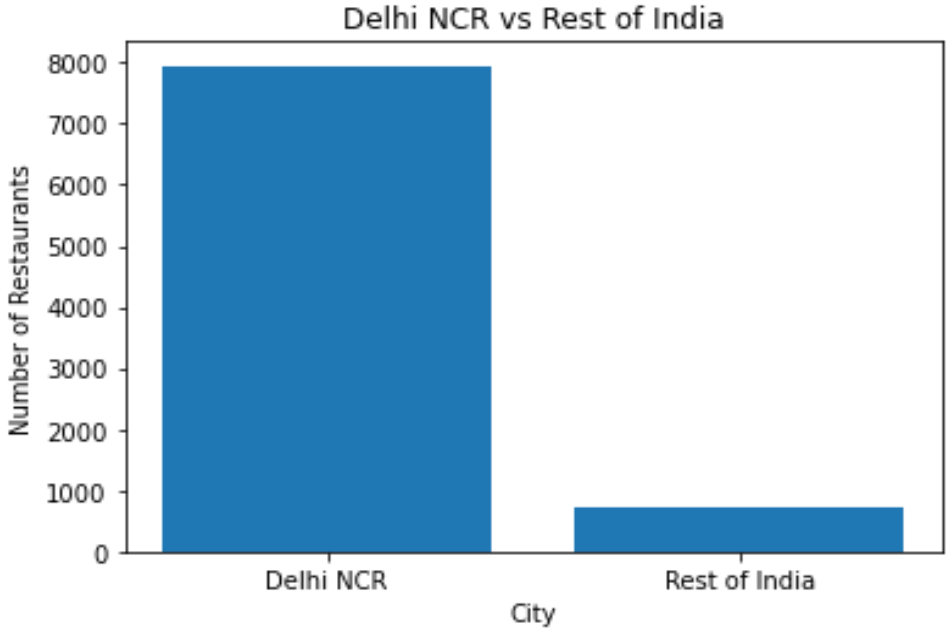
Project: Zomato API – II

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.**

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

Solution:



   b) **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.**

Solution:

Cuisines which is present in Rest of India but not in Delhi NCR
(Using Dataset):

- ➔ Malwani
- ➔ German
- ➔ BBQ

➔ Cajun

Cuisines which is present in Rest of India but not in Delhi NCR (Using API):

➔ Cajun
➔ German
➔ Charcoal Grill
➔ Indian

It is clear from the above list that indeed there are few dishes like Malwani and BBQ which are present in Delhi NCR (concluded from the API) but are not present in Delhi NCR according to the dataset, hence, it is valid to conclude that dataset is not exactly compliant with the API's in these cases.

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

Solution:

Top 10 cuisines by their frequency in Delhi NCR:

➔ North Indian
➔ Chinese
➔ Fast Food
➔ Mughlai
➔ Bakery
➔ South Indian
➔ Continental
➔ Desserts
➔ Street Food
➔ Italian

Top 10 cuisines by their frequency in Rest of India:

➔ North Indian
➔ Chinese
➔ Continental
➔ Italian
➔ Café
➔ Fast Food
➔ South Indian
➔ Mughlai
➔ Desserts
➔ Mexican

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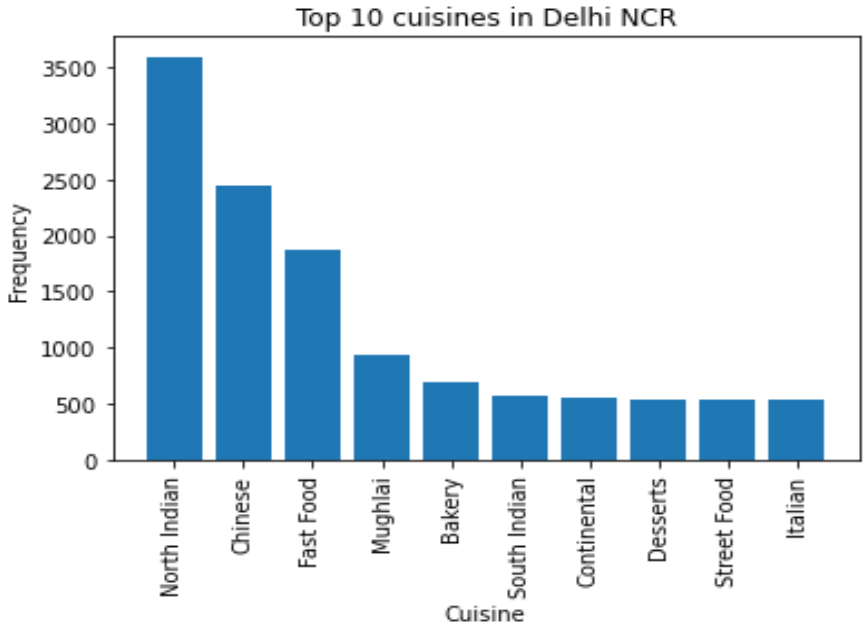
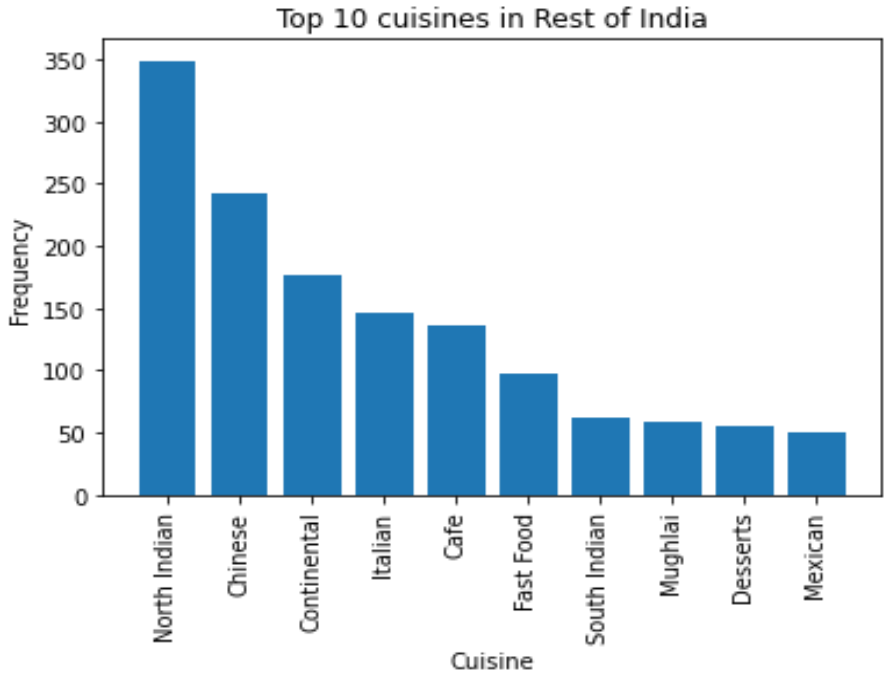
d) Write a short-detailed analysis of how cuisine served is different from Delhi NCR to Rest of India. Plot the suitable graph to explain your inference.

Solution:





From the above 2 graphs, there aren't many differences in eating habits of Delhi-NCR and Rest of India, while North-Indian, Chinese, South Indian, Desserts and Fast-Food cuisines are liked by people of both divisions, Rest of India has higher liking with Continental and Mexican as compared to Delhi NCR region.

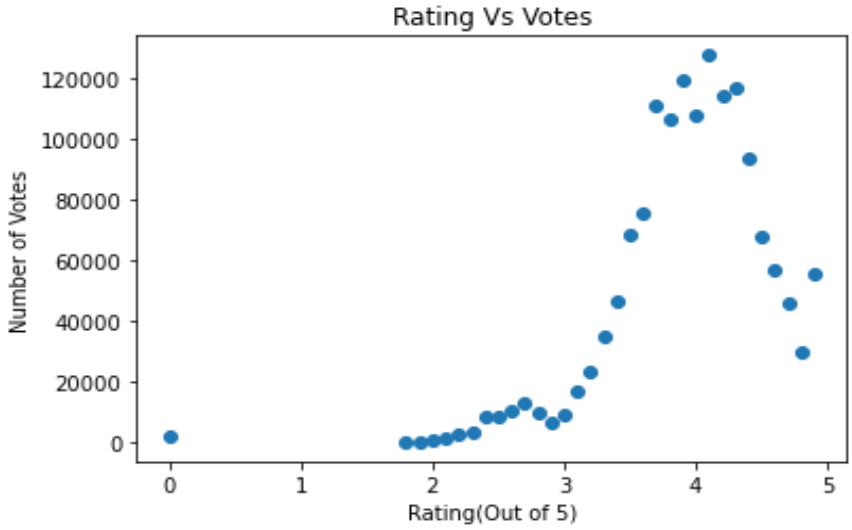
While Café is generally an option for Rest of India, it is mostly replaced by Bakery in Delhi-NCR.

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

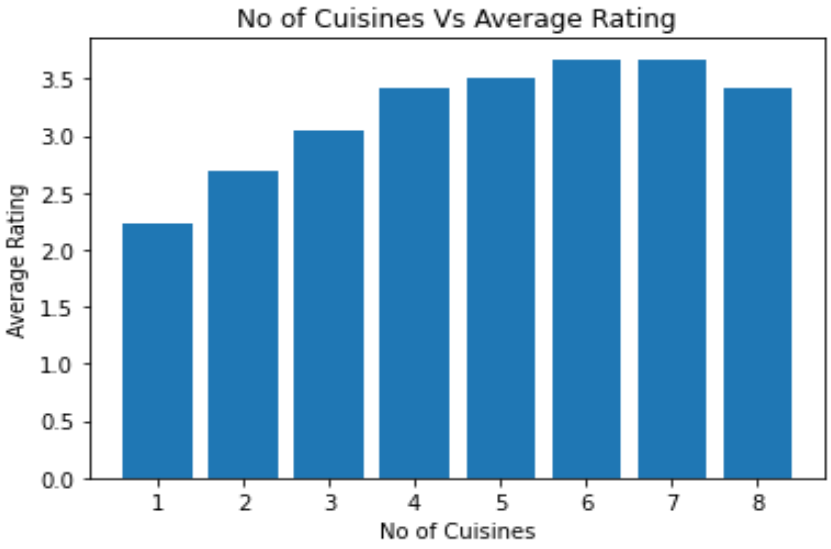
Solution:



Though, there is no natural and well-defined trend with respect to the rating and votes but, apparently from the graph, the rating is generally higher when the number of votes given to that restaurant increases. For example, highest votes have a rating in range of 3.5 to 5.

2.2.2) Restaurant serving more number of cuisines.

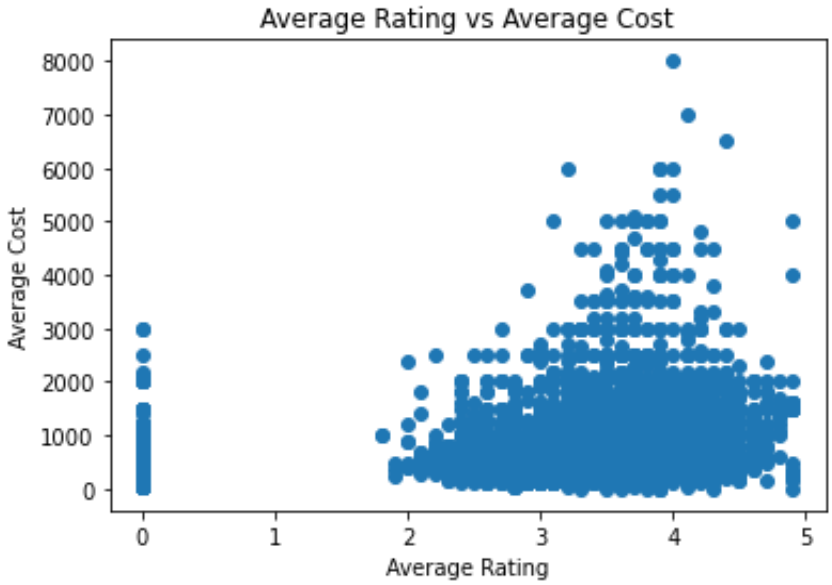
Solution:



The most obvious conclusion that comes out of the following graph is that as the number of Cuisines increases in the restaurant, there is higher chances for the average rating to go higher, but then, there is an exception to it, that is 8 no of cuisines, so valid conclusion could be though the cuisines effect the average rating but it is not directly proportional to each other hence, the restaurants must be smart to include the cuisines which are most desirable.

2.2.3) Average Cost of Restaurant

Solution:



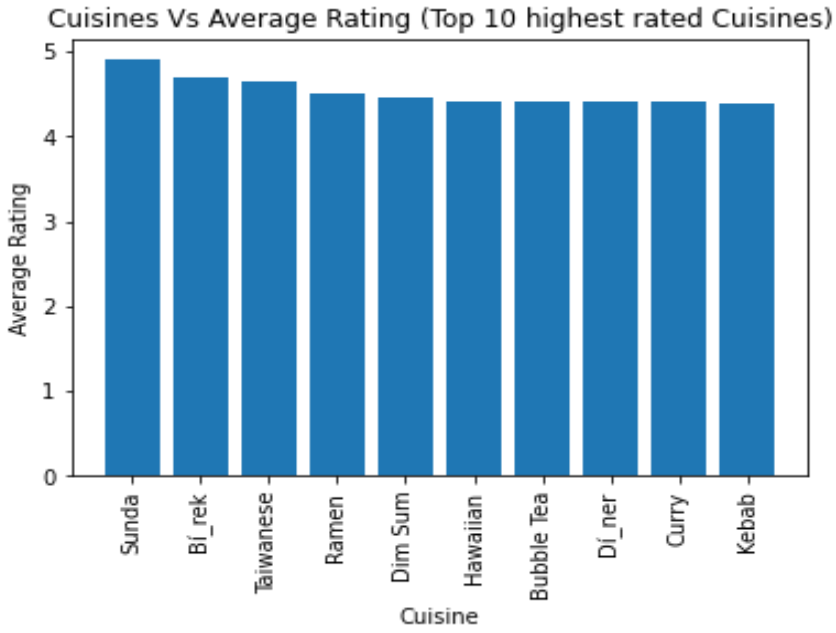
Leaving aside the outliers, it is evident that the biggest cluster for ratings from 3.5 to 5 are in the price range of 500 to 2000, hence, the rating has quite a good relation with the price range. In general, Indians assume economy as a major factor while giving rating.

P.S: The data is only of India because there is a chance of the difference in currency rates in different countries, hence analysis of just one country makes it easier to analyse.

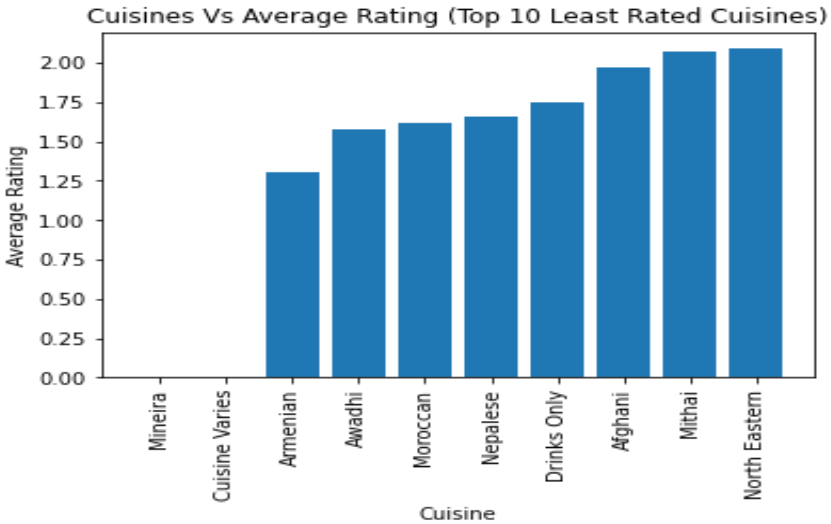
2.2.4) Restaurant serving some specific cuisines

Solution:

Top 10 highest rated Cuisines:



Top 10 Least rated Cuisines:

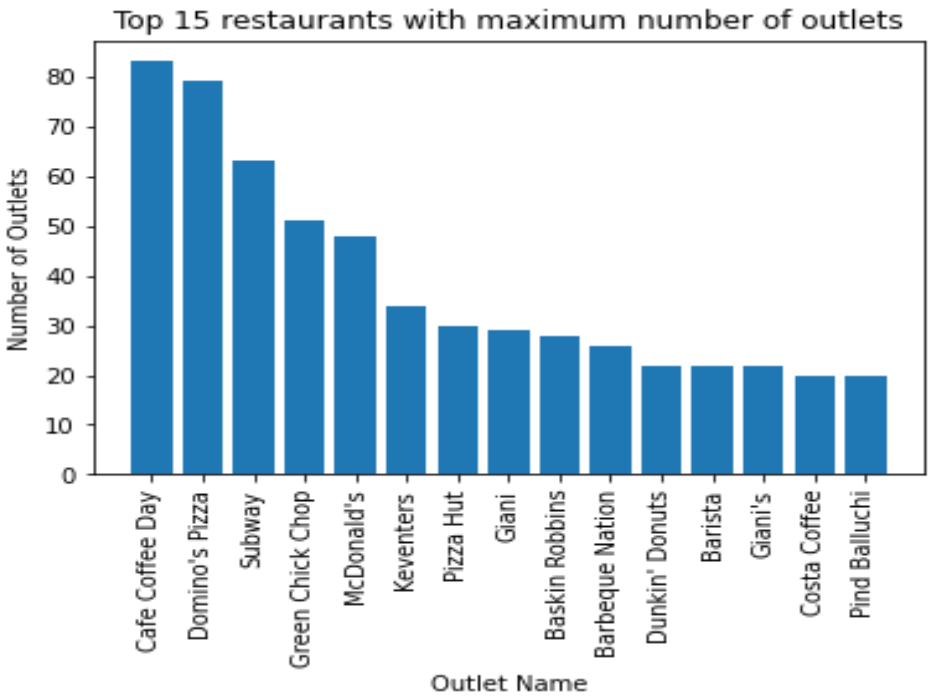


Though, data could be skewed because of the presence of less no of rating of some cuisines and high number of rating of other cuisines but in general, the least 10 cuisines show a trend that cuisines which are generally not part of main course for example Drinks, Mithai, etc are not highly rated cuisines.

3. Visualizations

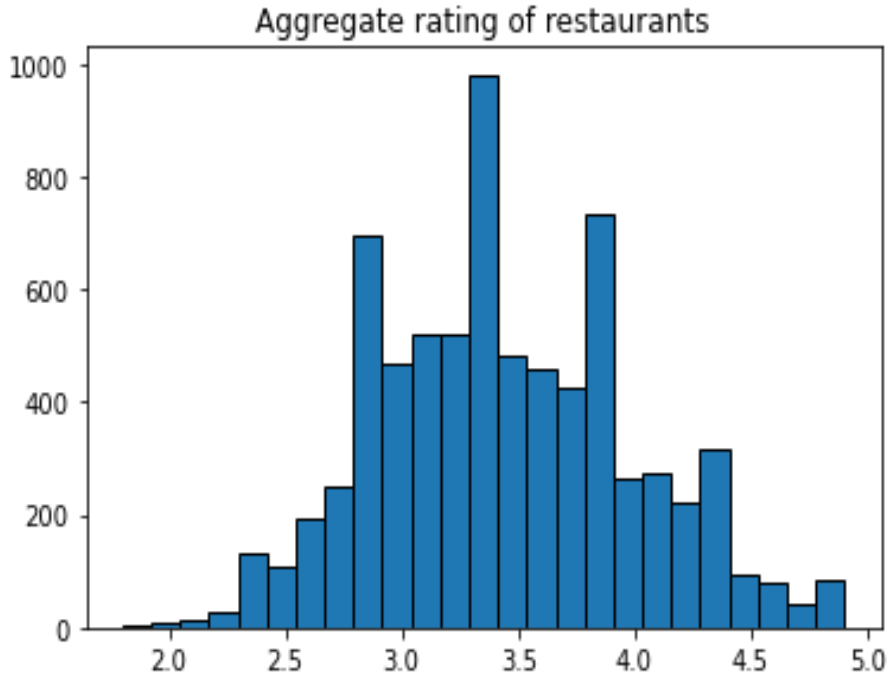
3.1) Plot the bar graph top 15 restaurants have a maximum number of outlets.

Solution:



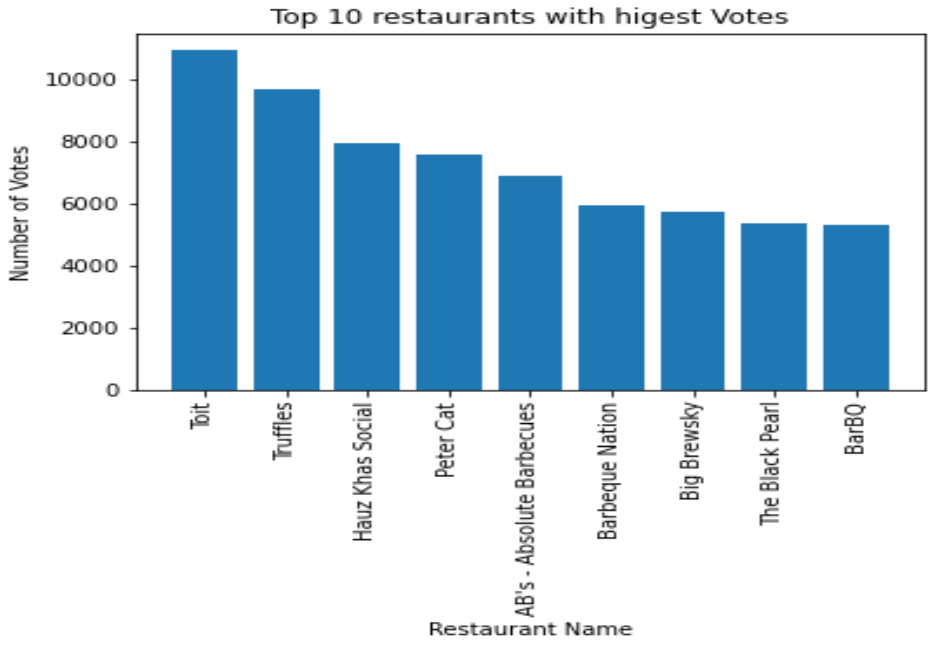
3.2) Plot the histogram of aggregate rating of restaurant (drop the unrated restaurant).

Solution:



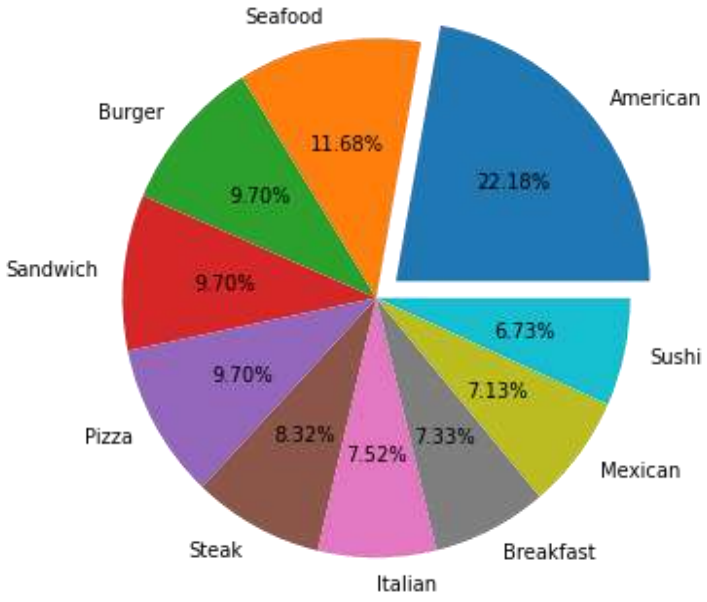
3.3) Plot the bar graph top 10 restaurants in the data with the highest number of votes.

Solution:



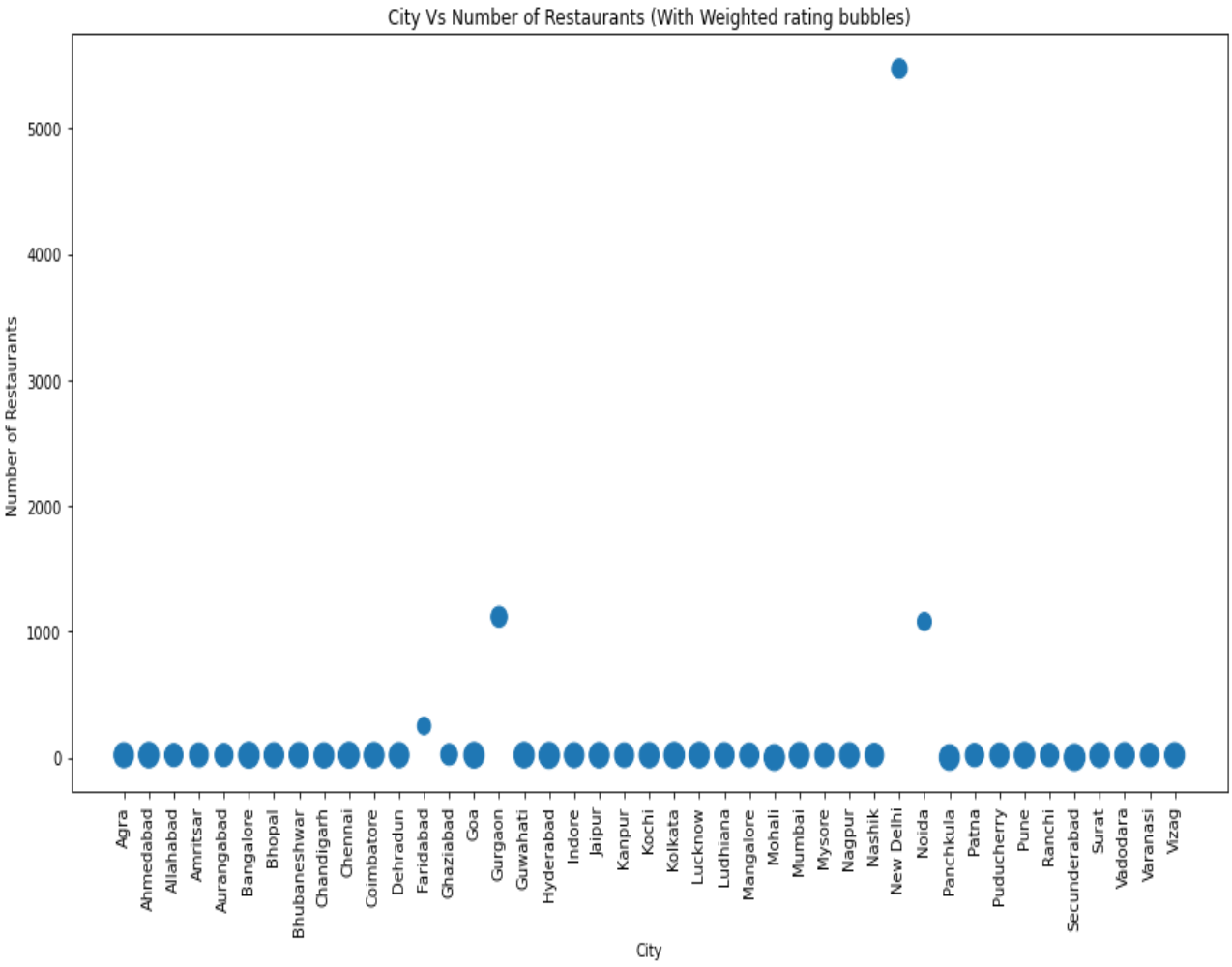
3.4) Plot the pie graph of top 10 cuisines present in restaurants in the USA.

Solution:



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.

Solution:



Note: The explanations to these answers could be easily taken from the. ipynb file attached alongside this pdf file.

For any T.A. correcting this, any feedback would be appreciated before deducting marks at the time of evaluation.