**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.

Solution:

DECLARE

CURSOR customer\_cursor IS

SELECT customer\_id, age, interest\_rate

FROM customers

WHERE age > 60;

v\_customer\_id customers.customer\_id%TYPE;

v\_interest\_rate customers.interest\_rate%TYPE;

BEGIN

OPEN customer\_cursor;

LOOP

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

EXIT WHEN customer\_cursor%NOTFOUND;

UPDATE loans

SET interest\_rate = v\_interest\_rate - 1

WHERE customer\_id = v\_customer\_id;

END LOOP;

CLOSE customer\_cursor;

COMMIT;

END;

/

**Scenario 2: Promote Customers 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.

DECLARE

CURSOR customer\_cursor IS

SELECT customer\_id, balance

FROM customers

WHERE balance > 10000;

v\_customer\_id customers.customer\_id%TYPE;

BEGIN

OPEN customer\_cursor;

LOOP

FETCH customer\_cursor INTO v\_customer\_id;

EXIT WHEN customer\_cursor%NOTFOUND;

UPDATE customers

SET IsVIP = TRUE

WHERE customer\_id = v\_customer\_id;

END LOOP;

CLOSE customer\_cursor;

COMMIT;

END;

/

**Scenario 3: Send Reminders to Customers Whose Loans are Due Within the Next 30 Day**

**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 customer\_id, due\_date

FROM loans

WHERE due\_date BETWEEN SYSDATE AND SYSDATE + 30;

v\_customer\_id loans.customer\_id%TYPE;

v\_due\_date loans.due\_date%TYPE;

BEGIN

OPEN loan\_cursor;

LOOP

FETCH loan\_cursor INTO v\_customer\_id, v\_due\_date;

EXIT WHEN loan\_cursor%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Reminder: Customer ID ' || v\_customer\_id ||

', your loan is due on ' || TO\_CHAR(v\_due\_date, 'DD-MON-YYYY') || '.');

END LOOP;

CLOSE loan\_cursor;

END;

/