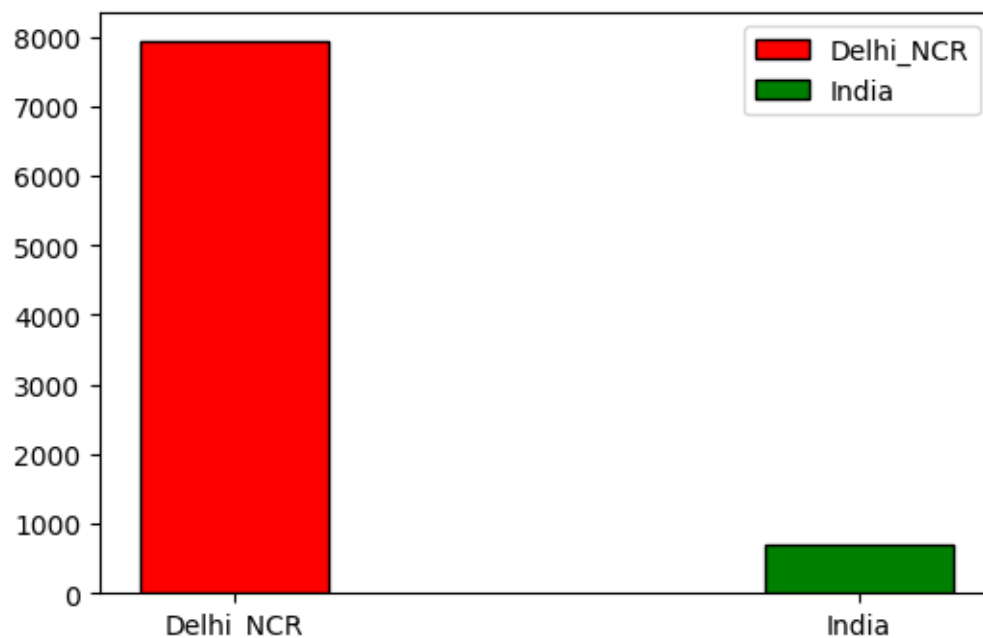


# Zomato API Project – Data Analysis

- The dataset is highly skewed toward the cities included in Delhi-NCR. So, we will summarise all the other cities in Rest of India while those in New Delhi, Ghaziabad, Noida, Gurgaon, Faridabad to Delhi-NCR. Doing this would make our analysis turn toward Delhi-NCR v Rest of India.

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

Here we have in first changed the names of ['Faridabad', 'Noida', 'New Delhi', 'Gurgaon', 'Ghaziabad'] to 'Delhi NCR'. Then the graph is plotted by making count of restaurants in 'Delhi NCR' and 'India' (Rest of India)



Q-2. Find the cuisines which are not present in restaurant of Delhi NCR but present in rest of India. Check using Zomato API whether this Cuisines are actually not served in restaurants of Delhi-NCR or just it due to incomplete dataset.

First, we have made 2 sets namely set1 for the Cuisines that are in 'Delhi NCR' and set2 for all the Cuisines that are present in 'Rest of India' Then to find out the Cuisines which are not served in 'Delhi NCR' but in the rest of India .... set2-set1 is done.....Then we have made API call in Zomato to find all cuisines that are served in Delhi to check out the validity of our answer

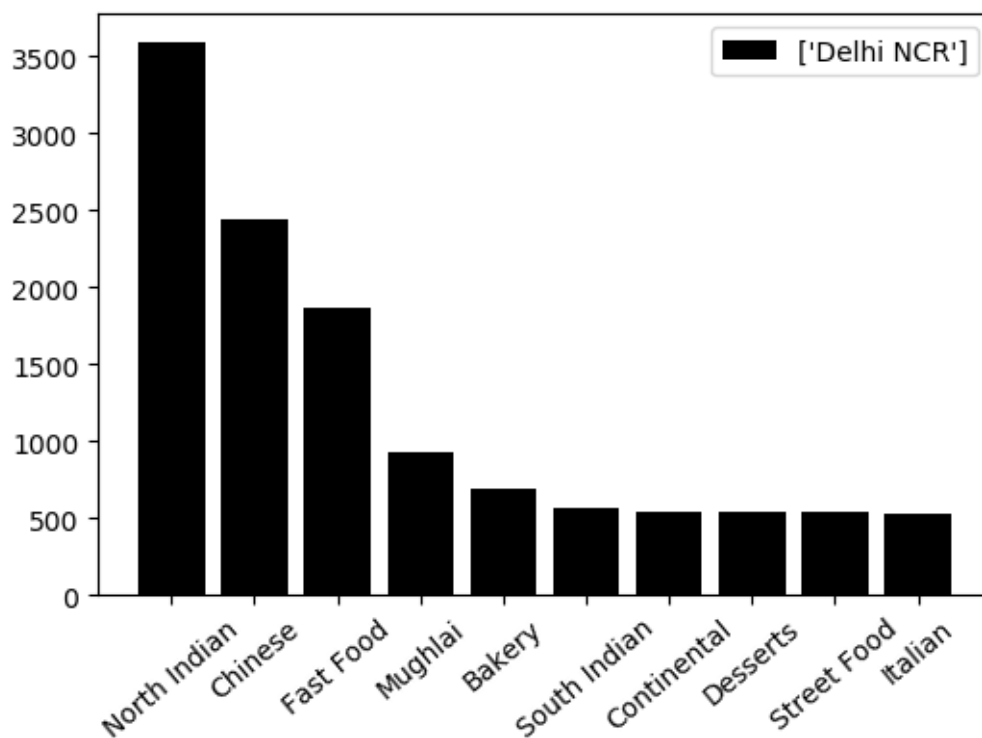
```
Set2-Set1 = {'BBQ', 'Cajun', 'German', 'Malwani'}
```

The answer from our dataset is {'BBQ', 'Cajun', 'German', 'Malwani'} i.e these Cuisines are served in Rest of India but not in Delhi .While from our API {'BBQ ', 'Malwani'} are served in Delhi.

In [240]:

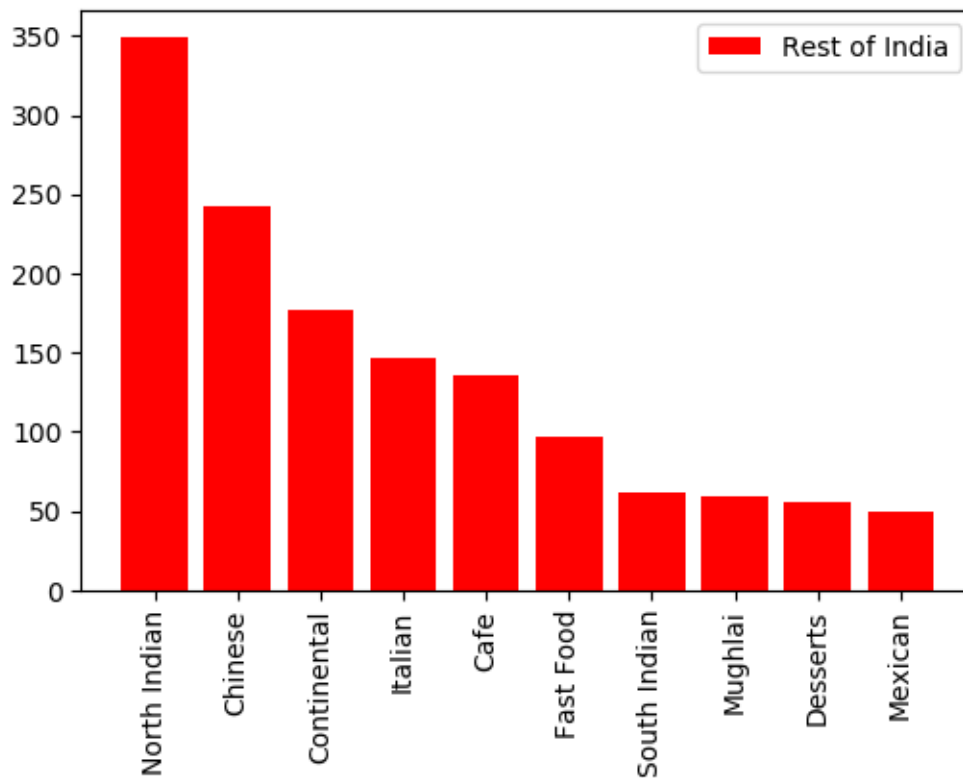
Q-3. Find the top 10 cuisines served by maximum number of restaurants in Delhi NCR and rest of India.

Here i have made a dictionary for all the cuisines and then i have sorted them on the basis of their total number(values) ...Then plotted the bar bar graph for the same.

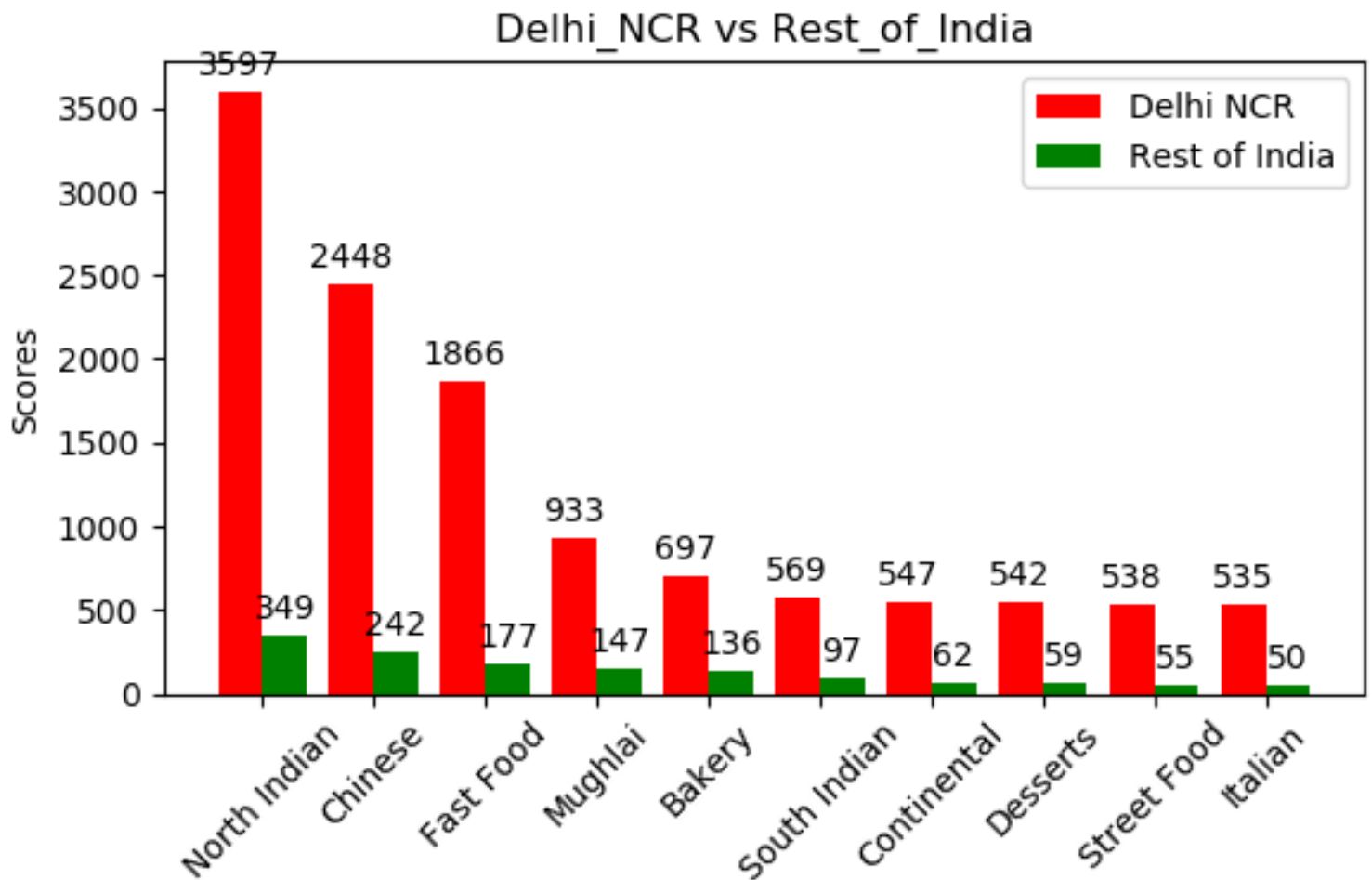


Q-4. Write a short detailed analysis of how cuisine served is different from Delhi NCR to Rest of India. Plot the suitable graph to explain your inference.

Below given graph is for Cuisines that are served in the Rest of india



## **Delhi-NCR v/s Rest of India Top-10 Cuisines**



Given above graph gives us the direct comparison between the Cuisines that are in both.

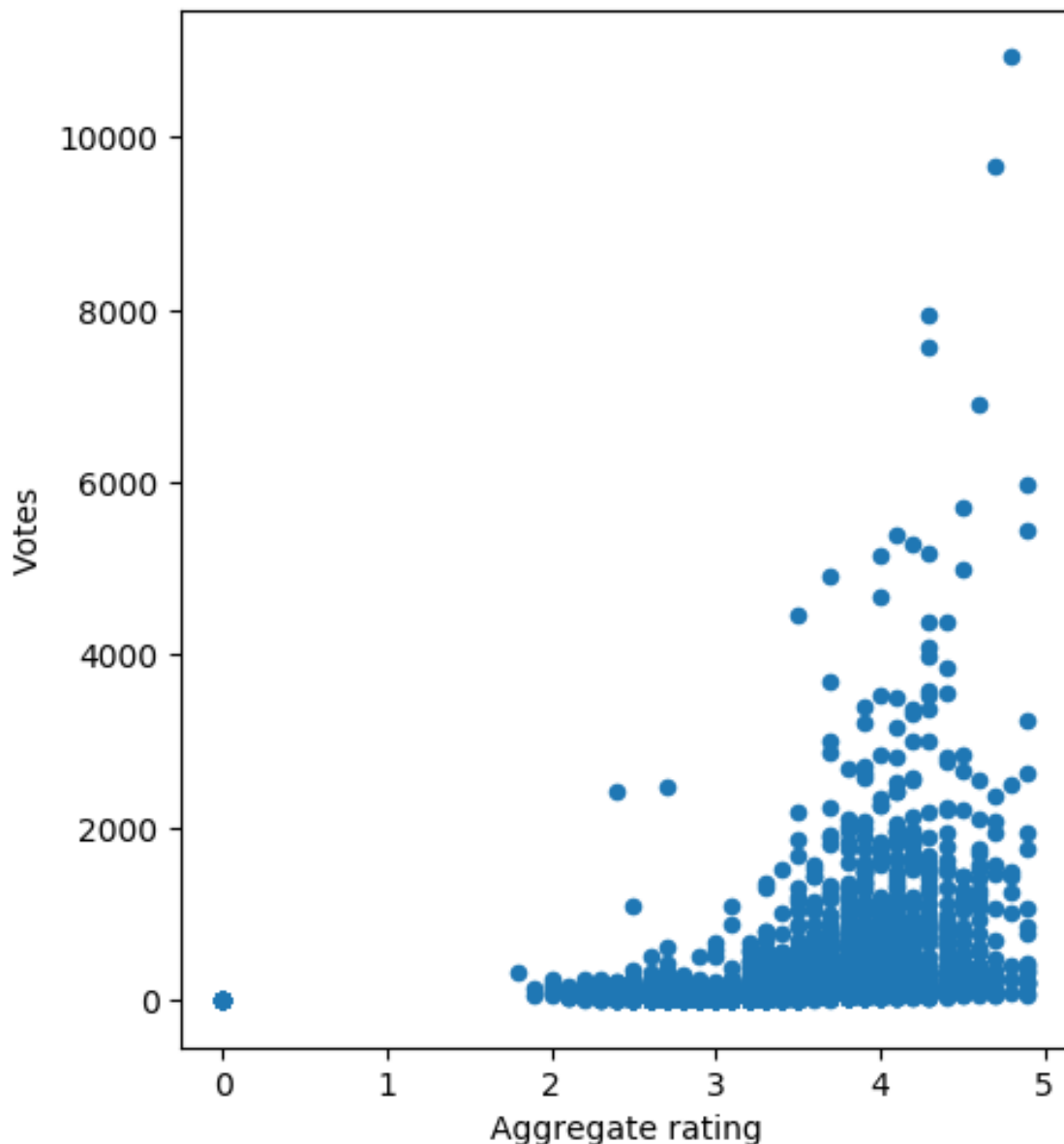
From it we can say that the trend of Cuisines is same in both although their number vary but the top Cuisines observe the same trend in both

Like North-Indian is top in both and then further the same trend is seen ... as I mentioned earlier that though their number vary

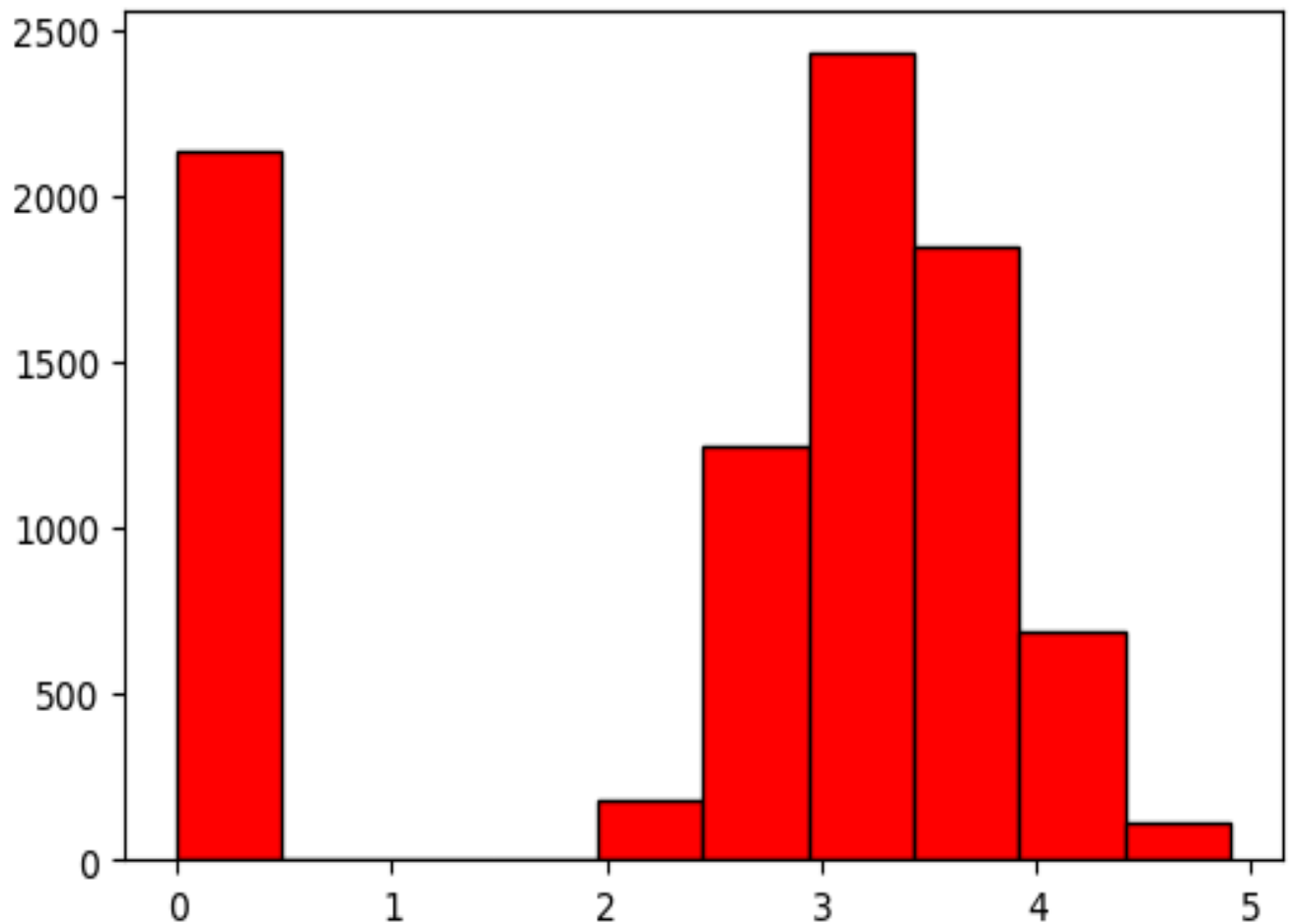
- **User Rating of a restaurant plays a crucial role in selecting a restaurant or ordering the food from the restaurant.**

1. Q-1. Write a short detail analysis of how the rating is affected by restaurant due following features: Plot a suitable graph to explain your inference.

In this graph , we have scattered all the values of rating so that we can get exact rough figures for count of votes v/s its rating

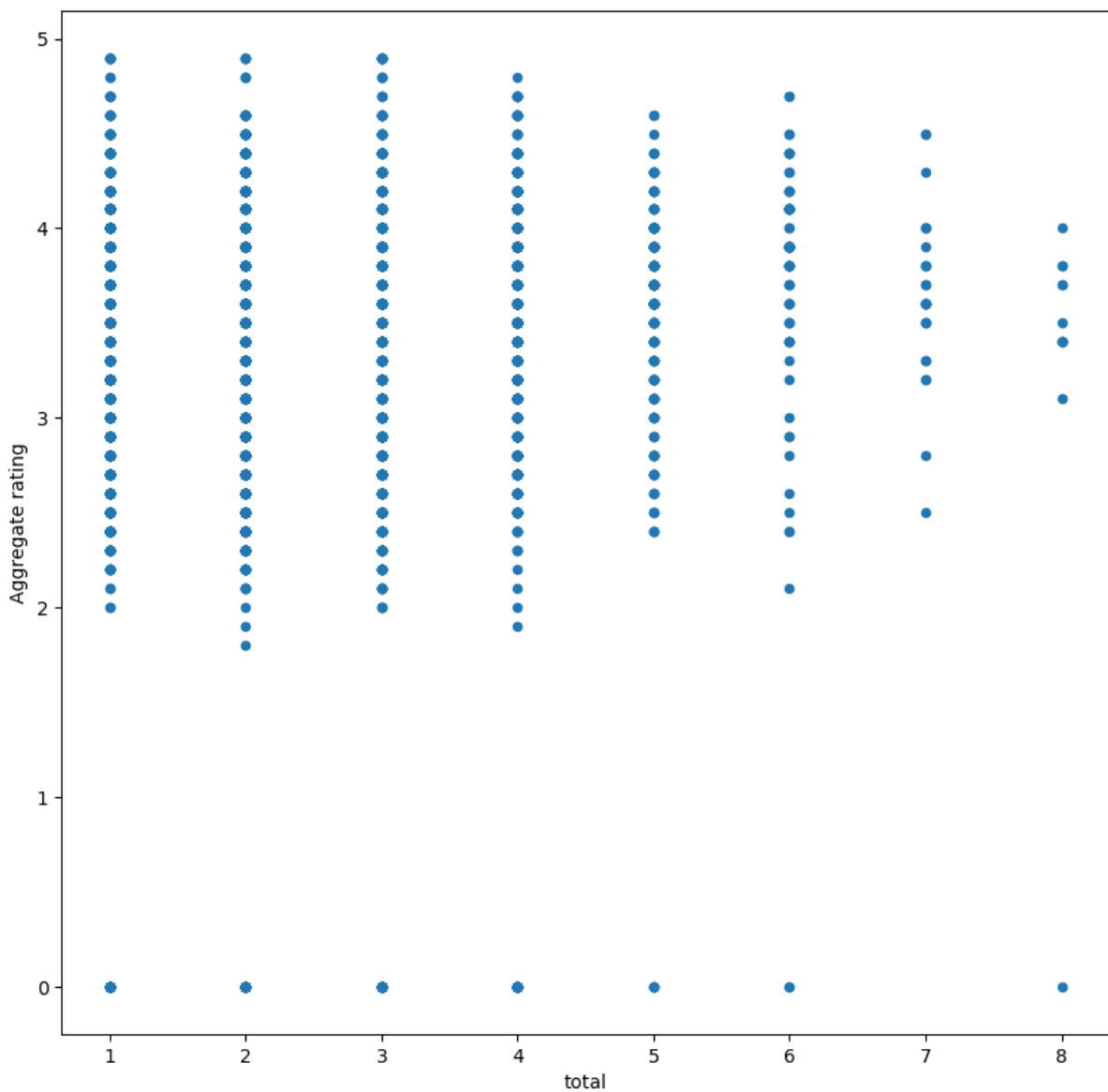


But to get an idea over rating with resp. to number of votes ... I have plotted histogram for it



**As we see above it is clear that the rating is max between 3-4 .**

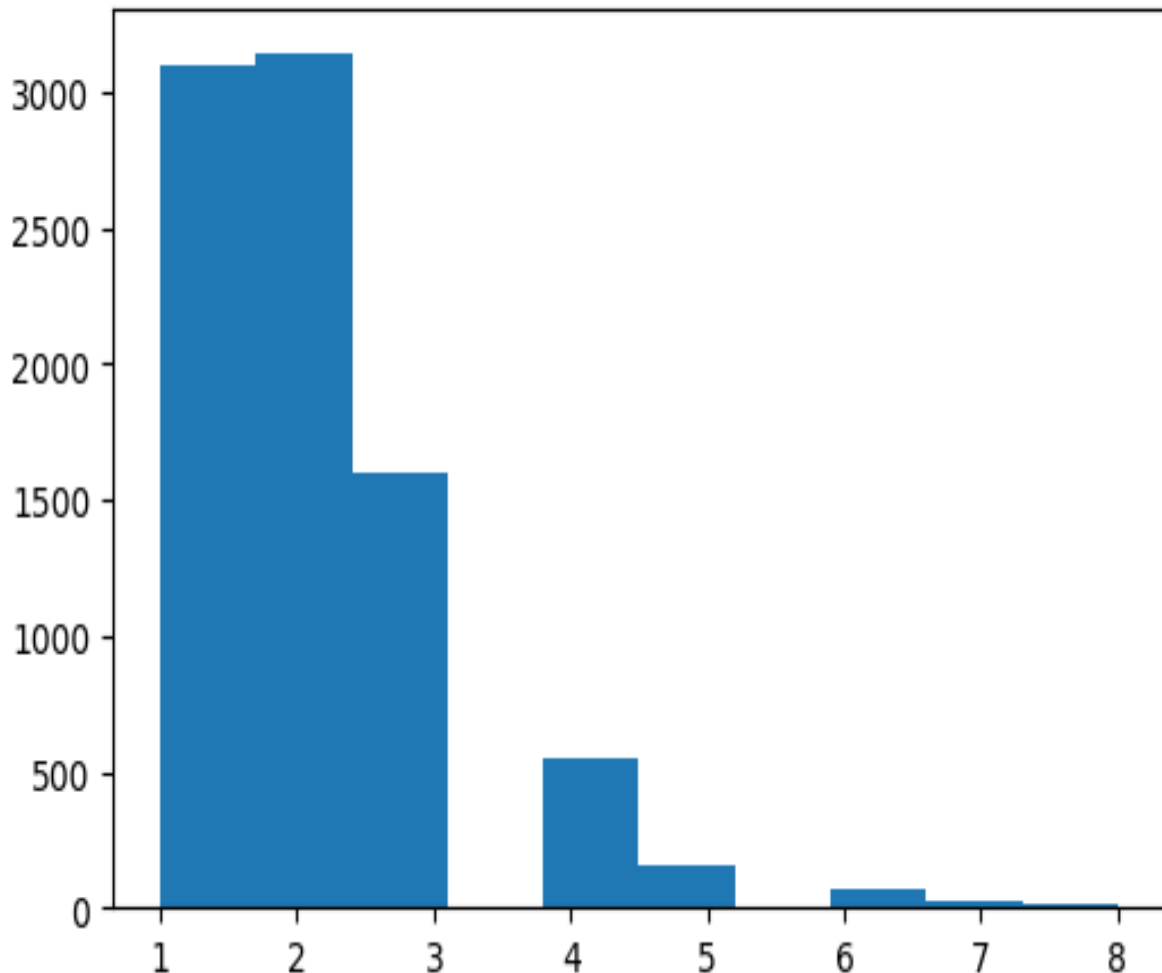
Q-2. Restaurant serving more number of cuisines.



Here from this figure we can get an insight about the rating the restaurants get on the basis of numbers of Cuisines they serve in their restaurant.



And moreover to get the deep understanding of no. of Cuisines are served in the restaurants in India... as the answer to our previous question depends also on how many restaurants have diff. no. of cuisines .



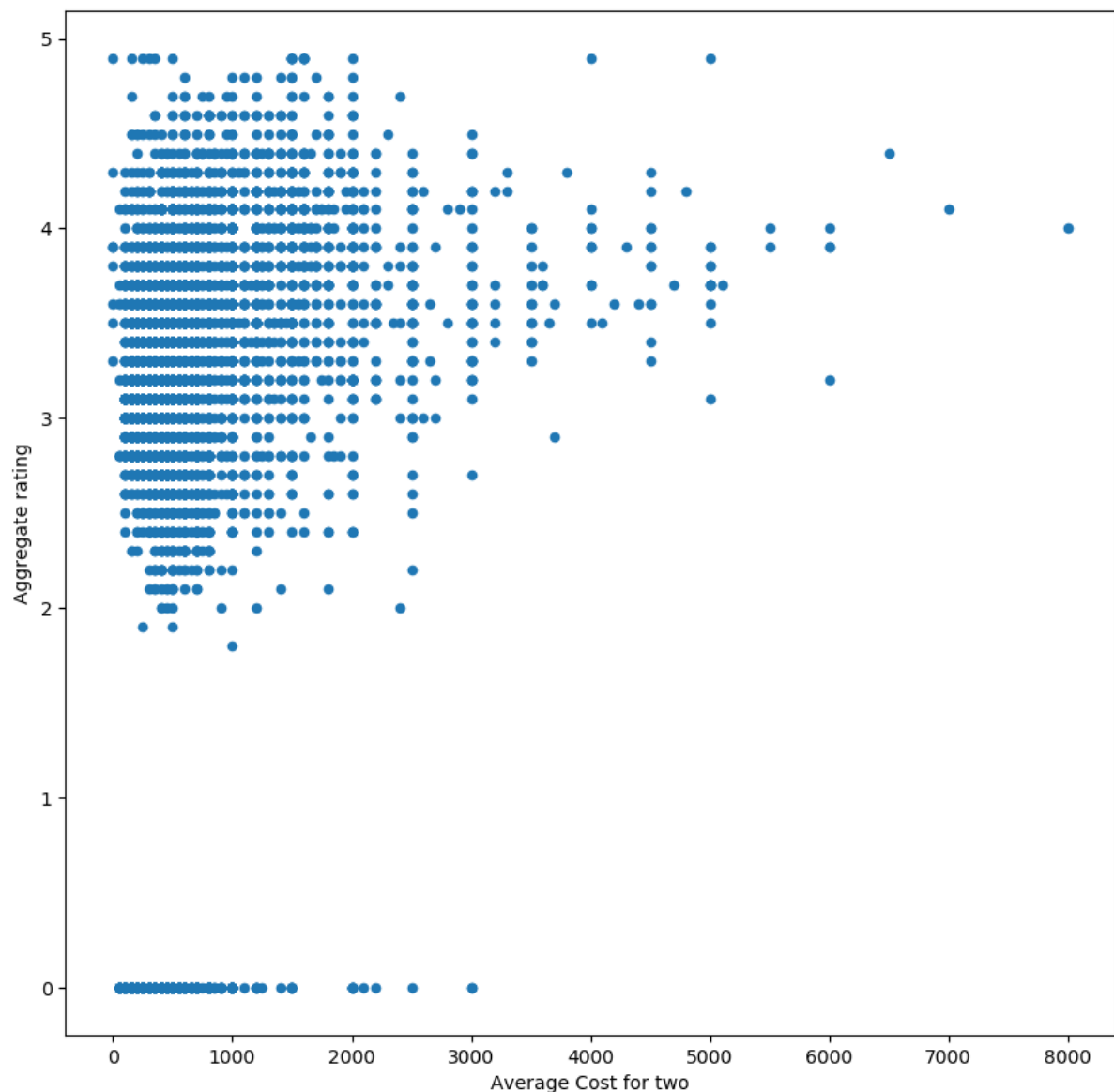
This histogram is for understanding the no. of cuisines are served relatively in a restaurant and no. of restaurants serving no. of Cuisines.

**From above graphs we can see our trends on the basis of restaurants serving diff. no. of cuisines and the rating of cuisines based on the no. of cuisines served in their cuisines**

### Q-3. Average Cost of Restaurant

Here we are scattering all the cost of the Restaurants v/s the rating of the restaurant.

From this we can take insight such as the most affordable price or the price-range of most of the common people and can also further categorise the Cuisines in the restaurant.



## Q-4. Restaurant serving some specific cuisines.

This analysis and sorting has been done on the basis of max. rating i.e. max avg. of all the ratings.

Here we can observe slight trend of all foreign varieties that max Top-10 in the list are Foreign based Cuisines means they are not Indian Cuisines or Indian Dishes.

	Cuisine	count	mean
69	Persian	6	4.600000
33	German	12	4.350000
59	Modern Indian	96	4.281250
21	Charcoal Grill	24	4.175000
68	Parsi	48	4.100000
42	Iranian	18	4.066667
18	Burmese	60	4.050000
81	Steak	12	4.050000
79	Spanish	42	4.028571
41	Indonesian	36	4.000000

Moreover, to also find the further analytics of the more no. of people liking Cuisines I also have calculated the Cuisines which have maximum number of votes

Here I have sorted all the Cuisines that have maximum no. of votes

Here also we can observe some insights,

Like here there in the Top-10 Maximum all are Indian-Cuisines, but we can see that they do not have high ratings as we saw in previous table. And these all have their ratings in the range of 2.5-3.8

	Cuisine	count	mean
65	North Indian	23676	2.505170
23	Chinese	16140	2.598885
30	Fast Food	11778	2.549720
61	Mughlai	5952	2.605444
10	Bakery	4356	2.397107
24	Continental	4344	3.507873
43	Italian	4092	3.500587
78	South Indian	3786	2.458954
19	Cafe	3762	3.232057
27	Desserts	3582	2.858794

**From above 2 cells we can see that all foreign cuisines have better ratings but they are low in number while all Indian cuisines have more count but have avg. ratings**

## Question - 2 - Find the weighted restaurant rating of each locality and find out the top 10 localities with more weighted restaurant rating?

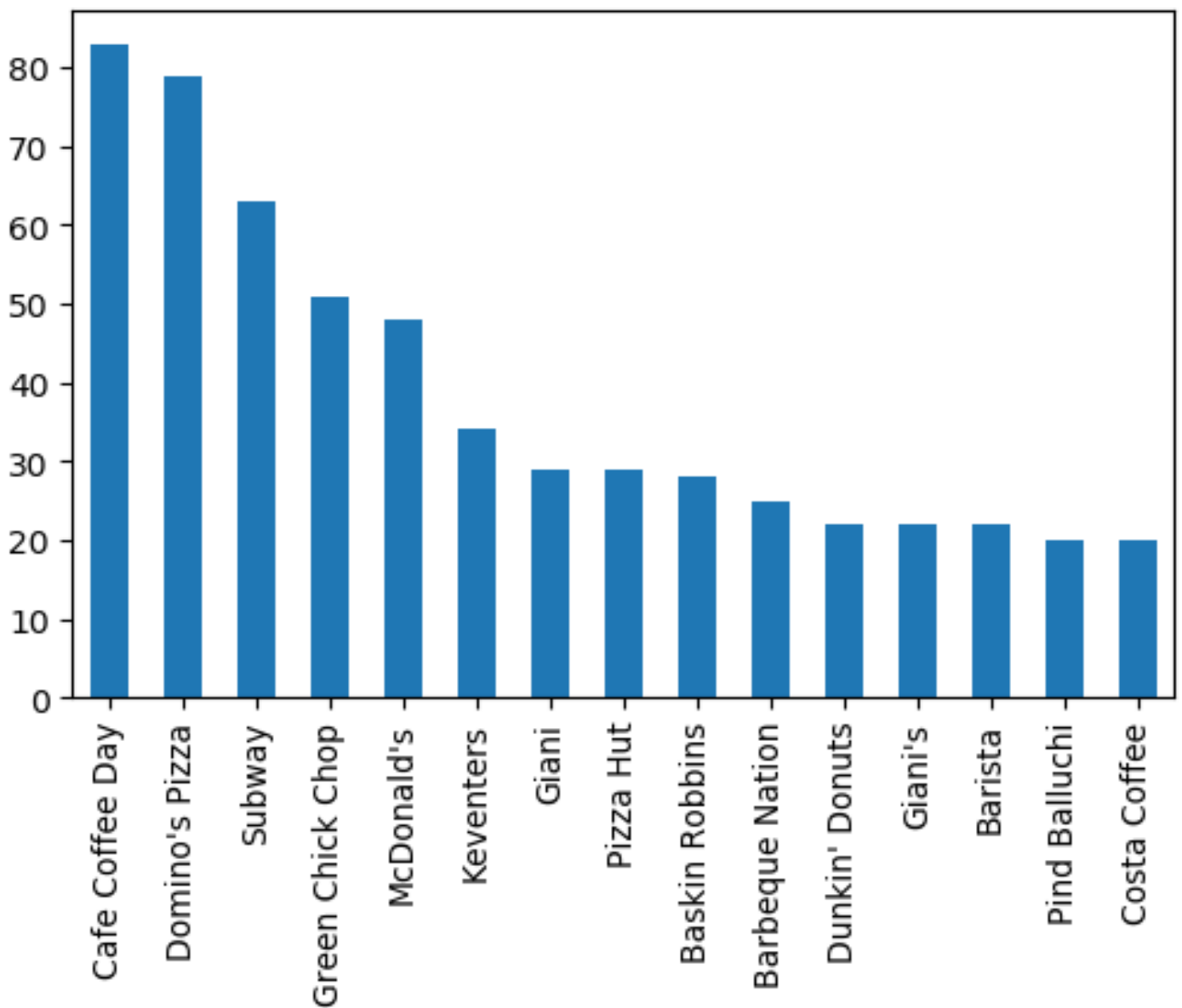
Weighted Restaurant Rating =  $\frac{\sum (\text{number of votes} * \text{rating})}{\sum (\text{number of votes})}$  .

Locality	Product	Sum	Weighted-Rating
Hotel Clarks Amer, Malviya Nagar	322	1577.8	4.900000
Aminabad	1057	5179.3	4.900000
Friends Colony	1949	9524.6	4.886916
Powai	3425	16583.4	4.841869
Kirlampudi Layout	372	1793.1	4.820161
Deccan Gymkhana	2510	12048.0	4.800000
Express Avenue Mall, Royapettah	1262	6057.6	4.800000
Banjara Hills	2132	10060.4	4.718762
Sector 5, Salt Lake	7006	32977.4	4.707023
Riverside Mall, Gomti Nagar	1069	5024.3	4.700000

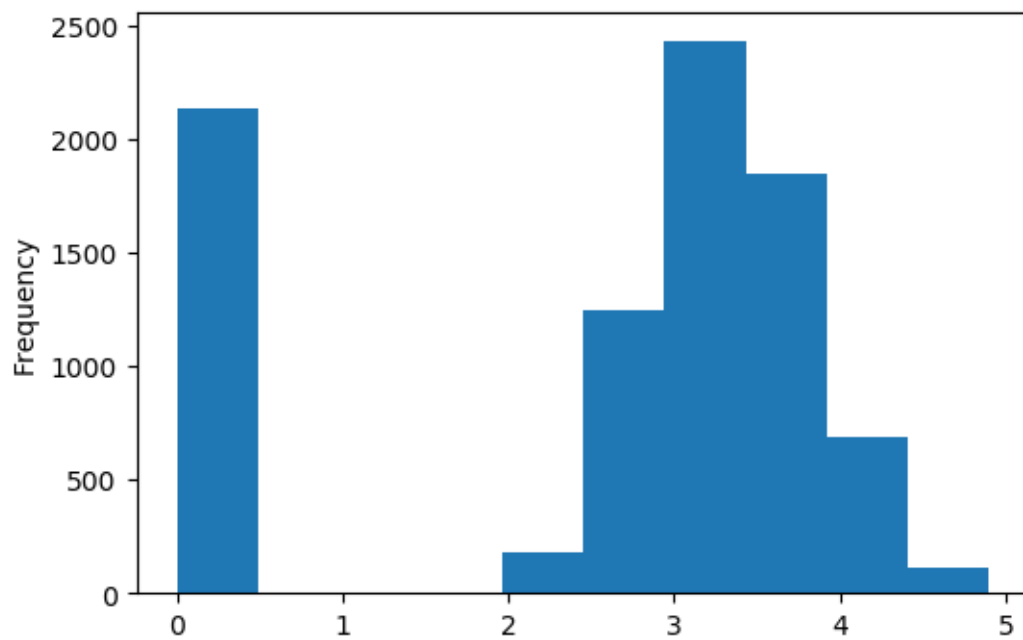
# ● Visualization

Q-1. Plot the bar graph top 15 restaurants have a maximum number of outlets.

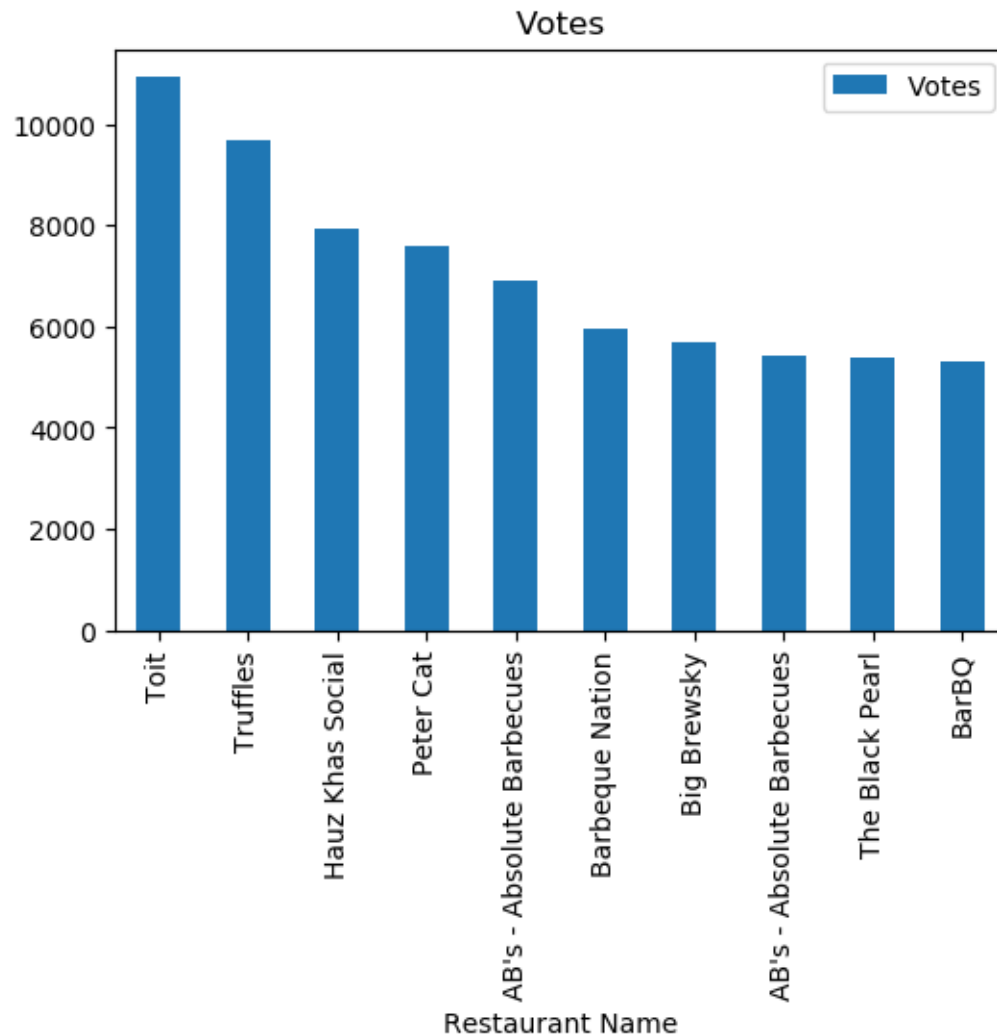
First we have calculated the counts of all the restaurant and taking top -15 from them and plotted the bar graph for the same.



**Q-2. Plot the histogram of aggregate rating of restaurant( drop the unrated restaurant).**

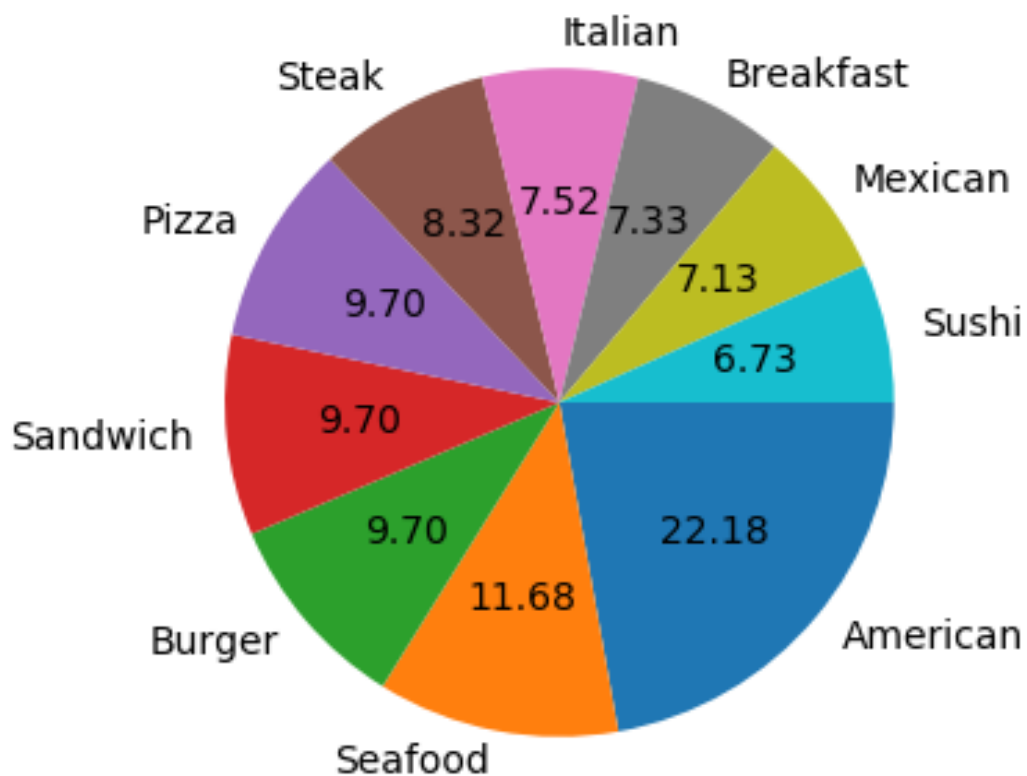


Q-3. Plot the bar graph top 10 restaurants in the data with the highest number of votes.





Q-4. Plot the pie graph of top 10 cuisines present in restaurants in the USA.



Q-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.

