**WEEK – 2 (PL/SQL programming)**

**HANDS – ON**

**Exercise 1:** Control Structures

**SCENARIO -1 : -**

-- Create MYCUSTOMER table

CREATE TABLE MYCUSTOMER(

    CUSTOMER\_ID NUMBER PRIMARY KEY,

    NAME VARCHAR2(100),

    AGE NUMBER CHECK (AGE >= 0)

);

-- Create LOANS table

CREATE TABLE MYLOANS (

    LOAN\_ID NUMBER PRIMARY KEY,

    CUSTOMER\_ID NUMBER,

    INTEREST\_RATE NUMBER(5,2),

    FOREIGN KEY (CUSTOMER\_ID) REFERENCES MYCUSTOMER(CUSTOMER\_ID)

);

-- Inserting the  sample customer data

INSERT INTO MYCUSTOMER (CUSTOMER\_ID, NAME, AGE) VALUES (1, 'Jhonny Depp', 65);

INSERT INTO MYCUSTOMER (CUSTOMER\_ID, NAME, AGE) VALUES (2, 'Adam Smith', 45);

INSERT INTO MYCUSTOMER (CUSTOMER\_ID, NAME, AGE) VALUES (3, 'Ayan Das', 70);

INSERT INTO MYCUSTOMER (CUSTOMER\_ID, NAME, AGE) VALUES (4, 'Ritesh Singh', 20);

INSERT INTO MYCUSTOMER (CUSTOMER\_ID, NAME, AGE) VALUES (5, 'Abhay Keshri', 71);

COMMIT;

SELECT \* FROM MYCUSTOMER;

-- Inserting sample loan data (linked to customer IDs)

INSERT INTO MYLOANS (LOAN\_ID, CUSTOMER\_ID, INTEREST\_RATE) VALUES (101, 1, 8.5);

INSERT INTO MYLOANS (LOAN\_ID, CUSTOMER\_ID, INTEREST\_RATE) VALUES (102, 2, 9.0);

INSERT INTO MYLOANS (LOAN\_ID, CUSTOMER\_ID, INTEREST\_RATE) VALUES (103, 3, 7.5);

INSERT INTO MYLOANS (LOAN\_ID, CUSTOMER\_ID, INTEREST\_RATE) VALUES (104, 4, 4.5);

INSERT INTO MYLOANS (LOAN\_ID, CUSTOMER\_ID, INTEREST\_RATE) VALUES (105, 5, 6.0);

COMMIT;

SELECT \* FROM MYLOANS;

BEGIN

        FOR rec IN (

        SELECT l.LOAN\_ID, l.INTEREST\_RATE

        FROM MYLOANS l

        JOIN MYCUSTOMER c ON l.CUSTOMER\_ID = c.CUSTOMER\_ID

        WHERE c.AGE > 60

    )

    LOOP

          UPDATE MYLOANS

        SET INTEREST\_RATE = rec.INTEREST\_RATE + 1

        WHERE LOAN\_ID = rec.LOAN\_ID;

    END LOOP;

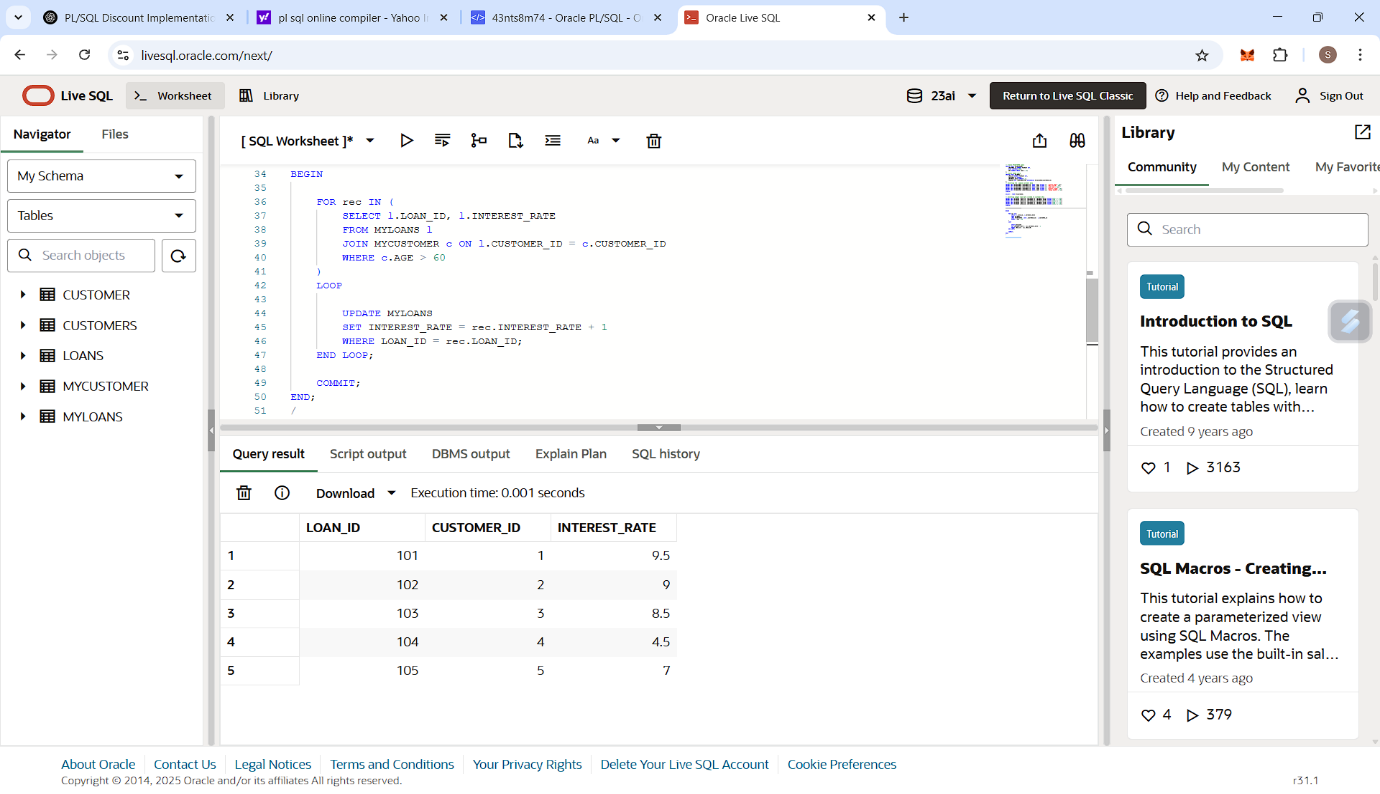
COMMIT;

END;

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SELECT \* FROM MYLOANS;

**OUTPUT**

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**SCENARIO – 2 :-**

ALTER TABLE MYCUSTOMER ADD (

    BALANCE NUMBER(10, 2),

    ISVIP CHAR(1) DEFAULT 'N'

);

UPDATE MYCUSTOMER SET BALANCE = 12000 WHERE CUSTOMER\_ID = 1;

UPDATE MYCUSTOMER SET BALANCE = 8500 WHERE CUSTOMER\_ID = 2;

UPDATE MYCUSTOMER SET BALANCE = 15000 WHERE CUSTOMER\_ID = 3;

UPDATE MYCUSTOMER SET BALANCE = 25000 WHERE CUSTOMER\_ID = 4;

UPDATE MYCUSTOMER SET BALANCE = 9000 WHERE CUSTOMER\_ID = 5;

COMMIT;

BEGIN

    FOR cust IN (

        SELECT CUSTOMER\_ID, BALANCE FROM MYCUSTOMER

        WHERE BALANCE > 10000

    )

    LOOP

        UPDATE MYCUSTOMER

        SET ISVIP = 'Y'

        WHERE CUSTOMER\_ID = cust.CUSTOMER\_ID;

    END LOOP;

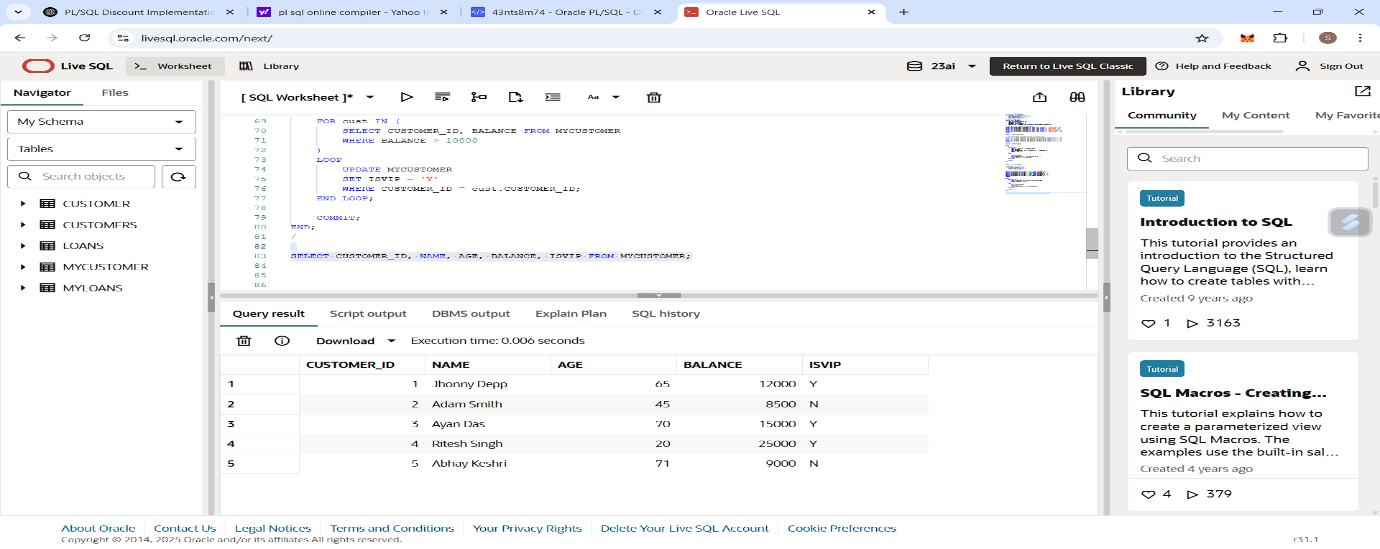
COMMIT;

END;

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SELECT CUSTOMER\_ID, NAME, AGE, BALANCE, ISVIP FROM MYCUSTOMER;

**OUTPUT**

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**SCENARIO – 3 :-**

ALTER TABLE MYLOANS ADD (

    DUE\_DATE DATE

);

UPDATE MYLOANS SET DUE\_DATE = SYSDATE + 10 WHERE LOAN\_ID = 101;

UPDATE MYLOANS SET DUE\_DATE = SYSDATE + 40 WHERE LOAN\_ID = 102;

UPDATE MYLOANS SET DUE\_DATE = SYSDATE + 25 WHERE LOAN\_ID = 103;

UPDATE MYLOANS SET DUE\_DATE = SYSDATE + 35 WHERE LOAN\_ID = 104;

UPDATE MYLOANS SET DUE\_DATE = SYSDATE + 20 WHERE LOAN\_ID = 105;

COMMIT;

BEGIN

   FOR rec IN (

        SELECT l.LOAN\_ID, c.NAME, l.DUE\_DATE

        FROM MYLOANS l

        JOIN MYCUSTOMER 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 ||

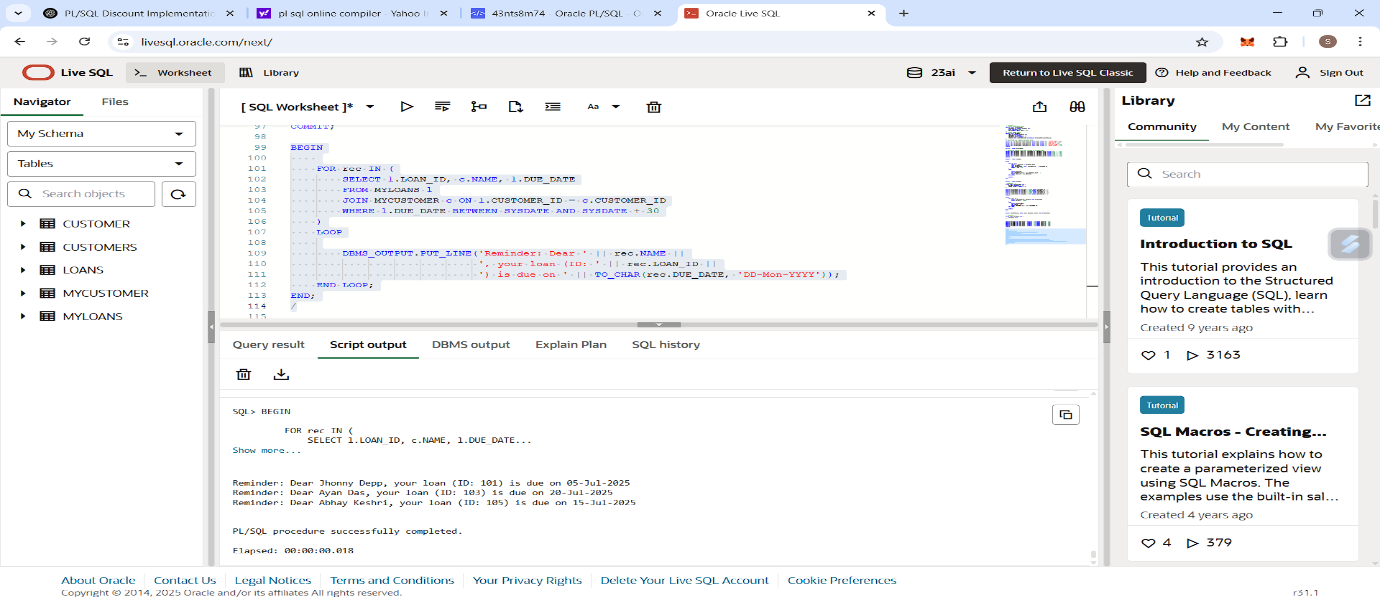
                             ') is due on ' || TO\_CHAR(rec.DUE\_DATE, 'DD-Mon-YYYY'));

    END LOOP;

END;

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**OUTPUT**

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