

## **Week 7:**

### **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(20),  
primary key(sid)  
);
```

```
create table parts(  
pid int,  
pname varchar(20),  
color varchar(20),  
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");  
insert into supplier values(10002,"Johns","Kolkata");  
insert into supplier values(10003,"Vimal","Mumbai");  
insert into supplier values(10004,"Reliance","Delhi");
```

```
insert into parts values(20001,"Book","Red");
```

```

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

```

```

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

```

	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

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

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

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

```

select p.pname from parts as p where p.pid in
(select distinct c.pid from
supplier as s inner join catalog as c);

```

	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 c group by sid having count(sid)=(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 where pid in(select (pid) 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 p.pname from parts as p where p.pid not in
(select distinct c.pid from catalog as c inner join
(select c.pid from catalog as c where c.sid!=
(select supplier.sid from supplier where supplier.sname = "Acme Widget")) as d on d.pid
= c.pid);
```

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

	sid
▶	10002
	10004

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

(select c1.pid,s.sname from supplier as s,catalog as c1 where c1.sid = s.sid and  
c1.cost =

(select max(c.cost) from catalog as c where c1.pid = c.pid group by c.pid))

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