**Lab week - 7**

create database supplier160;

use supplier160;

create table Supplier(

sid int primary key,

sname varchar(50),

city varchar(20)

);

create table Parts(

pid int primary key,

pname varchar(50),

color varchar(20)

);

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)

);

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'),

(20004,'Mobile','Green'),

(20005,'Charger','Black');

insert into Catalog

values

(10001,20001,10),

(10001,20002,10),

(10001,20003,30),

(10001,20004,10),

(10001,20005,10),

(10002,20001,10),

(10002,20002,20),

(10003,20003,30),

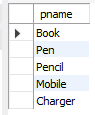
(10004,20003,40);

**q1. Find the pnames of parts for which there is some supplier.**

select distinct p.pname

from Parts p

join Catalog c on p.pid = c.pid;



**q2. Find the snames of suppliers who supply every part.**

select s.sname from Supplier s

where not exists(

select p.pid from Parts p

where not exists(

select c.sid from Catalog c

where c.sid = s.sid and c.pid=p.pid

)

);



**q3. Find the snames of suppliers who supply every red part.**

select s.sname from Supplier s

where not exists(

select p.pid from Parts p

where p.color='Red'

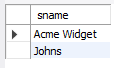
and not exists(

select c.sid from Catalog c

where c.sid=s.sid and c.pid=p.pid

)

);



**q4. Find the pnames of parts supplied by Acme Widget Suppliers and by no one else.**

select p.pname from Parts p

join Catalog c on p.pid=c.pid

join Supplier s on c.sid=s.sid

where s.sname = 'Acme Widget'

and p.pid not in (

select c1.pid from Catalog c1

join Supplier s1 on c1.sid=s1.sid

where s1.sname!='Acme Widget'

);



**q5. 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

join(

select pid,avg(cost) as avg\_cost

from Catalog

group by pid

)AvgCosts on c.pid=AvgCosts.pid

where c.cost>AvgCosts.avg\_cost;



**q6. For each part, find the sname of the supplier who charges the most for that part.**

select p.pname, s.sname from Parts p

join Catalog c on p.pid=c.pid

join Supplier s on c.sid=s.sid

where c.cost=(

select max(c1.cost)

from Catalog c1

where c1.pid=p.pid

);

