

RESTAURANT RECOMMENDER SYSTEM

Introduction

The problem is to find a suitable location for a particular type of restaurant (Indian/ Asian Cuisine based) in a geographical area (Delhi, India) by studying the concentration of other type of restaurants and population of the area.

Data

In order to study and perform the data analysis so that we reach to the conclusion of opening a restaurant in a particular geographical area we first need data which will include.

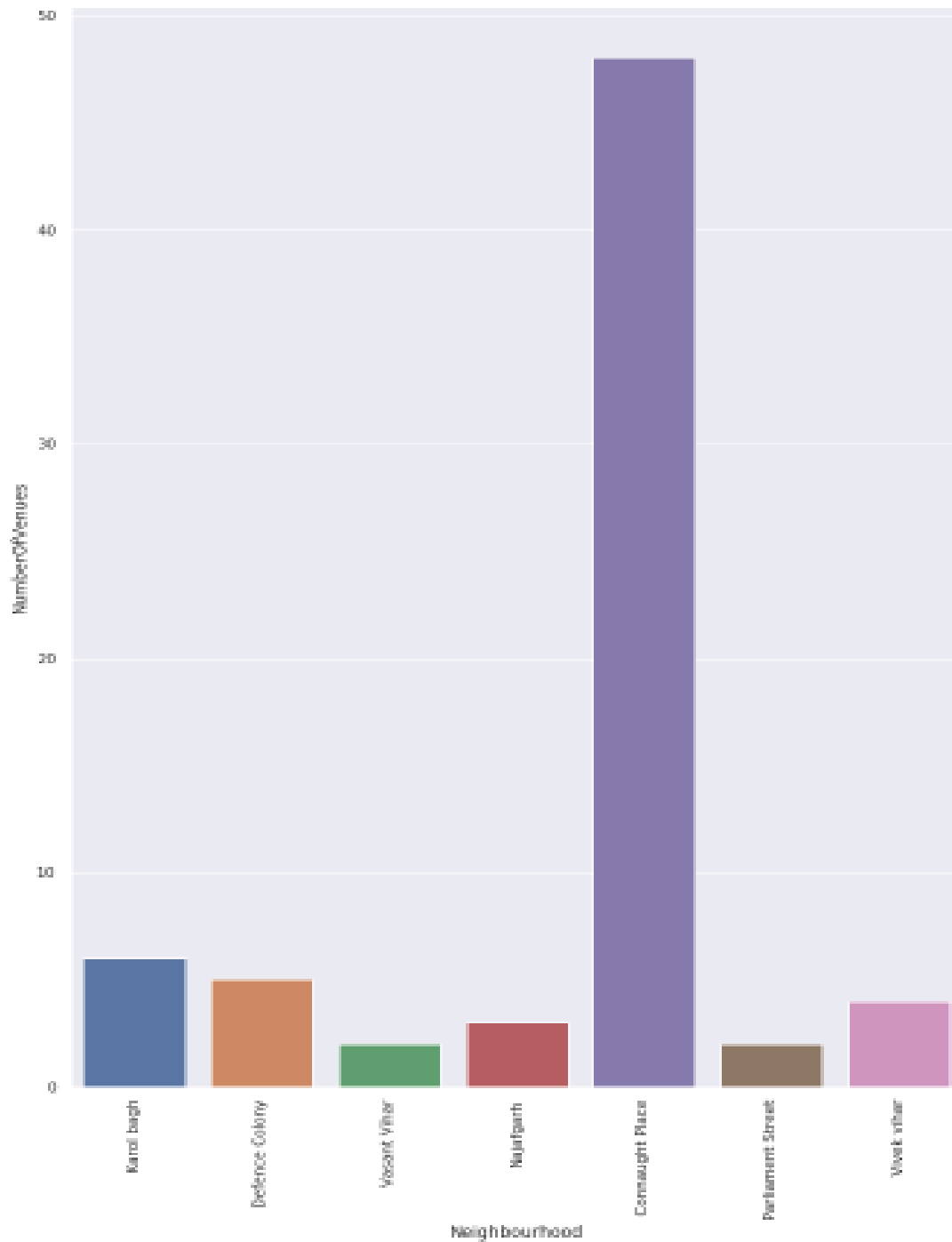
1. Geographical coordinates of a region
2. Population of the area

The source of data is Wikipedia page.

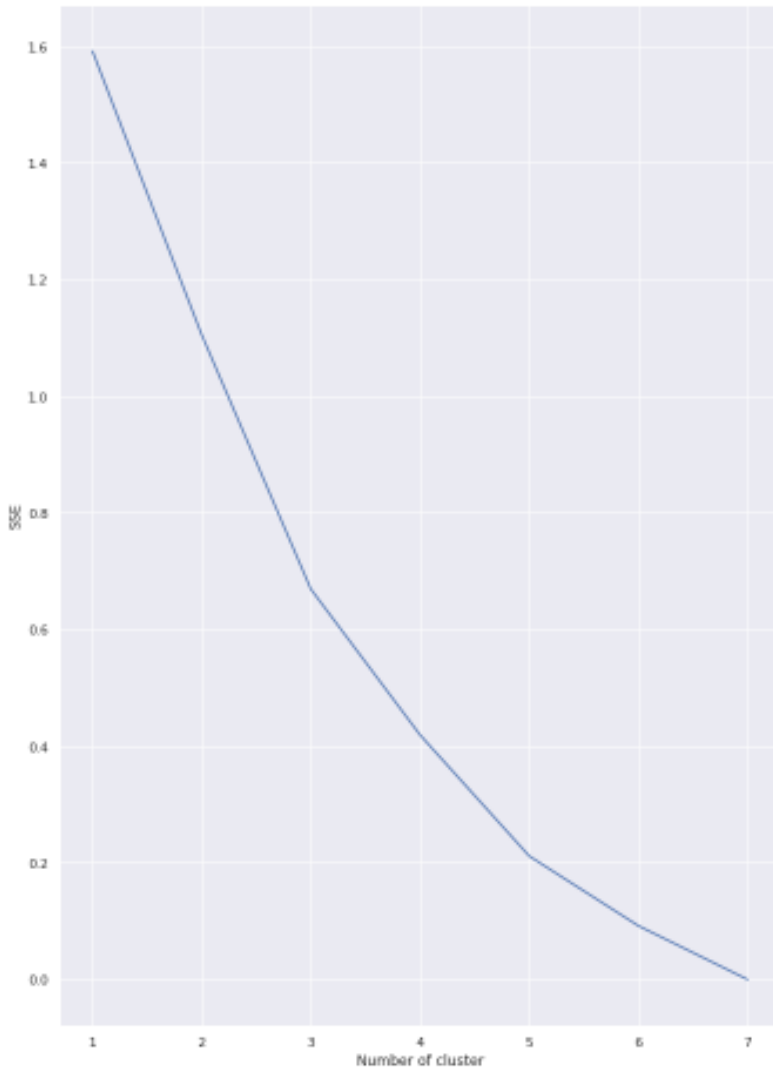
Foursquare API: It was used to fetch data on neighborhood.

Methodology

Exploratory Analysis: Exploring dataset to find the insights from the collected data. Like maximum and minimum venues in a particular locality as shown below.



Then find value of n cluster and finding the best by elbow graph.



Results

The system produces a list of top restaurants and most common venue where the owner of the restaurant can start a new business unit.

| index | Neighborhoods | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | 4th Most Common Venue | 5th Most Common Venue | 6th Most Common Venue | 7th Most Common Venue | |
|-------|---------------|--|------------------------------|------------------------|-----------------------|--------------------------------------|--|-------------------------------|--------|
| 0 | 0 | Connaught Place Venue Category_Indian Restaurant | Venue Category_Restaurant | Venue Category_Café | Venue Category_Bar | Venue Category_Italian Restaurant | Venue Category_Mediterranean Restaurant | Venue Category_Art Gallery | Catego |
| 1 | 1 | Connaught Place Venue Category_Indian Restaurant | Venue Category_Restaurant | Venue Category_Café | Venue Category_Bar | Venue Category_Italian Restaurant | Venue Category_Mediterranean Restaurant | Venue Category_Art Gallery | Catego |
| 2 | 2 | Connaught Place Venue Category_Indian Restaurant | Venue Category_Restaurant | Venue Category_Café | Venue Category_Bar | Venue Category_Italian Restaurant | Venue Category_Mediterranean Restaurant | Venue Category_Art Gallery | Catego |

Discussion

Regression analysis can be done to identify the relation between other parameters that can be included in this type of research like income and gender.

Conclusion

The project uses foursquare API to identify the suitable locations to identify the type of restaurant that can be opened in a particular area.