Lab 5

1. **Join the Sales.SalesOrderHeader table to the Sales.SalesOrderDetail table. Display the SalesOrderID, OrderDate, and ProductID columns in the results. The Sales.SalesOrderDetail table should be inside the derived table query.**
   1. SELECT SOH.SalesOrderID, SOH.OrderDate, ProductID

FROM Sales.SalesOrderHeader AS SOH

INNER JOIN (

SELECT SalesOrderID, ProductID

FROM Sales.SalesOrderDetail) AS SOD

ON SOH.SalesOrderID = SOD.SalesOrderID;

1. **Rewrite the query in question 1 with a common table expression**
   1. WITH SOD AS (

SELECT SalesOrderID, ProductID

FROM Sales.SalesOrderDetail

)

SELECT SOH.SalesOrderID, SOH.OrderDate, ProductID

FROM Sales.SalesOrderHeader AS SOH

INNER JOIN SOD ON SOH.SalesOrderID = SOD.SalesOrderID;

1. **Write a query that displays all customers along with the orders placed in 2001. Use a common table expression to write the query and include the CustomerID, SalesOrderID, and OrderDatecolumns in the results.**
   1. WITH SOH AS (

SELECT SalesOrderID, OrderDate, CustomerID

FROM Sales.SalesOrderHeader

WHERE OrderDate BETWEEN '1/1/2001' AND '12/31/2001'

)

SELECT C.CustomerID, SalesOrderID, OrderDate

FROM Sales.Customer AS C

LEFT OUTER JOIN SOH ON C.CustomerID = SOH.CustomerID**;**

1. **Write a query that joins the HumanResources.Employee table to the Person.Person table so that you can display the FirstName, LastName, and HireDate columns for each employee. Display the JobTitle along with a count of employees for the title. Use a derived table to solve this query.**
   1. SELECT FirstName, LastName, e.JobTitle, HireDate, CountOfTitle

FROM HumanResources.Employee AS e

INNER JOIN Person.Person AS p ON e.BusinessEntityID = p.BusinessEntityID

INNER JOIN (

SELECT COUNT(\*) AS CountOfTitle, JobTitle

FROM HumanResources.Employee

GROUP BY JobTitle) AS j ON e.JobTitle = j.JobTitle;

1. **Rewrite the previous query using CTE.**
   1. WITH j AS

(SELECT COUNT(\*) AS CountOfTitle, JobTitle

FROM HumanResources.Employee

GROUP BY JobTitle)

SELECT FirstName, LastName, e.JobTitle, HireDate, CountOfTitle

FROM HumanResources.Employee AS e

INNER JOIN Person.Person AS p ON e.BusinessEntityID = p.BusinessEntityID

INNER JOIN j ON e.JobTitle = j.JobTitle;

1. **Display the CustomerID, SalesOrderID, and OrderDate for each Sales.SalesOrderHeader row as long as the customer has placed at least five orders.**
   1. WITH c AS (

SELECT CustomerID

FROM Sales.SalesOrderHeader

GROUP BY CustomerID

HAVING COUNT(\*) > 4)

SELECT c.CustomerID, SalesOrderID, OrderDate

FROM Sales.SalesOrderHeader AS SOH

INNER JOIN c ON SOH.CustomerID = c.CustomerID**;**

**--derived table**

SELECT c.CustomerID, SalesOrderID, OrderDate FROM Sales.SalesOrderHeader AS SOH INNER JOIN (

SELECT CustomerID

FROM Sales.SalesOrderHeader

GROUP BY CustomerID

HAVING COUNT(\*) > 4) AS c ON SOH.CustomerID = c.CustomerID**;**

1. **Create a temp table called #CustomerInfo that contains CustomerID, FirstName, and LastNamecolumns. Include CountOfSales and SumOfTotalDue columns. Populate the table with a query using the Sales.Customer, Person.Person, and Sales.SalesOrderHeader tables.**
   1. CREATE TABLE #CustomerInfo( CustomerID INT, FirstName VARCHAR(50),

LastName VARCHAR(50),CountOfSales INT, SumOfTotalDue MONEY);

GO

INSERT INTO #CustomerInfo(CustomerID,FirstName,LastName, CountOfSales, SumOfTotalDue)

SELECT C.CustomerID, FirstName, LastName,COUNT(\*),SUM(TotalDue) FROM Sales.Customer AS C INNER JOIN Person.Person AS P ON C.CustomerID = P.BusinessEntityID INNER JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID GROUP BY C.CustomerID, FirstName, LastName ;

1. **Change the previous code written to use a table variable instead of a temp table.**
   1. DECLARE @CustomerInfo TABLE ( CustomerID INT, FirstName VARCHAR(50),

LastName VARCHAR(50),CountOfSales INT, SumOfTotalDue MONEY);

INSERT INTO @CustomerInfo(CustomerID,FirstName,LastName, CountOfSales, SumOfTotalDue)

SELECT C.CustomerID, FirstName, LastName,COUNT(\*),SUM(TotalDue) FROM Sales.Customer AS C INNER JOIN Person.Person AS P ON C.CustomerID = P.BusinessEntityID INNER JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID GROUP BY C.CustomerID, FirstName, LastName ;