be able to accommodate all new teams in the current office, so they are looking for the best alternative location in Bratislava for the building where the new office would be located.

The main condition is that they are not considering to move to another city, as they have been located in Bratislava since the 2000s and the costs related to a move to another city, in economic terms but also in terms of loss of expertise, would exceed the potential saves in another Slovak city. Therefore, the scope of the analysis is limited to the boroughs of Bratislava.

From the workers’ perspective, the variety of restaurants, parks and coffee shops venues around the office can clearly increase the willingness to move to a new environment. As we have to apply Foursquare location data for this report, we will focus on comparing the different Bratislava’s boroughs and neighborhoods in terms of leisure and catering. The goal of our study is to make a ranking of the boroughs in Bratislava based on the number of parks, coffee shops and restaurants to see which are the most suitable ones for the new office from this perspective.

**Data**

In this report, I am going to use the explore function in the Foursquare API to get the most common venues in each neighborhood, which would allow us to compare the different neighborhoods and conclude with which is the most suitable for our purpose.

First of all, I have collected the coordinates for all the Bratislava’s boroughs and neighborhoods from Wikipedia and created a CSV file with latitudes and longitudes. As it is in grades, minutes and seconds format, we have to recalculate it and convert those figures to decimal format.

Once we have the coordinates in the proper format, we can proceed to create a pandas dataframe which includes boroughs, neighborhoods and coordinates per neighborhood. Considering the coordinates for Bratislava as center for the map, we can create the map and superimpose the neighborhood coordinates.

Then, we will explore the venues in each neighborhood requesting these details to the Foursquare API and applying longitude, latitude and radius as search limits. We also need to define a function that will get the category of each venue from the json file provided by the API, and to define a function which will iterate over the request function as many times as the number of venues in Bratislava.

Once we have all venues in each neighborhood, we will check how many venues are there per category, calculating the frequency of each of them and ranking the categories by this frequency. These will allow us to compare the neighborhoods.

Finally, we will create neighborhood clusters through k-means, to find which is the group of neighborhoods which contain the broadest variety of restaurants, coffee shops and green zones for the spare time workers may have while they are in the office.