**TechShop, an electronic gadgets shop**

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

1. Retrieve a list of all orders along with customer information (e.g., customer name) for each order.

**SELECT O.OrderID, O.OrderDate, C.FirstName, C.LastName, O.TotalAmount**

**FROM Orders O**

**JOIN Customers C ON O.CustomerID = C.CustomerID;**

2. Find the total revenue generated by each electronic gadget product.

**SELECT P.ProductName, SUM(OD.Quantity \* P.Price) AS TotalRevenue**

**FROM OrderDetails OD**

**JOIN Products P ON OD.ProductID = P.ProductID**

**GROUP BY P.ProductName;**

3. List all customers who have made at least one purchase, including their names and contact information.

**SELECT DISTINCT C.CustomerID, C.FirstName, C.LastName, C.Email, C.Phone**

**FROM Customers C**

**JOIN Orders O ON C.CustomerID = O.CustomerID;**

4.SELECT TOP 1 P.ProductName, SUM(OD.Quantity) AS TotalQuantityOrdered

**FROM OrderDetails OD**

**JOIN Products P ON OD.ProductID = P.ProductID**

**GROUP BY P.ProductName**

**ORDER BY TotalQuantityOrdered DESC;**

5. Retrieve a list of electronic gadgets along with their corresponding categories.

**SELECT ProductID, ProductName, Description**

**FROM Products;**

6. Calculate the average order value for each customer.

**SELECT C.CustomerID, C.FirstName, C.LastName, AVG(O.TotalAmount) AS AvgOrderValue**

**FROM Customers C**

**JOIN Orders O ON C.CustomerID = O.CustomerID**

**GROUP BY C.CustomerID, C.FirstName, C.LastName;**

7. Find the order with the highest total revenue.

**SELECT TOP 1 O.OrderID, C.FirstName, C.LastName, O.TotalAmount**

**FROM Orders O**

**JOIN Customers C ON O.CustomerID = C.CustomerID**

**ORDER BY O.TotalAmount DESC;**

8. List electronic gadgets and the number of times each product has been ordered.

**SELECT P.ProductName, COUNT(OD.OrderDetailID) AS TimesOrdered**

**FROM OrderDetails OD**

**JOIN Products P ON OD.ProductID = P.ProductID**

**GROUP BY P.ProductName**

**ORDER BY TimesOrdered DESC;**

9. Find customers who have purchased a specific electronic gadget.

**SELECT DISTINCT C.CustomerID, C.FirstName, C.LastName, C.Email**

**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**

**WHERE P.ProductName = 'Laptop';**

10. Calculate the total revenue generated by all orders placed within a specific time period.

**SELECT SUM(TotalAmount) AS TotalRevenue**

**FROM Orders**

**WHERE OrderDate BETWEEN '2025-03-01' AND '2025-10-29';**

**Task 4. Subquery and its type:**

1. Find customers who have not placed any orders.

**SELECT CustomerID, FirstName, LastName, Email**

**FROM Customers**

**WHERE CustomerID NOT IN (SELECT DISTINCT CustomerID FROM Orders);**

2. Find the total number of products available for sale.

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

3. Calculate the total revenue generated by TechShop.

**SELECT SUM(TotalAmount) AS TotalRevenue FROM Orders;**

4. Calculate the average quantity ordered for products in a specific category.

**SELECT AVG(OD.Quantity) AS AvgQuantityOrdered**

**FROM OrderDetails OD**

**JOIN Products P ON OD.ProductID = P.ProductID**

**WHERE P.ProductName = 'Laptop'; -- Change product name as needed**

5. Calculate the total revenue generated by a specific customer.

**SELECT C.CustomerID, C.FirstName, C.LastName, SUM(O.TotalAmount) AS TotalRevenue**

**FROM Customers C**

**JOIN Orders O ON C.CustomerID = O.CustomerID**

**WHERE C.CustomerID = 3 -- Change CustomerID as needed**

**GROUP BY C.CustomerID, C.FirstName, C.LastName;**

6. Find the customers who have placed the most orders.

**SELECT TOP 1 C.CustomerID, C.FirstName, C.LastName, COUNT(O.OrderID) AS TotalOrders**

**FROM Customers C**

**JOIN Orders O ON C.CustomerID = O.CustomerID**

**GROUP BY C.CustomerID, C.FirstName, C.LastName**

**ORDER BY TotalOrders DESC;**

7. Find the most popular product category (highest total quantity ordered).

**SELECT TOP 1 P.ProductName, SUM(OD.Quantity) AS TotalOrdered**

**FROM OrderDetails OD**

**JOIN Products P ON OD.ProductID = P.ProductID**

**GROUP BY P.ProductName**

**ORDER BY TotalOrdered DESC;**

8. Find the customer who has spent the most money (highest total revenue).

**SELECT TOP 1 C.CustomerID, C.FirstName, C.LastName, SUM(O.TotalAmount) AS TotalSpent**

**FROM Customers C**

**JOIN Orders O ON C.CustomerID = O.CustomerID**

**GROUP BY C.CustomerID, C.FirstName, C.LastName**

**ORDER BY TotalSpent DESC;**

9. Calculate the average order value for all customers.

**SELECT AVG(TotalAmount) AS AvgOrderValue FROM Orders;**

10. Find the total number of orders placed by each customer.

**SELECT C.CustomerID, C.FirstName, C.LastName, COUNT(O.OrderID) AS OrderCount**

**FROM Customers C**

**LEFT JOIN Orders O ON C.CustomerID = O.CustomerID**

**GROUP BY C.CustomerID, C.FirstName, C.LastName;**