

Real-Life Implementation Task (Banking System)

You are working for a Banking System, and you need to define views to control access and simplify queries for various departments

```
CREATE DATABASE Banking_System_Views_Implementation;
```

```
USE Banking_System_Views_Implementation;
```

```
--Create Data Tables
```

```
CREATE TABLE Customer (
```

```
    CustomerID INT PRIMARY KEY,
```

```
    FullName NVARCHAR(100),
```

```
    Email NVARCHAR(100),
```

```
    Phone NVARCHAR(15),
```

```
    SSN CHAR(9)
```

```
);
```

```
CREATE TABLE Account (
```

```
    AccountID INT PRIMARY KEY,
```

```
    CustomerID INT FOREIGN KEY REFERENCES Customer(CustomerID),
```

```
    Balance DECIMAL(10, 2),
```

```
    AccountType VARCHAR(50),
```

```
    Status VARCHAR(20)
```

```
);
```

```
CREATE TABLE TransactionS (
```

```
    TransactionID INT PRIMARY KEY,
```

```
    AccountID INT FOREIGN KEY REFERENCES Account(AccountID),
```

```
    Amount DECIMAL(10, 2),
```

```
    Type VARCHAR(10),
```

```
    TransactionDate DATETIME
```

```
);
```

```
CREATE TABLE Loan (  
    LoanID INT PRIMARY KEY,  
    CustomerID INT FOREIGN KEY REFERENCES Customer(CustomerID),  
    LoanAmount DECIMAL(12, 2),  
    LoanType VARCHAR(50),  
    Status VARCHAR(20)  
);
```

-- Insert Dummy Data

```
INSERT INTO Customer VALUES
```

```
(1, 'Alice Johnson', 'alice@email.com', '1234567890', '111223333'),  
(2, 'Bob Smith', 'bob@email.com', '2345678901', '222334444'),  
(3, 'Charlie Brown', 'charlie@email.com', '3456789012', '333445555');
```

```
INSERT INTO Account VALUES
```

```
(101, 1, 5000.00, 'Savings', 'Active'),  
(102, 2, 12000.50, 'Checking', 'Active'),  
(103, 3, 7500.75, 'Savings', 'Inactive');
```

```
INSERT INTO TransactionS VALUES
```

```
(1001, 101, 200.00, 'Deposit', GETDATE()),  
(1002, 102, 500.50, 'Withdraw', DATEADD(DAY, -10, GETDATE())),  
(1003, 101, 150.00, 'Deposit', DATEADD(DAY, -20, GETDATE())),  
(1004, 103, 300.00, 'Withdraw', DATEADD(DAY, -40, GETDATE()));
```

```
INSERT INTO Loan VALUES
```

```
(201, 1, 10000.00, 'Personal', 'Approved'),  
(202, 2, 25000.00, 'Mortgage', 'Pending'),  
(203, 3, 5000.00, 'Auto', 'Rejected');
```

View Creation Scenarios

-- 1. Customer Service View

```
CREATE VIEW vw_CustomerService
```

```
AS
```

```
SELECT c.FullName, c.Phone, a.Status AS AccountStatus
```

```
FROM Customer c
```

```
JOIN Account a ON c.CustomerID = a.CustomerID;
```

-- 2. Finance Department View

```
CREATE VIEW vw_FinanceDepartment
```

```
AS
```

```
SELECT AccountID, Balance, AccountType
```

```
FROM Account;
```

-- 3. Loan Officer View

```
CREATE VIEW vw_LoanOfficer
```

```
AS
```

```
SELECT LoanID, CustomerID, LoanAmount, LoanType, Status
```

```
FROM Loan;
```

-- 4. TransactionS Summary View (Last 30 Days)

```
CREATE VIEW vw_RecentTransactions
```

```
AS
```

```
SELECT TransactionID, AccountID, Amount, Type, TransactionDate
```

```
FROM TransactionS
```

```
WHERE TransactionDate >= DATEADD(DAY, -30, GETDATE());
```

-- SELECT Queries for Each Department

-- Customer Service

```
SELECT * FROM vw_CustomerService;
```

-- Finance Department

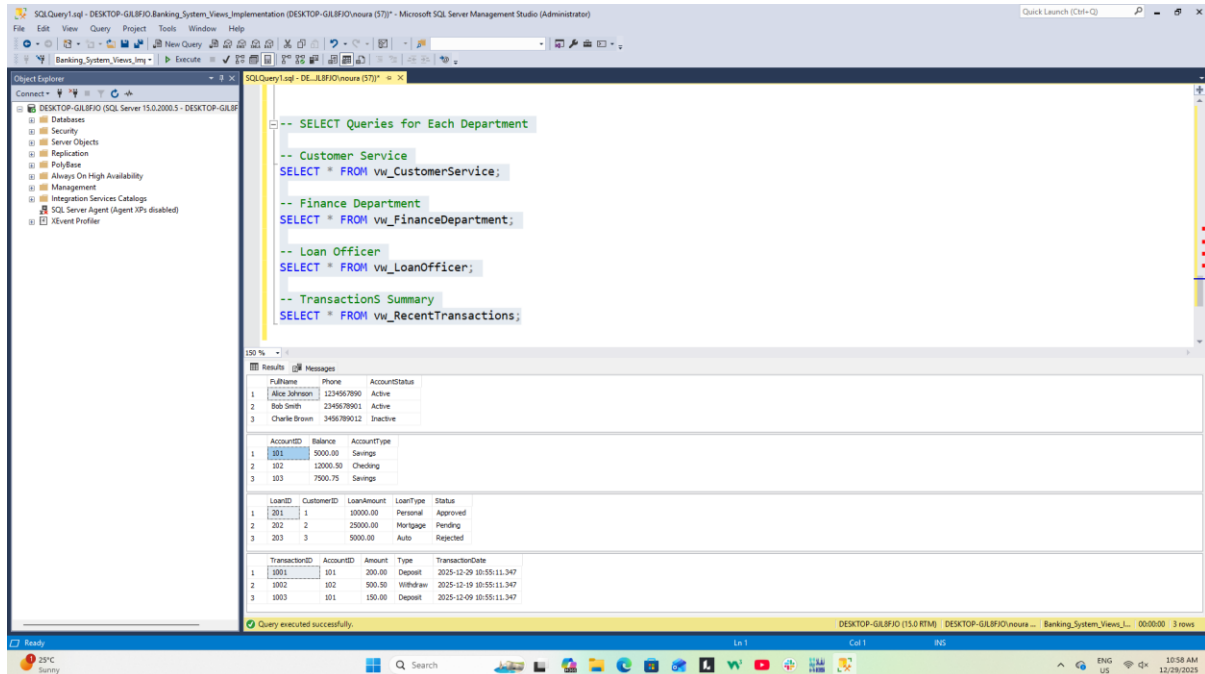
```
SELECT * FROM vw_FinanceDepartment;
```

-- Loan Officer

```
SELECT * FROM vw_LoanOfficer;
```

-- TransactionS Summary

```
SELECT * FROM vw_RecentTransactions;
```



The screenshot shows the Microsoft SQL Server Enterprise Manager interface. The query window displays the following SQL code:

```
-- SELECT Queries for Each Department  
  
-- Customer Service  
SELECT * FROM vw_CustomerService;  
  
-- Finance Department  
SELECT * FROM vw_FinanceDepartment;  
  
-- Loan Officer  
SELECT * FROM vw_LoanOfficer;  
  
-- TransactionS Summary  
SELECT * FROM vw_RecentTransactions;
```

The results are displayed in a grid format below the query. The results are as follows:

Fullname	Phone	AccountStatus
Alice Johnson	1234567890	Active
Bob Smith	2345678901	Active
Charlie Brown	3456789012	Inactive

AccountID	Balance	AccountType
101	5000.00	Savings
102	12000.50	Checking
103	7500.75	Savings

LoanID	CustomerID	LoanAmount	LoanType	Status
201	1	10000.00	Personal	Approved
202	2	25000.00	Mortgage	Pending
203	3	5000.00	Auto	Rejected

TransactionID	AccountID	Amount	Type	TransactionDate
1001	101	200.00	Deposit	2025-12-29 10:55:11.347
1002	102	500.50	Withdraw	2025-12-19 10:55:11.347
1003	101	150.00	Deposit	2025-12-09 10:55:11.347