Database Systems Lab

Lab 7C

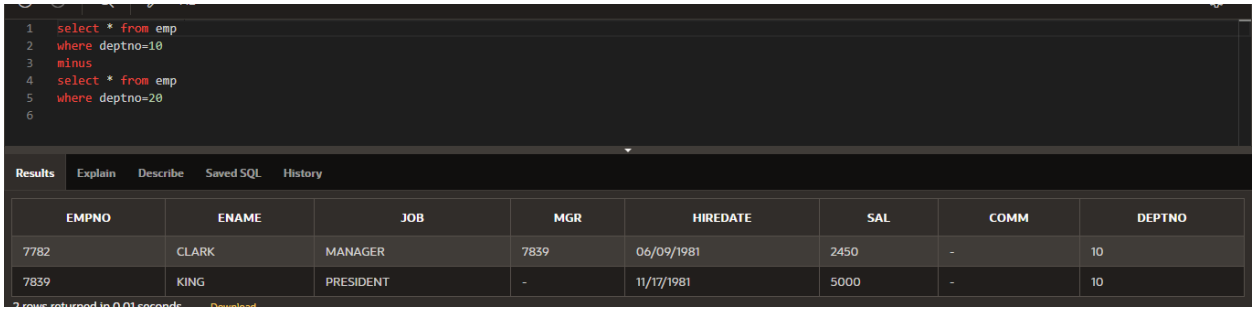
Task 1

FIND THE MINUS OF DEPARTMENT NUMBER 10 AND DEPARTMENT NUMBER 20.

Query :

```
select * from emp
where deptno=10
minus
select * from emp
where deptno=20;
```

Output :



EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7782	CLARK	MANAGER	7839	06/09/1981	2450	-	10
7839	KING	PRESIDENT	-	11/17/1981	5000	-	10

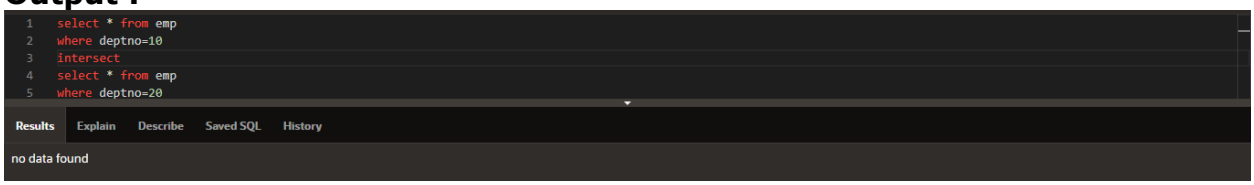
Task 2

FIND THE INTERSECT OF DEPARTMENT NUMBER 10 AND DEPARTMENT NUMBER 20.

Query :

```
select * from emp
where deptno=10
intersect
select * from emp
where deptno=20;
```

Output :

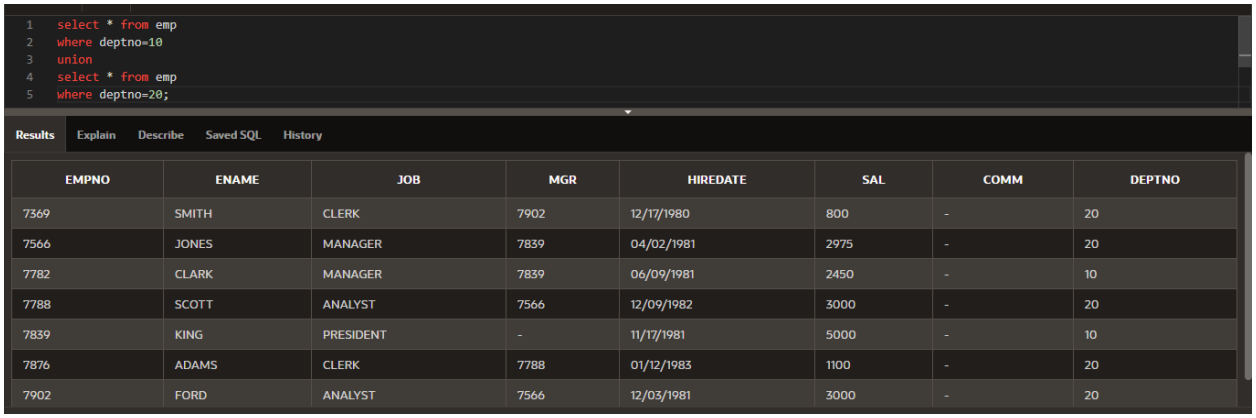


Task 3

FIND THE UNION OF DEPARTMENT NUMBER 10 AND DEPARTMENT NUMBER 20.
Query :

```
select * from emp
where deptno=10
union
select * from emp
where deptno=20;
```

Output :



```
1  select * from emp
2  where deptno=10
3  union
4  select * from emp
5  where deptno=20;
```

Results | Explain | Describe | Saved SQL | History

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	12/17/1980	800	-	20
7566	JONES	MANAGER	7839	04/02/1981	2975	-	20
7782	CLARK	MANAGER	7839	06/09/1981	2450	-	10
7788	SCOTT	ANALYST	7566	12/09/1982	3000	-	20
7839	KING	PRESIDENT	-	11/17/1981	5000	-	10
7876	ADAMS	CLERK	7788	01/12/1983	1100	-	20
7902	FORD	ANALYST	7566	12/03/1981	3000	-	20

Task 4

FIND THE JOB WHICH HAS THE HIGHEST AVERAGE SALARY.
Query :

```
    SELECT job FROM emp
    GROUP BY job HAVING AVG(sal) = (SELECT MAX(AVG(sal)) FROM emp GROUP BY job)
```

Output :

```
1
2  SELECT job
3  FROM emp
4  group by job
5  having AVG(sal) = (SELECT MAX(AVG(sal)) FROM emp GROUP BY job)
```

Results | Explain | Describe | Saved SQL | History

JOB
PRESIDENT

1 rows returned in 0.00 seconds Download

Task 5

FIND THE MINIMUM SALARIES WITH EMPLOYEE NAME AND JOB.

Query :

```
Select ename, job from emp
where sal = any
            (
              select min(sal) from emp
              group by job
            )
```

Output :

ENAME	JOB
SMITH	CLERK
WARD	SALESMAN
MARTIN	SALESMAN
CLARK	MANAGER
SCOTT	ANALYST
KING	PRESIDENT
FORD	ANALYST

Task 6

FIND THE SALARIES OF THOSE EMPLOYEES WHO EARN MORE THEN MARTIN'.

Query :

```
select ename,sal from emp
where sal >
      (
         select sal from emp
         where ename='MARTIN'
      )
```

Output :

Results | Explain | Describe | Saved SQL | History

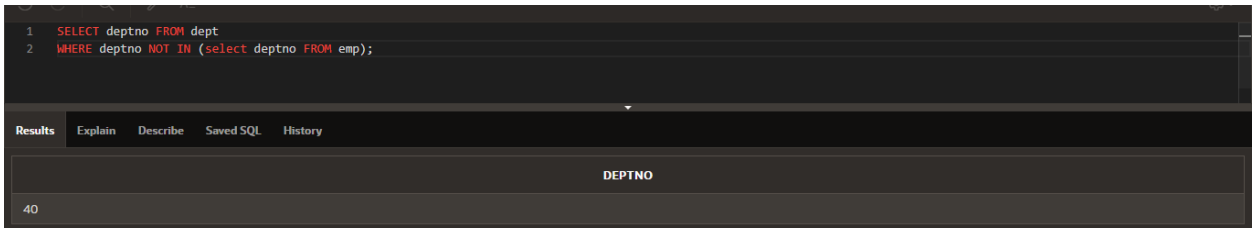
ENAME	SAL
ALLEN	1600
JONES	2975
BLAKE	2850
CLARK	2450
SCOTT	3000
KING	5000
TURNER	1500
FORD	3000

Task 7

LIST THOSE DEPARTMENT WHO DOSE NOT HAVE ANY EMPLOYEES.
Query :

```
SELECT deptno FROM dept
WHERE deptno NOT IN (select deptno FROM emp);
```

Output :



Task 8

FIND THE MAXIMUM THREE SALARIES IN EACH DEPARTMENT.
Query :

```
SELECT d.dname AS "Department", e.sal AS "Salary"
FROM emp e INNER JOIN dept d ON e.deptno = d.deptno
WHERE (
            SELECT COUNT(DISTINCT(sal)) FROM emp
           WHERE deptno = e.deptno AND sal > e.sal
         ) < 3
ORDER by e.deptno, e.sal ;
```

Output:

Department	Salary
ACCOUNTING	2450
ACCOUNTING	5000
RESEARCH	1100
RESEARCH	2975
RESEARCH	3000
RESEARCH	3000
SALES	1500
SALES	1600
SALES	2850

9 rows returned in 0.00 seconds Download

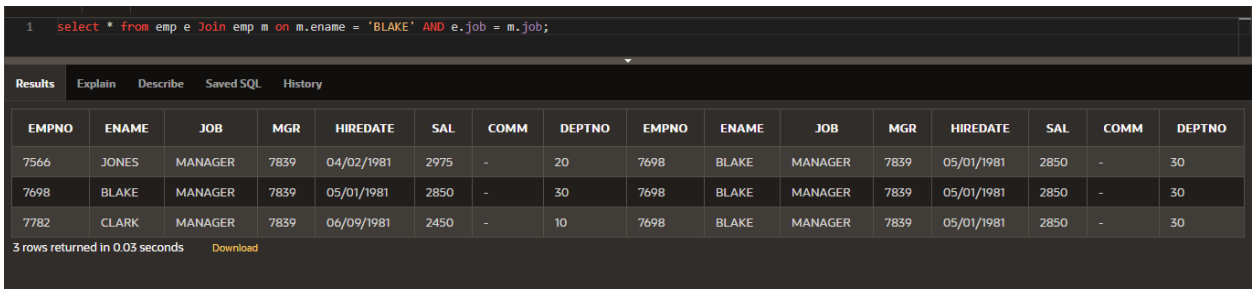
Task 9

FIND ALL EMPLOYEES WHO HAVE THE SAME JOB AS BLAKE.

Query :

```
select * from emp e Join emp m on m.ename = 'BLAKE' AND e.job = m.job;
```

Output :



```
1  select * from emp e Join emp m on m.ename = 'BLAKE' AND e.job = m.job;
```

Results | Explain | Describe | Saved SQL | History

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7566	JONES	MANAGER	7839	04/02/1981	2975	-	20	7698	BLAKE	MANAGER	7839	05/01/1981	2850	-	30
7698	BLAKE	MANAGER	7839	05/01/1981	2850	-	30	7698	BLAKE	MANAGER	7839	05/01/1981	2850	-	30
7782	CLARK	MANAGER	7839	06/09/1981	2450	-	10	7698	BLAKE	MANAGER	7839	05/01/1981	2850	-	30

3 rows returned in 0.03 seconds Download

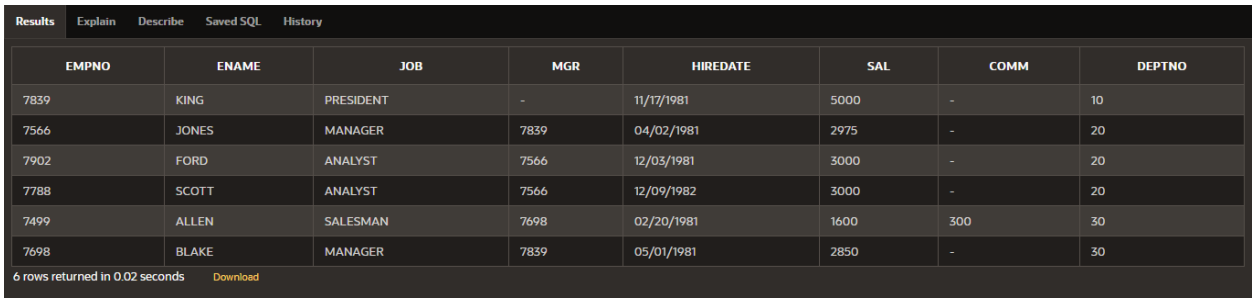
Task 10

FIND ALL EMPLOYEES WHO EARN MORE THAN THE AVERAGE SALARY OF EMPLOYEES IN THEIR OWN DEPARTMENT AND SORT BY DEPARTMENT NO.

Query :

```
SELECT *
FROM emp e
WHERE sal >
      (
            SELECT avg(sal)
            FROM emp
            WHERE e.deptno = deptno
       )
ORDER BY deptno;
```

Output :



Results | Explain | Describe | Saved SQL | History

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7839	KING	PRESIDENT	-	11/17/1981	5000	-	10
7566	JONES	MANAGER	7839	04/02/1981	2975	-	20
7902	FORD	ANALYST	7566	12/03/1981	3000	-	20
7788	SCOTT	ANALYST	7566	12/09/1982	3000	-	20
7499	ALLEN	SALESMAN	7698	02/20/1981	1600	300	30
7698	BLAKE	MANAGER	7839	05/01/1981	2850	-	30

6 rows returned in 0.02 seconds Download

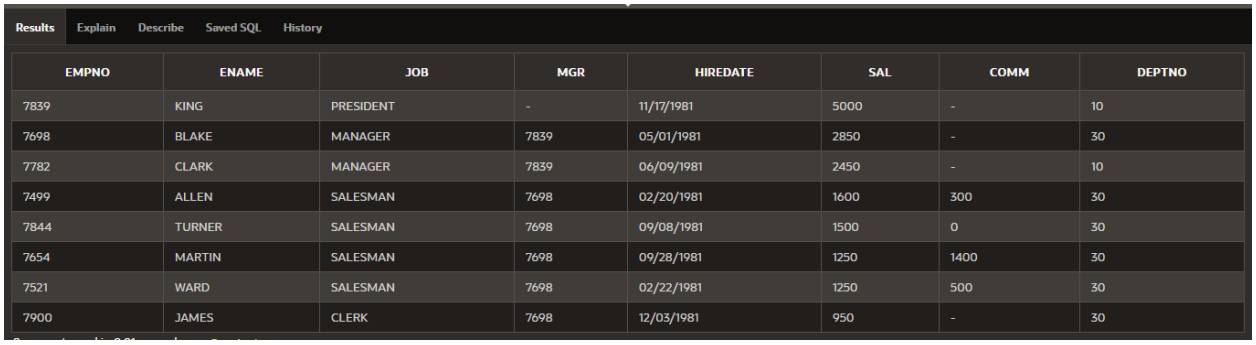
Task 11

FIND ALL EMPLOYEES WHO EARN MORE THAN ANY EMPLOYEE IN DEPARTMENT 20.

Query :

```
select * from emp
where sal > Any(
            select sal from emp
            where deptno = 20
            )
      AND deptno != 20
```

Output :



Results | Explain | Describe | Saved SQL | History

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7839	KING	PRESIDENT	-	11/17/1981	5000	-	10
7698	BLAKE	MANAGER	7839	05/01/1981	2850	-	30
7782	CLARK	MANAGER	7839	06/09/1981	2450	-	10
7499	ALLEN	SALESMAN	7698	02/20/1981	1600	300	30
7844	TURNER	SALESMAN	7698	09/08/1981	1500	0	30
7654	MARTIN	SALESMAN	7698	09/28/1981	1250	1400	30
7521	WARD	SALESMAN	7698	02/22/1981	1250	500	30
7900	JAMES	CLERK	7698	12/03/1981	950	-	30

Task 12

FIND ALL EMPLOYEES IN DEPARTMENT NUMBER 10 WHOSE JOBS ARE THE SAME AS THE EMPLOYEES JOB IN THE SALES DEPARTMENT.

Query :

```
select * from emp
where deptno = 10 and job = any
                        (
                         select job from emp e,dept d
                         where e.deptno=d.deptno and d.dname='SALES'
                         )
```

Output :

```
1  select * from emp
2  where deptno = 10 and job = any (
3                                  select job from emp e,dept d
4                                  where e.deptno=d.deptno and d.dname='SALES'
5                                  )
```

Results | Explain | Describe | Saved SQL | History

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7782	CLARK	MANAGER	7839	06/09/1981	2450	-	10

1 rows returned in 0.03 seconds Download

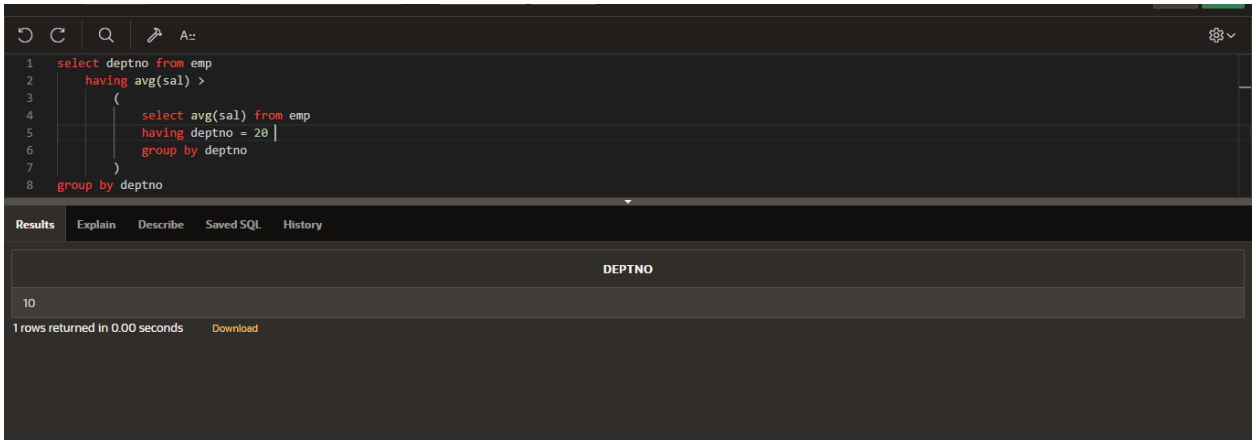
Task 13

FIND ALL THE DEPARTMENTS, WHICH HAVE AN-AVERAGE SALARY IS GREATER THAN DEPARTMENT NUMBER 20.

Query :

```
select deptno from emp
    having avg(sal) >
        (
            select avg(sal) from emp
            having deptno = 20
            group by deptno
        )
group by deptno
```

Output :



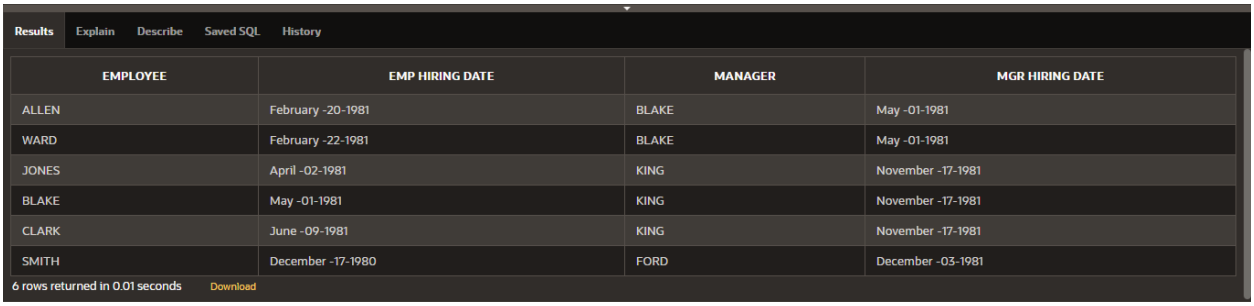
Task 14

DISPLAY THE NAMES AND HIRE DATES FOR ALL EMPLOYEES WHO WERE HIRED BEFORE THEIR MANAGERS, ALONG WITH THEIR MANAGER'S NAMES AND HIRE DATES. LABEL THE COLUMNS EMPLOYEE, EMP HIRED, MANAGER, AND MGR HIRED, RESPECTIVELY.

Query :

```
select  e.ename "EMPLOYEE",
        TO_CHAR(e.hiredate,'Month-dd-yyyy') "EMP HIRING DATE",
        m.ename "MANAGER",
        TO_CHAR(m.hiredate,'Month-dd-
yyyy') "MGR HIRING DATE" from emp e left join emp m on m.empno=e.mgr
        where e.hiredate<m.hiredate
```

Output :



Results | Explain | Describe | Saved SQL | History

EMPLOYEE	EMP HIRING DATE	MANAGER	MGR HIRING DATE
ALLEN	February -20-1981	BLAKE	May -01-1981
WARD	February -22-1981	BLAKE	May -01-1981
JONES	April -02-1981	KING	November -17-1981
BLAKE	May -01-1981	KING	November -17-1981
CLARK	June -09-1981	KING	November -17-1981
SMITH	December -17-1980	FORD	December -03-1981

6 rows returned in 0.01 seconds Download

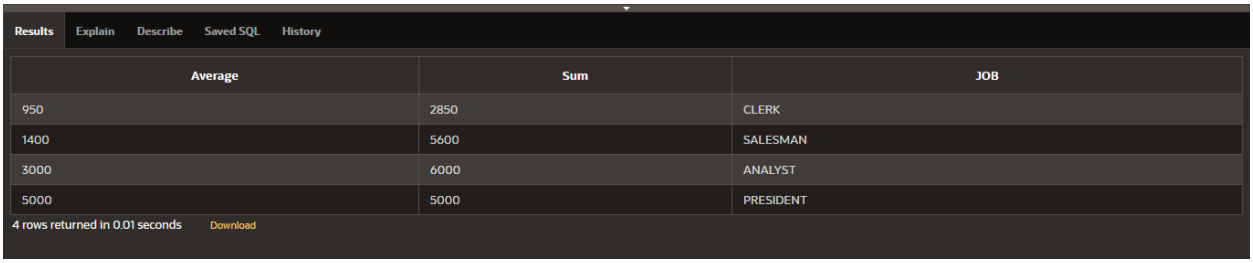
Task 15

FIND AVERAGE AND SUM OF THE SALARIES OF EACH JOB EXCLUDING THE JOB OF BLAKE.

Query :

```
select  avg(sal) as "Average",sum(sal) as "Sum",job from emp
where job!=
        (
                select job from emp
                where ename='BLAKE'
        )
group by job
```

Output :



Results | Explain | Describe | Saved SQL | History

Average	Sum	JOB
950	2850	CLERK
1400	5600	SALESMAN
3000	6000	ANALYST
5000	5000	PRESIDENT

4 rows returned in 0.01 seconds Download

Task 16

FIND ALL JOBS WITH EITHER THE SAME OR AS 'CLARK' OR SALARY GREATER THAN OR EQUAL TO FORD, ORDER BY JOB AND SALARY

Query :

```
Select job from emp
where job = (
              select job from emp
              where ename = 'CLARK'
                )
          OR
    sal >= (
              select sal from emp
              where ename = 'FORD'
            )
       order by job,sal;
```

Output :