**EXERCISE 1: CONTROL STRUCTURES**

**Scenario 1: Apply a Discount to Loan Interest Rates for Customers Above 60 Years Old**

DECLARE

v\_CustomerID Customers.CustomerID%TYPE;

v\_DOB Customers.DOB%TYPE;

v\_Age NUMBER;

v\_InterestRate Loans.InterestRate%TYPE;

CURSOR cur\_Customers IS

SELECT CustomerID, DOB FROM Customers;

BEGIN

FOR rec IN cur\_Customers LOOP

-- Calculate the age of the customer

v\_CustomerID := rec.CustomerID;

v\_DOB := rec.DOB;

v\_Age := TRUNC(MONTHS\_BETWEEN(SYSDATE, v\_DOB) / 12);

-- Check if age is above 60

IF v\_Age > 60 THEN

-- Update the loan interest rate

FOR loan\_rec IN (SELECT LoanID, InterestRate

FROM Loans

WHERE CustomerID = v\_CustomerID) LOOP

v\_InterestRate := loan\_rec.InterestRate;

-- Apply 1% discount

v\_InterestRate := v\_InterestRate - 1;

-- Update the loan record with new interest rate

UPDATE Loans

SET InterestRate = v\_InterestRate

WHERE LoanID = loan\_rec.LoanID;

DBMS\_OUTPUT.PUT\_LINE('Applied 1% discount to customer ID ' || v\_CustomerID || '''s loan ID ' || loan\_rec.LoanID);

END LOOP;

END IF;

END LOOP;

COMMIT;

END;

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**Scenario 2: Set VIP Status Based on Balance**

ALTER TABLE Customers

ADD IsVIP BOOLEAN DEFAULT FALSE;

DECLARE

v\_CustomerID Customers.CustomerID%TYPE;

v\_Balance Customers.Balance%TYPE;

CURSOR cur\_Customers IS

SELECT CustomerID, Balance FROM Customers;

BEGIN

FOR rec IN cur\_Customers LOOP

v\_CustomerID := rec.CustomerID;

v\_Balance := rec.Balance;

-- Check if the balance is over $10,000

IF v\_Balance > 10000 THEN

-- Update IsVIP flag

UPDATE Customers

SET IsVIP = TRUE

WHERE CustomerID = v\_CustomerID;

DBMS\_OUTPUT.PUT\_LINE('Customer ID ' || v\_CustomerID || ' promoted to VIP status.');

END IF;

END LOOP;

COMMIT;

END;

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**Scenario 3: Send Reminders for Loans Due Within the Next 30 Days**

DECLARE

v\_CustomerID Customers.CustomerID%TYPE;

v\_Name Customers.Name%TYPE;

v\_LoanID Loans.LoanID%TYPE;

v\_EndDate Loans.EndDate%TYPE;

CURSOR cur\_Loans IS

SELECT LoanID, CustomerID, EndDate FROM Loans

WHERE EndDate <= SYSDATE + 30;

BEGIN

FOR rec IN cur\_Loans LOOP

v\_LoanID := rec.LoanID;

v\_CustomerID := rec.CustomerID;

v\_EndDate := rec.EndDate;

-- Fetch the customer's name

SELECT Name INTO v\_Name

FROM Customers

WHERE CustomerID = v\_CustomerID;

-- Print reminder message

DBMS\_OUTPUT.PUT\_LINE('Reminder: Loan ID ' || v\_LoanID || ' for customer ' || v\_Name || ' is due on ' || TO\_CHAR(v\_EndDate, 'YYYY-MM-DD'));

END LOOP;

END;

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