Project – Zomato-API part2

Answer 1:

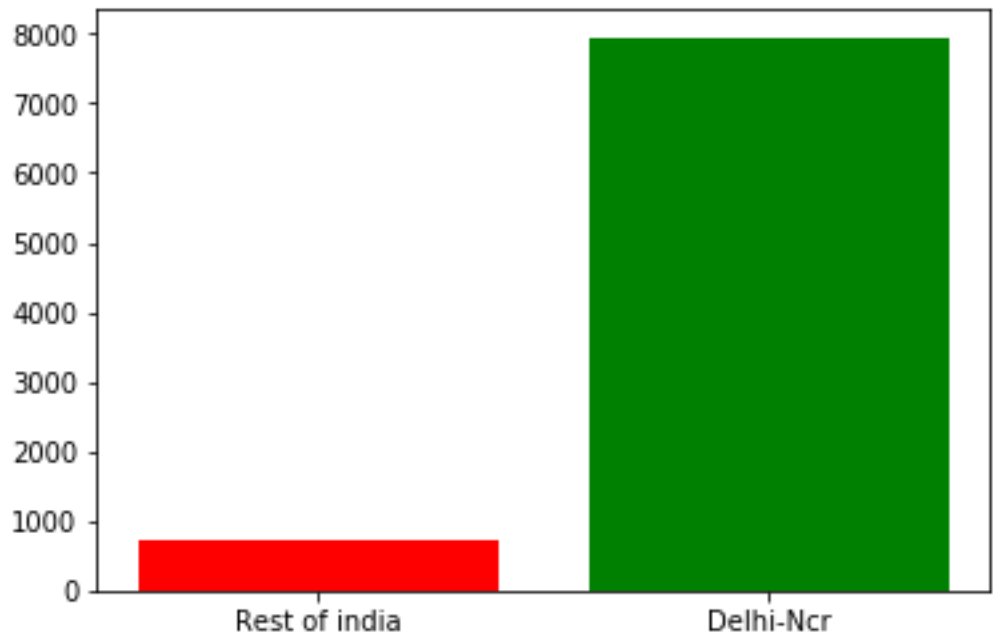
1. Plot the bar graph of number of restaurants present in Delhi NCR vs Rest of India.

   Step 1: To get number of restaurants present in each city we group our dataframe according to city and apply count function.

   Step2: Add the number of restaurants present in New Delhi, Ghaziabad, Noida, Gurgaon, Faridabad in one variable delhi.

   Step3: Delete the records of New Delhi, Ghaziabad, Noida, Gurgaon, Faridabad and then calculate the sum of the remaining (No. of restaurants present in rest of India).

   Step4: Plot the graph of result sets found in step 2 and step3.



2. A. Cuisines which are not present in restaurant of Delhi NCR but present in rest of India.

   Step 1: We make a list of cities of Delhi-NCR.

   Step 2: Get the lists of cuisines if the city is present in given list (in Step 1) to get the cuisines that are served in Delhi-NCR.

Step 3: Get the lists of cuisines if the city is not present in the given list (in Step1) to get cuisines that are served in rest of India.
Step 4: Merge the lists obtained in step 2 to get a list with cuisines served in Delhi-NCR.
Step 5: Merge the lists obtained in step3 to get a list with cuisines served in rest of India.
Step 6: Make sets of the lists in step 4 and 5 and print the difference of list (Rest) - list (Delhi-NCR).

2.(B) Using Zomato API whether this cuisines are actually not served in restaurants of Delhi-NCR

Step1. We make an API call to "/geocode" to get the city id by passing longitude and latitude as parameters of Delhi-NCR region.

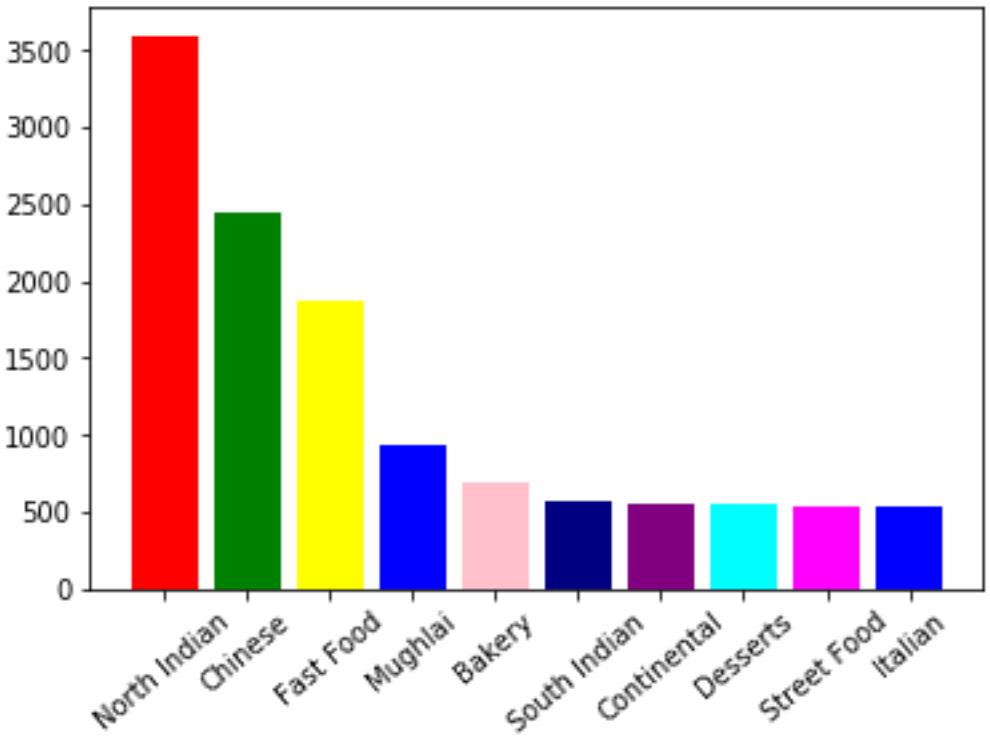
Step2. We make an API call to "cuisines" to get the cuisines served in Delhi-NCR.

Step3. We make a set of cuisines obtained from step2 and perform intersection with the result obtained in 2(A).

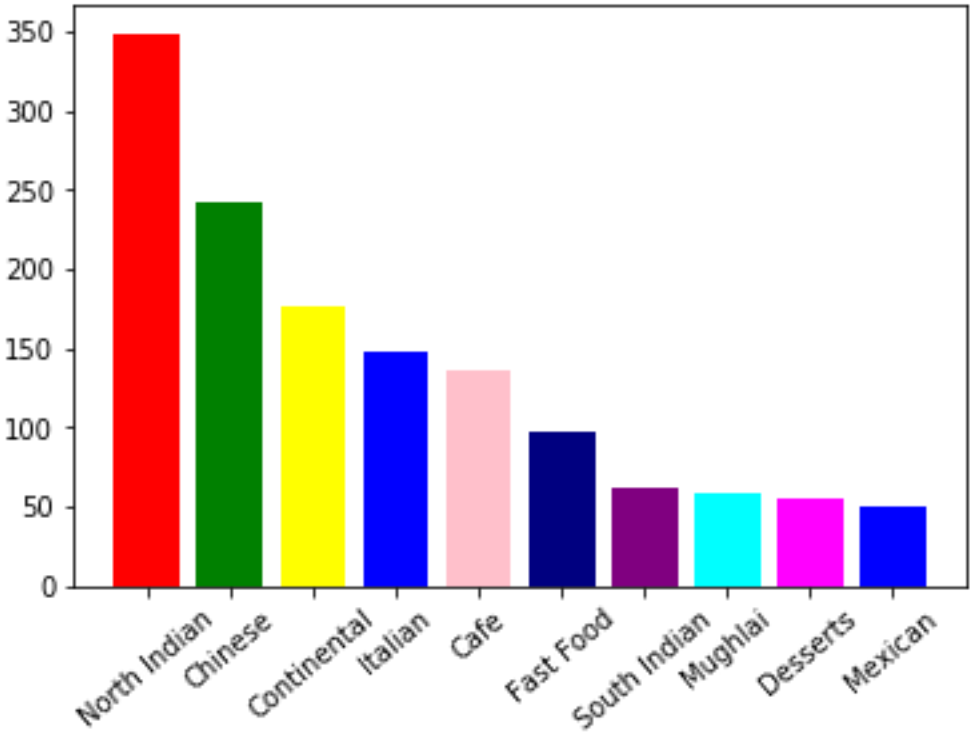
Step4. As the resultant set is not empty our data is incomplete.

3. Top 10 cuisines served by maximum number of restaurants in Delhi NCR and rest of India.

Step1: Take the lists formed in Step2 and Step3 of 2(A).
Step2: Make two dictionaries and count the occurrence of each cuisine in each list using respective dictionaries.
Step3: Sort both the dictionaries and print the top 10 entries.



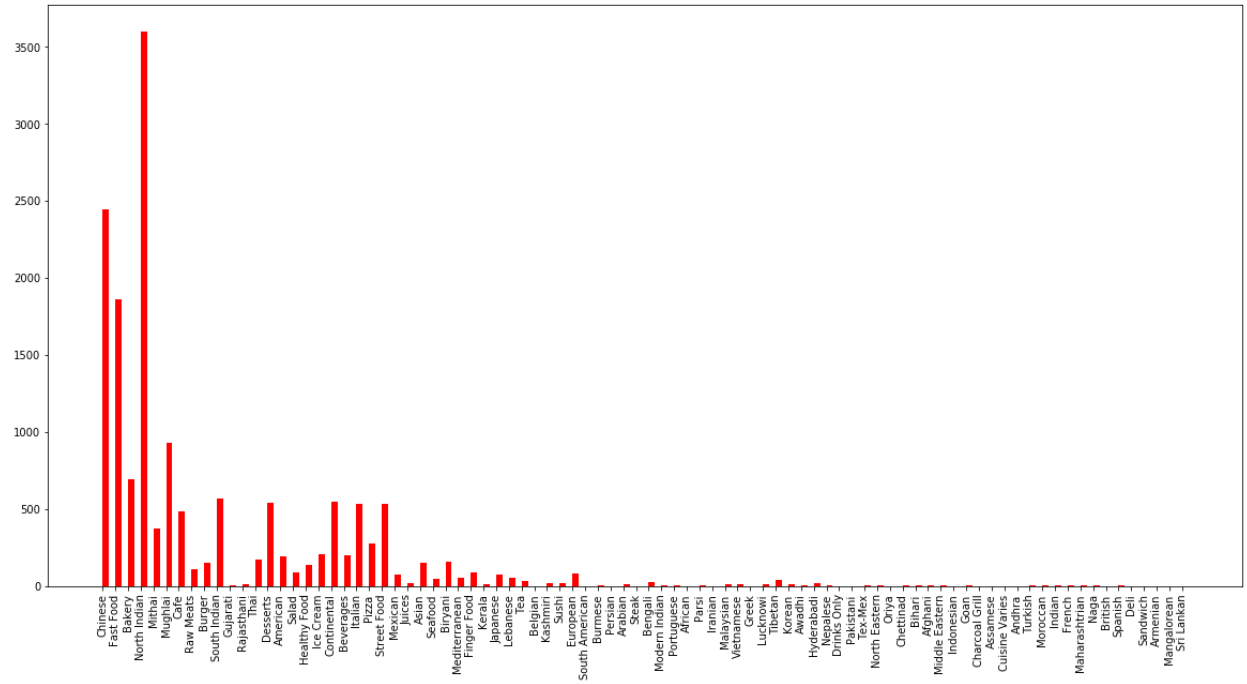
Top 10 cuisines of Delhi-NCR



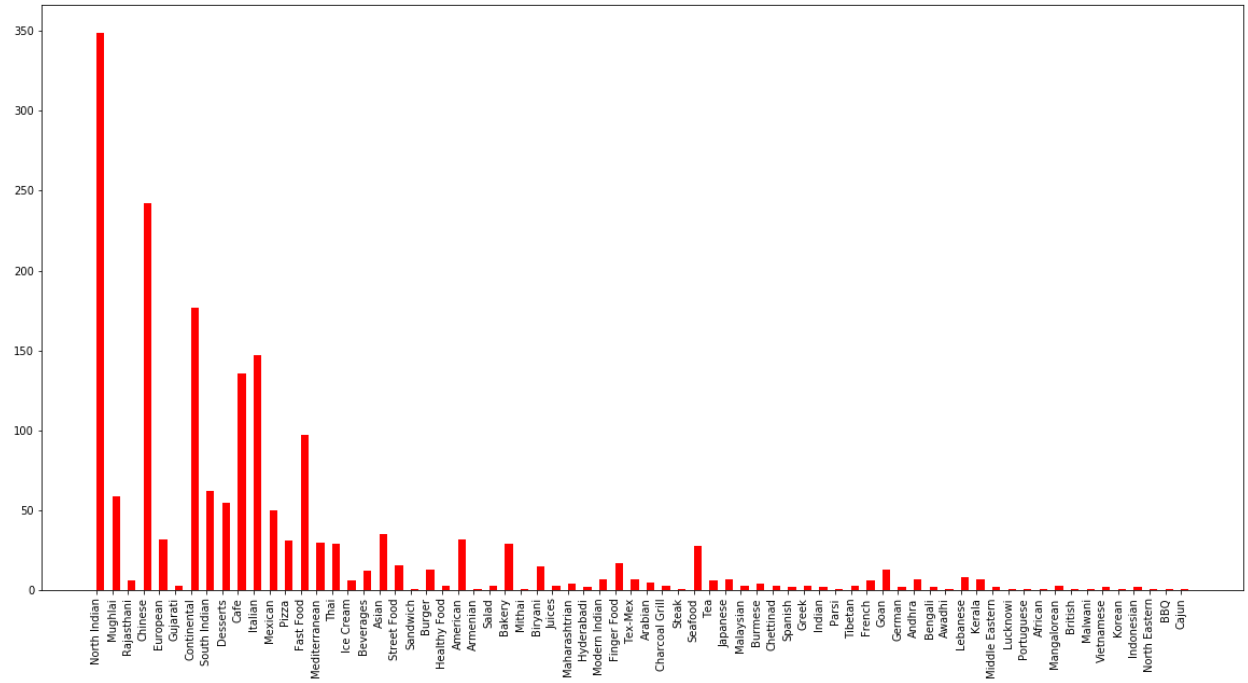
Top 10 cuisines in Rest

4. Analysis of how cuisines served is different from Delhi NCR to Rest of India.

a. Cuisines served in Delhi NCR



b. Cuisines served in Rest of India:



c. Cuisines Served in Delhi-NCR but not in Rest of India

```
{'Raw Meats', 'Assamese', 'Iranian', 'South American', 'Kashmiri', 'Biha
ri', 'Sushi', 'Pakistani', 'Oriya', 'Belgian', 'Turkish', 'Persian', 'De
li', 'Naga', 'Nepalese', 'Afghani', 'Cuisine Varies', 'Sri Lankan', 'Mor
occan', 'Drinks Only'}
```

d. Cuisines Served in in Rest of India but not in Delhi-NCR

```
{'BBQ', 'German', 'Cajun', 'Malwani'}
```

Conclusion:

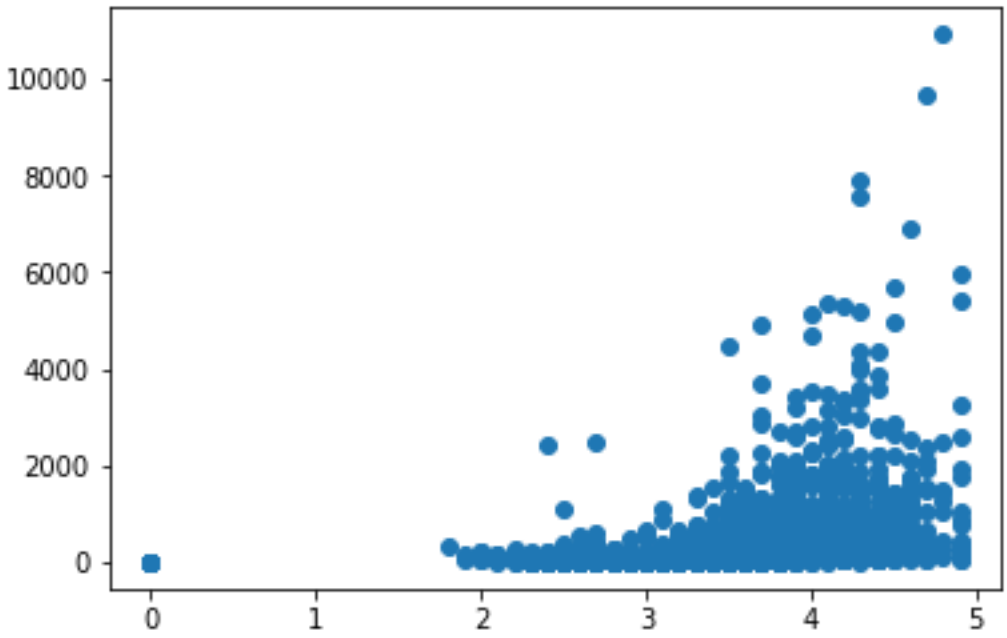
1. From the above given inferences we can say that in Delhi-NCR we get Most of varieties of cuisines that are not even present in rest of India.

2. In rest of India every region is famous with its regional food.

Answer 2.

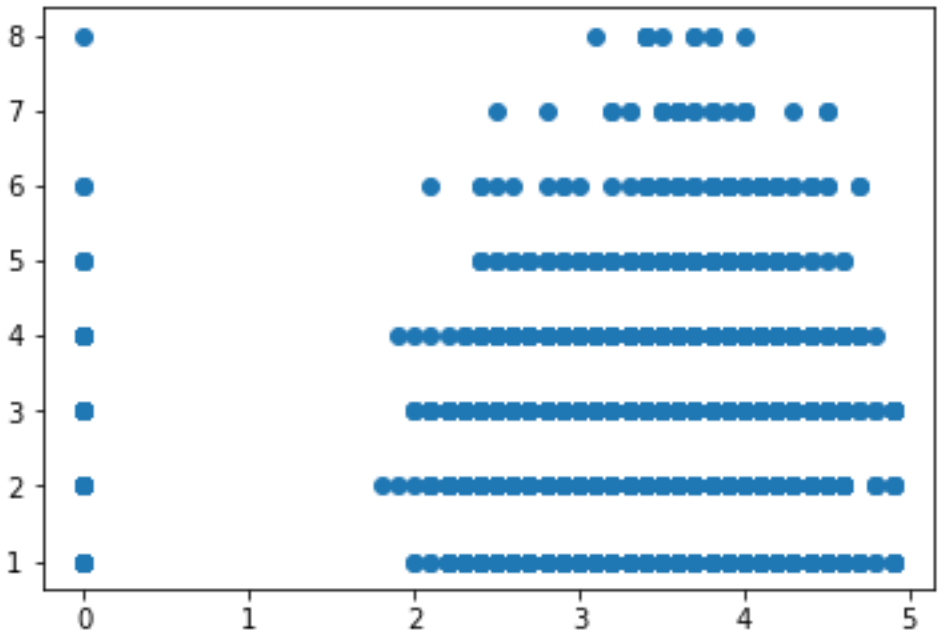
Part 1 Analysis of how the rating is affected by restaurant due following features.

1. Number of Votes given Restaurant



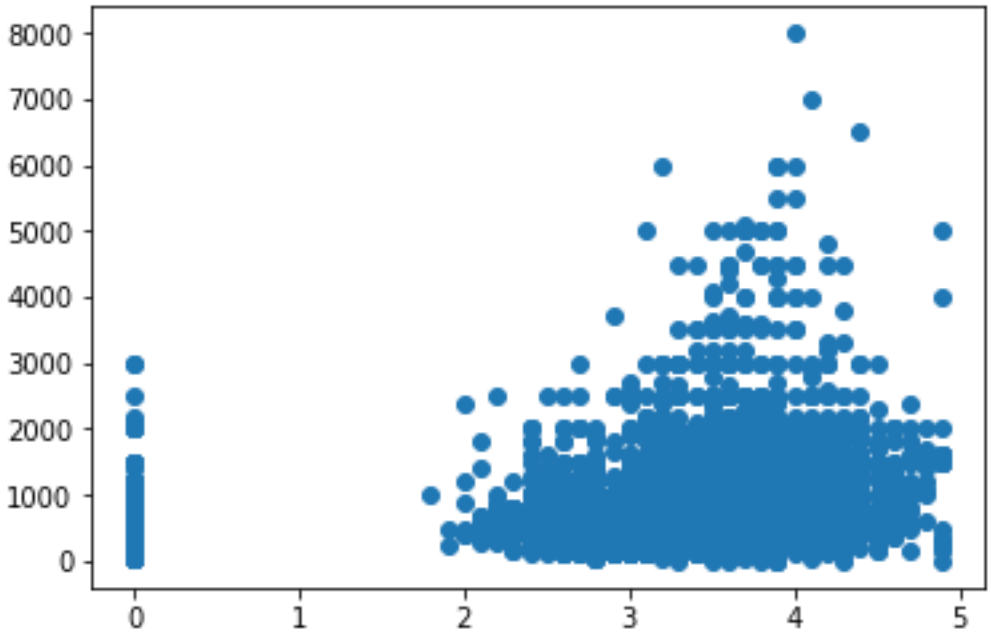
From the above graph it is not important to have higher no. of votes but the restaurants with higher votes have higher rating.

2. Restaurant serving more number of cuisines.



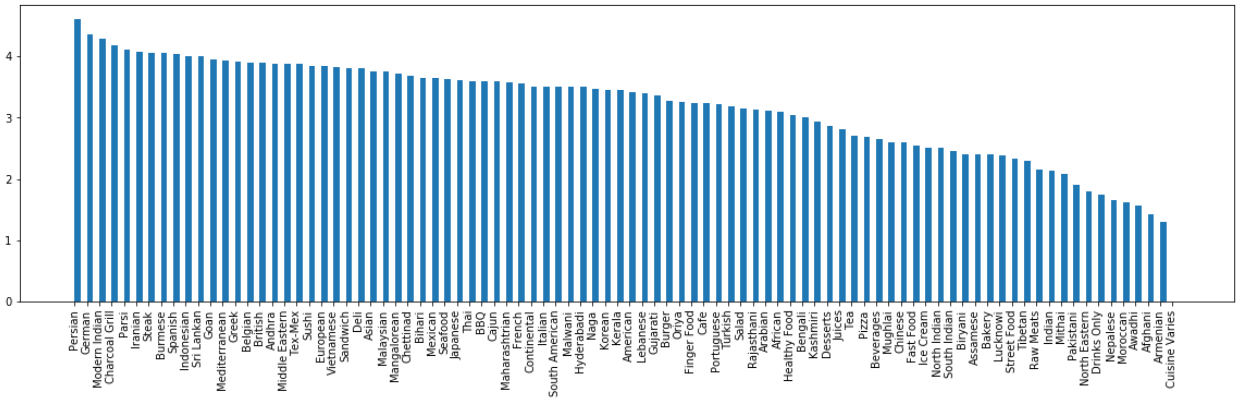
From above graph we see that the number of cuisine served by a restaurant does not affect much to the rating of tha t restaurant.

3. Average Cost of Restaurant



From above graph we see that most of the restaurants whose average cost is in range 0-300 have higher rating.

4. Restaurant serving some specific cuisines.



From above graph we see the average rating of restaurants with respect to the cuisine they serve.
The rating of the restaurant is affected by the cuisine they serve.

Part 2 Top 10 localities with more weighted restaurant rating.

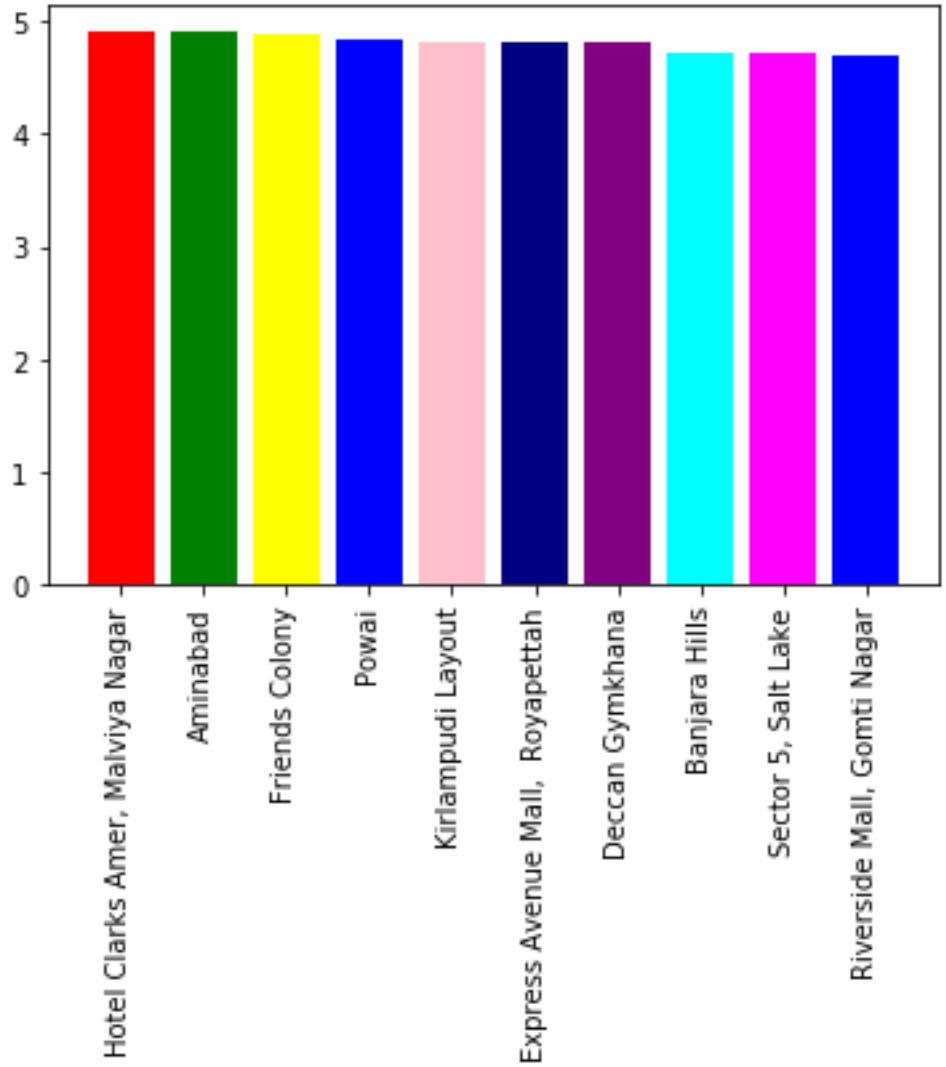
Step 1: Make a list of tuples with 'Locality', 'Aggregate rating', 'Votes'.

Step 2: Group the column 'Votes' according to 'Locality' and print the sum of votes of each 'Locality'.

Step 3: Make a dictionary in which we calculate the sum of product of votes and rating of restaurants in each locality.

Step 4: Now we divide the result calculated in step 3 with the result obtained in step 2 for each locality.

Step 5: We sort the dictionary in descending order and Print the first 10 entries.

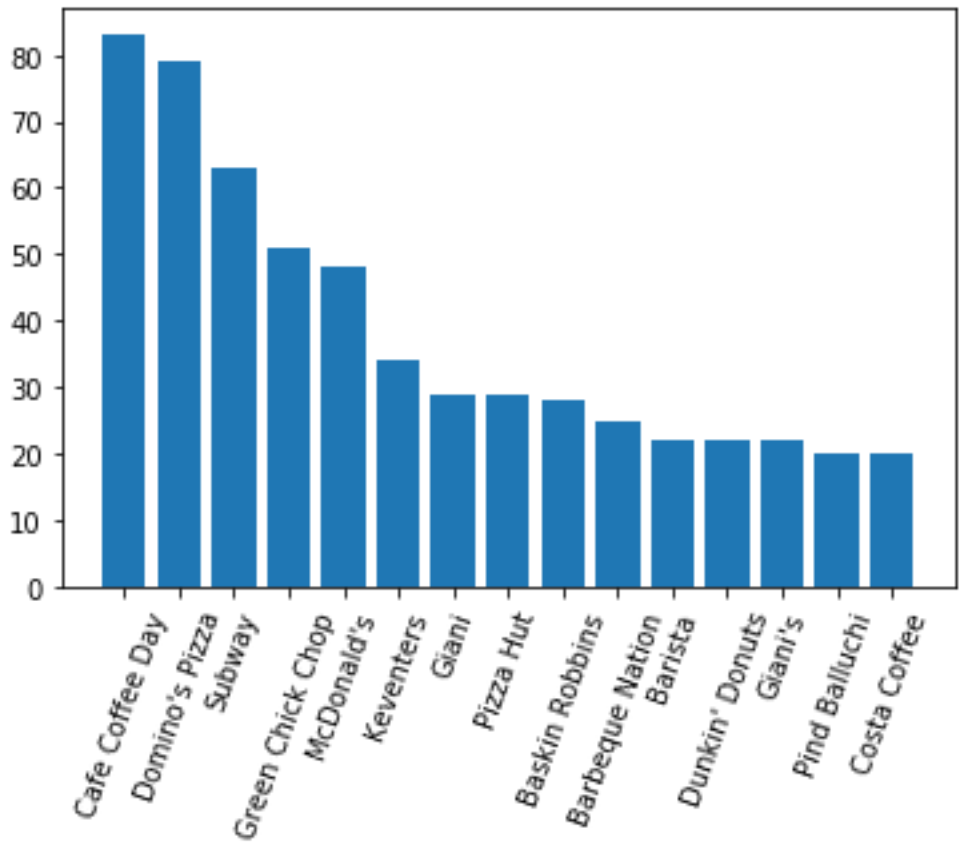

5
4
3
2
1
0
Hotel Clarks Amer, Malviya Nagar
Aminabad
Friends Colony
Powai
Kirlampudi Layout
Express Avenue Mall, Royapettah
Deccan Gymkhana
Banjara Hills
Sector 5, Salt Lake
Riverside Mall, Gomti Nagar

Answer 3:

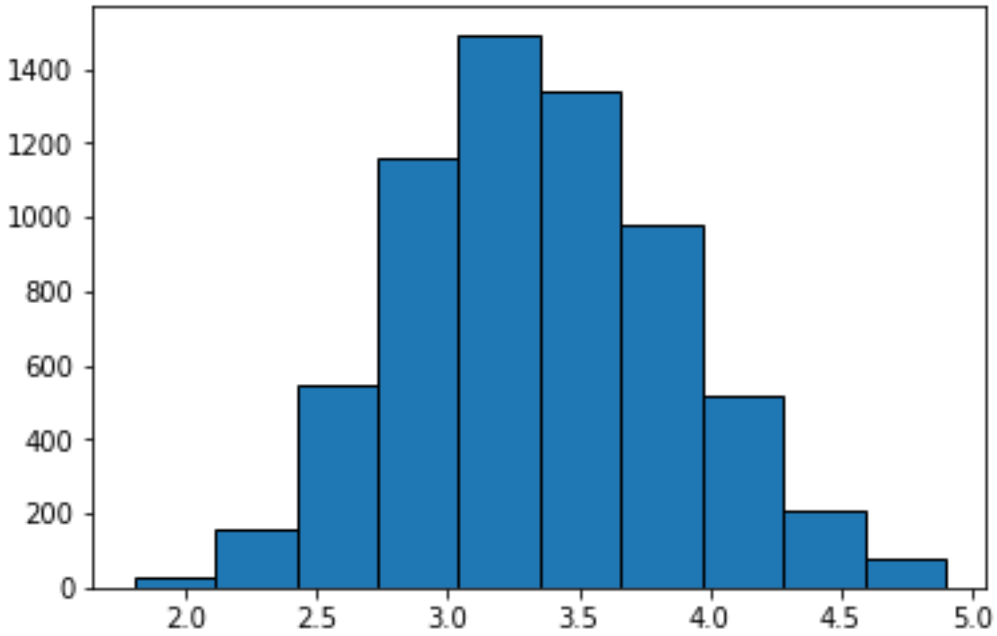
(Visualization)

1. Top 15 restaurants have a maximum number of outlets.

   Step1: Count the number of each Restaurant name and Sort the list.
   Step2: Plot the graph of Top 15 entries.

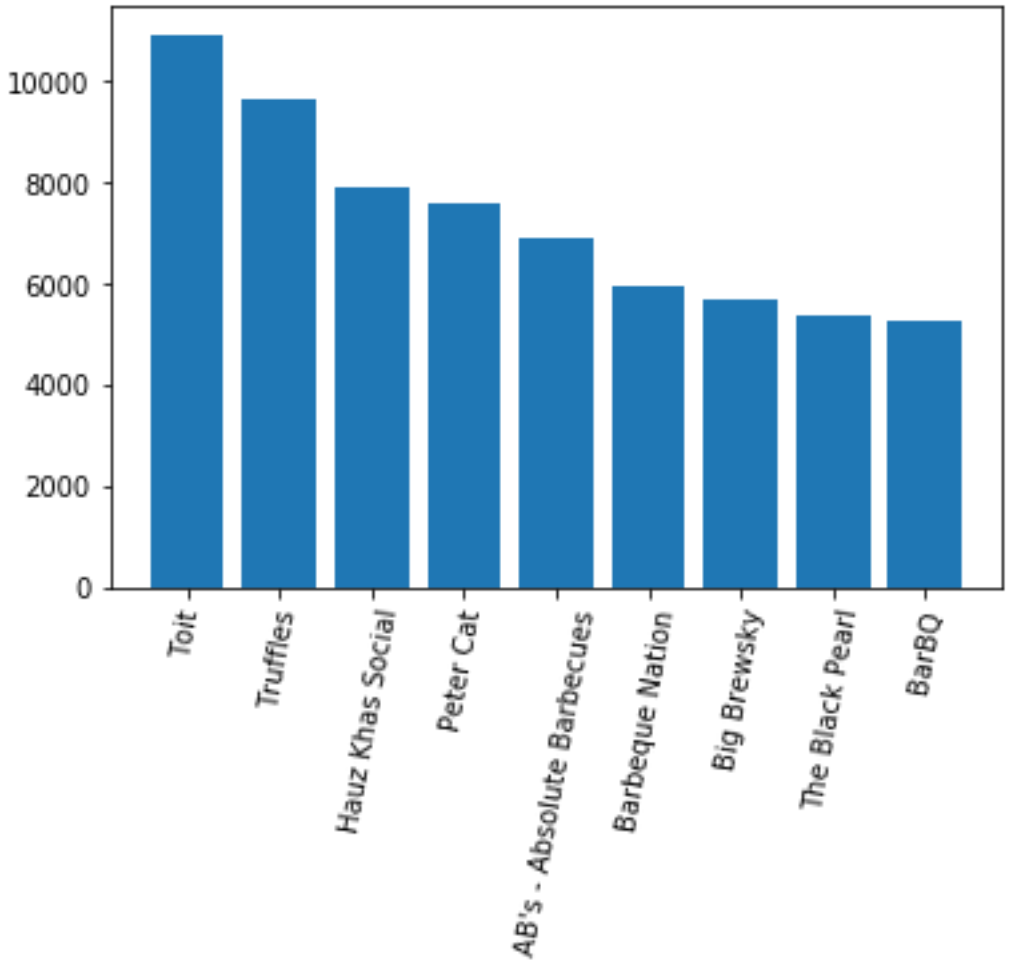


2 . Histogram of aggregate rating of restaurant(drop the unrated restaurant).



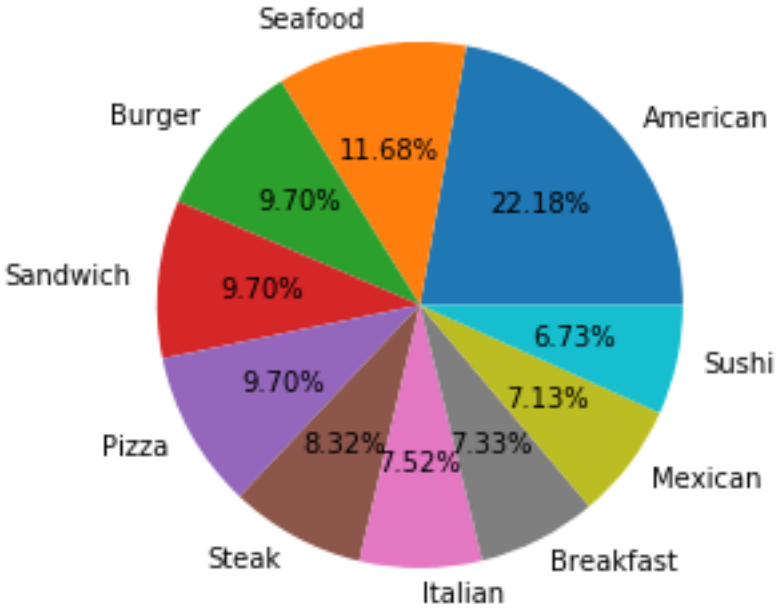
3. Top 10 restaurants in the data with the highest number of votes

Step 1: Make a zipped list with 'Restaurant Name' and votes given to it.
Step 2: Sort the list.
Step 3: Print the top 10 entries.



4 . Pie graph of top 10 cuisines present in restaurants in the USA.

Step 1: Convert the 'Cuisines' column into list.
Step 2: Merge all the lists into one.
Step 3: Make a dictionary for number of occurrence of each cuisine and Sort it in descending order.
Step 4: Make a pie chart of top 10 entries.



5 . 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.

a. Weighted restaurant rating of each city

Step 1: Make a list of tuples with 'City', 'Aggregate rating', 'Votes'.

Step 2: Group the column 'Votes' according to 'City' and print the sum of votes of each 'City'.

Step 3: Make a dictionary in which we calculate the sum of product of votes and rating of restaurants in each City.

Step 4: Now we divide the result calculated in step 3 with the result obtained in step 2 for each city.

b. **Step 1:** Count the number of restaurants in each city.

Step 2: Make a list of weighted rating respective to each city.

Step 3: Plot a bubble graph with City name, Number of Restaurants and weighted rating in the bubble.