**Database Systems Lab**

**BSCS F18 Afternoon**

**Lab 7D**

**Roll#BCSF18A012**

**Instructions:**

* You must complete all tasks individually. Absolutely **NO** collaboration is allowed.
* Any traces of plagiarism/cheating would result in an “F” grade in this course.
* Late submissions will **NOT** be accepted, in any case.

**Submission Procedure:**

* **Edit this file for solution.**
* You are required to submit PDF file.
* The file should contain the question, the query and the screen short of output after running the query.
* You have to submit your lab file on following email: [dbscs18aft@gmail.com](mailto:dbscs18aft@gmail.com) .
* The subject of the email should be **YourRollNumber\_Lab\_NumberCode**. e.g. BCSF18A123\_Lab\_7X.

**Task 1**

FIND THE JOB WHICH HAS THE HIGHEST AVERAGE SALARY.

select job,sal from emp where sal=(select max(avg(sal)) from emp group by job)

|  |  |
| --- | --- |
| **JOB** | **SAL** |
| PRESIDENT | 5000 |

**Task 2**

FIND THE MINIMUM SALARIES WITH EMPLOYEE NAME AND JOB.

select ename,job,sal from emp where sal=(select min(sal) from emp)

|  |  |  |
| --- | --- | --- |
| **ENAME** | **JOB** | **SAL** |
| SMITH | CLERK | 800 |

**Task 3**

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

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

|  |  |  |
| --- | --- | --- |
| **ENAME** | **SAL** | **JOB** |
| ALLEN | 1600 | SALESMAN |
| JONES | 2975 | MANAGER |
| BLAKE | 2850 | MANAGER |
| CLARK | 2450 | MANAGER |
| SCOTT | 3000 | ANALYST |
| KING | 5000 | PRESIDENT |
| TURNER | 1500 | SALESMAN |
| FORD | 3000 | ANALYST |

**Task 4**

FIND THE MINUS OF DEPARTMENT NUMBER 10 AND DEPARTMENT NUM8ER 20.

select \* from emp where deptno=10 minus select \* from emp where deptno=20

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **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 5**

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

select \* from emp where deptno=10 intersect select \* from emp where deptno=20

no data found

**Task 6**

LIST THOSE DEPARTMENT WHO DOSE NOT HAVE ANY EMPLOYEES.

select dname, dept.deptno,loc from dept where dept.deptno not in (select emp.deptno from emp)

|  |  |  |
| --- | --- | --- |
| **DNAME** | **DEPTNO** | **LOC** |
| OPERATIONS | 40 | BOSTON |

**Task 7**

FIND THE MAXIMUM THREE SALARIES IN EACH DEPARTMENT.

select DISTINCT ename,job,sal, deptno from emp  where sal in(select max(sal) from emp group by deptno )

|  |  |  |  |
| --- | --- | --- | --- |
| FORD | ANALYST | 3000 | 20 |
| BLAKE | MANAGER | 2850 | 30 |
| SCOTT | ANALYST | 3000 | 20 |
| KING | PRESIDENT | 5000 | 10 |

**Task 8**

FIND ALL EMPLOYEES WHO HAVE THE SAME JOB AS BLAKE.

If blake not consider

select ename,job from emp where job=(select job from emp where ename='BLAKE' ) and ename!='BLAKE'

|  |  |
| --- | --- |
| **ENAME** | **JOB** |
| JONES | MANAGER |
| CLARK | MANAGER |

If blake consider in query

select ename,job from emp where job=(select job from emp where ename='BLAKE' )

**Task 9**

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

select \* from emp where deptno=10 union select \* from emp where deptno=20

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **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 10**

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

select ename,job,deptno from emp where deptno=10 and job in(select job from emp where deptno=(select deptno from dept where dname='SALES'))

|  |  |  |
| --- | --- | --- |
| **ENAME** | **JOB** | **DEPTNO** |
| CLARK | MANAGER | 10 |

**Task 11**

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

select deptno, ename,job,sal from emp where sal in(select avg(sal) from emp e  group by job ) ORDER BY deptno

|  |  |  |  |
| --- | --- | --- | --- |
| **DEPTNO** | **ENAME** | **JOB** | **SAL** |
| 10 | KING | PRESIDENT | 5000 |
| 20 | FORD | ANALYST | 3000 |
| 20 | SCOTT | ANALYST | 3000 |
| 30 | JAMES | CLERK | 950 |

**Task 12**

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

select deptno, ename,job,sal from emp where sal>(select min(sal) from emp group by deptno having deptno=20) and deptno!=20

I not consider deptno20 employees if consider then just remove and deptno!=20

|  |  |  |  |
| --- | --- | --- | --- |
| **DEPTNO** | **ENAME** | **JOB** | **SAL** |
| 30 | ALLEN | SALESMAN | 1600 |
| 30 | WARD | SALESMAN | 1250 |
| 30 | MARTIN | SALESMAN | 1250 |
| 30 | BLAKE | MANAGER | 2850 |
| 10 | CLARK | MANAGER | 2450 |
| 10 | KING | PRESIDENT | 5000 |
| 30 | TURNER | SALESMAN | 1500 |
| 30 | JAMES | CLERK | 950 |

**Task 13**

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

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

|  |  |
| --- | --- |
| **DEPTNO** | **AVG(SAL)** |
| 10 | 3725 |

**Task 14**

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

select job,sum(sal)"sum",avg(sal) "AVG" from emp where ename!='BLAKE'group by job

|  |  |  |
| --- | --- | --- |
| **JOB** | **sum** | **AVG** |
| CLERK | 2850 | 950 |
| SALESMAN | 5600 | 1400 |
| ANALYST | 6000 | 3000 |
| MANAGER | 5425 | 2712.5 |
| PRESIDENT | 5000 | 5000 |

**Task 15**

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

select ename,sal,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

|  |  |  |
| --- | --- | --- |
| **ENAME** | **SAL** | **JOB** |
| SCOTT | 3000 | ANALYST |
| FORD | 3000 | ANALYST |
| CLARK | 2450 | MANAGER |
| BLAKE | 2850 | MANAGER |
| JONES | 2975 | MANAGER |
| KING | 5000 | PRESIDENT |

**Task 16**

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.

select e.ename "EMPLOYEE",e.hiredate "EMP HIRED",m.ename "MANAGER",m.hiredate "MGR HIRED" from emp e,emp m where e.mgr=m.empno and e.hiredate<m.hiredate

|  |  |  |  |
| --- | --- | --- | --- |
| **EMPLOYEE** | **EMP HIRED** | **MANAGER** | **MGR HIRED** |
| ALLEN | 02/20/1981 | BLAKE | 05/01/1981 |
| WARD | 02/22/1981 | BLAKE | 05/01/1981 |
| JONES | 04/02/1981 | KING | 11/17/1981 |
| BLAKE | 05/01/1981 | KING | 11/17/1981 |
| CLARK | 06/09/1981 | KING | 11/17/1981 |
| SMITH | 12/17/1980 | FORD | 12/03/1981 |