create table SUPPLIERS(sid number(5) primary key, sname varchar(20), city varchar(20));

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');

select \* from SUPPLIERS;

create table PARTS(pid number(5) primary key, pname varchar(20), color varchar(10));

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');

select \* from PARTS;

create table CATALOG(sid number(5), pid number(5), foreign key(sid) references SUPPLIERS(sid), foreign key(pid) references PARTS(pid), cost float(6), primary key(sid, pid));

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');

select \* from CATALOG;

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

SELECT DISTINCT P.pname

FROM Parts P, Catalog C

WHERE P.pid = C.pid;

/\* Find the snames of suppliers who supply every part.\*/

SELECT S.sname

FROM Suppliers S

WHERE NOT EXISTS ((SELECT P.pid FROM Parts P)

MINUS (SELECT C.pid FROM Catalog C

WHERE C.sid = S.sid));

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

SELECT S.sname

FROM Suppliers S

WHERE NOT EXISTS (( SELECT P.pid

FROM Parts P

WHERE P.color = ‘Red’ )

MINUS

( SELECT C.pid

FROM Catalog C, Parts P

WHERE C.sid = S.sid AND

C.pid = P.pid AND P.color = ‘Red’ ));

/\* 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

WHERE C.cost > ( SELECT AVG (C1.cost)

FROM Catalog C1

WHERE C1.pid = C.pid );

/\* For each part, find the sname of the supplier who charges the most for that 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 (C1.cost)

FROM Catalog C1

WHERE C1.pid = P.pid);