ANALYSIS OF NEIGHBORHOOD RESTAURANTS IN LONDON

CUMULATING OF LIST OF RESTAURANTS

The scope of this project will be to provide a list of good restaurants which provide the cuisine of their choice also it should be hygienic and should have good ratings as well.

Since London is one of the many multicultural cities around the world, we will be comparing the neighborhoods of London and cumulating a list of restaurants based on the cuisine they serve, and their ratings.

DATA SOURCE

For this project we'll be gathering public data from following sources:

- **Wikipedia**: Here we can get the data related to boroughs and the locations within those boroughs. Since this data is based on the locations under each boroughs in London, we can group these areas based on the boroughs they belong to. Click here to visit the Wikipedia page.

- **Foursquare**: Using Foursquare API we can obtain longitudes and latitudes of all the boroughs and using that data we can plot the locations and popular venues in London. Also using this API, we can also get the details of all the restaurants that serve different types of cuisines from around the world.

- **Data World**: Using Data World we can get the detailed information about the venues which we'll get from Foursquare API like for example ratings.

DATA CLEANING

- The data is first scraped and collected from Wikipedia, and then Dial Code, OS grid ref columns are removed from the resulting dataset.

- The locations in the dataset are segregated and made into a new data frame based on the borough they belong to which in this case is Camden.

- Using postcode in the Camden dataset, location coordinates are obtained and assigned to each and every location data in the dataset.

- Once the coordinates are added to the locations in the dataset, a new dataset is made for the popular venues in Camden based on the locations from the previous table.

- The new dataset has all the popular venues like golf courses, parks, restaurants, clubs etc. The dataset is segregated based in the type of venue which in this case is restaurant.

- Restaurant rating, hygiene score and structural score is added to the dataset, which was obtained from DataWorld
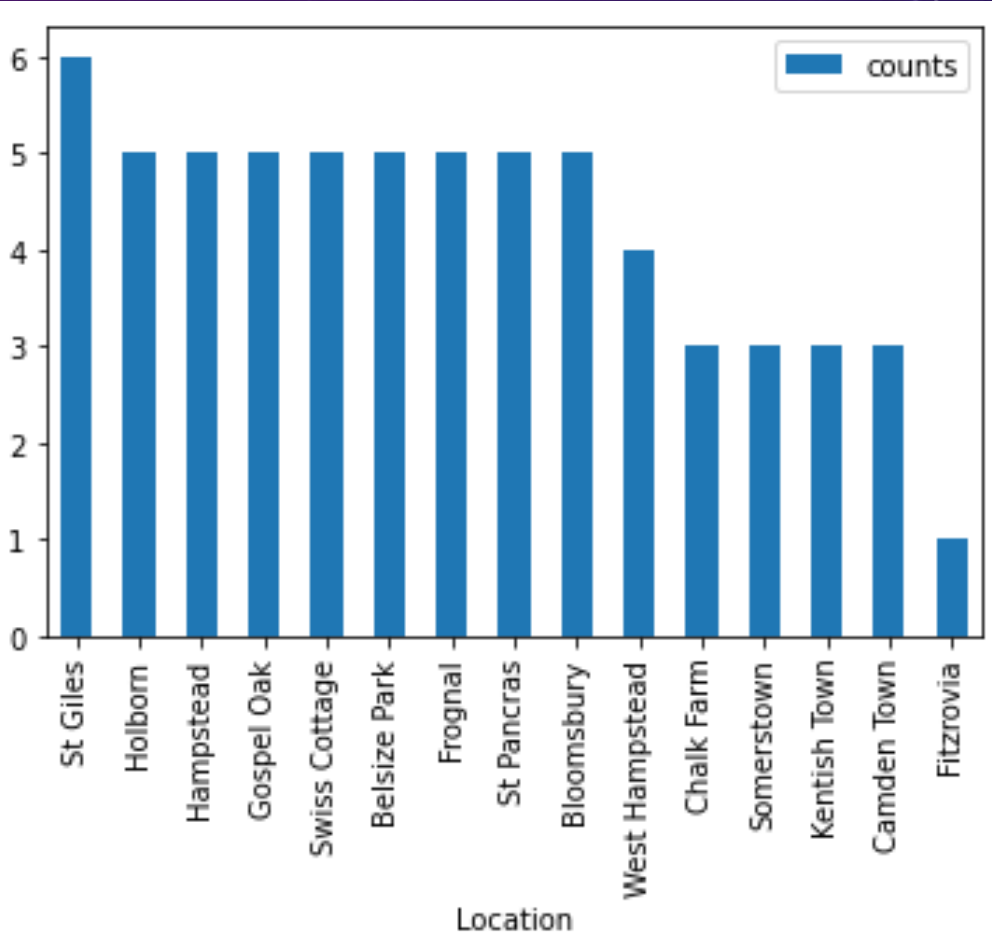
NUMBER OF LOCATIONS UNDER EACH BOROUGH IN LONDON

Barnet	25
Tower Hamlets	21
Westminster	19
Hackney	18
Lewisham	17
Camden	17
Haringey	15
Islington	14
Southwark	13
Newham	13
Greenwich	13
Brent	11
Wandsworth	10
Lambeth	10
Kensington and Chelsea	9
Hammersmith and Fulham	9
Waltham Forest	8
Enfield	6
Merton	5
Richmond upon Thames	4
Ealing	4
Bromley	4
Croydon	4
Redbridge	3
City	3
Hounslow	2
Bexley	2
Redbridge, Waltham Forest	1
Lambeth, Southwark	1
City, Westminster	1
Bexley, Greenwich	1
Islington, Camden	1
Camden and Islington	1
Islington & City	1
Barnet, Brent, Camden	1
Greenwich, Lewisham	1
Haringey, Islington	1
Hounslow, Ealing, Hammersmith and Fulham	1
Brent, Ealing	1
Haringey and Barnet	1
Ealing, Hammersmith and Fulham	1
Lewisham, Southwark	1
Brent, Camden	1
Lewisham, Bromley	1
Dartford	1
Kingston upon Thames	1
Lambeth, Wandsworth	1

RESTAURANT TYPES WITH HIGHEST RATING
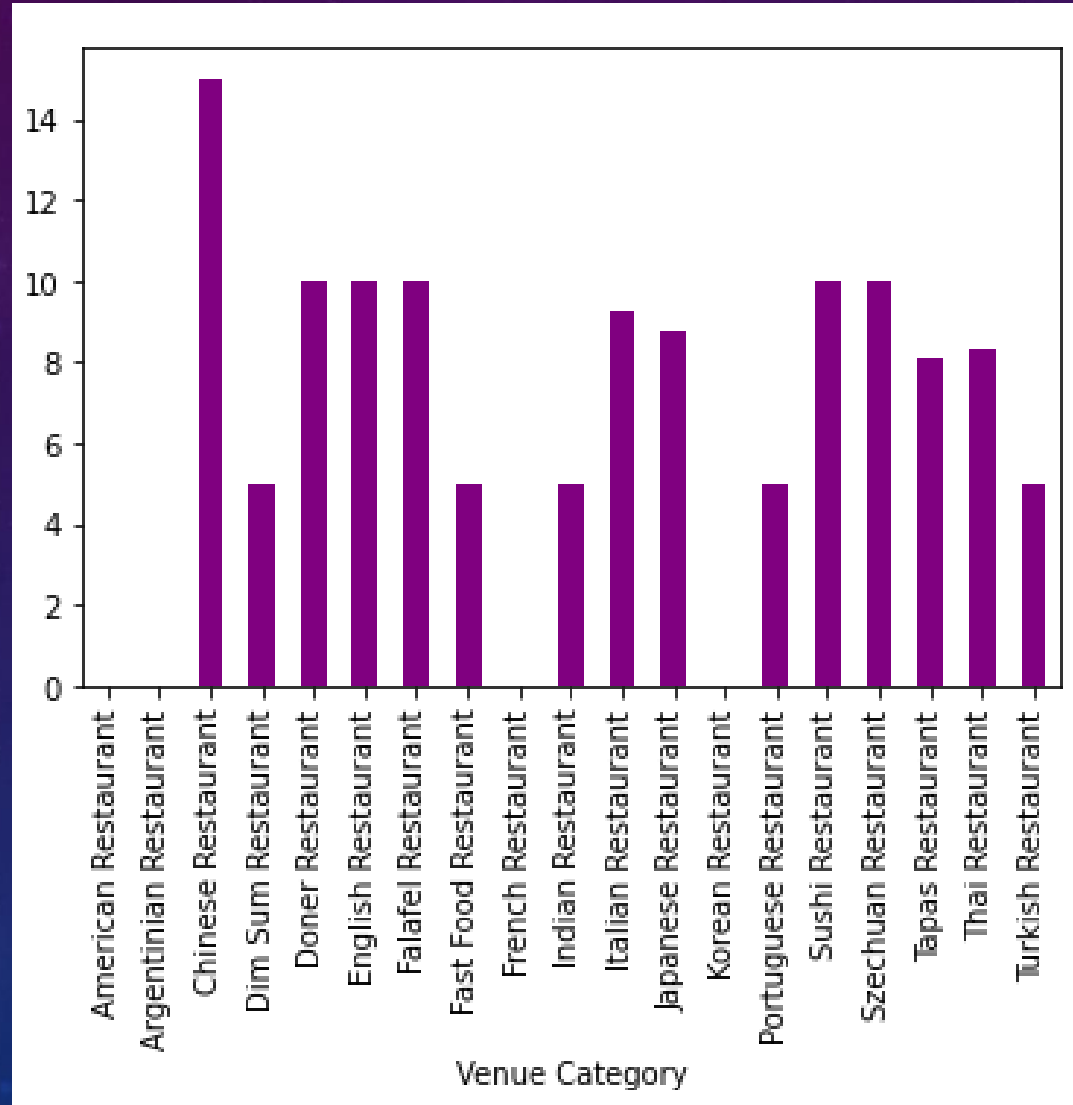
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American Restaurant        5
French Restaurant          5
Italian Restaurant         3
Korean Restaurant          1
Portuguese Restaurant      1
Fast Food Restaurant       1
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NUMBER OF RESTAURANTS PER LOCATION IN CAMDEN, LONDON

	Location	counts
0	St Giles	6
1	Holborn	5
2	Hampstead	5
3	Gospel Oak	5
4	Swiss Cottage	5
5	Belsize Park	5
6	Frognal	5
7	St Pancras	5
8	Bloomsbury	5
9	West Hampstead	4
10	Chalk Farm	3
11	Somerstown	3
12	Kentish Town	3
13	Camden Town	3
14	Fitzrovia	1

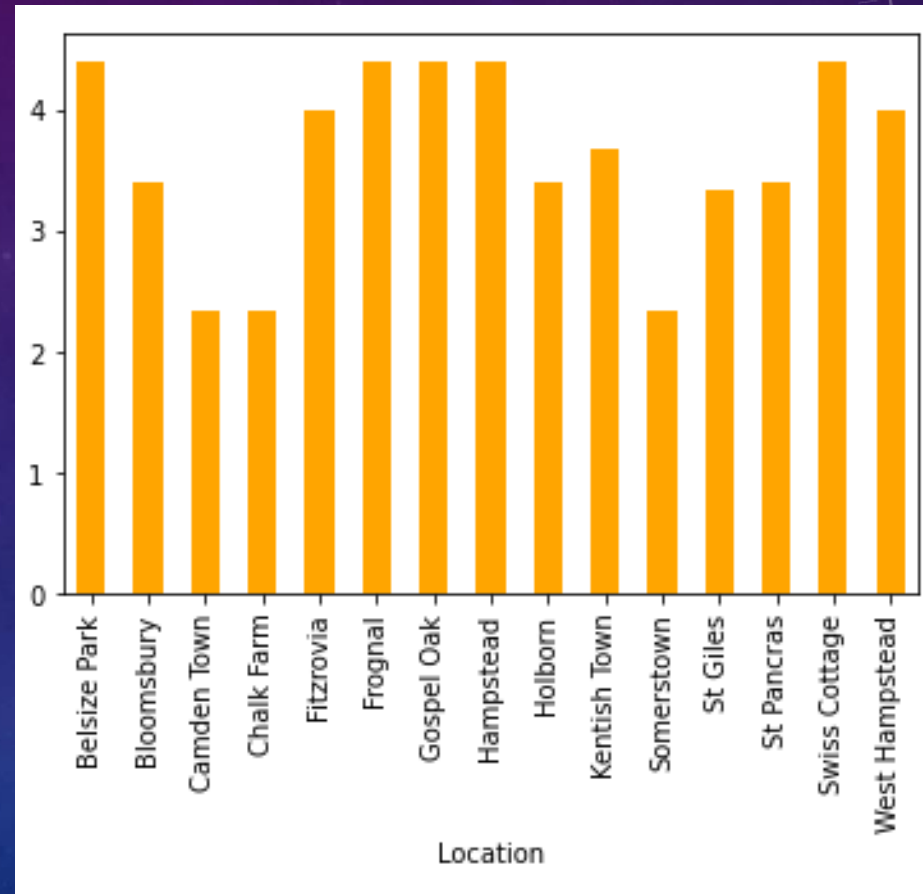# RESTAURANT TYPES AND THEIR HYGIENE SCORE

NUMBER OF RESTAURANTS WITH BETTER RATINGS AND SCORES BASED ON THE LOCATION THEY ARE IN.

Frognal	2
Gospel Oak	2
Belsize Park	2
Swiss Cottage	2
Hampstead	2
Fitzrovia	1

Locations with good hygiene and structural score

Number of restaurants with good rating per location in Camden.

FINAL LIST OF RESTAURANTS BASED ON THE RATINGS

	Location	Venue	Venue ID	Venue Latitude	Venue Longitude	Venue Category	RestaurantRating	Hygiene Score	Structural Score
411	Hampstead	La Cage Imaginaire	4c4f4e9c92b6a593294f5a71	51.556736	-0.177311	French Restaurant	5	0	5
283	Frognal	Spielburger	5377c796498e21d3bd43dbc0	51.556336	-0.178640	American Restaurant	5	0	0
803	West Hampstead	Nando's	4c1e5386fcf8c9b66e10ad0b	51.544655	-0.200661	Portuguese Restaurant	5	5	5
776	Swiss Cottage	La Cage Imaginaire	4c4f4e9c92b6a593294f5a71	51.556736	-0.177311	French Restaurant	5	0	5
754	Swiss Cottage	Spielburger	5377c796498e21d3bd43dbc0	51.556336	-0.178640	American Restaurant	5	0	0
...	...	...	...	...	...	...	...	...	...
153	Chalk Farm	Trufflesecco	57112d67498eebbbf735ec4f	51.534781	-0.139133	Italian Restaurant	2	15	5
721	St Pancras	Chilli Cool	4add9af0f964a520236521e3	51.526703	-0.124751	Szechuan Restaurant	1	10	15
475	Holborn	Chilli Cool	4add9af0f964a520236521e3	51.526703	-0.124751	Szechuan Restaurant	1	10	15
86	Bloomsbury	Chilli Cool	4add9af0f964a520236521e3	51.526703	-0.124751	Szechuan Restaurant	1	10	15
670	St Giles	Canton Element	5273a803498e5eafdcc026d2	51.519931	-0.117408	Chinese Restaurant	0	15	20

RESULT

We were able to :

- Get the names of each borough in London along with the locations under each borough.

- Gather the coordinates for each locations.

- Gather the top venues in a borough.

- Obtain the required data for the restaurants like, name, location, category, rating, hygiene and structural scores.

- Explore the data regarding the restaurant and plot the required plots.

- Plot the areas, and restaurants in a map.

LIMITATIONS

- The model's accuracy is based on the accuracy of the data obtained.
- There is a limitation on the number of API calls which restricts the amount of data which we can collect.

CONCLUSION

This model can be used for obtaining the required data regarding venues like restaurants, bars, parks, cafes etc. Foursquare API can be used to get the required details regarding the venues in a given location. Also, this model can be used to recommend restaurants based on the location, type of cuisine, ratings, hygiene, quality of the place etc.