WEEK 7

1. Using Scheme diagram, Create tables by properly specifying the primary keys and the foreign keys.

```
create database shop2;
use shop2;

create table suppliers (sid int primary key,sname varchar(20),city varchar(20));
desc suppliers;

create table parts (pid int primary key,pname varchar(20),color varchar(10));
desc parts;

create table catalog (sid int ,pid int ,foreign key(sid) references suppliers(sid),foreign key(pid) references parts(pid),cost float, primary key(sid, pid));
desc catalog;
```

Field	Type	Null	Key
sid	int	NO	PRI
sname	varchar(20)	YES	
city	varchar(20)	YES	

Field	Type	Null	Key
pid	int	NO	PRI
pname	varchar(20)	YES	
color	varchar(10)	YES	

Field	Type	Null	Key
sid	int	NO	PRI
pid	int	NO	PRI
cost	float	YES	

2. Insert appropriate records in each table.

```
insert into suppliers
values(10001, "Acme Widget","Bangalore"),
(10002, "Johns","Kolkata"),
(10003,"Vimal","Mumbai"),
(10004,"Reliance","Delhi"),
(10005,"Mahindra","Mumbai");
 select *from suppliers;

 insert into parts
 values(20001,"Book","Red"),
(20002,"Pen","Red"),
(20003,"Pencil","Green"),
(20004,"Mobile","Green"),
(20005,"Charger","Black");
select *from parts;

insert into catalog 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);
select *from catalog;
```

sid	sname	city
10001	Acme Widget	Bangalore
10002	Johns	Kolkata
10003	Vimal	Mumbai
10004	Reliance	Delhi
10005	Mahindra	Mumbai

pid	pname	color
20001	Book	Red
20002	Pen	Red
20003	Pencil	Green
20004	Mobile	Green
20005	Charger	Black

sid	pid	cost
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

3. Find the pnames of parts for which there is some supplier.

select distinct pname

from parts p, catalog c,suppliers s

pname
Book
Pen
Pencil
Mobile
Charger

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

4. Find the snames of suppliers who supply every part.

select s.sname

from suppliers s where((select count(p.pid)from parts p)=(select count(c.pid)from catalog c where c.sid=s.sid));

sname
Acme Widget

5. Find the snames of suppliers who supply every red part.

select distinct s.sname from catalog c, parts p, suppliers s

where s.sid=c.sid and p.pid=c.pid and color="Red";

sname
Acme Widget
Johns

6. Find the pnames of parts supplied by Acme Widget Suppliers and by no one else.

```
select pname from parts P,Catalog c,suppliers s
 where p.pid=c.pid and c.sid=s.sid and s.sname ="Acme Widget"
 and not exists(select * from catalog c1,suppliers s1
where p.pid=c1.pid and c1.sid=s1.sid and s1.sname <> "Acme Widget");
```

pname
Mobile
Charger

7. Find the sids of suppliers who charge more for some part than the average cost of that part

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

sid
10002
10004

8. For each part, find the sname of the supplier who charges the most for that part.

```
select p.pid,s.sname
 from suppliers s,catalog c,parts p
 where c.pid=p.pid and s.sid=c.sid and c.cost=(select max(c1.cost)
                                               from catalog c1
                                               where c1.pid=p.pid)
                                               order by s.sname;
```

pid	sname
20001	Acme Widget
20004	Acme Widget
20005	Acme Widget
20001	Johns
20002	Johns
20003	Reliance