

Project: Zomato API

(Part - II)

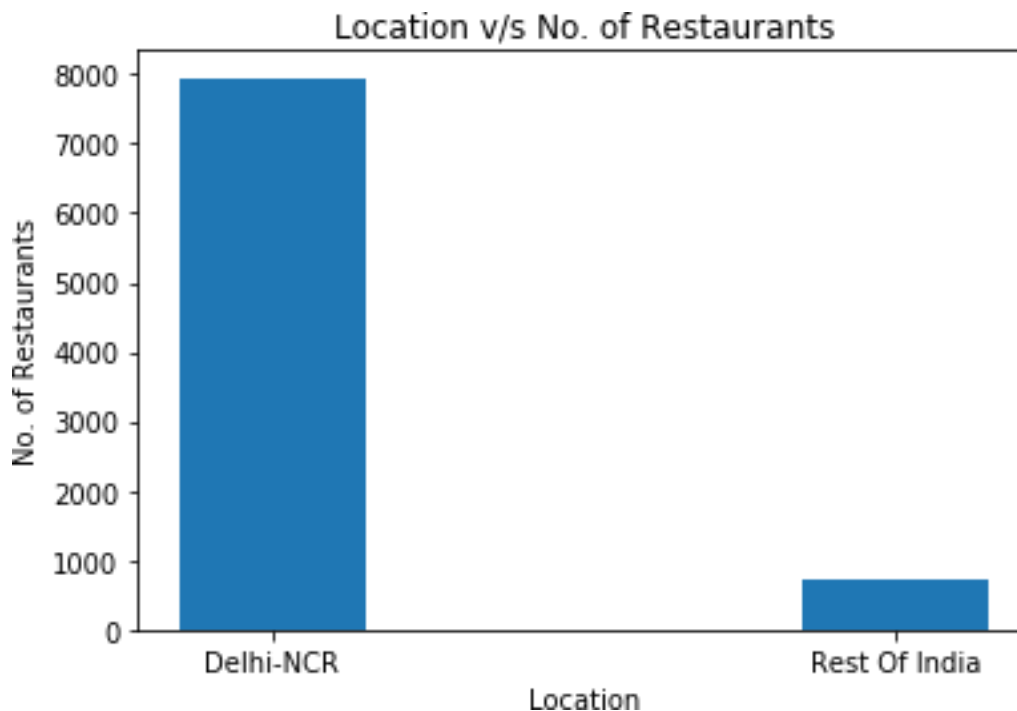
Plots and Explanation

by

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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.

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



Location	No. of Restaurants
Delhi-NCR	7947
Rest Of India	705

- It is the graph of the number of restaurants available in Delhi NCR and Rest of India.
- In the Delhi NCR the five cities comes under are New Delhi, Ghaziabad, Noida, Gurgaon, Faridabad.
- As we see from the graph that in Delhi NCR there are so many number of restaurants compare to rest of the India.
- So from graph we see that maximum Zomato restaurant present in Delhi NCR

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.

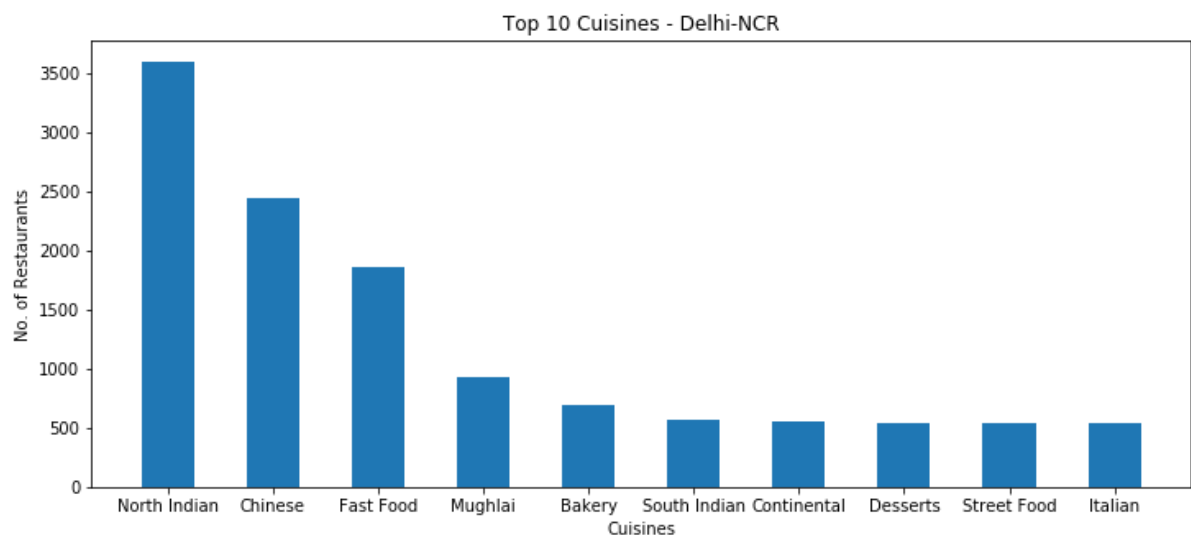
Result obtained from dataset

Cajun
German
BBQ
Malwani

Result obtained from Zomato API

BBQ
Malwani

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



TOP 10 CUISINES IN Delhi-NCR

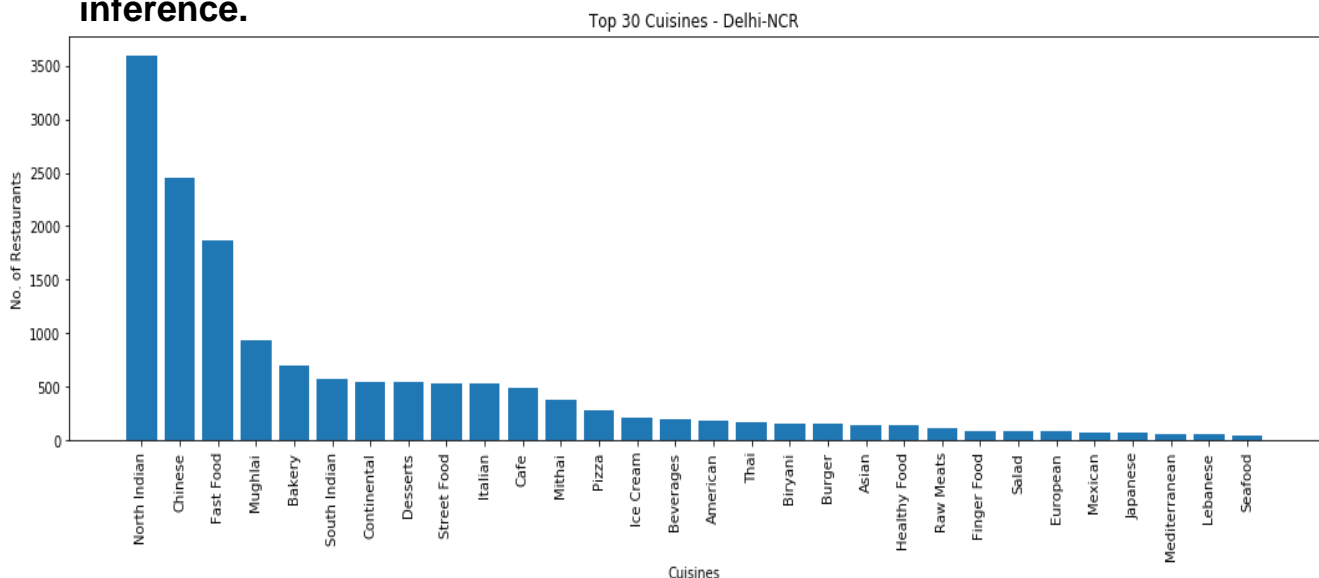
North Indian	3597
Chinese	2448
Fast Food	1866
Mughlai	933
Bakery	697
South Indian	569
Continental	547
Desserts	542
Street Food	538
Italian	535

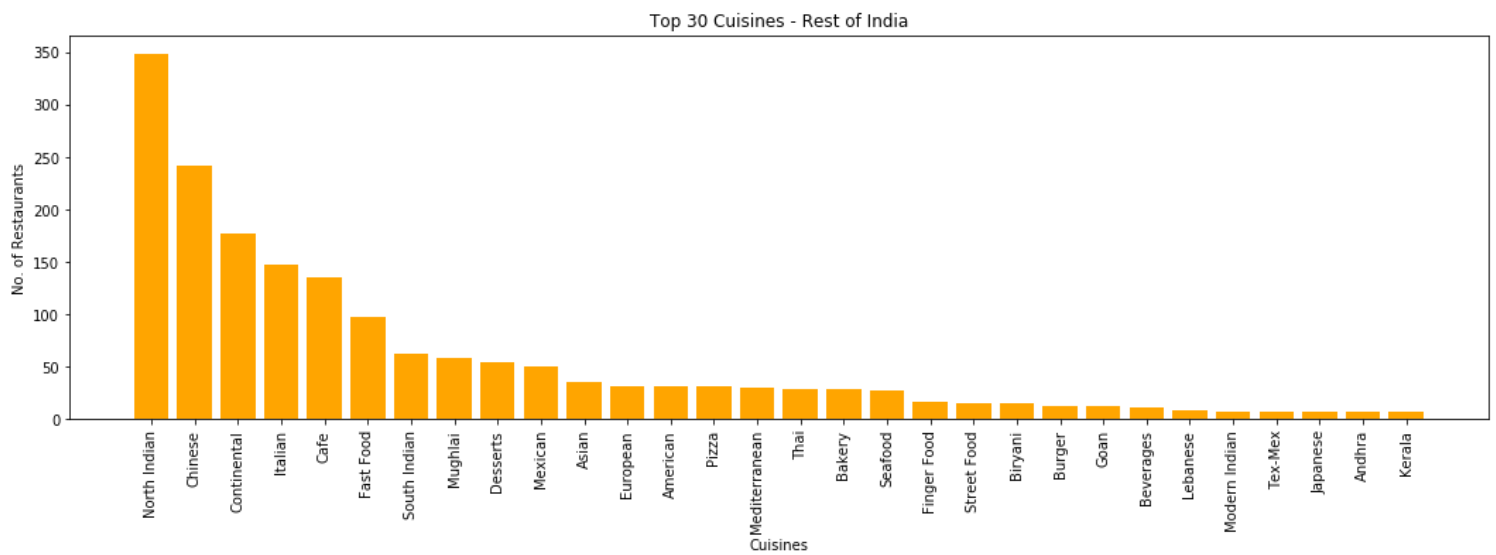
TOP 10 CUISINES IN Rest of India

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

- 1st graph for top 10 cuisines served maximum number of times in Delhi NCR and 2nd for top 10 cuisines served maximum number of time in Rest of India.
- North India is at top position in both and Chinese is at 2nd position. And at 3rd position there is Fast food in Delhi NCR and Continental in India.
- And most of the cuisines are same but the order is change.
- Bakery is at 5th position in Delhi NCR and not present in Rest of India.
- Mughlai is at 4th position in Delhi NCR and fall down 8th position in Rest of India.

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.





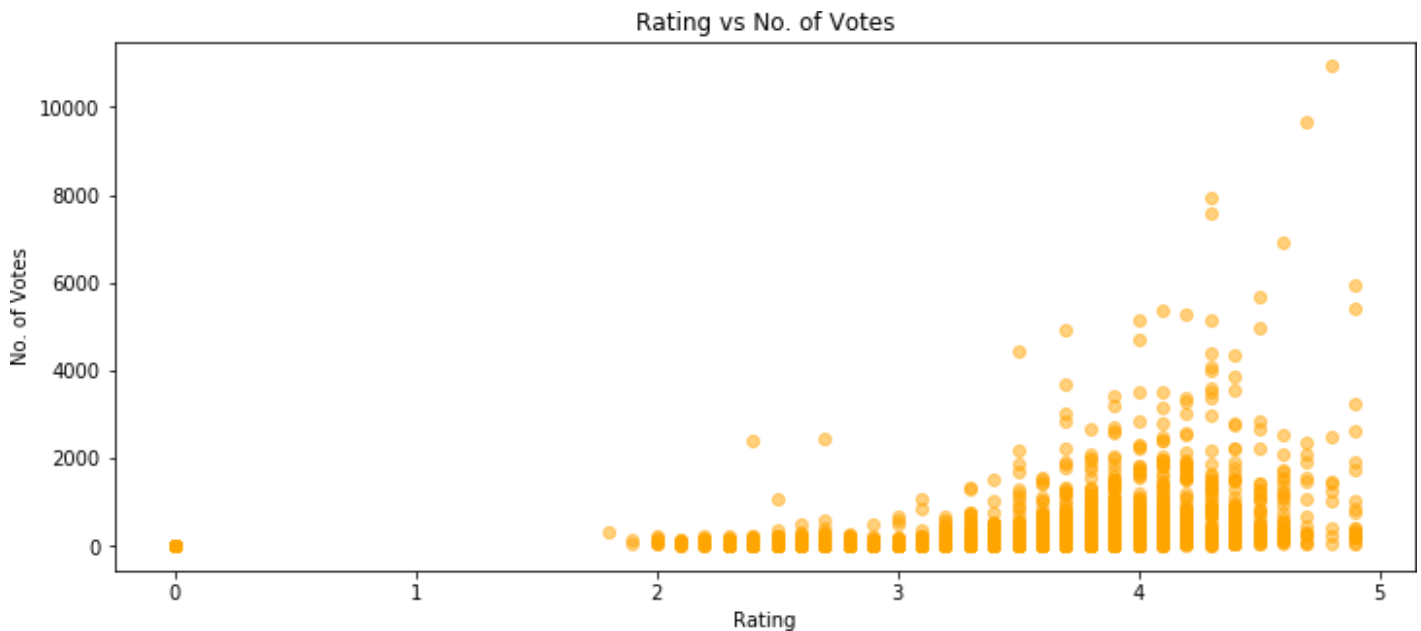
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- Mughlai is at 4th position in Delhi NCR and fall down 8th position in Rest of India.
- And most of the cuisines are same but the order is change

From the above graph we can infer that "North Indian" cuisine is the most popular among restaurants of Delhi_NCR as well as other states. Here I have plotted only those 30 important cuisines which are common in both Delhi-NCR and other states. There are some cuisines present in other states and are not present in any restaurant of Delhi-NCR. After 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. and there are many more cuisines as shown in the graph.

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

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

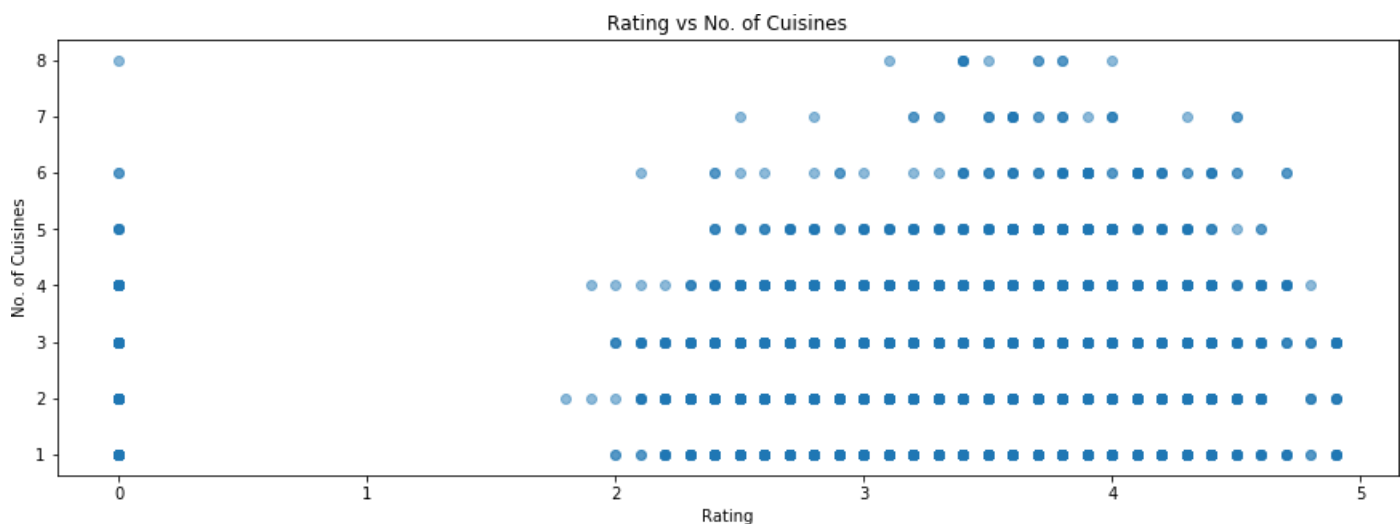
2.1.1 Number of Votes given Restaurant



- It is the graph between the vote's vs rating of all restaurants.
- As we see in the graph that as the number of votes is increasing to a restaurant then the correspondingly its rating is also increases.
- So, more the number of votes more is the rating of the restaurant.
- But most data lies in votes 0 to 2000 and rating 3 to 5

Clearly as the number of votes increases the chances of getting higher ratings also increases. It is clear from the graph that any restaurants with more than 5000 votes get ratings between 4 and 5. when the votes are less than 2000, there is a diversity of ratings, which varies from 2 to 5. so for a restaurant to have a probability of getting higher aggregate rating, it should have more than 5000 votes. Also there are many restaurants having votes between between 1000 and 2000 with very good ratings, that is between 4 and 5.

2.1.2 Restaurant serving more number of cuisines.

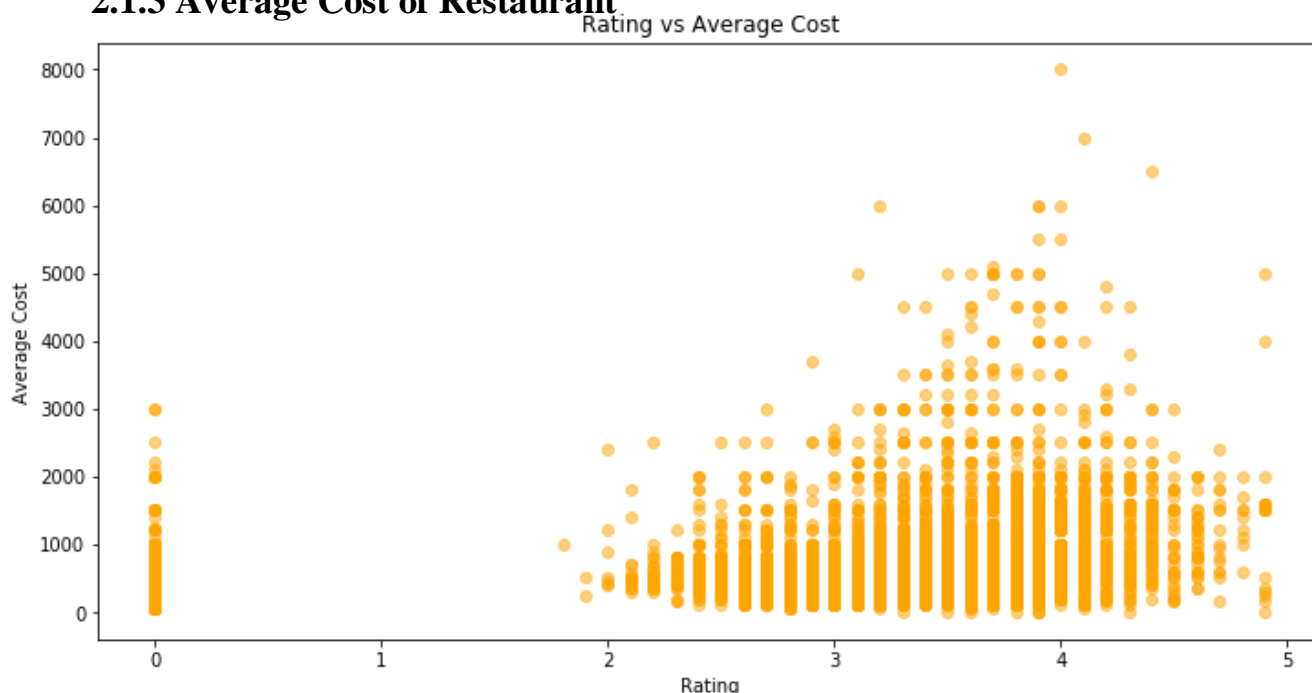


No of cuisines served	No. of restaurants serving given number of cuisines
2	3144
1	3097
3	1596
4	552
5	155
6	70
7	26
8	12

- It is the graph between the rating vs number of cuisines any restaurant has.
- We plot a graph to see is the rating depends upon the number of cuisines.
- So, from this plot we see that things that how the rating is depend upon the number of cuisines each restaurant have.

From the graph itself, it is clear 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, specially 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. Infact 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.

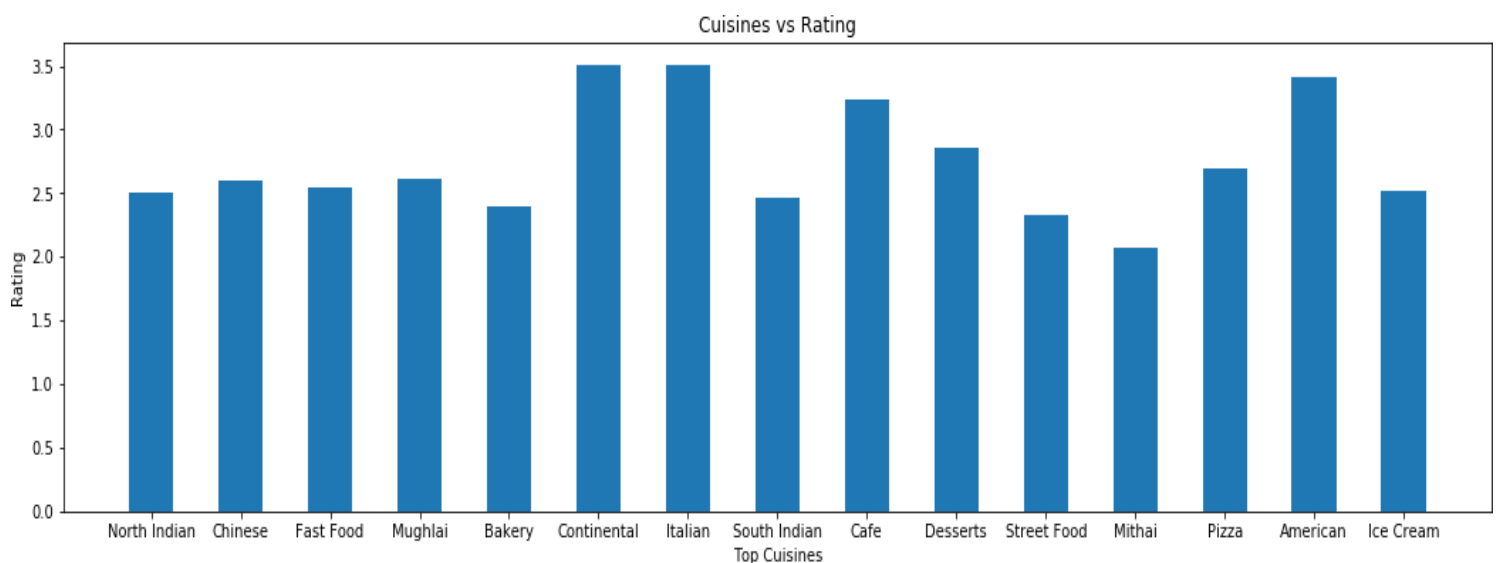
2.1.3 Average Cost of Restaurant



- Graph is between Average cost and rating for India and second for Delhi
- By the graph it we conclude that most of the restaurant having rating 2.5 to 5 and cost 0 to 2000.

As the average cost goes in between 2000, to 6000, it seems like the food is not worth the money because in that case the average rating is generally between 3 and 4. whereas when the average cost is between 1000 to 2000, the rating varies from 3 to 4.5 mostly. But for the higher price ranges the rating is between 3 and 4

2.1.4 Restaurant serving some specific cuisines.

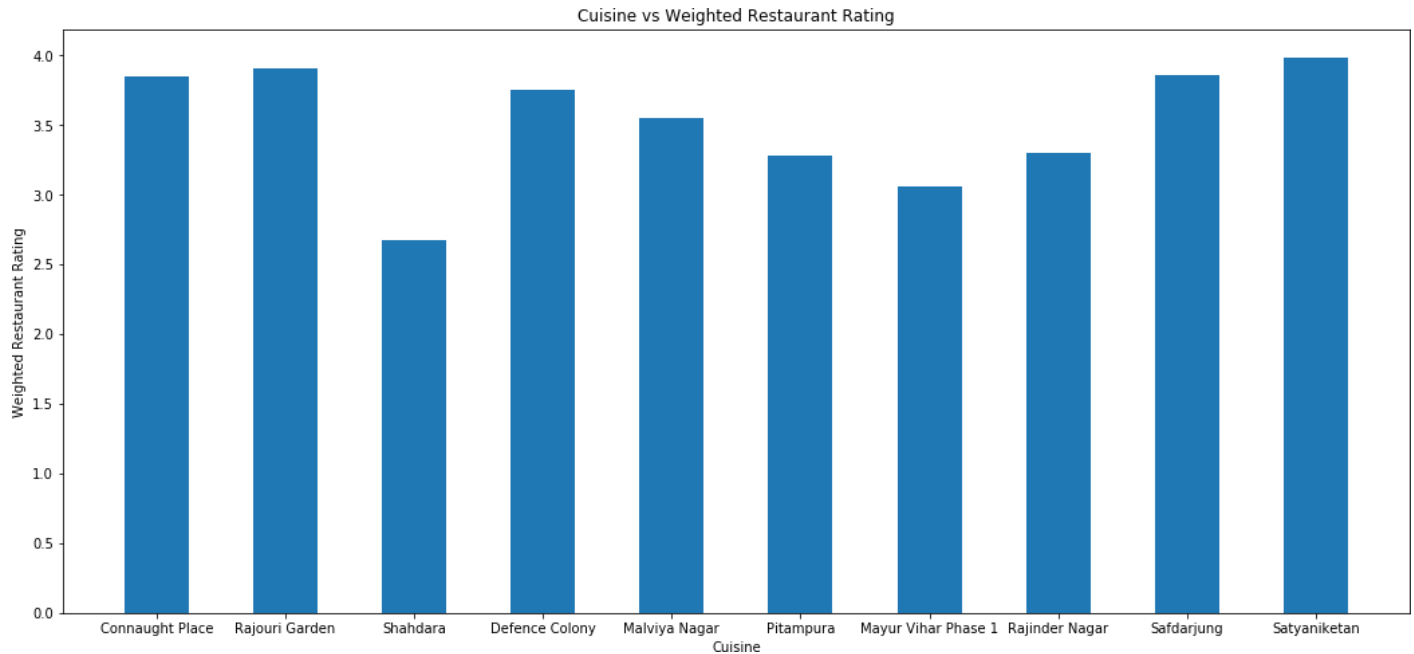


- These are top 15 cuisines that served maximum number of time all the restaurant.
- Calculated average rating for top cuisines and most of the cuisines having good average rating and American cuisines is at top.

These are top 15 cuisines that served maximum number of time all the restaurant. Calculated average rating for top cuisines and most of the cuisines having good average rating and American cuisines is at top. From above graph we can see restaurant serving Cuisine 'Italian','Continental','American' have more average rating compared to other cuisine

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

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

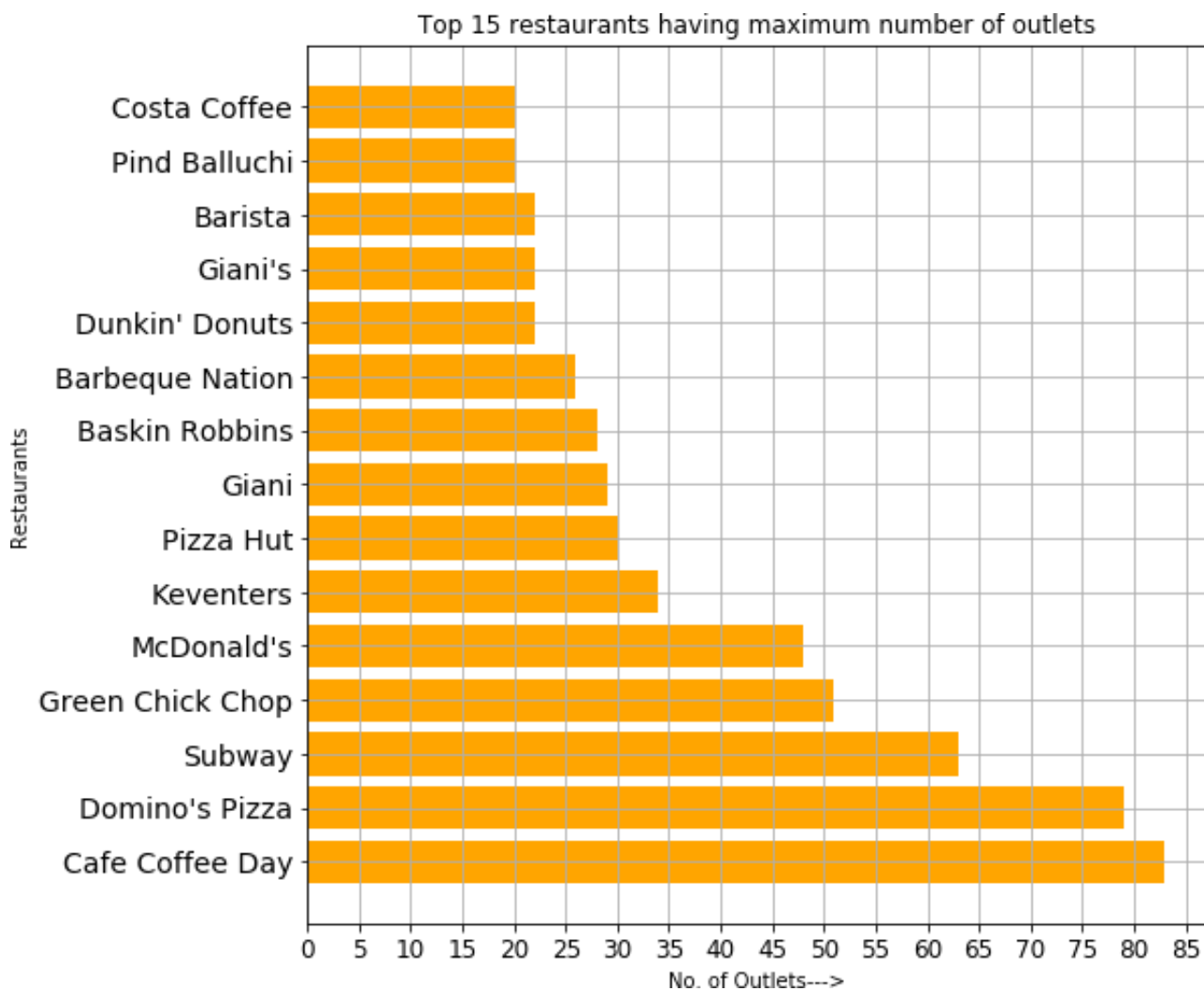


Connaught Place
Rajouri Garden
Shahdara
Defence Colony
Malviya Nagar
Pitampura
Mayur Vihar Phase 1
Rajinder Nagar
Safdarjung
Satyaniketan

- Calculated weighted restaurant rating for all the locality Draw graph for top 10 in each.
- By graph we can see that top 10 locality having good weighted restaurant rating.

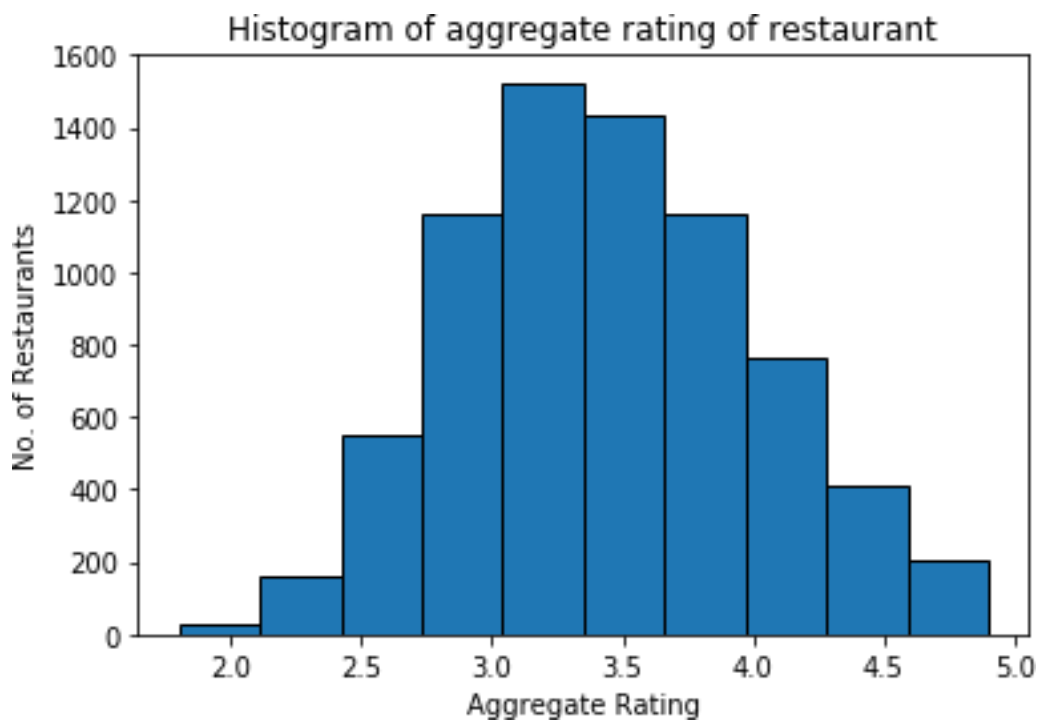
3. Visualization

1. 3.1 Plot the bar graph top 15 restaurants have a maximum number of outlets.



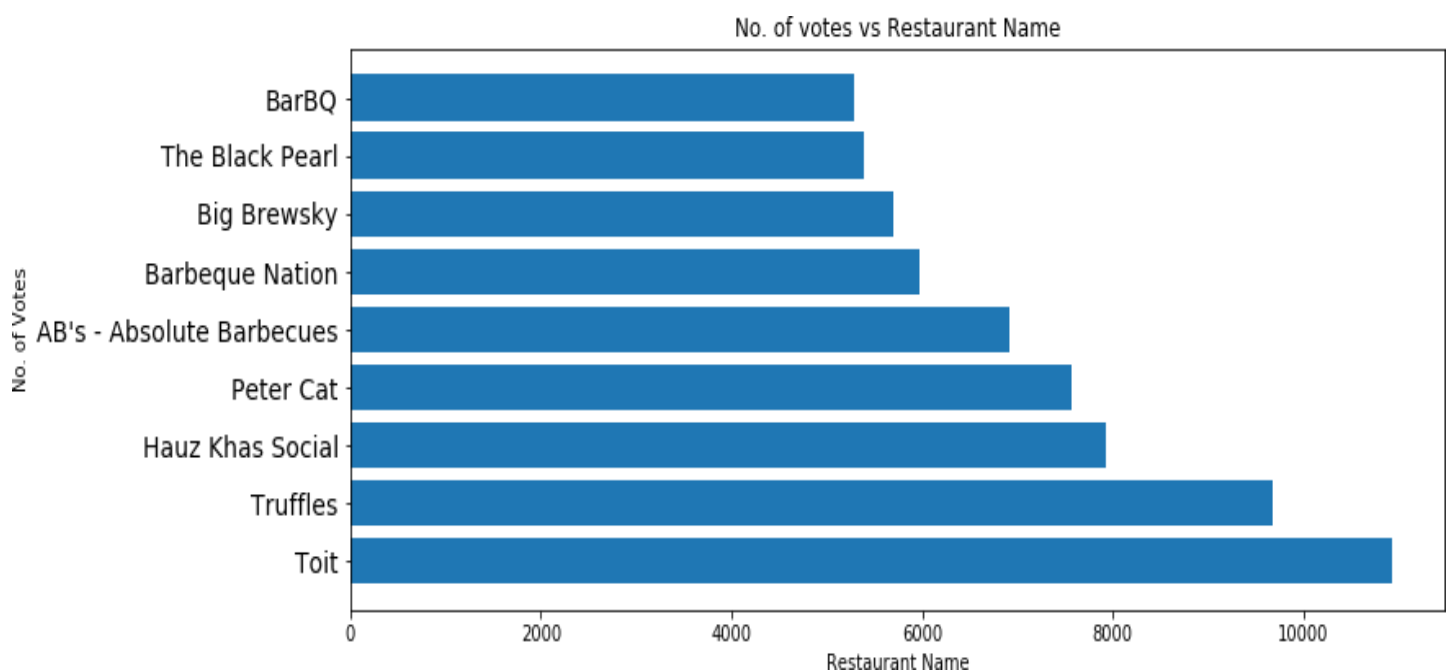
- These are the top 15 restaurant that have maximum outlets.
- Café coffee is at 1st position and have more than 80 outlets.

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



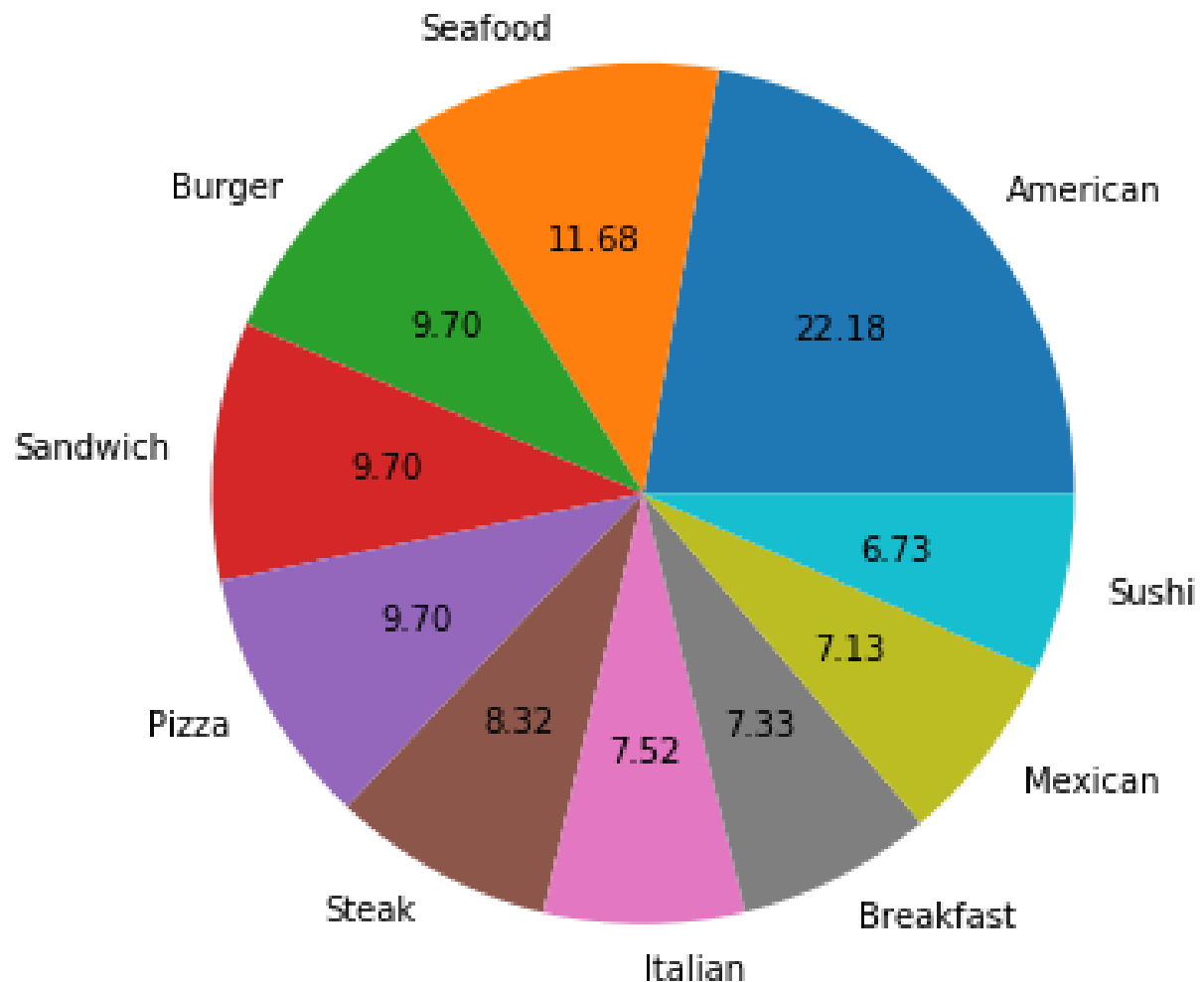
- Histogram graph between aggregating rating and number of votes.
- Restaurant having Aggregate rating 3 to 4 have more number of votes.

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



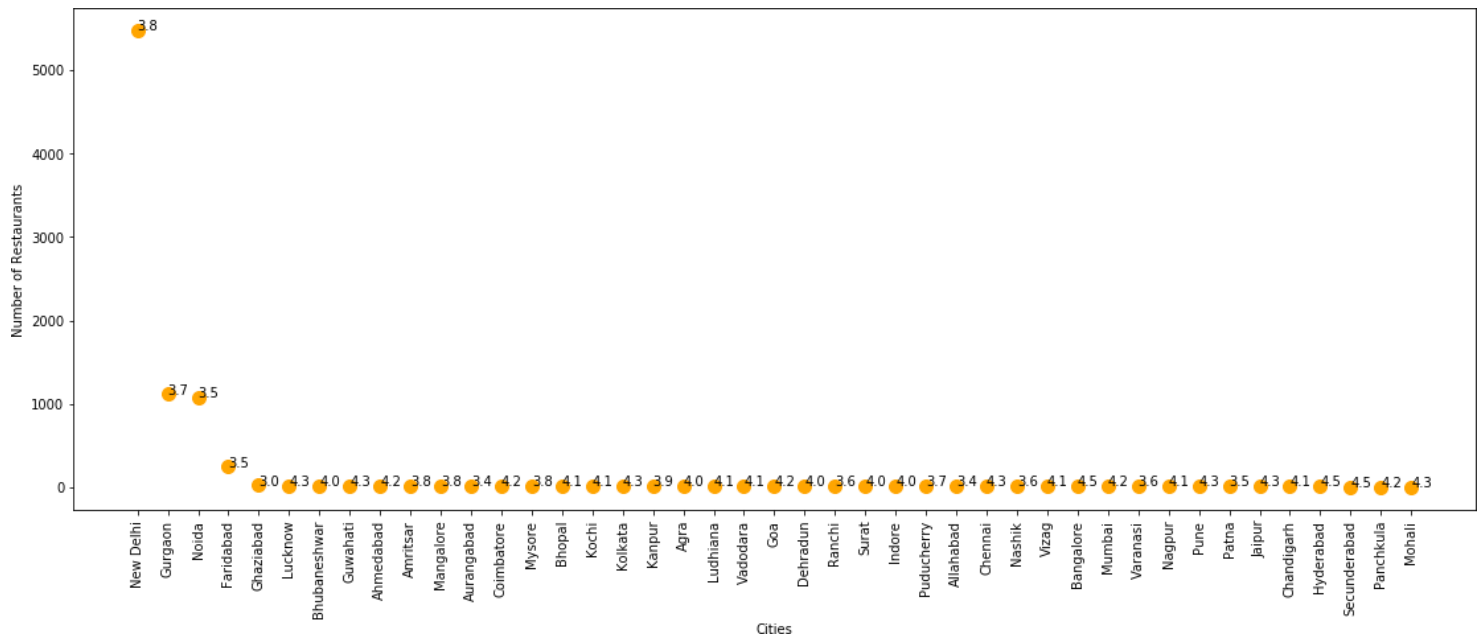
- It is the graph between top 10 restaurants having highest number of votes.
- As we see from the graph Toit is the restaurant having maximum number of votes.

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



- It is pie chart representing top cuisines in USA.
- It is representing the top cuisines means which is available in more number of restaurants.
- As we see from the pie chart that American cuisine at highest in the pie chart which means this cuisine is available in more number of restaurants.

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.



- It is the graph between the number of cities vs the number of restaurants.
- In this graph represent each city of India have how many number of restaurants in it.
- So from graph we observe that New Delhi has the maximum number of restaurants.
- And it's the Bubble Graph.
- In which I put all the weighted restaurant rating in the bubble.