**EXERCISE 1**  **Control Structures**

**Scenario 1: Applying a 1% Discount to Loan Interest Rates for Customers Above 60 Years Old**

DECLARE

CURSOR customer\_cursor IS

SELECT l.loanid, l.interestrate

FROM customers c

JOIN loans l ON c.customerid = l.customerid

WHERE c.dob <= ADD\_MONTHS(SYSDATE, -12 \* 60);

v\_loan\_id loans.loanid%TYPE;

v\_loan\_interest\_rate loans.interestrate%TYPE;

BEGIN

OPEN customer\_cursor;

LOOP

FETCH customer\_cursor INTO v\_loan\_id, v\_loan\_interest\_rate;

EXIT WHEN customer\_cursor%NOTFOUND;

-- Apply 1% discount

v\_loan\_interest\_rate := v\_loan\_interest\_rate - 1;

-- Update the customer's loan interest rate

UPDATE loans

SET interestrate = v\_loan\_interest\_rate

WHERE loanid = v\_loan\_id;

END LOOP;

CLOSE customer\_cursor

COMMIT; -- Commit the changes to the database

END;

**Scenario 2: Promoting Customers to VIP Status Based on Their Balance**

DECLARE

CURSOR customer\_cursor IS

SELECT customerid, balance

FROM customers;

v\_customer\_id customers.customerid%TYPE;

v\_balance customers.balance%TYPE;

BEGIN

OPEN customer\_cursor;

LOOP

FETCH customer\_cursor INTO v\_customer\_id, v\_balance;

EXIT WHEN customer\_cursor%NOTFOUND;

-- Check if the balance is over $10,000 and set IsVIP flag

IF v\_balance > 10000 THEN

UPDATE customers

SET IsVIP = 1

WHERE customerid = v\_customer\_id;

END IF;

END LOOP;

CLOSE customer\_cursor;

COMMIT; -- Commit the changes to the database

END;

**Scenario 3: Sending Reminders for Loans Due Within the Next 30 Days**

DECLARE

CURSOR loan\_cursor IS

SELECT l.loanid, c.customerid, c.name, l.enddate

FROM loans l

JOIN customers c ON l.customerid = c.customerid

WHERE l.enddate BETWEEN SYSDATE AND SYSDATE + 30;

v\_loan\_id loans.loanid%TYPE;

v\_customer\_id loans.customerid%TYPE;

v\_customer\_name customers.name%TYPE;

v\_loan\_end\_date loans.enddate%TYPE;

BEGIN

OPEN loan\_cursor;

LOOP

FETCH loan\_cursor INTO v\_loan\_id, v\_customer\_id, v\_customer\_name, v\_loan\_end\_date;

EXIT WHEN loan\_cursor%NOTFOUND;

-- Print reminder message

DBMS\_OUTPUT.PUT\_LINE('Reminder: Customer ' || v\_customer\_name || ' (ID: ' || v\_customer\_id || '), your loan (ID: ' || v\_loan\_id || ') is due on ' || TO\_CHAR(v\_loan\_end\_date, 'DD-MON-YYYY'));

END LOOP;

CLOSE loan\_cursor;

END;