

```
create table SUPPLIERS(sid integer(5) primary key, sname varchar(20), city  
varchar(20));  
  
create table PARTS(pid integer(5) primary key, pname varchar(20), color varchar(10));  
  
create table CATALOG(sid integer(5), pid integer(5), foreign key(sid)  
references SUPPLIERS(sid), foreign key(pid) references PARTS(pid), cost  
float(6), primary key(sid, pid));
```

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

```
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);
```

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

```
40 • SELECT DISTINCT P.pname  
41   FROM Parts P, Catalog C  
42   WHERE P.pid = C.pid;
```

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

ii) Find the snames of suppliers who supply every part.

```
45 • SELECT S.sname  
46   FROM Suppliers S  
47   WHERE  
48     (( SELECT count(P.pid)  
49       FROM Parts P ) =  
50     ( SELECT count(C.pid)  
51       FROM Catalog C  
52       WHERE C.sid = S.sid ));
```

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

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

```
90 • SELECT P.pid, S.sname  
91   FROM Parts P, Suppliers S, Catalog C  
92   WHERE C.pid = P.pid  
93   AND C.sid = S.sid  
94     AND C.cost = (SELECT MAX(C1.cost))  
95   FROM Catalog C1  
96   WHERE C1.pid = P.pid);
```

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

iii) Find the snames of suppliers who supply every red part.

```
57 • SELECT S.sname
58   FROM Suppliers S
59   WHERE
60     (( SELECT count(P.pid)
61       FROM Parts P where color="Red" ) =
62     ( SELECT count(C.pid)
63       FROM Catalog C, Parts P
64       WHERE C.sid = S.sid AND
65         C.pid = P.pid AND P.color = "Red" ));
```

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

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

```
71 • SELECT P.pname
72   FROM Parts P, Catalog C, Suppliers S
73   WHERE P.pid = C.pid AND C.sid = S.sid
74   AND S.sname = "Acme Widget"
75   AND NOT EXISTS ( SELECT *
76     FROM Catalog C1, Suppliers S1
77     WHERE P.pid = C1.pid AND C1.sid = S1.sid AND
78       S1.sname != "Acme Widget");
79
80
81
```

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

v) 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).

```
83 • SELECT DISTINCT C.sid FROM Catalog C
84   WHERE C.cost > ( SELECT AVG (C1.cost)
85     FROM Catalog C1
86     WHERE C1.pid = C.pid );
87
```

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