EXPERIMENT 6

Aim: Perform Simple Queries, String manipulation operations.

Objective:- To understand simple queries & string manipulation operations.

Description:

SQL where clause is used to select rows. Satisfying given predicate.

```
SELECT Column 1...
FROM TABLE
WHERE Condition)
```

WHERE Clause consist of 5 search conditions

COMPARE → (<, >, =, <=, >=)
Range → (Between / Not Between)
Set membership → (IN/NOT IN)
Pattern Match → (LIKE/NOT LIKE)
NULL → (IS NULL / IS NOT NULL)

Simple Queries:

Between → Checks value in a range
IN → Tests whether a data value matches one of a list value.
LIKE → % represents any sequence of zero or more characters. _ (Under score) represents a single character.

String Manipulation Soft Operations.

1) ASCII → converts single character string to an ASCII value.
2) BIT LENGTH → Returns the length in bits.
3) CHAR → Convert numeric values between 0 & 255 to character values.
4) CHAR-LENGTH → returns length in no. of chars.
5) CONCAT → CONCATENATE two char strings.
6) INSERT → Insert specific character string into specified location.
7) UPPER → Converts a string to uppercase.
8) POSITION → returns numeric position of str in a character expression
9) REPEAT → repeat specific expression n times
10) SPACE → Insert blank spaces.

SQL QUERIES:

```
SQL> select * from employee;

       SSN ENAME                    SALARY   SUPERSSN        DNO
---------- -------------------- ---------- ---------- ----------
       100 William                   51500        100         10
       101 Jonas                     61800        101         11
       102 SCARLET                   82400        102         12
       103 BLAIR                     46350        103         13
       104 CHARLES                   50200        100         10

SQL> select * from employee where salary>=all(select salary from employee where DNO=10);

       SSN ENAME                    SALARY   SUPERSSN        DNO
---------- -------------------- ---------- ---------- ----------
       100 William                   51500        100         10
       101 Jonas                     61800        101         11
       102 SCARLET                   82400        102         12

SQL> select * from employee where salary<=all(select salary from employee where DNO=10);

       SSN ENAME                    SALARY   SUPERSSN        DNO
---------- -------------------- ---------- ---------- ----------
       104 CHARLES                   50200        100         10
       103 BLAIR                     46350        103         13

SQL> select * from employee where salary<>all(select salary from employee where DNO=10);

       SSN ENAME                    SALARY   SUPERSSN        DNO
---------- -------------------- ---------- ---------- ----------
       102 SCARLET                   82400        102         12
       101 Jonas                     61800        101         11
       103 BLAIR                     46350        103         13
```

```
SQL> select * from dept where DNAME=(select DNAME from dept where DNAME ='FINANCE');

       DNO DNAME                STARTDATE     MGRSSN
---------- -------------------- --------- ----------
        10 FINANCE              12-NOV-21        100

SQL> select * from dept where exists DNAME=(select DNAME from dept where DNAME ='FINANCE');
select * from dept where exists DNAME=(select DNAME from dept where DNAME ='FINANCE')
                               *
ERROR at line 1:
ORA-00906: missing left parenthesis


SQL> select * from dept where exists(select DNAME from dept where DNAME ='FINANCE');

       DNO DNAME                STARTDATE     MGRSSN
---------- -------------------- --------- ----------
        10 FINANCE              12-NOV-21        100
        11 AUDIT                12-OCT-21        101
        12 MARKETING            01-NOV-21        102
        13 PRODUCTION           09-OCT-21        103
```

```
SQL> select * from employee;

       SSN ENAME                    SALARY   SUPERSSN        DNO
---------- -------------------- ---------- ---------- ----------
       100 William                   51500        100         10
       101 Jonas                     61800        101         11
       102 SCARLET                   82400        102         12
       103 BLAIR                     46350        103         13
       104 CHARLES                   50200        100         10

SQL> select * from employee order by salary;

       SSN ENAME                    SALARY   SUPERSSN        DNO
---------- -------------------- ---------- ---------- ----------
       103 BLAIR                     46350        103         13
       104 CHARLES                   50200        100         10
       100 William                   51500        100         10
       101 Jonas                     61800        101         11
       102 SCARLET                   82400        102         12
```

```
SQL> SELECT SUM(SALARY) AS "TOTAL SALARY" FROM EMPLOYEE GROUP BY DNO HAVING SUM(SALARY)<150000;

TOTAL SALARY
------------
       61800
       46350
      101700
       82400
```

```
SQL> select * from employee;

      SSN ENAME                    SALARY   SUPERSSN        DNO
--------- -------------------- ---------- ---------- ----------
      100 William                   51500        100         10
      101 Jonas                     61800        101         11
      102 SCARLET                   82400        102         12
      103 BLAIR                     46350        103         13
      104 CHARLES                   50200        100         10

SQL> SELECT * FROM EMPLOYEE E1 WHERE 1 =(SELECT  COUNT(DISTINCT SALARY) FROM EMPLOYEE E2 WHERE E1.DNO = E2.DNO AND E1.SALARY <=  E2.SALARY);

      SSN ENAME                    SALARY   SUPERSSN        DNO
--------- -------------------- ---------- ---------- ----------
      100 William                   51500        100         10
      101 Jonas                     61800        101         11
      102 SCARLET                   82400        102         12
      103 BLAIR                     46350        103         13

SQL> SELECT * FROM EMPLOYEE E1 WHERE E1.SALARY > (SELECT AVG(SALARY) FROM EMPLOYEE E2 WHERE E1.DNO = E2.DNO);

      SSN ENAME                    SALARY   SUPERSSN        DNO
--------- -------------------- ---------- ---------- ----------
      100 William                   51500        100         10
```

```
SQL> SELECT * FROM EMPLOYEE E1 WHERE E1.SALARY >= ALL(SELECT SALARY FROM EMPLOYEE E2 WHERE E1.DNO = E2.DNO);

       SSN ENAME                    SALARY   SUPERSSN        DNO
---------- -------------------- ---------- ---------- ----------
       100 William                   51500        100         10
       101 Jonas                     61800        101         11
       102 SCARLET                   82400        102         12
       103 BLAIR                     46350        103         13
```

Conclusion-

Thus we have successfully learned and implemented Simple queries, String manipulation operations on your own system