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

Task 4. Subquery and its type:

1. Write an SQL query to find out which customers have not placed any orders.

```
SELECT *
FROM customers
WHERE customer_id NOT IN (SELECT DISTINCT customer_id FROM orders);
```

2. Write an SQL query to find the total number of products available for sale.

```
SELECT COUNT(*) AS total_products
FROM products
WHERE product_id IN (SELECT product_id FROM inventory WHERE quantityinstock > 0);
```

3. Write an SQL query to calculate the total revenue generated by TechShop.

```
SELECT SUM(o.total_amount) AS total_revenue
FROM orders o;
```

4. Write an SQL query to calculate the average quantity ordered for products in a specific category. Allow users to input the category name as a parameter.

```
SELECT AVG(quantity) AS averageQuantity
FROM orderDetails
WHERE product_id IN (
SELECT product_id FROM products WHERE description = @description);
```

5. Write an SQL query to calculate the total revenue generated by a specific customer. Allow users to input the customer ID as a parameter.

```
SET @customerIDinput=4;
SELECT SUM(total_amount)as totalRevenue FROM orders WHERE customer_id=@customerIDinput
GROUP BY customer_id;
```

6. Write an SQL query to find the customers who have placed the most orders. List their names and the number of orders they've placed.

```
SELECT c.customer_id, c.first_name, c.last_name,
   COUNT(o.order_id) AS total_orders
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
GROUP BY c.customer_id, c.first_name, c.last_name
ORDER BY total_orders DESC
LIMIT 1;
```

7. Write an SQL query to find the most popular product category, which is the one with the highest total quantity ordered across all orders.

```
SELECT p.description,    SUM(od.quantity) AS total_quantity_ordered
FROM orderdetails od
JOIN products p ON od.product_id = p.product_id
GROUP BY p.description
ORDER BY total_quantity_ordered DESC
LIMIT 1;
```

8. Write an SQL query to find the customer who has spent the most money (highest total revenue) on electronic gadgets. List their name and total spending.

```
SELECT c.customer_id, c.first_name, o.total_amount
FROM customers AS c
JOIN orders AS o using (Customer_id)
WHERE o.total_amount = (
        SELECT max(total_amount) FROM orders
);
```

9. Write an SQL query to calculate the average order value (total revenue divided by the number of orders) for all customers.

```
SELECT AVG(o.total_amount) AS average_order_value
FROM orders o;
```

10. Write an SQL query to find the total number of orders placed by each customer and list their names along with the order count.

```
SELECT c.first_name, c.last_name, COUNT(o.order_id) AS total_orders

FROM customers c

LEFT JOIN orders o ON c.customer_id = o.customer_id

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

ORDER BY total_orders DESC;
```