

## PROGRAM 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.

```
create database supplier;  
use supplier;  
create table suppliers(  
sid int primary key,  
sname varchar(30),  
address varchar(30)  
);
```

```
create table parts(  
pid int primary key,  
pname varchar(30),  
color varchar(30)  
);
```

```

create table catalog(
sid int,
pid int,
cost int,
constraint fk_1
foreign key(sid) references suppliers(sid) on update cascade on delete set null,
constraint fk_2
foreign key(pid) references parts(pid) on update cascade on delete set null
);

```

```
select * from suppliers;
```












```
select * from parts;
```

```
select * from catalog;
```

```

insert into suppliers values (10001,'Acme
Widget','Bangalore'),(10002,'Johns','Kolkata'),(10003,'Vimal','Mumbai'),(10004,'Reliance','D
elhi');

```
















				sid	sname	address
<input type="checkbox"/>				10001	Acme Widget	Bangalore
<input type="checkbox"/>				10002	Johns	Kolkata
<input type="checkbox"/>				10003	Vimal	Mumbai
<input type="checkbox"/>				10004	Reliance	Delhi

```
insert into parts values
```

```

(20001,'Book','Red'),(20002,'Pen','Red'),(20003,'Pencil','Green'),(20004,'Mobile','Green'),(20
005,'Charger','Black');

```

				pid	pname	color
<input type="checkbox"/>				20001	Book	Red
<input type="checkbox"/>				20002	Pen	Red
<input type="checkbox"/>				20003	Pencil	Green
<input type="checkbox"/>				20004	Mobile	Green
<input type="checkbox"/>				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);

sid	pid	cost
10001	20001	10
10002	20001	10
10002	20002	20
10004	20003	40
10001	20004	10
10001	20005	10

select suppliers.sname from suppliers where suppliers.sid in(select catalog.sid from catalog inner join parts on catalog.pid=parts.pid group by catalog.sid having count(\*)=(select count(parts.pid) from parts)); #2

✓ Showing rows 0 - 0 (1 total, Query took 0.0078 seconds.)

```
select suppliers.sname from suppliers where suppliers.sid in(select catalog.sid from catalog inner join parts on catalog.pid=parts.pid group by catalog.sid having count(*)=(select count(parts.pid) from parts))
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

+ Options

← T →

sname

☐ Edit ☐ Copy ☐ Delete Acme Widget

select suppliers.sname from suppliers where suppliers.sid in (select catalog.sid from catalog inner join parts on catalog.pid=parts.pid where catalog.pid in (select parts.pid from parts where parts.color='Red') group by catalog.sid having count(\*)=(select count(parts.color) from parts where parts.color='Red')); #3

✓ Showing rows 0 - 1 (2 total, Query took 0.0113 seconds.)

```
select suppliers.sname from suppliers where suppliers.sid in (select catalog.sid from catalog inner join parts on catalog.pid=parts.pid where catalog.pid in (select parts.pid from parts where parts.color='Red') group by catalog.sid having count(*)=(select count(parts.color) from parts where parts.color='Red'))
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

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sname

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☐ Edit ☐ Copy ☐ Delete Johns

select parts.pname from parts where parts.pid in (select catalog.pid from catalog inner join parts on catalog.pid=parts.pid where catalog.sid in (select suppliers.sid from suppliers where suppliers.sname ='Acme Widget'))); #4

Showing rows 0 - 4 (5 total, Query took 0.0087 seconds.)

```
select parts.pname from parts where parts.pid in (select catalog.pid from catalog inner join parts on catalog.pid=parts.pid where catalog.sid in (select suppliers.sid from suppliers where suppliers.sname ='Acme Widget'))
```

☐ Profiling [\[Edit inline\]](#) [\[Edit\]](#) [\[Explain SQL\]](#) [\[Create PHP code\]](#) [\[Refresh\]](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

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	pname
<input type="checkbox"/> Edit Copy Delete Book	
<input type="checkbox"/> Edit Copy Delete Pen	
<input type="checkbox"/> Edit Copy Delete Pencil	
<input type="checkbox"/> Edit Copy Delete Mobile	
<input type="checkbox"/> Edit Copy Delete Charger	

select pname from parts where parts.pid in ( select catalog.pid from catalog group by catalog.pid); #1

	pname
<input type="checkbox"/> Edit Copy Delete Book	
<input type="checkbox"/> Edit Copy Delete Pen	
<input type="checkbox"/> Edit Copy Delete Pencil	
<input type="checkbox"/> Edit Copy Delete Mobile	
<input type="checkbox"/> Edit Copy Delete Charger	

select catalog.pid,avg(catalog.cost) from catalog group by catalog.pid;

select \* from catalog ou where ou.cost >= ( select avg(inn.cost) from catalog inn where inn.pid=ou.pid) order by pid; #5

Showing rows 0 - 5 (6 total, Query took 0.0075 seconds.)

```
select * from catalog ou where ou.cost >= ( select avg(inn.cost) from catalog inn where inn.pid=ou.pid) order by pid
```

☐ Profiling [\[Edit inline\]](#) [\[Edit\]](#) [\[Explain SQL\]](#) [\[Create PHP code\]](#) [\[Refresh\]](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

sid	pid	cost
10001	20001	10
10002	20001	10
10002	20002	20
10004	20003	40
10001	20004	10
10001	20005	10

create table ref as(select \* from catalog ou where ou.cost = (select max(inn.cost) from catalog inn where inn.pid=ou.pid) order by pid); #ref Table For Query 6

select ref.sid,suppliers.sname,ref.pid,ref.cost from suppliers inner join ref on suppliers.sid=ref.sid order by ref.pid;#6

Showing rows 0 - 5 (6 total, Query took 0.0146 seconds.) [pid: 20001... - 20005...]

```
select ref.sid,suppliers.sname,ref.pid,ref.cost from suppliers inner join ref on suppliers.sid=ref.sid order by ref.pid
```

☐ Profiling [Edit inline] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

sid	sname	pid	cost
10002	Johns	20001	10
10001	Acme Widget	20001	10
10002	Johns	20002	20
10004	Reliance	20003	40
10001	Acme Widget	20004	10
10001	Acme Widget	20005	10