Battle of Neighborhoods

Capstone Project

Project Details

- To Identify a location/Cluster in Hyderabad for putting up a new food joint

- This project will be useful for new Entrepreneurs

- It fetches and gives location information for prospective new food joint ventures

Data Collection and Exploration

- Data Collected from Geonames and india.gov.in sources

- Major Borough identified by correlating with District Data

- Foursquare has been used to obtain venues from the latitude-longitude data obtained.

	Borough	Neighborhood	Latitude	Longitude
0	Hyderabad	Hyderabad G.P.O.	17.3862	78.462
1	Hyderabad	Moazzampura	17.3862	78.462
2	Hyderabad	Gandhi Bhawan (Hyderabad)	17.3862	78.462
3	Hyderabad	Seetharampet	17.3862	78.462
4	Hyderabad	State Bank Of Hyderabad	17.3862	78.462

Model Selection

```
In [75]:  # set number of clusters
          kclusters = 5

          hyd_grouped_clustering = hyd_grouped.drop('Neighborhood', 1)

          # run k-means clustering
          kmeans = KMeans(n_clusters=kclusters, random_state=0).fit(hyd_grouped_clustering)

          # check cluster labels generated for each row in the dataframe
          kmeans.labels_[0:10]

Out[75]:  array([1, 4, 0, 1, 0, 1, 1, 0, 1, 0], dtype=int32)
```

- K- Means cluster algorithm has been used. dataset as it is expected to only cluster the data based on the commonality in the data set.

- 5 clusters data has been populated to understand similarity in the cluster

- Foursquare has thrown results for top 10 venues

- They are grouped and merged to see meaningful result

Result Analysis & Conclusion

	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 Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
117	Vivekananda Nagar Colony	Movie Theater	Snack Place	Indie Movie Theater	Bus Station	Breakfast Spot	Café	Dessert Shop	Diner	Department Store	Clothing Store
118	Vivekanandanagar Colony	Clothing Store	BBQ Joint	Indian Restaurant	Water Park	Food	Fast Food Restaurant	Electronics Store	Donut Shop	Diner	Dessert Shop
119	Yadgarpalli	Bed & Breakfast	Train Station	Fried Chicken Joint	Platform	Department Store	Coffee Shop	Comedy Club	Convenience Store	Cupcake Shop	Deli / Bodega
120	Yakutpura	Train Station	Gym	Water Park	Chinese Restaurant	Fast Food Restaurant	Electronics Store	Donut Shop	Diner	Dessert Shop	Department Store
121	Zamistanpur	Movie Theater	Indian Restaurant	Breakfast Spot	Asian Restaurant	Dessert Shop	Coffee Shop	Comedy Club	Convenience Store	Cupcake Shop	Department Store

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66	Murad Nagar (Hyderabad)	Café	Bakery	Chinese Restaurant	Food	Fast Food Restaurant	Electronics Store	Donut Shop	Diner	Dessert Shop	Department Store
67	Shantinagar (Hyderabad)	Café	Bakery	Chinese Restaurant	Food	Fast Food Restaurant	Electronics Store	Donut Shop	Diner	Dessert Shop	Department Store
68	Humayunnagar	Café	Bakery	Chinese Restaurant	Food	Fast Food Restaurant	Electronics Store	Donut Shop	Diner	Dessert Shop	Department Store
122	P & T Colony (K.V.Rangareddy)	ATM	Airport Service	Museum	Café	Asian Restaurant	BBQ Joint	Food	Fast Food Restaurant	Electronics Store	Donut Shop
123	Sitaphalmandi	ATM	Airport Service	Museum	Café	Asian Restaurant	BBQ Joint	Food	Fast Food Restaurant	Electronics Store	Donut Shop
124	Dr As Rao Nagar	ATM	Airport Service	Museum	Café	Asian Restaurant	BBQ Joint	Food	Fast Food Restaurant	Electronics Store	Donut Shop
125	Ecil	ATM	Airport Service	Museum	Café	Asian Restaurant	BBQ Joint	Food	Fast Food Restaurant	Electronics Store	Donut Shop

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