WEEK 2 : PL/SQL programming

**Exercise 1: Control Structures**

-- STEP 1: Create Customers and Loans tables

CREATE TABLE Customers (

CustomerID NUMBER PRIMARY KEY,

Name VARCHAR2(50),

Age NUMBER,

InterestRate NUMBER,

Balance NUMBER,

IsVIP VARCHAR2(5)

);

CREATE TABLE Loans (

LoanID NUMBER PRIMARY KEY,

CustomerID NUMBER,

DueDate DATE

);

-- STEP 2: Insert sample data into Customers

INSERT INTO Customers VALUES (1, 'Alice', 65, 10.0, 15000, 'FALSE');

INSERT INTO Customers VALUES (2, 'Bob', 45, 11.0, 8000, 'FALSE');

INSERT INTO Customers VALUES (3, 'Carol', 70, 9.5, 12000, 'FALSE');

-- Insert sample data into Loans

INSERT INTO Loans VALUES (101, 1, SYSDATE + 10); -- due in 10 days

INSERT INTO Loans VALUES (102, 2, SYSDATE + 40); -- due in 40 days

INSERT INTO Loans VALUES (103, 3, SYSDATE + 5); -- due in 5 days

COMMIT;

-- STEP 3: Scenario 1 - Apply 1% interest discount for customers age > 60

BEGIN

FOR rec IN (SELECT CustomerID, Age FROM Customers)

LOOP

IF rec.Age > 60 THEN

UPDATE Customers

SET InterestRate = InterestRate - 1

WHERE CustomerID = rec.CustomerID;

END IF;

END LOOP;

COMMIT;

END;

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-- STEP 4: Scenario 2 - Set IsVIP = TRUE for balance > 10000

BEGIN

FOR rec IN (SELECT CustomerID, Balance FROM Customers)

LOOP

IF rec.Balance > 10000 THEN

UPDATE Customers

SET IsVIP = 'TRUE'

WHERE CustomerID = rec.CustomerID;

END IF;

END LOOP;

COMMIT;

END;

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-- STEP 5: Scenario 3 - Show loan reminders for loans due within 30 days

-- Enable DBMS\_OUTPUT

BEGIN

DBMS\_OUTPUT.PUT\_LINE('--- Loan Due Reminders ---');

FOR rec IN (

SELECT LoanID, CustomerID, DueDate

FROM Loans

WHERE DueDate BETWEEN SYSDATE AND SYSDATE + 30

)

LOOP

DBMS\_OUTPUT.PUT\_LINE(

'Reminder: Customer ' || rec.CustomerID ||

' has loan ' || rec.LoanID ||

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

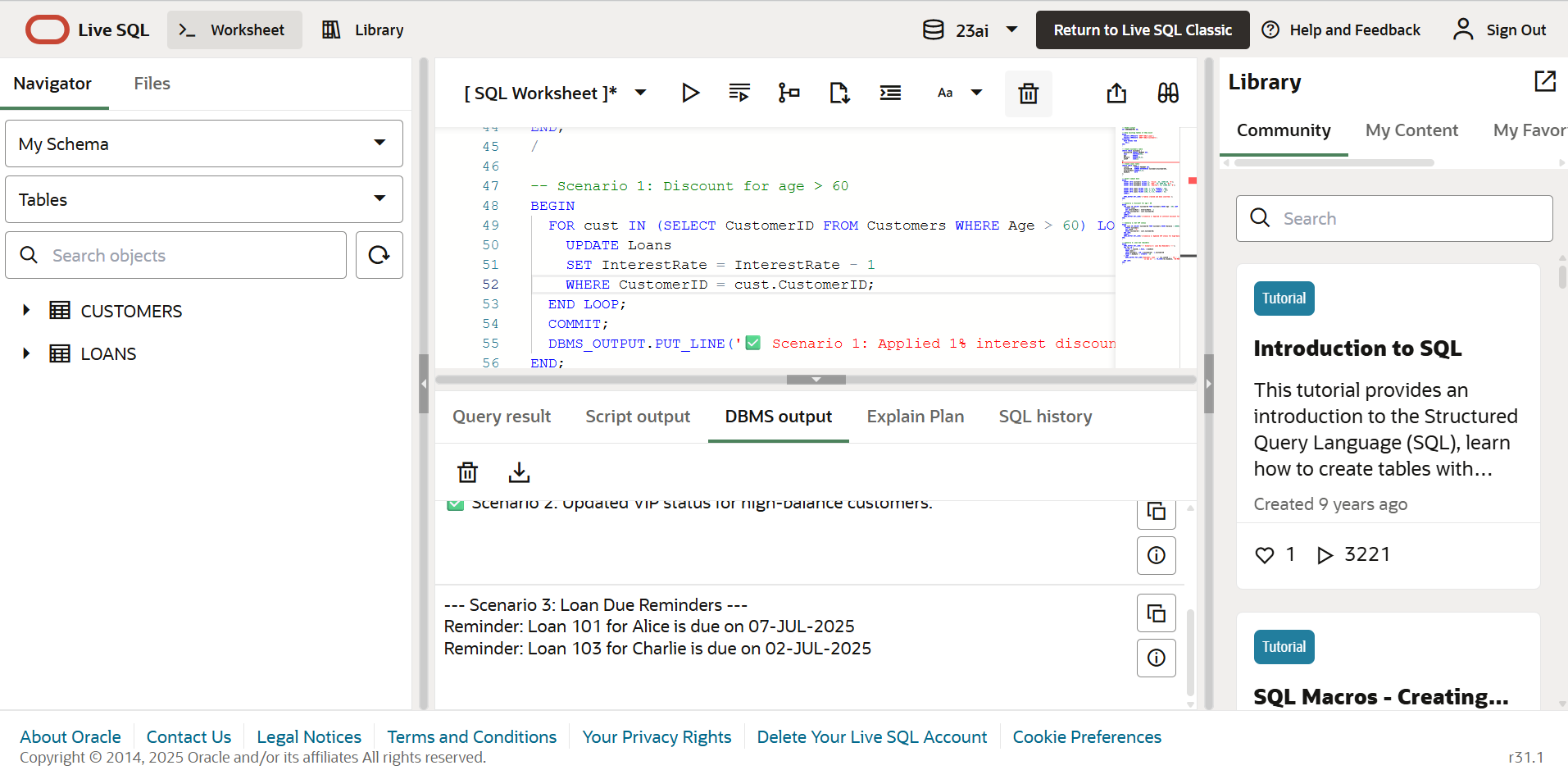
);

END LOOP;

END;

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**OUTPUT:**

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