DBMS LAB-4

→ Query 1

```
create database StudentFaculty;
use StudentFaculty;

create table student (
snum int,
sname varchar (30),
major varchar (20),
lvl varchar (2),
age int,
primary key (snum));

create table faculty (
fid int,
fname varchar(30),
deptid int,
primary key (fid));

create table class (
cname varchar(30),
meetsat timestamp,
room varchar(10),
fid int,
primary key (cname),
foreign key (fid) references faculty(fid));
```

```
create table enrolled (
snum int,
cname varchar(30),
primary key (snum, cname),
foreign key (snum) references student (snum),
foreign key (cname) references class (cname));
```

→ Query 2

```
use StudentFaculty;

insert into student values (1, 'Thon', 'CS', 'Sr', 19);
insert into student values (2, 'Smith', 'CS', 'Jr', 20);
insert into student values (3, 'Jacob', 'EV', 'Sr', 20);
insert into student values (4, 'Tom', 'CS', 'Jr', 20);
insert into student values (5, 'Rahul', 'CS', 'Jr', 20);
insert into student values (6, 'Rita', 'CS', 'Sr', 20);
select * from student;

insert into faculty values (4, 'Harish', 1000);
insert into faculty values (12, 'MV', 1000);
insert into faculty values (13, 'Mia', 1001);
insert into faculty values (14, 'Shiva', 1002);
insert into faculty values (15, 'Nupur', 1003);
select * from faculty.
```

```
insert into enrolled values ('class1', '12/11/15 10:15:16', 'R1', 14);
insert into enrolled values ('class10', '12/11/15 10:15:16', 'R128', 14);
insert into enrolled values ('class2', '12/11/15 10:15:20', 'R2', 12);
insert into enrolled values ('class3', '12/11/15 10:15:25', 'R3', 12);
insert into enrolled values ('class4', '12/11/15 20:15:20', 'R4', 14);
insert into enrolled values ('class5', '12/11/15 20:15:20', 'R3', 15);
insert into enrolled values ('class6', '12/11/15 13:20:20', 'R2', 14);
insert into enrolled values ('class7', '12/11/15 10:10:10', 'R3', 14);
select * from class;

insert into enrolled values (1, 'class1');
insert into enrolled values (2, 'class1');
insert into enrolled values (3, 'class3');
insert into enrolled values (4, 'class3');
insert into enrolled values (5, 'class4');
insert into enrolled values (1, 'class5');
insert into enrolled values (2, 'class5');
insert into enrolled values (3, 'class5');
insert into enrolled values (4, 'class5');
insert into enrolled values (5, 'class5');
select * from enrolled;
```

→ Query 3

```
use StudentFaculty;

• select distinct S.sname from student S, class C, enrolled E, faculty F
where S.snum = E.snum
and E.cname = C.cname
and C.fid = F.fid
and F.fname = 'Harish' and S.lvl = 'Jr';
```

2 select C.cname from class C
where C.room = 'R128'
or C.cname in (
select E.cname from enrolled E
group by E.cname
having COUNT (*) >= 5);

3 select distinct S.sname from student S
where S.snum in (
select E1.snum from enrolled E1, enrolled E2, class C1, class C2
where E1.snum = E2.snum
and E1.cname <> E2.cname
and E1.cname = C1.cname
and E2.cname = C2.cname
and C1.meetsat = C2.meetsat);

5 select ~~distinct~~ f.fname, f.fid from faculty f
where 5 > (
select COUNT (E.snum) from class C, enrolled E
where C.cname = E.cname
and C.fid = F.fid);

4 select f.fname, f.fid from faculty f
where F.fid in (
select fid from class
group by fid having COUNT (*) = (
select COUNT (distinct room) from class));

6 select distinct S.sname from student S
where S.snum not in (
select E.snum from enrolled E);

7 ~~select~~

```
select S.age, S.lvl from student S
group by S.age, S.lvl
having S.lvl in (
select S1.lvl from student S1
where S1.age = S.age
having count(*) >= all (select COUNT(*)
from student S2
where S1.age = S2.age
group by S2.lvl, S2.age));
```