EXERCISE 6: SQL SUBQUERIES

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DBMS LAB ASSIGNMENT 6 MEHER SHRISHTI NIGAM 20BRS1193

SQL SUBQUERIES

Consider the database for an organization and create the following tables.

- **DEPARTMENT** (dept_no, dept_name, location).
- **EMPLOYEE** (emp_no,emp_name,DOB, address, doj, mobile_no, dept_no, salary).

```
SQL>
SQL> CREATE TABLE DEPARTMENT_20BRS1193 (DEPT_NO INT PRIMARY KEY, DEPT_NAME VARCHAR(15), LOCATION VARCHAR2(50));

Table created.

SQL> CREATE TABLE EMP_20BRS1193 (EMP_NO INT PRIMARY KEY, EMPNAME VARCHAR2(30), JOB VARCHAR2(30), DOJ DATE, ADDRESS VARCHAR2(50), DOB DATE, SALARY INT
, DEPT_NO INT, MOBILE_NO VARCHAR2(10), CONSTRAINT FK_G FOREIGN KEY (DEPT_NO) REFERENCES DEPARTMENT_20BRS1193(DEPT_NO));

Table created.
```

```
SQL> INSERT ALL
  2  INTO DEPARTMENT_20BRS1193 VALUES (1001, 'Market Research', '989 Lowndes Hill Park Road')
  3  INTO DEPARTMENT_20BRS1193 VALUES (1002, 'Product Design', '2319 Robinson Court')
  4  INTO DEPARTMENT_20BRS1193 VALUES (1003, 'Admin', '4052 Hickory Heights Drive')
  5  INTO DEPARTMENT_20BRS1193 VALUES (1005, 'Finance', '827 Harter Street')
  6  INTO DEPARTMENT_20BRS1193 VALUES (1004, 'Sales', '3968 Losh Lane')
  7  INTO DEPARTMENT_20BRS1193 VALUES (1006, 'Human Resource', '3197 Pinewood Drive')
  8  SELECT * FROM DUAL;

6 rows created.

SQL>
SQL>
SQL> INSERT ALL
  2  INTO EMP_20BRS1193 VALUES (1225, 'Khushi', 'Developer', '08-Oct-2017', '4150 Allison Avenue', '06-Aug-1995', 50000, 1001, '9985546223')
  3  INTO EMP_20BRS1193 VALUES (1226, 'Mayuram', 'Designer', '09-Jan-2014', '4731 Gore Street', '09-Sep-1991',  43000, 1002, '8954446321')
  4  INTO EMP_20BRS1193 VALUES (1227, 'Aakash', 'Manager', '11-Apr-2012', '2497 Upland Avenue', '12-Dec-1985', 26000, 1003, '8562203970')
  5  INTO EMP_20BRS1193 VALUES (1228, 'Reena', 'Analyst', '10-Jun-2018', '3816 Kooter Lane', '17-Feb-1997',22000, 1001, '9984213667')
  6  INTO EMP_20BRS1193 VALUES (1229, 'Sumati', 'Manager', '07-Feb-2007', '3683 Emerson Road', '05-Apr-1979',28000, 1003, '8754646598')
  7  INTO EMP_20BRS1193 VALUES (1230, 'Nilima', 'Manager', '12-Sep-2013', '332 Benson Street', '11-Oct-1986',46000, 1004,'7756424819')
  8  INTO EMP_20BRS1193 VALUES (1231, 'Pran', 'Accountant', '16-Jun-2015', '4888 Adonais Way', '20-Sep-1989',18000, 1005, '8445123120')
  9  INTO EMP_20BRS1193 VALUES (1232, 'Akansha', 'Salesman', '06-Nov-2019', '4667 Tibbs Avenue','04-Dec-1998', 16500, 1004,'9987546213')
 10  INTO EMP_20BRS1193 VALUES (1233, 'Rahul', 'Analyst', '01-Jan-2020', '968 Stanley Avenue', '16-Sep-1994',20000, 1003,'7948156342')
 11  INTO EMP_20BRS1193 VALUES (1234, 'Jasleen', 'Developer', '19-Jul-2014', '1705 Crummit Lane', '10-Nov-1988',25000, 1002,'8542219875')
 12  INTO EMP_20BRS1193 VALUES (1235, 'Atharva', 'Human Resource', '09-Jan-2016', '3402 Pearlman Avenue', '19-Oct-1991',30000, 1006, '9655421360' )
 13  INTO EMP_20BRS1193 VALUES (1236, 'Harsh', 'Salesman', '15-Feb-2016', '2704 Cerullo Road', '03-Jun-1993',18000, 1004,'9874561285' )
 14  INTO EMP_20BRS1193 VALUES (1237, 'John', 'Accountant', '18-Mar-2014', '4391 Ersel Street', '15-Aug-1991',24000, 1005,'9124875331' )
 15  INTO EMP_20BRS1193 VALUES (1238, 'Anisha', 'Salesman', '05-May-2015', '4913 Point Street', '09-Oct-1990',18050, 1004,'9987456214')
 16  INTO EMP_20BRS1193 VALUES (1239, 'Arjun', 'Salesman', '02-Mar-2019', '1695 Boone Street', '02-Mar-1996',16300, 1004,'7780126984')
 17  INTO EMP_20BRS1193 VALUES (1240, 'Navin', 'Analyst', '14-Apr-2017', '1741 Roosevelt Road', '18-May-1993',32000, 1005,'9988552140' )
 18  INTO EMP_20BRS1193 VALUES (1241, 'Bhuvana', 'Developer', '04-Jul-2018', '655 Brown Bear Drive', '14-Feb-1995',35000, 1002,'9746021811')
 19  INTO EMP_20BRS1193 VALUES (1242, 'Shekhar', 'Developer', '17-Dec-2015', '2966 Red Bud Lane', '08-Jun-1990',22000, 1004,'8856244578' )
 20  INTO EMP_20BRS1193 VALUES (1243, 'Akhil', 'Accountant', '03-May-2017', '1635 Poplar Lane', '13-Aug-1991',25000, 1005,'9985545744' )
 21  INTO EMP_20BRS1193 VALUES (1244, 'Ishita', 'Designer', '13-Aug-2014', '4957 Bates Brothers Road', '01-Apr-1989',62000, 1002,'9474671230')
 22  INTO EMP_20BRS1193 VALUES (1245, 'Gaurav', 'Analyst', '13-Nov-2018', '177 Moore Avenue', '07-Oct-1991',21000, 1001,'8564562679')
 23  SELECT * FROM DUAL;

21 rows created.
```

1. Display the names of the employees working for dept no. 1001.

SELECT EMPNAME, DEPT_NO FROM EMP_20BRS1193 WHERE DEPT_NO IN (SELECT DEPT_NO FROM DEPARTMENT_20BRS1193 WHERE DEPT_NO = 1001) ORDER BY EMPNAME;

```
SQL> SELECT EMPNAME, DEPT_NO FROM EMP_20BRS1193 WHERE DEPT_NO IN (SELECT DEPT_NO FROM DEPARTMENT_20BRS1193 WHERE DEPT_NO = 1001) ORDER BY EMPNAME;

EMPNAME                         DEPT_NO
------------------------------ ----------
Gaurav                             1001
Khushi                             1001
Reena                              1001
```

2. Display names of employees whose salary is greater than the employee emp_no=1234

SELECT EMPNAME, SALARY FROM EMP_20BRS1193 WHERE SALARY > (SELECT SALARY FROM EMP_20BRS1193 WHERE EMP_NO = 1234) ORDER BY EMPNAME;

```
SQL> SELECT EMPNAME, SALARY FROM EMP_20BRS1193 WHERE SALARY > (SELECT SALARY FROM EMP_20BRS1193 WHERE EMP_NO = 1234) ORDER BY EMPNAME;

EMPNAME                         SALARY
------------------------------ ----------
Aakash                          26000
Atharva                         30000
Bhuvana                         35000
Ishita                          62000
Khushi                          50000
Mayuram                         43000
Navin                           32000
Nilima                          46000
Sumati                          28000

9 rows selected.
```

3. Display all the employees drawing more than or equal to the average salary of department number 1005.

SELECT EMP_NO, EMPNAME, JOB, SALARY, DEPT_NO FROM EMP_20BRS1193 WHERE SALARY > (SELECT AVG(SALARY) FROM EMP_20BRS1193 WHERE DEPT_NO = 1005) ORDER BY EMP_NO;

```
SQL> SELECT EMP_NO, EMPNAME, JOB, SALARY, DEPT_NO FROM EMP_20BRS1193 WHERE SALARY > (SELECT AVG(SALARY) FROM EMP_20BRS1193 WHERE DEPT_NO = 1005)
 ORDER BY EMP_NO;

    EMP_NO EMPNAME                         JOB
---------- ------------------------------ ------------------------------
    SALARY    DEPT_NO
---------- ----------
      1225 Khushi                         Developer
     50000       1001

      1226 Mayuram                        Designer
     43000       1002

      1227 Aakash                         Manager
     26000       1003


    EMP_NO EMPNAME                         JOB
---------- ------------------------------ ------------------------------
    SALARY    DEPT_NO
---------- ----------
      1229 Sumati                         Manager
     28000       1003

      1230 Nilima                         Manager
     46000       1004

      1234 Jasleen                        Developer
     25000       1002


    EMP_NO EMPNAME                         JOB
---------- ------------------------------ ------------------------------
    SALARY    DEPT_NO
---------- ----------
      1235 Atharva                        Human Resource
     30000       1006

      1240 Navin                          Analyst
     32000       1005

      1241 Bhuvana                        Developer
     35000       1002


    EMP_NO EMPNAME                         JOB
---------- ------------------------------ ------------------------------
    SALARY    DEPT_NO
---------- ----------
      1243 Akhil                          Accountant
     25000       1005

      1244 Ishita                         Designer
     62000       1002


11 rows selected.
```

4. Display the name of the highest paid employee.

SELECT EMPNAME, SALARY FROM EMP_20BRS1193 WHERE SALARY = (SELECT MAX(SALARY) FROM EMP_20BRS1193);

```
SQL> SELECT EMPNAME, SALARY FROM EMP_20BRS1193 WHERE SALARY = (SELECT MAX(SALARY) FROM EMP_20BRS1193);

EMPNAME                          SALARY
------------------------------ ----------
Ishita                          62000
```

5. Find the Name and Salary of people who draw in the range Rs. 20,000 to Rs. 40,000.

SELECT * FROM (SELECT EMP_20BRS1193.EMPNAME, EMP_20BRS1193.SALARY FROM EMP_20BRS1193 WHERE EMP_20BRS1193.SALARY BETWEEN 20000 AND 40000) NEWTABLE;

```
SQL> SELECT * FROM (SELECT EMP_20BRS1193.EMPNAME, EMP_20BRS1193.SALARY FROM EMP_20BRS1193 WHERE EMP_20BRS1193.SALARY BETWEEN 20000 AND 40000)
 NEWTABLE;

EMPNAME                        SALARY
------------------------------ ----------
Aakash                          26000
Reena                           22000
Sumati                          28000
Rahul                           20000
Jasleen                         25000
Atharva                         30000
John                            24000
Navin                           32000
Bhuvana                         35000
Shekhar                         22000
Akhil                           25000

EMPNAME                        SALARY
------------------------------ ----------
Gaurav                          21000

12 rows selected.
```

6. Update the salary by 0.25 times for all employees who work in research department.

UPDATE EMP_20BRS1193 SET SALARY = SALARY*1.25 WHERE DEPT_NO = (SELECT DEPT_NO FROM DEPARTMENT_20BRS1193 WHERE DEPT_NAME = 'Market Research');

```
SQL> UPDATE EMP_20BRS1193 SET SALARY = SALARY*1.25 WHERE DEPT_NO = (SELECT DEPT_NO FROM DEPARTMENT_20BRS1193 WHERE DEPT_NAME =
'Market Research');

3 rows updated.
```

7. Delete all the employee details from admin department.

DELETE FROM EMP_20BRS1193 WHERE DEPT_NO = (SELECT DEPT_NO FROM DEPARTMENT_20BRS1193 WHERE DEPT_NAME = 'Admin');

```
SQL> DELETE FROM EMP_20BRS1193 WHERE DEPT_NO = (SELECT DEPT_NO FROM DEPARTMENT_20BRS1193 WHERE DEPT_NAME = 'Admin');

3 rows deleted.
```

8. Display the department name in which employee that has lowest salary.

SELECT EMP_20BRS1193.EMPNAME, DEPARTMENT_20BRS1193.DEPT_NAME FROM EMP_20BRS1193, DEPARTMENT_20BRS1193 WHERE EMP_20BRS1193.EMPNAME = (SELECT EMPNAME FROM EMP_20BRS1193 WHERE SALARY = (SELECT MIN(SALARY) FROM EMP_20BRS1193)) AND DEPARTMENT_20BRS1193.DEPT_NAME = (SELECT DEPT_NAME FROM DEPARTMENT_20BRS1193 WHERE DEPT_NO = (SELECT DEPT_NO FROM EMP_20BRS1193 WHERE SALARY = (SELECT MIN(SALARY) FROM EMP_20BRS1193)));

```
SQL> SELECT EMP_20BRS1193.EMPNAME, DEPARTMENT_20BRS1193.DEPT_NAME FROM EMP_20BRS1193, DEPARTMENT_20BRS1193 WHERE EMP_20BRS1193.
EMPNAME = (SELECT EMPNAME FROM EMP_20BRS1193 WHERE SALARY = (SELECT MIN(SALARY) FROM EMP_20BRS1193)) AND  DEPARTMENT_20BRS1193.
DEPT_NAME = (SELECT DEPT_NAME FROM DEPARTMENT_20BRS1193 WHERE DEPT_NO = (SELECT DEPT_NO FROM EMP_20BRS1193 WHERE SALARY = (SELE
CT MIN(SALARY) FROM EMP_20BRS1193)));

EMPNAME                        DEPT_NAME
------------------------------ --------------
Arjun                          Sales
```

9. Display the employee details of all employees who earn more than that of 'Reena' and in the same department as 'John'

SELECT EMPNAME, SALARY FROM EMP_20BRS1193 WHERE SALARY > (SELECT SALARY FROM EMP_20BRS1193 WHERE EMPNAME = 'Reena') AND DEPT_NO = (SELECT DEPT_NO FROM EMP_20BRS1193 WHERE EMPNAME = 'John');

```
SQL> SELECT EMPNAME, SALARY FROM EMP_20BRS1193 WHERE SALARY > (SELECT SALARY FROM EMP_20BRS1193 WHERE EMPNAME = 'Reena')
 AND DEPT_NO = (SELECT DEPT_NO FROM EMP_20BRS1193 WHERE EMPNAME = 'John');

EMPNAME                         SALARY
------------------------------ ----------
Navin                           32000
```

10. Display the name of the employees whose salary is less than the average salary of department no 1001.

SELECT EMPNAME, SALARY, DEPT_NO FROM EMP_20BRS1193 WHERE SALARY < (SELECT AVG(SALARY) FROM EMP_20BRS1193 WHERE DEPT_NO = 1001) ORDER BY EMPNAME;

```
SQL> SELECT EMPNAME, SALARY, DEPT_NO FROM EMP_20BRS1193 WHERE SALARY < (SELECT AVG(SALARY) FROM EMP_20BRS1193 WHERE
 DEPT_NO = 1001) ORDER BY EMPNAME;

EMPNAME                         SALARY    DEPT_NO
------------------------------ ---------- ----------
Akansha                          16500       1004
Akhil                            25000       1005
Anisha                           18050       1004
Arjun                            16300       1004
Atharva                          30000       1006
Bhuvana                          35000       1002
Gaurav                           26250       1001
Harsh                            18000       1004
Jasleen                          25000       1002
John                             24000       1005
Navin                            32000       1005

EMPNAME                         SALARY    DEPT_NO
------------------------------ ---------- ----------
Pran                             18000       1005
Reena                            27500       1001
Shekhar                          22000       1004

14 rows selected.
```

11. Count the number of employees of department where "John" works

SELECT COUNT(EMPNAME) FROM EMP_20BRS1193 WHERE DEPT_NO = (SELECT DEPT_NO FROM EMP_20BRS1193 WHERE EMPNAME = 'John');

```
SQL> SELECT COUNT(EMPNAME) FROM EMP_20BRS1193 WHERE DEPT_NO = (SELECT DEPT_NO FROM EMP_20BRS1193 WHERE EMPNAME = 'John');


COUNT(EMPNAME)
--------------
             4
```