**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 customer\_id, current\_loan\_interest\_rate

FROM customers

WHERE age > 60;

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

v\_current\_loan\_interest\_rate customers.current\_loan\_interest\_rate%TYPE;

BEGIN

FOR customer\_record IN customer\_cursor LOOP

v\_customer\_id := customer\_record.customer\_id;

v\_current\_loan\_interest\_rate := customer\_record.current\_loan\_interest\_rate;

-- Apply a 1% discount

UPDATE loans

SET interest\_rate = v\_current\_loan\_interest\_rate - 0.01

WHERE customer\_id = v\_customer\_id;

DBMS\_OUTPUT.PUT\_LINE('Discount applied for customer ID: ' || v\_customer\_id);

END LOOP;

COMMIT;

END;

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**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.

DECLARE

CURSOR customer\_cursor IS

SELECT customer\_id, balance

FROM customers

WHERE balance > 10000;

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

BEGIN

FOR customer\_record IN customer\_cursor LOOP

v\_customer\_id := customer\_record.customer\_id;

-- Update the IsVIP flag

UPDATE customers

SET is\_vip = TRUE

WHERE customer\_id = v\_customer\_id;

DBMS\_OUTPUT.PUT\_LINE('Customer ID ' || v\_customer\_id || ' promoted to VIP.');

END LOOP;

COMMIT;

END;

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**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 customer\_id, loan\_due\_date

FROM loans

WHERE loan\_due\_date BETWEEN SYSDATE AND SYSDATE + 30;

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

v\_loan\_due\_date loans.loan\_due\_date%TYPE;

BEGIN

FOR loan\_record IN loan\_cursor LOOP

v\_customer\_id := loan\_record.customer\_id;

v\_loan\_due\_date := loan\_record.loan\_due\_date;

-- Print reminder message

DBMS\_OUTPUT.PUT\_LINE('Reminder: Loan for customer ID ' || v\_customer\_id ||

' is due on ' || v\_loan\_due\_date ||

'. Please ensure payment is made on time.');

END LOOP;

END;

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