|  |  |
| --- | --- |
| A picture of a winding road and trees  **Capstone Project: Battle of Neighborhoods**  Peer Graded Assignment | Abstract  The Report compares various Boroughs of New York city according to the needs of the client.  Abdul Hanan Muhammad Siddique  IBM Data Science Professional Certificate |

# Purpose

The report is a part of final project, that is Peer Graded Assignment, in the course IBM Data Science Professional Certificate. The report will compare various Neighborhoods of New York city according to our clients’ need and propose the best possible neighbourhood for our client to move.

# Introduction

New York is a multi-cultural city and also the most popular city of United States of America. New York City has been described as the cultural, financial, and media capital of the world, significantly influencing commerce, entertainment, research, technology, education, politics, tourism, art, fashion, and sports. As the headquarters of United Nations in located in New York, it is an important centre for international diplomacy. The city holds people from all ethnicities and as many as 800 languages are spoken in New York, making it the most linguistically diverse city in the world. New York is home to more than 3.2 million residents born outside the United States, the largest foreign-born population of any city in the world as of 2016. New York consists of five Boroughs which are Brooklyn, Queens, Manhattan, the Bronx, and Staten Island.

This diversity is the reason our client wants to move to New York from their home city of Austin, Texas. Our client has decided to move to New York to look for better job opportunities and has did some research of their own. They have identified that they would love to move in to one of the three Boroughs that is Manhattan, Brooklyn or Queens. The conditions that are important for our clients are the easy availability of “Indian Restaurants” and “Nightclubs”. Hence our discussion would go about exploring all the three boroughs using these metrics. We will use Foursquare API to get information on these boroughs and then compare it with each other to find our result of borough with most number of “Indian Restaurants” and “Nightclubs”.

# Data

New York boroughs and neighbourhood data would be obtained from

<https://geo.nyu.edu/catalog/nyu-2451-34572>

The data has already been exported into a .json file and will be used directly for the purposes of this report. Google API would be used to get locations of venues at times as well. Moreover, Foursquare API would be used to explore various boroughs of New York and find data on the Neighborhoods. The Foursquare explore function will be used to get the most common venue categories in each neighborhood, and then use this feature to group the neighborhoods into clusters. The following information are retrieved on the first query:

* Venue ID
* Venue Name
* Coordinates : Latitude and Longitude
* Category Name

# Methodology