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A1

Calculate the average delivery time for all orders in each city.

Script : SELECT c.City, ROUND(AVG(o.DeliveryTime)) AS Avg_Delivery_Time_In_Min FROM Orders o JOIN Customers c ON o.CustomerID = c.CustomerID GROUP BY c.City;

Solution :

City	Avg_Delivery_Time_In_Min
Mumbai	25
Bangalore	45
Pune	60
Delhi	35

A2

Find the top 3 customers based on the total order value they have placed.

Script : SELECT c.CustomerID, c.Name, SUM(o.TotalAmount) AS TotalOrderValue FROM orders o RIGHT JOIN customers c ON o.CustomerID = c.CustomerID GROUP BY c.CustomerID ORDER BY TotalOrderValue DESC LIMIT 3;

Solution:

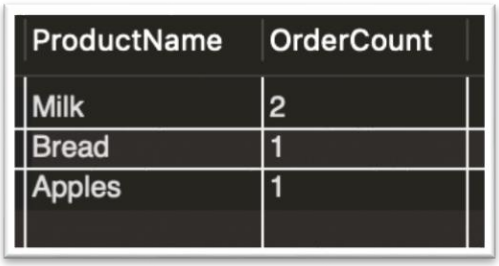
CustomerID	Name	TotalOrderValue
1003	Bob Smith	500
1001	John Doe	250
1002	Alice Johnson	230

A3

Retrieve the top 3 most frequently ordered products in Mumbai.

Script : SELECT p.ProductName, COUNT(*) AS OrderCount FROM OrderDetails od
JOIN Products p ON od.ProductID = p.ProductID
JOIN Orders o ON od.OrderID = o.OrderID
JOIN Customers c ON o.CustomerID = c.CustomerID
WHERE c.City = 'Mumbai' GROUP BY p.ProductName ORDER BY OrderCount DESC LIMIT 3;

Solution:



ProductName	OrderCount
Milk	2
Bread	1
Apples	1

A4

Identify the number of customers who have not placed an order in the last 30 days.

Script : SELECT COUNT(*) AS InactiveCustomers FROM Customers c
LEFT JOIN Orders o ON c.CustomerID = o.CustomerID
WHERE o.OrderID IS NULL AND o.OrderDate >= DATE_SUB(CURDATE(), INTERVAL 30 DAY);

Solution:

A5

Calculate the total revenue generated by each store.

Script : SELECT s.StoreID, s.City, SUM(o.TotalAmount) AS TotalRevenue FROM orders o
JOIN stores s ON o.StoreID = s.StoreID GROUP BY s.StoreID;

Solution:

StoreID	City	TotalRevenue
201	Mumbai	750
202	Bangalore	230
203	Delhi	200

B1

Write a SQL query to identify customers who placed only one order in the last 3 months.

Script : SELECT c.CustomerID,c.City, COUNT(*) AS TotalCustomers,COUNT(CASE WHEN o.OrderID IS NULL THEN 1 ELSE NULL END) AS SingleOrders FROM customers c LEFT JOIN orders o ON c.CustomerID = o.CustomerID GROUP BY c.CustomerID;

Solution:

CustomerID	City	TotalCustomers	SingleOrders
1001	Mumbai	2	0
1002	Bangalore	1	0
1003	Pune	1	0
1004	Delhi	1	0
1005	Mumbai	1	1

B2

Create a list of cities with high percentages of single-order customers.

Script : SELECT c.City, ROUND(COUNT(CASE WHEN o.OrderID IS NULL THEN 1 ELSE NULL END) / COUNT(*),1) AS SingleOrderPercentage FROM Customers c LEFT JOIN Orders o ON c.CustomerID = o.CustomerID GROUP BY c.City;

Solution :

City	SingleOrderPercentage
Mumbai	0.3
Bangalore	0.0
Pune	0.0
Delhi	0.0

B3

Suggest 3 features you would consider to build a customer churn prediction model.

1) **Customer satisfaction and unsubscribe**
2) **RFM analysis**
3) **Demographic & life style factors**

B4

Based on the above, outline 2-3 strategies Blinkit could implement to improve customer retention.

Strategy - 1 : Gamification & subscription

Strategy – 2 : Personalized recommendation system (Customer service, Feed back, RFM analysis)

C1

Analyze the relationship between the distance covered by delivery agents and the average delivery time. Use SQL to derive correlation metrics.

Script : SELECT Round(AVG(d.DistanceCovered)) AS AvgDistance, ROUND(AVG(o.DeliveryTime)) AS AvgDeliveryTime FROM delivery d JOIN orders o ON d.OrderID = o.OrderID GROUP BY d.DeliveryPersonID ;

My system is not connecting Jupiter to MySQL work bench. If it is working I can calculate the corelation between distance covered by delivery agents and average delivery time.

Solution :

AvgDistance	AvgDeliveryTime
5	30
8	45
3	20
7	35

C2

Recommend 3 strategies to optimize store-level operations and improve delivery efficiency.

Strategy - 1 : ABC analysis, real time inventory tracking and demand forecasting.

Strategy - 2 : Market basket analysis and employee training.

Strategy – 3 : Strategic location for dark stores.

C3

Develop a Revenue Maximization Formula for Blinkit using the most relevant factors and explain those as well

Revenue = Order value + Advt. income + Customer fees + product listing commission

Example : 74 + 22 + 19 + 10 = 125

Order value = Cost of products ordered
Advt. income = Income generated by displaying products
Customer fees = Transaction fees, delivery charges, Subscription costs
Product listing commission = Income generated from sale of displaying products

Revenue = Increase in each order value * Increase in number of orders + Advt. income + Customer fees + product listing commission

C4

Generate a Per Order Profit Maximization Formula based on your understanding of Blinkit and Quick Commerce.

For any quick commerce the revenues and expenses are like

Revenue (Per Order) = Order value + Advt. income + Customer fees + product listing commission

Example : 74 + 22 + 19 + 10 = 125

Expenses (Per Order) = Mother Dark store to sub - Dark store transportation expenses + Final delivery expenses + Discounts and incentive + Dark stores maintenance + other expense (payment gateway, wastages, support staff)

Example : 22 + 44 + 10 + 22 + 10 = 108

Profit (Per Order) = Revenue – Expenses

Profit (Per Order) = 125 – 108 = 17

Note : Calculate contribution margin (revenue – variable cost) it will give information for what rate profit will come and when will we get profits.

Increase in average value of each order and number of orders will increase the total revenue.

Profit = Increase in each order value * Increase in number of values + Advt. income + Customer fees + product listing commission – Expenses

C5

Make a holistic comparison of Blinkit, Zepto, Instamart and BB on most important factors. You can use the internet for gathering relevant data.

Comparison	Blinkit	Zepto	Instamart	BB
Average Order Value	Rs. 630	Rs. 450	Rs. 500 - 550	Rs. 400-450
Dark Store	526	340	500	300
Number of cities	26	7	25	23
Main focus	Cost Convenience Catalogue	Cost Convenience Catalogue	Cost Convenience Catalogue	Convenience
Market Share	40%	28%	32%	10%
Delivery (AVG. Time)	Quick delivery (10 min)	Quick delivery (8 min)	15-30 min	Based on category