

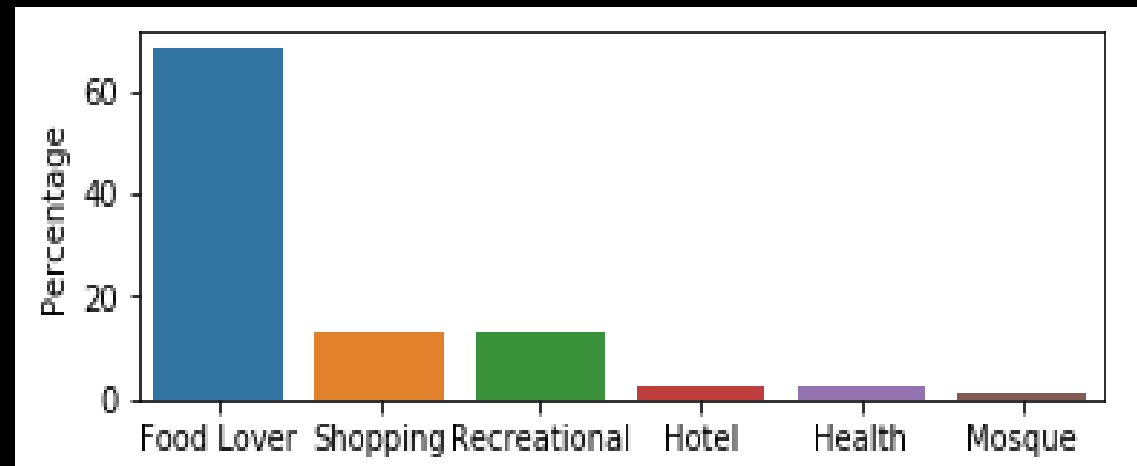


CHOOSING WHERE TO LIVE

Capstone Project Report: The Battle of Neighborhoods

PROBLEM STATEMENT

There is a person who want to live/ stay in a city. And want to choose which city it should choose and then in that city where one should go depending upon ones liking. Either one wants to choose a region to stay where there is a lot of food option (Food Lover). Or one is recreational and want to enjoy the scenery or have fun.



DATA DESCRIPTION

- First geopy will be used to find the location (latitude and longitude) of the cities.
- Then using FOURSQAURE Credentials we will get the venues near those cities.
- We will categorize the venues in six.
- We will compare the categories of the cities
- We will define the region using kmeans clustering.
- Then one can choose the region based on ones priorities.

METHODOLOGY

- We had different categories.

```
print(set(nearby_venues.categories))  
  
{'Restaurant', 'Park', 'Fish & Chips Shop', 'Bakery', 'Ice Cream Shop', 'Pakistani Restaurant', 'Coffee Shop', 'Pizza Place',  
'Monument / Landmark', 'Chinese Restaurant', 'Fast Food Restaurant', 'Recreation Center', 'Italian Restaurant', 'Middle Eastern  
Restaurant', 'Multiplex', 'Asian Restaurant', 'Spa', 'Steakhouse', 'Movie Theater', 'Bookstore', 'Café', 'Food Court', 'America  
n Restaurant', 'Gym / Fitness Center', 'Market', 'Portuguese Restaurant', 'Golf Course', 'Convenience Store', 'Indian Restaura  
nt', 'Mosque', 'Tea Room', 'Department Store', 'Food Truck', 'Rest Area', 'Shopping Mall', 'Mediterranean Restaurant', 'Boutiqu  
e', 'Burger Joint', 'Theater', 'Hotel'}
```

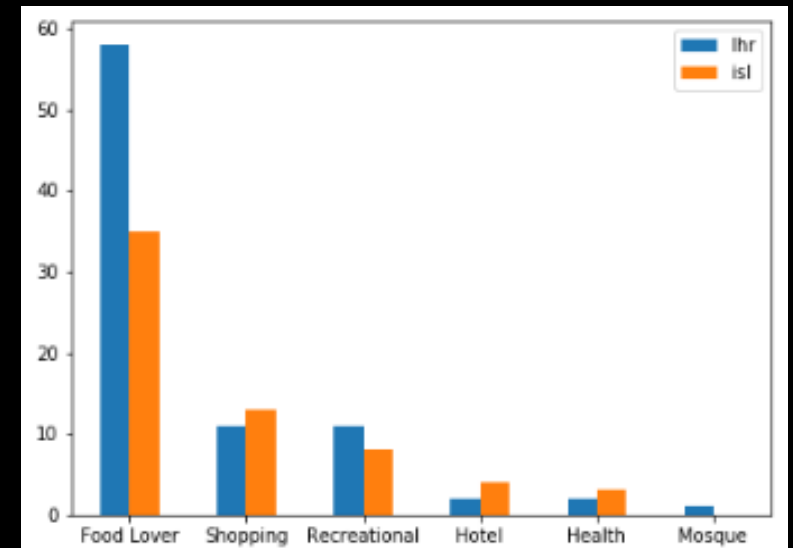
- We EDA using dictionary to make a new category 'New Cat'.

```
print(dic)  
  
{'Asian Restaurant': 'Food Lover', 'BBQ Joint': 'Food Lover', 'Bakery': 'Food Lover', 'Bookstore': 'Shopping', 'Boutique': 'Sho  
pping', 'Burger Joint': 'Food Lover', 'Café': 'Food Lover', 'Coffee Shop': 'Food Lover', 'Department Store': 'Shopping', 'Fast  
Food Restaurant': 'Food Lover', 'Food Court': 'Food Lover', 'Gift Shop': 'Shopping', 'Golf Course': 'Recreational', 'Gym': 'Hea  
lth', 'History Museum': 'Recreational', 'Hotel': 'Hotel', 'Ice Cream Shop': 'Food Lover', 'Italian Restaurant': 'Food Lover',  
'Lake': 'Recreational', 'Market': 'Shopping', 'Mountain': 'Recreational', 'Multiplex': 'Recreational', 'Nature Preserve': 'Recr  
eational', 'Other Great Outdoors': 'Recreational', 'Pakistani Restaurant': 'Food Lover', 'Park': 'Recreational', 'Pharmacy': 'H  
ealth', 'Pizza Place': 'Food Lover', 'Restaurant': 'Food Lover', 'Sandwich Place': 'Food Lover', 'Scenic Lookout': 'Recreational',  
'Shopping Mall': 'Shopping', 'Snack Place': 'Food Lover', 'Tea Room': 'Food Lover', 'Theater': 'Recreational', 'Trail': 'Re  
creational', 'Wings Joint': 'Food Lover'}
```

- Used kmeans Unsupervised Clustering Algorithm to make regions

RESULTS

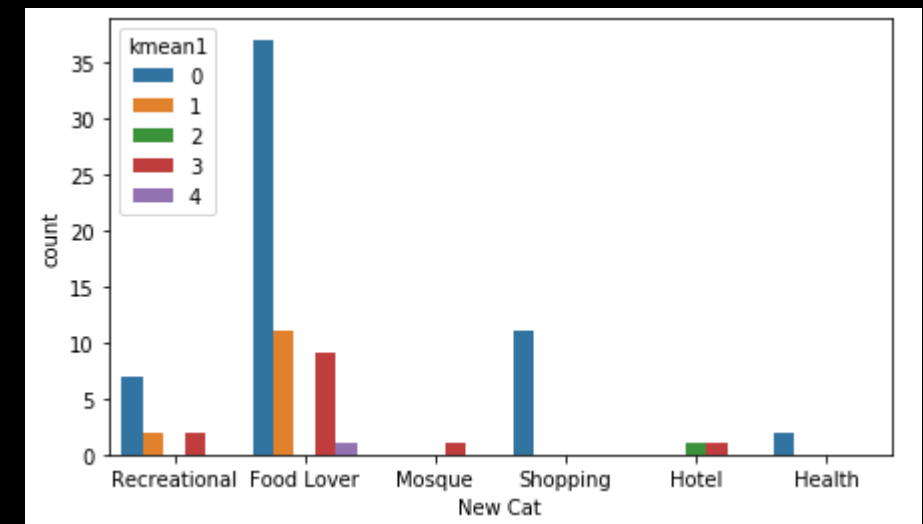
- Lahore has more Food Lover Spots than Islamabad (As per FourSquare App)
- Lahore has more Recreational Spots than Islamabad
- Islamabad is better in hoteling and Health
- Lahore and Islamabad are almost equal for Shopping



RESULTS

INSIGHTS FROM LAHORE DATA

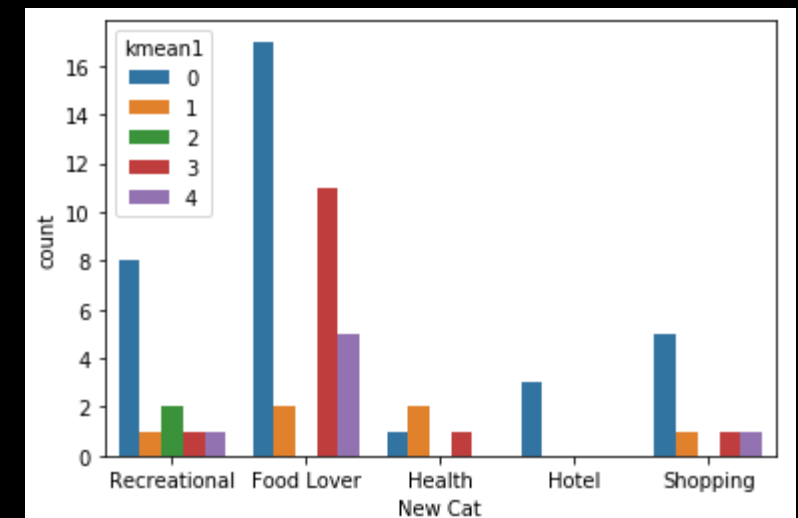
- If you are food lover, you may choose to stay in Cluster 0.
- If you are recreational you may choose Cluster 0.
- If you love shopping, you may choose Cluster 0.
- If you are health conscious then you may choose 0.
- If you want to stay in hotel you have to go to cluster 2 or 3.



RESULTS

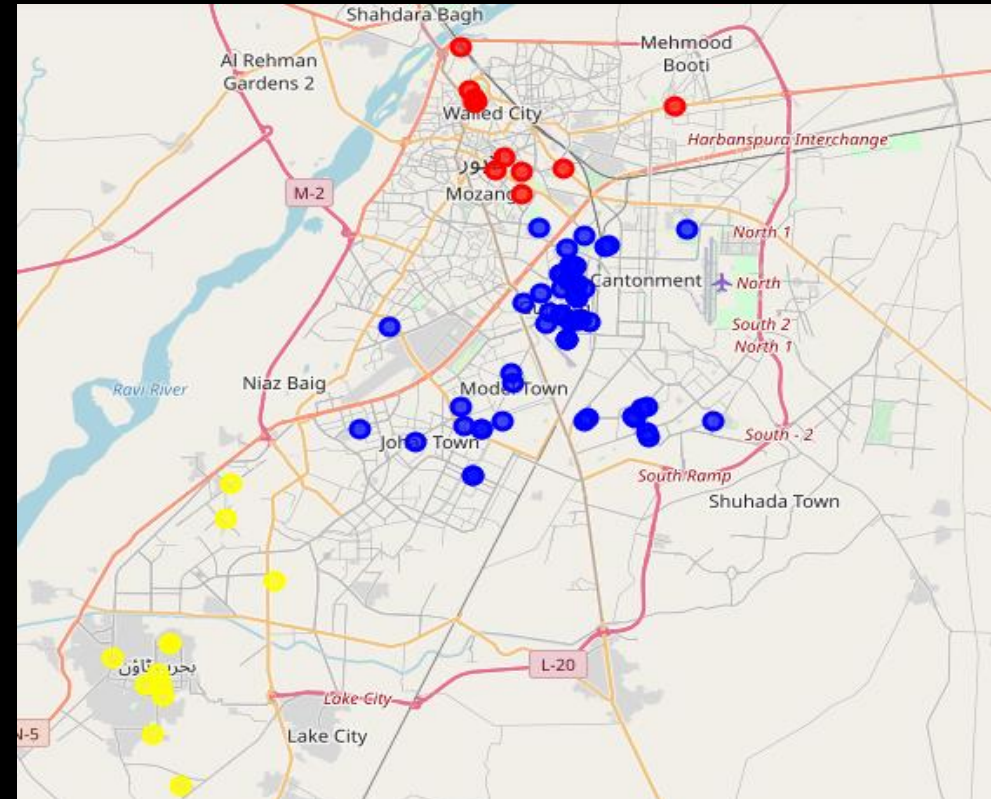
INSIGHTS FROM ISLAMABAD DATA

- If you are food lover, you may choose to stay in Cluster 0 or 3.
- If you are recreational you may choose Cluster 0.
- If you love shopping, you may choose Cluster 0.
- If you are health conscious then you may choose 0,1 or 3.
- If you want to stay in hotel you have to go to cluster 0.



DISCUSSION LAHORE AREA SELECTION

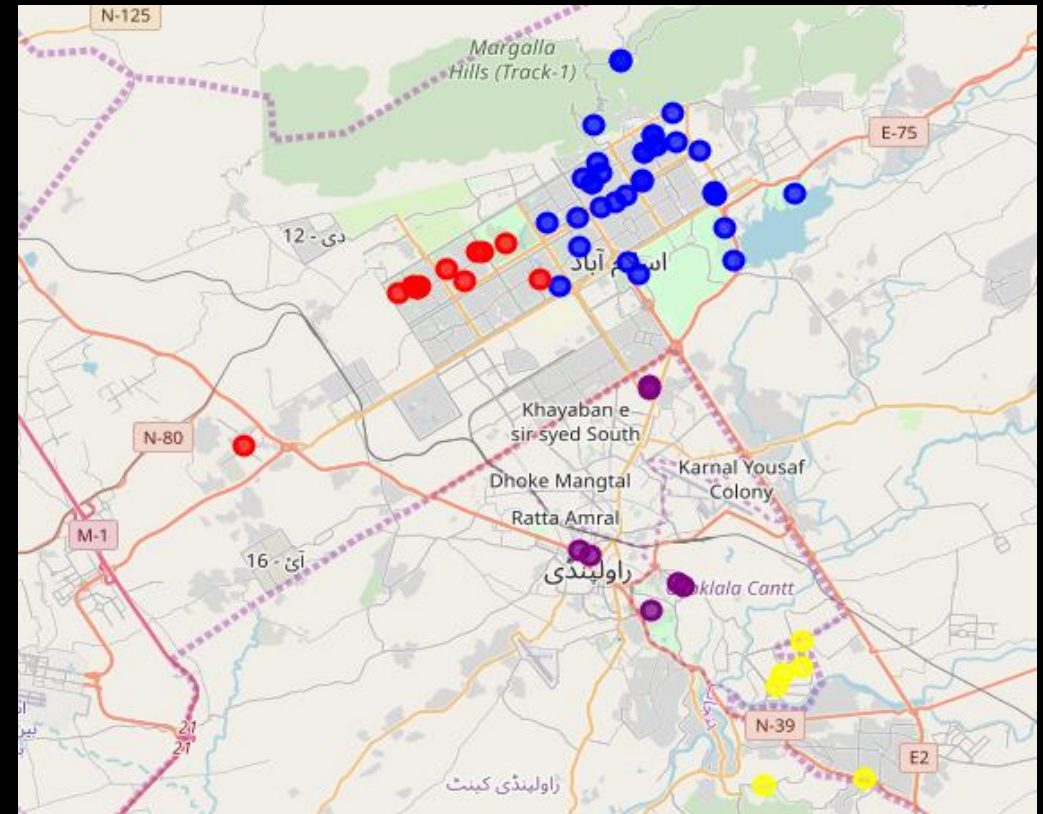
- One from Lahore should choose to live in **BLUE Cluster** for having access to various Categories.



DISCUSSION

ISLAMABAD AREA SELECTION

- One from ISLAMABAD should choose to live in **BLUE Cluster** for having access to various Categories.



CONCLUSION

- The both cities are almost equal as per FourSquare data in categories defined.
- Through Clustering the excess of nearby spots are shown in blue. Which makes the blue cluster most feasible for multiple category types.
- However, a person can choose the cluster depending upon its favorite type of category through figure 11 and 12.