**Aggregate Function- max,min,avg,sum,count (**Aggregate function results a single value**)**

\***what is the max student age**

select max(age) from student

\***Get average marks of students from div A**

select avg(marks) from student where div='A'

\***Get number of students**

select count(\*) from student

select count(sname) from student

select count(marks) from student (null values not counting)

select sum(marks)/count(\*) from student (Here we will count the null values)

select avg(marks) from student (Here we will not count the null values)

select sum(marks)/count(marks) from student

\* **Get number of students in the agegroup 12 and 22**

select count(\*) from student where age between 12 and 22

\* **How many different divisions are present**

select count( distinct div) from student

**Group By Clause**

create table emp (

eno number,

ename varchar(20),

designation varchar(20),

sal number,

mgr int,

deptno number,

primary key(eno)

);

drop table emp

create table dept (

deptno number primary key,

deptname varchar(20),

loc varchar(20)

);

insert into dept values ('sales','mumbai',10);

insert into dept values ('hr','delhi',20);

insert into dept values ('accounts','chennai',30);

insert into dept values ('production','bangalore',40);

insert into emp values (1,'aaa','salesman',7000,2,10);

insert into emp values (2,'bbb','mgr',17000,3,10);

insert into emp values (3,'ccc','president',40000,null,30);

insert into emp values (4,'ddd','clerk',5000,5,20);

insert into emp values (5,'eee','mgr',20000,3,20);

\* **How many employees works as managers**

select \* from emp where designation='mgr'

\* **How many employees are present per designation**

select designation,count(\*) from emp group by designation

\***within each department how many employees are present**

select deptno,count(\*) from emp group by deptno

\***Per department what is the max salary**

select deptno, max(sal) maximum\_salary from emp group by deptno

**Having Clause** (Always use with group by clause used to specify a condition on aggregate function)

\***Which dept has atleast 2 employees**

select deptno, count(\*) from emp group by deptno having count(\*)>=2

\***per job how many employees in deptno 10**

select designation, count(\*) from emp where deptno=10 group by designation

select deptno,count(\*) from emp group by deptno having deptno=10(number of employees in dept10)

\***per job how many employees earn more than 10000**

select designation,count(\*) "number\_of\_person\_having\_sal>10000" from emp group by designation having count(\*)>=0

(If there is a group by clause it willl always after where clause)

On aggregate clause we cannot use where clause so we use having clause for condition

\***Which job has more than 1 employee**

select designation, count(\*) from emp group by designation having count(\*)>1

\***which job has more than 1 employee from deptno 10**

select designation,count(\*) from emp where deptno=10 group by designation having count(\*)>0

**SubQuery**

\***How many employees work in department 10**

select count(\*) from emp where deptno=10

**\* How many employees work in mumbai**

select count(\*) from emp where deptno=(select deptno from dept where loc='mumbai');

select count(\*) from emp where deptno in (select deptno from dept where loc='mumbai');(because sometimes morethan one dept located in a location then we can use in instead of =.)

\***in which 'department name ' does employee 'aaa' works**

select deptname from dept where deptno in (select deptno from emp where ename='aaa');

select deptname from dept where deptno=(select deptno from emp where ename='aaa');

\***what is the avg salary of employee in hr department**

select avg(sal) from emp where deptno in (select deptno from dept where deptname='hr');

select avg(sal) from emp where deptno=(select deptno from dept where deptname='hr');

\* **How many employees from sales department earn more than 10000**

select count(\*) from emp where deptno in (select deptno from dept where deptname='sales') and sal>10000

\***Display employee number and name of clerks in delhi earning more than 5000**

select designation from emp where deptno in (select deptno from dept where loc='delhi')

select eno,ename from emp where designation = 'clerk' and deptno in (select deptno from dept where loc = 'delhi' ) and sal > 5000

\*per job how many employees are present in delhi

select designation,count(\*) from emp where deptno=(select deptno from dept where loc='delhi') group by designation

\***per job how many employees from sales dept earns more than 10000**

select designation, count(\*) from emp where deptno in (select deptno from dept where deptname='sales')and sal>10000 group by designation

\***List the jobs in the ascending order of 'no of employees'**

select designation,count(\*) from emp group by designation order by count(\*) asc

\***in the ascending order of 'number of employees ' list job which atleast have 1 employees from delhi**

select designation,count(\*)

from emp

where deptno=(select deptno

from dept

where loc='delhi')

group by designation

having count(\*)>=1

order by count(\*) asc

**Sub queries along with aggregate functions**

\***What is the Max Salary**

**\* who gets the max salary**

select ename,sal max\_salary from emp where sal=(select max(sal) from emp)

\***How many employees earn more than employee 1**

select count(\*) from emp where sal>(select sal from emp where eno=1)

\***which employee do the same job as employee no2**

select ename,designation from emp where designation = (select designation from emp where eno=2)

\***which employee from delhi do the same job as emp2**

select ename

from emp

where deptno=(select deptno

from dept

where loc='delhi') and

designation=(select designation

from emp

where eno=2)

**Advanced queries**

\***amongst the managers who gets the highest salary**

select eno,ename from emp where designation='mgr'and sal=(select max(sal) from emp where designation='mgr')

select eno,ename from emp where (designation,sal)=(select designation , max(sal) from emp where designation='mgr' group by designation)

\***get details of clerk earning 5000**

select eno,ename from emp where designation='clerk' and sal>=5000

\***which designation has exactly two employees**

select designation,count(\*) from emp group by designation having count(\*)=2

\***which designation has most no of employees**

select designation,count(\*) from emp group by designation having count(\*)=(select max(count(\*)) from emp group by designation)

\***what is second highest salary**

select max(sal) from emp where sal<(select max(sal) from emp)

\***who gets the second highest salary**

select eno,ename from emp where sal = (select max(sal) from emp where sal<(select max(sal) from emp) )