**Exercise 1: Control Structures**

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

**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 senior\_customer\_cur IS

SELECT c.CustomerID, l.LoanID, l.InterestRate

FROM Customers c

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

WHERE MONTHS\_BETWEEN(SYSDATE, c.DOB) / 12 > 60;

BEGIN

FOR rec IN senior\_customer\_cur LOOP

UPDATE Loans

SET InterestRate = InterestRate - 1

WHERE LoanID = rec.LoanID;

DBMS\_OUTPUT.PUT\_LINE('1% interest discount applied to Loan ID: ' || rec.LoanID);

END LOOP;

END;

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

**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 cust\_balance\_cur IS

SELECT CustomerID, Balance

FROM Customers;

BEGIN

FOR cust\_rec IN cust\_balance\_cur LOOP

IF cust\_rec.Balance > 10000 THEN

UPDATE Customers

SET IsVIP = 'Y'

WHERE CustomerID = cust\_rec.CustomerID;

DBMS\_OUTPUT.PUT\_LINE('Customer ID ' || cust\_rec.CustomerID || ' upgraded to VIP.');

ELSE

UPDATE Customers

SET IsVIP = 'N'

WHERE CustomerID = cust\_rec.CustomerID;

END IF;

END LOOP;

END;

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

**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 upcoming\_loans\_cur IS

SELECT l.LoanID, l.CustomerID, l.EndDate, c.Name

FROM Loans l

JOIN Customers c ON c.CustomerID = l.CustomerID

WHERE l.EndDate BETWEEN SYSDATE AND (SYSDATE + 30);

BEGIN

FOR loan\_rec IN upcoming\_loans\_cur LOOP

DBMS\_OUTPUT.PUT\_LINE('Reminder: Customer "' || loan\_rec.Name ||

'" has Loan ID ' || loan\_rec.LoanID ||

' due on ' || TO\_CHAR(loan\_rec.EndDate, 'DD-MON-YYYY'));

END LOOP;

END;