**NAME: RITHIKA N**

**SUPERSET\_ID: 6412250**

**WEEK 2: PL/SQL EXERCISE**

**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.

**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.

**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.

**SAMPLE CODE :**

SET SERVEROUTPUT ON;

**-- Drop tables if they already exist (optional, for re-running)**

BEGIN

EXECUTE IMMEDIATE 'DROP TABLE Loans';

EXECUTE IMMEDIATE 'DROP TABLE Customers';

EXCEPTION

WHEN OTHERS THEN NULL;

END;

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**-- Create Customers Table**

CREATE TABLE Customers (

CustomerID NUMBER PRIMARY KEY,

Name VARCHAR2(50),

Age NUMBER,

Balance NUMBER,

IsVIP VARCHAR2(5)

);

**-- Create Loans Table**

CREATE TABLE Loans (

LoanID NUMBER PRIMARY KEY,

CustomerID NUMBER REFERENCES Customers(CustomerID),

InterestRate NUMBER,

DueDate DATE

);

**-- Insert sample customers**

INSERT INTO Customers VALUES (1, 'Ravi', 65, 12000, 'FALSE');

INSERT INTO Customers VALUES (2, 'Priya', 45, 9500, 'FALSE');

INSERT INTO Customers VALUES (3, 'Anil', 70, 15000, 'FALSE');

INSERT INTO Customers VALUES (4, 'Deepa', 30, 5000, 'FALSE');

**-- Insert sample loans**

INSERT INTO Loans VALUES (101, 1, 9.5, SYSDATE + 15);

INSERT INTO Loans VALUES (102, 2, 10.0, SYSDATE + 45);

INSERT INTO Loans VALUES (103, 3, 11.0, SYSDATE + 10);

INSERT INTO Loans VALUES (104, 4, 10.5, SYSDATE + 20);

COMMIT;

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**-- Scenario 1: Apply 1% discount to loan interest for age > 60**

BEGIN

FOR rec IN (

SELECT c.CustomerID, l.LoanID, l.InterestRate

FROM Customers c

JOIN Loans l ON c.CustomerID = l.CustomerID

WHERE c.Age > 60

) LOOP

UPDATE Loans

SET InterestRate = rec.InterestRate - 1

WHERE LoanID = rec.LoanID;

END LOOP;

COMMIT;

DBMS\_OUTPUT.PUT\_LINE('✅ Discount applied for customers over 60.');

END;

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**-- Scenario 2: Promote customers to VIP if Balance > 10000**

BEGIN

FOR rec IN (

SELECT CustomerID

FROM Customers

WHERE Balance > 10000

) LOOP

UPDATE Customers

SET IsVIP = 'TRUE'

WHERE CustomerID = rec.CustomerID;

END LOOP;

COMMIT;

DBMS\_OUTPUT.PUT\_LINE('✅ VIP status assigned to high-balance customers.');

END;

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**-- Scenario 3: Print reminders for loans due in next 30 days**

BEGIN

FOR rec IN (

SELECT c.Name, l.LoanID, l.DueDate

FROM Customers c

JOIN Loans l ON c.CustomerID = l.CustomerID

WHERE l.DueDate BETWEEN SYSDATE AND SYSDATE + 30

) LOOP

DBMS\_OUTPUT.PUT\_LINE('🔔 Reminder: Loan ' || rec.LoanID ||

' for ' || rec.Name ||

' is due on ' || TO\_CHAR(rec.DueDate, 'DD-Mon-YYYY'));

END LOOP;

END;

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