

Supplier Database

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

```
create database supp;

use supp;

create table supplier(
sid int,
sname varchar(20),
city varchar(10),
PRIMARY KEY(sid)
);

create table parts(
pid int,
pname varchar(10),
color varchar(10),
PRIMARY KEY(pid)
);

create table catalog(
sid int,
pid int,
cost double,
foreign key(sid) references supplier(sid) on update cascade on delete cascade,
foreign key(pid) references parts(pid) on update cascade on delete cascade
);
```

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);

```

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

```

select p.pname
from parts p
where exists( select c.pid
              from catalog c
              where c.pid=p.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(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 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 pname from parts where pid in(

select pid from catalog where sid in(select sid from supplier where sname='Acme widget'))

and pid not in(select pid from catalog where sid in(select sid from supplier where 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 c.sid from catalog c

where c.cost >(select avg(b.cost) from catalog b where c.pid=b.pid group by b.pid);

sid
10002
10004

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

select sname from supplier

where sid in(select sid from catalog where cost in(select max(cost) from catalog group by pid));

	sname
▶	Acme widget
	Johns
	Reliance