Ex: No: 01 **Creation of a database and writing SQL queries to**

Date:16.02.24 **retrieve information from the database.**

AIM:

To create a database and write SQL queries to retrieve information from the database.

PROCEDURE:

SQL>Create table EMP (empno number, ename varchar, job varchar, mgr varchar, hiredate date, sal number, comm number deptno number);

Table created.

SQL>Insert into EMP values(7369,'SOMU','CLERK' , 7902 ,17-DEC-80 , 800 ,20);
SQL>Insert into EMP values(7499 'SURIYA' ,'SALESMAN', 7698, 20-FEB-81, 1600, 300, 30);
SQL>Insert into EMP values(7521, 'TEJAS', 'SALESMAN', 7698, 22-FEB-81, 1250, 500, 30);
SQL>Insert into EMP values(7566, 'JOYAL', 'MANAGER' , 7839, 02-APR-81, 2975, NULL, 20);
SQL>Insert into EMP values(7654, 'MELVIN', 'SALESMAN' , 7698, 28-SEP-81, 1250, 1400, 30);
SQL>Insert into EMP values(7698, 'BLAKE' , 'MANAGER', 7839, 01-MAY-81, 2850,NULL , 30);
SQL>Insert into EMP values(7782, 'CHAHAL', 'MANAGER', 7839, 09-JUN-81, 2450,NULL , 10);
SQL>Insert into EMP values(7788,'SARA', 'ANALYST', 7566, 19-APR-87, 3000, NULL, 20);
SQL>Insert into EMP values(7839, 'KHAN', 'PRESIDENT', 17-NOV-81, 5000,NULL, 10);
SQL>Insert into EMP values(7844, 'THUSHAR', 'SALESMAN', 7698, 08-SEP-81, 1500, NULL, 30);
SQL>Insert into EMP values(7876, 'AMEER','CLERK', 7788, 23-MAY-87, 1100, 20);
SQL>Insert into EMP values(7900, 'JOSHWA', 'CLERK', 7698, 03-DEC-81, 950,NULL, 30);
SQL>Insert into EMP values(7902, 'FAROOQ', 'ANALYST', 7566, 03-DEC-81, 3000,NULL, 20);

SQL> select * from EMP;

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SOMU	CLERK	7902	17-DEC-80	800		20
7499	SURIYA	SALESMAN	7698	20-FEB-81	1600	300	30
7521	TEJAS	SALESMAN	7698	22-FEB-81	1250	500	30

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7566	JOYAL	MANAGER	7839	02-APR-81	2975		20
7654	MELVIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7782	CHAHAL	MANAGER	7839	09-JUN-81	2450		10
7788	SARA	ANALYST	7566	19-APR-87	3000		20
7839	KHAN	PRESIDENT		17-NOV-81	5000		10

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM

```
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
      7844 THUSHAR     SALESMAN        7698 08-SEP-81       1500
        30

      7876 AMEER      CLERK           7788 23-MAY-87       1100
        20

      7900 JOSHWA      CLERK           7698 03-DEC-81       950
        30


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
      7902 FAROOQ       ANALYST         7566 03-DEC-81       3000
        20


13 rows selected.
```

RESULT:

Thus to create a database and writing SQL queries to retrieve information from the database is verified successfully

Ex: No: 02 **Performing Insertion, Deletion, Modifying,**
Date:16.02.24 **Altering, Updating and Viewing records based on condition**

AIM:

To performing Insertion, Deletion, Modifying, Altering, Updating and Viewing records based on conditions.

PROCEDURE

SQL>Create table EMP (empno number, ename varchar, job varchar, mgr varchar, hiredate date, sal number, comm number deptno number);

Table created.

SQL>Insert into EMP values(7369,'SOMU','CLERK' , 7902 ,17-DEC-80 , 800 ,20);
SQL>Insert into EMP values(7499 'SURIYA' ,'SALESMAN', 7698, 20-FEB-81, 1600, 300, 30);
SQL>Insert into EMP values(7521, 'TEJAS', 'SALESMAN', 7698, 22-FEB-81, 1250, 500, 30);
SQL>Insert into EMP values(7566, 'JOYAL', 'MANAGER' , 7839, 02-APR-81, 2975, NULL, 20);
SQL>Insert into EMP values(7654, 'MELVIN', 'SALESMAN' , 7698, 28-SEP-81, 1250, 1400, 30);
SQL>Insert into EMP values(7698, 'BLAKE' , 'MANAGER', 7839, 01-MAY-81, 2850,NULL , 30);
SQL>Insert into EMP values(7782, 'CHAHAL', 'MANAGER', 7839, 09-JUN-81, 2450,NULL , 10);
SQL>Insert into EMP values(7788,'SARA', 'ANALYST', 7566, 19-APR-87, 3000, NULL, 20);
SQL>Insert into EMP values(7839, 'KHAN', 'PRESIDENT', 17-NOV-81, 5000,NULL, 10);
SQL>Insert into EMP values(7844, 'THUSHAR', 'SALESMAN', 7698, 08-SEP-81, 1500, NULL, 30);
SQL>Insert into EMP values(7876, 'AMEER','CLERK', 7788, 23-MAY-87, 1100, 20);
SQL>Insert into EMP values(7900, 'JOSHWA', 'CLERK', 7698, 03-DEC-81, 950,NULL, 30);
SQL>Insert into EMP values(7902, 'FAROOQ', 'ANALYST', 7566, 03-DEC-81, 3000, NULL, 20);

Select * from emp;

```
 EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7369 SOMU      CLERK           7902 17-DEC-80        800
       20

     7499 SURIYA      SALESMAN        7698 20-FEB-81       1600        300
       30

     7521 TEJAS       SALESMAN        7698 22-FEB-81       1250        500
       30


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7566 JOYAL      MANAGER         7839 02-APR-81       2975
       20

     7654 MELVIN     SALESMAN        7698 28-SEP-81       1250       1400
       30

     7698 BLAKE      MANAGER         7839 01-MAY-81       2850
       30


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7782 CHAHAL      MANAGER         7839 09-JUN-81       2450
       10

     7788 SARA      ANALYST         7566 19-APR-87       3000
       20

     7839 KHAN       PRESIDENT            17-NOV-81       5000
       10
```

```
    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7844 THUSHAR     SALESMAN        7698 08-SEP-81       1500          0
       30

     7876 AMEER       CLERK           7788 23-MAY-87       1100
       20

     7900 JOSHWA      CLERK           7698 03-DEC-81        950
       30


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7902 FAROOQ      ANALYST         7566 03-DEC-81       3000
       20


13 rows selected.

SQL> UPDATE EMP
  2  SET SAL = SAL + 200;

14 rows updated.

SQL> UPDATE EMP
  2  SET SAL = 3000
  3  WHERE EMPNO = 7566;

1 row updated.

SQL> DELETE FROM EMP
  2  WHERE ENAME = 'AMEER';

0 rows deleted.

SQL> SELECT * FROM EMP;

    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
```

---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO

     7369 SOMU   CLERK   7902 17-DEC-80   1000
       20

     7499 SURIYA   SALESMAN   7698 20-FEB-81   1800   300
       30

     7521 TEJAS   SALESMAN   7698 22-FEB-81   1450   500
       30

    EMPNO ENAME   JOB   MGR HIREDATE   SAL   COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO

     7566 JOYAL   MANAGER   7839 02-APR-81   3000
       20

     7654 MELVIN   SALESMAN   7698 28-SEP-81   1450   1400
       30

     7698 BLAKE   MANAGER   7839 01-MAY-81   3050
       30

    EMPNO ENAME   JOB   MGR HIREDATE   SAL   COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO

     7782 CHAHAL   MANAGER   7839 09-JUN-81   2650
       10

     7788 SARA   ANALYST   7566 19-APR-87   3200
       20

     7839 KHAN   PRESIDENT   17-NOV-81   5200
       10

    EMPNO ENAME   JOB   MGR HIREDATE   SAL   COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO

```
----------
      7844 THUSHAR     SALESMAN        7698 08-SEP-81       1700          0
        30

      7876 AMEER      CLERK           7788 23-MAY-87       1300
        20

      7900 JOSHWA      CLERK           7698 03-DEC-81       1150
        30


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
      7902 FAROOQ       ANALYST         7566 03-DEC-81       3200
        20

      7934 MILLER     CLERK           7782 23-JAN-82       1500
        10


14 rows selected.

SQL> SELECT EMPNO AS ENO, ENAME
  2  FROM EMP
  3  WHERE SAL > 3000;

       ENO ENAME
---------- ----------
      7698 BLAKE
      7788 SARA
      7839 KHAN
      7902 FAROOQ

SQL> SELECT *
  2  FROM EMP
  3  WHERE SAL > 2000 AND SAL < 3000;

    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
      7782 CHAHAL      MANAGER         7839 09-JUN-81       2650
```

```
       10


SQL> SELECT *
  2  FROM EMP
  3  WHERE JOB <> 'MANAGER';

    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7369 SOMU       CLERK           7902 17-DEC-80       1000
       20

     7499 SURIYA      SALESMAN        7698 20-FEB-81       1800        300
       30

     7521 TEJAS       SALESMAN        7698 22-FEB-81       1450        500
       30


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7654 MELVIN     SALESMAN        7698 28-SEP-81       1450       1400
       30

     7788 SARA       ANALYST         7566 19-APR-87       3200
       20

     7839 KHAN       PRESIDENT            17-NOV-81       5200
       10


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7844 THUSHAR     SALESMAN        7698 08-SEP-81       1700          0
       30

     7876 AMEER      CLERK           7788 23-MAY-87       1300
       20
```

```
     7900 JOSHWA      CLERK           7698 03-DEC-81       1150
       30


    EMPNO ENAME      JOB             MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7902 FAROOQ      ANALYST         7566 03-DEC-81       3200
       20

     7934 MILLER     CLERK           7782 23-JAN-82       1500
       10


11 rows selected.

SQL> SELECT *
  2  FROM EMP
  3  WHERE ENAME LIKE 'J%';

    EMPNO ENAME      JOB             MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7566 JOYAL      MANAGER         7839 02-APR-81       3000
       20

     7900 JOSHWA      CLERK           7698 03-DEC-81       1150
       30


SQL> SELECT *
  2  FROM EMP
  3  WHERE LENGTH(ENAME) = 4;

    EMPNO ENAME      JOB             MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7521 TEJAS       SALESMAN        7698 22-FEB-81       1450        500
       30
```

```
      7839 KHAN       PRESIDENT            17-NOV-81       5200
        10

      7902 FAROOQ     ANALYST         7566 03-DEC-81       3200
        20


SQL> SELECT EMPNO AS ENO, ENAME, SAL
  2  FROM EMP
  3  WHERE DEPTNO IN (10, 20);

       ENO ENAME            SAL
---------- ---------- ----------
      7369 SOMU            1000
      7566 JOYAL           3000
      7782 CHAHAL           2650
      7788 SARA           3200
      7839 KHAN            5200
      7876 AMEER           1300
      7902 FAROOQ           3200
      7934 MILLER          1500

8 rows selected.

SQL> SELECT *
  2  FROM EMP
  3  WHERE SUBSTR(ENAME, 3, 1) = 'r';

no rows selected

SQL> SELECT *
  2  FROM EMP
  3  WHERE COMM IS NULL;

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
    DEPTNO
----------
      7369 SOMU      CLERK           7902 17-DEC-80       1000
        20

      7566 JOYAL      MANAGER         7839 02-APR-81       3000
        20
```

```
      7698 BLAKE      MANAGER         7839 01-MAY-81       3050
        30


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
      7782 CHAHAL      MANAGER         7839 09-JUN-81       2650
        10

      7788 SARA      ANALYST         7566 19-APR-87       3200
        20

      7839 KHAN       PRESIDENT            17-NOV-81       5200
        10


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
      7876 AMEER      CLERK           7788 23-MAY-87       1300
        20

      7900 JOSHWA      CLERK           7698 03-DEC-81       1150
        30

      7902 FAROOQ       ANALYST         7566 03-DEC-81       3200
        20


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
      7934 MILLER     CLERK           7782 23-JAN-82       1500
        10


10 rows selected.

SQL> SELECT MGR AS ENO
  2  FROM EMP
```

```
  3  WHERE JOB = 'MANAGER';

       ENO
----------
      7839
      7839
      7839

SQL> CREATE TABLE new_emp AS
  2  SELECT * FROM EMP;

Table created.

SQL> COMMIT;

Commit complete.
```

RESULT:

Thus the program to perform Insertion, Deletion, Modifying, Altering, Updating and Viewing records has been successfully executed and verified.

Ex: No: 03 Creating an Employee database to set various constraints
Date:23.02.24 and Creation of Views Indexes, Save point.

AIM:

To Create an Employee database to set various constraints and Creation of Views Indexes, Save point..

PROCEDURE:

```
SQL> CREATE TABLE Parent_Student (
  2     PARENT_ID INT,
  3     STUDENT_ID INT,
  4     PARENT_NAME VARCHAR(50),
  5     MOBILE VARCHAR(15)
  6  );
```

Table created.

```
SQL> INSERT INTO Parent_Student VALUES (1011, 1430, 'ROGESH', '8931222345');
```

1 row created.

```
SQL> INSERT INTO Parent_Student VALUES (1012, 1431, 'RITHISH', '8931223456');
```

1 row created.

```
SQL> INSERT INTO Parent_Student VALUES (1013, 1432, 'GURU', '8931223298');
```

1 row created.

```
SQL> INSERT INTO Parent_Student VALUES (1014, 1433, 'SHREE', '8931223666');
```

1 row created.

```
SQL> INSERT INTO Parent_Student VALUES (1015, 1434, 'LAVYA', '8931223777');
```

1 row created.

```
SQL> INSERT INTO Parent_Student VALUES  (1016, 1435, 'KEERTHI', '8931223888');
```

1 row created.

```
SQL> INSERT INTO Parent_Student VALUES (1017, 1436, 'ALOY', '8931223999');
```

1 row created.

SQL> INSERT INTO Parent_Student VALUES (1018, 1437, 'DHARANI', '8931223000');

1 row created.

SQL> SELECT *FROM Parent_Student;

PARENT_ID STUDENT_ID PARENT_NAME
---------- ---------- --
MOBILE

1011 1430 ROGESH
8931222345

1012 1431 RITHISH
8931223456

1013 1432 GURU
8931223298

PARENT_ID STUDENT_ID PARENT_NAME
---------- ---------- --
MOBILE

1014 1433 SHREE
8931223666

1015 1434 LAVYA
8931223777

PARENT_ID STUDENT_ID PARENT_NAME
---------- ---------- --
MOBILE

1016 1435 KEERTHI
8931223888

1017 1436 ALOY
8931223999

1018 1437 DHARANI
8931223000

8 rows selected.

```
SQL> CREATE TABLE Student_Marks (
  2     STUDENT_ID INT,
  3     NAME VARCHAR(50),
  4     MARK1 INT,
  5     MARK2 INT,
  6     MARK3 INT
  7  );
```

Table created.

```
SQL> INSERT INTO Student_Marks VALUES (1430, 'GOPAL', 89, 87, 90);
```

1 row created.

```
SQL> INSERT INTO Student_Marks VALUES (1431, 'GOVIND', 43, 77, 60)
  2  ;
```

1 row created.

```
SQL> INSERT INTO Student_Marks VALUES (1432, 'VINOD', 49, 97, 80);
```

1 row created.

```
SQL> INSERT INTO Student_Marks VALUES (1433, 'PRIYA', 75, 82, 88);
```

1 row created.

```
SQL> INSERT INTO Student_Marks VALUES  (1434, 'RAHUL', 65, 79, 70);
```

1 row created.

```
SQL> INSERT INTO Student_Marks VALUES  (1435, 'NEHA', 80, 88, 92);
```

1 row created.

```
SQL> INSERT INTO Student_Marks VALUES (1436, 'ANIL', 55, 63, 67);
```

1 row created.

```
SQL> INSERT INTO Student_Marks VALUES (1437, 'PRAKASH', 72, 78, 84);
```

1 row created.

SQL> SELECT *FROM Student_Marks;

```
STUDENT_ID NAME                                          MARK1
---------- ---------------------------------------------- ----------
    MARK2      MARK3
---------- ----------
      1430 GOPAL                                          89
        87         90

      1431 GOVIND                                         43
        77         60

      1432 VINOD                                          49
        97         80


STUDENT_ID NAME                                          MARK1
---------- ---------------------------------------------- ----------
    MARK2      MARK3
---------- ----------
      1433 PRIYA                                         75
        82         88

      1434 RAHUL                                          65
        79         70

      1435 NEHA                                          80
        88         92


STUDENT_ID NAME                                          MARK1
---------- ---------------------------------------------- ----------
    MARK2      MARK3
---------- ----------
      1436 ANIL                                         55
        63         67

      1437 PRAKASH                                        72
        78         84
```

8 rows selected.

```
SQL> ALTER TABLE Parent_Student ADD CONSTRAINT PK_Parent_Student PRIMARY
KEY(PARENT_ID);

Table altered.

SQL> ALTER TABLE Student_Marks ADD CONSTRAINT PK_Student_Marks PRIMARY
KEY(STUDENT_ID);

Table altered.

SQL> ALTER TABLE Parent_Student
  2  DROP PRIMARY KEY;

Table altered.

SQL> ALTER TABLE Parent_Student ADD CONSTRAINT PK_Parent_Student PRIMARY
KEY(STUDENT_ID);

Table altered.

SQL> ALTER TABLE Student_Marks
  2  ADD CONSTRAINT FK_Student_Marks_Parent
  3  FOREIGN KEY (STUDENT_ID)
  4  REFERENCES Parent_Student(STUDENT_ID);

Table altered.

SQL> CREATE TABLE ORDER_PROCESSING (
  2      Order_ID NUMBER(3),
  3      Product_ID VARCHAR2(10),
  4      Quantity NUMBER(3,2),
  5      Price NUMBER(4,2)
  6  );

Table created.

SQL>
SQL> -- Insert values
SQL> INSERT INTO ORDER_PROCESSING VALUES (101, 'RICE-22', 6.5, 30.50);

1 row created.

SQL> INSERT INTO ORDER_PROCESSING VALUES (102, 'OIL', 2.0, 90.50);

1 row created.
```

```
SQL> INSERT INTO ORDER_PROCESSING VALUES (103, 'BAGS', 2, 95);

1 row created.

SQL> INSERT INTO ORDER_PROCESSING VALUES (104, 'WATER BOTS', 2, 20);

1 row created.

SQL>
SQL> -- Savepoint
SQL> SAVEPOINT A;

Savepoint created.

SQL>
SQL> -- Insert more values
SQL> INSERT INTO ORDER_PROCESSING VALUES (105, 'EGG', 8, 40.50);

1 row created.

SQL> INSERT INTO ORDER_PROCESSING VALUES (106, 'SHAMPOO', 1, 75.50);

1 row created.
SQL> -- Savepoint B
SQL> SAVEPOINT B;

Savepoint created.

SQL>
SQL> -- Insert values
SQL> INSERT INTO ORDER_PROCESSING VALUES (107, 'BAR SOAP', 1, 45.50);

1 row created.

SQL> INSERT INTO ORDER_PROCESSING VALUES (108, 'TONER', 1, 75.50);

1 row created.

SQL>
SQL> -- Savepoint C
SQL> SAVEPOINT C;

Savepoint created.
```

```
SQL>
SQL> -- Insert values
SQL> INSERT INTO ORDER_PROCESSING VALUES (109, 'SUGAR', 2.0, 60.50);

1 row created.
```

RESULT:

Thus the SQL commands has been verified and executed successfully for creating an Employee database to set various constraints and Creation of Views Indexes, Save point

Ex: No: 04 Joins and Nested Queries.

Date:23.02.24

AIM:

To execute and verify the SQL commands for various join operations.

PROCEDURE:

```
SQL> CREATE TABLE SALGRADE (
   GRADE NUMBER(1),
   LOSAL NUMBER(4),
   HISAL NUMBER(4));

SQL> INSERT INTO SALGRADE (GRADE, LOSAL, HISAL)
VALUES
(1, 700, 1200),
(2, 1201, 1400),
(3, 1401, 2000),
(4, 2001, 3000),
(5, 3001, 9999);

SQL> CREATE TABLE EMP (
   EMPNO NUMBER(4),
   ENAME VARCHAR2(10),
   JOB VARCHAR2(9),
   MGR NUMBER(4),
   HIREDATE DATE,
   SAL NUMBER(7,2),
   COMM NUMBER(7,2),
   DEPTNO NUMBER(2)
);

SQL> INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM,
DEPTNO)
VALUES
(7369, 'SOMU', 'CLERK', 7902, TO_DATE('17-DEC-80', 'DD-MON-RR'), 800, NULL, 20),
(7499, 'SURIYA', 'SALESMAN', 7698, TO_DATE('20-FEB-81', 'DD-MON-RR'), 1600, 300,
30),
(7521, 'TEJAS', 'SALESMAN', 7698, TO_DATE('22-FEB-81', 'DD-MON-RR'), 1250, 500,
30),
(7566, 'JOYAL', 'MANAGER', 7839, TO_DATE('02-APR-81', 'DD-MON-RR'), 2975,
NULL, 20),
(7654, 'MELVIN', 'SALESMAN', 7698, TO_DATE('28-SEP-81', 'DD-MON-RR'), 1250,
1400, 30),
(7698, 'BLAKE', 'MANAGER', 7839, TO_DATE('01-MAY-81', 'DD-MON-RR'), 2850,
```

```
NULL, 30),
(7782, 'CHAHAL', 'MANAGER', 7839, TO_DATE('09-JUN-81', 'DD-MON-RR'), 2450,
NULL, 10),
(7788, 'SARA', 'ANALYST', 7566, TO_DATE('19-APR-87', 'DD-MON-RR'), 3000, NULL,
20),
(7839, 'KHAN', 'PRESIDENT', NULL, TO_DATE('17-NOV-81', 'DD-MON-RR'), 5000,
NULL, 10),
(7844, 'THUSHAR', 'SALESMAN', 7698, TO_DATE('08-SEP-81', 'DD-MON-RR'), 1500, 0,
30),
(7876, 'AMEER', 'CLERK', 7788, TO_DATE('23-MAY-87', 'DD-MON-RR'), 1100, NULL,
20),
(7900, 'JOSHWA', 'CLERK', 7698, TO_DATE('03-DEC-81', 'DD-MON-RR'), 950, NULL,
30),
(7902, 'FAROOQ', 'ANALYST', 7566, TO_DATE('03-DEC-81', 'DD-MON-RR'), 3000,
NULL, 20),
(7934, 'MILLER', 'CLERK', 7782, TO_DATE('23-JAN-82', 'DD-MON-RR'), 1300, NULL,
10);


SQL> SELECT *FROM SALGRADE;

    GRADE      LOSAL      HISAL
---------- ---------- ----------
         1        700       1200
         2       1201       1400
         3       1401       2000
         4       2001       3000
         5       3001       9999

SQL> SELECT *FROM EMP;

    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO
----------
     7369 SOMU       CLERK          7902 17-DEC-80        800
       20

     7499 SURIYA     SALESMAN       7698 20-FEB-81       1600        300
       30

     7521 TEJAS      SALESMAN       7698 22-FEB-81       1250        500
       30


    EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM
```

---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO

      7566 JOYAL   MANAGER   7839 02-APR-81   2975
        20

      7654 MELVIN   SALESMAN   7698 28-SEP-81   1250   1400
        30

      7698 BLAKE   MANAGER   7839 01-MAY-81   2850
        30

    EMPNO ENAME   JOB   MGR HIREDATE   SAL   COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO

      7782 CHAHAL   MANAGER   7839 09-JUN-81   2450
        10

      7788 SARA   ANALYST   7566 19-APR-87   3000
        20

      7839 KHAN   PRESIDENT   17-NOV-81   5000
        10

    EMPNO ENAME   JOB   MGR HIREDATE   SAL   COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO

      7844 THUSHAR   SALESMAN   7698 08-SEP-81   1500   0
        30

      7876 AMEER   CLERK   7788 23-MAY-87   1100
        20

      7900 JOSHWA   CLERK   7698 03-DEC-81   950
        30

    EMPNO ENAME   JOB   MGR HIREDATE   SAL   COMM
---------- ---------- --------- ---------- --------- ---------- ----------
   DEPTNO

```
      7902 FAROOQ       ANALYST         7566 03-DEC-81       3000
        20

      7934 MILLER     CLERK           7782 23-JAN-82       1300
        10


14 rows selected.

SQL> SELECT e.EMPNO, e.ENAME, e.JOB, e.SAL, s.GRADE, s.LOSAL, s.HISAL
  2  FROM EMP e
  3  JOIN SALGRADE s ON e.DEPTNO = s.GRADE;

no rows selected

SQL> SELECT e.EMPNO, e.ENAME, e.JOB, e.SAL, s.GRADE, s.LOSAL, s.HISAL
  2  FROM EMP e
  3  JOIN SALGRADE s ON e.SAL BETWEEN s.LOSAL AND s.HISAL;

     EMPNO ENAME      JOB              SAL      GRADE      LOSAL      HISAL
---------- ---------- --------- ---------- ---------- ---------- ----------
      7369 SOMU      CLERK           800          1        700       1200
      7900 JOSHWA      CLERK           950          1        700       1200
      7876 AMEER      CLERK          1100          1        700       1200
      7521 TEJAS       SALESMAN        1250          2       1201       1400
      7654 MELVIN     SALESMAN        1250          2       1201       1400
      7934 MILLER     CLERK          1300          2       1201       1400
      7844 THUSHAR     SALESMAN        1500          3       1401       2000
      7499 SURIYA      SALESMAN        1600          3       1401       2000
      7782 CHAHAL      MANAGER         2450          4       2001       3000
      7698 BLAKE      MANAGER         2850          4       2001       3000
      7566 JOYAL      MANAGER         2975          4       2001       3000

     EMPNO ENAME      JOB              SAL      GRADE      LOSAL      HISAL
---------- ---------- --------- ---------- ---------- ---------- ----------
      7788 SARA      ANALYST         3000          4       2001       3000
      7902 FAROOQ       ANALYST         3000          4       2001       3000
      7839 KHAN       PRESIDENT       5000          5       3001       9999

14 rows selected.


SQL> SELECT e1.ENAME AS Employee_Name, e1.SAL AS Employee_Salary,
e2.GRADE, e2.LOSAL, e2.HISAL
  2  FROM EMP e1
```

```
  3  JOIN SALGRADE e2 ON e1.SAL BETWEEN e2.LOSAL AND e2.HISAL;

EMPLOYEE_N EMPLOYEE_SALARY      GRADE      LOSAL      HISAL
---------- --------------- ---------- ---------- ----------
SOMU                800          1        700       1200
JOSHWA               950          1        700       1200
AMEER               1100          1        700       1200
TEJAS               1250          2       1201       1400
MELVIN               1250          2       1201       1400
MILLER              1300          2       1201       1400
THUSHAR              1500          3       1401       2000
SURIYA              1600          3       1401       2000
CHAHAL               2450          4       2001       3000
BLAKE               2850          4       2001       3000
JOYAL               2975          4       2001       3000

EMPLOYEE_N EMPLOYEE_SALARY      GRADE      LOSAL      HISAL
---------- --------------- ---------- ---------- ----------
SARA                3000          4       2001       3000
FAROOQ               3000          4       2001       3000
KHAN                5000          5       3001       9999

14 rows selected.

SQL> SELECT e.EMPNO, e.ENAME, e.JOB, e.SAL, s.GRADE, s.LOSAL, s.HISAL
  2  FROM EMP e
  3  LEFT OUTER JOIN SALGRADE s ON e.DEPTNO = s.GRADE;

    EMPNO ENAME      JOB              SAL      GRADE      LOSAL      HISAL
---------- ---------- --------- ---------- ---------- ---------- ----------
      7934 MILLER     CLERK           1300
      7839 KHAN       PRESIDENT       5000
      7782 CHAHAL      MANAGER         2450
      7900 JOSHWA      CLERK           950
      7844 THUSHAR     SALESMAN        1500
      7698 BLAKE      MANAGER         2850
      7654 MELVIN     SALESMAN        1250
      7521 TEJAS       SALESMAN        1250
      7499 SURIYA      SALESMAN        1600
      7902 FAROOQ       ANALYST         3000
      7876 AMEER      CLERK           1100

    EMPNO ENAME      JOB              SAL      GRADE      LOSAL      HISAL
---------- ---------- --------- ---------- ---------- ---------- ----------
      7788 SARA      ANALYST         3000
```

```
7566 JOYAL      MANAGER         2975
7369 SOMU       CLERK           800

14 rows selected.
```

RESULT:

Thus the SQL commands has been verified and executed successfully for various join operations.

Ex: No: 05 Study of PL/SQL block.
Date:01.03.24

AIM:

To write a PL/SQL block using different control (if, if else, for loop, while loop,…) statements.

PROCEDURE:

program to find factorial of a number:

```
SQL> DECLARE
  2    n NUMBER := 11; -- Change this to the number whose factorial you want to calculate
  3    factorial NUMBER := 1;
  4  BEGIN
  5    FOR i IN 1..n LOOP
  6      factorial := factorial * i;
  7    END LOOP;
  8
  9    DBMS_OUTPUT.PUT_LINE('Factorial of ' || n || ' is: ' || factorial);
 10  END;
 11  /
Factorial of 11 is: 39916800

PL/SQL procedure successfully completed.
```

program to reverse a number:

```
SQL> DECLARE
  2    num NUMBER := 12345; -- Change this to the number you want to reverse
  3    reversed_num NUMBER;
  4  BEGIN
  5    SELECT TO_NUMBER(REVERSE(TO_CHAR(num))) INTO reversed_num FROM
dual;
  6
  7    DBMS_OUTPUT.PUT_LINE('Reversed number: ' || reversed_num);
  8  END;
  9  /
Reversed number: 54321

PL/SQL procedure successfully completed.
```

program to generate Fibonacci series:

```
SQL> DECLARE
  2    n NUMBER := 10; -- Change this to the number of Fibonacci terms you want to
generate
  3    first_term NUMBER := 0;
  4    second_term NUMBER := 1;
  5    next_term NUMBER;
  6  BEGIN
  7    DBMS_OUTPUT.PUT_LINE('Fibonacci Series:');
  8    DBMS_OUTPUT.PUT_LINE(first_term); -- Print the first term
  9    DBMS_OUTPUT.PUT_LINE(second_term); -- Print the second term
 10
 11    FOR i IN 3..n LOOP
 12      next_term := first_term + second_term;
 13      DBMS_OUTPUT.PUT_LINE(next_term); -- Print the next term
 14      first_term := second_term;
 15      second_term := next_term;
 16    END LOOP;
 17  END;
 18  /
Fibonacci Series:
0
1
1
2
3
5
8
13
21
34

PL/SQL procedure successfully completed.
```

RESULT:

Thus the Study of PL/SQL block has been implemented by various control structures and are verified and executed successfully.

Ex: No: 06 Write a PL/SQL block to satisfy some conditions
Date:08.03.24 by accepting input from the user

AIM:

To implement the PL/SQL block to satisfy some conditions by accepting input from the user.

PROCEDURE:

PL/SQL block to calculate sum of two numbers and display the output

```
SQL> DECLARE
  2    A NUMBER(2); -- Declare A as a number with a precision of 2 (range
-99 to 99)
  3    B NUMBER(2); -- Declare B as a number with a precision of 2 (range
-99 to 99)
  4    C NUMBER(3); -- Declare C as a number with a precision of 3 (range
-999 to 999)
  5
  6  BEGIN
  7    A := 10; -- Assign value 10 to A
  8    B := 20; -- Assign value 20 to B
  9    C := A + B; -- Calculate the sum of A and B and assign it to C
 10
 11    DBMS_OUTPUT.PUT_LINE('C: ' || C); -- Output the value of C
 12    DBMS_OUTPUT.PUT_LINE('Sum of two numbers: ' || C); -- Output
the sum with a message
 13  END;
 14  /
C: 30
Sum of two numbers: 30

PL/SQL procedure successfully completed.
```

PL/SQL block TO accepts employee number and increment is salary by 1000

```
SQL> DECLARE
  2      v_empno NUMBER; -- Employee number (you can replace
this with an actual value)
  3  BEGIN
  4      -- Replace v_empno with the desired employee number
```

```
  5      v_empno := &Empno; -- Input paRITHISHeter (prompted for
user input)
  6
  7      -- Update the salary for the specified employee
  8      UPDATE emp
  9      SET sal = sal + 1000
 10       WHERE empno = v_empno;
 11
 12       -- Display a message indicating the update
 13       DBMS_OUTPUT.PUT_LINE('Salary updated for employee '
|| v_empno);
 14  END;
 15  /
Enter value for empno: 12
old   5:     v_empno := &Empno; -- Input paRITHISHeter (prompted
for user input)
new   5:     v_empno := 12; -- Input paRITHISHeter (prompted for
user input)
Salary updated for employee 12
```

PL/SQL block to accept empno and delete that row from the emp table

```
SQL> CREATE OR REPLACE PROCEDURE DeleteEmployee(empno IN NUMBER) IS
  2  BEGIN
  3      DELETE FROM emp WHERE Empno = empno;
  4      IF SQL%ROWCOUNT > 0 THEN
  5          DBMS_OUTPUT.PUT_LINE('Deleted ' || SQL%ROWCOUNT || ' record(s) from
emp.');
  6      ELSE
  7          DBMS_OUTPUT.PUT_LINE('No records found for empno ' || empno);
  8      END IF;
  9  END;
 10  /

Procedure created.
```

RESULT:

Thus the PL/SQL block to satisfy some conditions by accepting input from the user has been verified and executed successfully.