

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 Management Studio (SSMS) interface with a query window containing several SELECT statements. The results are displayed in separate result sets.

```
-- 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 of the queries are as follows:

CustomerID	CustomerName	Phone	AccountStatus
1	Alice Johnson	1234567890	Active
2	Bob Smith	2345678901	Active
3	Charlie Brown	3456789012	Inactive

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

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

TransactionID	AccountID	Amount	Type	TransactionDate
1001	101	200.00	Deposit	2025-12-29 10:55:11,347
1002	102	50.50	Withdraw	2025-12-29 10:55:11,347
1003	101	150.00	Deposit	2025-12-29 10:55:11,347