WEEK-7

SUPPLIER DATABASE

To Do List:

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

```
create database Supplier;
use Supplier;
create table Supplier
(sid int,
sname varchar(20),
city varchar(10),
primary key(sid));
create table Parts
(pid int,
pname varchar(20),
color varchar(10),
primary key(pid));
create table Catalog
(sid int,
pid int,
cost int,
primary key(sid,pid),
foreign key(sid) references Supplier(sid),
foreign key(pid) references Parts(pid));
```

2. **Insert appropriate records in each table.**

```
insert into Supplier values(10001,'Acme
Widget','Bangalore'),(10002,'Johns','Kolkata'),(10003,'Vimal','Mumbai'),(
10004,'Reliance','Delhi');
insert into Parts
values(20001,'Book','Red'),(20002,'Pen','Red'),(20003,'Pencil','Green'),(2
0004,'Mobile','Green'),(20005,'Charger','Black');
```

insert into Catalog
values(10001,20001,10),(10001,20002,10),(10001,20003,30),(10001,200
04,10),(10001,20005,10),(10002,20001,10),(10002,20002,20),(10003,20
003,30),(10004,20003,40);

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

25

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

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
NULL	NULL	NULL

Catalog 3 ×

3. **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;

	pname
▶	Book
	Pen
	Pencil
	Mobile
	Charger

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

   select sname from Supplier where sid in (select sid from Catalog group by sid having count(distinct pid)=(select count(pid) from Parts));

	sname
▶	Acme Widget

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

   select sname from Supplier where sid in (select sid from Catalog c,Parts p where c.pid=p.pid and p.color='Red' group by sid having count(distinct p.pid)=(select count(*) from Parts where 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 where pid in (select w.pid from (select pid from Catalog group by pid having count(distinct sid)=1) w, Catalog c1,Supplier s1 where w.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 (averaged over all the suppliers who supply 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 Parts p,Supplier s,Catalog c where c.pid=p.pid and c.sid=s.sid and c.cost=(select max(c1.cost) from Catalog c1 where c1.pid=p.pid);

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