**Exercise 1: Control Structures**

**Scenario 1:**

**Code:** (Respected Sir/Mam, I have added comment lines for readability)

***-- creation of Customers and Loans tables***

CREATE TABLE Customers (

CustomerID NUMBER PRIMARY KEY,

Name VARCHAR2(100),

DOB DATE,

Balance NUMBER,

LastModified DATE

);

CREATE TABLE Loans (

LoanID NUMBER PRIMARY KEY,

CustomerID NUMBER,

LoanAmount NUMBER,

InterestRate NUMBER,

StartDate DATE,

EndDate DATE,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

***-- Inserting values into Customers and Loans tables***

BEGIN

INSERT INTO Customers VALUES (1, 'Alice Reddy', TO\_DATE('1950-05-10', 'YYYY-MM-DD'), 12000, SYSDATE);

INSERT INTO Customers VALUES (2, 'Bob Singh', TO\_DATE('1990-08-21', 'YYYY-MM-DD'), 8000, SYSDATE);

INSERT INTO Customers VALUES (3, 'Carol Mehta', TO\_DATE('1962-01-15', 'YYYY-MM-DD'), 15000, SYSDATE );

INSERT INTO Customers VALUES (4, 'David Rao', TO\_DATE('1985-12-01', 'YYYY-MM-DD'), 9500, SYSDATE);

INSERT INTO Customers VALUES (5, 'Esha Iyer', TO\_DATE('1945-03-25', 'YYYY-MM-DD'), 20000, SYSDATE);

END;

/

BEGIN

INSERT INTO Loans VALUES (1, 1, 5000, 5, SYSDATE, ADD\_MONTHS(SYSDATE, 60));

INSERT INTO Loans VALUES (2, 2, 15000, 6.5, SYSDATE, ADD\_MONTHS(SYSDATE, 36));

INSERT INTO Loans VALUES (3, 3, 25000, 7, SYSDATE, ADD\_MONTHS(SYSDATE, 24));

INSERT INTO Loans VALUES (4, 4, 10000, 6.8, SYSDATE, ADD\_MONTHS(SYSDATE, 12));

INSERT INTO Loans VALUES (5, 5, 30000, 5.5, SYSDATE, ADD\_MONTHS(SYSDATE, 48));

END;

/

***-- Updating interest rates for customers whose age is above 60***

DECLARE

Age NUMBER;

BEGIN

FOR rec IN (

SELECT CUST.CustomerId,CUST.DOB,L.LoanID,L.InterestRate

FROM Customers CUST

INNER JOIN Loans L

ON CUST.CustomerId=L.CustomerId

) LOOP

Age := FLOOR(MONTHS\_BETWEEN(SYSDATE,rec.DOB)/12);

IF Age>60 THEN

DBMS\_OUTPUT.PUT\_LINE('Before Update (Customer Id: ' || rec.CustomerId || ') -> Age: ' || Age || ', InterestRate: ' || rec.InterestRate);

UPDATE Loans

SET InterestRate=(InterestRate-(InterestRate/100))

WHERE CustomerID=rec.CustomerID AND LoanID=rec.LoanID;

END IF;

END LOOP;

END;

/

***-- Verifying the updates for customers whose age is above 60***

DECLARE

Age NUMBER;

BEGIN

FOR rec IN (

SELECT CUST.CustomerId,CUST.DOB,L.LoanID,L.InterestRate

FROM Customers CUST

INNER JOIN Loans L

ON CUST.CustomerId=L.CustomerId

) LOOP

Age := FLOOR(MONTHS\_BETWEEN(SYSDATE,rec.DOB)/12);

IF Age>=60 THEN

DBMS\_OUTPUT.PUT\_LINE('After Update (Customer Id: ' || rec.CustomerId || ') -> Age: ' || Age || ', InterestRate: ' || rec.InterestRate);

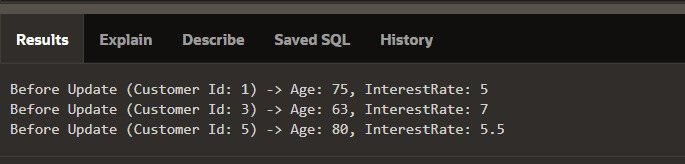
END IF;

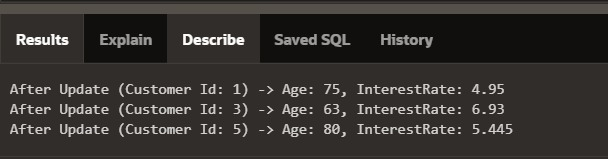
END LOOP;

END;

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**Output:**

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