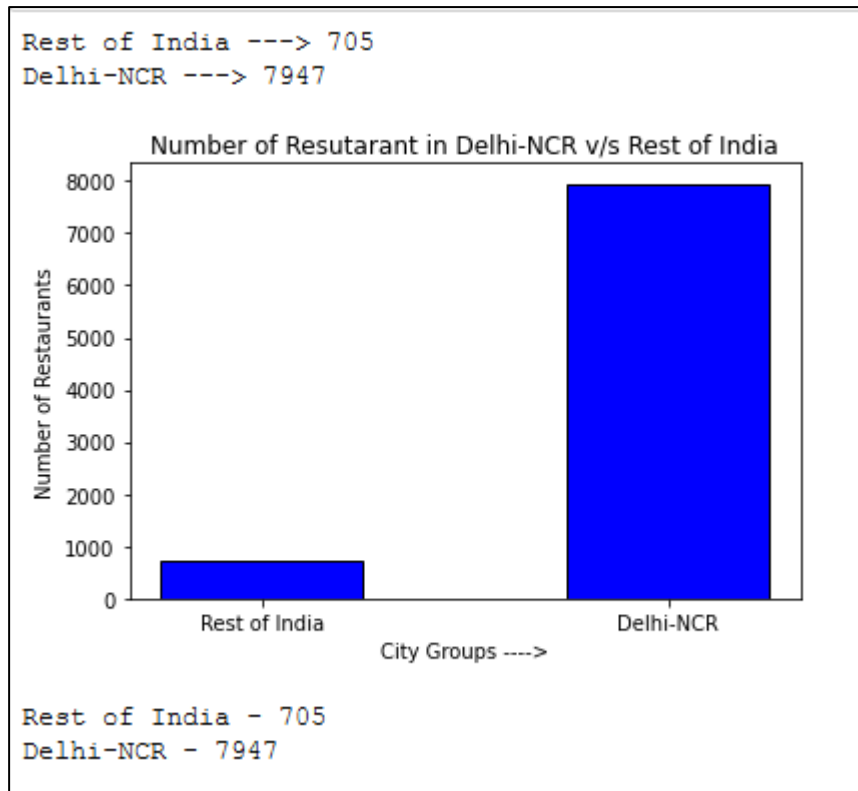


# ZOMATO API – II

## Question 1

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.

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

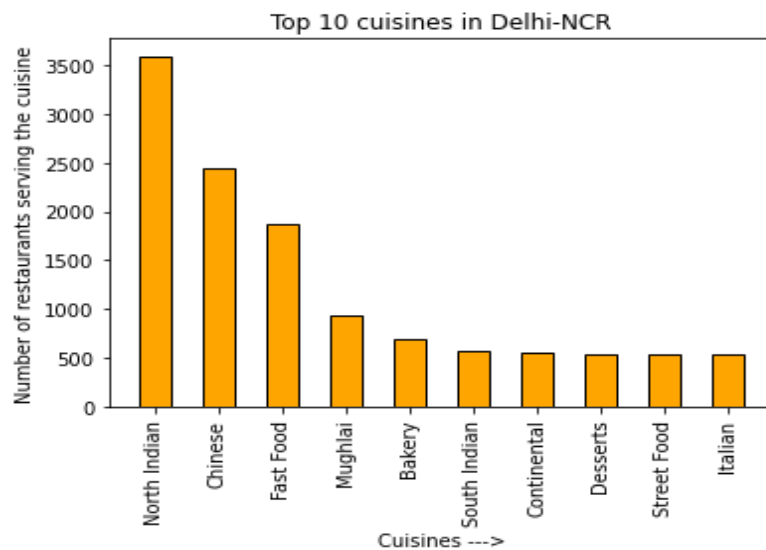


2. Find the cuisines which are not present in restaurant of Delhi NCR but present in rest of India. Check using Zomato API whether this cuisines are actually not served in restaurants of Delhi-NCR or just it due to incomplete dataset.

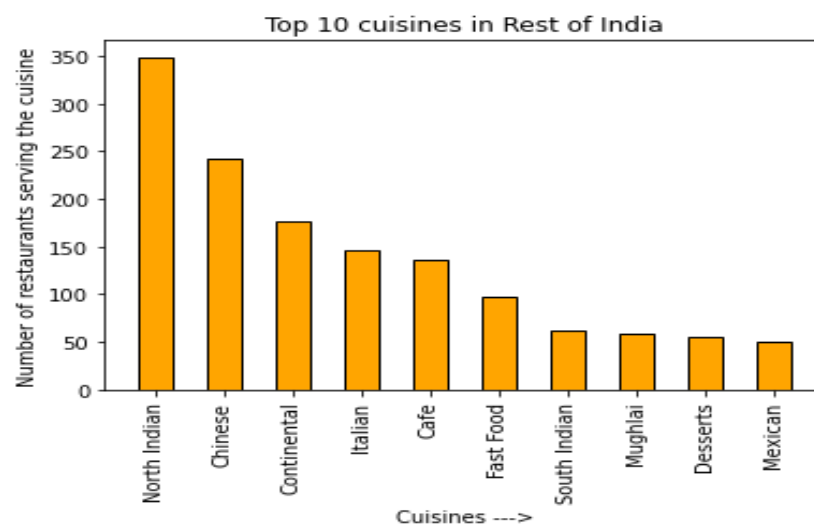
Cuisines not in NCR according to dataset - {'German', 'Cajun', 'Malwani', 'BBQ'}  
Cuisines available from the according to API - ['BBQ', 'Malwani']

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

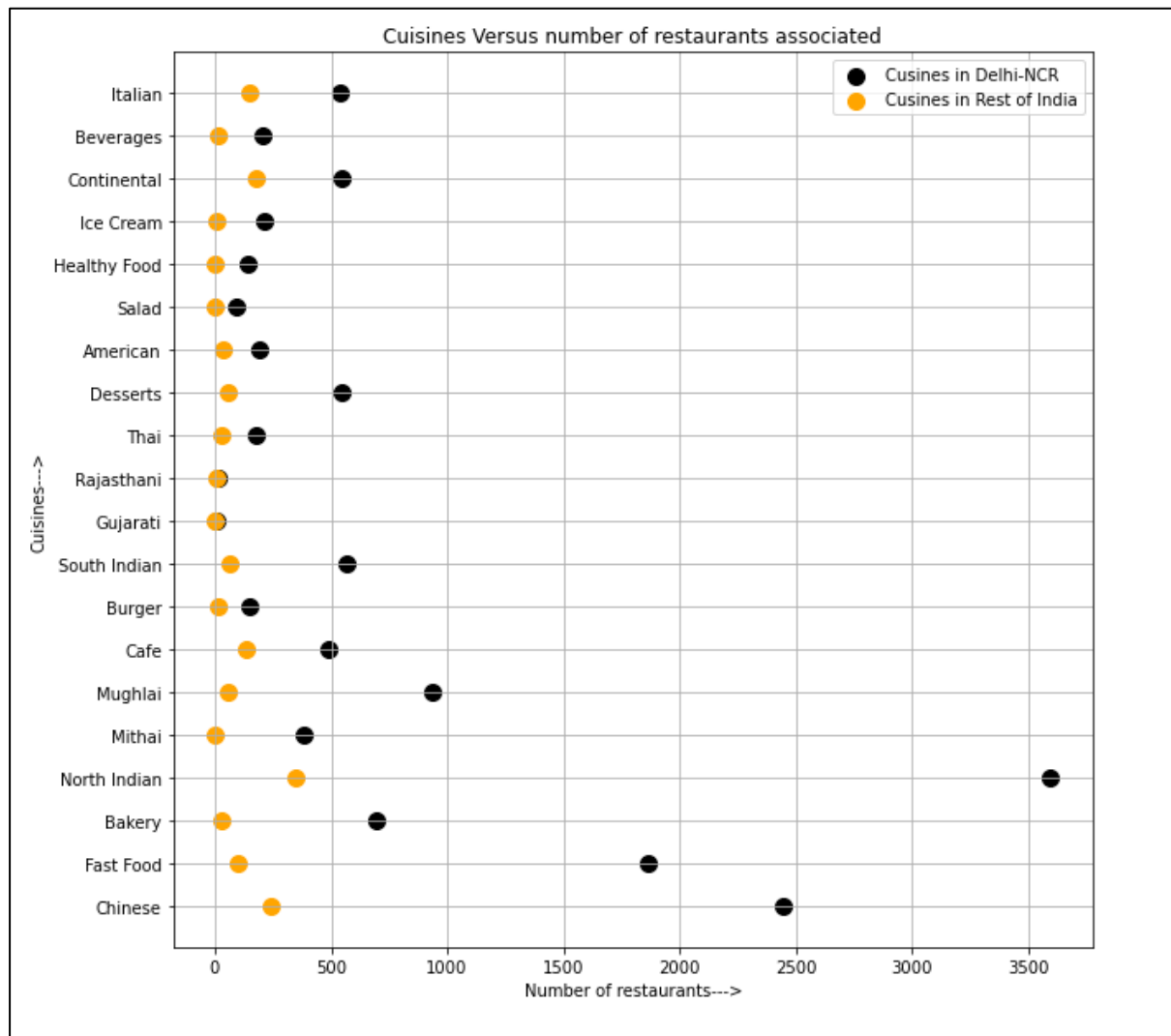
```
North Indian ----> 3597
Chinese ----> 2448
Fast Food ----> 1866
Mughlai ----> 933
Bakery ----> 697
South Indian ----> 569
Continental ----> 547
Desserts ----> 542
Street Food ----> 538
Italian ----> 535
```



```
North Indian ----> 349
Chinese ----> 242
Continental ----> 177
Italian ----> 147
Cafe ----> 136
Fast Food ----> 97
South Indian ----> 62
Mughlai ----> 59
Desserts ----> 55
Mexican ----> 50
```



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.



### Analysis:

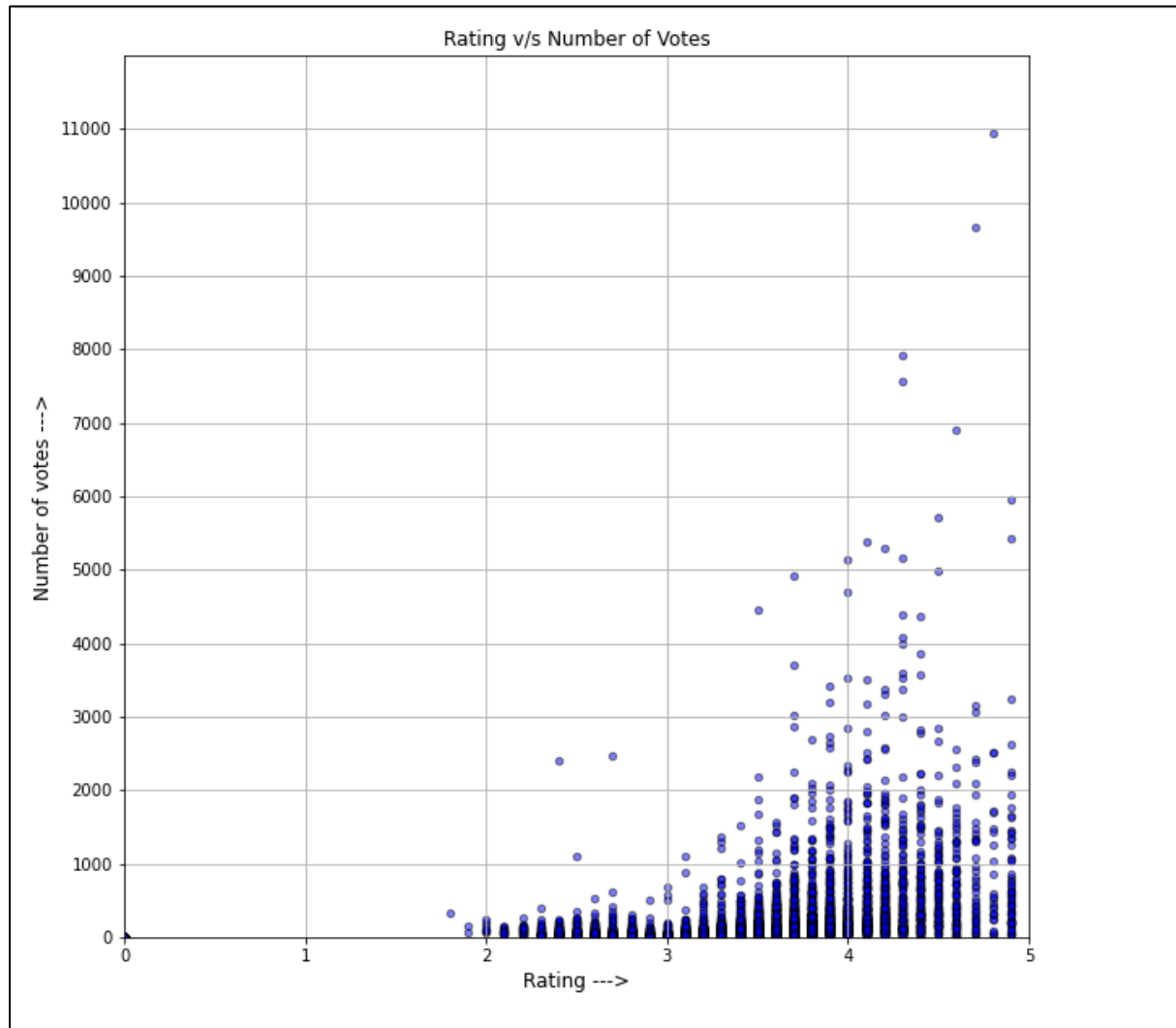
From the above graph "North Indian" cuisine is the most popular among restaurants of Delhi-NCR region as well as other states. In the above graph 30 important cuisines which are common in both Delhi-NCR and other states are plotted. There are some cuisines present in other states and are not present in any restaurant of Delhi-NCR. Following North Indian cuisine we have Chinese cuisine with 2448 restaurants in Delhi-NCR and 242 in other states of India. After these two we have fast food with 1866 restaurants in Delhi-NCR and 97 in other states (a huge difference). After this we have Mughlai cuisine in Delhi-NCR with 933 restaurants and 59 in the states other than Delhi-NCR. There are many more cuisines as show in the graph.

## Question 2

User rating of a restaurant plays a crucial role in selecting a restaurant or ordering the food from the restaurant.

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.

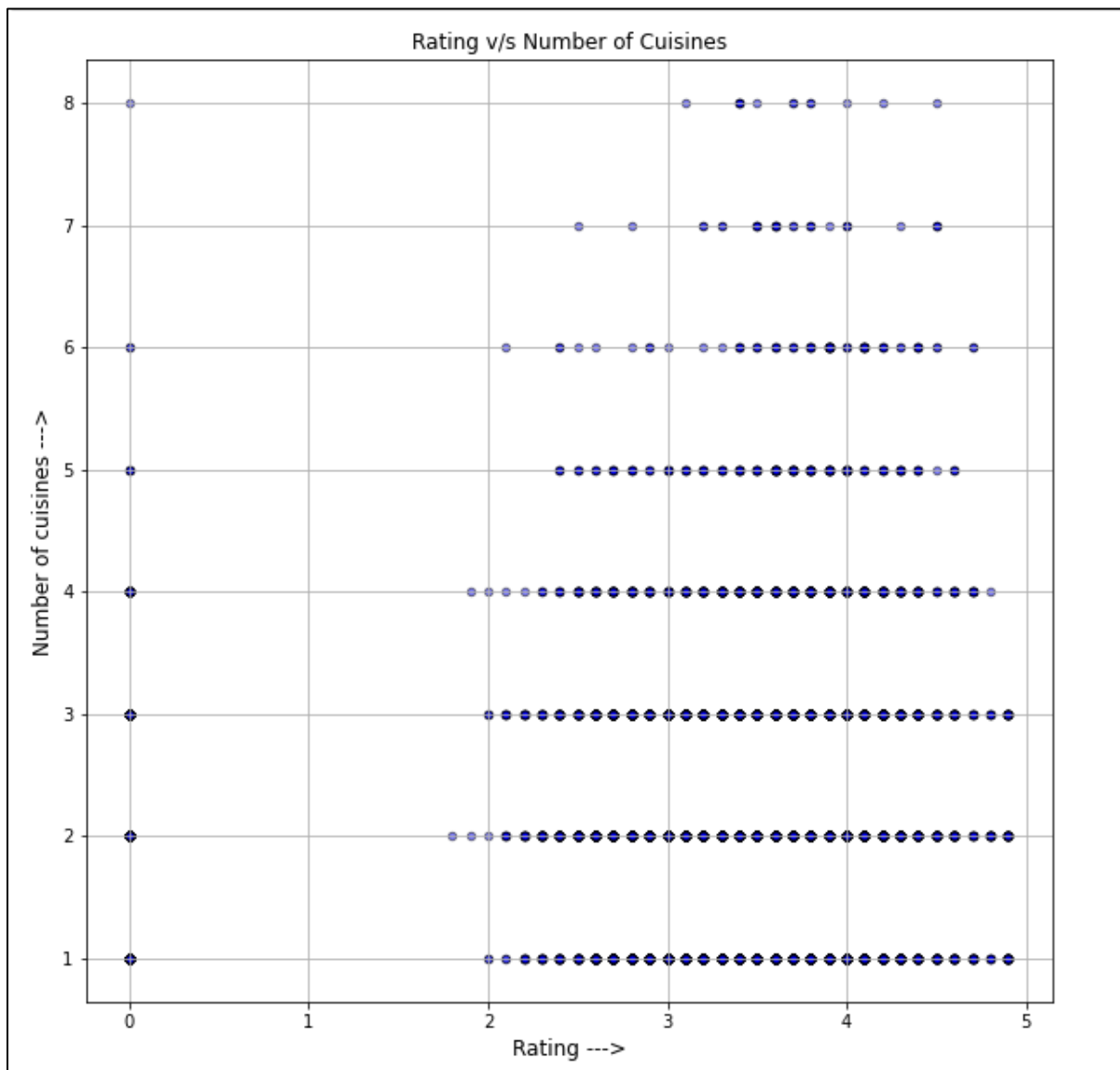
1. Number of Votes given Restaurant



### **Analysis:**

It can be inferred from the graph that as the number of votes increases the chances of getting higher ratings also increases i.e. it appears to be directly proportional. Any restaurant with more than 5000 votes has been rated between 4 and 5. For lower number of votes i.e. where the votes are less than 2000, the ratings varies over a wide range from 2-5. Therefore, for a restaurant to have a probability of getting higher aggregate rating, it should have more than higher number of votes. Additionally, there are many restaurants having votes between 1000 and 2000 with very good ratings i.e. between 4 and 5.

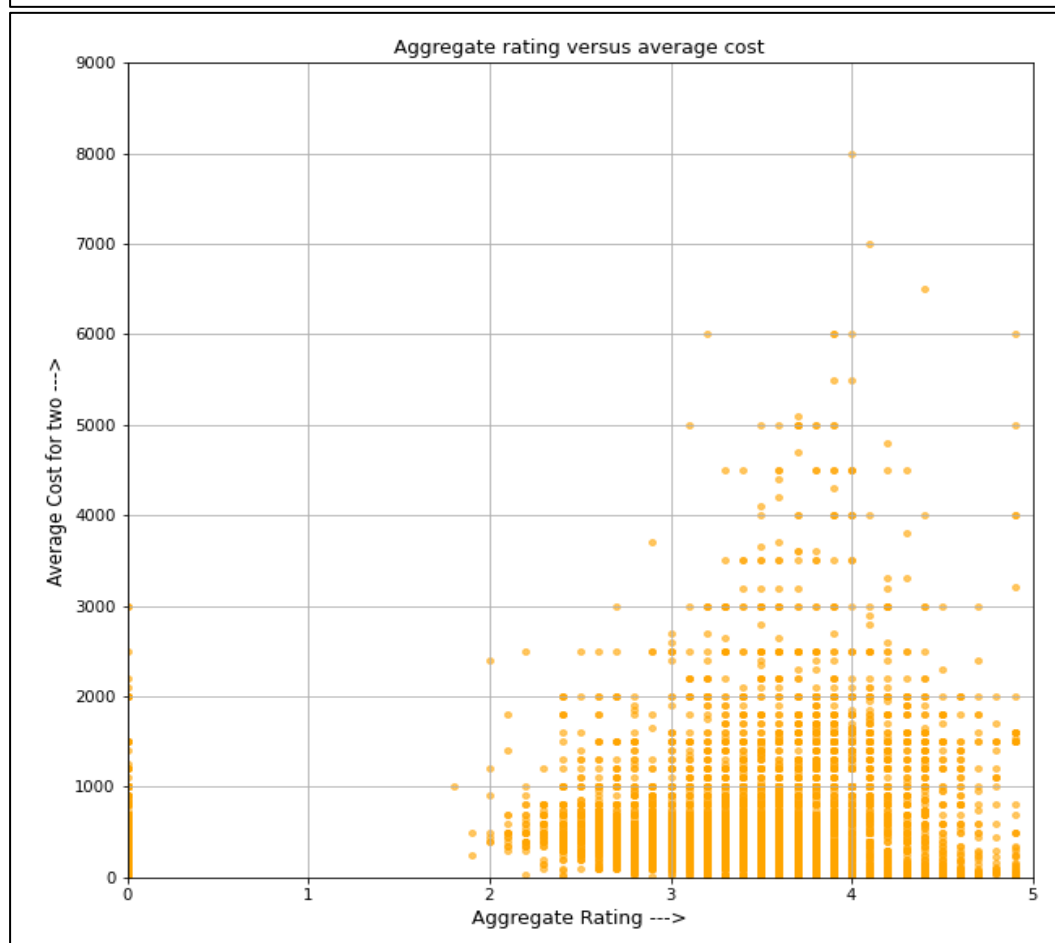
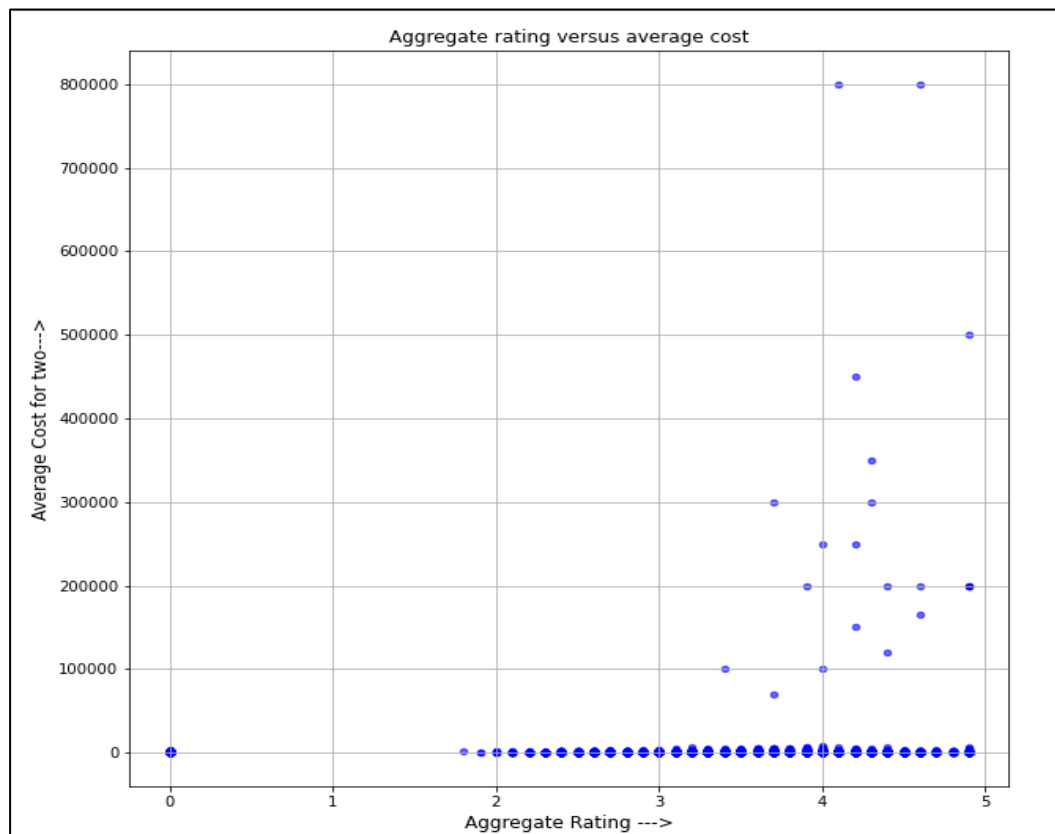
2. Restaurant serving more number of cuisines.



#### Analysis:

It can be inferred from the graph that when the number of cuisines provided increases from 3 to 8, generally the rating seems to converge between 3 and 4. Restaurants providing more number of cuisines are not much likely to get higher ratings, especially when the number of cuisines provided exceeds 6. While if the restaurants provide less number of cuisines, for example 1 or 2 cuisines, they are more likely to get higher ratings. In fact many restaurants in India are providing 2 cuisines. There is a very less number of restaurants providing 8 cuisines. It seems like when a restaurant provides too many cuisines, its focus on the quality of food offered diverges. While restaurants providing less cuisines focus on the quality of food to get good aggregate ratings.

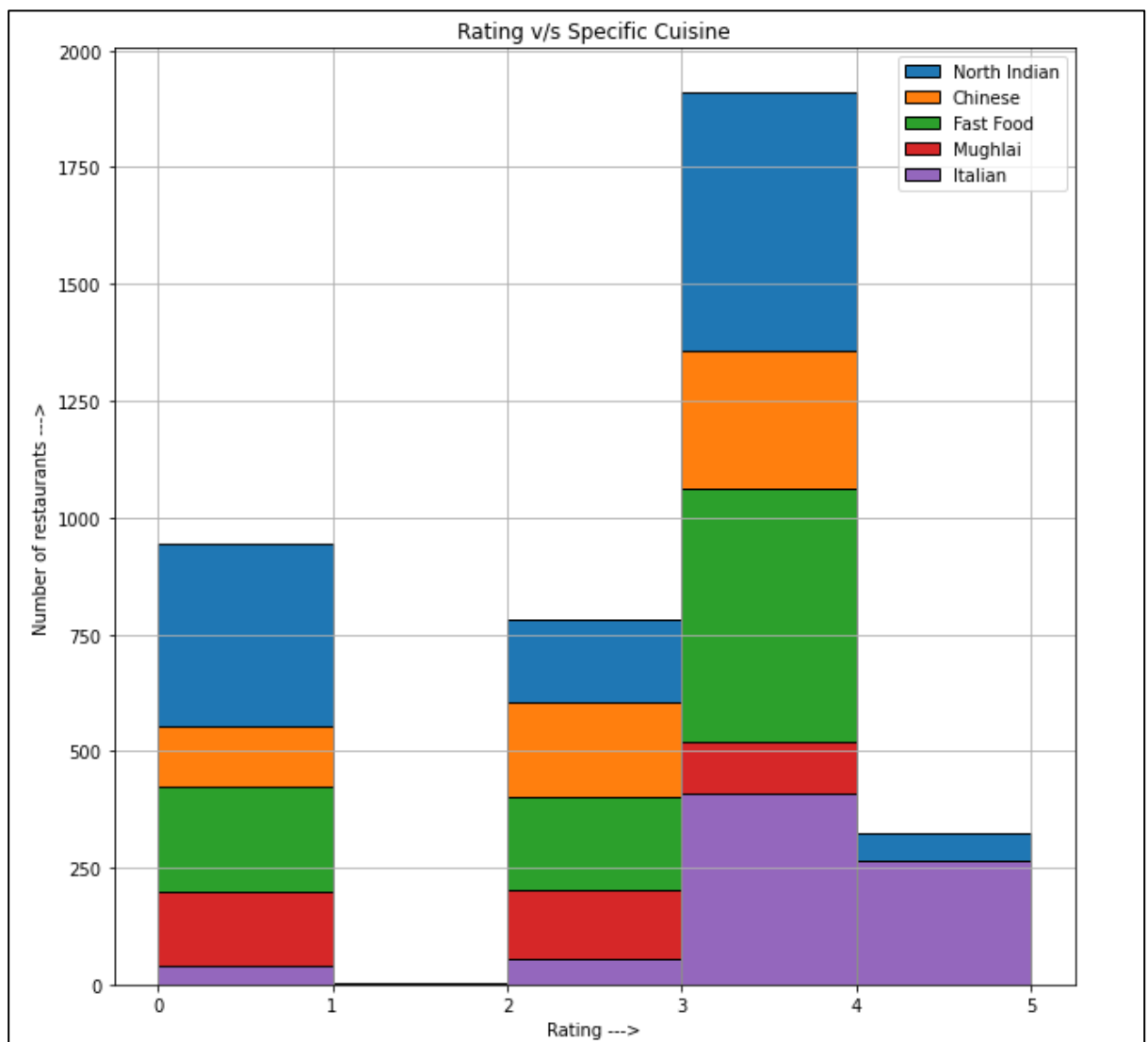
### 3. Average Cost of Restaurant



### Analysis:

In the first graph as average cost goes higher than 1 lakh the rating tries to consolidate between 4-5, which demonstrates that the food quality must be good. This graph doesn't offer much details about as much of the graph is consolidated at the lower levels on y-axis. Therefore, plotted the second graph to by narrowing the average cost to 9000 on y-axis. It can be inferred from the second graph that lower the average cost, more dispersed is the food quality as the rating goes from 2-5. However, as the average cost increases the aggregate rating consolidates in the upper levels which means the food quality becomes better at that price point.

4. Restaurant serving some specific cuisines.



### Analysis:

It can be inferred from the above graph that North Indian cuisine is the best rated among all the cuisines in all aggregate ranges. After that Chinese cuisine follows, as for the maximum number of times it has a rating of either 3 or 4. Next follows Fast Food which as also has a rating of either 3 or 4 maximum number of times. These are then followed by Mughlai and Italian cuisines.

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

**Below are the top 10 localities with more weighted restaurant rating of 4.9. Apart from these there are other localities as well as shown above which also have a rating for 4.9.** ¶

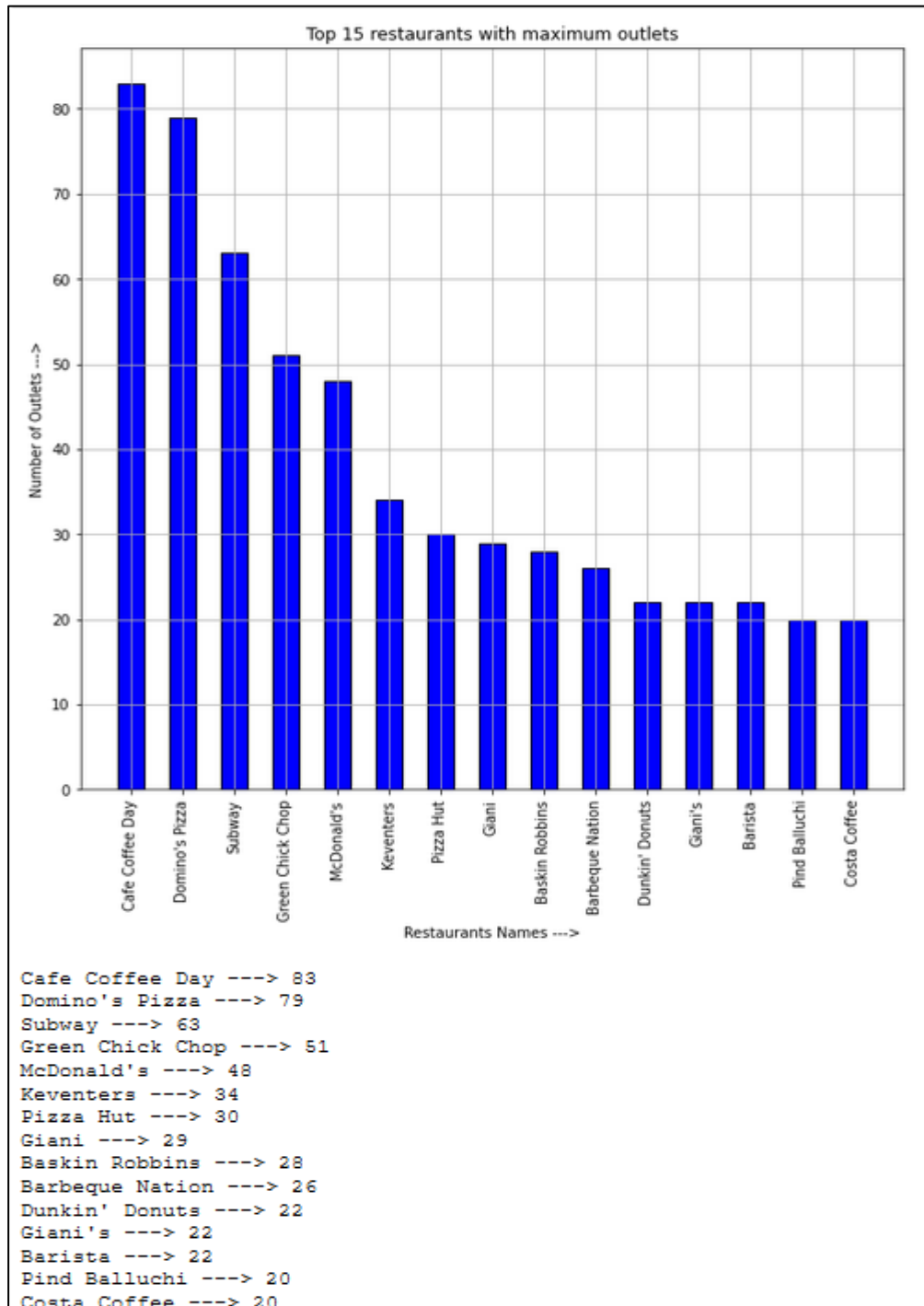
1. City and Suburban
2. Setor De Clubes Esportivos Sul
3. Giçvea
4. Hotel Clarks Amer, Malviya Nagar
5. West Park
6. Marshalltown
7. Cengkareng
8. Penjaringan
9. Taman Impian Jaya Ancol, Ancol
10. Pondok Aren



### Question 3

#### Visualization

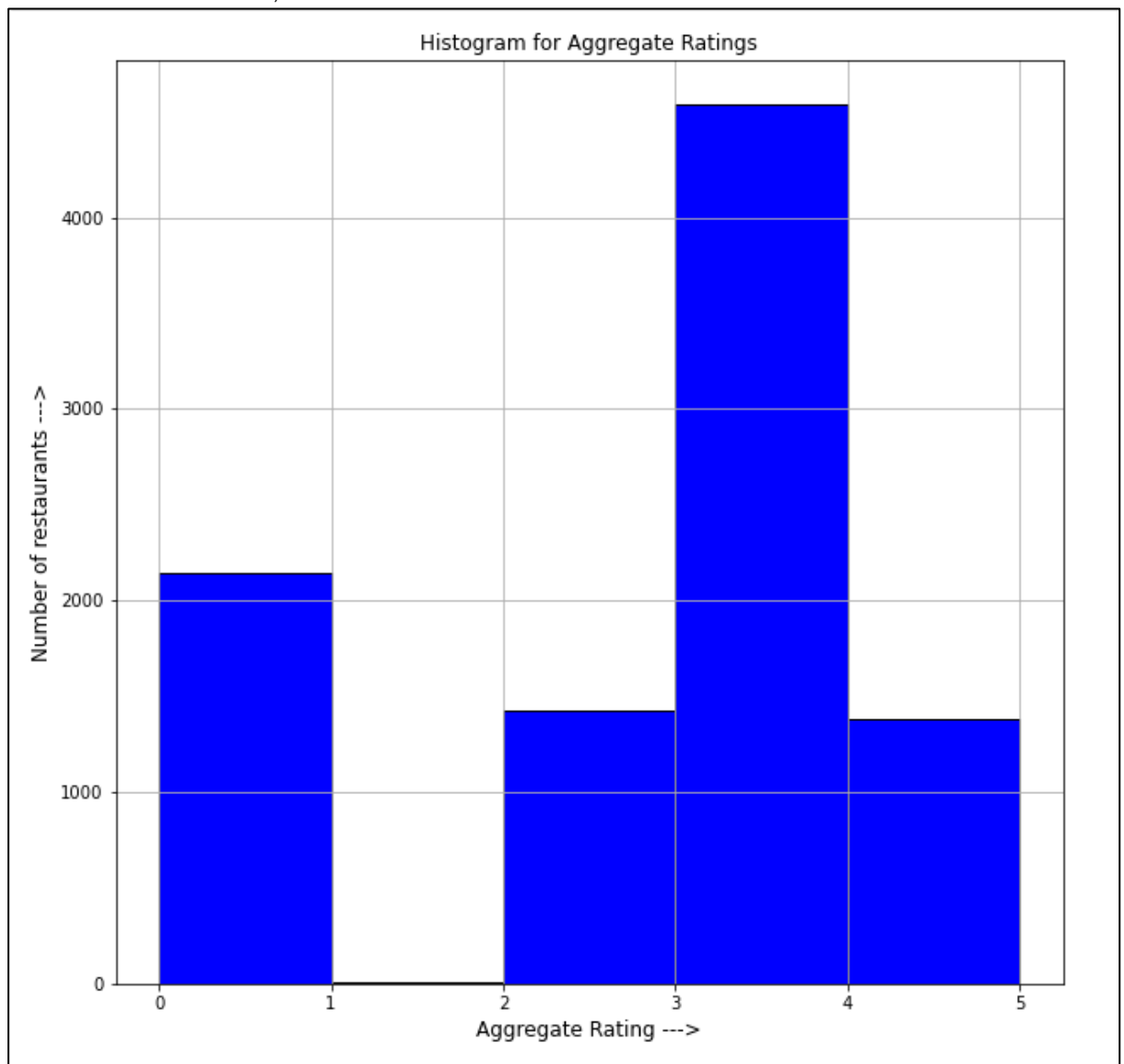
1. Plot the bar graph top 15 restaurants have a maximum number of outlets.



#### Analysis:

It can be inferred from the above graph that, Cafe Coffee Day has most number of outlets i.e. 83. It is followed by Domino's Pizza, Subway, Green Chick Chop, McDonald's with 79, 63, 51 and 48 outlets respectively making them the top 5 restaurants. Rest are shown above.

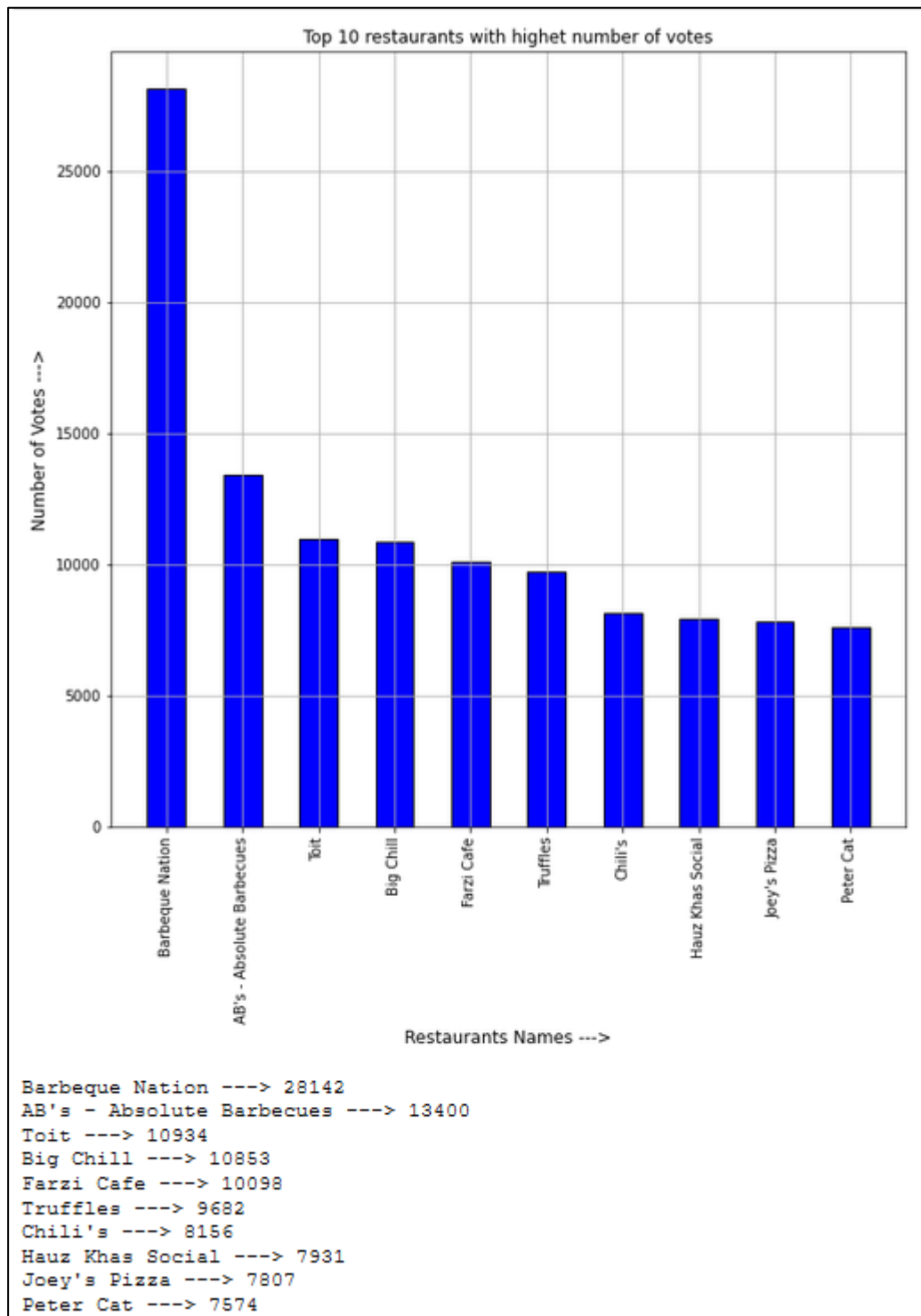
2. Plot the histogram of aggregate rating of restaurant (drop the unrated restaurant).



**Analysis:**

It can be inferred from the above histogram that, most number of restaurants have the aggregate rating between 3 and 4. This is followed by the range 0-1 at the second place. Next are the ranges 2-3 and 4-5 with nearly equal number of restaurants, while the range 1-2 has the minimum number of restaurants.

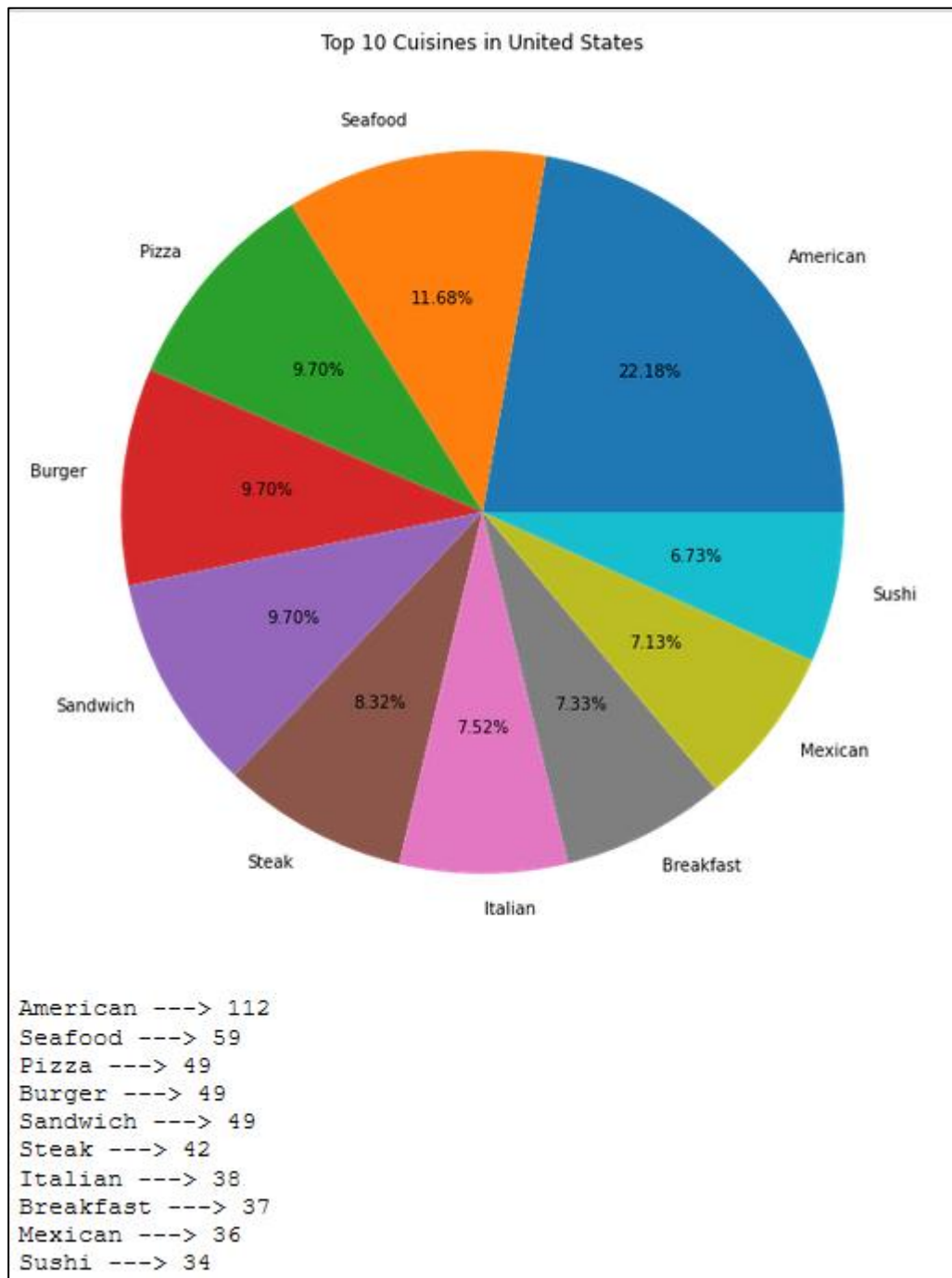
3. Plot the bar graph top 10 restaurants in the data with the highest number of votes.



#### Analysis:

It can be inferred from the above that Barbeque Nation has received the most number of votes i.e. 28142 and is miles ahead from AB's - Absolute Barbecues having 13400 votes and holds second position. These are then followed by Toit, Big Chill, Farzi Cafe, Truffles, Chili's, Hauz Khas Social, Joey's Pizza and Peter Cat respectively to make the top 10 list.

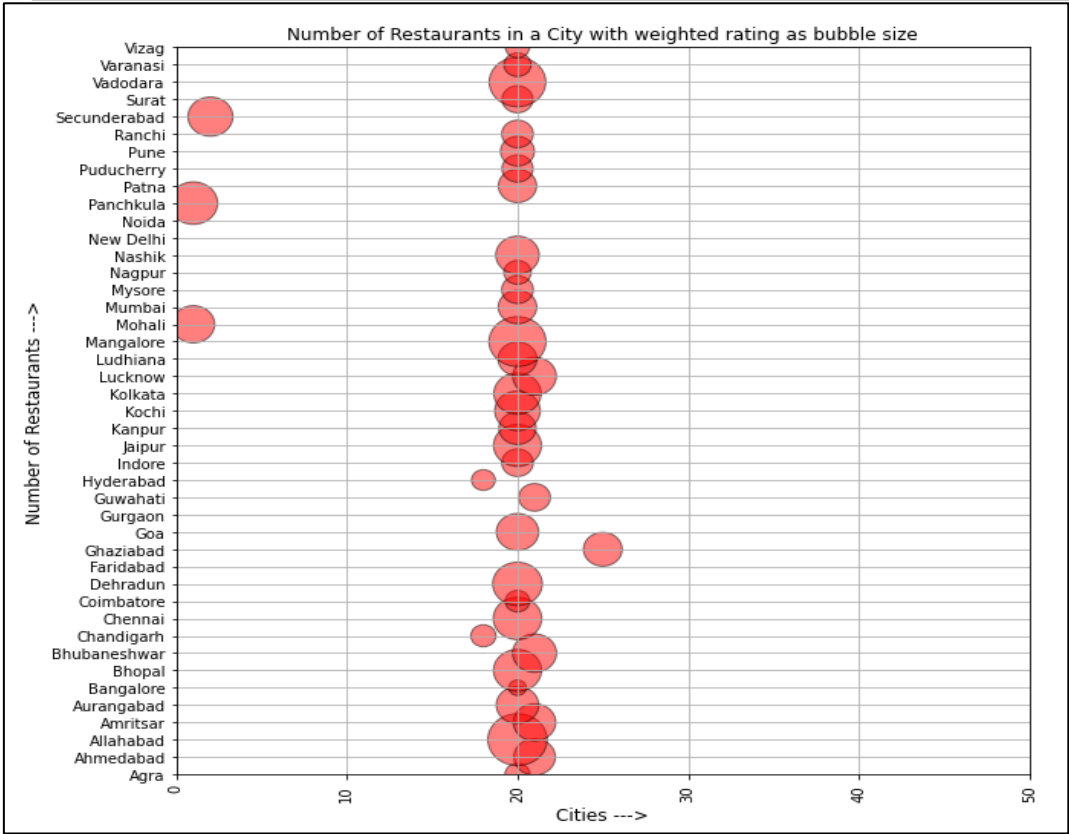
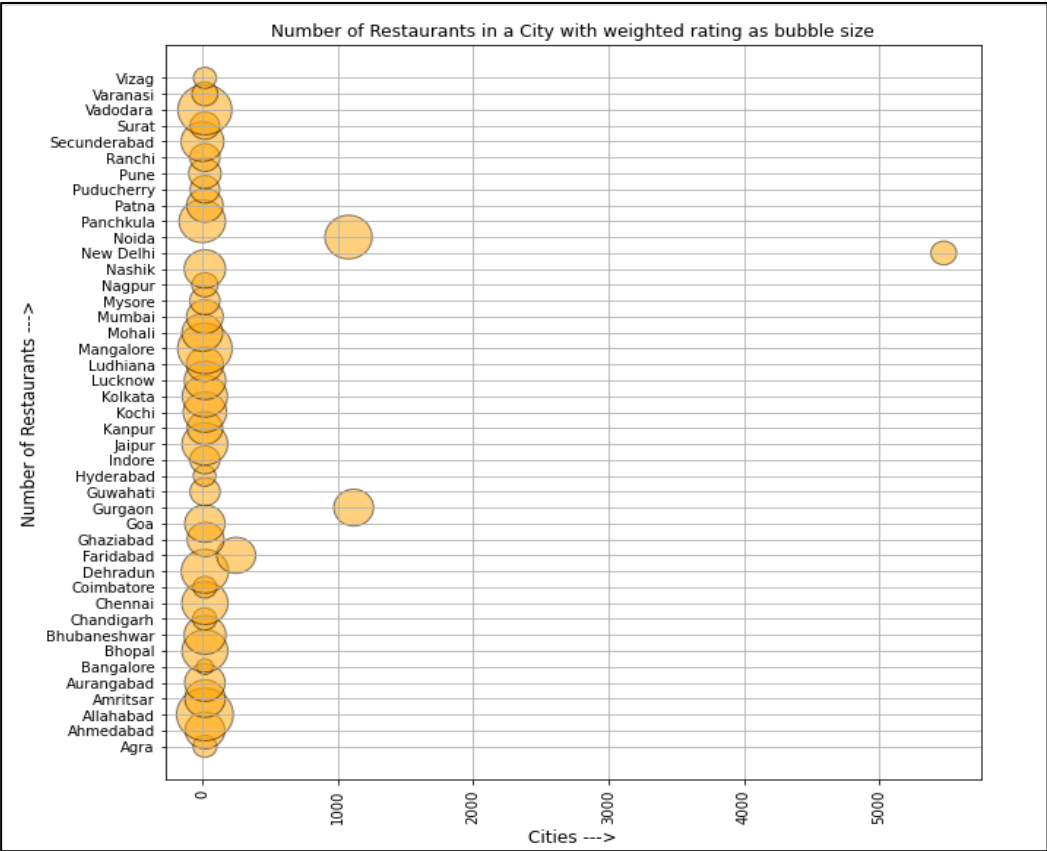
4. Plot the pie graph of top 10 cuisines present in restaurants in the USA.



**Analysis:**

The above pie chart shows the top 10 cuisines served in United States and their share by percentage. It is evident from the above that American cuisine has the largest share with 22.18% which is miles ahead of Seafood with 11.68% holding the second position. These are followed by Pizza, Burger, Sandwich, Steak, Italian, Breakfast, Mexican and Sushi to make the top 10 list.

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.



**Analysis:**

Two graphs have been plotted above to better analyse the details. From the first graph, it is evident that New Delhi has the maximum number of restaurants which is miles ahead from any other cities depicted in the graph but it New Delhi does not appear to have the highest weighted average as bigger bubbles are clearly seen in the first graph. It is also visible from the graph that, for most of the cities, the bubble are plotted around the 0 on x-axis. To better analyse this, second graph has been plotted cropping the x-axis to between 0 and 50. From the second graph it is clear that, for most cities the number of restaurants are consolidated around 20 with Mangalore, Allahabad and Vadodara having visibly the larger bubbles indicating the higher weighted average.