

PROJECT: ZOMATO API – II

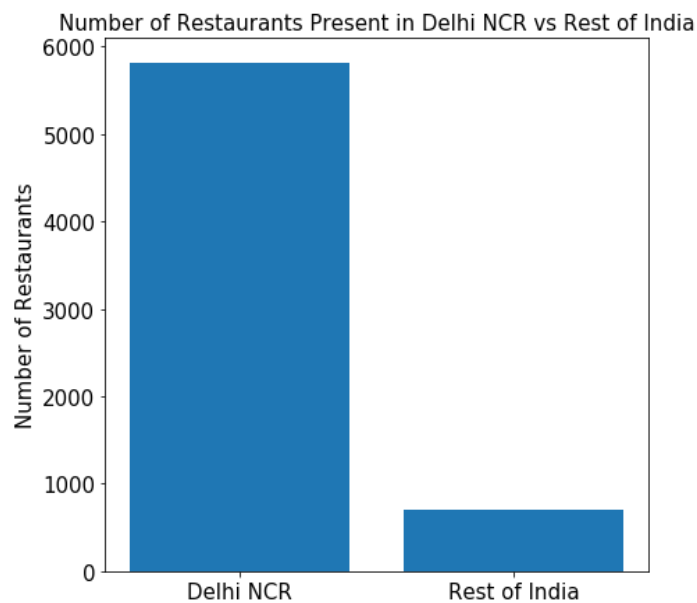
Note: As mentioned in the question I have considered only Indian restaurants in this analysis (except for 3.4)

1.1: Plot the bar graph of number of restaurants present in Delhi NCR vs Rest of India

Answer:

The number of restaurants in Delhi NCR is 5808
The number of restaurants in Rest of India is 705

Plot



Explanation:

Firstly, I extracted the city list for India from the given dataset. Then I checked for each city in the list, if the city was in Delhi NCR I added one to Delhi NCR count variable, if the city was not in Delhi NCR I added one to the Rest of India count variable.

1.2: Find the cuisines which are not present in restaurant of Delhi NCR but present in rest of India

Answer:

Cuisines which are not present in restaurant of Delhi NCR but present in rest of India are:

Malwani
German
Cajun
BBQ

Explanation:

I made two sets variable one for Delhi-NCR and one for Rest of India. Then I checked for each row in the dataset and added the cuisines to these variables according to the city whether they belonged to Delhi-NCR or Rest of India. At last set(Rest of India)-set(Delhi-NCR) gave the desired result.

I checked for cuisines served in Delhi-NCR using Zomato API, Malwani and BBQ are available in Delhi-NCR but is not available in the dataset.

URL: https://developers.zomato.com/api/v2.1/cuisines?city_id=1

1.3: Find the top 10 cuisines served by maximum number of restaurants in Delhi-NCR and rest of India**Answer:**

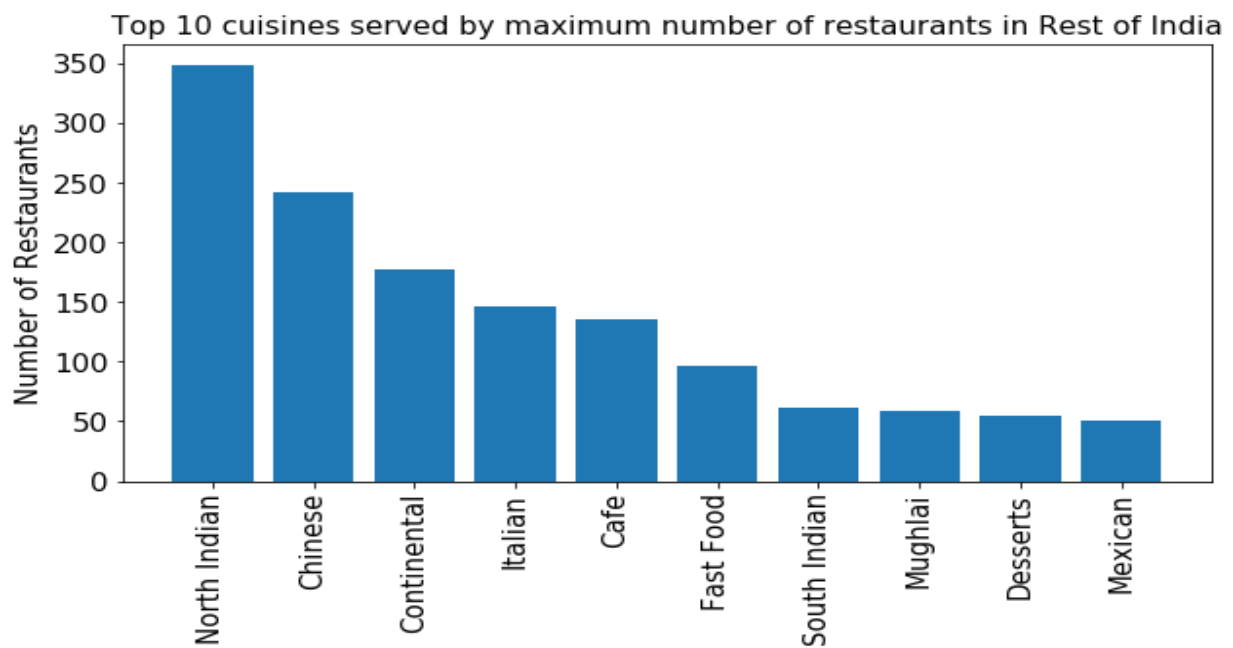
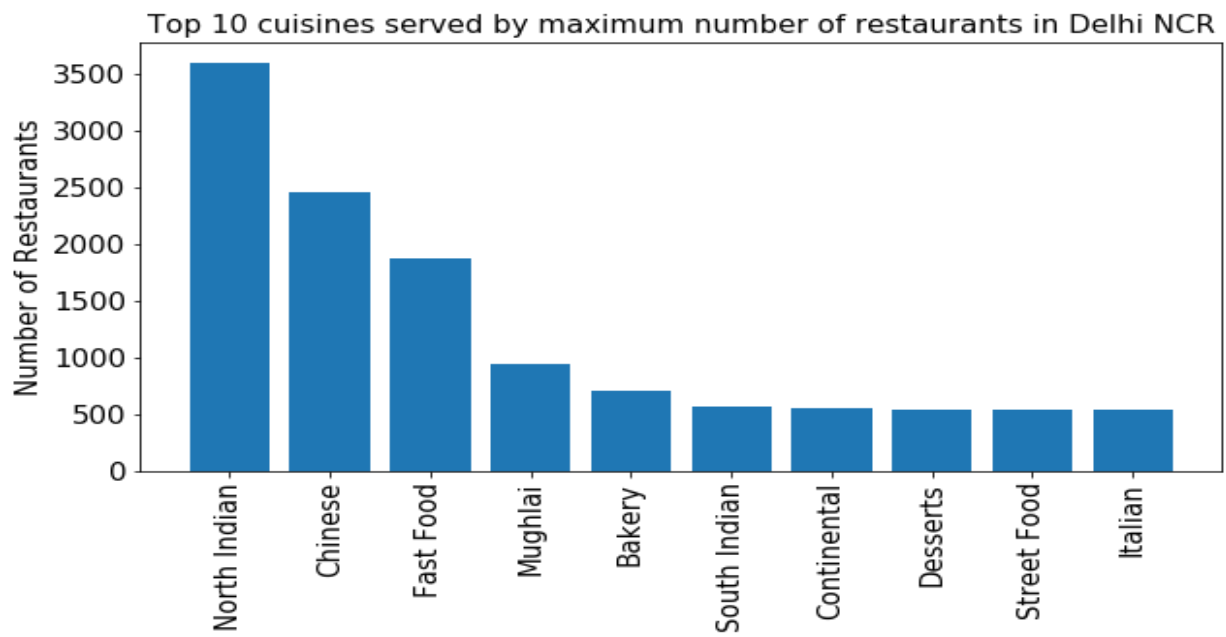
Top 10 cuisines served by maximum number of restaurants in Delhi NCR are:

- 1 North Indian - 3597
- 2 Chinese - 2448
- 3 Fast Food - 1866
- 4 Mughlai - 933
- 5 Bakery - 697
- 6 South Indian - 569
- 7 Continental - 547
- 8 Desserts - 542
- 9 Street Food - 538
- 10 Italian - 535

Top 10 cuisines served by maximum number of restaurants in Rest of India are:

- 1 North Indian - 349
- 2 Chinese - 242
- 3 Continental - 177
- 4 Italian - 147
- 5 Cafe - 136
- 6 Fast Food - 97
- 7 South Indian - 62
- 8 Mughlai - 59
- 9 Desserts - 55
- 10 Mexican - 50

Plots



Explanation

With the help of Dictionary, I calculated the number of restaurants serving different cuisines in Delhi-NCR and Rest of India. Then I used Numpy to find the Top 10 cuisines served by maximum number of restaurants.

1.4: Analysis of how cuisine served is different from Delhi NCR to Rest of India

Answer:

Cuisines present in Restaurants of Delhi-NCR but not present in Rest of India are:

Pakistani present in 2 restaurants
Sushi present in 21 restaurants
Iranian present in 3 restaurants
Moroccan present in 5 restaurants
Kashmiri present in 20 restaurants
Persian present in 1 restaurants
South American present in 2 restaurants
Turkish present in 8 restaurants
Naga present in 8 restaurants
Raw Meats present in 114 restaurants
Assamese present in 4 restaurants
Drinks Only present in 2 restaurants
Deli present in 1 restaurants
Belgian present in 1 restaurants
Afghani present in 11 restaurants
Nepalese present in 9 restaurants
Cuisine Varies present in 1 restaurants
Bihari present in 6 restaurants
Oriya present in 2 restaurants
Sri Lankan present in 1 restaurants

Cuisines present in Restaurants of Rest of India but not present in Delhi-NCR are:

BBQ present in 1 restaurants
German present in 2 restaurants
Malwani present in 1 restaurants
Cajun present in 1 restaurants

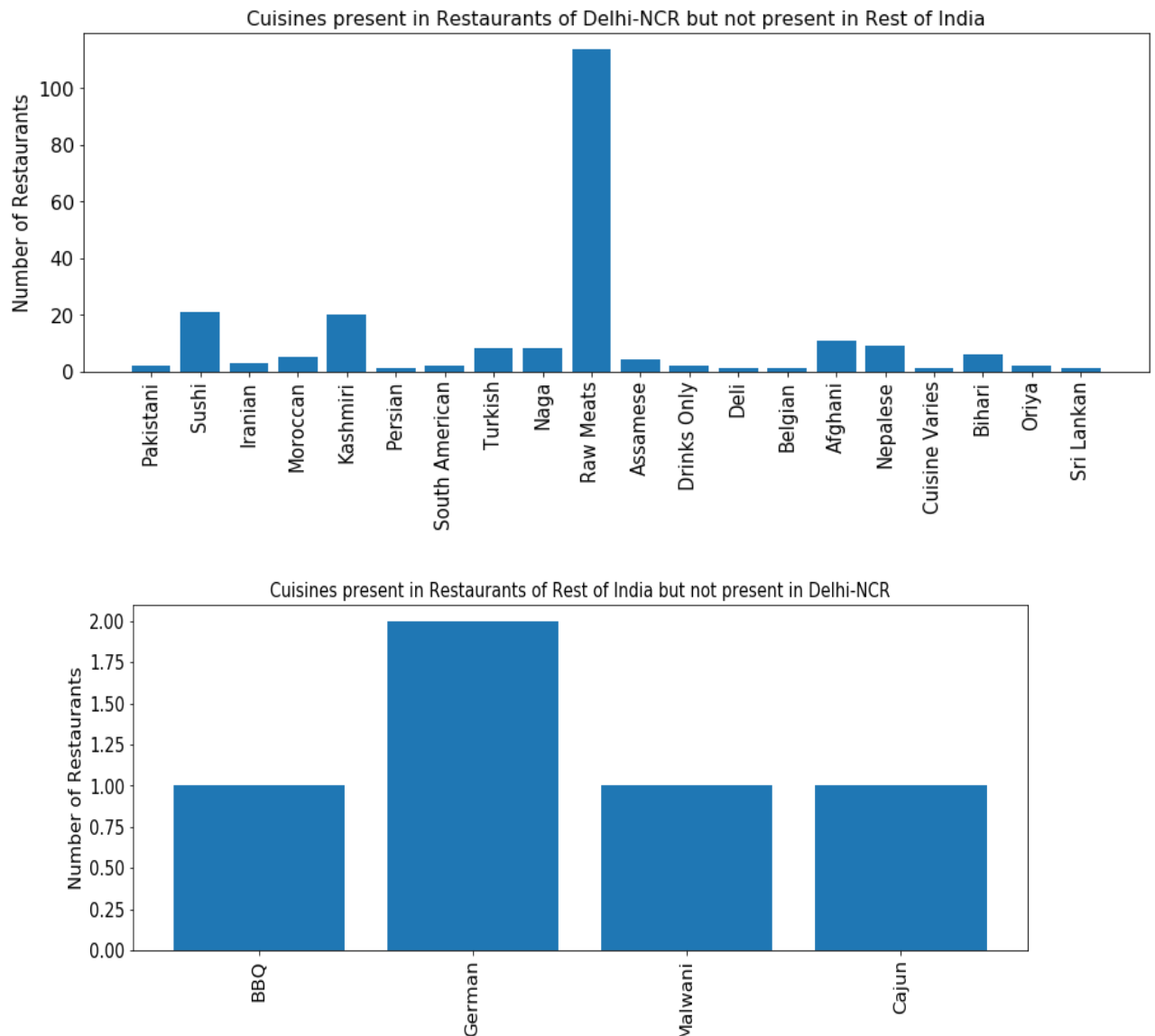
Top 10 cuisines present in Restaurants of Delhi-NCR but not present in Top 10 list of Rest of India are:

Bakery present in 697 restaurants
Street Food present in 538 restaurants

Top 10 cuisines present in Restaurants of Rest of India but not present in Top 10 list of Delhi-NCR are:

Cafe present in 136 restaurants
Mexican present in 50 restaurants

Plots



It is clearly evident from the above plots that among the Cuisines present in Restaurants of Delhi-NCR but not present in Rest of India, Raw Meats is present in maximum number of restaurants in Delhi-NCR. While the Cuisines present in Restaurants of Rest of India but not present in Delhi-NCR, are only present in 1 or 2 restaurants in Rest of India.

From the answers above it can be inferred that 8 cuisines are common in the top 10 list of cuisine in Delhi-NCR and Rest of India.

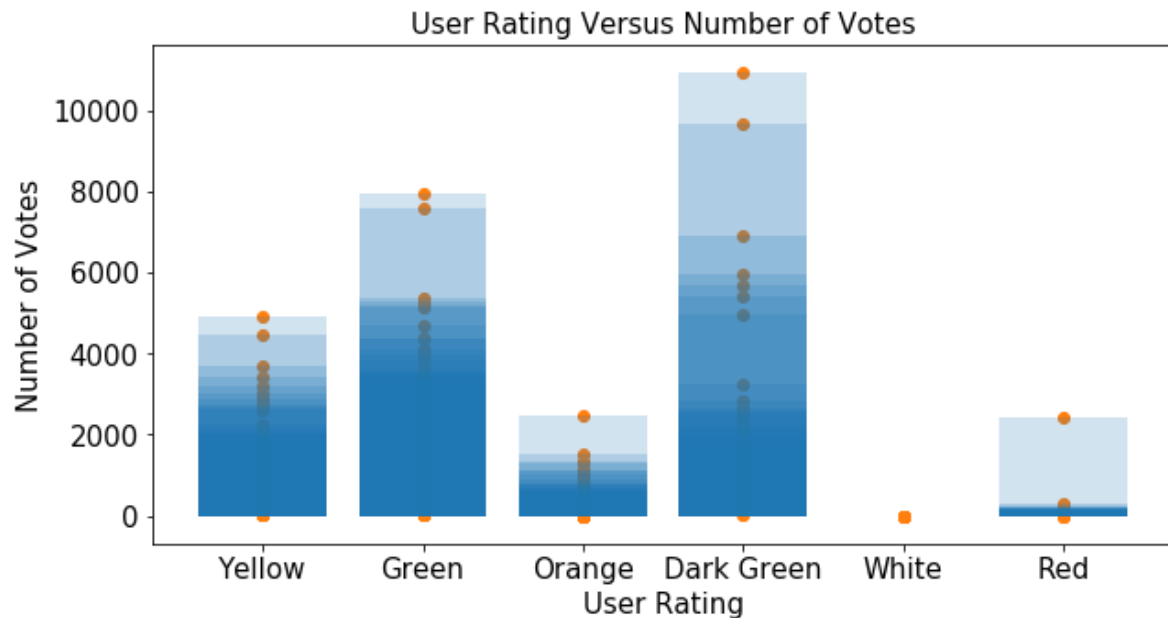
Explanation

With the help of Dictionary, I calculated the number of restaurants serving different cuisines in Delhi-NCR and Rest of India. Then I used Numpy to find the Top 10 cuisines served by maximum number of restaurants. In order to find the cuisines present in one region but not in another region I have used the properties of sets.

2.1: Analysis of how the rating is affected

2.1.1: User Rating Versus Number of Votes

Plot

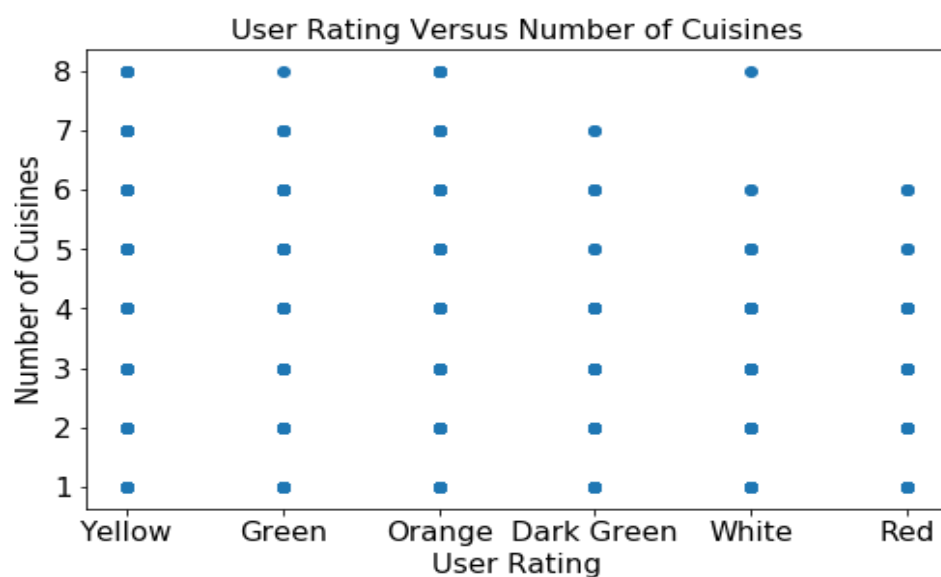


It can be easily inferred from the plot above that maximum number of votes has been given to the Dark Green User Rating Category followed by Green and then Yellow. White Category has received minimum number of votes

2.1.2: User Rating Versus Number of Cuisines

A.

Plots



From the above plot it can be observed that restaurants serving 1-6 number of cuisines have received user rating in all category. Restaurants serving 7 cuisines have no rating in White and Red category while Restaurants serving 8 cuisines have no rating in Dark Green and Red category.

Explanation

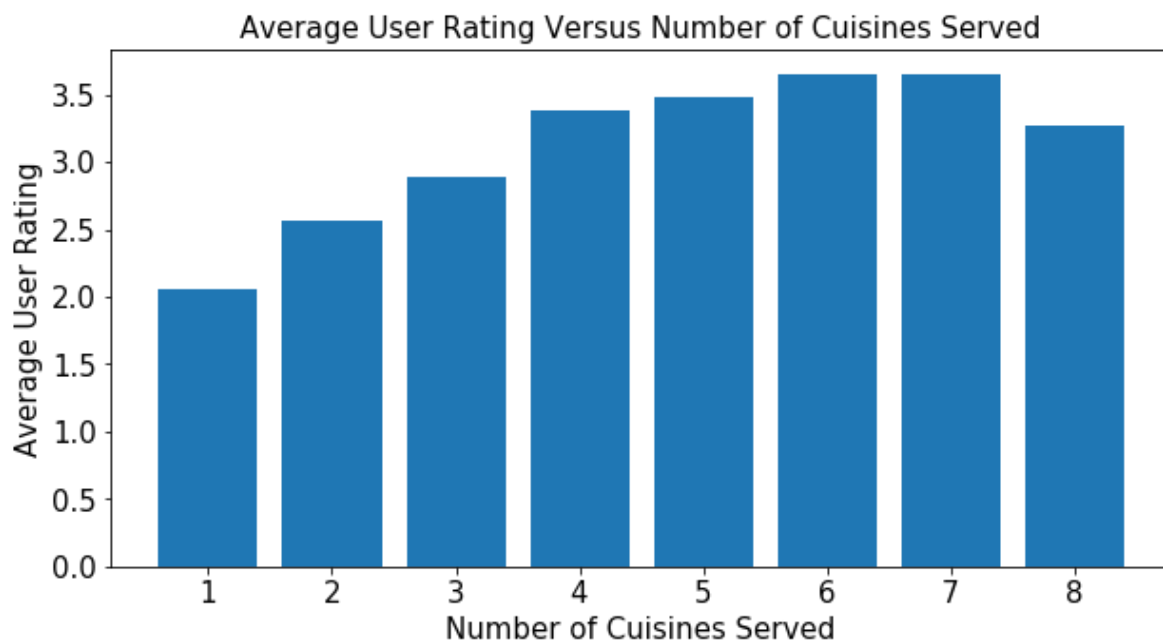
To obtain the number of cuisines served by each restaurants I have calculated the length of the list obtained after applying split() function to the cuisine value in the given dataset.

B.

Answer:

```
Average User Rating of Restuarants serving 2 Cuisines is 2.56
Average User Rating of Restuarants serving 1 Cuisines is 2.06
Average User Rating of Restuarants serving 3 Cuisines is 2.89
Average User Rating of Restuarants serving 4 Cuisines is 3.38
Average User Rating of Restuarants serving 5 Cuisines is 3.48
Average User Rating of Restuarants serving 6 Cuisines is 3.65
Average User Rating of Restuarants serving 7 Cuisines is 3.65
Average User Rating of Restuarants serving 8 Cuisines is 3.27
```

Plot



It can be observed that Restaurants serving 6 and 7 cuisines have maximum user rating followed by Restaurants serving 4 and 5 dishes.

Explanation

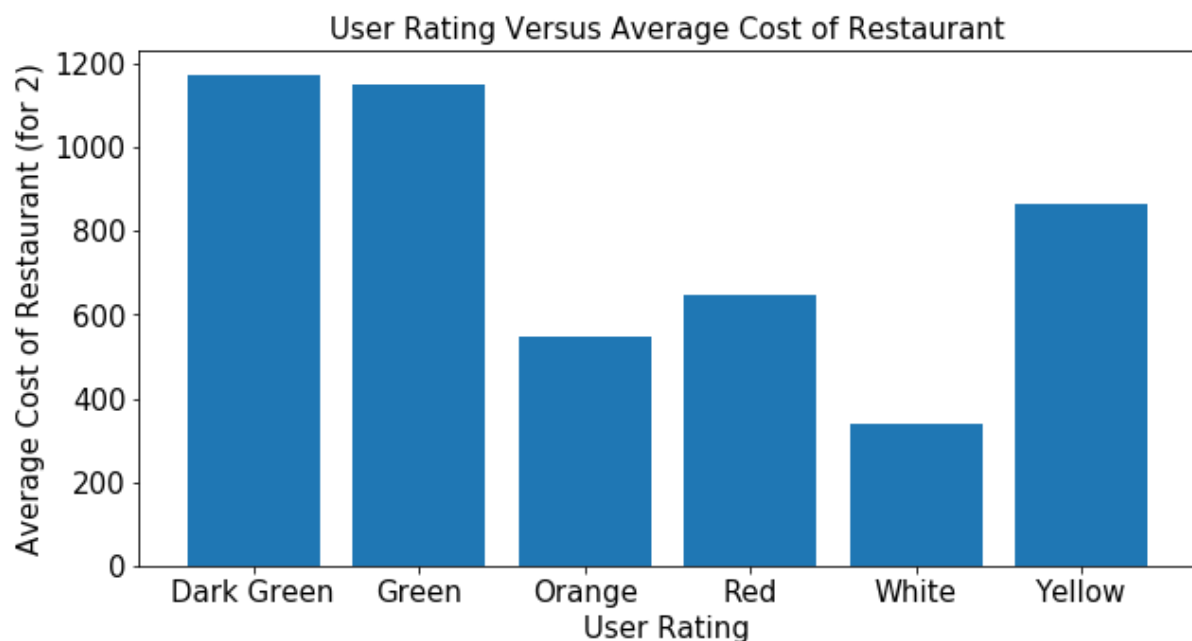
With the help of Dictionary, I have calculated the average user rating for each different number of cuisines served by Restaurants.

2.1.3: User Rating Versus Average Cost of Restaurant

Answer:

The Average Cost of Restaurant (for 2) with User Rating Dark Green is 1173
The Average Cost of Restaurant (for 2) with User Rating Green is 1148
The Average Cost of Restaurant (for 2) with User Rating Orange is 548
The Average Cost of Restaurant (for 2) with User Rating Red is 647
The Average Cost of Restaurant (for 2) with User Rating White is 341
The Average Cost of Restaurant (for 2) with User Rating Yellow is 865

Plot



It was clearly visible that maximum The Average Cost of Restaurant (for 2) is for those Restaurants to which the users have rated as Dark Green and Green Category. White category restaurants have minimum Average Cost for 2.

Explanation

I have used the `groupby()` function to calculate the Average Cost for 2 for each User rating colour.

2.1.4: User Rating Versus Restaurant serving some specific cuisines

Answers:

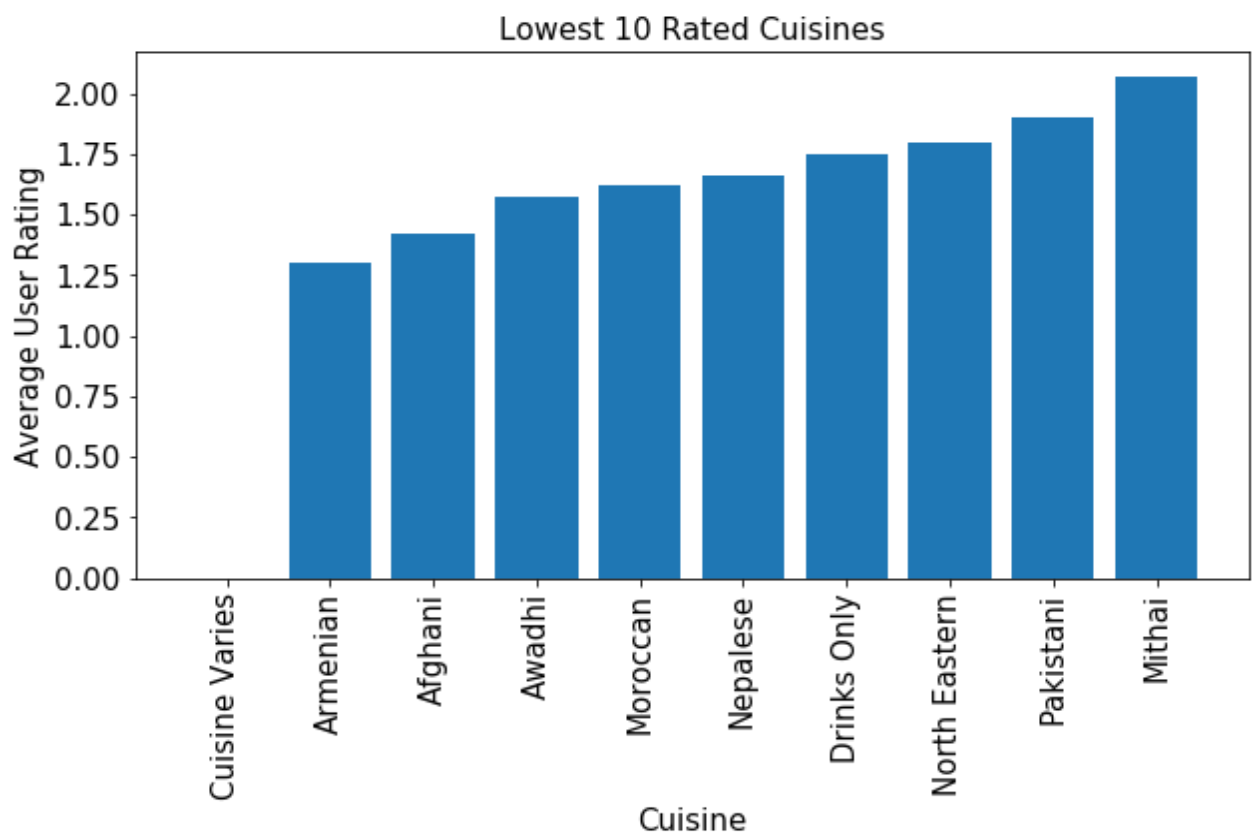
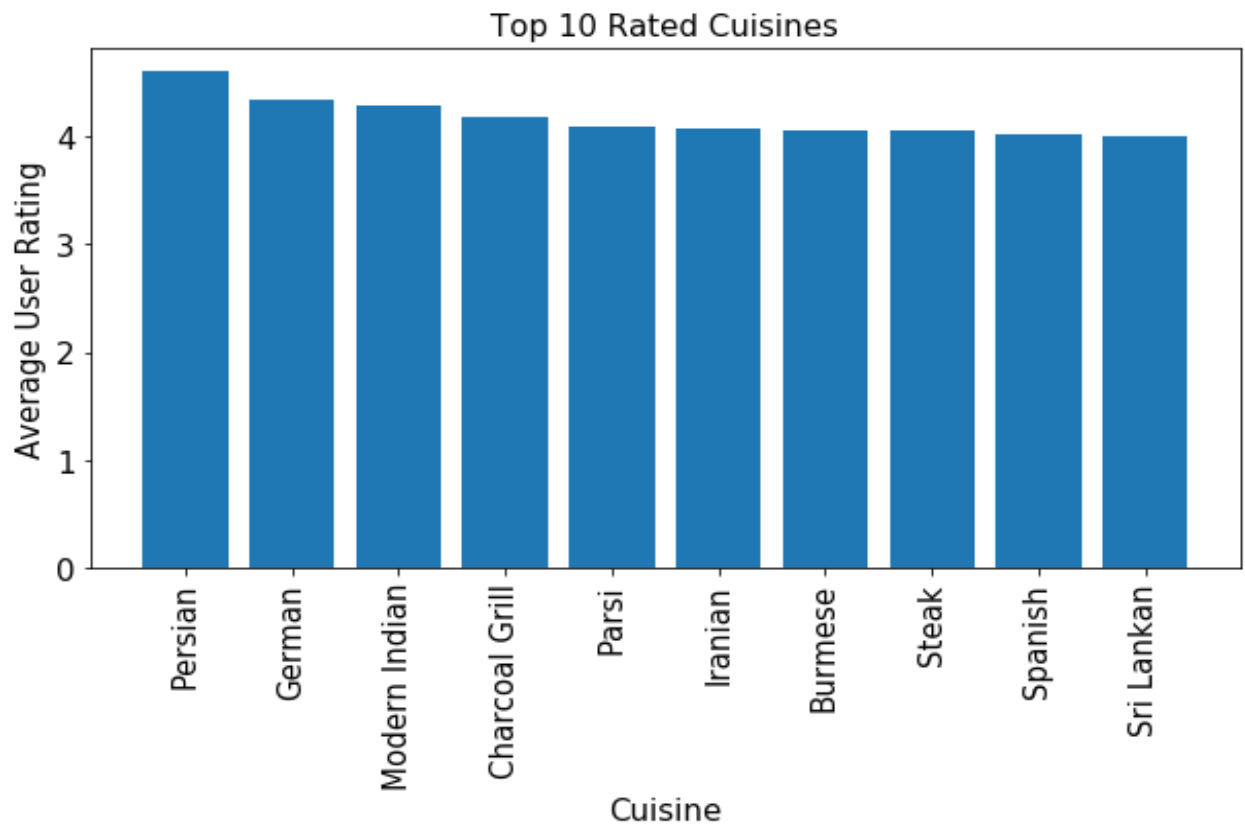
Top 10 Rated Cuisines are:

Persian - 4.6
German - 4.35
Modern Indian - 4.28
Charcoal Grill - 4.18
Parsi - 4.1
Iranian - 4.07
Burmese - 4.05
Steak - 4.05
Spanish - 4.03
Sri Lankan - 4.0

Lowest 10 Rated Cuisines are:

Cuisine Varies - 0.0
Armenian - 1.3
Afghani - 1.42
Awadhi - 1.57
Moroccan - 1.62
Nepalese - 1.66
Drinks Only - 1.75
North Eastern - 1.8
Pakistani - 1.9
Mithai - 2.07

Plots



From the above plots it is clearly evident that Persian, German, Modern Indian are some of the Highest Rated Cuisine while Cuisine Varies, Armenian, Afghani are some of the Lowest Rated Cuisines.

Explanation

With the help of Dictionary, I have calculated the average user rating for each cuisine served by Restaurants. Then I used Numpy to find the top 10 and lowest 10 rated cuisines.

2.2.1: Find the weighted restaurant rating of each locality

Answer:

The Top 10 localities with more Weighted Restaurant Rating are:

- 1 Hotel Clarks Amer, Malviya Nagar - 4.9
- 2 Aminabad - 4.9
- 3 Friends Colony - 4.89
- 4 Powai - 4.84
- 5 Kirlampudi Layout - 4.82
- 6 Deccan Gymkhana - 4.8
- 7 Express Avenue Mall, Royapettah - 4.8
- 8 Banjara Hills - 4.72
- 9 Sector 5, Salt Lake - 4.71
- 10 Riverside Mall, Gomti Nagar - 4.7

Explanation

With the help of Dictionary, I have calculated the weighted restaurant rating of each locality. Then I used Numpy to find out the top 10 localities with more weighted restaurant rating.

3. Visualization

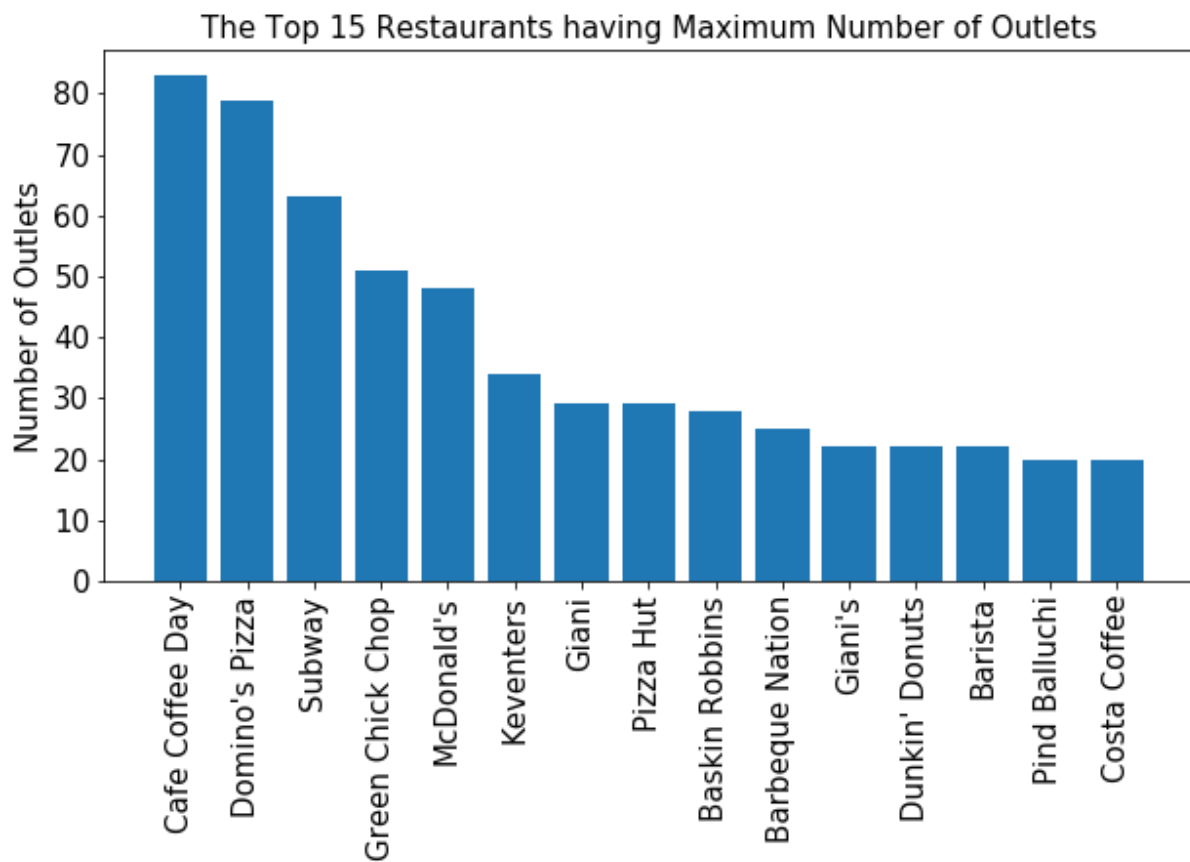
3.1: Plot the bar graph top 15 restaurants have a maximum number of outlets

Answer:

The Top 15 Restaurants having maximum number of outlets are:

- 1 Cafe Coffee Day - 83
- 2 Domino's Pizza - 79
- 3 Subway - 63
- 4 Green Chick Chop - 51
- 5 McDonald's - 48
- 6 Keventers - 34
- 7 Pizza Hut - 29
- 8 Giani - 29
- 9 Baskin Robbins - 28
- 10 Barbeque Nation - 25
- 11 Barista - 22
- 12 Dunkin' Donuts - 22
- 13 Giani's - 22
- 14 Pind Balluchi - 20
- 15 Costa Coffee - 20

Plot

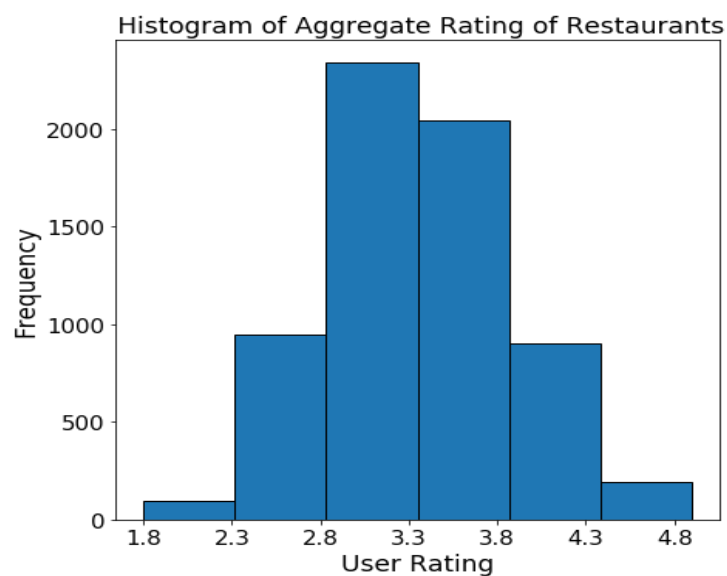


Explanation

I have used `value_counts()` function to calculate the number of outlets of each restaurant. Then I used Numpy to find the Top 15 Restaurants having maximum number of outlets.

3.2: Plot the histogram of aggregate rating of restaurant (drop the unrated restaurant)

Plot

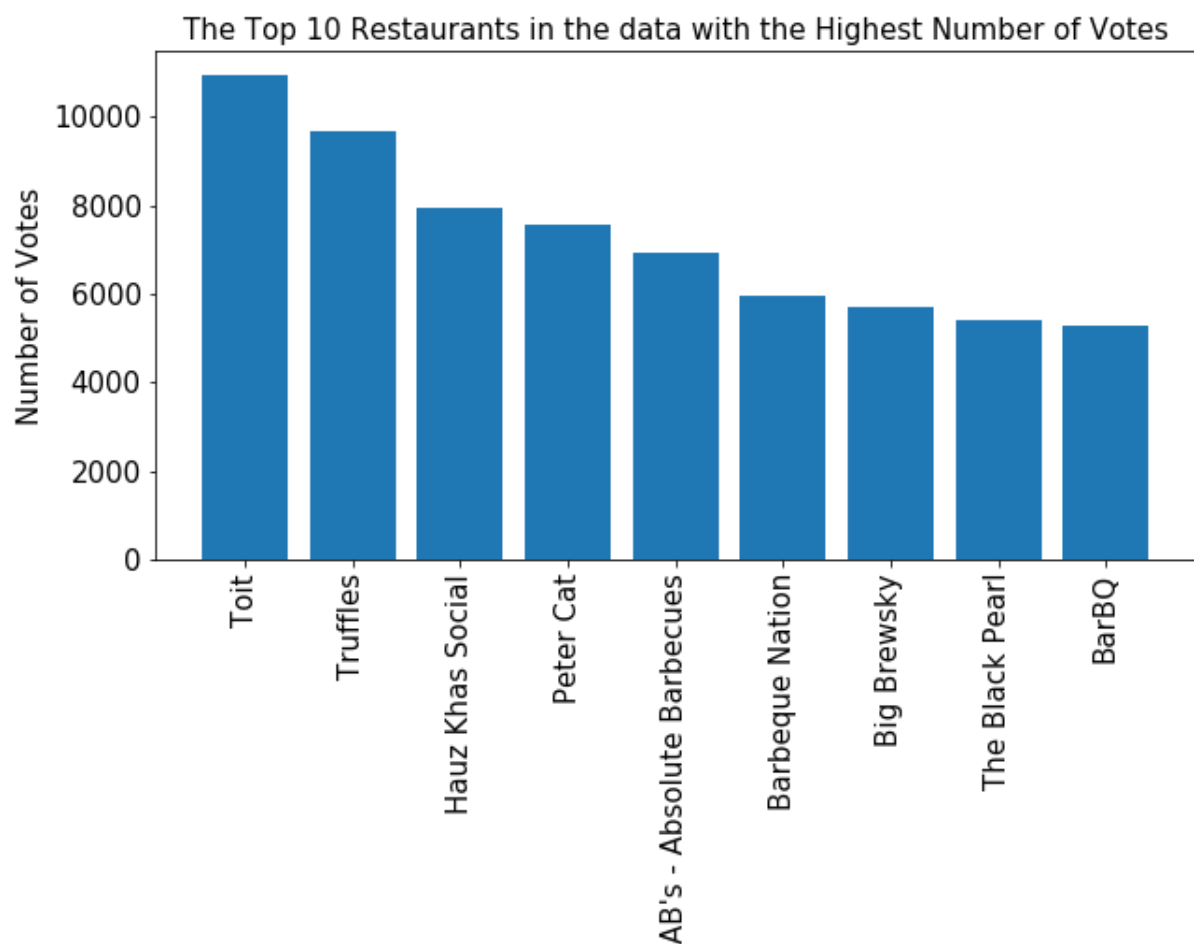


3.3: Plot the bar graph top 10 restaurants in the data with the highest number of votes

The Top 10 Restaurants in the data with the Highest Number of Votes are :

- 1 Toit - 10934
- 2 Truffles - 9667
- 3 Hauz Khas Social - 7931
- 4 Peter Cat - 7574
- 5 AB's - Absolute Barbecues - 6907
- 6 Barbeque Nation - 5966
- 7 Big Brewsky - 5705
- 8 AB's - Absolute Barbecues - 5434
- 9 The Black Pearl - 5385
- 10 BarBQ - 5288

Plot



Explanation

I have used Numpy to find the Top 10 Restaurants in the data with the Highest Number of Votes.

3.4: Plot the pie graph of top 10 cuisines present in restaurants in the USA

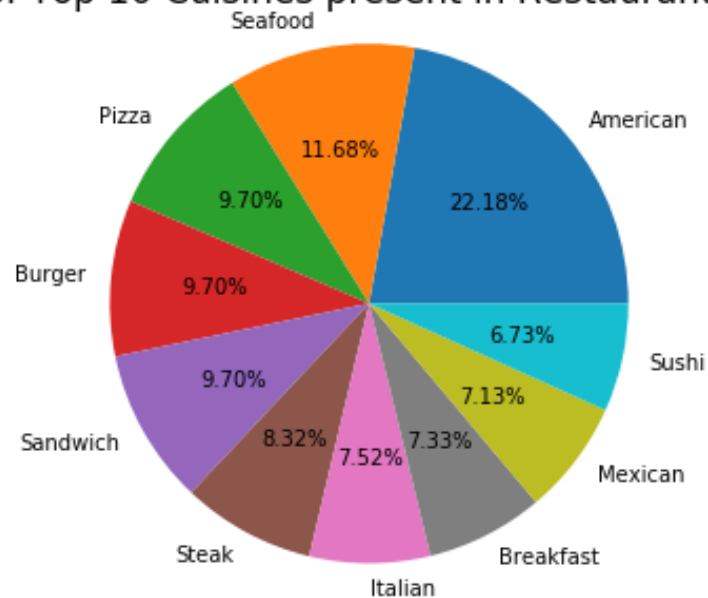
Answer:

The Top 10 Cuisines present in Restaurants in the USA are:

- 1 American present in 112 Restaurants
- 2 Seafood present in 59 Restaurants
- 3 Pizza present in 49 Restaurants
- 4 Burger present in 49 Restaurants
- 5 Sandwich present in 49 Restaurants
- 6 Steak present in 42 Restaurants
- 7 Italian present in 38 Restaurants
- 8 Breakfast present in 37 Restaurants
- 9 Mexican present in 36 Restaurants
- 10 Sushi present in 34 Restaurants

Plot

Pie graph of Top 10 Cuisines present in Restaurants in the USA



Note: The % shown in the pie chart is among the Top 10 Cuisines only

Explanation

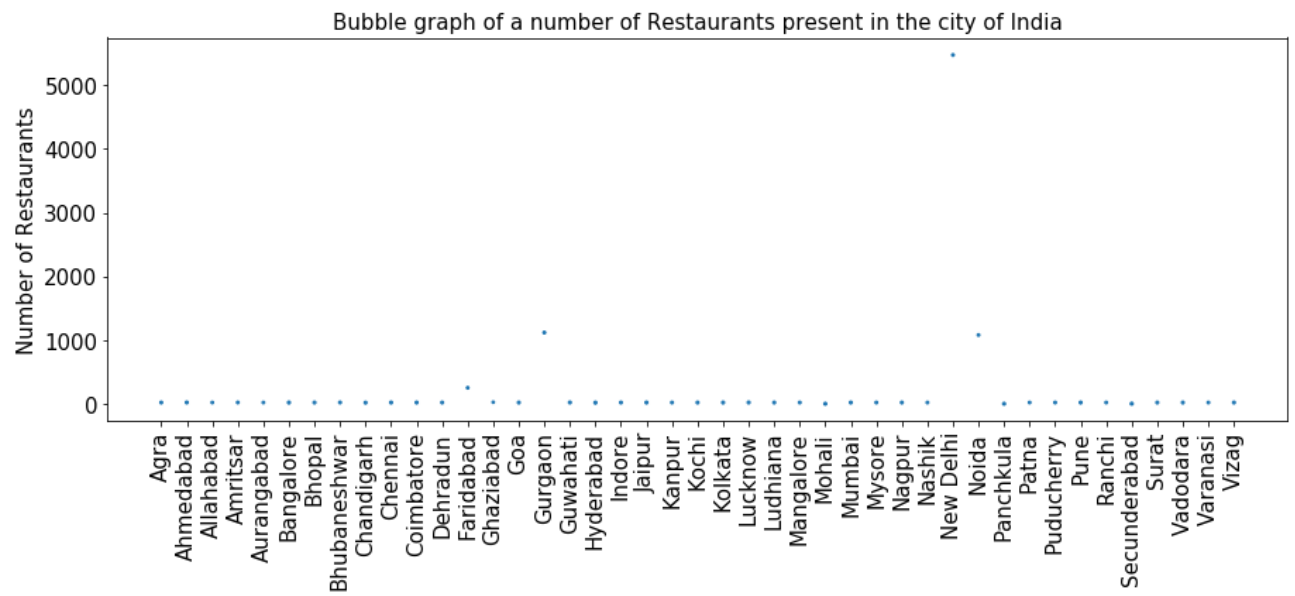
With the help of dictionary, I calculated the number of restaurants for each cuisine. Then I used Numpy to find out the Top 10 cuisines present in restaurants in the USA.

3.5: Plot the bubble graph of a number of Restaurants present in the city of India and keeping the weighted restaurant rating of the city in a bubble

Answer:

```
1 Agra has 20 Restaurants with weighted Restaurant Rating 4.007
2 Ahmedabad has 21 Restaurants with weighted Restaurant Rating 4.163
3 Allahabad has 20 Restaurants with weighted Restaurant Rating 3.41
4 Amritsar has 21 Restaurants with weighted Restaurant Rating 3.765
5 Aurangabad has 20 Restaurants with weighted Restaurant Rating 3.427
6 Bangalore has 20 Restaurants with weighted Restaurant Rating 4.497
7 Bhopal has 20 Restaurants with weighted Restaurant Rating 4.126
8 Bhubaneshwar has 21 Restaurants with weighted Restaurant Rating 3.968
9 Chandigarh has 18 Restaurants with weighted Restaurant Rating 4.107
10 Chennai has 20 Restaurants with weighted Restaurant Rating 4.32
11 Coimbatore has 20 Restaurants with weighted Restaurant Rating 4.175
12 Dehradun has 20 Restaurants with weighted Restaurant Rating 4.016
13 Faridabad has 251 Restaurants with weighted Restaurant Rating 3.483
14 Ghaziabad has 25 Restaurants with weighted Restaurant Rating 3.038
15 Goa has 20 Restaurants with weighted Restaurant Rating 4.158
16 Gurgaon has 1118 Restaurants with weighted Restaurant Rating 3.744
17 Guwahati has 21 Restaurants with weighted Restaurant Rating 4.266
18 Hyderabad has 18 Restaurants with weighted Restaurant Rating 4.488
19 Indore has 20 Restaurants with weighted Restaurant Rating 3.998
20 Jaipur has 20 Restaurants with weighted Restaurant Rating 4.282
21 Kanpur has 20 Restaurants with weighted Restaurant Rating 3.854
22 Kochi has 20 Restaurants with weighted Restaurant Rating 4.137
23 Kolkata has 20 Restaurants with weighted Restaurant Rating 4.295
24 Lucknow has 21 Restaurants with weighted Restaurant Rating 4.324
25 Ludhiana has 20 Restaurants with weighted Restaurant Rating 4.084
26 Mangalore has 20 Restaurants with weighted Restaurant Rating 3.761
27 Mohali has 1 Restaurants with weighted Restaurant Rating 4.3
28 Mumbai has 20 Restaurants with weighted Restaurant Rating 4.217
29 Mysore has 20 Restaurants with weighted Restaurant Rating 3.761
30 Nagpur has 20 Restaurants with weighted Restaurant Rating 4.109
31 Nashik has 20 Restaurants with weighted Restaurant Rating 3.587
32 New Delhi has 5473 Restaurants with weighted Restaurant Rating 3.766
33 Noida has 1080 Restaurants with weighted Restaurant Rating 3.473
34 Panchkula has 1 Restaurants with weighted Restaurant Rating 4.2
35 Patna has 20 Restaurants with weighted Restaurant Rating 3.455
36 Puducherry has 20 Restaurants with weighted Restaurant Rating 3.737
37 Pune has 20 Restaurants with weighted Restaurant Rating 4.284
38 Ranchi has 20 Restaurants with weighted Restaurant Rating 3.574
39 Secunderabad has 2 Restaurants with weighted Restaurant Rating 4.548
40 Surat has 20 Restaurants with weighted Restaurant Rating 4.018
41 Vadodara has 20 Restaurants with weighted Restaurant Rating 4.132
42 Varanasi has 20 Restaurants with weighted Restaurant Rating 3.564
43 Vizag has 20 Restaurants with weighted Restaurant Rating 4.131
```

Plot



Explanation

With the help of Dictionary, I have calculated the weighted restaurant rating of each city and the number of restaurants present in that city.