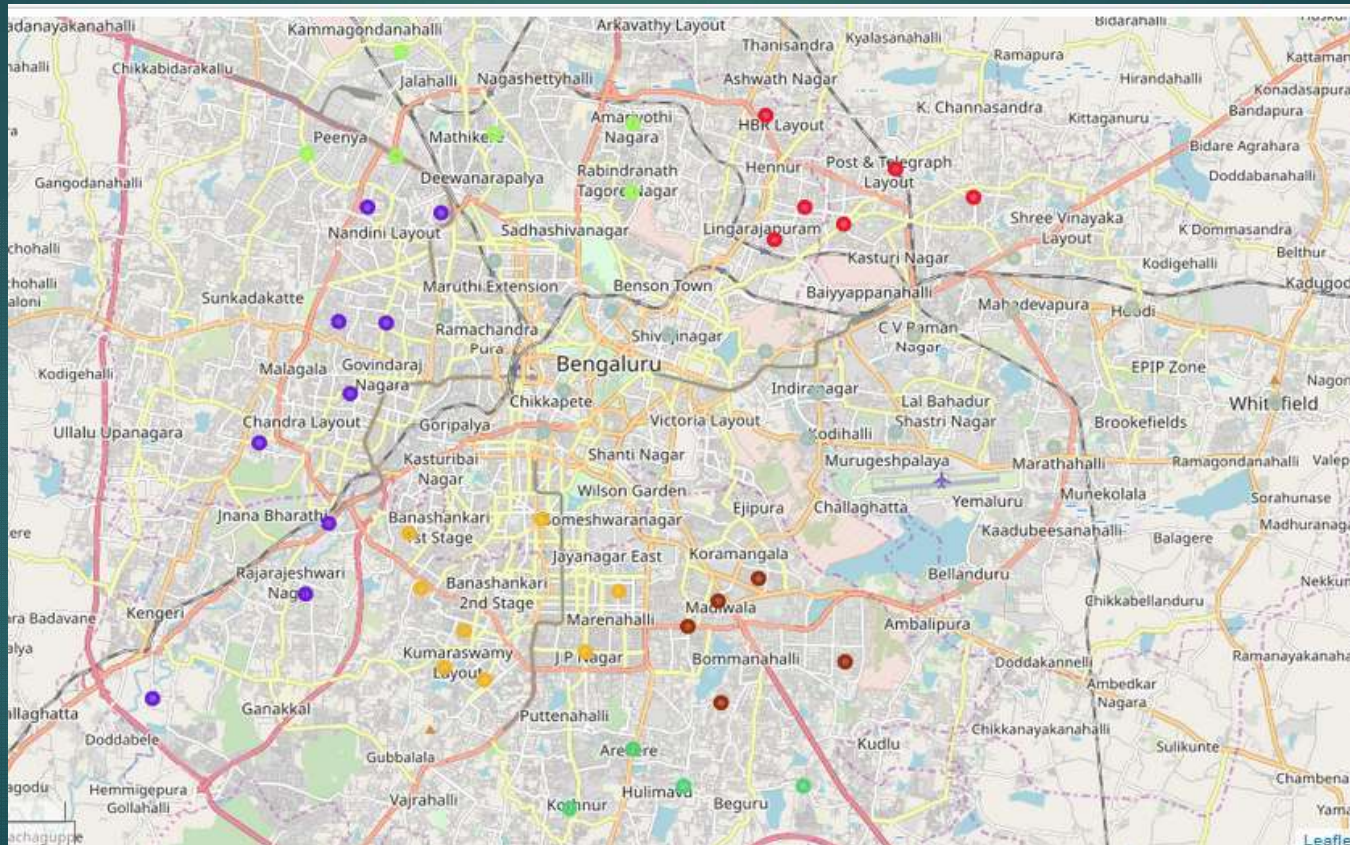


RESTAURANT RECOMMENDATION SYSTEM

Bangalore map



Data Frames showing Population And Average income for locations in Bangalore

| | Borough | Neighborhoods | Population |
|---|---------|-------------------|------------|
| 0 | Central | Cantonment area | 866377 |
| 1 | Central | Domlur | 743186 |
| 2 | Central | Indiranagar | 474289 |
| 3 | Central | Jeevanbheemanagar | 527874 |
| 4 | Central | Malleswaram | 893629 |

| | Borough | Neighborhoods | AverageIncome |
|---|---------|-------------------|---------------|
| 0 | Central | Cantonment area | 18944.099792 |
| 1 | Central | Domlur | 56837.022198 |
| 2 | Central | Indiranagar | 41991.817435 |
| 3 | Central | Jeevanbheemanagar | 6667.447632 |
| 4 | Central | Malleswaram | 53270.063892 |

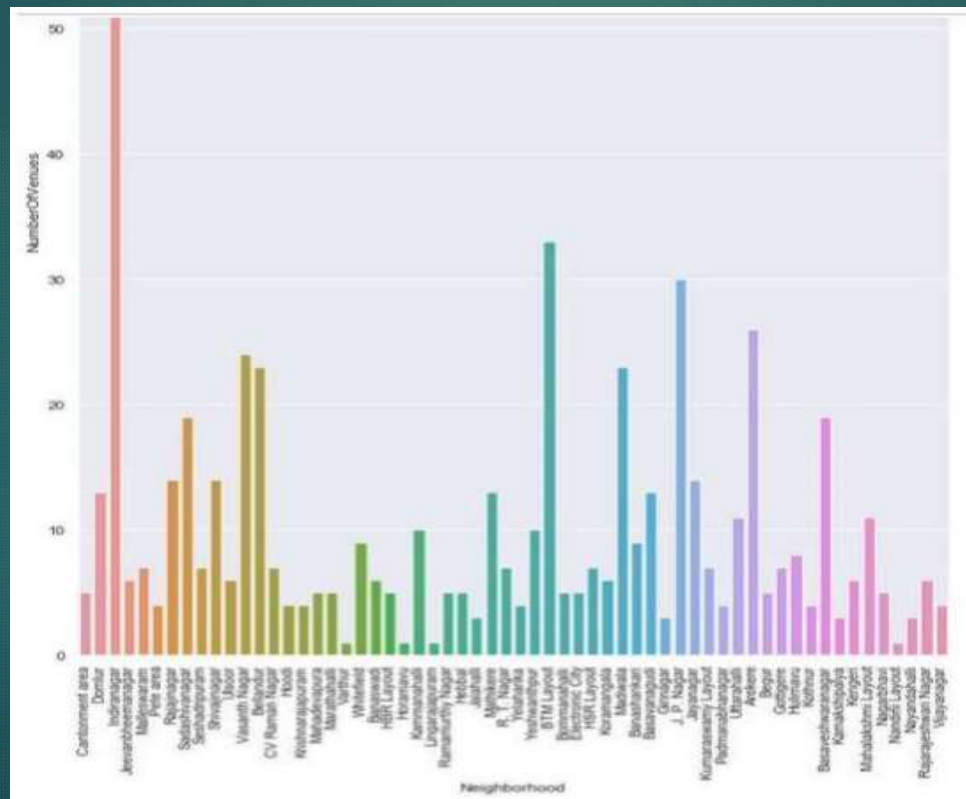
Dataframe showing Longitudes and latitudes for Different locations in Bangalore

| Borough | Neighborhoods | Latitude | Longitude | Population | City | AverageIncome |
|---------|-------------------|-----------|-----------|------------|-----------|---------------|
| Central | Cantonment area | 12.972442 | 77.580643 | 866377 | Bangalore | 18944.099792 |
| Central | Domlur | 12.960992 | 77.638726 | 743186 | Bangalore | 56837.022198 |
| Central | Indiranagar | 12.971891 | 77.641151 | 474289 | Bangalore | 41991.817435 |
| Central | Jeevanbheemanagar | 12.962900 | 77.659500 | 527874 | Bangalore | 6667.447632 |
| Central | Malleswaram | 13.003100 | 77.564300 | 893629 | Bangalore | 53270.063892 |
| Central | Pete area | 12.962700 | 77.575800 | 730999 | Bangalore | 50712.430215 |
| Central | Rajajinagar | 12.990100 | 77.552500 | 981362 | Bangalore | 60967.535874 |
| Central | Sadashivanagar | 13.006800 | 77.581300 | 662625 | Bangalore | 59943.541564 |
| Central | Seshadripuram | 12.993500 | 77.578700 | 396862 | Bangalore | 58407.090338 |
| Central | Shivajinagar | 12.985700 | 77.605700 | 77836 | Bangalore | 55850.962099 |
| Central | Ulsoor | 12.981700 | 77.628600 | 656726 | Bangalore | 41007.219536 |
| Central | Vasanth Nagar | 12.991100 | 77.592000 | 942711 | Bangalore | 26168.448092 |
| Eastern | Bellandur | 12.926000 | 77.676200 | 208094 | Bangalore | 7227.731930 |
| Eastern | CV Raman Nagar | 12.985500 | 77.663900 | 122714 | Bangalore | 54335.368712 |

DataFrame Showing Venue details, Category For Locations in Bangalore Accessed through FourSquare API

| | Neighborhood | Borough | Neighborhood Latitude | Neighborhood Longitude | Venue | Venue Latitude | Venue Longitude | Venue Category |
|---|-----------------|---------|-----------------------|------------------------|------------------|----------------|-----------------|--------------------|
| 0 | Cantonment area | Central | 12.972442 | 77.580643 | Hotel Fishland | 12.975569 | 77.578592 | Seafood Restaurant |
| 1 | Cantonment area | Central | 12.972442 | 77.580643 | Vasudev Adigas | 12.973707 | 77.579257 | Indian Restaurant |
| 2 | Cantonment area | Central | 12.972442 | 77.580643 | Adigas Hotel | 12.973554 | 77.579161 | Restaurant |
| 3 | Cantonment area | Central | 12.972442 | 77.580643 | Sapna Book House | 12.976355 | 77.578461 | Bookstore |
| 4 | Cantonment area | Central | 12.972442 | 77.580643 | Kamat Yatrivas | 12.975985 | 77.578125 | Indian Restaurant |

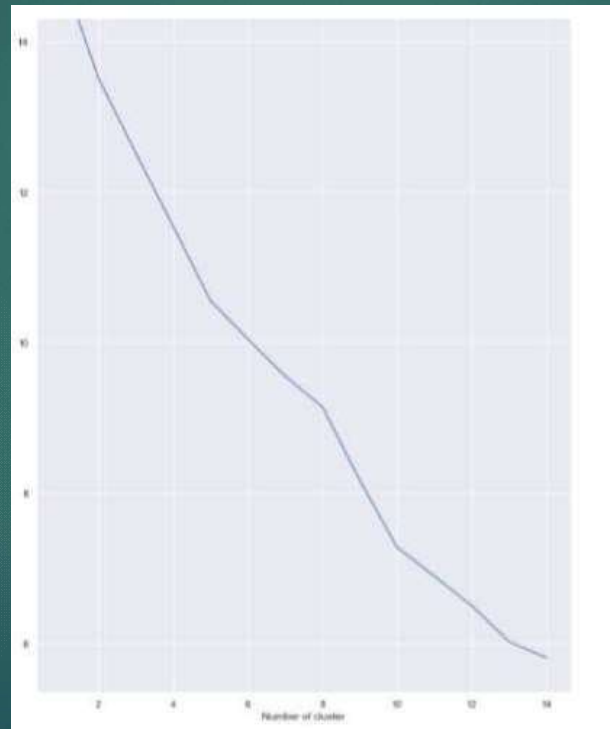
Graph Showing Number of Venues For Locations In Bangalore



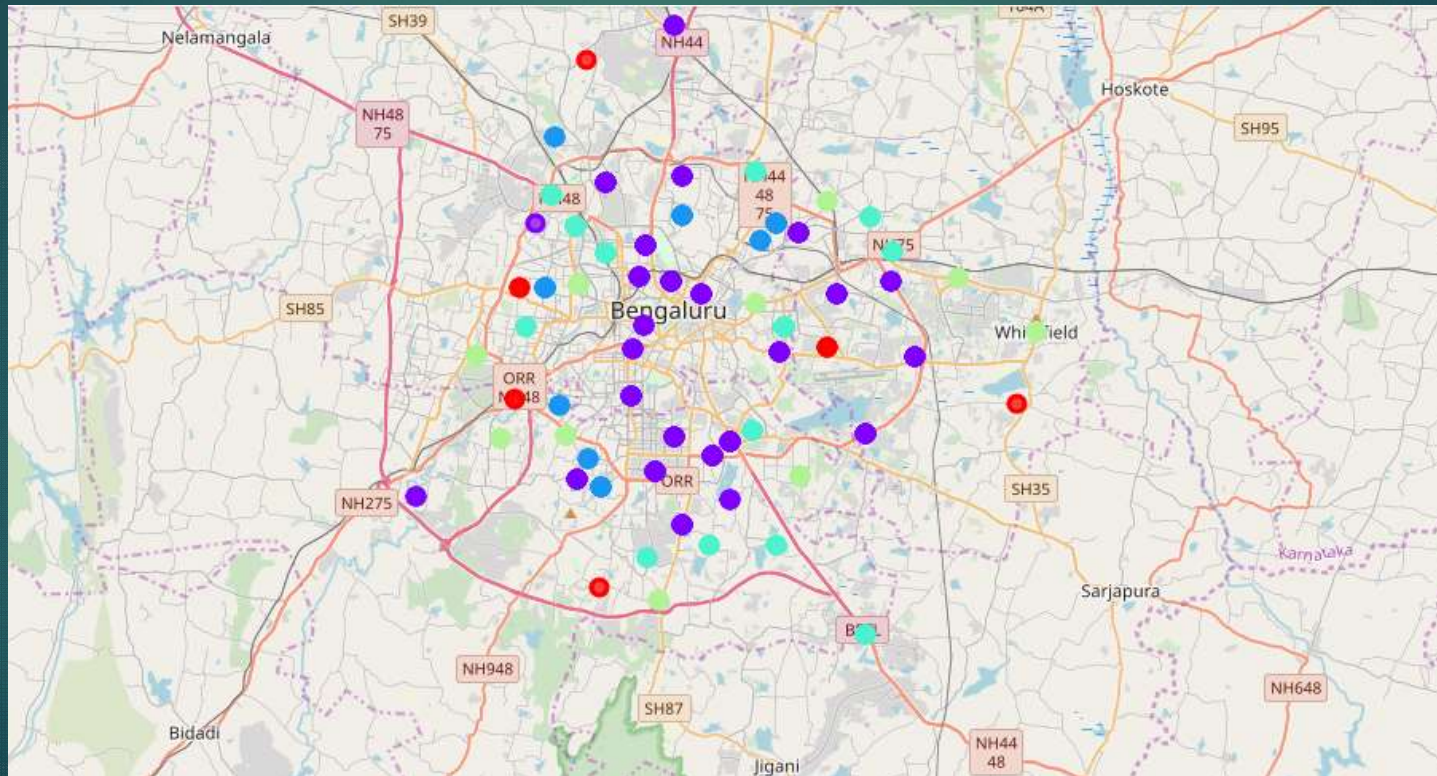
Venues Details and Category of Different Location In Bangalore

| ----- Anjanapura ----- | | |
|------------------------|--|-----------|
| | Venue | Frequency |
| 0 | Venue Category_ATM | 1.0 |
| 1 | Venue Category_Middle Eastern Restaurant | 0.0 |
| 2 | Venue Category_Performing Arts Venue | 0.0 |
| 3 | Venue Category_Park | 0.0 |
| 4 | Venue Category_Paper / Office Supplies Store | 0.0 |
| ----- Arekere ----- | | |
| | Venue | Frequency |
| 0 | Venue Category_Indian Restaurant | 0.19 |
| 1 | Venue Category_Sporting Goods Shop | 0.12 |
| 2 | Venue Category_Department Store | 0.08 |
| 3 | Venue Category_Pizza Place | 0.08 |
| 4 | Venue Category_Bus Line | 0.04 |
| ----- BTM Layout ----- | | |
| | Venue | Frequency |
| 0 | Venue Category_Indian Restaurant | 0.21 |
| 1 | Venue Category_Snack Place | 0.09 |
| 2 | Venue Category_Ice Cream Shop | 0.09 |
| 3 | Venue Category_Vegetarian / Vegan Restaurant | 0.06 |
| 4 | Venue Category_Pizza Place | 0.06 |

Graph showing Number of Clusters



Map showing Clustered Venues For Locations In Bangalore



DataFrame showing Most Common Venues In different Location In Bangalore

| | index | Neighborhood | 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 C |
|---|-------|--------------|-------------------------------|-----------------------|----------------------------------|--|----------------------------|----------------------------------|---------------------------|
| 0 | 61 | Banashankari | Venue Category_Clothing Store | Venue Category_Café | Venue Category_Accessories Store | Venue Category_North Indian Restaurant | Venue Category_Pizza Place | Venue Category_Indian Restaurant | Venue Category_Misce Shop |
| 1 | 62 | Banashankari | Venue Category_Clothing Store | Venue Category_Café | Venue Category_Accessories Store | Venue Category_North Indian Restaurant | Venue Category_Pizza Place | Venue Category_Indian Restaurant | Venue Category_Misce Shop |
| 2 | 63 | Banashankari | Venue Category_Clothing Store | Venue Category_Café | Venue Category_Accessories Store | Venue Category_North Indian Restaurant | Venue Category_Pizza Place | Venue Category_Indian Restaurant | Venue Category_Misce Shop |
| 3 | 64 | Banashankari | Venue Category_Clothing Store | Venue Category_Café | Venue Category_Accessories Store | Venue Category_North Indian Restaurant | Venue Category_Pizza Place | Venue Category_Indian Restaurant | Venue Category_Misce Shop |

DataFrame Showing Results Locations which has Similar type of restaurants as “Whitefield”

| | Neighborhoods | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | Ranking |
|---|---------------|----------------------------------|----------------------------|----------------------------------|-----------------------|
| 0 | Banashankari | Venue Category_Clothing Store | Venue Category_Café | Venue Category_Accessories Store | [0.8234029969357847] |
| 1 | Gottigere | Venue Category_Indian Restaurant | Venue Category_Pharmacy | Venue Category_Department Store | [0.43352975051479636] |
| 2 | HSR Layout | Venue Category_Badminton Court | Venue Category_Pizza Place | Venue Category_Café | [0.6193945016263558] |