Recommending location for a new restaurant

City of Los Angeles

Business Problem

Recommending optimum location to set up new restaurant business.

Several factors to consider for location

- More populous location
- Younger population groups
- More number of venues
- Distance from the city center
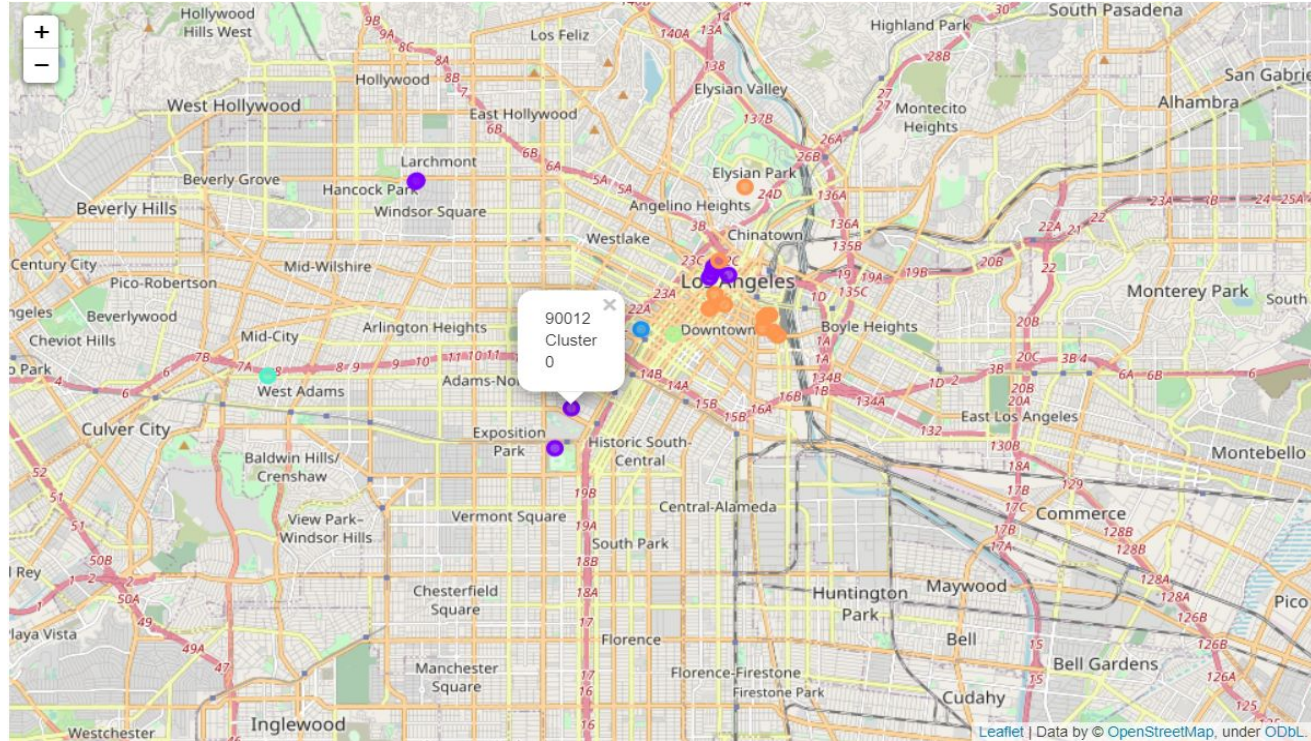
Data Sources

- Data of Los Angeles population data 2010_Census_Populations_by_Zip_Code.csv

- Foursquare API
  - Number of restaurants
  - other venues in the neighborhood
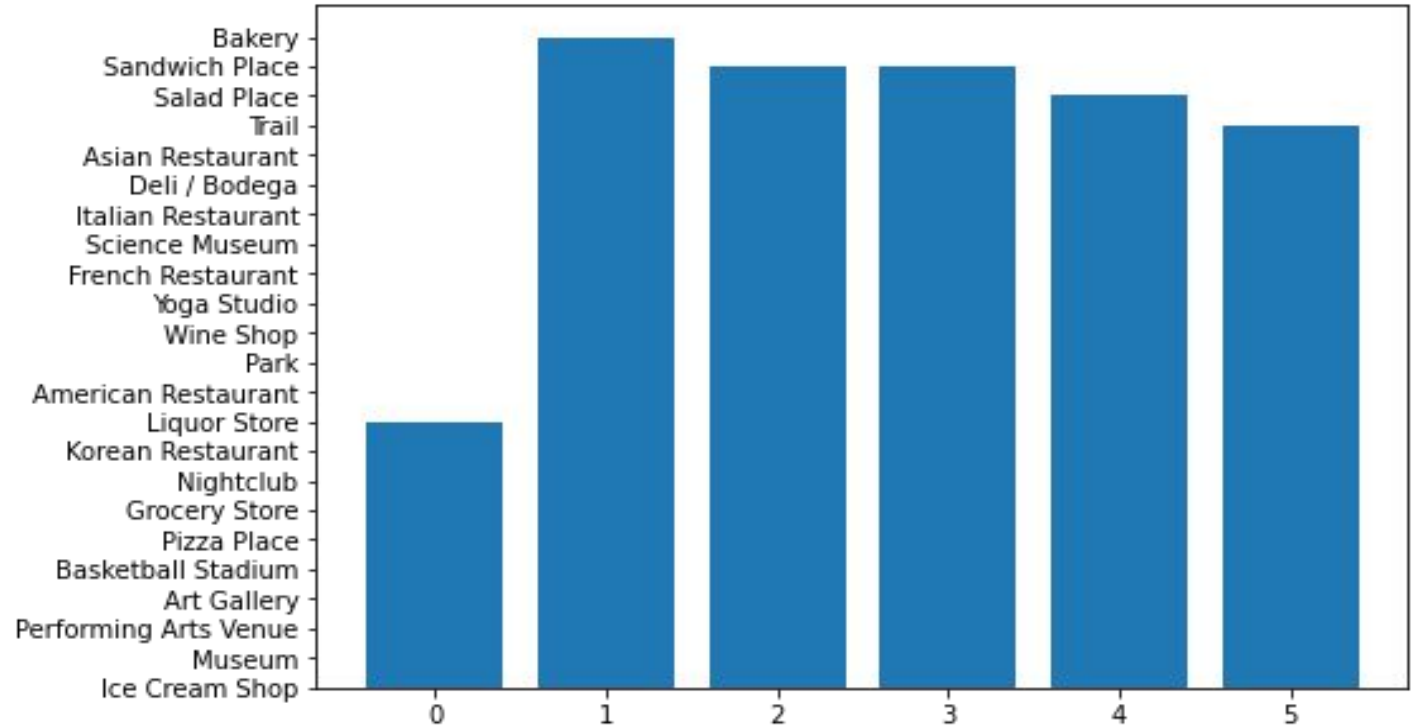 - vicinity of the venue

Methodology

- Exploratory data analysis of the merged population data and foursquare API data
  - Grouping by venue categories
  - One hot encoding on categories using get_dummies from pandas library
  - Binary format as input to machine learning algorithm

- Machine Learning Algorithm
  - K-Means Clustering Unsupervised Learning algorithm
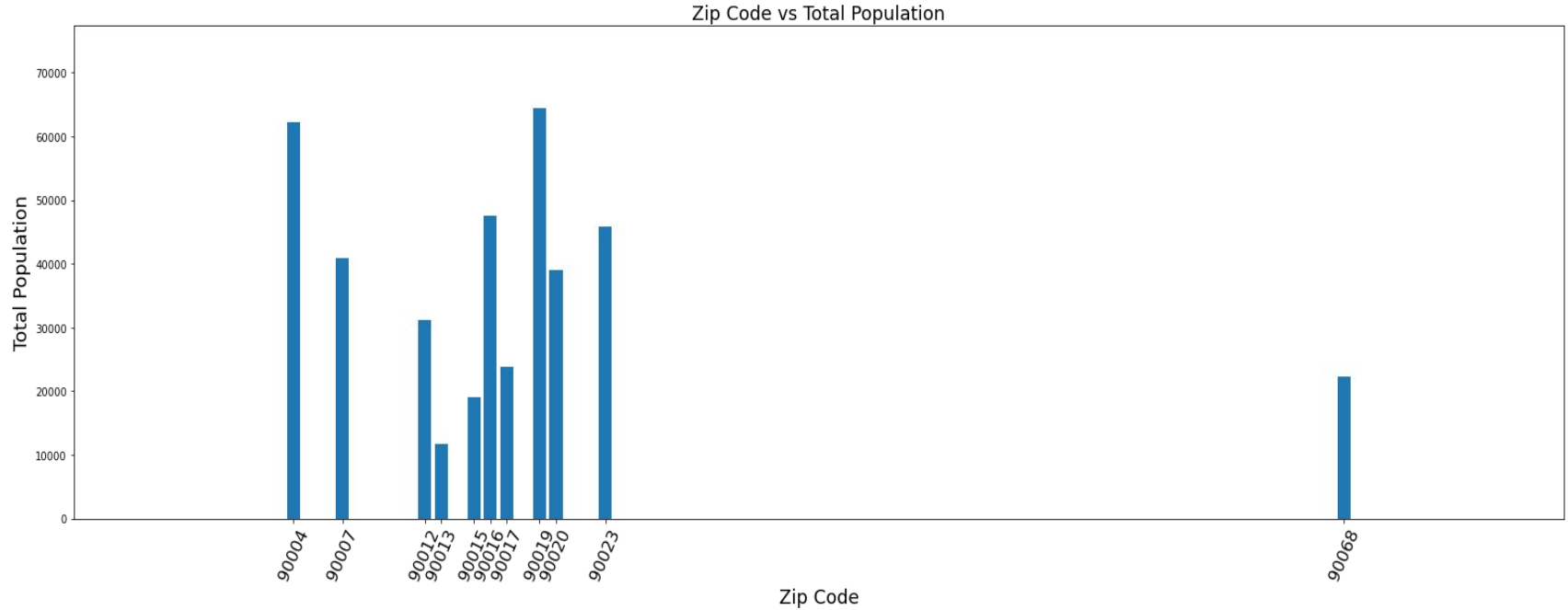   - 6 clusters

Results

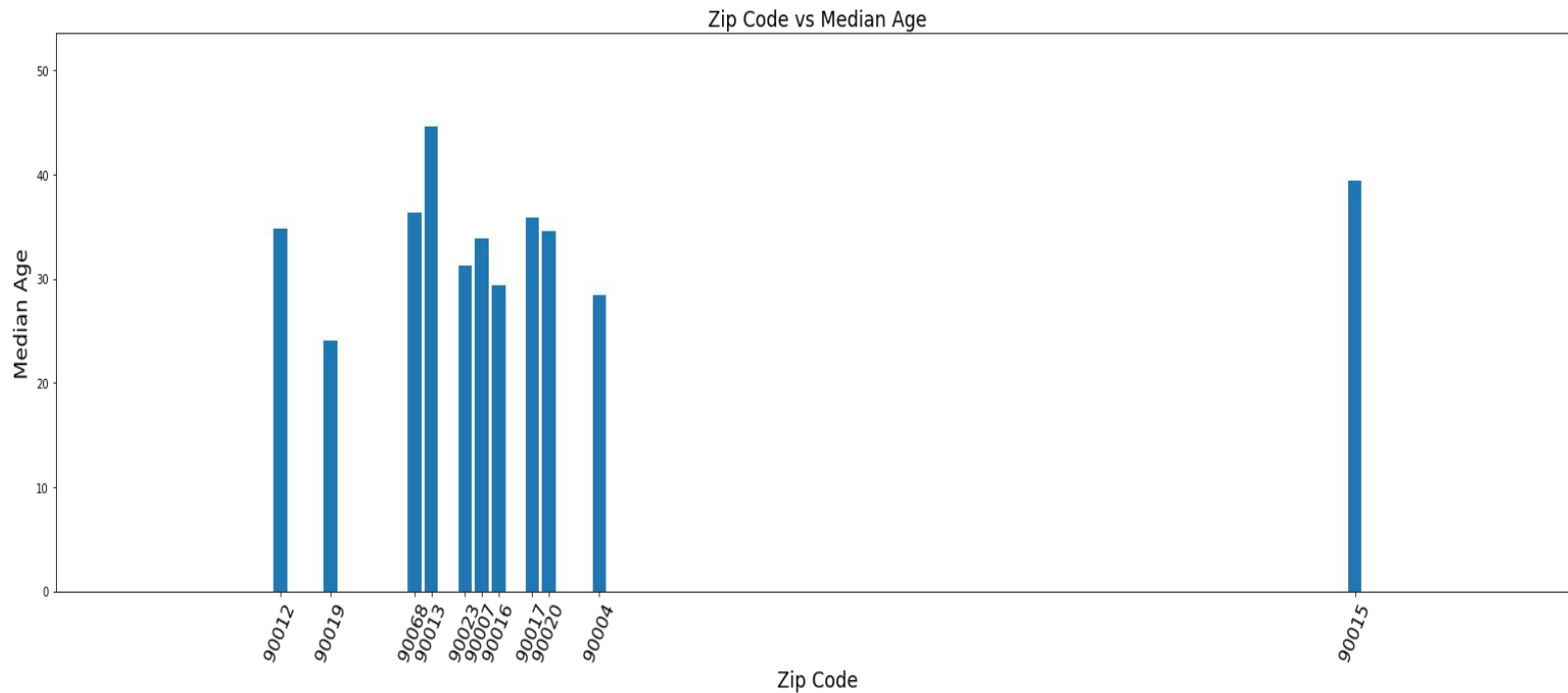## Map different cluster with different color circles
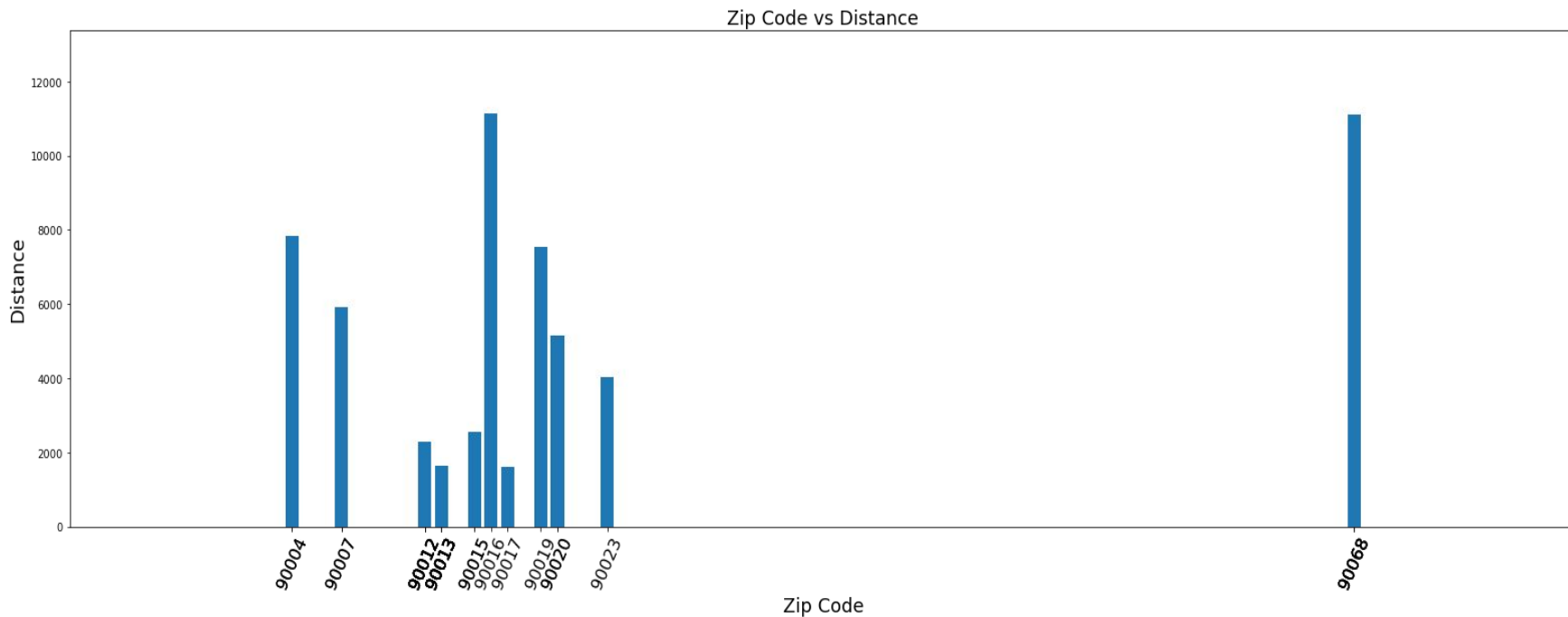
First most common venue for every cluster

Zip code vs Total Population

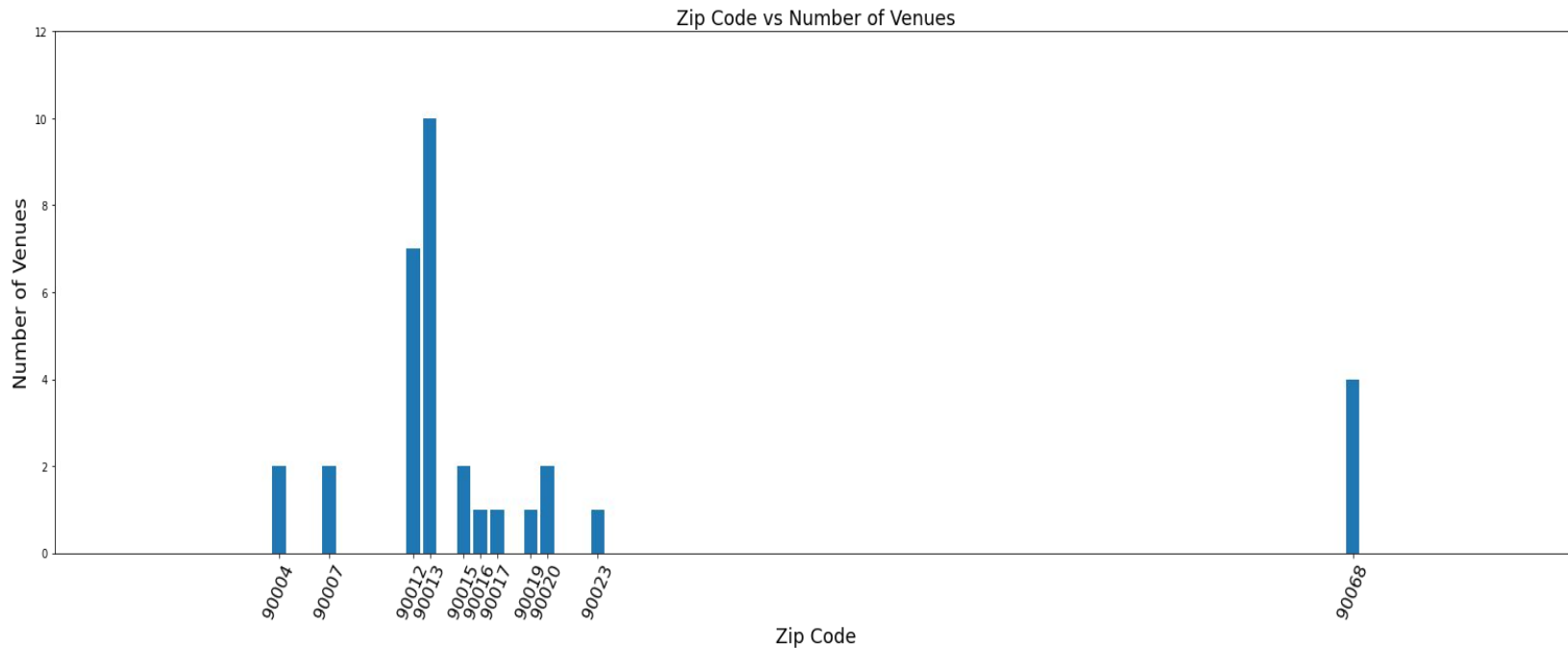# Zip code vs Median Age

Zip Code vs Median Age

Zip code vs Distance

Zip Code vs Distance

Zip code vs Number of Venues

Analysis of the Results

As per bar plot for population 90019, 90004, 90016, 90023, 90007 are few zip codes which are more populous

As per bar plot for median age shows that 90007, 90023, 90017, 90015, 90016 are few of zip codes with lesser median age

As per bar plot for distance from city center shows that 90012, 90013, 90017, 90015, 90023 are closer to the city center compared to all the other zip codes

As per bar plot for the number of venues shows that 90013, 90012, 90068, 90004, 90007 have more venues in the respective area compared to all the other zip codes in the chosen cluster

Conclusion and Recommendations

Stakeholder to consider one or few or all of the results into consideration while choosing a location for his restaurant.

Taking distance and number of venues into consideration 90012, 90013 could be recommended.

Taking population and median age into consideration 90007, 90023, 90016 could be recommended.

Taking median age and distance into consideration 90017, 90015, 90023 could be recommended.