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1BM19CS218
SECTION-4A

DBMS LAB-3(SUPPLIER DATABASE)
Consider the following schema:
SUPPLIERS(sid: integer, sname: string, address: string)
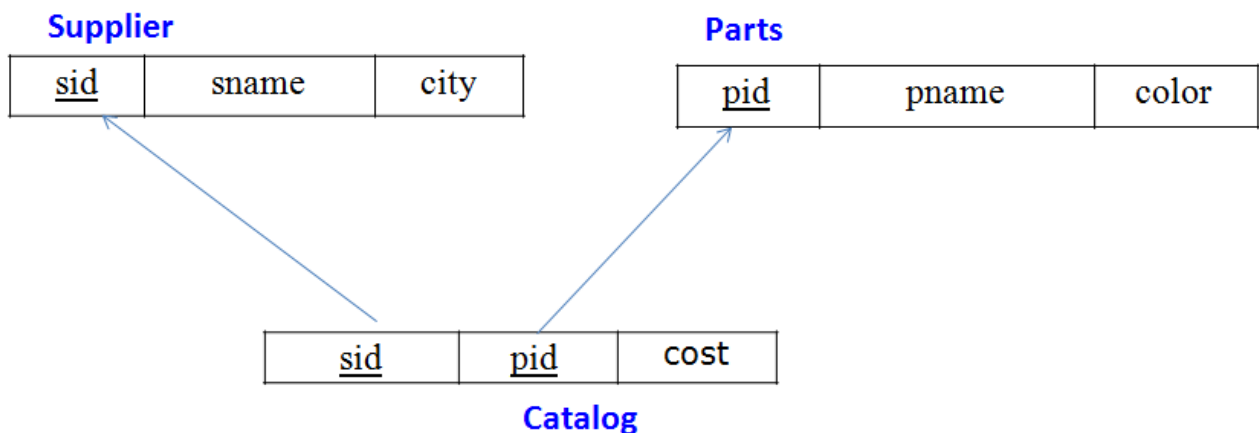PARTS(pid: integer, pname: string, color: string)
CATALOG(sid: integer, pid: integer, cost: real)
The Catalog relation lists the prices charged for parts by Suppliers.
Write the following queries in SQL:
i) Find the pnames of parts for which there is some supplier.
ii) Find the snames of suppliers who supply every part.
iii) Find the snames of suppliers who supply every red part.
iv) Find the pnames of parts supplied by Acme Widget Suppliers and by no one else.
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).
vi) For each part, find the sname of the supplier who charges the most for that part.

Schema Diagram

SUPPLIER TABLE

sid	sname	city
10001	Acme Widget	Bangalore
10002	Johns	Kolkata
10003	Vimal	Mumbai
10004	Reliance	Delhi
10005	Mahindra	Mumbai
NULL	NULL	NULL

PARTS TABLE

pid	pname	color
20001	Book	Red
20002	Pen	Red
20003	Pencil	Green
20004	Mobile	Green
20005	Charger	Black
NULL	NULL	NULL

CATALOG TABLE

sid	pid	cost
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
NULL	NULL	NULL

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;

pname
Book
Pen
Pencil
Mobile
Charger

Find the snames of suppliers who supply every part

SELECT s.sname
from SUPPLIERS s,CATALOG c
where s.sid=c.sid
group by c.sid
having count(distinct c.pid)=(select count(*) from PARTS);

sname
Acme Widget

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');

sname
► Acme Widget
Johns

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

```
select pname
from PARTS p, SUPPLIERS s1, CATALOG c1
where p.pid=c1.pid and s1.sid=c1.sid and s1.sname='Acme Widget' and
not exists
(select *
from CATAlOG c2,SUPPLIERS s2
where c1.pid=c2.pid and s2.sname<>'Acme Widget' and s2.sid=c2.sid);
```

pname
► Mobile
Charger

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 sid
from CATALOG c1
where cost >
(select avg(cost)
from CATALOG c2
where c1.pid=c2.pid);
```

sid
► 10002
10004

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

select pid, sname
from CATALOG c1,SUPPLIERS S
where c1.sid=s.sid and cost =
(select max(cost)
from CATALOG c2
where c1.pid=c2.pid);

pid	sname
20001	Acme Widget
20004	Acme Widget
20005	Acme Widget
20001	Johns
20002	Johns
20003	Reliance