Data Analysis Portfolio Project

Platform Used for Data Collection:

1) Kaggle for data collection: https://www.kaggle.com/datasets/mohamedharris/restaurant-order-details/data

Software Used:

1) MS Excel for storing the data
2) MS Power BI Desktop for performing the analysis
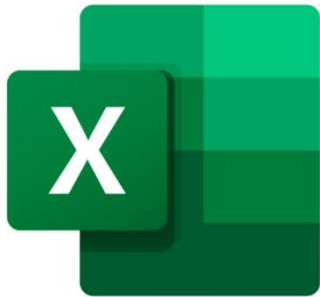
PROCESS FOR GENERATION OF REPORT/DASHBOARD

Data Collection and Storing

- Data is Collected from Kaggle.
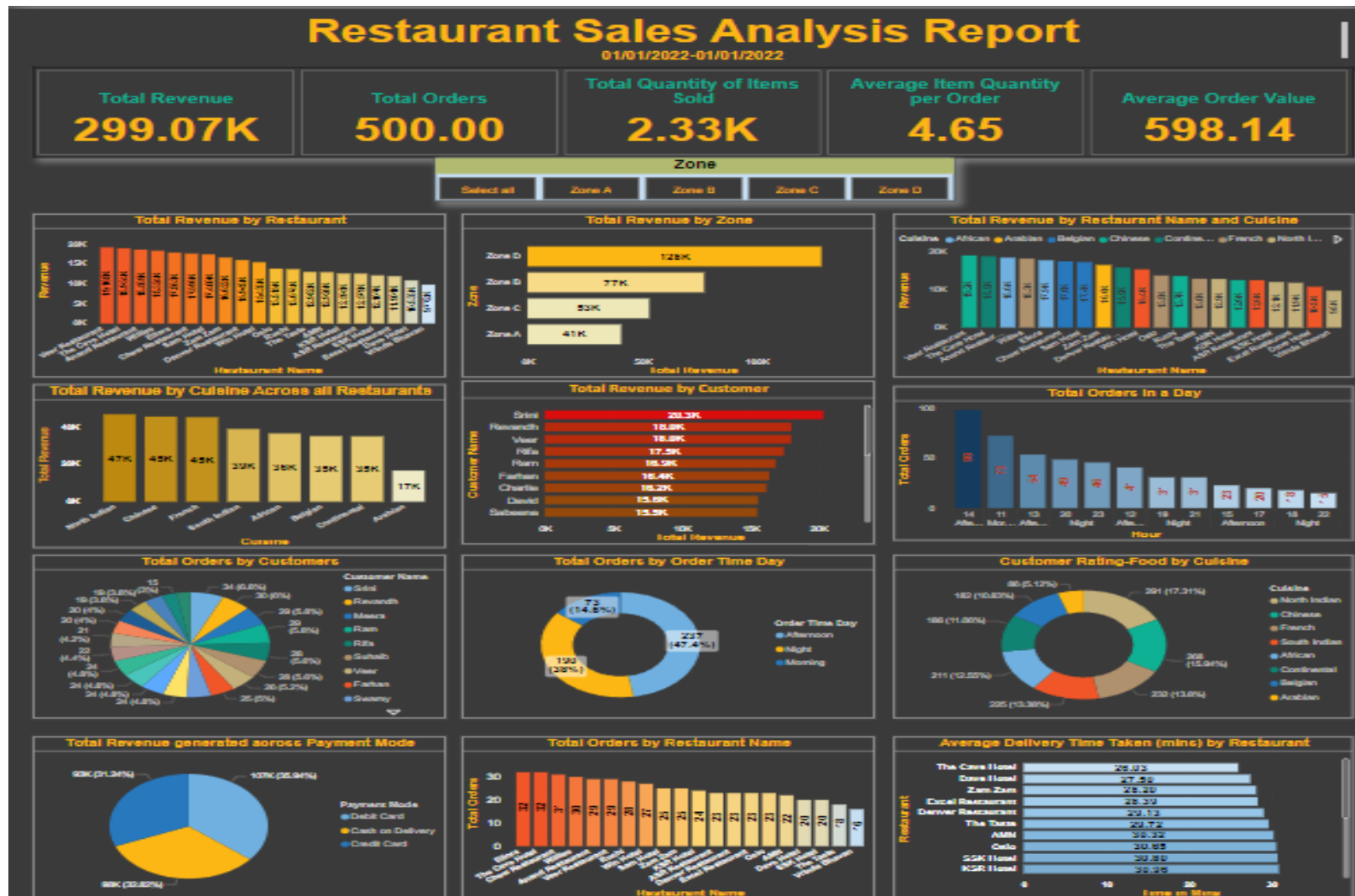- Then the collected data is stored in Excel Format.

Data Importing , Transformation, Clening and Preprocessing

- Importing the stored data (i.e. in Excel Format) in to MS Power BI Desktop.
- Then the data is transformed in the Power Query Editor for data pre-processing, cleaning, checking the data types and converting the incorrect data type(if there are any) in to correct data type for Analysis.

Analysis of the data and doing Visualization by preparing Charts for solving the business problem.

- Once Data Preparation is completed the said data is saved and load in the model view, we have to identify the Primary and Foreign Key and have to mark the same and have to create a relationship between two or more tables by linking a common column which is present in the table
- Once our model is ready, we can start the analysis by selecting the report view by doing the following steps:
  1) Identifying the KPIs and calculating the same.
  2) Once the KPIs calculated, use the same for doing the analysis for solving the business problems and finding the insights by generating graphs and charts.

REPORT/DASHBOARD

Power BI Desktop

Restaurant Sales Analysis Report
01/01/2022-01/01/2022

| Total Revenue	Total Orders	Total Quantity of Items Sold	Average Item Quantity per Order	Average Order Value
299.07K	500.00	2.33K	4.65	598.14

KPI's REQUIREMENT

We need to analyze key indicators for the restaurant sales data to gain insights into the business performance. Specifically, we want to calculate the following metrics:

1. **Total Revenue: The sum of the total price of all order amount.**

2. **Average Order Value: The average amount spent per order, calculated by dividing the total revenue by the total number of orders.**

3. **Total Quantities of items Sold: The sum of the quantities of all items sold.**

4. **Total Orders: The total number of orders placed.**

5. **Average Item Quantity Per Order: The average number of items sold per order, calculated by dividing the total quantities of items sold by the total number of orders.**
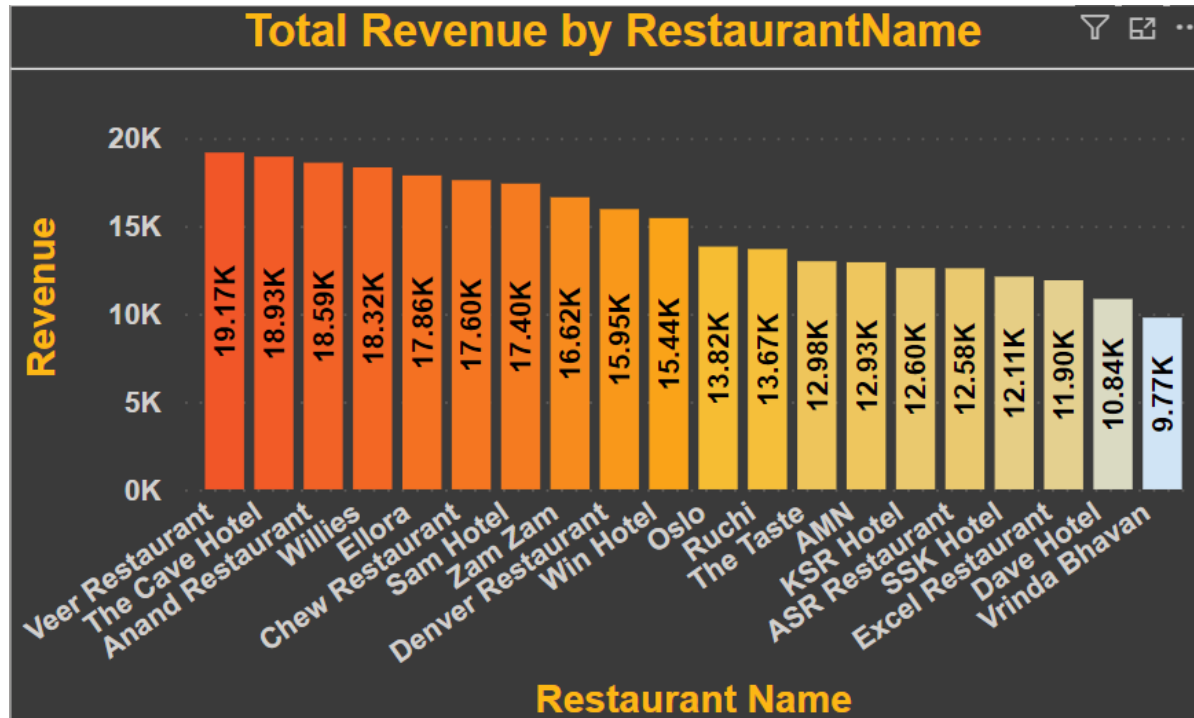
PROBLEM STATEMENTS

1. Which restaurant received the most orders?
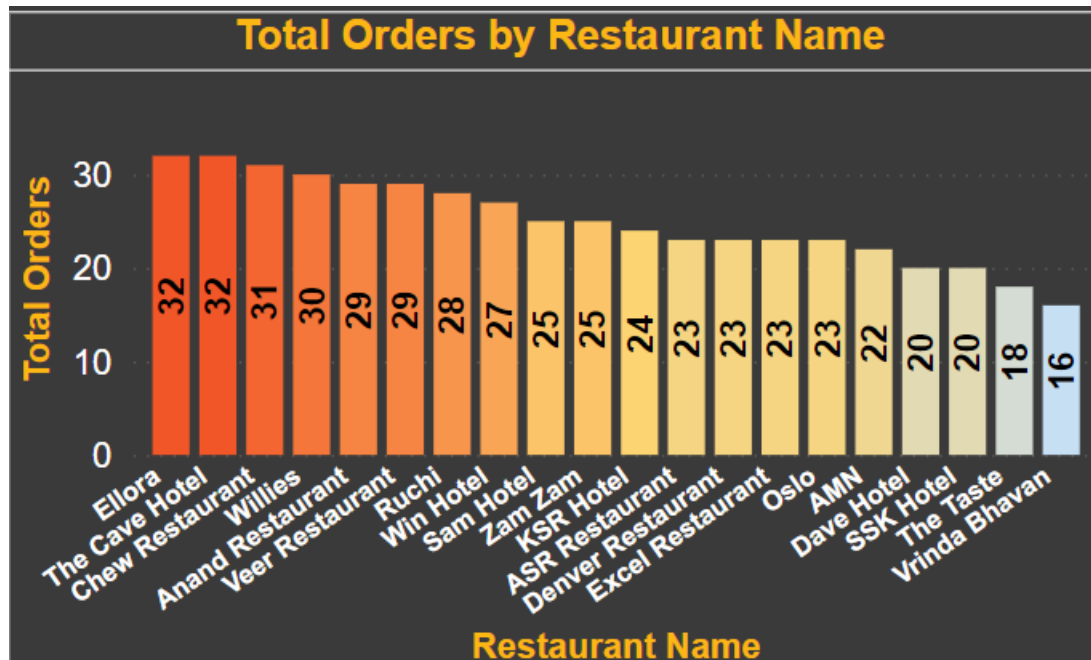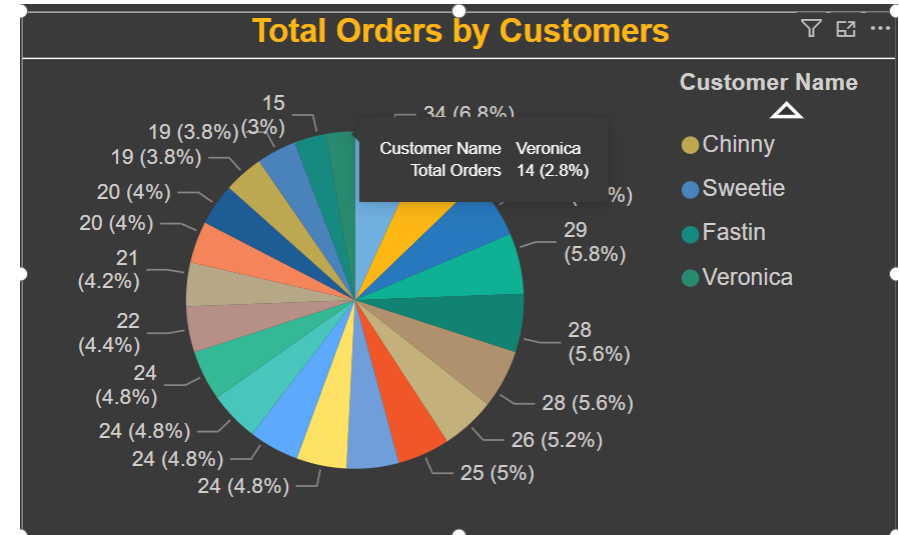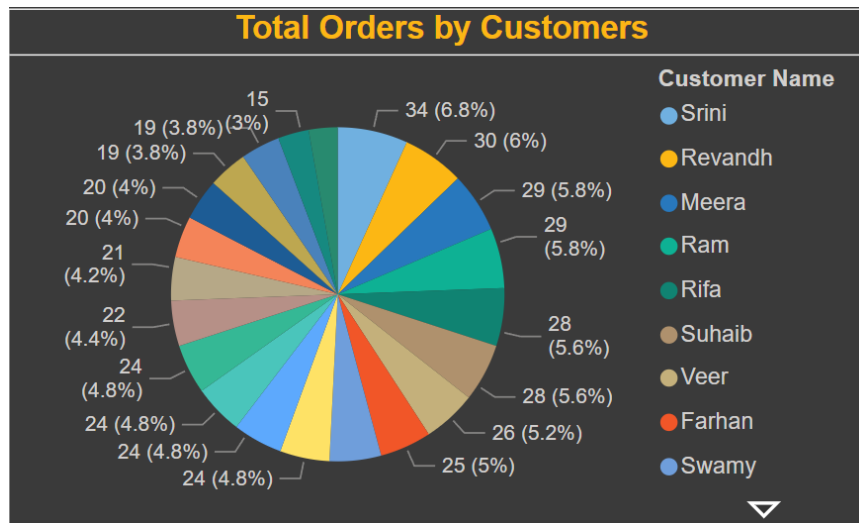

After observing the result, it can be noted that **Ellora and The Cave Hotel delivered maximum orders i.e. 32 Orders** in a day, whereas **Vrinda Bhavan delivered least number of orders in a single day i.e. 16 Orders**

2. Which restaurants saw most sales?


Total Revenue by RestaurantName

After observing the sales result it can be noted that **Veera Restaurant generated maximum revenue of approximately INR 19,170.00 Orders** in a day, whereas **Vrinda Bhavan generated minimum revenue of approximately INR 9,770.00**

3. Which customer ordered the most and which customer ordered least?

After observing the results, it can be noted that **Srini has ordered maximum times having total order count as 34 in a day**, whereas **Veronica has ordered minimum least having total order count as 14 in a day.**

4. When do customers order more in a day?
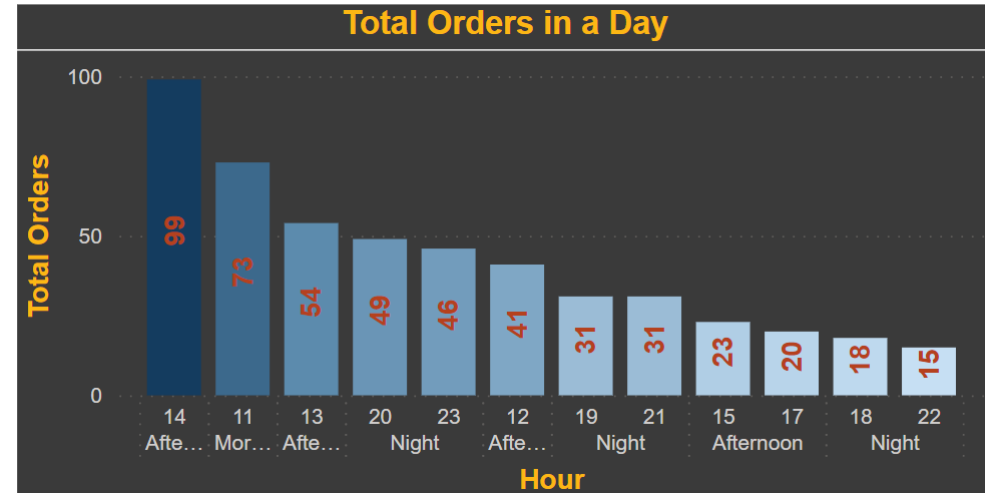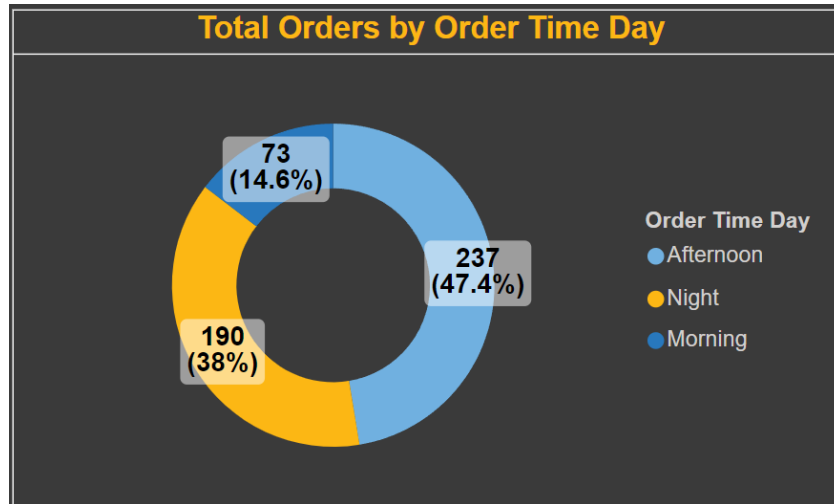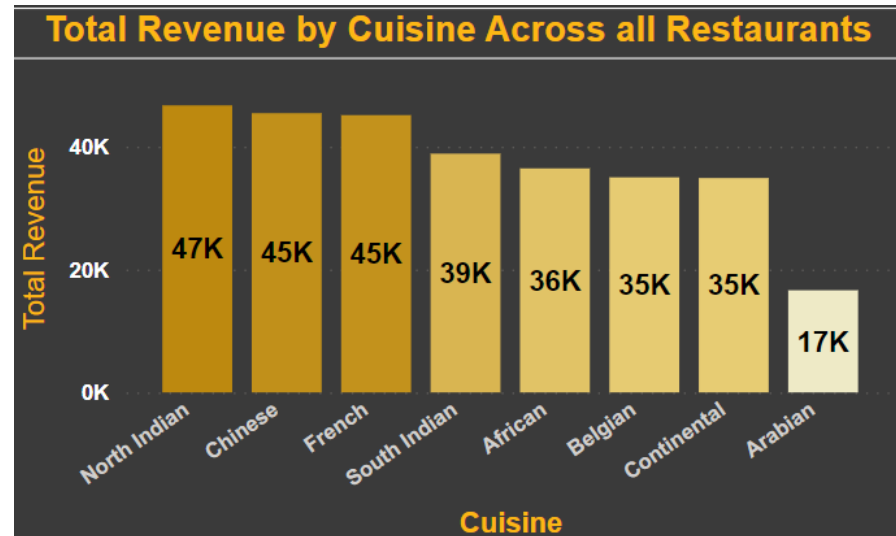

After observing the above results, it can be concluded that maximum no of orders from the customers were received in **Afternoon i.e. almost 47.4% of total order count**, and **almost 38% of orders were received in Morning** and **least orders were received during Night i.e. almost 14.6% of total order count**.

Peak Time of Orders for Afternoon – **Between 1300 HRS – 1400 HRS**

Peak Time of Orders for Morning – **Between 1100 HRS – 1200 HRS**

Peak Time of Orders for Night – **Between 2000 HRS – 2300 HRS**

# 5. Which is the most liked cuisine?

Customer Rating-Food by Cuisine

- 86 (5.12%)
- 182 (10.83%)
- 186 (11.06%)
- 211 (12.55%)
- 225 (13.38%)
- 232 (13.8%)
- 268 (15.94%)
- 291 (17.31%)

Cuisine
- North Indian
- Chinese
- French
- South Indian
- African
- Continental
- Belgian
- Arabian

Total Revenue by Cuisine Across all Restaurants

Total Revenue: 47K, 45K, 45K, 39K, 36K, 35K, 35K, 17K

Cuisine: North Indian, Chinese, French, South Indian, African, Belgian, Continental, Arabian
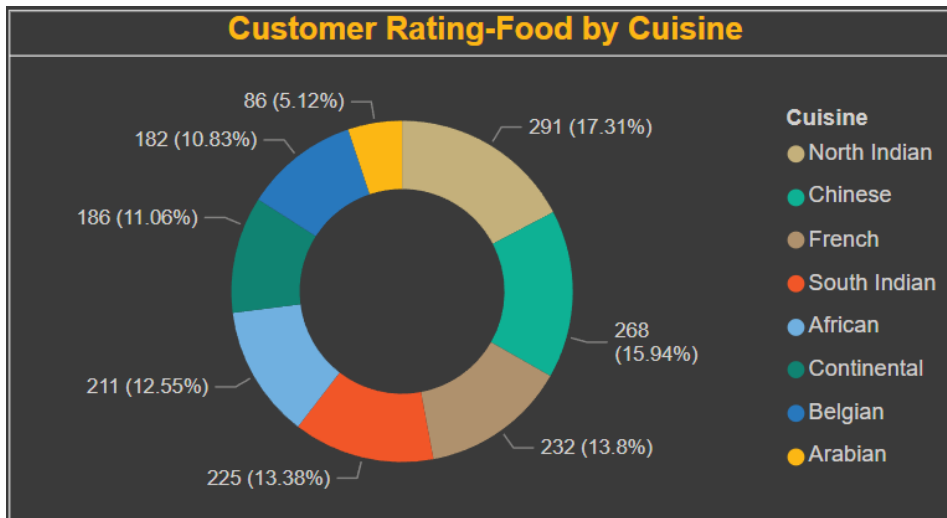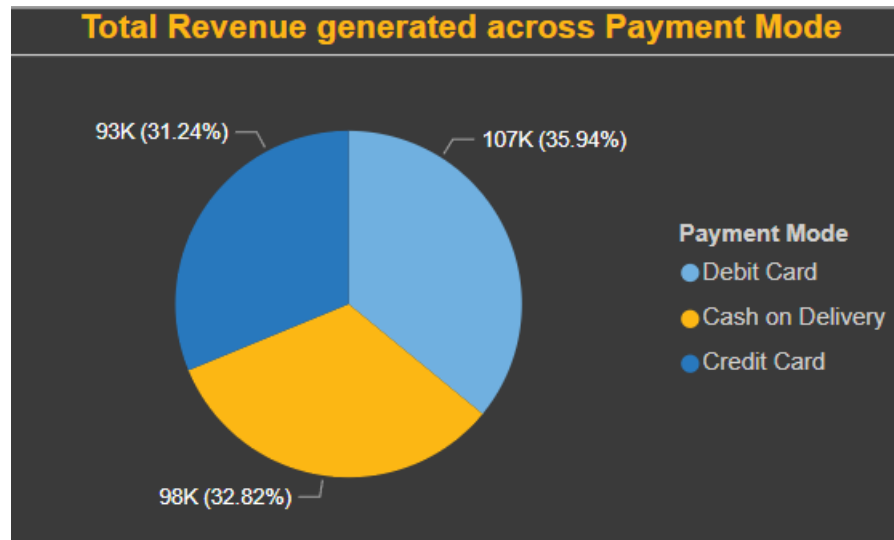
After observing the results, it can be noted that **North Indian Cuisine is most favourite Cuisine amongst the 8 Cuisines having customer rating of 291 and revenue generated by the said Cuisine is INR 47,000.00 across all the restaurants in a single day** and **Arabian Cuisine is the least favourite Cuisine having customer rating of 86 and revenue generated by the said Cuisine is INR 17,000.00 across all the restaurants in a single day**

6. Which zone has the most sales?
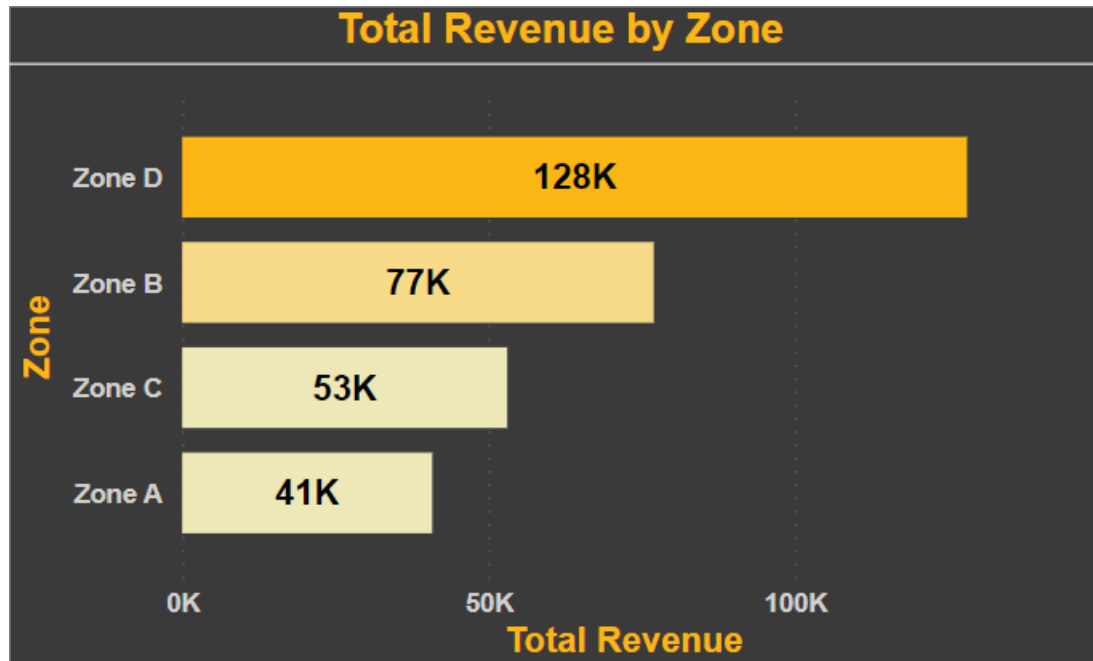
By observing the chart, it can be concluded that **Zone D has generated highest revenue of INR 1,28,000.00** among all the 4 Zones and **Zone A generated least revenue of INR 41,000.00** among all the 4 Zones.
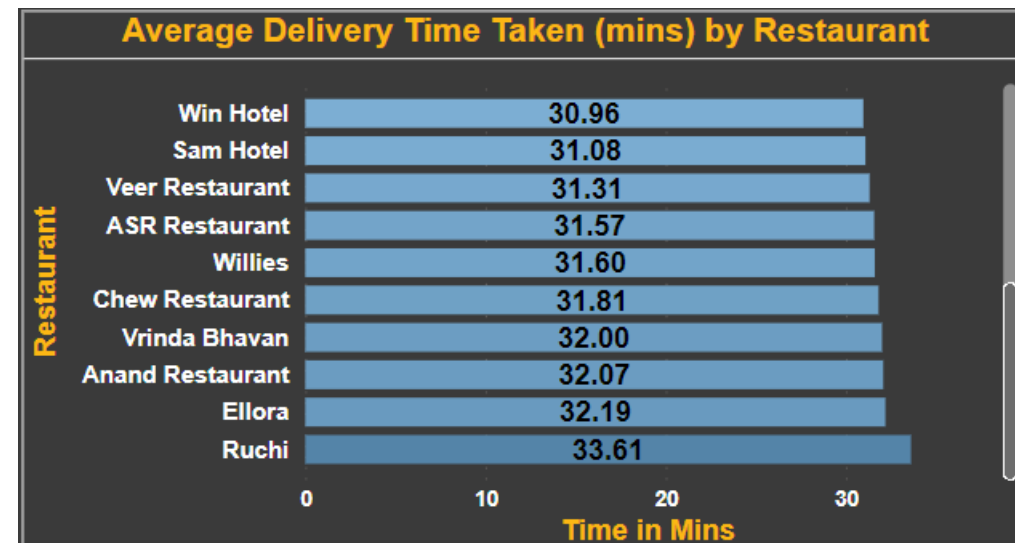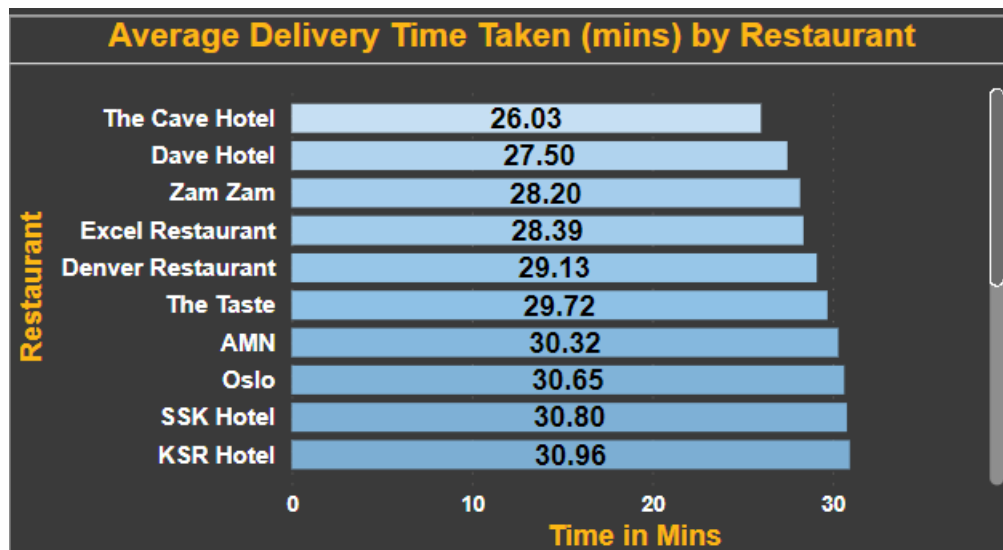
7. Which is the most favourite payment method preferred by the customers for doing the payment of the ordered food?

Total Revenue generated across Payment Mode

93K (31.24%)
107K (35.94%)

Payment Mode
- Debit Card
- Cash on Delivery
- Credit Card

98K (32.82%)

Almost 35.94 % of revenue was generated via Debit Card, followed by Cash on Delivery having 32.8% of revenue generated in a single day, and Credit Card contributed 31.24% of the total revenue.

Hence by the above observations, it is safe to say that **Debit Card** is the most preferred payment method chosen by the customers.

8. What is the Average Delivery Time for delivering the food by Restaurants?

Average Delivery Time Taken (mins) by Restaurant

Restaurant	Time in Mins
The Cave Hotel	26.03
Dave Hotel	27.50
Zam Zam	28.20
Excel Restaurant	28.39
Denver Restaurant	29.13
The Taste	29.72
AMN	30.32
Oslo	30.65
SSK Hotel	30.80
KSR Hotel	30.96

Average Delivery Time Taken (mins) by Restaurant

| Restaurant	Time in Mins
Win Hotel	30.96
Sam Hotel	31.08
Veer Restaurant	31.31
ASR Restaurant	31.57
Willies	31.60
Chew Restaurant	31.81
Vrinda Bhavan	32.00
Anand Restaurant	32.07
Ellora	32.19
Ruchi	33.61

By observing the above result, it can be concluded that **The Cave Hotel delivers the food faster** as compared to the other Restaurants having **Average Delivery Time of 26.03 Minutes** and **Ruchi Restaurant is having Average Delivery Time of 33.61 Minutes** which is very high among all the Restaurants.

9. Name a Restaurant which is famous for a particular cuisine, and has generated its maximum revenue by the said Cuisine.
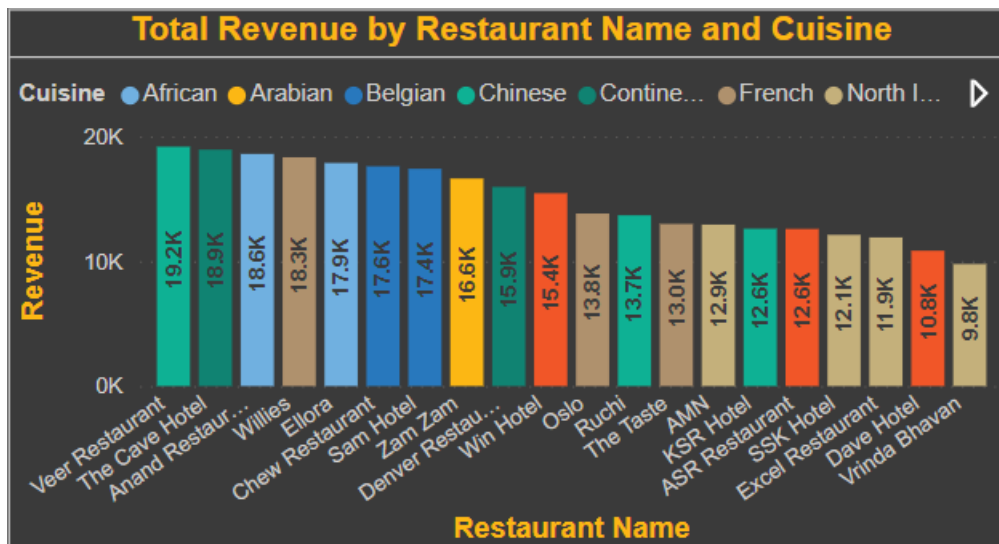
Veer Restaurant is famous for **Chinese Cuisine** and has generated a revenue of **INR 19,200.00** among all the said Restaurants.

10. Total Revenue generated by Customers
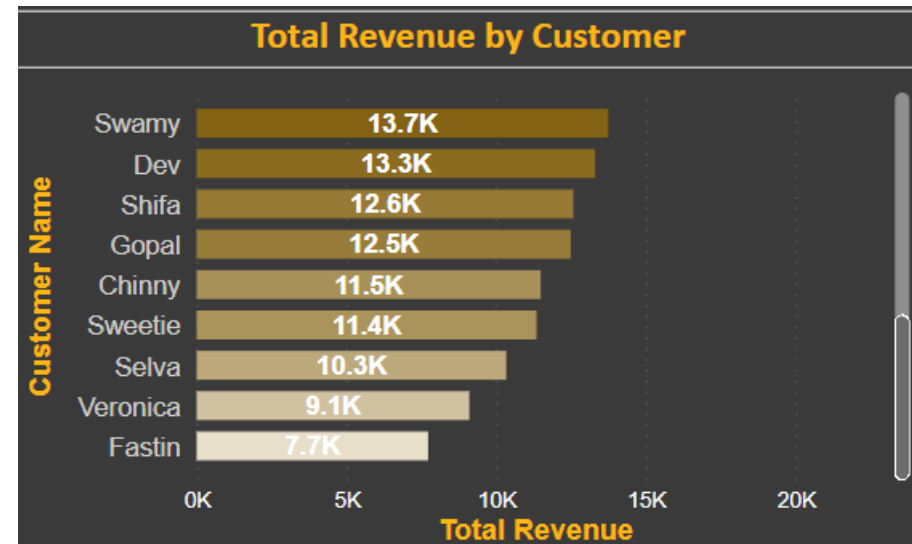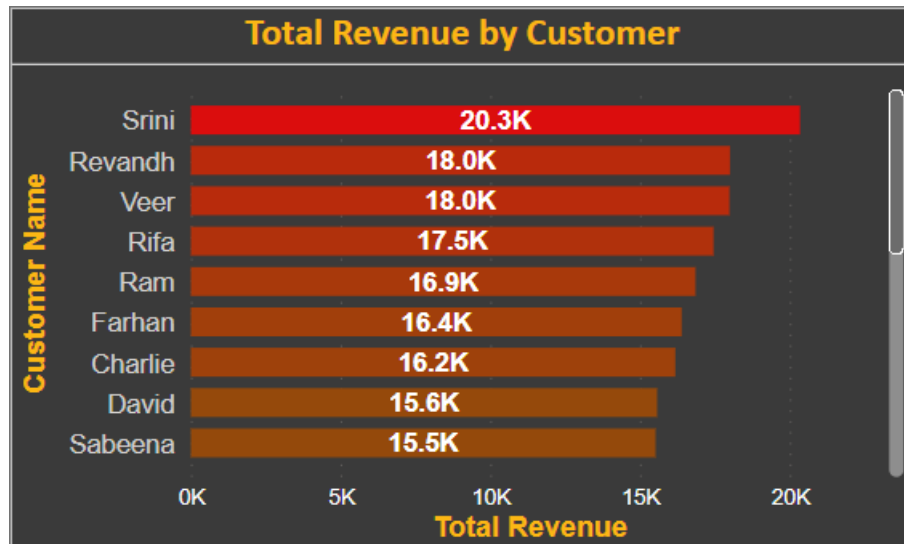
Srini has ordered most items having expenditure of approx. **INR 20,300.00** in a single day which is very high, **Fastin** has spent approx. **INR 7,700.00** which is least in a single day, among all the other customers.