

## **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) Order date 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) Supplier ID 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;