

```

create database Supplervck;

use Supplervck;

create table Suppliers(
sid integer,
sname varchar(20),
city varchar(20),
primary key(sid));

create table Parts(
pid integer,
pname varchar(20),
color varchar(20),
primary key(pid));

create table Catalog(
sid integer,
pid integer,
cost integer,
primary key(sid,pid),
foreign key(sid) references Suppliers(sid) on delete cascade on update cascade,
foreign key(pid) references Parts(pid) on delete cascade on update cascade);

insert into Suppliers 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'),(20004,'Mobile','Green'),(20005,'Cha
rger','Black');

insert into Catalog values
(10001,20001,10),(10001,20002,10),(10001,20003,30),(10001,20004,10),(10001,20005,10),(10002,2
0001,10),(10002,20002,20),(10003,20003,30),(10004,20003,40);

```

### Query1

Find pname for parts for which there is supplier

```
select pname from Parts p where exists(select sid from Catalog c where c.pid=p.pid) order by pname;
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	pname			
▶	Book			
	Charger			
	Mobile			
	Pen			
	Pencil			

### Query 2

Find names of suppliers who supply every part

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

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	sname			
▶	Acme Widget			

### Query 3

Find names of Suppliers who supply all red parts

```
select sname from Suppliers 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'));
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	sname			
▶	Acme Widget			
	Johns			

#### Query 4

Find pname of parts supplied only by Acme widget

```
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, Suppliers s1 where w.pid=c1.pid and c1.sid=s1.sid and s1.sname='Acme widget');
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
	pname		
▶	Mobile		
	Charger		

#### Query 5

Find sid of suppliers who charge more for a part than avg cost

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

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
	sid		
▶	10002		
	10004		

#### Query 6

Find sname of supplier who charges most for a part

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

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
	pid	sname	
	20004	Acme Widget	
	20005	Acme Widget	
	20001	Johns	
	20002	Johns	
	20003	Reliance	