The Battle of Neighborhoods (Week 1)

1. Introduction :

1.1 Background :

People love to eat good food and different cuisine restaurants have provided them to taste various delicacies. Restaurants have always played a crucial role in business, social life of the society. Many personal and professional events happen at restaurants. But a restaurant's investment and maintenance costs would be high. So every restaurant owner wants to get a high return on their investments. The taste of food, ambience and the location of the restaurant are few major contributing factors for a successful restaurant.

1.2 Problem :

Consider the following hypothetical scenario :

'Resto-grand' a successful multi-chained restaurant company has its brands around Europe, India, California. They wanted to start their restaurants in New York state and required some suggestions on where to open them.

The aim of the project is to find suitable locations for the restaurants in New York state.

1.3 Audience :

Here Resto-grand's business owners to whom we are preparing the report is the target audience. But this report can be used by other business people who want to find a suitable location to open a restaurant in New York state.

2. Data :

To tackle the above mentioned problem, we need to have the dataset that contains :

- Cities present in New York State.
- Latitude and Longitude locations of the cities of New York state.
- Top venues present in each city of New York state.

2.1 Data Sources :

- List of cities present in New York state can be obtained from wikipedia's page : (https://en.wikipedia.org/wiki/List_of_cities_in_New_York)
- Latitude and Longitude locations of them can be found using python's geopy package.

- We will use foursquare.com's API to find the most common venues present at given geographical coordinates.

2.2 Description of data :

The below output is obtained after cleaning the data acquired from wikipedia's page and using python's geopy package. Each row represents a city in New York state, its county, population and geographical coordinates.

```
df.head()
```

Out[11]:

	City	County	Population	Latitude	Longitude
0	Albany	Albany	97856	42.651167	-73.754968
1	Amsterdam	Montgomery	18620	42.953685	-74.219581
2	Auburn	Cayuga	27687	42.932020	-76.567203
3	Batavia	Genesee	15465	42.998014	-78.187551
4	Beacon	Dutchess	15541	41.504879	-73.969682

We will use foursquare's API to find the most common venues present around the 30 km radius of each city of New York.