**Exercise 1: Control Structures**

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

**PL/SQL block:**

DECLARE

v\_age NUMBER;

v\_discount\_rate NUMBER := 1; -- 1% discount

v\_new\_rate NUMBER;

BEGIN

FOR customer\_rec IN (SELECT CustomerID, DOB FROM Customers) LOOP

v\_age := TRUNC(MONTHS\_BETWEEN(SYSDATE, customer\_rec.DOB) / 12);

IF v\_age > 60 THEN

FOR loan\_rec IN (SELECT LoanID, InterestRate FROM Loans WHERE CustomerID = customer\_rec.CustomerID) LOOP

v\_new\_rate := loan\_rec.InterestRate - v\_discount\_rate;

UPDATE Loans

SET InterestRate = v\_new\_rate

WHERE LoanID = loan\_rec.LoanID;

DBMS\_OUTPUT.PUT\_LINE('Discount applied to LoanID: ' || loan\_rec.LoanID);

END LOOP;

END IF;

END LOOP;

END;

/

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

**PL/SQL block:**

ALTER TABLE Customers ADD (IsVIP VARCHAR2(5));

/

DECLARE

v\_balance NUMBER;

BEGIN

FOR customer\_rec IN (SELECT CustomerID, Balance FROM Customers) LOOP

v\_balance := customer\_rec.Balance;

IF v\_balance > 10000 THEN

UPDATE Customers

SET IsVIP = 'TRUE'

WHERE CustomerID = customer\_rec.CustomerID;

DBMS\_OUTPUT.PUT\_LINE('CustomerID ' || customer\_rec.CustomerID || ' set as VIP');

END IF;

END LOOP;

END;

/

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

**PL/SQL block:**

BEGIN

FOR loan\_rec IN (SELECT LoanID, CustomerID, EndDate

FROM Loans

WHERE EndDate BETWEEN SYSDATE AND SYSDATE + 30) LOOP

DBMS\_OUTPUT.PUT\_LINE('Reminder: LoanID ' || loan\_rec.LoanID ||

' for CustomerID ' || loan\_rec.CustomerID ||

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

END LOOP;

END;

/