**Exercise 1: Control Structures**

**CODE:**

SET SERVEROUTPUT ON SIZE 100000;

Step 1: Drop tables if they exist

BEGIN

EXECUTE IMMEDIATE 'DROP TABLE Loans CASCADE CONSTRAINTS';

EXCEPTION WHEN OTHERS THEN NULL;

END;

/

BEGIN

EXECUTE IMMEDIATE 'DROP TABLE Customers CASCADE CONSTRAINTS';

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 (CustomerID, Name, DOB, Balance, IsVIP) VALUES

(101, 'Arun', DATE '1955-08-02', 8500, 'F'),

(102, 'Bala', DATE '1962-04-15', 15000, 'F'),

(103, 'Chitra', DATE '1990-12-05', 6200, 'F');

Step 5: Insert sample data into Loans

INSERT INTO Loans (LoanID, CustomerID, InterestRate, DueDate) VALUES

(201, 101, 8.50, SYSDATE + 10),

(202, 102, 9.00, SYSDATE + 45),

(203, 103, 7.75, SYSDATE + 20);

COMMIT;

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

BEGIN

FOR cust\_rec IN (

SELECT c.CustomerID

FROM Customers c

WHERE FLOOR(MONTHS\_BETWEEN(SYSDATE, c.DOB) / 12) > 60

) LOOP

UPDATE Loans

SET InterestRate = InterestRate - 0.01

WHERE CustomerID = cust\_rec.CustomerID;

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

END LOOP;

COMMIT;

END;

/

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

BEGIN

FOR cust\_rec IN (

SELECT CustomerID

FROM Customers

WHERE Balance > 10000

) LOOP

UPDATE Customers

SET IsVIP = 'T'

WHERE CustomerID = cust\_rec.CustomerID;

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

END LOOP;

COMMIT;

END;

/

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

BEGIN

FOR loan\_rec IN (

SELECT LoanID, CustomerID, DueDate

FROM Loans

WHERE DueDate BETWEEN SYSDATE AND SYSDATE + 30

) LOOP

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

' of Customer ' || loan\_rec.CustomerID ||

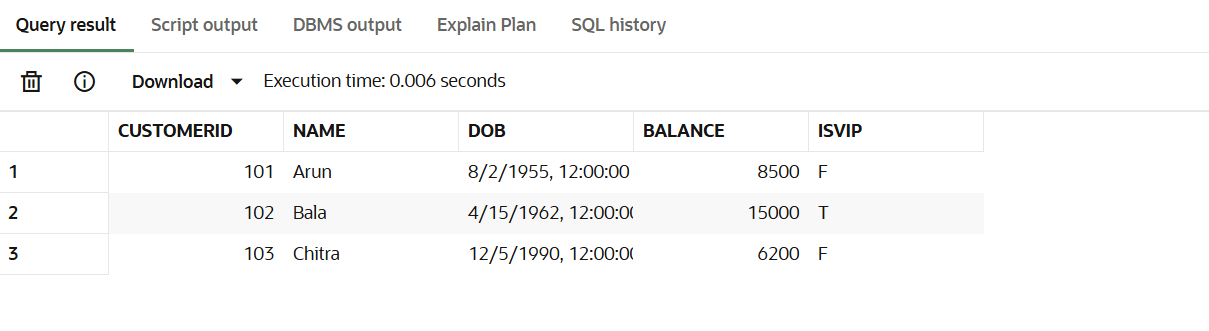
' is due on ' || TO\_CHAR(loan\_rec.DueDate, 'DD-MON-YYYY'));

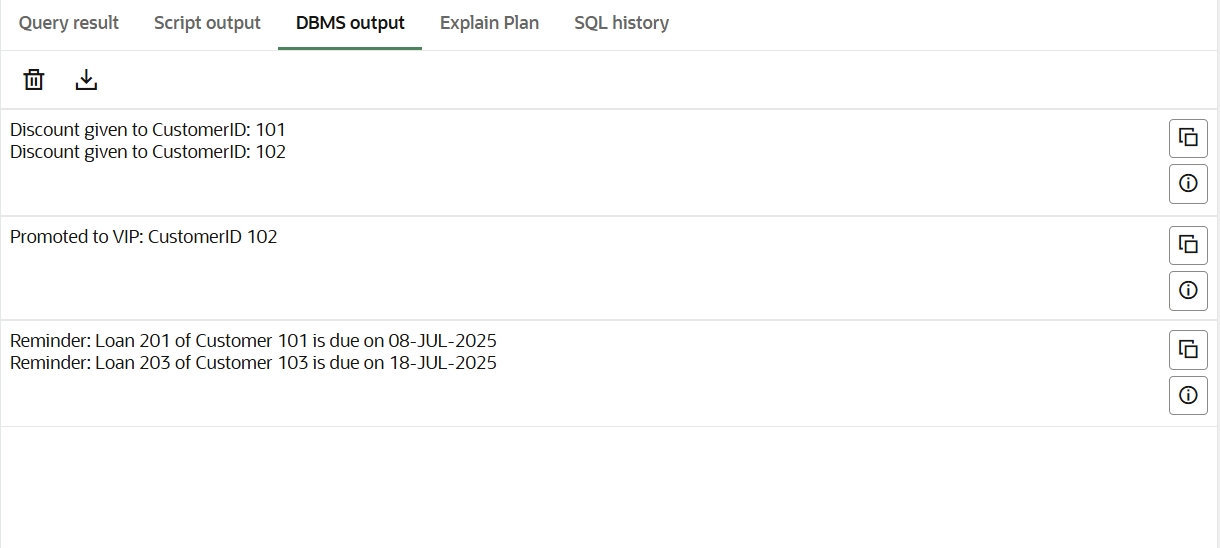
END LOOP;

END;

/

**OUTPUT**:

****

****