Assignment Brief:

Scenario: Blinkit has launched several new stores in multiple cities and wants to ensure high operational efficiency and customer satisfaction. You have been given a sample dataset containing information about orders, customers, and stores to identify key trends, operational bottlenecks, and strategies for business growth.

1. `Orders` **Table**: Represents order details for Blinkit.

OrderID	CustomerID	StoreID	OrderDate	DeliveryTime (in minutes)	TotalAmount	Status
101	1001	201	2024-01-15 08:30:00	30	150	Completed
102	1002	202	2024-01-15 09:00:00	45	230	Completed
103	1003	201	2024-01-15 09:15:00	60	500	Cancelled
104	1001	201	2024-01-15 10:00:00	20	100	Completed
105	1004	203	2024-01-15 11:00:00	35	200	Completed

2. `Customers` **Table**: Represents customer data.

CustomerID	Name	City	SignUpDate	TotalOrders	LastOrderDate
1001	John Doe	Mumbai	2023-12-01	10	2024-01-15
1002	Alice Johnson	Bangalore	2024-01-02	3	2024-01-15
1003	Bob Smith	Pune	2023-11-25	2	2024-01-15
1004	Charlie Brown	Delhi	2023-10-10	1	2024-01-15
1005	Eve Miller	Mumbai	2023-12-20	5	2024-01-10

3. `Stores` **Table**: Contains information about different Blinkit stores.

StoreID	City	Area	Category
201	Mumbai	Andheri	Groceries
202	Bangalore	Koramangala	Groceries
203	Delhi	CP	Essentials
204	Pune	Baner	Groceries
205	Mumbai	Borivali	Essentials

4. `Products` **Table**: Represents products available in Blinkit stores.

ProductID	ProductName	Category	Price
301	Milk	Dairy	50
302	Bread	Bakery	30
303	Apples	Fruits	100
304	Toothpaste	Personal Care	75
305	Rice	Grains	120

5. `OrderDetails` **Table**: Represents the items in each order.

OrderID	ProductID	Quantity
101	301	2
101	302	1
102	303	1
102	304	3
104	305	1
105	301	4
105	303	2

6. `Delivery` **Table**: Represents delivery-related data.

OrderID	DeliveryPersonID	DeliveryStartTime	DeliveryEndTime	DistanceCovered (km)
101	501	2024-01-15 08:45:00	2024-01-15 09:15:00	5
102	502	2024-01-15 09:10:00	2024-01-15 09:55:00	8
104	503	2024-01-15 10:05:00	2024-01-15 10:25:00	3
105	504	2024-01-15 11:10:00	2024-01-15 11:45:00	7

Assignment Questions:

Part A: SQL Proficiency (Operational Analysis)

1. **Calculate the average delivery time** for all orders in each city.
2. **Find the top 3 customers** based on the total order value they have placed.
3. Retrieve the **top 3 most frequently ordered products** in Mumbai.
4. Identify the **number of customers** who have not placed an order in the last 30 days.
5. **Calculate the total revenue** generated by each store.

Part B: Problem Solving (Customer Retention & Churn Analysis)

1. Write a SQL query to **identify customers who placed only one order** in the last 3 months.
2. Create a list of **cities with high percentages of single-order customers**.
3. Suggest **3 features** you would consider to build a customer churn prediction model.
4. Based on the above, outline **2-3 strategies Blinkit could implement** to improve customer retention.

Part C: Business Case Study (Efficiency & Growth Strategy)

1. **Analyze the relationship between the distance covered** by delivery agents and the average delivery time. Use SQL to derive correlation metrics.
2. Recommend **3 strategies** to optimize store-level operations and improve delivery efficiency.
3. Develop a **Revenue Maximization Formula** for Blinkit using the most relevant factors and explain those as well
4. Generate a **Per Order Profit Maximization Formula** based on your understanding of Blinkit and Quick Commerce
5. Make a holistic comparison of Blinkit, Zepto, Instamart and BB on most important factors. You can use the internet for gathering relevant data.

Submission Rules:

1. Submit the assignment in PDF Format (Create a word doc and convert to PDF)
2. Mention your Name, Email Id and Contact Number on the first page of the PDF
3. Clearly mark the Question Number (e.g. - A1, B3, C4, etc) (A1 denotes Part A and question 1)
4. Use a new page for answering a new question.
5. Clearly state your assumptions wherever possible.
6. Ensure the work submitted is original. You can use the internet for help but do not copy and paste directly from AI tools.
7. Name your PDF document in this format Blinkit_DA_YourFullName
8. **Submission Deadline: 5 PM, 6th October** (No extension)