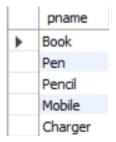**Medha Madhusudhan**

1BM19CS230

CSE - 4A

Lab Program - 3

```
create database supplierdb;
use supplierdb;

create table Suppliers(
        sid int not null,
        sname varchar(20) not null,
        address varchar(20) not null,
        primary key(sid)
);

create table Parts(
        pid int not null,
        pname varchar(20) not null,
        color varchar(20) not null,
        primary key(pid)
);

create table Catalog(
        sid int not null,
        pid int not null,
        cost real not null,
        primary key(sid,pid),
        foreign key(sid) references Suppliers(sid),
```

```sql
        foreign key(pid) references Parts(pid)
);

insert into Suppliers(sid,sname,address)
        values (10001,'Acme Widget','Bangalore'),
                (10002,'Johns','Kolkata'),
                (10003,'Vimal','Mumbai'),
                (10004,'Reliance','Delhi');

insert into Parts(pid,pname,color)
        values (20001,'Book','Red'),
                (20002,'Pen','Red'),
                (20003,'Pencil','Green'),
                (20004,'Mobile','Green'),
                (20005,'Charger','Black');

insert into Catalog(sid,pid,cost)
        values (10001,20001,10),
                (10001,20002,10),
                (10001,20003,30),
                (10001,20004,10),
                (10001,20005,10),
                (10002,20001,10),
                (10002,20002,20),
                (10003,20003,30),
                (10004,20003,40);

-- find the pnames of parts for which there is some supplier
```
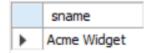
select distinct p.pname from Parts p,Catalog c

where p.pid = c.pid and exists (select 'X' from Catalog where pid = p.pid);

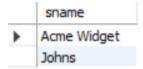|	pname
▶	Book
	Pen
	Pencil
	Mobile
	Charger

-- find the snames of suppliers who supply every part

select s.sname from Suppliers s,Catalog c

where s.sid = c.sid

group by s.sname

having count(c.pid) = (select count(*) from Parts);

	sname
▶	Acme Widget

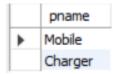-- find the snames of suppliers who supply every red part

select s.sname from Suppliers s,Parts p,Catalog c

where s.sid = c.sid and p.pid = c.pid

and p.color = 'Red'

group by s.sname

having count(c.pid) = (select count(*) from Parts where color = 'Red');

	sname
▶	Acme Widget
	Johns

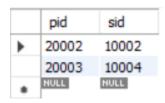-- find the pname of parts supplied by acme widget and no one else

select p.pname from Parts p,Catalog c

where p.pid = c.pid

and p.pid not in (select pid from Catalog where sid in (select sid from Suppliers where sname <> 'Acme Widget'));

	pname
▶	Mobile
	Charger

-- find the sids of suppliers who charge more for some part than average cost of that part

select distinct c.pid,c.sid from Catalog c
where c.cost > (select avg(c1.cost) from Catalog c1 where c1.pid = c.pid);

	pid	sid
▶	20002	10002
	20003	10004
＊	NULL	NULL

-- for each part, find the sname of supplier who charges most for that part

select p.pname,s.sname from Parts p,Suppliers s,Catalog c
where p.pid = c.pid and s.sid = c.sid
and c.cost = (select max(cost) from Catalog where pid = p.pid);

	pname	sname
▶	Book	Acme Widget
	Mobile	Acme Widget
	Charger	Acme Widget
	Book	Johns
	Pen	Johns
	Pencil	Reliance