

## **LAB ASSIGNMENT 6**

### **Group By and Joins in SQL (Part-I)**

**TABLE DEPT (DEPTNO, DEPTNAME) TABLE EMP (EMPNO, EMPNAME, DEPTNO, JOB, SALARY): DEPTNO is a foreign key w.r.t to DEPT Table.**

```
create table dept(  
    deptno number(4) primary key,  
    deptname char(10)  
);
```

```
create table emp(  
    empno number(3) primary key,  
    empname varchar(10) ,  
    deptno number(4),  
    job varchar(7) ,  
    salary number(5) ,  
    foreign key (deptno) references dept(deptno)  
);
```

**QUES1: Insert 10 appropriate records in each table as per the SQL queries mentioned below.**

**ANS:** insert into dept values (3,'elect');

insert into dept values (1,'acc');

insert into dept values (2,'comp');

insert into dept values (4,'acc');

insert into dept values (5,'comp');

select \* from dept;

insert into emp values (11,'A',1,'prof',9000);

insert into emp values (12,'B',2,'ap',8000);

insert into emp values (13,'C',3,'lect',7000);

insert into emp values (14,'D',4,'lect',6000);

insert into emp values (15,'E',5,'ap',5000);

select \* from emp;

**QUES2: List the total number of employees?**

**ANS:** select count(\*) from emp;

**QUES3: List the total no of departments?**

**ANS:** select count(\*) from dept;

**QUES4: Display the employee details of each department for which they are working.**

**ANS:** select empname , deptname from emp , dept where emp.deptno = dept.deptno order by emp.deptno;

**QUES5: List the total, maximum, & minimum salary for deptno 30?**

**ANS:** select sum(salary) as total , max(salary) as maximum , min(salary) as minimum from emp where deptno = 3;

**QUES6: Display the name of the employee getting maximum salary?**

**ANS:** select empname from emp where salary = (select max(salary) from emp);

**QUES7: Display the total salary for each department?**

**ANS:** select sum(salary) from emp group by deptno;

**QUES8: Display the total salary for each job.**

**ANS:** select sum(salary) from emp group by job;

**QUES9: Display the total salary for each job within each department.**

**ANS:** select sum(salary) from emp group by deptno , job;

**QUES10: Display the average salary for each job in deptno 20.**

**ANS:** select job, avg(salary) from emp where deptno = 2 group by job;

**QUES11: Display the total salary for each job excluding the 'manager' and 'salesman' job.**

**ANS:** select job, sum(salary) from emp group by job having job <> 'lect' and job <> 'ap';

**QUES12: Display the average salary for each job in deptno 20, but only display those jobs where average salary is greater than 2000 & display the output in descending order of salary?**

**ANS:** select job, avg(salary) from emp where deptno = 1 group by job having avg(salary) > 8000;

**QUES13: Display the total no of employees for each department excluding the deptno 10 & display only those departments where more than five employees work. Display the output in descending order of total no of employees?**

**ANS:** SELECT D.deptno, D.deptname, COUNT(E.empno) AS TOTAL\_EMPLOYEES  
FROM dept D LEFT JOIN EMP E ON D.deptno = E.deptno WHERE D.deptno != 10  
GROUP BY D.deptno, D.deptname HAVING COUNT(E.empno) > 5 ORDER BY  
COUNT(E.empno) DESC;

**QUES14: Display the total no of employees for each department excluding the 'comp' dept & display only those departments where more than five employees work. Display the output in descending order of total no of employees?**

**ANS:** SELECT D.deptno, D.deptname, COUNT(E.empno) AS TOTAL\_EMPLOYEES  
FROM dept D LEFT JOIN emp E ON D.deptno = E.deptno WHERE D.deptname != 'Comp'  
GROUP BY D.deptno, D.deptname HAVING COUNT(E.empno) > 5 ORDER BY  
COUNT(E.empno) DESC;

**QUES15: Display total number of emp working in each job in each dept.**

**ANS:** SELECT D.deptno, D.deptname, E.job, COUNT(E.empno) AS TOTAL\_EMPLOYEES  
FROM dept D JOIN emp E ON D.deptno = E.deptno GROUP BY D.deptno, D.deptname,  
E.job;

**QUES16: List all the department name and their employees name even if for a department there is no employees (A newly created department).**

**ANS:** SELECT D.deptno, D.deptname, E.empname FROM dept D LEFT JOIN EMP E ON  
D.deptno = E.deptno;

**QUES17: List all the employees name and their department name even if for an employee there is no department assigned (A newly joined employee).**

**ANS:** SELECT E.empno, E.empname, D.deptno, D.deptname FROM emp E RIGHT JOIN  
DEPT D ON E.deptno = D.deptno;

**QUES18: List all the departments name and their employees name irrespective whether for a department any employees are there are not, and irrespective whether for an employee there is any department assigned or not.**

**ANS:** SELECT D.deptno, D.deptname, E.empname FROM dept D FULL OUTER JOIN emp  
E ON D.deptno = E.deptno ORDER BY D.deptno , E.empno;