**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 customer\_cursor IS

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

FROM Customers c

JOIN Loans l ON c.CustomerID = l.CustomerID

WHERE EXTRACT(YEAR FROM SYSDATE) - EXTRACT(YEAR FROM c.DOB) > 60;

BEGIN

FOR loan\_record IN customer\_cursor LOOP

UPDATE Loans

SET InterestRate = GREATEST(0, InterestRate - 1)

WHERE LoanID = loan\_record.LoanID;

DBMS\_OUTPUT.PUT\_LINE('Applied 1% discount to loan ID: ' || loan\_record.LoanID);

END LOOP;

COMMIT;

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 customer\_cursor IS

SELECT CustomerID, Balance

FROM Customers;

BEGIN

FOR customer\_record IN customer\_cursor LOOP

IF customer\_record.Balance > 10000 THEN

UPDATE Customers

SET IsVIP = 'Y'

WHERE CustomerID = customer\_record.CustomerID;

ELSE

UPDATE Customers

SET IsVIP = 'N'

WHERE CustomerID = customer\_record.CustomerID;

END IF;

DBMS\_OUTPUT.PUT\_LINE('Customer ID: ' || customer\_record.CustomerID ||

' Balance: ' || customer\_record.Balance ||

' IsVIP: ' || (CASE WHEN customer\_record.Balance > 10000 THEN 'Y' ELSE 'N' END));

END LOOP;

COMMIT;

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 loan\_cursor IS

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

FROM Customers c

JOIN Loans l ON c.CustomerID = l.CustomerID

WHERE l.EndDate BETWEEN SYSDATE AND SYSDATE + 30;

BEGIN

FOR loan\_record IN loan\_cursor LOOP

DBMS\_OUTPUT.PUT\_LINE(

'Reminder: Loan ID ' || loan\_record.LoanID ||

' for customer ' || loan\_record.Name ||

' is due on ' || TO\_CHAR(loan\_record.EndDate, 'YYYY-MM-DD') || '.'

);

END LOOP;

END;