

#### **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 CustomerID NOT IN (SELECT DISTINCT CustomerID FROM  
Orders);
```

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

```
SELECT COUNT(*) AS TotalProducts FROM Products;
```

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

```
SELECT SUM(od.Quantity * p.Price) AS TotalRevenue  
  
FROM OrderDetails od  
  
JOIN Products p ON od.ProductID = p.ProductID;
```

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  
  
FROM OrderDetails  
  
WHERE ProductID IN (  
  
SELECT ProductID FROM Products  
  
WHERE CategoryID = (  
  
SELECT CategoryID FROM Categories  
  
WHERE CategoryName = 'Smartphones' )  
  
);
```

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.

```
SELECT SUM(Quantity * Price) AS TotalRevenue  
  
FROM OrderDetails  
  
WHERE OrderID IN (  
  
    SELECT OrderID FROM Orders WHERE CustomerID = 3  
  
);
```

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.FirstName, c.LastName, COUNT(o.OrderID) AS  
OrderCount  
  
FROM Customers c  
  
JOIN Orders o ON c.CustomerID = o.CustomerID  
  
GROUP BY c.CustomerID  
  
HAVING COUNT(o.OrderID) = (  
  
    SELECT MAX(OrderCount)  
  
    FROM (SELECT COUNT(OrderID) AS OrderCount FROM Orders  
    GROUP BY CustomerID) AS subquery  
  
);
```

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 CategoryName  
  
FROM Categories  
  
WHERE CategoryID = (  
  
    SELECT CategoryID  
  
    FROM Products  
  
    WHERE ProductID = (  
  
        SELECT ProductID  
  
        FROM OrderDetails  
  
        GROUP BY ProductID  
  
        ORDER BY SUM(Quantity) DESC)  
  
    );
```

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.FirstName, c.LastName, SUM(od.Quantity * p.Price) AS  
TotalSpent  
  
FROM Customers c  
  
JOIN Orders o ON c.CustomerID = o.CustomerID  
  
JOIN OrderDetails od ON o.OrderID = od.OrderID  
  
JOIN Products p ON od.ProductID = p.ProductID  
  
GROUP BY c.CustomerID  
  
ORDER BY TotalSpent DESC;
```

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

```
SELECT AVG(TotalAmount) AS AverageOrderValue FROM Orders ;
```

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 FirstName, LastName,
```

```
(SELECT COUNT(OrderID) FROM Orders WHERE Orders.CustomerID =  
Customers.CustomerID) AS TotalOrder
```

```
FROM Customers;
```