# Capstone Project - Queens

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## Introduction: Business Problem

A fastfood chain is interested in expanding to Queens. They want to open a few new restaurants and would like to find out the best neighborhoods to do so.

In order to answer that question, we first need to analyse the different neighborhoods in Queens, New York. We would like to understand the most common venues in each neighborhood. Knowing this information, we can group the neighborhoods which have similar characteristics. This helps to analyse each group to try to get insights or see patterns to help us to draw our conclusions and make good suggestions to the stakeholders.

## Data

The data we need must contain the following information:

- Names of the neighborhoods in Queens, New York
- Their latitude and longitude
- Names of the 10 most common venues for each neighborhood

This dataset is accessible for free on the internet. It is acquired from https://geo.nyu.edu/catalog/nyu_2451_34572

The dataset contains data for all of New York, so we download the full set and the extract the data for Queens.

The latitude and longitude values of the different neighborhoods in Queens are determined using the **Geopy Library**. In this way, we find the data frame we will continue to work with. Here only the first 5 neighborhoods of Queens are shown as an example.

| | Borough | Neighborhood | Latitude | Longitude |
|---|---|---|---|---|
| 0 | Queens | Astoria | 40.768509 | -73.915654 |
| 1 | Queens | Woodside | 40.746349 | -73.901842 |
| 2 | Queens | Jackson Heights | 40.751981 | -73.882821 |
| 3 | Queens | Elmhurst | 40.744049 | -73.881656 |
| 4 | Queens | Howard Beach | 40.654225 | -73.838138 |