**Level A SQL Queries Assignment**

**Name :-** Satyajeet Sanjay Lokare.

1)List of all customers?

**Sol** :- SELECT \* FROM Sales.Customer;

2) list of all customers where company name ending in N?

**Sol** :- SELECT C.CustomerID, P.FirstName, P.LastName, CO.Name AS CompanyName FROM Sales.Customer AS C

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID LEFT JOIN Sales.Store AS S ON C.StoreID = S.BusinessEntityID -- For Store customers LEFT JOIN Sales.SalesTerritory AS ST ON C.TerritoryID = ST.TerritoryID LEFT JOIN Sales.SalesTerritory AS ST ON C.TerritoryID = ST.TerritoryID

LEFT JOIN Sales.Customer AS Cust ON C.CustomerID = Cust.CustomerID

LEFT JOIN Sales.Store AS CO ON C.StoreID = CO.BusinessEntityID WHERE CO.Name LIKE '%N';

3)List of all customers who live berlin and London?

**Sol:-** SELECT DISTINCT P.FirstName, P.LastName, A.City FROM Person.Person AS P JOIN Person.BusinessEntityAddress AS BEA ON P.BusinessEntityID = BEA.BusinessEntityID JOIN Person.Address AS A ON BEA.AddressID = A.AddressID WHERE A.City IN ('Berlin', 'London');

4) List of all customers who live in UK or USA?

**Sol :-**SELECT DISTINCT P.FirstName, P.LastName, CR.Name AS CountryRegion FROM Person.Person AS P JOIN Person.BusinessEntityAddress AS BEA ON P.BusinessEntityID = BEA.BusinessEntityID JOIN Person.Address AS A ON BEA.AddressID = A.AddressID JOIN Person.StateProvince AS SP ON A.StateProvinceID = SP.StateProvinceID JOIN Person.CountryRegion AS CR ON SP.CountryRegionCode = CR.CountryRegionCode WHERE CR.Name IN ('United Kingdom', 'United States');

5) List of all products sorted by product name?

**Sol** :- SELECT ProductID, Name AS ProductName, ListPrice FROM Production.Product ORDER BY ProductName;

6) List of all products where product name starts with an A?

**Sol** :-SELECT ProductID, Name AS ProductName, ListPrice

FROM Production.Product

WHERE Name LIKE 'A%';

7) List of customers who ever placed an order?

**Sol** :-SELECT DISTINCT C.CustomerID, P.FirstName, P.LastName

FROM Sales.Customer AS C

JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID;

8) List of Customers who live in London and have bought chai?

**Sol** :-SELECT DISTINCT P.FirstName, P.LastName, A.City, Prod.Name AS ProductName

FROM Sales.Customer AS C

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID

JOIN Person.BusinessEntityAddress AS BEA ON P.BusinessEntityID = BEA.BusinessEntityID

JOIN Person.Address AS A ON BEA.AddressID = A.AddressID

JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID

JOIN Sales.SalesOrderDetail AS SOD ON SOH.SalesOrderID = SOD.SalesOrderID

JOIN Production.Product AS Prod ON SOD.ProductID = Prod.ProductID

WHERE A.City = 'London' AND Prod.Name = 'Chai'; -- Assuming 'Chai' is the product name

9) List of customers who never place an order?

**Sol** :-SELECT C.CustomerID, P.FirstName, P.LastName

FROM Sales.Customer AS C

LEFT JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID

WHERE SOH.SalesOrderID IS NULL;

10) List of customers who ordered Tofu?

**Sol** :- SELECT DISTINCT C.CustomerID, P.FirstName, P.LastName

FROM Sales.Customer AS C

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID

JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID

JOIN Sales.SalesOrderDetail AS SOD ON SOH.SalesOrderID = SOD.SalesOrderID

JOIN Production.Product AS Prod ON SOD.ProductID = Prod.ProductID

WHERE Prod.Name = 'Tofu';

11)Details of first order of the system

**Sol** :-SELECT TOP 1 \*

FROM Sales.SalesOrderHeader

ORDER BY OrderDate ASC;

12)Find the details of most expensive order date

**Sol** :- SELECT TOP 1 SalesOrderID, OrderDate, TotalDue

FROM Sales.SalesOrderHeader

ORDER BY TotalDue DESC;

13)For each order get the OrderID and Average quantity of items in that order

**Sol** :-SELECT SalesOrderID, AVG(OrderQty) AS AverageQuantity

FROM Sales.SalesOrderDetail

GROUP BY SalesOrderID;

14) For each order get the OrderID, minimum quantity and maximum quantity for that order?

**Sol** :-SELECT SalesOrderID, MIN(OrderQty) AS MinimumQuantity, MAX(OrderQty) AS MaximumQuantity

FROM Sales.SalesOrderDetail

GROUP BY SalesOrderID;

15) Get a list of all managers and total number of employees who report to them?

**Sol** :-SELECT M.BusinessEntityID AS ManagerID, P.FirstName AS ManagerFirstName, P.LastName AS ManagerLastName, COUNT(E.BusinessEntityID) AS NumberOfReportees

FROM HumanResources.Employee AS E

JOIN HumanResources.Employee AS M ON E.OrganizationNode.GetAncestor(1) = M.OrganizationNode -- Assumes OrganizationNode hierarchy

JOIN Person.Person AS P ON M.BusinessEntityID = P.BusinessEntityID

WHERE E.OrganizationNode.GetAncestor(1) IS NOT NULL

GROUP BY M.BusinessEntityID, P.FirstName, P.LastName

ORDER BY NumberOfReportees DESC;

16. Get the OrderID and the total quantity for each order that has a total quantity of greater than 300?

**Sol** :-SELECT SalesOrderID, SUM(OrderQty) AS TotalQuantity

FROM Sales.SalesOrderDetail

GROUP BY SalesOrderID

HAVING SUM(OrderQty) > 300;

17)list of all orders placed on or after 1996/12/31?

**Sol** :- SELECT SalesOrderID, OrderDate, TotalDue

FROM Sales.SalesOrderHeader

WHERE OrderDate >= '1996-12-31';

18)list of all orders shipped to Canada?

**Sol** :-SELECT DISTINCT SOH.SalesOrderID, SOH.OrderDate, A.AddressLine1, A.City, SP.Name AS StateProvince, CR.Name AS CountryRegion

FROM Sales.SalesOrderHeader AS SOH

JOIN Person.Address AS A ON SOH.ShipToAddressID = A.AddressID

JOIN Person.StateProvince AS SP ON A.StateProvinceID = SP.StateProvinceID

JOIN Person.CountryRegion AS CR ON SP.CountryRegionCode = CR.CountryRegionCode

WHERE CR.Name = 'Canada';

19)List of all orders with order total > 200?

**Sol** :-SELECT SalesOrderID, TotalDue

FROM Sales.SalesOrderHeader

WHERE TotalDue > 200;

20. List of countries and sales made in each country

**Sol** :-SELECT CR.Name AS CountryRegion, SUM(SOH.TotalDue) AS TotalSales

FROM Sales.SalesOrderHeader AS SOH

JOIN Person.Address AS A ON SOH.ShipToAddressID = A.AddressID

JOIN Person.StateProvince AS SP ON A.StateProvinceID = SP.StateProvinceID

JOIN Person.CountryRegion AS CR ON SP.CountryRegionCode = CR.CountryRegionCode

GROUP BY CR.Name

ORDER BY TotalSales DESC;

21)List of Customer ContactName and number of orders they placed?

**Sol** :- SELECT

P.FirstName,

P.LastName,

COUNT(SOH.SalesOrderID) AS NumberOfOrders

FROM Sales.Customer AS C

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID

LEFT JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID

GROUP BY P.FirstName, P.LastName

ORDER BY NumberOfOrders DESC;

22)List of customer contactnames who have placed more than 3 orders?

**Sol** :-SELECT

P.FirstName,

P.LastName,

COUNT(SOH.SalesOrderID) AS NumberOfOrders

FROM Sales.Customer AS C

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID

JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID

GROUP BY P.FirstName, P.LastName

HAVING COUNT(SOH.SalesOrderID) > 3

ORDER BY NumberOfOrders DESC;

23)List of discontinued products which were ordered between 1/1/1997 and 1/1/1998?

**Sol** :-SELECT DISTINCT

P.ProductID,

P.Name AS ProductName,

P.SellEndDate

FROM Production.Product AS P

JOIN Sales.SalesOrderDetail AS SOD ON P.ProductID = SOD.ProductID

JOIN Sales.SalesOrderHeader AS SOH ON SOD.SalesOrderID = SOH.SalesOrderID

WHERE P.SellEndDate IS NOT NULL -- This indicates a discontinued product

AND SOH.OrderDate >= '1997-01-01'

AND SOH.OrderDate < '1998-01-01'

24)List of employee firstName, lastName, supervisor FirstName, LastName?

**Sol** :-SELECT

E.BusinessEntityID AS EmployeeID,

P.FirstName AS EmployeeFirstName,

P.LastName AS EmployeeLastName,

M.BusinessEntityID AS SupervisorID,

MP.FirstName AS SupervisorFirstName,

MP.LastName AS SupervisorLastName

FROM HumanResources.Employee AS E

JOIN Person.Person AS P ON E.BusinessEntityID = P.BusinessEntityID

LEFT JOIN HumanResources.Employee AS M ON E.OrganizationNode.GetAncestor(1) = M.OrganizationNode

LEFT JOIN Person.Person AS MP ON M.BusinessEntityID = MP.BusinessEntityID;

25)List of Employees id and total sale conducted by employee?

**Sol** :- HumanResources.Employee.BusinessEntityID

SELECT

E.BusinessEntityID AS EmployeeID,

P.FirstName,

P.LastName,

SUM(SOH.TotalDue) AS TotalSalesConducted

FROM HumanResources.Employee AS E

JOIN Person.Person AS P ON E.BusinessEntityID = P.BusinessEntityID

LEFT JOIN Sales.SalesOrderHeader AS SOH ON E.BusinessEntityID = SOH.SalesPersonID

GROUP BY E.BusinessEntityID, P.FirstName, P.LastName

ORDER BY TotalSalesConducted DESC;

26)List of employees whose FirstName contains character 'a'?

**Sol** :-SELECT

E.BusinessEntityID AS EmployeeID,

P.FirstName,

P.LastName

FROM HumanResources.Employee AS E

JOIN Person.Person AS P ON E.BusinessEntityID = P.BusinessEntityID

WHERE P.FirstName LIKE '%a%';

27)List of managers who have more than four people reporting to them?

**Sol** :- SELECT

M.BusinessEntityID AS ManagerID,

MP.FirstName AS ManagerFirstName,

MP.LastName AS ManagerLastName,

COUNT(E.BusinessEntityID) AS NumberOfReportees

FROM HumanResources.Employee AS E

JOIN HumanResources.Employee AS M ON E.OrganizationNode.GetAncestor(1) = M.OrganizationNode

JOIN Person.Person AS MP ON M.BusinessEntityID = MP.BusinessEntityID

GROUP BY M.BusinessEntityID, MP.FirstName, MP.LastName

HAVING COUNT(E.BusinessEntityID) > 4

ORDER BY NumberOfReportees DESC;

28)List of Orders and ProductNames?

**Sol** :-SELECT

SOH.SalesOrderID,

SOH.OrderDate,

P.Name AS ProductName,

SOD.OrderQty

FROM Sales.SalesOrderHeader AS SOH

JOIN Sales.SalesOrderDetail AS SOD ON SOH.SalesOrderID = SOD.SalesOrderID

JOIN Production.Product AS P ON SOD.ProductID = P.ProductID

ORDER BY SOH.SalesOrderID, P.Name;

29)List of orders place by the best customer?

**Sol** :-WITH CustomerSales AS (

SELECT

C.CustomerID,

P.FirstName,

P.LastName,

SUM(SOH.TotalDue) AS TotalCustomerSales

FROM Sales.Customer AS C

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID

JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID

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

)

SELECT

SOH.SalesOrderID,

SOH.OrderDate,

SOH.TotalDue,

CS.FirstName AS CustomerFirstName,

CS.LastName AS CustomerLastName

FROM Sales.SalesOrderHeader AS SOH

JOIN Sales.Customer AS C ON SOH.CustomerID = C.CustomerID

JOIN CustomerSales AS CS ON C.CustomerID = CS.CustomerID

WHERE CS.CustomerID = (SELECT TOP 1 CustomerID FROM CustomerSales ORDER BY TotalCustomerSales DESC)

ORDER BY SOH.OrderDate DESC;

30)List of orders placed by customers who do not have a Fax number?

**Sol** :-SELECT

SOH.SalesOrderID,

SOH.OrderDate,

P.FirstName,

P.LastName

FROM Sales.SalesOrderHeader AS SOH

JOIN Sales.Customer AS C ON SOH.CustomerID = C.CustomerID

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID

LEFT JOIN Person.PersonPhone AS PP ON P.BusinessEntityID = PP.BusinessEntityID

LEFT JOIN Person.PhoneNumberType AS PNT ON PP.PhoneNumberTypeID = PNT.PhoneNumberTypeID

WHERE NOT EXISTS (

SELECT 1

FROM Person.PersonPhone AS SubPP

JOIN Person.PhoneNumberType AS SubPNT ON SubPP.PhoneNumberTypeID = SubPNT.PhoneNumberTypeID

WHERE SubPP.BusinessEntityID = P.BusinessEntityID AND SubPNT.Name = 'Fax'

);

31)List of Postal codes where the product Tofu was shipped?

**Sol** :-SELECT DISTINCT

A.PostalCode

FROM Production.Product AS P

JOIN Sales.SalesOrderDetail AS SOD ON P.ProductID = SOD.ProductID

JOIN Sales.SalesOrderHeader AS SOH ON SOD.SalesOrderID = SOH.SalesOrderID

JOIN Person.Address AS A ON SOH.ShipToAddressID = A.AddressID

WHERE P.Name = 'Tofu';

32)List of product Names that were shipped to France

**Sol** :- SELECT DISTINCT

P.Name AS ProductName

FROM Production.Product AS P

JOIN Sales.SalesOrderDetail AS SOD ON P.ProductID = SOD.ProductID

JOIN Sales.SalesOrderHeader AS SOH ON SOD.SalesOrderID = SOH.SalesOrderID

JOIN Person.Address AS A ON SOH.ShipToAddressID = A.AddressID

JOIN Person.StateProvince AS SP ON A.StateProvinceID = SP.StateProvinceID

JOIN Person.CountryRegion AS CR ON SP.CountryRegionCode = CR.CountryRegionCode

WHERE CR.Name = 'France'

ORDER BY ProductName;

33)List of ProductNames and Categories for the supplier 'Specialty Biscuits, Ltd.'?

**Sol** :- SELECT DISTINCT

Prod.Name AS ProductName,

PSC.Name AS SubCategoryName,

PC.Name AS CategoryName

FROM Production.Product AS Prod

JOIN Purchasing.ProductVendor AS PV ON Prod.ProductID = PV.ProductID

JOIN Purchasing.Vendor AS V ON PV.BusinessEntityID = V.BusinessEntityID

LEFT JOIN Production.ProductSubcategory AS PSC ON Prod.ProductSubcategoryID = PSC.ProductSubcategoryID

LEFT JOIN Production.ProductCategory AS PC ON PSC.ProductCategoryID = PC.ProductCategoryID

WHERE V.Name = 'Specialty Biscuits, Ltd.'

ORDER BY CategoryName, SubCategoryName, ProductName;

34)List of products that were never ordered?

**Sol** :-SELECT

P.ProductID,

P.Name AS ProductName

FROM Production.Product AS P

LEFT JOIN Sales.SalesOrderDetail AS SOD ON P.ProductID = SOD.ProductID

WHERE SOD.ProductID IS NULL;

35)List of products where units in stock is less than 10 and units on order are 0?

**Sol** :-SELECT

P.ProductID,

P.Name AS ProductName,

PI.Quantity AS UnitsInStock

FROM Production.Product AS P

JOIN Production.ProductInventory AS PI ON P.ProductID = PI.ProductID

WHERE PI.Quantity < 10 AND P.ReorderPoint = 0;

36)List of top 10 countries by sales?

Sol :- SELECT TOP 10

CR.Name AS CountryRegion,

SUM(SOH.TotalDue) AS TotalSales

FROM Sales.SalesOrderHeader AS SOH

JOIN Person.Address AS A ON SOH.ShipToAddressID = A.AddressID

JOIN Person.StateProvince AS SP ON A.StateProvinceID = SP.StateProvinceID

JOIN Person.CountryRegion AS CR ON SP.CountryRegionCode = CR.CountryRegionCode

GROUP BY CR.Name

ORDER BY TotalSales DESC;

37)Number of orders each employee has taken for customers with CustomerIDs between A and AO?

**Sol** :-SELECT

E.BusinessEntityID AS EmployeeID,

P.FirstName,

P.LastName,

COUNT(SOH.SalesOrderID) AS NumberOfOrders

FROM HumanResources.Employee AS E

JOIN Person.Person AS P ON E.BusinessEntityID = P.BusinessEntityID

JOIN Sales.SalesOrderHeader AS SOH ON E.BusinessEntityID = SOH.SalesPersonID

WHERE SOH.CustomerID BETWEEN 1 AND 1000 -- Replace 1 and 1000 with your actual range

GROUP BY E.BusinessEntityID, P.FirstName, P.LastName

ORDER BY NumberOfOrders DESC;

38)Orderdate of most expensive order?

**Sol** :-SELECT TOP 1

OrderDate

FROM Sales.SalesOrderHeader

ORDER BY TotalDue DESC;

39)Product name and total revenue from that product?

**Sol** :-SELECT

P.Name AS ProductName,

SUM(SOD.LineTotal) AS TotalRevenue

FROM Production.Product AS P

JOIN Sales.SalesOrderDetail AS SOD ON P.ProductID = SOD.ProductID

GROUP BY P.Name

ORDER BY TotalRevenue DESC;

40)Supplierid and number of products offered?

**Sol** :- SELECT

V.BusinessEntityID AS SupplierID,

V.Name AS SupplierName,

COUNT(PV.ProductID) AS NumberOfProductsOffered

FROM Purchasing.Vendor AS V

JOIN Purchasing.ProductVendor AS PV ON V.BusinessEntityID = PV.BusinessEntityID

GROUP BY V.BusinessEntityID, V.Name

ORDER BY NumberOfProductsOffered DESC;

41)Top ten customers based on their business?

**Sol** :- SELECT TOP 10

C.CustomerID,

P.FirstName,

P.LastName,

SUM(SOH.TotalDue) AS TotalBusiness

FROM Sales.Customer AS C

JOIN Person.Person AS P ON C.PersonID = P.BusinessEntityID

JOIN Sales.SalesOrderHeader AS SOH ON C.CustomerID = SOH.CustomerID

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

ORDER BY TotalBusiness DESC;

42)What is the total revenue of the company?

**Sol** :- SELECT

SUM(TotalDue) AS TotalCompanyRevenue

FROM Sales.SalesOrderHeader;