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Mini Project Report

On

Zomato Restaurant Analysis

By

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ABSTRACT

Online food delivery has become an inseparable part of our lives now. Every other we look to order something or the other to eat from Zomato. Being cautious and improve safety is not a simple instruction anymore. Every day there is a new offer on some or the other restaurant and we have so much to choose from now that we can't decide anything at all.

In our project we will be analyzing various things such as:-

- a. Which franchise has the highest number of restaurants on Zomato?
- b. How many Restaurants are accepting online orders?
- c. How many Restaurants have a book table facility?
- d. Which location has the highest number of Restaurants?
- e. How many types of Restaurant types are there?
- f. What is the most liked Restaurant type?
- g. What is the Average cost for 2 persons at a particular restaurant?
- h. What is the most liked cuisine type?

Dataset details

1. Name of Dataset: indian_restaurants_details
2. Dataset Size: 224520 Rows and 17 Columns (180 MB).
3. Dataset format: Comma separated value file (CSV).
4. Description: Data in this dataset belongs to "Zomato Media Private Limited". Basically the data has all the Zomato restaurants with their ratings, votes and other crucial data attributes to do research work.

indian_restaurants_details_cleaned_data - Excel																					
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A1 X ✓ fx zomato_url																					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	zomato_id	name	city	area	rating	rating_count	telephone	cuisine	cost_for_two	address	timings	online_or_table_reservation	delivery	famous_dishes	longitude	latitude					
2	https://www.zomato.com/india/restaurant/210112486/	Delhi	NCR	Pandav Nagar	3.2	21 011 22486	North Indian	300	C 4/1, Opp	Mon: [0, 0]	FALSE	FALSE	FALSE	Penne	73.18429	19.20589					
3	https://www.zomato.com/india/restaurant/5149195613/	Mumbai	Ambernath		3.6	51 +91 95613	Street Food	500	Shop 14, T	Mon: [0, 0]	FALSE	FALSE	FALSE	Chana Ma	77.29122	28.56303					
4	https://www.zomato.com/india/restaurant/9198918/	Delhi	NCR	Jasola		+91 98918	North Indian	250	4, Okhla B	Mon: [0, 0]	FALSE	FALSE	FALSE		77.2183	28.64241					
5	https://www.zomato.com/india/restaurant/9196700/	Delhi	NCR	Paharganj		+91 96700	North Indian	300	121, Amrit	Mon: [1, 1]	FALSE	FALSE	FALSE		77.2183	28.64241					
6	https://www.zomato.com/india/restaurant/7849184428/	Kolkata	Shibpur		3	78 +91 84428	Italian, Piz	500	523, G.T.R	Mon: [1, 1]	TRUE	FALSE	FALSE		88.33071	22.57776					
7	https://www.zomato.com/india/restaurant/9170655/	Delhi	NCR	Sector 17, Faridabad		+91 70655	North Indian	300	Booth 100	Mon: [0, 0]	TRUE	FALSE	FALSE		77.32789	28.41016					
8	https://www.zomato.com/india/restaurant/9193195/	Delhi	NCR	Mahipalpur		+91 93195	Chinese, Ital	200	K 2, Mata	Mon: [0, 0]	FALSE	FALSE	FALSE		77.12932	28.54143					
9	https://www.zomato.com/india/restaurant/9449198202/	Mumbai	Kharghar		3.5	94 +91 98202	Chinese	200	Shop 32, H	Mon: [0, 0]	TRUE	FALSE	FALSE	Momos, L	73.06553	19.03339					
10	https://www.zomato.com/india/restaurant/3149199998/	Delhi	NCR	Vaishali		31 +91 99998	Italian, Fast	500	15, Sector	Mon: [0, 0]	TRUE	FALSE	FALSE		77.33703	28.63884					
11	https://www.zomato.com/india/restaurant/43700112279/	Delhi	NCR	Mayapuri Vihar		437 00 112279	North Indian	500	P-35-36, C	Mon: [0, 0]	TRUE	FALSE	FALSE	Tandoori	77.29276	28.6082					
12	https://www.zomato.com/india/restaurant/9249191672/	Mumbai	Goregaon		4.4	92 +91 91672	North Indian	550	Shop 6, M	Mon: [0, 0]	TRUE	FALSE	FALSE	Kadhai Pa	72.86988	19.17559					
13	https://www.zomato.com/india/restaurant/9198830/	Delhi	NCR	Rohini		+91 98830	Fast Food	150	Opposite	Mon: [0, 0]	FALSE	FALSE	FALSE		77.11737	28.74482					
14	https://www.zomato.com/india/restaurant/7749199996/	Delhi	NCR	Rohini		77 +91 99996	Healthy Food	500	F - 10/18,	Mon: [0, 0]	TRUE	FALSE	FALSE		88.3147	22.4748					
15	https://www.zomato.com/india/restaurant/4249195999/	Delhi	NCR	Prashant Vihar		42 +91 95999	Chinese, Ital	600	Shop 76, C	Mon: [0, 0]	TRUE	FALSE	FALSE		77.12973	28.73501					
16	https://www.zomato.com/india/restaurant/35503325787/	Kolkata	Baranagar		2.8	355 033 25787	North Indian	650	144, B.T.R	Mon: [0, 0]	TRUE	FALSE	FALSE	Tandoori	88.37742	22.65243					
17	https://www.zomato.com/india/restaurant/4149195999/	Delhi	NCR	Palam		41 +91 95999	Chinese, Ital	500	Opposite	Mon: [0, 0]	TRUE	FALSE	FALSE		77.08204	28.60123					
18	https://www.zomato.com/india/restaurant/10449198111/	Delhi	NCR	Hauz Khas		104 +91 98111	Italian, Coffee	2000	2nd Floor,	Mon: [0, 0]	FALSE	FALSE	FALSE	Mocktails	77.19494	28.55449					
19	https://www.zomato.com/india/restaurant/27130116103/	Delhi	NCR	Punjabi Bagh		2713 011 6103	North Indian	1400	1/83, Thir	Mon: [0, 0]	FALSE	TRUE	FALSE	Pizza, Chi	76.98699	28.54781					
20	https://www.zomato.com/india/restaurant/5449193557/	Delhi	NCR	Gaur City		54 +91 93557	Pizza, Fast	400	Lower Gr	Mon: [0, 0]	TRUE	FALSE	FALSE		77.42358	28.61958					
21	https://www.zomato.com/india/restaurant/2302226122/	Mumbai	Vile Parle		3.5	23 022 26122	Mithai	600	17, Narott	Mon: [0, 0]	FALSE	FALSE	FALSE		72.84583	19.09829					
22	https://www.zomato.com/india/restaurant/69001244037/	Delhi	NCR	Sector 49		690 0124 4037	North Indian	650	110, 1st Fl	Mon: [1, 1]	TRUE	FALSE	FALSE	Dal Makh	77.04912	28.41174					
23	https://www.zomato.com/india/restaurant/6149194037/	Delhi	NCR	Sector 49		6149194037	North Indian	650	110, 1st Fl	Mon: [1, 1]	TRUE	FALSE	FALSE		77.04912	28.41174					

Original Dataset

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Dataset after Preprocessing

Column names of the dataset are:-

- zomato_url
- name
- city
- area
- rating
- rating_count
- telephone
- cuisine
- cost_for_two
- address
- timings
- online_order
- table_reservation
- delivey_only
- famous_food
- longitude
- latitude

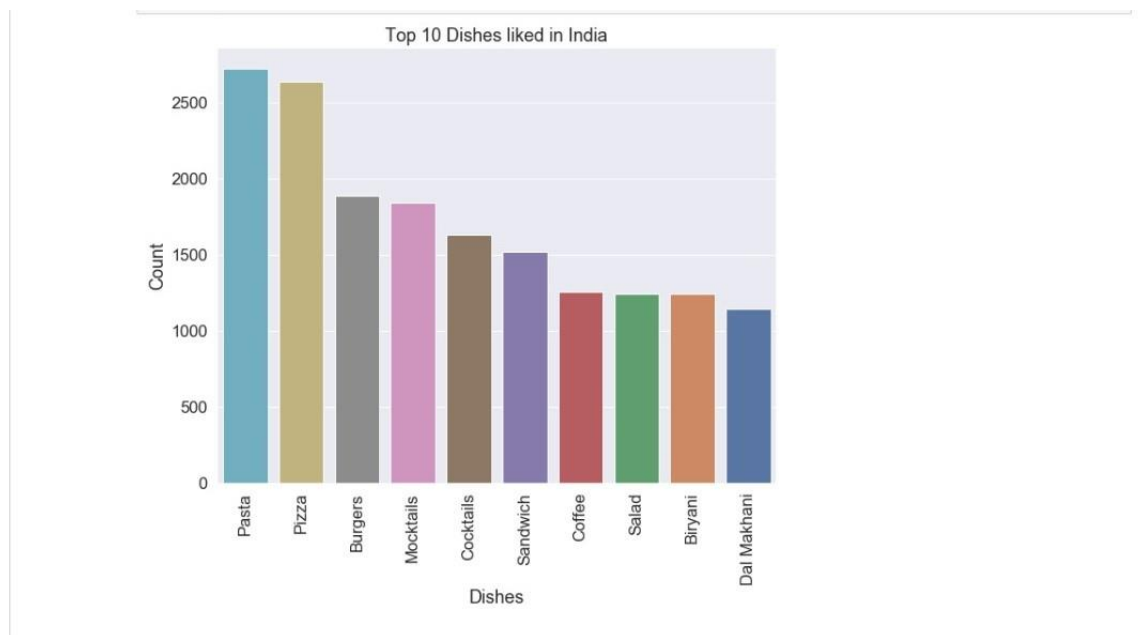
Data Visualization using Python

- Data visualization is the discipline of trying to understand data by placing it in a visual context so that patterns, trends and correlations that might not otherwise be detected can be exposed.
- Python offers multiple great graphing libraries that come packed with lots of different features. No matter if you want to create interactive, live or highly customized plots python has an excellent library for you.

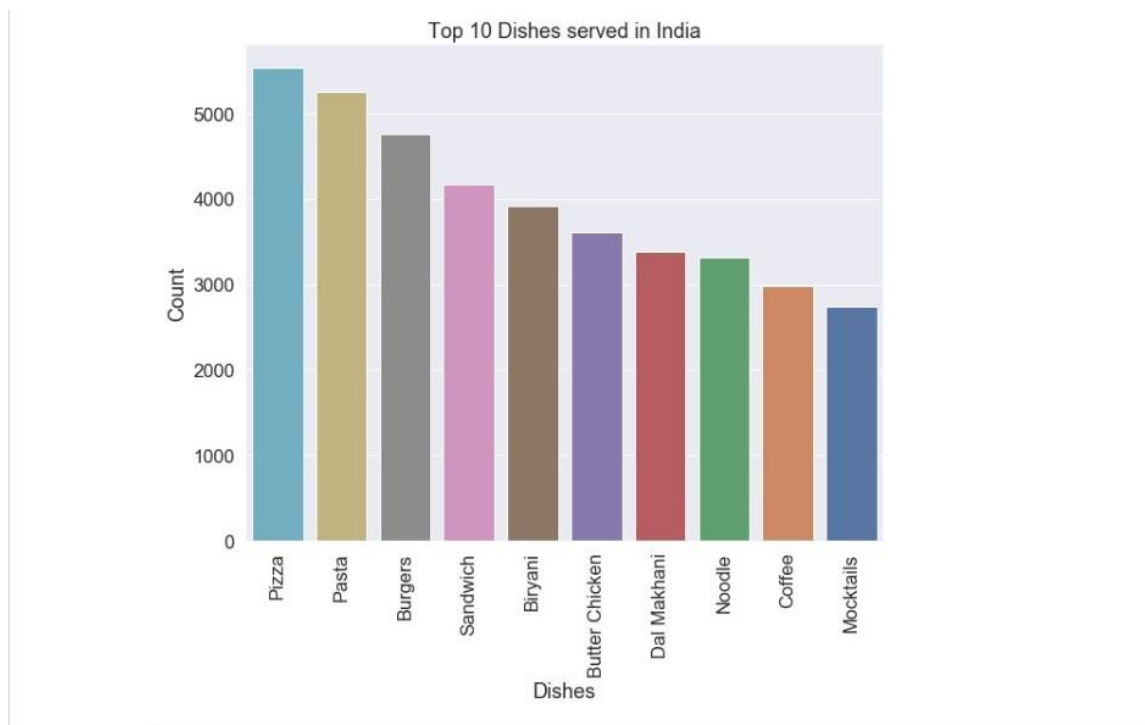
Bar Chart

A bar chart can be created using the `bar` method. The bar-chart isn't automatically calculating the frequency of a category so we are going to use `pandas value_counts` function to do this.

The graphs created by us are as follows:-



Top 10 Most liked dishes in India

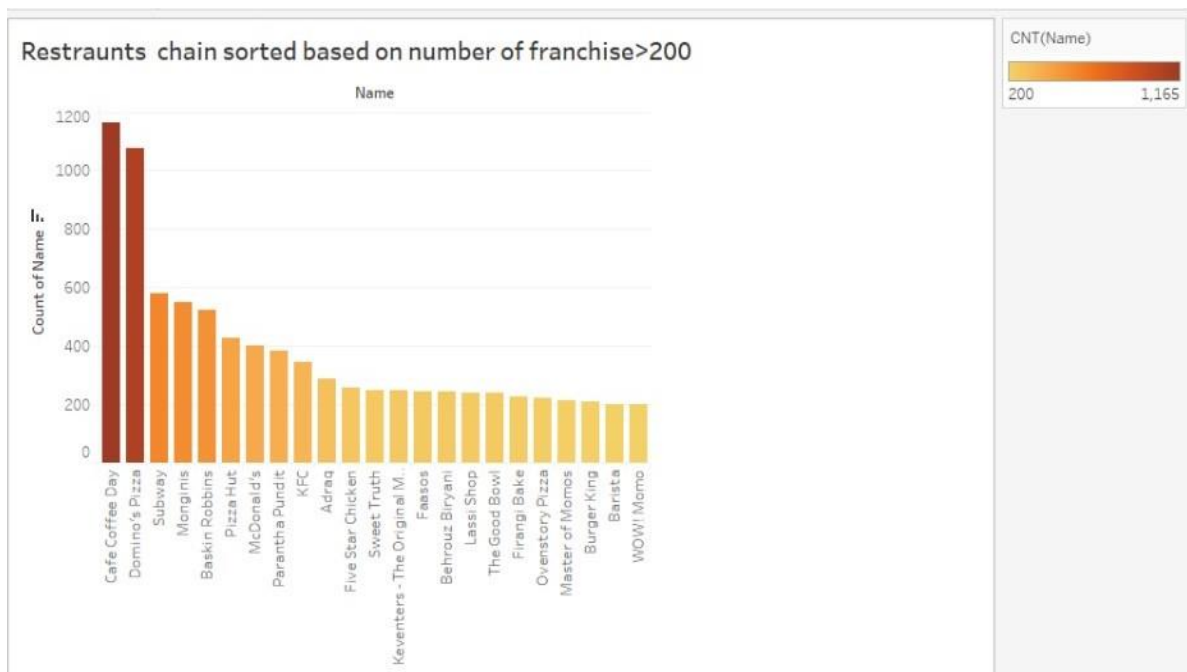


Top 10 Most served dishes in India

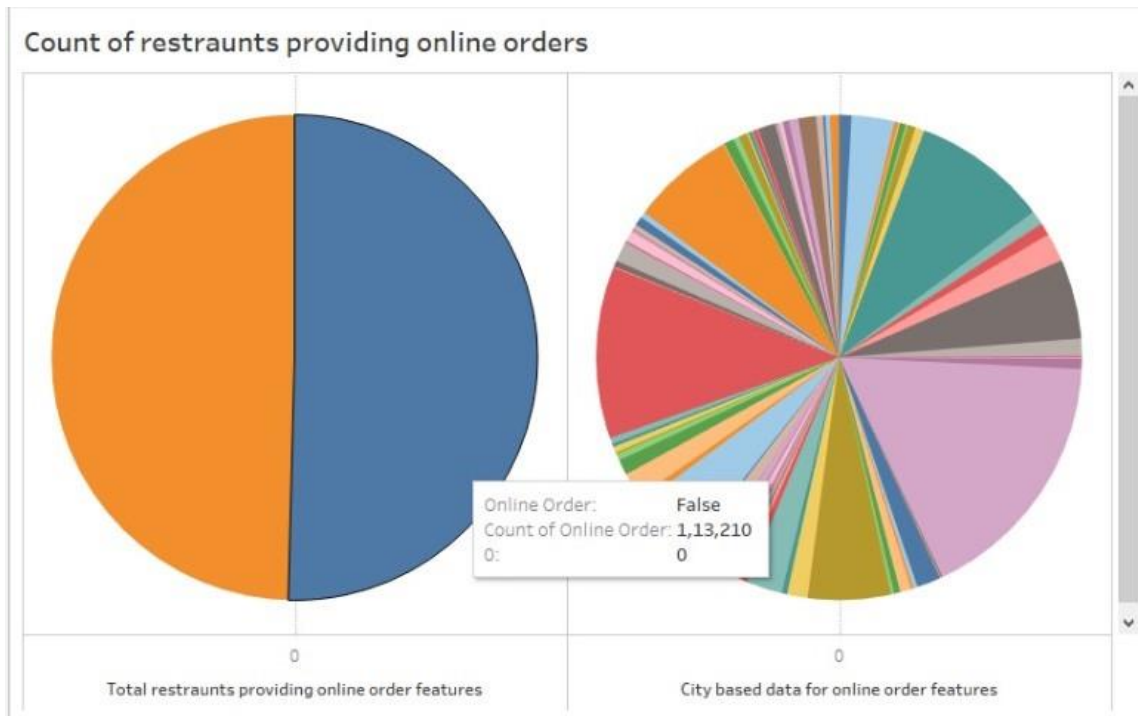
TABLEAU TOOL

- Tableau is a powerful and fastest growing data visualization tool used in the Business Intelligence Industry.
- It helps in simplifying raw data in a very easily understandable format.
- Tableau helps create the data that can be understood by professionals at any level in an organization.
- It also allows non-technical users to create customized dashboards.
- Data analysis is very fast with Tableau tool and the visualizations created are in the form of dashboards and worksheets.
- The best features of Tableau software are
 - Data Blending
 - Real time analysis
 - Collaboration of data

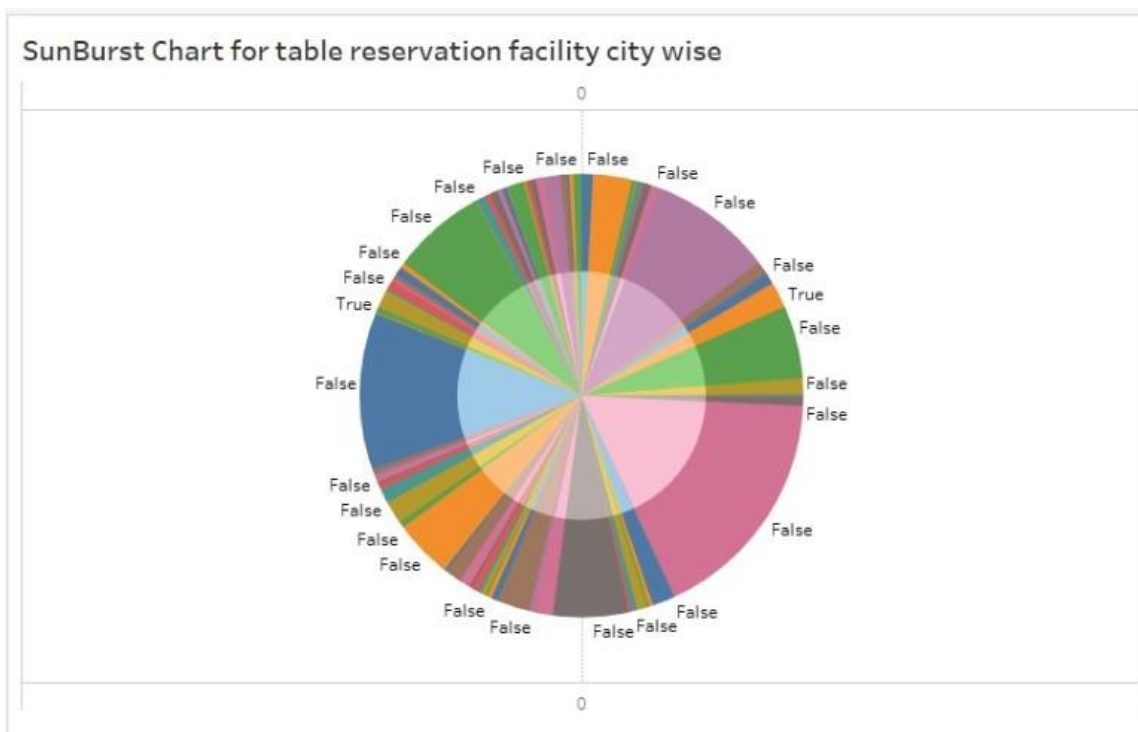
Our Analysis results :-



Restaurant chains with over 200 restaurants



Restaurants Providing Online Orders



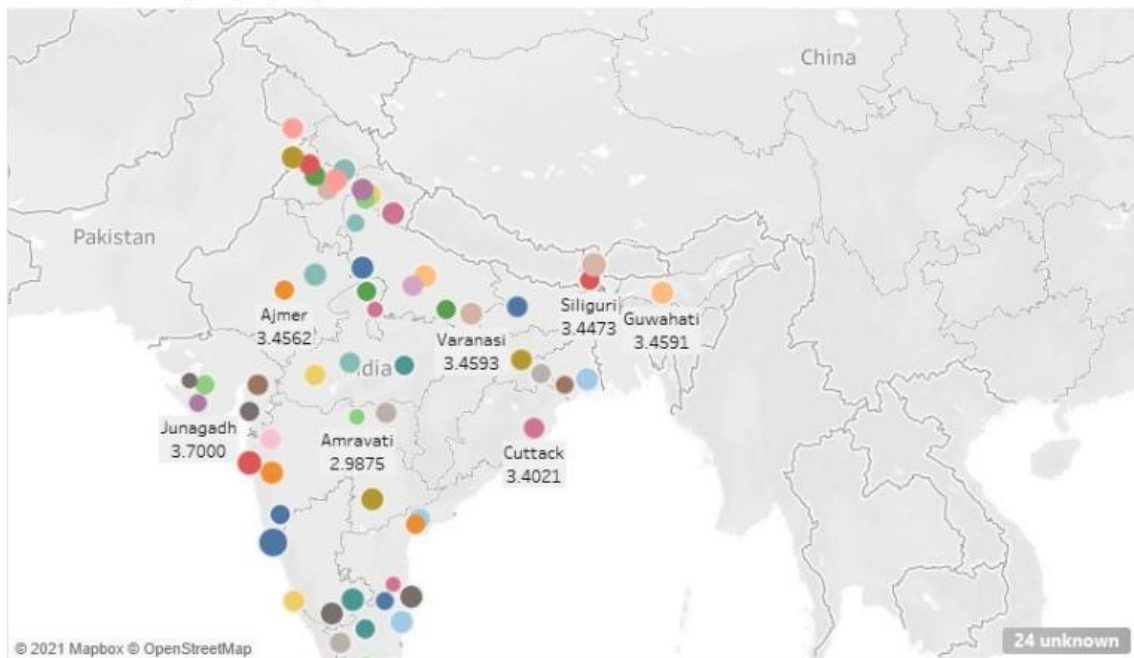
City Wise Table Reservation

City wise data showing total number of restaurants



Total Number of Restaurants

Cost for two people,city wise data



Cost for Two People

Machine Learning Algorithms Used:

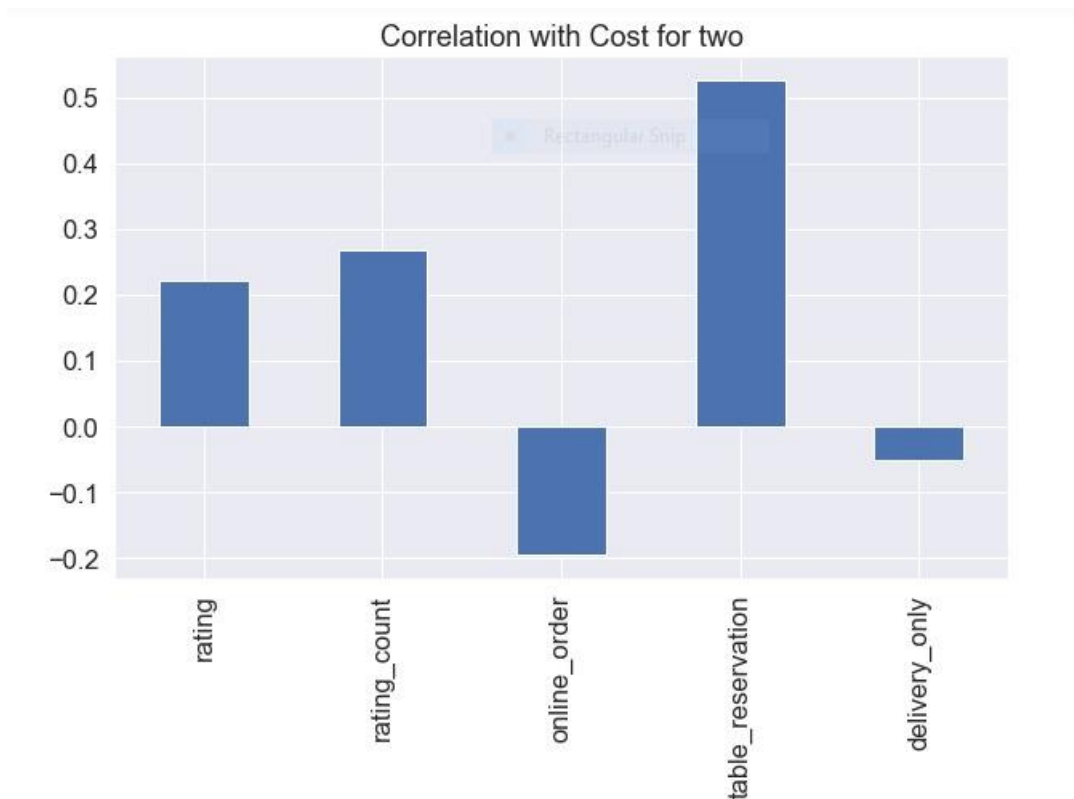
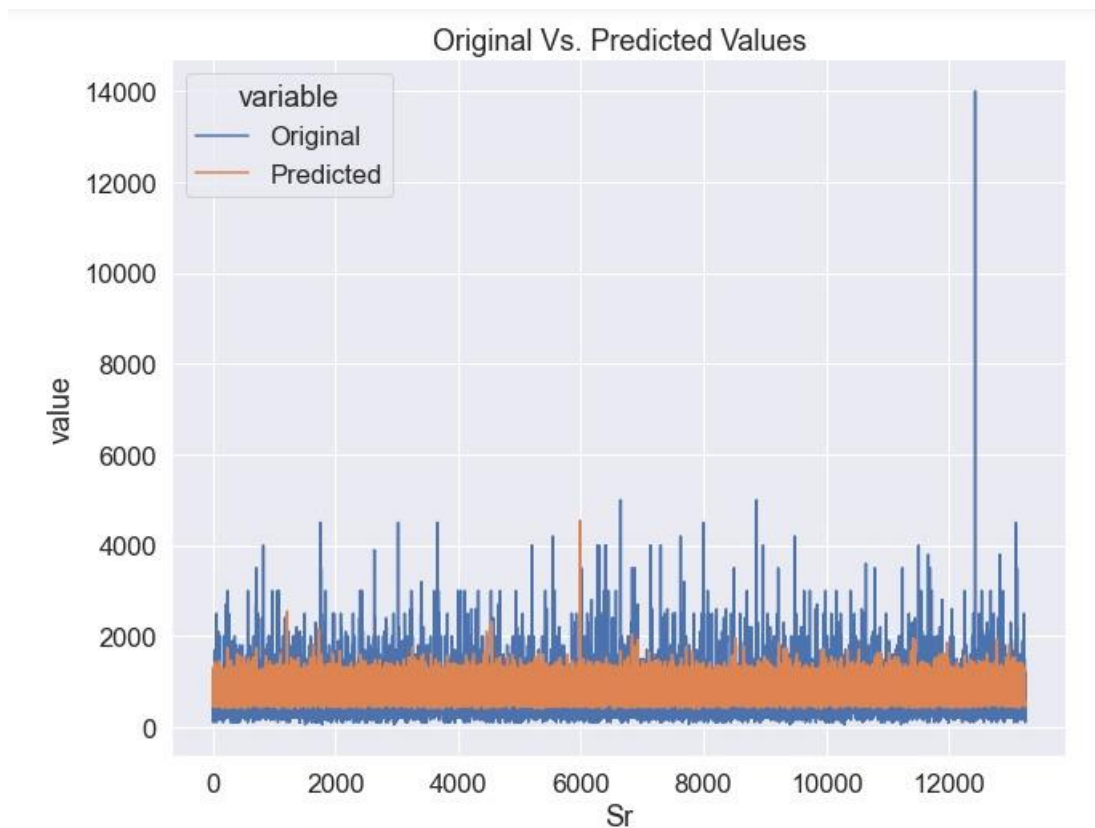
Linear Regression :-

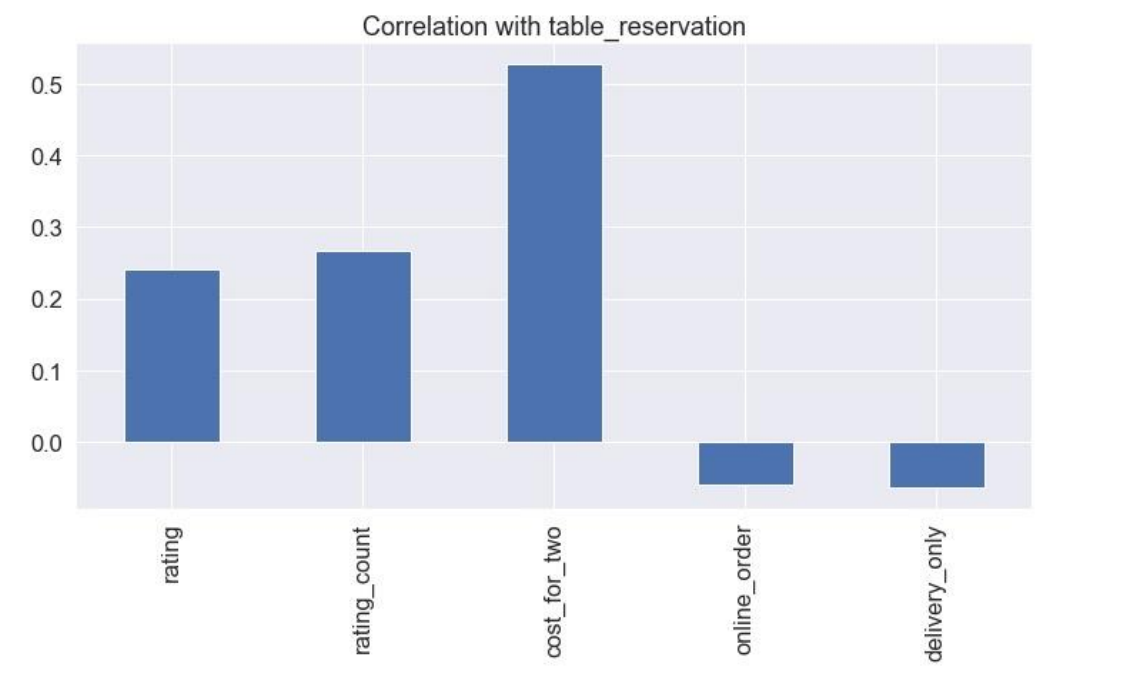
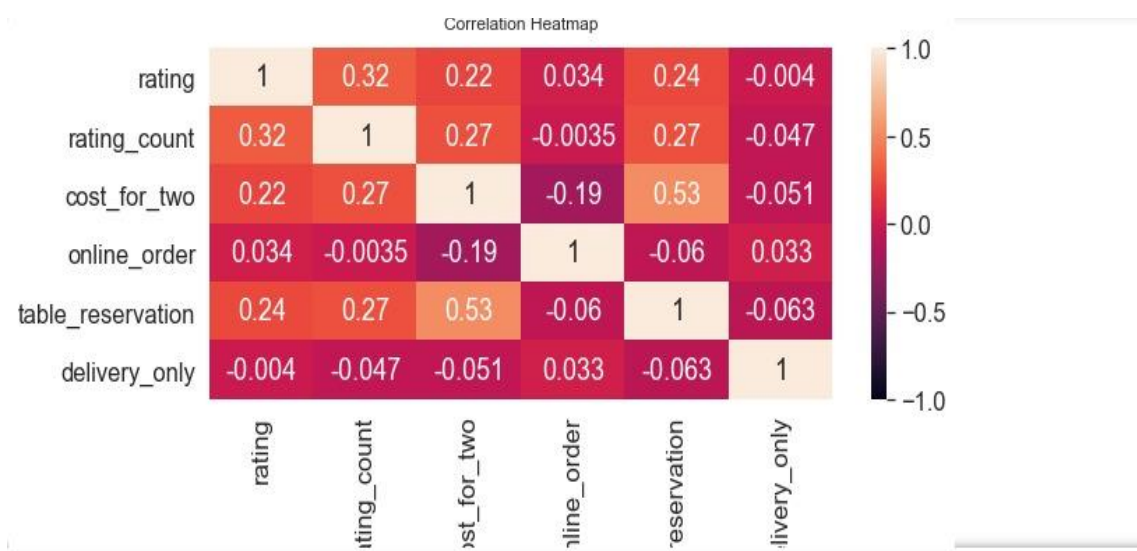
- Linear regression is an attractive model because the representation is so simple.
- The representation is a linear equation that combines a specific set of input values (x) the solution to which is the predicted output for that set of input values (y). As such, both the input values (x) and the output value are numeric.

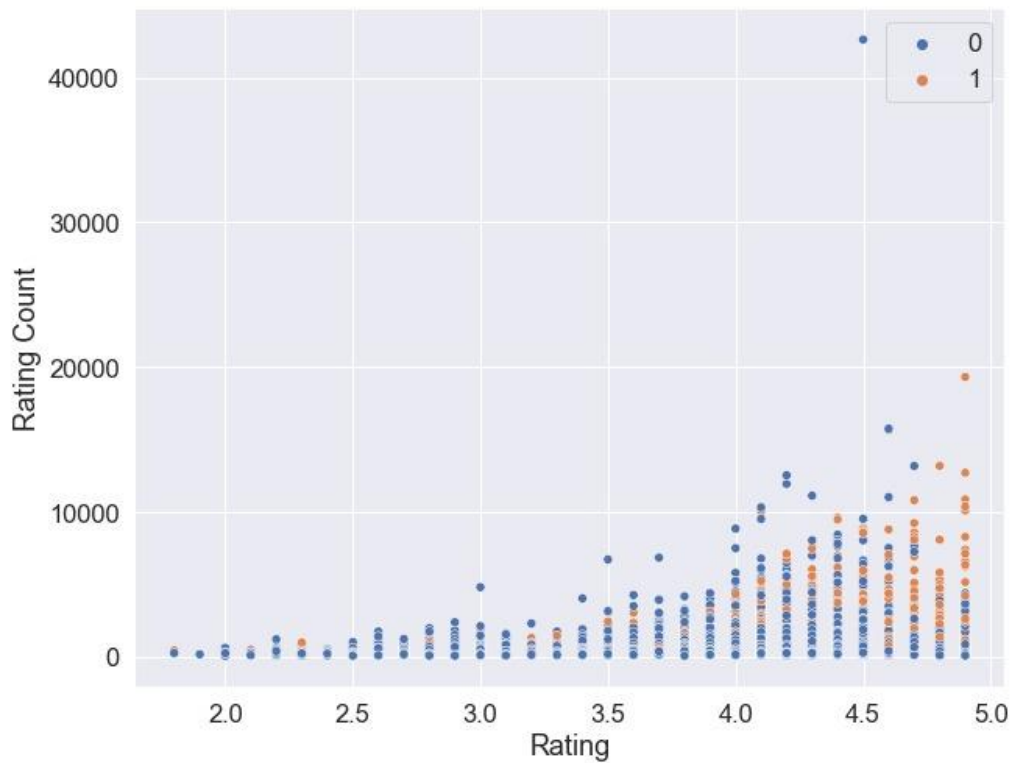
Logistic Regression :-

- Logistic regression is a statistical model that in its basic form uses a logistic function to model a binary dependent variable, although many more complex extensions exist.
- In regression analysis, logistic regression (or logit regression) is estimating the parameters of a logistic model (a form of binary regression).

The analysis done by us are as follows:-







Conclusion :-

We have displayed all the data in a graphical format and used various methods to do it. This gives us a better understanding about the type of dishes and restaurants people in India like. We now understand much better what ratings are dependent on and how different methods can be used to represent a dataset and analyze various important results.