-- Level C SQL Queries Assignment (Based on AdventureWorks)

-- 1. Retrieve the top 5 products with the highest total sales revenue

SELECT TOP 5 p.Name, SUM(d.LineTotal) AS TotalRevenue

FROM Sales.SalesOrderDetail d

JOIN Production.Product p ON d.ProductID = p.ProductID

GROUP BY p.Name

ORDER BY TotalRevenue DESC;

-- 2. Retrieve the customer(s) who made the highest single order (by TotalDue)

SELECT TOP 1 c.CustomerID, p.FirstName, p.LastName, h.TotalDue

FROM Sales.SalesOrderHeader h

JOIN Sales.Customer c ON h.CustomerID = c.CustomerID

JOIN Person.Person p ON c.PersonID = p.BusinessEntityID

ORDER BY h.TotalDue DESC;

-- 3. List out the monthly sales revenue for the year 2008

SELECT MONTH(OrderDate) AS Month, SUM(TotalDue) AS MonthlyRevenue

FROM Sales.SalesOrderHeader

WHERE YEAR(OrderDate) = 2008

GROUP BY MONTH(OrderDate)

ORDER BY Month;

-- 4. Retrieve the list of products that were never sold

SELECT \* FROM Production.Product

WHERE ProductID NOT IN (

SELECT DISTINCT ProductID FROM Sales.SalesOrderDetail

);

-- 5. Get the average purchase amount per customer

SELECT c.CustomerID, p.FirstName, p.LastName, AVG(h.TotalDue) AS AvgPurchase

FROM Sales.SalesOrderHeader h

JOIN Sales.Customer c ON h.CustomerID = c.CustomerID

JOIN Person.Person p ON c.PersonID = p.BusinessEntityID

GROUP BY c.CustomerID, p.FirstName, p.LastName;

-- 6. List all customers who placed orders in more than one year

SELECT c.CustomerID, COUNT(DISTINCT YEAR(h.OrderDate)) AS YearsOrdered

FROM Sales.SalesOrderHeader h

JOIN Sales.Customer c ON h.CustomerID = c.CustomerID

GROUP BY c.CustomerID

HAVING COUNT(DISTINCT YEAR(h.OrderDate)) > 1;

-- 7. List out the product category with the highest total sales

SELECT TOP 1 pc.Name AS Category, SUM(d.LineTotal) AS TotalSales

FROM Sales.SalesOrderDetail d

JOIN Production.Product p ON d.ProductID = p.ProductID

JOIN Production.ProductSubcategory ps ON p.ProductSubcategoryID = ps.ProductSubcategoryID

JOIN Production.ProductCategory pc ON ps.ProductCategoryID = pc.ProductCategoryID

GROUP BY pc.Name

ORDER BY TotalSales DESC;

-- 8. List out the customers who have not placed any orders in 2008

SELECT \* FROM Sales.Customer c

WHERE c.CustomerID NOT IN (

SELECT DISTINCT CustomerID FROM Sales.SalesOrderHeader

WHERE YEAR(OrderDate) = 2008

);

-- 9. List the total number of products sold by each salesperson

SELECT h.SalesPersonID, COUNT(d.ProductID) AS ProductsSold

FROM Sales.SalesOrderHeader h

JOIN Sales.SalesOrderDetail d ON h.SalesOrderID = d.SalesOrderID

WHERE h.SalesPersonID IS NOT NULL

GROUP BY h.SalesPersonID;

-- 10. Retrieve the order with the highest quantity of a single product

SELECT TOP 1 d.SalesOrderID, d.ProductID, d.OrderQty

FROM Sales.SalesOrderDetail d

ORDER BY d.OrderQty DESC;