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CCPP ID=PB0160

1. Data Retrieval,Filtering and joins

1-Write a query to select all customers from the customers table who live in a state with a name that starts with "C" and ends with "A".
ANSWER-

```
SELECT * FROM CUSTOMER WHERE STATE LIKE 'C%A';
OR
SELECT * FROM CUSTOMER WHERE STATE LIKE 'C%' AND '%A';
OR
SELECT * FROM Customer WHERE state REGEXP '^C.*A$';
```

2.Find all Orders which have out of stock products

```
SELECT DISTINCT or.OrderID FROM Orders or
JOIN OrderDetails od ON or.OrderID = od.OrderID
JOIN Products pro ON od.ProductID = pro.ProductID
WHERE pro.StockQuantity <= 0;
```

3.Find all customer name and their customer id whoe have a pending or shipped order

```
SELECT c.customer_id, c.first_name, c.last_name
Customer c JOIN `Order` o ON c.customer_id = o.customer_id
WHERE o.status IN ('pending', 'shipped');
```

2. Data Aggregation and Grouping:

1. Calculate the total number of products and total discounts in each product category from the products table.

SELECT category, COUNT(product_id) AS count_products,

SUM(discount_per) AS   sum_discounts

FROM Product

GROUP BY category;

2.Total customer counts and total revenue of each state.

SELECT c.state,   COUNT(DISTINCT c.customer_id) AS total_customers,

 SUM(o.total_amount) AS total_revenue

FROM Customer c

JOIN `Order` o ON c.customer_id = o.customer_id

GROUP BY c.state

OR

SELECT c.State,COUNT(DISTINCT c.CustomerID) AS TotalCustomers,

COALESCE(SUM(o.TotalAmount), 0) AS TotalRevenue

FROM Customers c LEFT JOIN

Orders o ON c. customer_id = o. customer_id

GROUP BY c.State;

3.What are the top 2 product by revenue after the discount

```
SELECT p.name,

SUM((ol.Unit_price - ol.discount) * ol.quantity) AS total_revenue

FROM `Order line item` ol

JOIN Product p ON ol.product_id = p.product_id

GROUP BY p.name

ORDER BY total_revenue DESC

LIMIT 2;
```

OR

We can also use CTE for this query…

4. What is first order date of each customer.

```
SELECT c.customer_id, c.first_name, c.last_name, MIN(o.order_date) AS first_order_date

FROM Customer c

JOIN `Order` o ON c.customer_id = o.customer_id

GROUP BY c.customer_id, c.first_name, c.last_name;
```

3.Data Manipulation:

1. Update the price of all products in the "electronics" category by a 10% discount in the products table.

```
UPDATE Product
SET price = price * 0.90
WHERE category = 'Electronics';
```

2. Delete all duplicate rows from the customers table (ensure proper logic to handle duplicates).

```
WITH RankedCustomers AS (
   SELECT customer_id,first_name,last_name,address,state,
    ROW_NUMBER() OVER (PARTITION BY customer_id, first_name, last_name, address, state ORDER BY customer_id) AS rn
   FROM Customer
)
DELETE FROM Customer
WHERE customer_id IN (
   SELECT customer_id
   FROM RankedCustomers
   WHERE rn > 1
);
```

3. Create a new field in Order line item table for total price (unit price x quantity)

```
ALTER TABLE Order_line_item
ADD COLUMN total_price DECIMAL(10, 2);
```