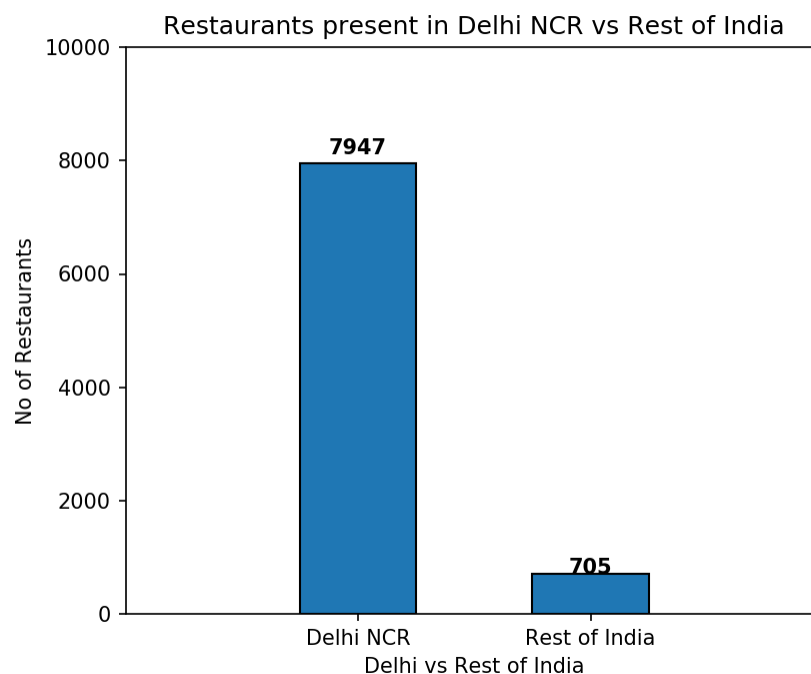# Zomato API - Project-II

Question 1

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

- Plot the bar graph of number of restaurants present in Delhi NCR vs Rest of India.
- 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.
- Find the top 10 cuisines served by maximum number of restaurants in Delhi NCR and rest of India.
- 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.

Question 1.1

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

➢ By looking into the data of count of restaurants, it seems little bit strange as the cities in Delhi NCR's restaurants count is a way larger than the rest of the India itself.
➢ Lets have a look into the below plot which give us the more insights.

➢ The restaurants count in the Delhi NCR cities is around 7947.
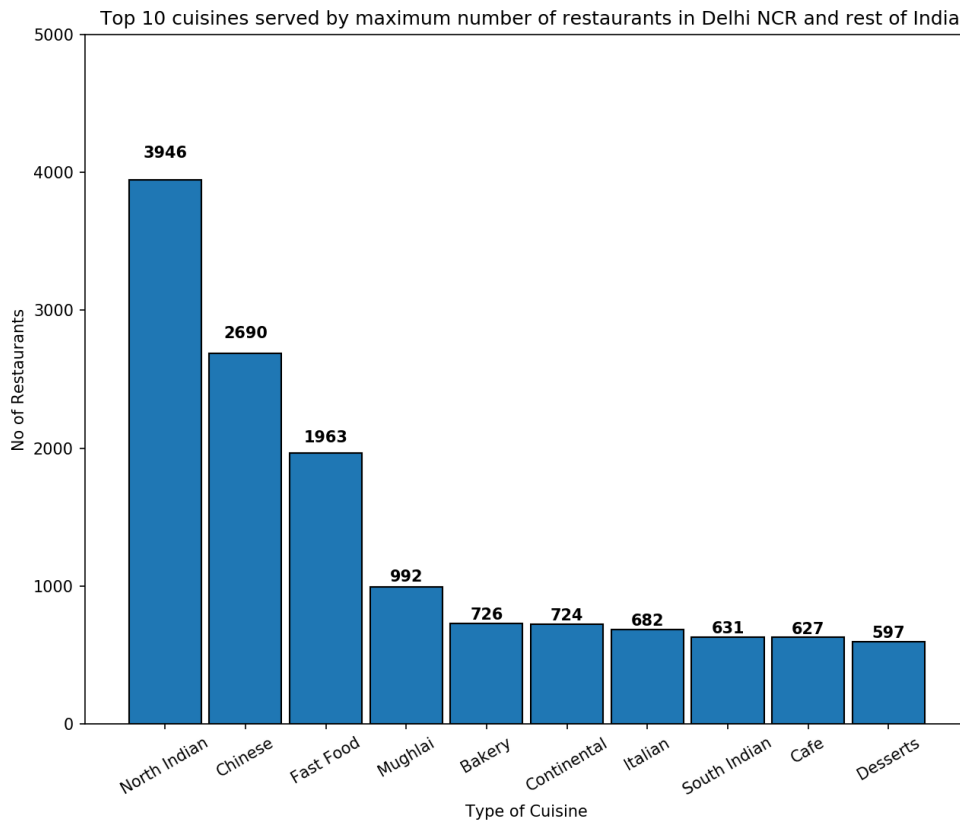➢ Whereas the restaurants count in the rest of the India is 705.

Conclusion:

- As per the data and plots, we can infer that the restaurants have a huge market in the cities of Delhi NCR, being around the capital could be the major reason.
- Or there could be some imbalance in the dataset or the dataset might be biased towards the city Delhi.

Question 1.2

* **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.**

➢ As per the dataset the Cuisines which are not being served in the Delhi NCR Restaurants are "**Malwani, BBQ, Cajun, German**".
➢ But, after checking using the Zomato API we can see that the cuisines **BBQ, Malwani** are actually being served in the Delhi NCR cities restaurants.
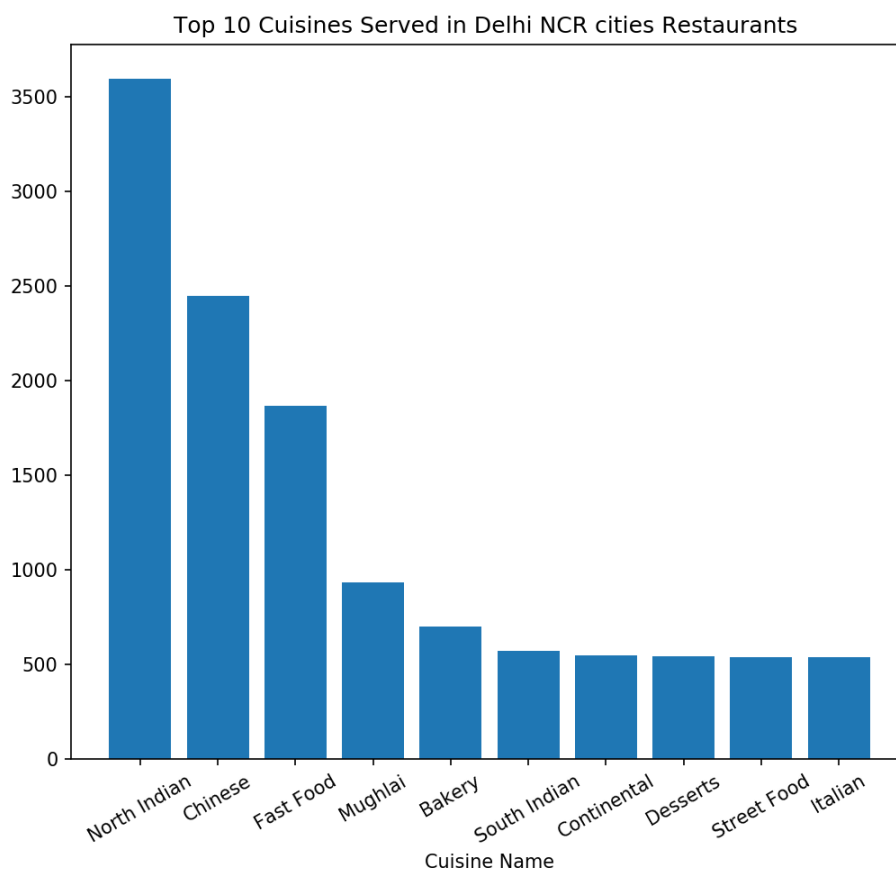➢ Hence, we can conclude that the dataset is incomplete.

Question 1.3

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

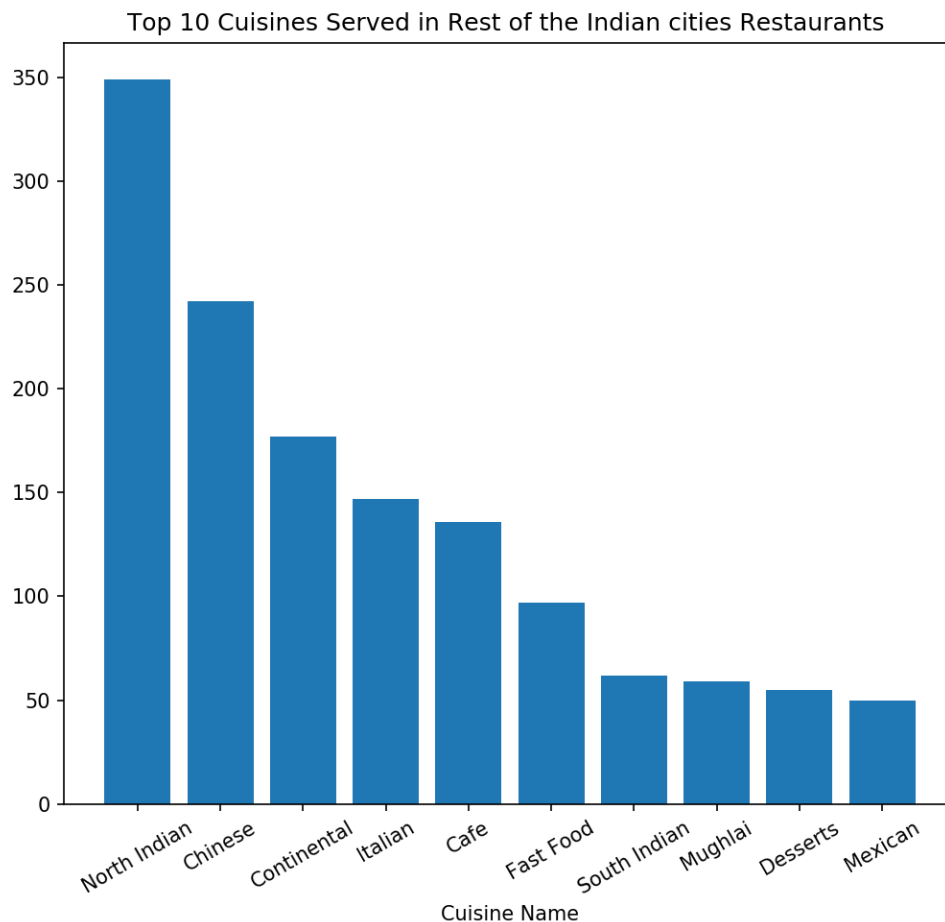Top 10 cuisines served by maximum number of restaurants in Delhi NCR and rest of India

➢ By looking in the above plot we can state the top 10 cuisines cuisines that were served in restaurants of Delhi NCR and Rest of India are **North Indian, Chinese, Fast Food, Mughlai, Bakery, Continental, Italian, South Indian, Cafe, and Desserts**.

Question 1.4

*   **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.**

➢   By looking in the below plot, we can say North Indian cuisines in the Delhi NCR cities restaurants is most served cuisine and Chinese in the second position and Fast Foods in third position.

Top 10 Cuisines Served in Delhi NCR cities Restaurants

➢   By looking in the below plot, we can say more than North Indian cuisines is most serving cuisine in restaurants of Rest of the Indian Cities and Chinese in the second position and Continental in third position.

Top 10 Cuisines Served in Rest of the Indian cities Restaurants

➢ By looking at top foods of both Delhi NCR cities and rest of the Indian cities, we can infer some insights.
➢ We need to keep in mind that, data is somewhat imbalanced and also incorrect.

    a. Comparing on both plot, can see that Fast Foods are not very well served in rest of the Indian cities.
    b. Although Cafes are well in rest of Indian cities, we could see less percentage in Delhi NCR cities.

Conclusion:

On overall, we can say that cuisines like North Indian, Chinese, Fast Food, Continental, Mughlai, South Indian and Italian are most serving in the restaurants all over India.
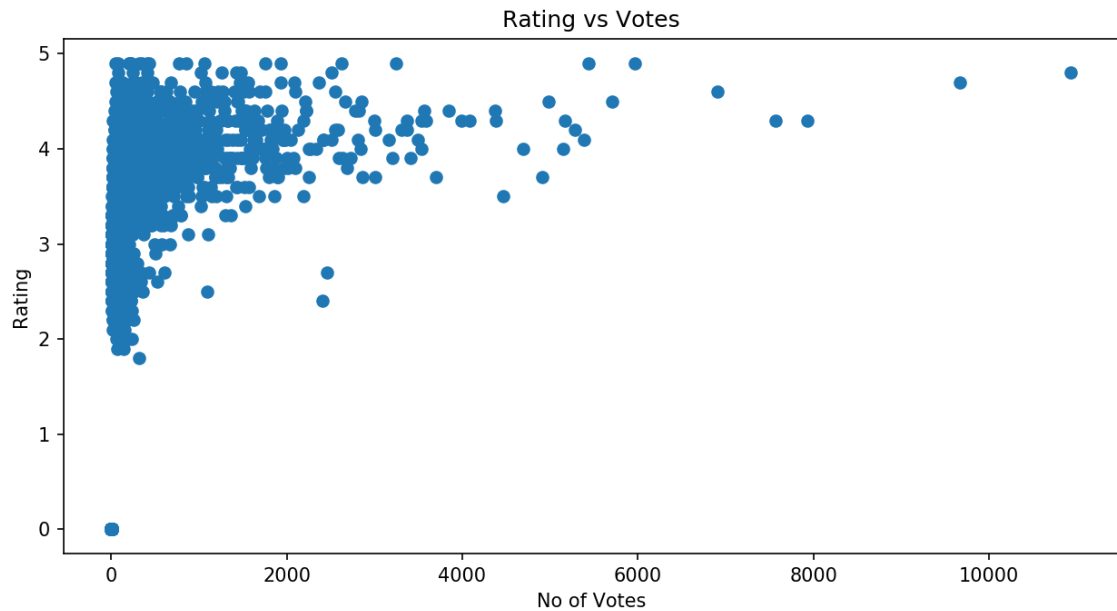
Question 2.

∗ 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.

    o   - Number of Votes given Restaurant
    o   - Restaurant serving more number of cuisines.
    o   - Average Cost of Restaurant
    o   - Restaurant serving some specific cuisines.

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

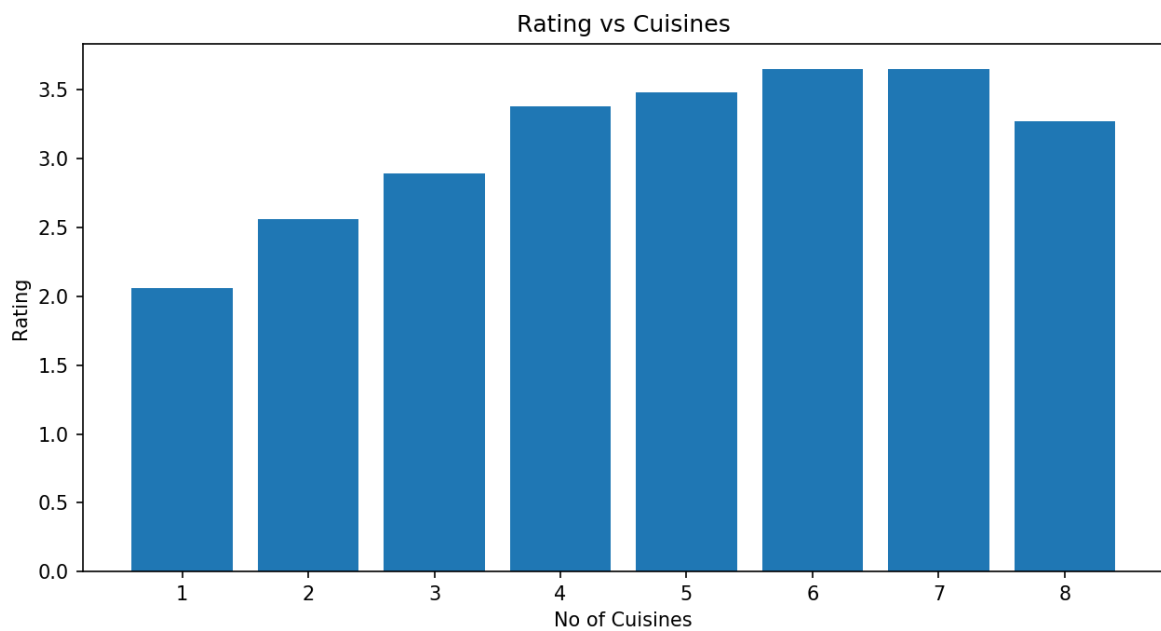- o   - Weighted Restaurant Rating=Σ (number of votes * rating) / Σ (number of votes).

1.

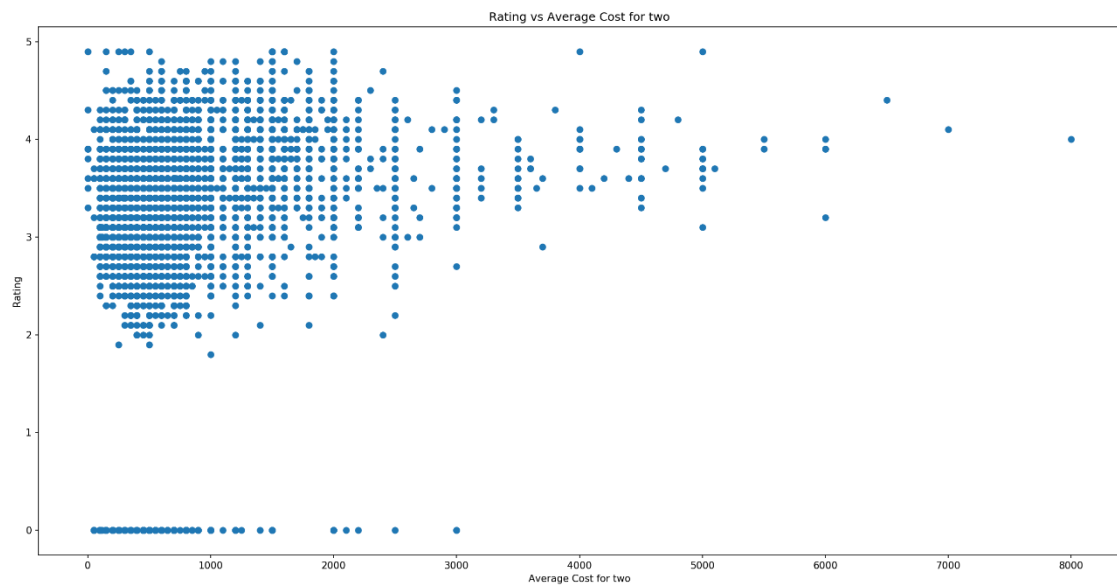❖ **Rating will play key role in the selecting a restaurant**

➢ We can observe in the above plot, as the rating for the restaurant increased the votes are also increased.
➢ We can clearly observe pretty linear relationship there.
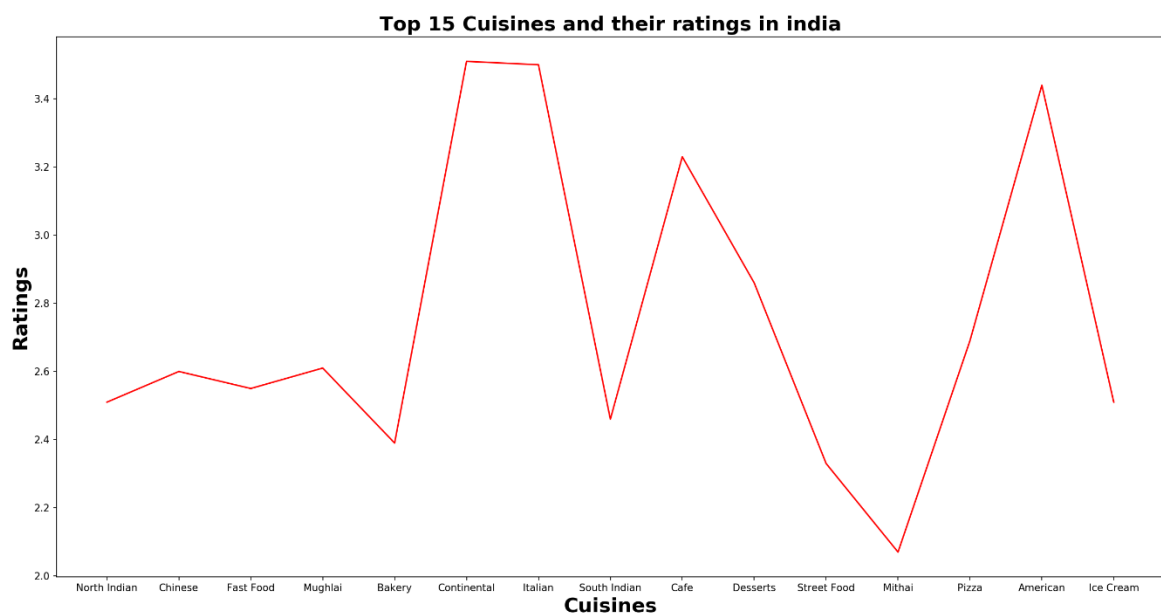
❖ **Restaurant serving more number of cuisines.**

➢ As per the above plot, we can conclude that the there is some linear relationship between the number of Cuisines serving by restaurants and the rating of that restaurants
➢ Ratings are increasing as in increase of Cuisines count in the restaurants.

❖ **Average Cost of Restaurant**

Rating vs Average Cost for two

➤ From the above plot, we can infer that, the mostly rating is higher for the restaurants with low Average cost of two.
➤ We can infer some kind of inverse relationship here.

❖ **Restaurant serving some specific cuisines.**

Top 15 Cuisines and their ratings in india

➤ The above plot will show us the top 15 cuisines in the India and their overall ratings.

➢ We can infer that, the Cuisines of Continental, Italian, Cafe, and American seems to be have higher average ratings.

∗ **Find the weighted restaurant rating of each locality and find out the top 10 localities with more weighted restaurant rating?**
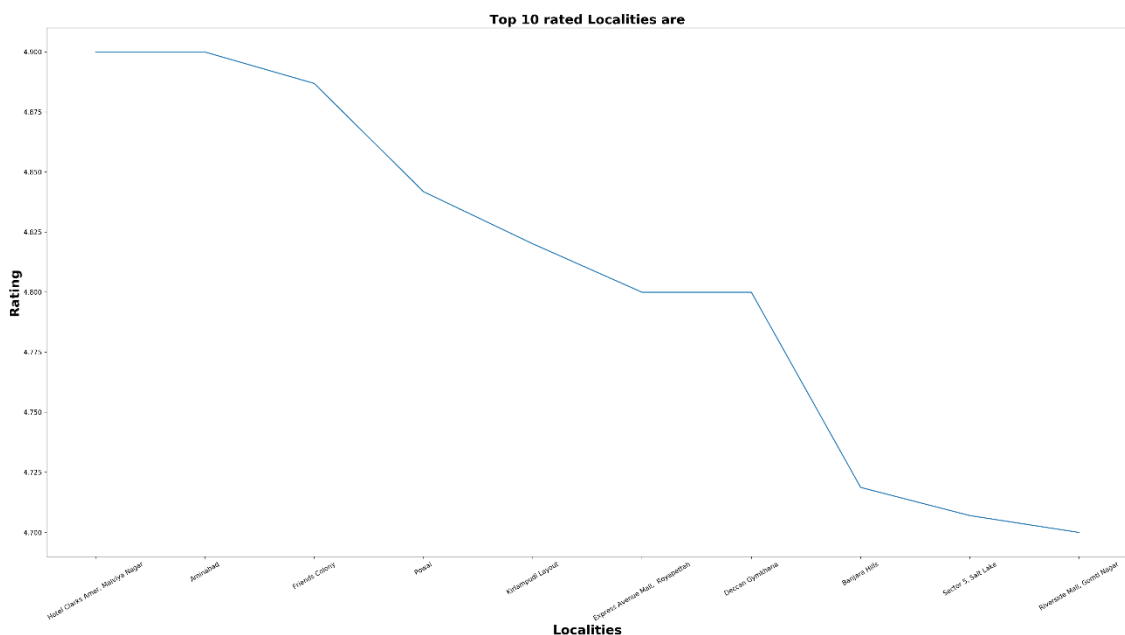   o   - Weighted Restaurant Rating=Σ (number of votes * rating) / Σ (number of votes).

➢ The top 10 localities and their average ratings are as below

```
_____   Top 10 rated Localities are   _____
-----------------------------------------------------------------------------------------

Hotel Clarks Amer, Malviya Nagar          |              4.90
Aminabad                                  |              4.90
Friends Colony                            |              4.89
Powai                                     |              4.84
Kirlampudi Layout                         |              4.82
Express Avenue Mall,  Royapettah          |              4.80
Deccan Gymkhana                           |              4.80
Banjara Hills                             |              4.72
Sector 5, Salt Lake                       |              4.71
Riverside Mall, Gomti Nagar               |              4.70
```
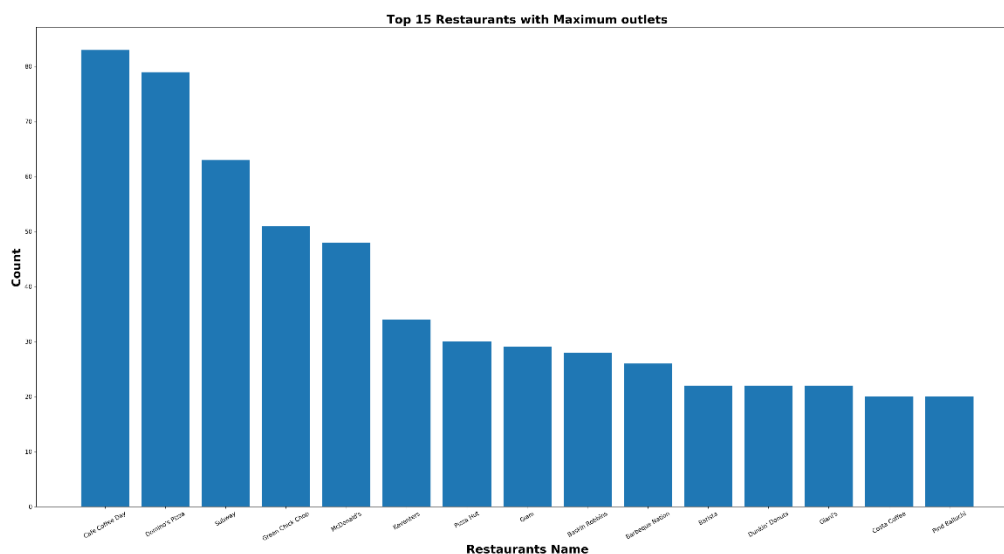
➢ Lets have look into the plot

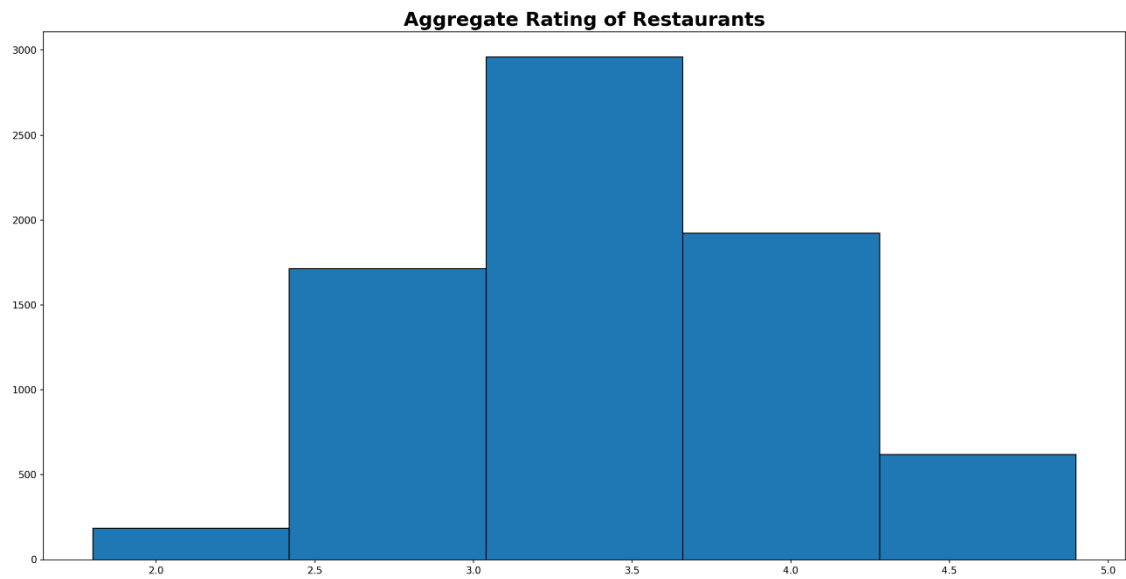➢ By considering the rating we can choose the localities on our preferences.

Question 3 :

* Plot the bar graph top 15 restaurants have a maximum number of outlets.
* Plot the histogram of aggregate rating of restaurant(drop the unrated restaurant).
* Plot the bar graph top 10 restaurants in the data with the highest number of votes.
* Plot the pie graph of top 10 cuisines present in restaurants in the USA.
* 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.

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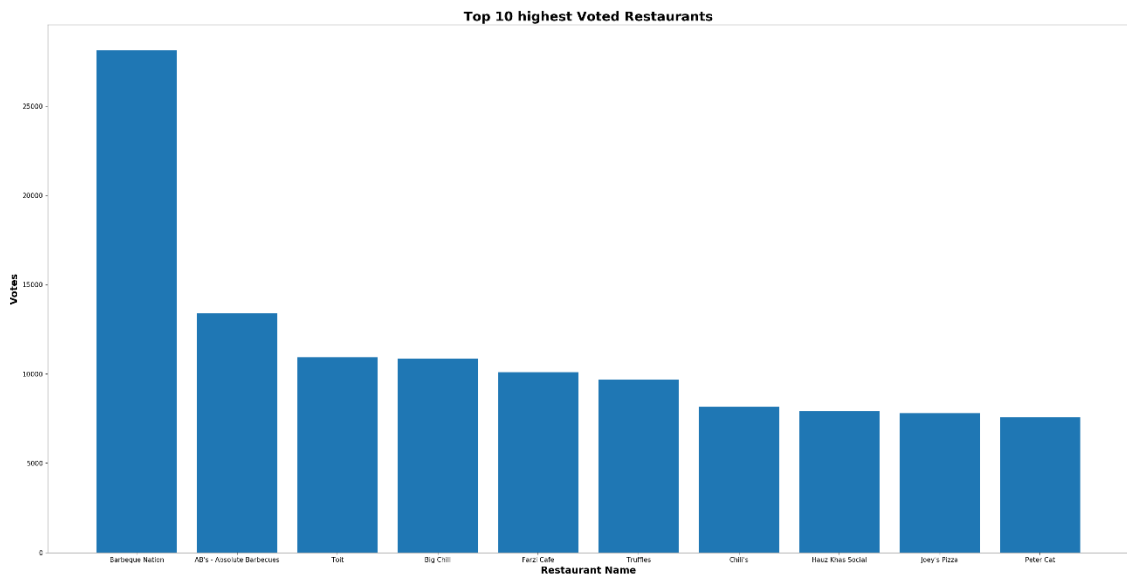

Top 15 Restaurants with Maximum outlets

➤ As we can see the Restaurants of 'Cafe Coffee Day', 'Domino's Pizza', 'Subway', 'Green Chick Chop','McDonald's', 'Keventers', 'Pizza Hut', 'Giani', 'Baskin Robbins',   'Barbeque Nation', 'Barista', 'Dunkin' Donuts', 'Giani's', 'Costa Coffee', 'Pind Balluchi' are the top 15 Restaurants with max outlets.

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

Aggregate Rating of Restaurants

➢ By looking in the above plot we can conclude that most of the restaurants have the rating in range of 3.1 to 3.7.

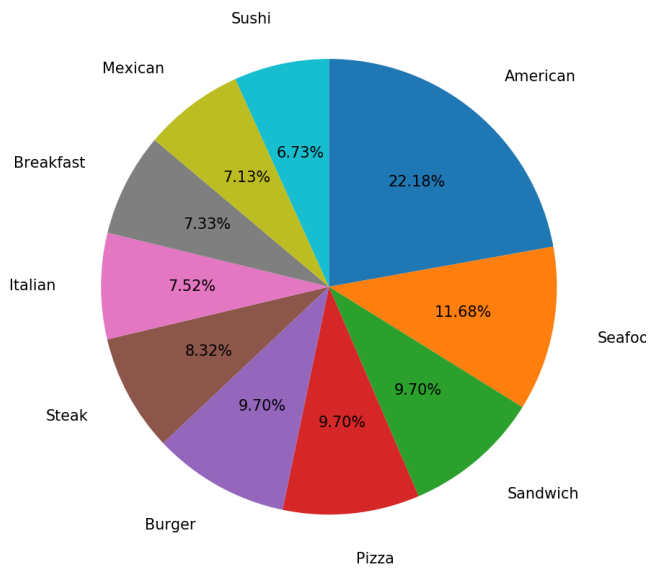❖ **Plot the bar graph top 10 restaurants in the data with the highest number of votes.**

Top 10 highest Voted Restaurants

➢ In the above plot we can see that the top restaurants 'Barbeque Nation', 'AB's - Absolute Barbecues', 'Toit', 'Big Chill','Farzi Cafe', 'Truffles', 'Chili's', 'Hauz Khas Social', 'Joey's Pizza' and 'Peter Cat' with having the highest number of votes .
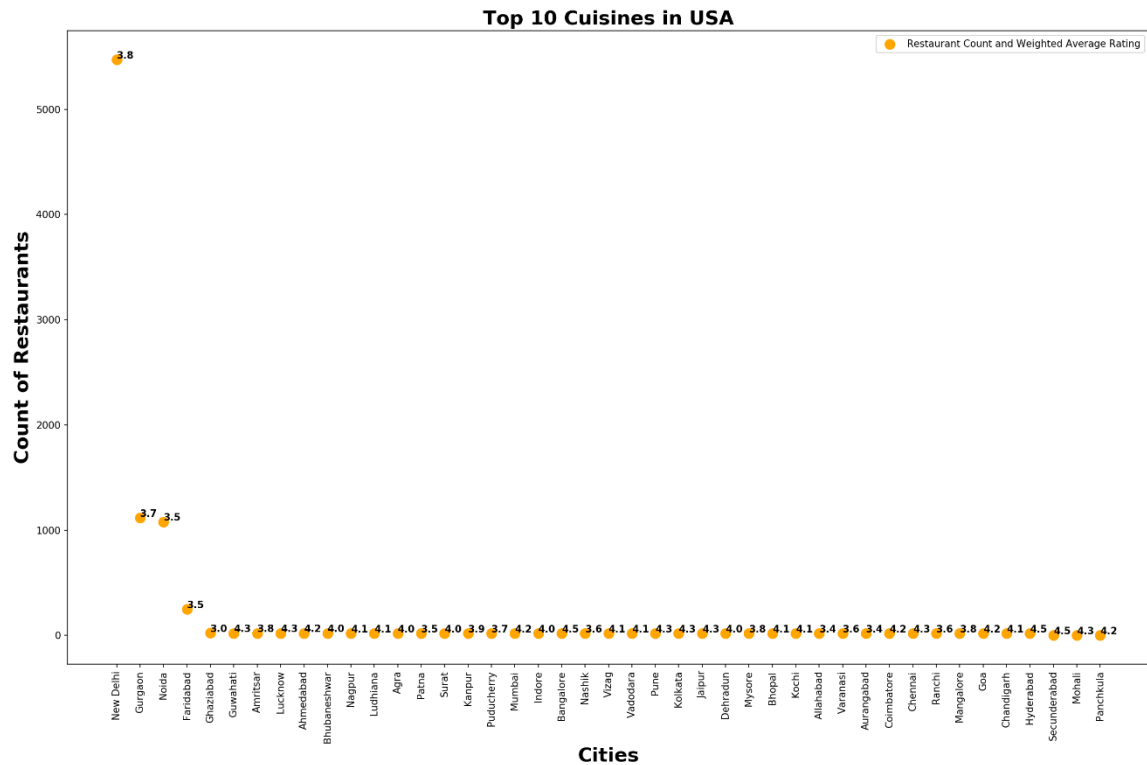
❖ **Plot the pie graph of top 10 cuisines present in restaurants in the USA.**

Top 10 Cuisines in USA

➢ Top 10 cuisines which are most served in USA are 'American', 'Seafood', 'Sandwich', 'Pizza', 'Burger', 'Steak', 'Italian', 'Breakfast', 'Mexican' and 'Sushi'

❖ **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.**

Top 10 Cuisines in USA

➢ We can see the count of restaurant that were present in each city of the India.
➢ We can see the Weighed average rating is also provided above the bubble