Question1: **List all customers and their accounts with balances.**

SELECT

c.FirstName,

c.LastName,

a.AccountType,

a.Balance

FROM

Customers c

JOIN

Accounts a ON c.CustomerID = a.CustomerID;

Question 2: **List all employees who manage branches where the total account balances exceed $20,000.**

SELECT

e.FirstName,

e.LastName,

e.Role,

e.Salary,

b.BranchName

FROM

Employees e

JOIN

Branches b ON e.BranchID = b.BranchID

JOIN

Accounts a ON b.BranchID = a.BranchID

GROUP BY

e.EmployeeID, e.FirstName, e.LastName, e.Role, e.Salary, b.BranchName

HAVING

SUM(a.Balance) > 20000;

Question 3: **Identify accounts whose balance is higher than the average balance of accounts within their branch.**

SELECT

a.AccountID,

a.AccountType,

a.Balance,

a.BranchID

FROM

Accounts a

JOIN

(SELECT BranchID, AVG(Balance) AS avg\_balance

FROM Accounts

GROUP BY BranchID) avg\_balance\_table

ON a.BranchID = avg\_balance\_table.BranchID

WHERE a.Balance > avg\_balance\_table.avg\_balance;

Question 4: **Find customers who have at least one transaction of more than $1,000.**

SELECT DISTINCT

c.FirstName,

c.LastName

FROM

Customers c

JOIN

Accounts a ON c.CustomerID = a.CustomerID

JOIN

Transactions t ON a.AccountID = t.AccountID

WHERE

t.Amount > 1000;

Question 5: **Get the total deposits and total withdrawals for each account, along with the account type.**

SELECT

a.AccountID,

a.AccountType,

SUM(CASE WHEN t.TransactionType = 'Deposit' THEN t.Amount ELSE 0 END) AS TotalDeposits,

SUM(CASE WHEN t.TransactionType = 'Withdrawal' THEN t.Amount ELSE 0 END) AS TotalWithdrawals

FROM

Accounts a

JOIN

Transactions t ON a.AccountID = t.AccountID

GROUP BY

a.AccountID, a.AccountType;

Question 6: **Find pairs of customers who have accounts with the same account type and belong to the same branch.**

SELECT

c1.FirstName AS Customer1FirstName,

c1.LastName AS Customer1LastName,

c2.FirstName AS Customer2FirstName,

c2.LastName AS Customer2LastName,

a1.AccountType

FROM

Accounts a1

JOIN

Accounts a2 ON a1.AccountType = a2.AccountType AND a1.BranchID = a2.BranchID

JOIN

Customers c1 ON a1.CustomerID = c1.CustomerID

JOIN

Customers c2 ON a2.CustomerID = c2.CustomerID

WHERE

c1.CustomerID < c2.CustomerID;

Question 7: **Find customers who do not have any transactions recorded.**

SELECT

c.FirstName,

c.LastName

FROM

Customers c

LEFT JOIN

Accounts a ON c.CustomerID = a.CustomerID

LEFT JOIN

Transactions t ON a.AccountID = t.AccountID

WHERE

t.TransactionID IS NULL;

Question 8: **Rank customers based on their total balance across all accounts.**

SELECT

c.FirstName,

c.LastName,

SUM(a.Balance) AS TotalBalance,

RANK() OVER (ORDER BY SUM(a.Balance) DESC) AS Rank

FROM

Customers c

JOIN

Accounts a ON c.CustomerID = a.CustomerID

GROUP BY

c.CustomerID, c.FirstName, c.LastName;

Question 9: **List employees whose salary is above the average salary of all employees in their branch.**

SELECT

e.FirstName,

e.LastName,

e.Salary,

e.BranchID

FROM

Employees e

JOIN

(SELECT BranchID, AVG(Salary) AS avg\_salary

FROM Employees

GROUP BY BranchID) avg\_salary\_table

ON e.BranchID = avg\_salary\_table.BranchID

WHERE e.Salary > avg\_salary\_table.avg\_salary;