-- 1. List of all customers

SELECT \* FROM Sales.Customer;

-- 2. Customers where company name ends with “N”

SELECT \* FROM Sales.Customer WHERE CompanyName LIKE '%N';

-- 3. Customers who live in Berlin or London

SELECT \* FROM Sales.Customer WHERE City IN ('Berlin', 'London');

-- 4. Customers in UK or USA

SELECT \* FROM Sales.Customer WHERE CountryRegionCode IN ('UK', 'US');

-- 5. All products sorted by product name

SELECT \* FROM Production.Product ORDER BY Name;

-- 6. Products starting with 'A'

SELECT \* FROM Production.Product WHERE Name LIKE 'A%';

-- 7. Customers who ever placed an order

SELECT DISTINCT c.\* FROM Sales.Customer c JOIN Sales.SalesOrderHeader o ON c.CustomerID = o.CustomerID;

-- 8. Customers in London who bought “Chai”

SELECT DISTINCT p.FirstName, p.LastName FROM Sales.SalesOrderHeader h

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

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

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

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

WHERE pr.Name = 'Chai' AND c.City = 'London';

-- 9. Customers who never placed an order

SELECT \* FROM Sales.Customer c WHERE NOT EXISTS (

SELECT 1 FROM Sales.SalesOrderHeader o WHERE o.CustomerID = c.CustomerID

);

-- 10. Customers who ordered “Tofu”

SELECT DISTINCT p.FirstName, p.LastName FROM Sales.SalesOrderHeader h

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

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

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

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

WHERE pr.Name = 'Tofu';

-- 11. First order of the system

SELECT TOP 1 \* FROM Sales.SalesOrderHeader ORDER BY OrderDate ASC;

-- 12. Most expensive order date

SELECT TOP 1 OrderDate FROM Sales.SalesOrderHeader

ORDER BY TotalDue DESC;

-- 13. OrderID and average quantity per order

SELECT SalesOrderID, AVG(OrderQty) AS AvgQty

FROM Sales.SalesOrderDetail

GROUP BY SalesOrderID;

-- 14. OrderID, min and max quantity per order

SELECT SalesOrderID, MIN(OrderQty) AS MinQty, MAX(OrderQty) AS MaxQty

FROM Sales.SalesOrderDetail

GROUP BY SalesOrderID;

-- 15. Managers and total employees reporting to them

SELECT ManagerID, COUNT(\*) AS ReporteeCount

FROM HumanResources.Employee

WHERE ManagerID IS NOT NULL

GROUP BY ManagerID;

-- 16. Orders with total quantity > 300

SELECT SalesOrderID, SUM(OrderQty) AS TotalQty

FROM Sales.SalesOrderDetail

GROUP BY SalesOrderID

HAVING SUM(OrderQty) > 300;

-- 17. Orders on or after 1996-12-31

SELECT \* FROM Sales.SalesOrderHeader

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

-- 18. Orders shipped to Canada

SELECT \* FROM Sales.SalesOrderHeader WHERE ShipToAddressID IN (

SELECT AddressID FROM Person.Address WHERE CountryRegionCode = 'CA'

);

-- 19. Orders with total > 200

SELECT \* FROM Sales.SalesOrderHeader WHERE TotalDue > 200;

-- 20. Countries and their sales

SELECT a.CountryRegionCode, SUM(h.TotalDue) AS TotalSales

FROM Sales.SalesOrderHeader h

JOIN Person.Address a ON h.BillToAddressID = a.AddressID

GROUP BY a.CountryRegionCode;

-- 21. Customer ContactName and number of orders

SELECT p.FirstName + ' ' + p.LastName AS ContactName, COUNT(\*) AS Orders

FROM Sales.SalesOrderHeader h

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

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

GROUP BY p.FirstName, p.LastName;

-- 22. Customers with more than 3 orders

SELECT c.CustomerID, COUNT(\*) AS Orders

FROM Sales.SalesOrderHeader h

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

GROUP BY c.CustomerID

HAVING COUNT(\*) > 3;

-- 23. Discontinued products ordered between 1997 and 1998

SELECT DISTINCT pr.Name FROM Production.Product pr

JOIN Sales.SalesOrderDetail d ON pr.ProductID = d.ProductID

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

WHERE pr.DiscontinuedDate IS NOT NULL

AND h.OrderDate BETWEEN '1997-01-01' AND '1998-01-01';

-- 24. Employees and their supervisors

SELECT e1.BusinessEntityID AS EmpID, p1.FirstName, p1.LastName, p2.FirstName AS SupFirstName, p2.LastName AS SupLastName

FROM HumanResources.Employee e1

JOIN Person.Person p1 ON e1.BusinessEntityID = p1.BusinessEntityID

JOIN HumanResources.Employee e2 ON e1.ManagerID = e2.BusinessEntityID

JOIN Person.Person p2 ON e2.BusinessEntityID = p2.BusinessEntityID;

-- 25. Employee ID and total sales

SELECT h.SalesPersonID, SUM(h.TotalDue) AS TotalSales

FROM Sales.SalesOrderHeader h

WHERE h.SalesPersonID IS NOT NULL

GROUP BY h.SalesPersonID;

-- 26. Employees whose first name contains 'a'

SELECT \* FROM Person.Person WHERE FirstName LIKE '%a%';

-- 27. Managers with more than 4 reportees

SELECT ManagerID, COUNT(\*) AS ReporteeCount

FROM HumanResources.Employee

GROUP BY ManagerID

HAVING COUNT(\*) > 4;

-- 28. Orders and ProductNames

SELECT h.SalesOrderID, p.Name

FROM Sales.SalesOrderDetail d

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

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

-- 29. Orders placed by the best customer (most orders)

SELECT TOP 1 h.CustomerID, COUNT(\*) AS Orders

FROM Sales.SalesOrderHeader h

GROUP BY h.CustomerID

ORDER BY Orders DESC;

-- 30. Orders by customers without fax

SELECT h.\* FROM Sales.SalesOrderHeader h

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

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

WHERE p.FaxNumber IS NULL;

-- 31. Postal codes where “Tofu” was shipped

SELECT DISTINCT a.PostalCode FROM Sales.SalesOrderDetail d

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

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

JOIN Person.Address a ON h.ShipToAddressID = a.AddressID

WHERE p.Name = 'Tofu';

-- 32. Product names shipped to France

SELECT DISTINCT p.Name FROM Sales.SalesOrderHeader h

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

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

JOIN Person.Address a ON h.ShipToAddressID = a.AddressID

WHERE a.CountryRegionCode = 'FR';

-- 33. ProductNames and Categories for supplier 'Specialty Biscuits, Ltd.'

SELECT pr.Name, pc.Name AS Category FROM Production.Product pr

JOIN Production.ProductSubcategory psc ON pr.ProductSubcategoryID = psc.ProductSubcategoryID

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

JOIN Purchasing.ProductVendor pv ON pr.ProductID = pv.ProductID

JOIN Purchasing.Vendor v ON pv.BusinessEntityID = v.BusinessEntityID

WHERE v.Name = 'Specialty Biscuits, Ltd.';

-- 34. Products never ordered

SELECT \* FROM Production.Product

WHERE ProductID NOT IN (

SELECT DISTINCT ProductID FROM Sales.SalesOrderDetail

);

-- 35. Products where units in stock < 10 and units on order = 0

SELECT \* FROM Production.Product

WHERE SafetyStockLevel < 10 AND ReorderPoint = 0;

-- 36. Top 10 countries by sales

SELECT TOP 10 a.CountryRegionCode, SUM(h.TotalDue) AS TotalSales

FROM Sales.SalesOrderHeader h

JOIN Person.Address a ON h.BillToAddressID = a.AddressID

GROUP BY a.CountryRegionCode

ORDER BY TotalSales DESC;

-- 37. Orders by employees for customer IDs between A and AO

SELECT h.SalesPersonID, COUNT(\*) AS Orders

FROM Sales.SalesOrderHeader h

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

WHERE c.AccountNumber BETWEEN 'A00000' AND 'AOZZZZ'

GROUP BY h.SalesPersonID;

-- 38. Most expensive order date

SELECT TOP 1 OrderDate FROM Sales.SalesOrderHeader

ORDER BY TotalDue DESC;

-- 39. Product name and total revenue

SELECT p.Name, SUM(d.LineTotal) AS Revenue

FROM Sales.SalesOrderDetail d

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

GROUP BY p.Name;

-- 40. Supplier ID and number of products offered

SELECT BusinessEntityID AS SupplierID, COUNT(\*) AS ProductCount

FROM Purchasing.ProductVendor

GROUP BY BusinessEntityID;

-- 41. Top 10 customers based on business

SELECT TOP 10 h.CustomerID, SUM(h.TotalDue) AS TotalSpent

FROM Sales.SalesOrderHeader h

GROUP BY h.CustomerID

ORDER BY TotalSpent DESC;

-- 42. Total revenue of the company

SELECT SUM(TotalDue) AS TotalRevenue FROM Sales.SalesOrderHeader;