**Bhavana CK**

1BM20CS403

CSE-4A

**Consider the following schema:**

**SUPPLIERS(sid: integer, sname: string, address: string)**

**PARTS(pid: integer, pname: string, color: string)**

**CATALOG(sid: integer, pid: integer, cost: real)**

**The Catalog relation lists the prices charged for parts by Suppliers.**

**Write the following queries in SQL:**

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of suppliers who supply every red part.
4. Find the pnames of parts supplied by Acme Widget Suppliers and by no one else.
5. 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).
6. For each part, find the sname of the supplier who charges the most for that part.

create database supplier;

use supplier;

create table suppliers(

sid int not null,

sname varchar(20) not null,

address varchar(20) not null,

primary key(sid)

);

create table parts(

pid int not null,

pname varchar(20) not null,

color varchar(10) not null,

primary key(pid)

);

create table catalog(

sid int not null,

pid int not null,

cost real not null,

primary key(sid,pid),

foreign key(sid)references suppliers(sid),

foreign key(pid)references parts(pid)

);

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,"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);

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

select distinct pname from parts,catalog

where catalog.pid= parts.pid and sid is not null;



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

select suppliers.sname,catalog.sid from suppliers,catalog

where suppliers.sid = catalog.sid

group by suppliers.sname

having count(catalog.sid)=(select count(pid) from parts);



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

select distinct s.sname from suppliers s,catalog c

where s.sid=c.sid and c.pid in(select pid from parts where color ="Red");



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

select pname from parts ,catalog

where parts.pid=catalog.pid and sid in (select sid from suppliers where sname ="Acme Widget");



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).

select c.sid from catalog c

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



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

select c.pid,s.sname from suppliers s,catalog c

where s.sid =c.sid and c.cost =(select max(cost) from catalog where pid =c.pid);

