**Superset ID:**  6125132  
**Name:** Podugu Vinay Kumar

**Week : 2**

**Exercise 1: Control Structures**

**Schema Creation:**create database banksystem;

use banksystem;

CREATE TABLE Customers (

CustomerID INT PRIMARY KEY,

Name VARCHAR(100),

DOB DATE,

Balance DECIMAL(10,2),

LastModified DATETIME,

IsVIP BOOLEAN DEFAULT FALSE

);

CREATE TABLE IF NOT EXISTS Accounts (

AccountID INT PRIMARY KEY,

CustomerID INT,

AccountType VARCHAR(20),

Balance DECIMAL(10,2),

LastModified DATETIME,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

CREATE TABLE IF NOT EXISTS Transactions (

TransactionID INT PRIMARY KEY,

AccountID INT,

TransactionDate DATETIME,

Amount DECIMAL(10,2),

TransactionType VARCHAR(10),

FOREIGN KEY (AccountID) REFERENCES Accounts(AccountID)

);

CREATE TABLE IF NOT EXISTS Loans (

LoanID INT PRIMARY KEY,

CustomerID INT,

LoanAmount DECIMAL(10,2),

InterestRate DECIMAL(5,2),

StartDate DATE,

EndDate DATE,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

CREATE TABLE IF NOT EXISTS Employees (

EmployeeID INT PRIMARY KEY,

Name VARCHAR(100),

Position VARCHAR(50),

Salary DECIMAL(10,2),

Department VARCHAR(50),

HireDate DATE

);

INSERT INTO Customers VALUES

(1, 'John Doe', '1985-05-15', 1000, NOW(), FALSE),

(2, 'Jane Smith', '1960-07-20', 15000, NOW(), FALSE);

INSERT INTO Accounts VALUES

(1, 1, 'Savings', 1000, NOW()),

(2, 2, 'Checking', 1500, NOW());

INSERT INTO Transactions VALUES

(1, 1, NOW(), 200, 'Deposit'),

(2, 2, NOW(), 300, 'Withdrawal');

INSERT INTO Loans VALUES

(1, 1, 5000, 5.00, CURDATE(), DATE\_ADD(CURDATE(), INTERVAL 60 MONTH)),

(2, 2, 10000, 6.00, CURDATE(), DATE\_ADD(CURDATE(), INTERVAL 20 DAY));

INSERT INTO Employees VALUES

(1, 'Alice Johnson', 'Manager', 70000, 'HR', '2015-06-15'),

(2, 'Bob Brown', 'Developer', 60000, 'IT', '2017-03-20');

**Query Statement:**

SET SQL\_SAFE\_UPDATES = 0;

-- SCENARIO 1: Apply 1% Discount to Customers Above 60

UPDATE Loans l

JOIN Customers c ON l.CustomerID = c.CustomerID

SET l.InterestRate = l.InterestRate - 1

WHERE TIMESTAMPDIFF(YEAR, c.DOB, CURDATE()) > 60;

-- SCENARIO 2: Promote to VIP

UPDATE Customers

SET IsVIP = TRUE

WHERE Balance > 10000;

CREATE PROCEDURE LoanReminders()

BEGIN

DECLARE done INT DEFAULT FALSE;

DECLARE cname VARCHAR(100);

DECLARE lend DATE;

DECLARE cur CURSOR FOR

SELECT c.Name, l.EndDate

FROM Customers c

JOIN Loans l ON c.CustomerID = l.CustomerID

WHERE l.EndDate BETWEEN CURDATE() AND DATE\_ADD(CURDATE(), INTERVAL 30 DAY);

DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = TRUE;

OPEN cur;

read\_loop: LOOP

FETCH cur INTO cname, lend;

IF done THEN

LEAVE read\_loop;

END IF;

SELECT CONCAT('Reminder: Loan for ', cname, ' is due on ', lend) AS ReminderMessage;

END LOOP;

CLOSE cur;

END;

CALL LoanReminders();

**Output:**

