Assignment-5

SQL queries on Join of multiple tables; Nested queries - Sub-queries

1. Display empno, emoname, dname and loc from emp and dept table.
   select empno,ename,dname from emp,dept where emp.deptno=dept.deptno;

```
    EMPNO ENAME      DNAME
---------- ---------- --------------
      7369 SMITH      RESEARCH
      7499 ALLEN      SALES
      7521 WARD       SALES
      7566 JONES      RESEARCH
      7654 MARTIN     SALES
      7698 BLAKE      SALES
      7782 CLARK      ACCOUNTING
      7788 SCOTT      RESEARCH
      7839 KING       ACCOUNTING
      7844 TURNER     SALES
      7876 ADAMS      RESEARCH

    EMPNO ENAME      DNAME
---------- ---------- --------------
      7900 JAMES      SALES
      7902 FORD       RESEARCH
      7934 MILLER     ACCOUNTING

14 rows selected.
```

2. Display empno, empname and their deptno, dpetname and loc from emp and dept table.
   **select empno,ename,dept.deptno,dname ,loc from emp,dept where
   emp.deptno=dept.deptno;**

```
    EMPNO ENAME          DEPTNO DNAME           LOC
---------- ---------- ---------- --------------- --------------
      7369 SMITH              20 RESEARCH        DALLAS
      7499 ALLEN              30 SALES           CHICAGO
      7521 WARD               30 SALES           CHICAGO
      7566 JONES              20 RESEARCH        DALLAS
      7654 MARTIN             30 SALES           CHICAGO
      7698 BLAKE              30 SALES           CHICAGO
      7782 CLARK              10 ACCOUNTING      NEW YORK
      7788 SCOTT              20 RESEARCH        DALLAS
      7839 KING               10 ACCOUNTING      NEW YORK
      7844 TURNER             30 SALES           CHICAGO
      7876 ADAMS              20 RESEARCH        DALLAS

    EMPNO ENAME          DEPTNO DNAME           LOC
---------- ---------- ---------- --------------- --------------
      7900 JAMES              30 SALES           CHICAGO
      7902 FORD               20 RESEARCH        DALLAS
      7934 MILLER             10 ACCOUNTING      NEW YORK

14 rows selected.
```

3. Display the list of employees working in each department and with this display the department information even if no employee belongs to that department.
select ename,dname,loc from emp,dept where emp.deptno(+)=dept.deptno;

```
ENAME       DNAME            LOC
---------- --------------- --------------
SMITH       RESEARCH         DALLAS
ALLEN       SALES            CHICAGO
WARD        SALES            CHICAGO
JONES       RESEARCH         DALLAS
MARTIN      SALES            CHICAGO
BLAKE       SALES            CHICAGO
CLARK       ACCOUNTING       NEW YORK
SCOTT       RESEARCH         DALLAS
KING        ACCOUNTING       NEW YORK
TURNER      SALES            CHICAGO
ADAMS       RESEARCH         DALLAS

ENAME       DNAME            LOC
---------- --------------- --------------
JAMES       SALES            CHICAGO
FORD        RESEARCH         DALLAS
MILLER      ACCOUNTING       NEW YORK
            OPERATIONS       BOSTON

15 rows selected.
```

4. List the employee name and their corresponding manager name from emp table.
   select w.ename "worker",m.ename "manager" from emp w,emp m where w.mgr=m.empno;

```
worker      manager
----------  ----------
FORD        JONES
SCOTT       JONES
JAMES       BLAKE
TURNER      BLAKE
MARTIN      BLAKE
WARD        BLAKE
ALLEN       BLAKE
MILLER      CLARK
ADAMS       SCOTT
CLARK       KING
BLAKE       KING

worker      manager
----------  ----------
JONES       KING
SMITH       FORD

13 rows selected.
```

5. List the employee name and their corresponding manager name from emp table along this select that employee who have no manager.
   select w.ename "worker",m.ename "manager" from emp w,emp m where w.mgr=m.empno(+);

```
worker     manager
---------- ----------
FORD       JONES
SCOTT      JONES
JAMES      BLAKE
TURNER     BLAKE
MARTIN     BLAKE
WARD       BLAKE
ALLEN      BLAKE
MILLER     CLARK
ADAMS      SCOTT
CLARK      KING
BLAKE      KING

worker     manager
---------- ----------
JONES      KING
SMITH      FORD
KING

14 rows selected.
```

6. List all employees who joined the company before their manager.
   select w.ename "worker",w.hiredate "worker hiredate",m.ename "manager" ,m.hiredate "manager_hiredate" from emp w,emp m where w.mgr=m.empno and w.hiredate<m.hiredate;

```
worker     worker hi manager    manager_h
---------- --------- ---------- ---------
WARD       22-FEB-81 BLAKE      01-MAY-81
ALLEN      20-FEB-81 BLAKE      01-MAY-81
CLARK      09-JUN-81 KING       17-NOV-81
BLAKE      01-MAY-81 KING       17-NOV-81
JONES      02-APR-81 KING       17-NOV-81
SMITH      17-DEC-80 FORD       03-DEC-81

6 rows selected.
```
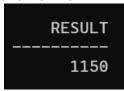
7. Find names, job and salaries of all employees and also his boss.
   select w.ename "worker",w.job "job",w.sal "sal",m.ename "boss" from emp w,emp m where w.mgr=m.empno;

```
worker     job             sal boss
---------- ---------- ---------- ----------
FORD       ANALYST        3000 JONES
SCOTT      ANALYST        3000 JONES
JAMES      CLERK           950 BLAKE
TURNER     SALESMAN       1500 BLAKE
MARTIN     SALESMAN       1250 BLAKE
WARD       SALESMAN       1250 BLAKE
ALLEN      SALESMAN       1600 BLAKE
MILLER     CLERK          1300 CLARK
ADAMS      CLERK          1100 SCOTT
CLARK      MANAGER        2450 KING
BLAKE      MANAGER        2850 KING

worker     job             sal boss
---------- ---------- ---------- ----------
JONES      MANAGER        2975 KING
SMITH      CLERK           800 FORD

13 rows selected.
```

8. Find the names of those employees who earn more than their boss.
   select w.ename "worker",w.sal "worker sal",m.ename "boss" ,m.sal "boss sal" from emp w,emp m where w.mgr=m.empno and w.sal>m.sal;

```
worker     worker sal boss         boss sal
---------- ---------- ---------- ----------
FORD             3000 JONES           2975
SCOTT            3000 JONES           2975
```

9. How much Miller needs to earn to be in BLAKE's Grade?
   select(select min(sal) from emp group by job having job=(select job from emp where ename like 'BLAKE'))-sal "RESULT" from emp where ename like 'MILLER';

```
    RESULT
----------
      1150
```

10. List the employee name and their corresponding manager name from emp table where employee name includes an "A" and display will be appeared as in the example given below.
    select w.ename ||' works for '|| m.ename "employees and their manager" from emp w,emp m where w.mgr=m.empno and w.ename like '%A%';

```
employees and their manager
-----------------------------
JAMES works for BLAKE
MARTIN works for BLAKE
WARD works for BLAKE
ALLEN works for BLAKE
ADAMS works for SCOTT
CLARK works for KING
BLAKE works for KING

7 rows selected.
```

11. Display different designations present in department 20 and 30.
    select job from emp where deptno=20 union select job from emp where deptno=30;
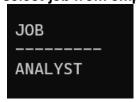
```
JOB
---------
ANALYST
CLERK
MANAGER
SALESMAN
```

12. List the job common to department 20 and 30.
    select job from emp where deptno=20 intersect select job from emp where deptno=30;

```
JOB
---------
CLERK
MANAGER
```

13. List the jobs that are unique to department 20 compare to other departments present in emp table.
    select job from emp where deptno=20 minus select job from emp where deptno !=20;

```
JOB
---------
ANALYST
```

14. List the employees belong to department of MILLER.
    select * from emp where deptno=(select deptno from emp where ename like 'MILLER');

```
    EMPNO ENAME      JOB            MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- ---------- ---------- --------- ---------- ---------- ----------
      7782 CLARK      MANAGER       7839 09-JUN-81      2450                       10
      7839 KING       PRESIDENT          17-NOV-81      5000                       10
      7934 MILLER     CLERK         7782 23-JAN-82      1300                       10
```
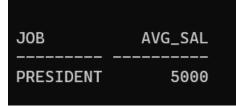
15. Display all employee details whose salary is greater than average salary of employees whose date of joining is before 1st April 81.

select * from emp where sal>(select avg(sal) from emp where hiredate>'01-APR-81');

```
    EMPNO ENAME      JOB            MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- ---------- ---------- --------- ---------- ---------- ----------
      7566 JONES      MANAGER       7839 02-APR-81      2975                       20
      7698 BLAKE      MANAGER       7839 01-MAY-81      2850                       30
      7782 CLARK      MANAGER       7839 09-JUN-81      2450                       10
      7788 SCOTT      ANALYST       7566 19-APR-87      3000                       20
      7839 KING       PRESIDENT          17-NOV-81      5000                       10
      7902 FORD       ANALYST       7566 03-DEC-81      3000                       20

6 rows selected.
```

16. List the job with highest average salary.

SELECT job, AVG(sal) avg_sal FROM emp GROUP BY job HAVING AVG(sal) = (SELECT MAX(avg_sal) FROM (SELECT AVG(sal) avg_sal FROM emp GROUP BY job));

```
JOB            AVG_SAL
---------- -----------
PRESIDENT        5000
```

17. Find the details of the employees of the department whose manager no is 7698.

SELECT * FROM emp WHERE deptno in (SELECT deptno FROM emp WHERE mgr = 7698);

```
    EMPNO ENAME      JOB            MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- ---------- ---------- --------- ---------- ---------- ----------
      7499 ALLEN      SALESMAN      7698 20-FEB-81      1600        300          30
      7521 WARD       SALESMAN      7698 22-FEB-81      1250        500          30
      7654 MARTIN     SALESMAN      7698 28-SEP-81      1250       1400          30
      7698 BLAKE      MANAGER       7839 01-MAY-81      2850                     30
      7844 TURNER     SALESMAN      7698 08-SEP-81      1500          0          30
      7900 JAMES      CLERK         7698 03-DEC-81       950                     30

6 rows selected.
```

18. List the names of the employees who earn lowest salary in each department.

select ENAME from EMP where SAL in (select MIN(SAL) from EMP group by DEPTNO);

```
ENAME
----------
SMITH
JAMES
MILLER
```

19. List the employee details whose salary greater than the average salary for their department.
select * from EMP e1 where sal>(select AVG(SAL) from EMP e2 where e1.DEPTNO=e2.DEPTNO);

```
    EMPNO ENAME      JOB            MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- ---------- ----------- ---------- ----------- ----------- ----------
     7499 ALLEN      SALESMAN      7698 20-FEB-81        1600        300         30
     7566 JONES      MANAGER       7839 02-APR-81        2975                    20
     7698 BLAKE      MANAGER       7839 01-MAY-81        2850                    30
     7788 SCOTT      ANALYST       7566 19-APR-87        3000                    20
     7839 KING       PRESIDENT          17-NOV-81        5000                    10
     7902 FORD       ANALYST       7566 03-DEC-81        3000                    20

6 rows selected.
```

20. List all employees who work in DALLAS and earn more than any employee working in CHICAGO.
select ENAME from EMP where DEPTNO=(select DEPTNO from DEPT where LOC='DALLAS') and SAL>(select MIN(SAL) from EMP where DEPTNO=(select DEPTNO from DEPT where LOC='CHICAGO'));

```
ENAME
----------
JONES
SCOTT
ADAMS
FORD
```