**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

  v\_age NUMBER;

BEGIN

  FOR cus IN (SELECT customerID, DOB FROM Customers) LOOP

    v\_age := TRUNC(MONTHS\_BETWEEN(sysdate,cus.DOB)/12);

    IF v\_age > 60 THEN

      UPDATE Loans

      SET interestrate = interestrate \* 0.99

      WHERE customerID = cus.CustomerID;

    END IF;

  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) DEFAULT 'F');

BEGIN

UPDATE Customers

SET IsVIP = 'Y', LastModified = SYSDATE

WHERE Balance > 10000;

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

    v\_customerName Customers.Name%TYPE;

BEGIN

    FOR loan\_rec IN (

        SELECT LoanID, CustomerID, EndDate

        FROM Loans

        WHERE EndDate BETWEEN SYSDATE AND SYSDATE + 30

    ) LOOP

        SELECT Name INTO v\_customerName

        FROM Customers

        WHERE CustomerID = loan\_rec.CustomerID;

        DBMS\_OUTPUT.PUT\_LINE('Reminder: Dear ' || v\_customerName || ', your loan (ID: ' || loan\_rec.LoanID || ') is due on ' || TO\_CHAR(loan\_rec.EndDate, 'DD-MON-YYYY') || '.');

    END LOOP;

END;

/