Assignment 1 - TechShop, an electronic gadgets shop **J724 – Pavithra Balaji**

Task 3. Aggregate functions, Having, Order By, GroupBy and Joins:

1. Write an SQL query to retrieve a list of all orders along with customer information (e.g., customer name) for each order.

```
SELECT o.order_id, o.order_date, o.total_amount,
    c.first_name, c.last_name, c.email, c.phone, c.address
FROM orders o
JOIN customers c ON o.customer_id = c.customer_id;
```

2. Write an SQL query to find the total revenue generated by each electronic gadget product. Include the product name and the total revenue.

```
SELECT p.product_name, SUM(od.quantity * p.price) AS total_revenue
FROM orderdetails od
JOIN products p
ON od.product_id = p.product_id
GROUP BY p.product_name;
```

3. Write an SQL query to list all customers who have made at least one purchase. Include their names and contact information.

```
SELECT DISTINCT c.customer_id, c.first_name, c.last_name, c.email, c.phone, c.address
FROM customers c
JOIN orders o
ON c.customer_id = o.customer_id;
```

4. Write an SQL query to find the most popular electronic gadget, which is the one with the highest total quantity ordered. Include the product name and the total quantity ordered.

```
SELECT p.product_name, SUM(od.quantity) AS total_quantity_ordered
FROM products p
JOIN orderdetails od
ON p.product_id = od.product_id
GROUP BY p.product_id, p.product_name
```

ORDER BY total_quantity_ordered DESC

LIMIT 1; [It is optional]

5. Write an SQL query to retrieve a list of electronic gadgets along with their corresponding categories.

SELECT product_name, description

FROM products

WHERE description = '5G mobile, 128GB storage, 8GB RAM';

6. Write an SQL query to calculate the average order value for each customer. Include the customer's name and their average order value.

SELECT c.customer_id, c.first_name, c.last_name, AVG(o.total_amount) AS average_order_value

FROM customers c

JOIN orders o

ON c.customer_id = o.customer_id

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

7. Write an SQL query to find the order with the highest total revenue. Include the order ID, customer information, and the total revenue.

SELECT o.order_id, o.total_amount AS total_revenue,

c.customer_id, c.first_name, c.last_name, c.email, c.phone, c.address

FROM orders o

JOIN customers c

ON o.customer_id = c.customer_id

WHERE o.total_amount = (SELECT MAX(total_amount) FROM orders);

8. Write an SQL query to list electronic gadgets and the number of times each product has been ordered.

SELECT p.product_name, COUNT(od.product_id) AS total_orders

FROM products p

JOIN orderdetails od

ON p.product_id = od.product_id

```
WHERE p.description = '5G mobile, 128GB storage, 8GB RAM'

GROUP BY p.product_name

ORDER BY total_orders DESC;
```

9. Write an SQL query to find customers who have purchased a specific electronic gadget product. Allow users to input the product name as a parameter.

```
SELECT c.customer_id, c.first_name, c.last_name, c.email, c.phone

FROM customers c

JOIN orders o ON c.customer_id = o.customer_id

JOIN orderdetails od ON o.order_id = od.order_id

JOIN products p ON od.product_id = p.product_id

WHERE p.product_name = 'iPhone 15';
```

10. Write an SQL query to calculate the total revenue generated by all orders placed within a specific time period. Allow users to input the start and end dates as parameters.

```
SELECT SUM(o.total_amount) AS total_revenue

FROM orders o

WHERE o.order_date BETWEEN '2025-03-11' AND '2025-03-25';
```