**Exercise 1: Control Structures**

**CODE**

**Create Tables**

-- Customers table

CREATE TABLE customers (

customer\_id NUMBER PRIMARY KEY,

name VARCHAR2(100),

age NUMBER,

loan\_interest\_rate NUMBER(5,2),

balance NUMBER(10,2),

IsVIP VARCHAR2(5)

);

-- Loans table

CREATE TABLE loans (

loan\_id NUMBER PRIMARY KEY,

customer\_id NUMBER REFERENCES customers(customer\_id),

due\_date DATE

);

**Insert Sample Data**

BEGIN

-- Insert customers

INSERT INTO customers VALUES (1, 'John Smith', 65, 8.5, 12000, 'FALSE');

INSERT INTO customers VALUES (2, 'Alice Johnson', 45, 7.0, 9500, 'FALSE');

INSERT INTO customers VALUES (3, 'Robert Brown', 70, 9.0, 15000, 'FALSE');

INSERT INTO customers VALUES (4, 'Emma Davis', 30, 6.5, 5000, 'FALSE');

-- Insert 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 + 20); -- due in 20 days

INSERT INTO loans VALUES (104, 4, SYSDATE + 5); -- due in 5 days

COMMIT;

END;

/

**Scenario 1 - Apply 1% Discount to Interest Rate for Customers Aged Above 60**

DECLARE

CURSOR cur\_customers IS

SELECT customer\_id, loan\_interest\_rate

FROM customers

WHERE age > 60;

BEGIN

FOR rec IN cur\_customers LOOP

UPDATE customers

SET loan\_interest\_rate = loan\_interest\_rate - 1

WHERE customer\_id = rec.customer\_id;

END LOOP;

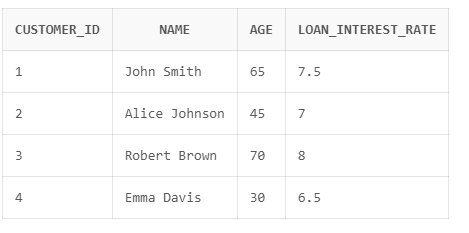
COMMIT;

END;

/

SELECT customer\_id, name, age, loan\_interest\_rate FROM customers;

**OUTPUT**



**Scenario 2 - Set IsVIP Flag to True for Customers with Balance > 10000**

DECLARE

CURSOR cur\_customers IS

SELECT customer\_id

FROM customers

WHERE balance > 10000;

BEGIN

FOR rec IN cur\_customers LOOP

UPDATE customers

SET IsVIP = 'TRUE'

WHERE customer\_id = rec.customer\_id;

END LOOP;

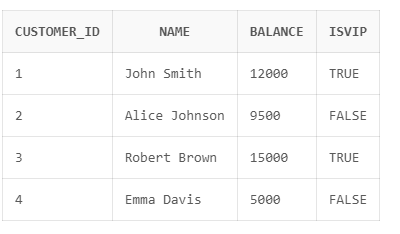
COMMIT;

END;

/

SELECT customer\_id, name, balance, IsVIP FROM customers;

**OUTPUT**



**Scenario 3 - Print Loan Reminders Due Within Next 30 Days**

BEGIN

FOR rec IN (

SELECT l.loan\_id, l.due\_date, c.name

FROM loans l

JOIN customers c ON l.customer\_id = c.customer\_id

WHERE l.due\_date BETWEEN SYSDATE AND SYSDATE + 30

) LOOP

DBMS\_OUTPUT.PUT\_LINE('Reminder: Dear ' || rec.name ||

', your loan (ID: ' || rec.loan\_id || ') is due on ' ||

TO\_CHAR(rec.due\_date, 'DD-MON-YYYY'));

END LOOP;

END;

/

**OUTPUT**

