**Exercise 1: Control Structures**

**CODE :**

SET SERVEROUTPUT ON SIZE 100000;

-- Step 1: Drop tables if they exist (to start fresh)

BEGIN

EXECUTE IMMEDIATE 'DROP TABLE Loans';

EXCEPTION WHEN OTHERS THEN NULL;

END;

/

BEGIN

EXECUTE IMMEDIATE 'DROP TABLE Customers';

EXCEPTION WHEN OTHERS THEN NULL;

END;

/

-- Step 2: Create Customers table

CREATE TABLE Customers (

CustomerID NUMBER PRIMARY KEY,

Name VARCHAR2(50),

DOB DATE,

Balance NUMBER(12,2),

IsVIP CHAR(1) DEFAULT 'F'

);

-- Step 3: Create Loans table

CREATE TABLE Loans (

LoanID NUMBER PRIMARY KEY,

CustomerID NUMBER REFERENCES Customers(CustomerID),

InterestRate NUMBER(5,2),

DueDate DATE

);

-- Step 4: Insert sample data into Customers

INSERT INTO Customers VALUES (101, 'Arun', DATE '1955-08-02', 8500, 'F');

INSERT INTO Customers VALUES (102, 'Bala', DATE '1962-04-15', 15000, 'F');

INSERT INTO Customers VALUES (103, 'Chitra', DATE '1990-12-05', 6200, 'F');

-- Step 5: Insert sample data into Loans

INSERT INTO Loans VALUES (201, 101, 8.50, SYSDATE + 10); -- due in 10 days

INSERT INTO Loans VALUES (202, 102, 9.00, SYSDATE + 45); -- due in 45 days

INSERT INTO Loans VALUES (203, 103, 7.75, SYSDATE + 20); -- due in 20 days

COMMIT;

-- Step 6: Scenario 1 - Discount interest rate for customers older than 60

DECLARE

age NUMBER;

BEGIN

FOR cust IN (SELECT CustomerID, DOB FROM Customers) LOOP

age := FLOOR(MONTHS\_BETWEEN(SYSDATE, cust.DOB) / 12);

IF age > 60 THEN

UPDATE Loans

SET InterestRate = InterestRate - 0.01

WHERE CustomerID = cust.CustomerID;

DBMS\_OUTPUT.PUT\_LINE('Discount given to CustomerID: ' || cust.CustomerID);

END IF;

END LOOP;

COMMIT;

END;

/

-- Step 7: Scenario 2 - Promote customers with balance > 10000 to VIP

BEGIN

FOR cust IN (SELECT CustomerID, Balance FROM Customers) LOOP

IF cust.Balance > 10000 THEN

UPDATE Customers

SET IsVIP = 'T'

WHERE CustomerID = cust.CustomerID;

DBMS\_OUTPUT.PUT\_LINE('Promoted to VIP: CustomerID ' || cust.CustomerID);

END IF;

END LOOP;

COMMIT;

END;

/

-- Step 8: Scenario 3 - Print reminders for loans due in next 30 days

BEGIN

FOR loan IN (

SELECT LoanID, CustomerID, DueDate

FROM Loans

WHERE DueDate BETWEEN SYSDATE AND SYSDATE + 30

) LOOP

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

' of Customer ' || loan.CustomerID ||

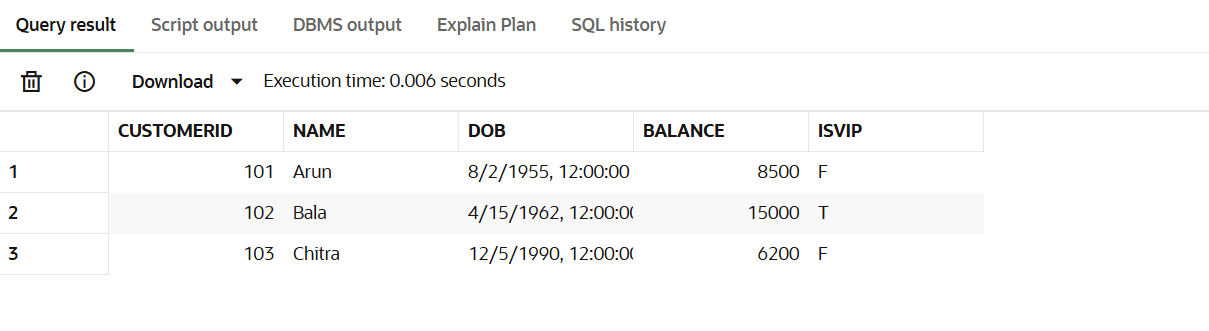
' is due on ' || TO\_CHAR(loan.DueDate, 'DD-MON-YYYY'));

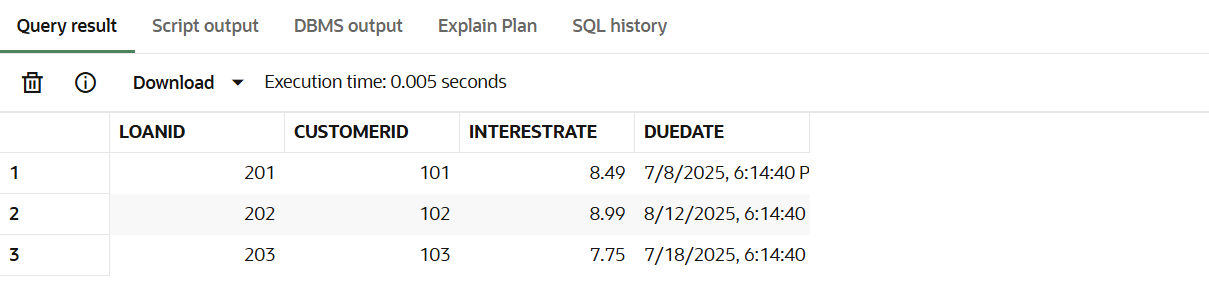
END LOOP;

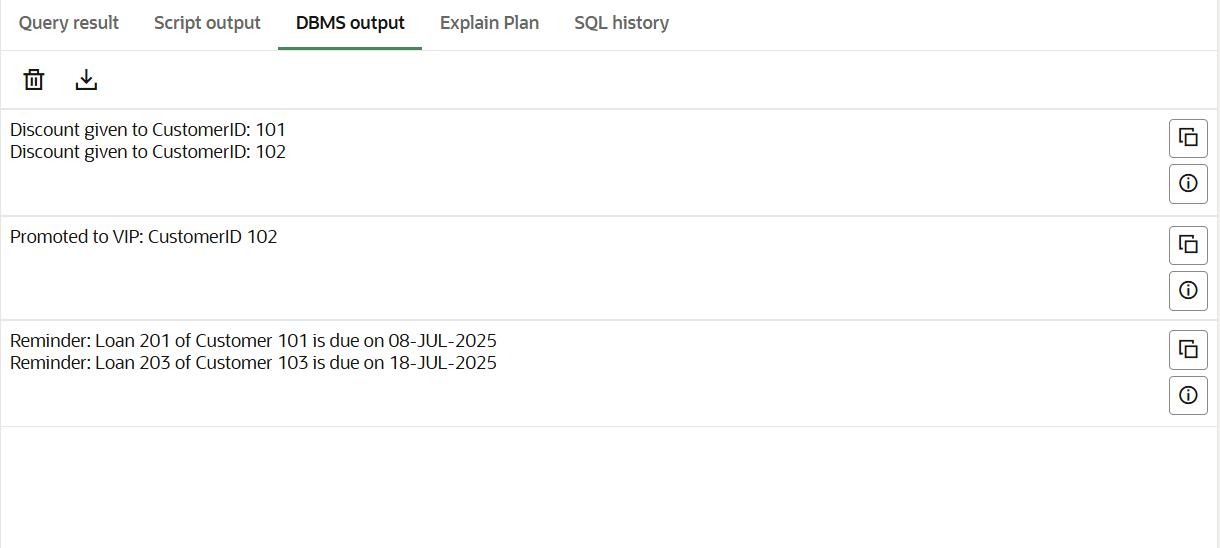
END;

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**OUTPUT :**

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