Exercise 1: Control Structures

**Scenario 1: The bank wants to apply a discount to loan interest rates for customers above 60 years old.**

**O Question: Write a PL/SQL block that loops through all customers, checks their age, and if they are above 60, apply a 1% discount to their current loan interest rates.**

DECLARE

CURSOR c\_customers IS SELECT CustomerID, DOB, InterestRate FROM Loans;

v\_customer\_id NUMBER;

v\_dob DATE;

v\_interest\_rate NUMBER;

BEGIN

OPEN c\_customers;

LOOP

FETCH c\_customers INTO v\_customer\_id, v\_dob, v\_interest\_rate;

EXIT WHEN c\_customers%NOTFOUND;

IF MONTHS\_BETWEEN(SYSDATE, v\_dob) / 12 > 60 THEN

UPDATE Loans SET InterestRate = InterestRate \* 0.99 WHERE CustomerID = v\_customer\_id;

END IF;

END LOOP;

CLOSE c\_customers;

END;

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**Scenario 2: A customer can be promoted to VIP status based on their balance.**

**O Question: Write a PL/SQL block that iterates through all customers and sets a flag IsVIP to TRUE for those with a balance over $10,000.**

ALTER TABLE Customers ADD (IsVIP CHAR(1));

DECLARE

CURSOR c\_customers IS SELECT CustomerID, Balance FROM Customers;

v\_customer\_id NUMBER;

v\_balance NUMBER;

BEGIN

OPEN c\_customers;

LOOP

FETCH c\_customers INTO v\_customer\_id, v\_balance;

EXIT WHEN c\_customers%NOTFOUND;

IF v\_balance > 10000 THEN

UPDATE Customers SET IsVIP = TRUE WHERE CustomerID = v\_customer\_id;

END IF;

END LOOP;

CLOSE c\_customers;

END;

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**Scenario 3: The bank wants to send reminders to customers whose loans are due within the next 30 days.**

**O Question: Write a PL/SQL block that fetches all loans due in the next 30 days and prints a reminder message for each customer.**

DECLARE

CURSOR c\_loans IS SELECT CustomerID, EndDate FROM Loans WHERE EndDate BETWEEN SYSDATE AND SYSDATE + 30;

v\_customer\_id NUMBER;

v\_end\_date DATE;

BEGIN

OPEN c\_loans;

LOOP

FETCH c\_loans INTO v\_customer\_id, v\_end\_date;

EXIT WHEN c\_loans%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Reminder: Loan for customer ' || v\_customer\_id || ' is due on ' || v\_end\_date);

END LOOP;

CLOSE c\_loans;

END;

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