OLA DATA ANALYSIS:

Below are SQL questions and Business insights which we can draw from them:

1. Retrieve all successful bookings:

```
SELECT * FROM bookings
WHERE Booking_Status = 'Success';
```

Business Insight: Total number of rides that were completed. Reveals service reliability and success rate. Helps benchmark service performance and track operational health.

2. Find the average ride distance for each vehicle type:

```
select  vehicle_type, avg(ride_distance) as avg_distance
from bookings
group by Vehicle_Type;
```

Business Insight: Understands which vehicle types are used for longer vs. shorter trips. Helps in fleet optimization and pricing strategy (e.g., SUVs for longer trips)

3. Get the total number of cancelled rides by customers:

```
SELECT COUNT(*) as cancelled_by_customer FROM bookings
WHERE Booking_Status = 'canceled by Customer';
```

Business Insight: Measures customer-related service failures. Important for identifying friction in customer experience or app issues.

4. List the top 5 customers who booked the highest number of rides:

```
SELECT Customer_ID, COUNT(Booking_ID) as total_rides FROM bookings GROUP
BY Customer_ID ORDER BY total_rides DESC LIMIT 5;
```

Business Insight: Identifies most loyal and frequent customers. Useful for customer retention strategies and targeted loyalty programs.

5. Get the number of rides cancelled by drivers due to personal and car-related issues:

```
SELECT COUNT(*) FROM bookings
WHERE canceled_Rides_by_Driver = 'Personal & Car related issue';
```

Business Insight: Breaks down driver-side operational problems. Helps in driver training, support, and maintenance scheduling.

6. Find the maximum and minimum driver ratings for Prime Sedan bookings:

```
select max(Driver_Ratings) as max_rating, min(Driver_Ratings) as min_rating
from bookings
where Vehicle_Type = 'Prime Sedan';
```

Business Insight: Understands service quality consistency for a premium segment. Ensures that high-value customers receive high-quality service.

7. Retrieve all rides where payment was made using UPI:

```
select * FROM bookings
WHERE Payment_Method = 'UPI';
```

Business Insight: Captures user adoption of UPI. Useful for marketing partnerships or discount campaigns with payment providers.

8. Find the average customer rating per vehicle type:

```
SELECT Vehicle_Type, AVG(Customer_Rating) as avg_customer_rating
FROM bookings
GROUP BY Vehicle_Type;
```

Business Insight: Understands which vehicle types provide a better customer experience. Helps in training or removing underperforming vehicle types/drivers.

9. Calculate the total booking value of rides completed successfully:

```
SELECT SUM(Booking_Value) as total_successful_ride_value
FROM bookings
WHERE Booking_Status = 'Success';
```

Business Insight: Revenue from completed rides only. More accurate representation of income than total booking value.

10. List all incomplete rides along with the reason:

```
SELECT Booking_ID, Incomplete_Rides_Reason
FROM bookings
WHERE Incomplete_Rides = 'Yes';
```

Business Insight: Operational problems or service gaps. Identifies the most common reasons for failure — can be fixed via tech or process.

11. What is the average V_TAT and C_TAT by vehicle type?

```
SELECT
  Vehicle_Type,
  ROUND(AVG(V_TAT), 2) AS Avg_Vehicle_Wait_Time,
  ROUND(AVG(C_TAT), 2) AS Avg_Customer_Wait_Time
FROM bookings
WHERE Booking_Status = 'Success'
GROUP BY Vehicle_Type;
```

Business Insight: This shows how long customers wait for a vehicle and how long vehicles wait for customers. If V_TAT is high → indicates delayed driver arrival and If C_TAT is high → indicates delayed customer readiness. Can help optimize pickup processes and app experience.

12. Which days of the week have the highest and lowest number of completed rides?

```
SELECT
  DAYNAME(Date) AS Day_Of_Week,
  COUNT(*) AS Completed_Rides
FROM bookings
WHERE Booking_Status = 'Success'
GROUP BY Day_Of_Week
ORDER BY FIELD(Day_Of_Week,
'Monday','Tuesday','Wednesday','Thursday','Friday','Saturday','Sunday');
```

Business Insight: Understand weekly booking patterns. Helps identify peak demand days. Can plan driver staffing and surge pricing better.

Q.13. What is the average booking value per km for each vehicle type?

```
SELECT
  Vehicle_Type,
  ROUND(SUM(Booking_Value) / SUM(Ride_Distance), 2) AS Revenue_Per_KM
FROM bookings
WHERE Booking_Status = 'Success' AND Ride_Distance > 0
GROUP BY Vehicle_Type;
```

Business Insight: Helps understand earnings efficiency. Which vehicle types are most profitable per km? Can help Ola adjust pricing models or prioritize supply.

Q.14. What percentage of total bookings are incomplete?

```
SELECT
  ROUND(SUM(CASE WHEN Incomplete_Rides = 'Yes' THEN 1 ELSE 0 END) /
COUNT(*) * 100, 2) AS Incomplete_Ride_Percentage
FROM bookings;
```

Business Insight: It is a service quality metric which provides an overview of system/service failures. High incomplete ride % may point to app bugs, location mismatches, driver delays, etc. Helps identify areas needing tech or operational fixes.

Power BI Questions:

1. Ride Volume Over Time
2. Booking Status Breakdown
3. Top 5 Vehicle Types by Ride Distance
4. Average Customer Ratings by Vehicle Type
5. cancelled Rides Reasons
6. Revenue by Payment Method
7. Top 5 Customers by Total Booking Value
8. Ride Distance Distribution Per Day
9. Driver Ratings Distribution
10. Customer vs. Driver Ratings

Segregation of the Visuals Page wise:

1. Overall
 - Ride Volume Over Time
 - Booking Status Breakdown

2. Vehicle Type
- Top 5 Vehicle Types by Ride Distance

3. Revenue
 - Revenue by Payment Method
 - Top 5 Customers by Total Booking Value
 - Ride Distance Distribution Per Day

4. Cancellation
 - Cancelled Rides Reasons (Customer)
 - Cancelled Rides Reasons(Drivers)

5. Ratings
 - Driver Ratings
 - Customer Ratings

Answers:

1. Ride Volume Over Time: A time-series chart showing the number of rides per day/week.

2. Booking Status Breakdown: A pie or doughnut chart displaying the proportion of different booking statuses (success, cancelled by the customer, cancelled by the driver, etc.).

3. Top 5 Vehicle Types by Ride Distance: A bar chart ranking vehicle types based on the total distance covered.

4. Average Customer Ratings by Vehicle Type: A column chart showing the average customer ratings for different vehicle types.

5. cancelled Rides Reasons: A bar chart that highlights the common reasons for ride cancellations by customers and drivers.

6. Revenue by Payment Method: A stacked bar chart displaying total revenue based on payment methods (Cash, UPI, Credit Card, etc.).

7. Top 5 Customers by Total Booking Value: A leaderboard visual listing customers who have spent the most on bookings.

8. Ride Distance Distribution Per Day: A histogram or scatter plot showing the distribution of ride distances for different Dates.

9. Driver Rating Distribution: A box plot visualizing the spread of driver ratings for different vehicle types.

10. Customer vs. Driver Ratings: A scatter plot comparing customer and driver ratings for each completed ride, analyzing correlations.

ChatGPT Prompt to Create Data:

Please create a spreadsheet with 20,000+ rows, for Bengaluru city. Give the following columns. The data will be for 1 month. use the following column -

1. Date
2. Time
3. Booking ID
4. Booking Status
5. Customer ID
6. Vehicle Type
    - Auto
    - Prime Plus
    - Prime Sedan
    - Mini
    - Bike
    - eBike
    - Prime SUV
7. Pickup Location (Create dummy location points Take any 50 areas from Bangalore)
8. Drop Location (Take from dummy pickup locations)
9. Avg VTAT (Time taken for vehicle to arrive to reach pickup point)
10. Avg CTAT (Time taken for customer to arrive at the vehicle)
11. Cancelled Rides by Customer
12. Reason for cancellation by Customer
    - Driver is not moving towards pickup location
    - Driver asked to cancel
    - AC is not working (Only for 4-wheelers)
    - Change of plans
    - Wrong Address
13. Cancelled Rides by Driver
    - Personal & Car related issues
    - Customer related issue
    - The customer was coughing/sick
    - More than permitted people in there
14. Incomplete Rides 15. Incomplete Rides Reason
15. Incomplete Rides Reason
    - Customer Demand
    - Vehicle Breakdown
    - Other Issue
16. Booking Value

17. Ride Distance
18. Driver Ratings
19. Customer Rating

Keep the overall booking status success for this data at 62%. If the booking status is successful, then only fare charge ratings, average VTAT, average CTAT, and other data will be there.

Make sure orders cancelled by customers should not be more than 7%
Make sure orders cancelled drivers should not be more than 18%

Also, increase the number of orders on weekends and match days.
Keep match day by using the following dates.
keep incomplete rides less than 6%
Keep order value high on weekends

In Food Category ,keep around 67 Indian
keep order ID with 10 digits starting with CNR and then digits
keep orders under 500 value 70%
keep orders above 500 value 28%
keep remaining orders above 1000