**Segmenting and Clustering Neighborhoods in New York City**

**Introduction**

In this lab, you will learn how to convert addresses into their equivalent latitude and longitude values. Also, you will use the Foursquare API to explore neighborhoods in New York City. You will use the explore function to get the most common venue categories in each neighborhood, and then use this feature to group the neighborhoods into clusters. You will use the k-means clustering algorithm to complete this task. Finally, you will use the Folium library to visualize the neighborhoods in New York City and their emerging clusters.

**Table of Contents**

1. **Download and Explore Dataset**
2. **Explore Neighborhoods in New York City**
3. **Analyze Each Neighborhood**
4. **Cluster Neighborhoods**
5. **Examine Clusters**

**1. Download and Explore Dataset**

Neighborhood has a total of 5 boroughs and 306 neighborhoods. In order to segment the neighborhoods and explore them, we will essentially need a dataset that contains the 5 boroughs and the neighborhoods that exist in each borough as well as the latitude and longitude coordinates of each neighborhood.

Luckily, this dataset exists for free on the web. Feel free to try to find this dataset on your own, but here is the link to the dataset: https://geo.nyu.edu/catalog/nyu\_2451\_34572

For convenience, I downloaded the files and placed it on the server