

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:

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

+ Options		
SID	SNAME	ADDRESS
10001	Acme Widget	Bangalore
10002	Johns	Kolkata
10003	Vimal	Mumbai
10004	Reliance	Delhi

+ Options		
PID	PNAME	COLOUR
20001	Book	Red
20002	Pen	Red
20003	Pencil	Green
20004	Mobile	Green
20005	Charger	Black

+ Options		
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

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

QUERY: SELECT PNAME FROM PARTS,CATALOG WHERE CATALOG.PID=PARTS.PID AND CATALOG.SID IS NOT NULL;

✓ Showing rows 0 - 8 (9 total, Query took 0.0124 seconds.)		
SELECT PNAME FROM PARTS,CATALOG WHERE CATALOG.PID=PARTS.PID AND CATALOG.SID IS NOT NULL		
<input type="checkbox"/> Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]		
<input type="checkbox"/> Show all Number of rows: 25 Filter rows: <input type="text" value="Search this table"/>		
+ Options		
PNAME		
Book		
Pen		
Pencil		
Mobile		
Charger		
Book		
Pen		
Pencil		
Pencil		

- Find the snames of suppliers who supply every part:

QUERY: SELECT S.SNAME FROM SUPPLIERS S WHERE NOT EXISTS((SELECT P.PID FROM PARTS P) EXCEPT (SELECT C.PID FROM CATALOG C WHERE C.SID = S.SID));

✓ Showing rows 0 - 0 (1 total, Query took 0.0150 seconds.)		
SELECT S.SNAME FROM SUPPLIERS S WHERE NOT EXISTS ((SELECT P.PID FROM PARTS P) EXCEPT (SELECT C.PID FROM CATALOG C WHERE C.SID = S.SID))		
<input type="checkbox"/> Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]		
<input type="checkbox"/> Show all Number of rows: 25 Filter rows: <input type="text" value="Search this table"/>		
+ Options		
SNAME		
Acme Widget		

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

QUERY: SELECT S.SNAME FROM SUPPLIERS S WHERE NOT EXISTS ((SELECT P.PID FROM PARTS P WHERE P.COLOUR = 'Red') EXCEPT (SELECT C.PID FROM CATALOG C, PARTS P WHERE C.SID = S.SID AND C.PID = P.PID AND P.COLOUR = 'Red'));

Showing rows 0 - 1 (2 total, Query took 0.0130 seconds.)

```
SELECT S.SNAME FROM SUPPLIERS S WHERE NOT EXISTS ( ( SELECT P.PID FROM PARTS P WHERE P.COLOUR = 'Red' ) EXCEPT ( SELECT C.PID FROM CATALOG C, PARTS P WHERE C.SID = S.SID AND C.PID = P.PID AND P.COLOUR = 'Red' ) )
```

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

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

+ Options

SNAME
Acme Widget
Johns

- Find the pnames of parts supplied by Acme Widget Suppliers and by no one else.
 QUERY: SELECT P.PNAME FROM PARTS P, CATALOG C, SUPPLIERS S WHERE P.PID = C.PID AND C.SID = S.SID AND S.SNAME = 'Acme Widget' AND NOT EXISTS (SELECT * FROM CATALOG C1, SUPPLIERS S1 WHERE P.PID = C1.PID AND C1.SID = S1.SID AND S1.SNAME<>'Acme Widget');

Showing rows 0 - 1 (2 total, Query took 0.0033 seconds.)

```
SELECT P.PNAME FROM PARTS P, CATALOG C, SUPPLIERS S WHERE P.PID = C.PID AND C.SID = S.SID AND S.SNAME = 'Acme Widget' AND NOT EXISTS ( SELECT * FROM CATALOG C1, SUPPLIERS S1 WHERE P.PID = C1.PID AND C1.SID = S1.SID AND S1.SNAME<>'Acme Widget' )
```

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

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

+ Options

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).

QUERY: SELECT DISTINCT C.SID FROM CATALOG C WHERE C.COST > (SELECT AVG (C1.COST) FROM CATALOG C1 WHERE C1.PID = C.PID);

Showing rows 0 - 1 (2 total, Query took 0.0592 seconds.)

```
SELECT DISTINCT C.SID FROM CATALOG C WHERE C.COST > ( SELECT AVG (C1.COST) FROM CATALOG C1 WHERE C1.PID = C.PID )
```

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

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

+ Options

SID
10002
10004

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

Showing rows 0 - 5 (6 total, Query took 0.0035 seconds.)

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)

Profiling

Edit inline

Edit

Explain SQL

Create PHP code

Refresh

Show all

Number of rows: 25

Filter rows: Search this table

+ Options

PID	SNAME
20001	Acme Widget
20004	Acme Widget
20005	Acme Widget
20001	Johns
20002	Johns
20003	Reliance