Queries:

1. Display the name of all employees whose salary is between 500 and 1300

```
select ename,salary  from emp where salary between 50000 and 130000;

select ename,salary  from emp where salary >=50000 and salary <= 130000;
```

2. Display the name of all employees who are in HR dept

```
-- old syntax of join

select ename,deptname
from emp e, dept d
where e.deptid=d.deptid
and deptname='HR';
-- new/ansi syntax of join

select ename,deptname
from emp e join dept d
on e.deptid=d.deptid
where  deptname='HR';

-- subquery
select ename from emp where deptid=(select deptid from dept where deptname='HR');
select ename,'HR' deptname from emp where deptid=(select deptid from dept where deptname='HR');
```

3. Display the name of all the dept and count of all the employees in that dept.

```
Select deptname,count(eid)
From
Emp e right join dept d
On e.deptid=d.deptid
Group by deptname;
```

4. Display the name , deptname and salary of the employee whose salary is highest.

```
Select ename,deptname,salary
From
Emp e  join dept d
On e.deptid=d.deptid
Order by salary desc limit 1;
```

5. Display the name , deptname and salary of the employee whose salary is lowest.

```
Select ename,deptname,salary
From
Emp e  join dept d
On e.deptid=d.deptid
Order by salary  limit 1;
```

```
Select ename,deptname,salary
From
Emp e  join dept d
On e.deptid=d.deptid
Order by salary asc  limit 1;
```

6. Display the name , deptname of employee whose salary is second highest.

```
Select ename,deptname,salary
From
Emp e  join dept d
On e.deptid=d.deptid
Order by salary desc limit 1 offset 1;

– inline
select * from (
Select ename,deptname,salary
From
Emp e  join dept d
On e.deptid=d.deptid
Order by salary desc limit 2) as t order by salary asc limit 1;
```

7. display the name, deptname of top five earning employees.

```
Select ename,deptname,salary
From
```

```
Emp e  join dept d
On e.deptid=d.deptid
Order by salary desc limit 5;
```

8. Display the deptname, name of top 5 earning employees from each dept.

```
Select * from (
Select deptname,ename,salary,
row_number() over(partition by deptname order by salary desc) rn
From
Emp e  join dept d
On e.deptid=d.deptid) as t where rn<=5;
```

9. Display the avg salary of each dept.

```
Select deptname,avg(salary) avg_salary
From
Emp e right join dept d
On e.deptid=d.deptid
Group by deptname;
```

10.Display the min and max salary of each dept.

```
Select deptname,min(salary) min_salary,
max(salary) max_salary
From
Emp e right join dept d
On e.deptid=d.deptid
Group by deptname;
```

```
Create table emp_sample
(eid int, ename varchar(100), salary int, deptid int);
```

```
insert into emp_sample
values(1,'a',100,1);

insert into emp_sample
values(2,'b',200,2);

insert into emp_sample
values(3,'c',100,1);

insert into emp_sample
values(4,'d',200,2);

insert into emp_sample
values(5,'e',50,1);

insert into emp_sample
values(6,'f',60,2);

insert into emp_sample
values(7,'g',70,1);
```

```
Select *,
row_number() over(order by salary desc) rn,
rank() over(order by salary desc) rnk,
dense_rank() over(order by salary desc) drnk
 from emp_sample;
```

```
Select *,
```

```
row_number() over(partition by deptid order by salary desc) rn,
rank() over(partition by deptid order by salary desc) rnk,
dense_rank() over(partition by deptid order by salary desc) drnk
 from emp_sample;
```

```
Select *
From emp e1 , emp e2;
```

```
Create table emp_mgr
(eid int, ename varchar(100), mgrid int);
```

```
insert into emp_mgr values(1,'a',4);
insert into emp_mgr values(2,'b',4);
insert into emp_mgr values(3,'c',4);
insert into emp_mgr values(4,'d',4);
insert into emp_mgr values(5,'e',6);
insert into emp_mgr values(6,'f',6);
insert into emp_mgr values(7,'g',6);
```

```
Select e.mgrid,m.ename mgrname,e.eid,e.ename from
emp_mgr e, emp_mgr m
Where
e.mgrid=m.eid and
 e.eid<>e.mgrid;
```

```
Select ename,salary,
Case
 when salary>=100000 then 'Very High'
 when salary>=75000 then 'High'
 when salary>=50000 then 'Avg'
Else 'Low'
End  Salary_Band
From emp;

Select
Case
 when salary>=100000 then 'Very High'
 when salary>=75000 then 'High'
 when salary>=50000 then 'Avg'
Else 'Low'
End  Salary_Band,count(eid) emp_count
From emp
Group by
Case
 when salary>=100000 then 'Very High'
 when salary>=75000 then 'High'
 when salary>=50000 then 'Avg'
Else 'Low'
End  ;
```

Marks

Roll	Sub	Marks
1	M	97

1	E	98
1	H	95
2	M	92
2	E	93
2	H	20
3	M	36
3	E	38
3	H	39

Pass when in all subs marks are >=35 and percent is >=40
otherwise fail

```
create table marks(
Rollno int,
sub varchar(10),
Marks int);

insert into marks values(1,'m',97),(1,'e',98),(1,'h',95);
insert into marks values(2,'m',92),(2,'e',93),(2,'h',20);
insert into marks values(3,'m',36),(3,'e',38),(3,'h',39);
```

```
select rollno,
case when
min(marks)>=35 and avg(marks)>=40 then 'Pass'
else 'Fail' end Result
from marks
group by rollno;
```

```
select
sum(case when deptname='HR' then salary
else 0 end) HR,
sum(case when deptname='IT' then salary
else 0 end) IT,
sum(case when deptname='Finance' then salary
else 0 end) Finance,
sum(case when deptname='OPR' then salary
else 0 end) OPR
from
emp e join dept d
on e.deptid=d.deptid;
```

Write a query to show
Ename,salary and deptname
Of all employees
For only those employees

Whose salary is greater than average salary of their department

```
Select ename,salary,deptname
From emp e join dept d
On e.deptid=d.deptid
Where
salary>(
Select avg(salary)
From emp ei join dept di
On ei.deptid=di.deptid
Where d.deptname=di.deptname
Group by deptname
);
```

```
Select ename,salary,esal.deptname,avg_sal
 from
(Select ename,salary,deptname
From emp e join dept d
On e.deptid=d.deptid
) esal,
(Select deptname, avg(salary)  avg_sal
From emp e join dept d
On e.deptid=d.deptid
Group by deptname) dasal
Where esal.deptname=dasal.deptname
And
esal.salary>dasal.avg_sal;
```

```
Select deptname, avg(salary)
From emp ei join dept di
```

```
On ei.deptid=di.deptid
Group by deptname;
```

Write a query to show
Ename,salary and deptname
Of all employees
For only those employees
Whose salary is greater than average salary of all departments

```
Select ename,salary,deptname
From emp e join dept d
On e.deptid=d.deptid
Where salary>(select avg(salary) from emp);
```

```
Show variables like 'datadir';
```

– views

```
Create view vw_emp_dept
as
Select ename,deptname,salary
From emp join dept
On emp.deptid=dept.deptid;

Select * from vw_emp_dept;

Explain Select * from vw_emp_dept;
```

1. Update on a view with join should not update columns of more than 1 table at a time

```
Update vw_emp_dept
Set ename='a',deptname='HR1'
Where ename='a1';  – ERROR 1393 (HY000): Can not modify more than one base table through a join view 'vita.vw_emp_dept'

Update vw_emp_dept
Set ename='a',salary=100
Where ename='a1';
```

Works

2. Delete on a view with join is not allowed

```
Delete from vw_emp_dept where ename='a1';
```

3. Cannot perform insert into multiple tables at the same time

```
Insert into vw_emp_dept values('c','HR',100);
```

ERROR 1394 (HY000): Can not insert into join view 'vita.vw_emp_dept' without fields list

```
Insert into vw_emp_dept(ename,deptname,salary) values('c','HR',100);
```

ERROR 1393 (HY000): Can not modify more than one base table through a join view 'vita.vw_emp_dept'

Insert into vw_emp_dept(ename,salary) values('c',100);

4. Cannot perform insert through a view if the view doesn't contain any not null column of the base table which also doesn't have any default value

EMP
EID,ENAME,SALARY,DEPTNAME

App- select ename,salary, deptname from emp;

desgin change

rename emp to EMP_TAB- EID,ENAME,SALARY,DEPTID

DEPT_TAB-
DEPTID,DEPTNAME

```
create view emp
as
select ename,deptname,salary
from emp_tab, dept_tab
where emp_tab.deptid=dept_tab.deptid;
```

Query 8 without ranking functions

```
select
deptname,e1.ename,e1.salary,count(e2.eid)
from
emp e1,emp e2,dept d
where e1.deptid=e2.deptid -- compare employee salary within same dept
and e1.deptid=d.deptid -- lookup to get deptname from dept name
and e1.salary<=e2.salary
group by deptname,e1.ename,e1.salary
having count(e2.eid)<=5
```

1. Revise Day 1 Queries-1 hour
2. Revise Day 2 Queries- 1 hour
3. Revise CODDs rule- 20 mins
4. Revise first 3 normal forms- 20 mins
5. Read BCNF, 4NF , 5NF and DKNF- 20 mins
6. Do first 50 queries from 125 Queries Asignment- 4 hours
7. Redo 4,5,6,7 and 8 queries from 10 queries assignment of emp and dep- 30 mins
without using limit and offset
8. Revise slides- 30 mins