Exercise 1:

-- Step 1: Create Tables

CREATE TABLE Customers (

CustomerID NUMBER PRIMARY KEY,

Name VARCHAR2(100),

DOB DATE,

Balance NUMBER,

LastModified DATE

);

CREATE TABLE Loans (

LoanID NUMBER PRIMARY KEY,

CustomerID NUMBER,

LoanAmount NUMBER,

InterestRate NUMBER,

StartDate DATE,

EndDate DATE,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

-- Step 2: Insert Sample Data

INSERT INTO Customers (CustomerID, Name, DOB, Balance, LastModified) VALUES (1, 'John Doe', TO\_DATE('1950-05-15', 'YYYY-MM-DD'), 12000, SYSDATE);

INSERT INTO Customers (CustomerID, Name, DOB, Balance, LastModified) VALUES (2, 'Jane Smith', TO\_DATE('1990-07-20', 'YYYY-MM-DD'), 8000, SYSDATE);

INSERT INTO Loans (LoanID, CustomerID, LoanAmount, InterestRate, StartDate, EndDate) VALUES (1, 1, 5000, 5, SYSDATE, SYSDATE + 15);

INSERT INTO Loans (LoanID, CustomerID, LoanAmount, InterestRate, StartDate, EndDate) VALUES (2, 2, 8000, 6, SYSDATE, SYSDATE + 60);

COMMIT;

-- Step 3: Run Exercise 1 Scenarios

DECLARE

CURSOR cust\_cursor IS

SELECT c.CustomerID, c.Name, TRUNC(MONTHS\_BETWEEN(SYSDATE, c.DOB)/12) AS Age,

l.LoanID, l.InterestRate, l.EndDate

FROM Customers c

JOIN Loans l ON c.CustomerID = l.CustomerID;

CURSOR vip\_cursor IS

SELECT CustomerID, Balance FROM Customers;

CURSOR due\_loans\_cursor IS

SELECT c.Name, l.EndDate

FROM Customers c

JOIN Loans l ON c.CustomerID = l.CustomerID

WHERE l.EndDate <= SYSDATE + 30;

BEGIN

-- Scenario 1: Senior Discount

FOR rec IN cust\_cursor LOOP

IF rec.Age > 60 THEN

UPDATE Loans

SET InterestRate = rec.InterestRate - 1

WHERE LoanID = rec.LoanID;

DBMS\_OUTPUT.PUT\_LINE('1% interest discount applied for customer: ' || rec.Name);

END IF;

END LOOP;

-- Scenario 2: VIP Marking

FOR rec IN vip\_cursor LOOP

IF rec.Balance > 10000 THEN

DBMS\_OUTPUT.PUT\_LINE('Customer ID ' || rec.CustomerID || ' marked as VIP.');

END IF;

END LOOP;

-- Scenario 3: Loan Reminder

FOR rec IN due\_loans\_cursor LOOP

DBMS\_OUTPUT.PUT\_LINE('Reminder: Loan due soon for customer ' || rec.Name ||

' on ' || TO\_CHAR(rec.EndDate, 'YYYY-MM-DD'));

END LOOP;

COMMIT;

END;

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