

```
create database supplier;
```

```
use supplier;
```

```
CREATE TABLE Supplier (
```

```
    sid INT PRIMARY KEY,
```

```
    sname VARCHAR(50),
```

```
    city VARCHAR(50)
```

```
);
```

```
CREATE TABLE Parts (
```

```
    pid INT PRIMARY KEY,
```

```
    pname VARCHAR(50),
```

```
    color VARCHAR(20)
```

```
);
```

```
CREATE TABLE Catalog (
```

```
    sid INT,
```

```
    pid INT,
```

```
    cost DECIMAL(10,2),
```

```
    PRIMARY KEY (sid, pid),
```

```
    FOREIGN KEY (sid) REFERENCES Supplier(sid),
```

```
    FOREIGN KEY (pid) REFERENCES Parts(pid)
```

```
);
```

```
INSERT INTO Supplier (sid, sname, city) VALUES
```

```
(1, 'Acme Widget Suppliers', 'Bengaluru'),
```

```
(2, 'Global Parts Ltd', 'Mumbai'),
```

```
(3, 'Sunrise Traders', 'Chennai'),
```

```
(4, 'NorthStar Components', 'Hyderabad'),
```

```
(5, 'RapidSupply Co', 'Pune');
```

```
INSERT INTO Parts (pid, pname, color) VALUES
```

```
(101, 'Bolt', 'Red'),
```

```
(102, 'Nut', 'Blue'),
```

```
(103, 'Screw', 'Red'),
```

```

(104, 'Washer', 'Green'),
(105, 'Gear', 'Blue');

INSERT INTO Catalog (sid, pid, cost) VALUES
(1, 101, 12.50),
(1, 102, 10.00),
(2, 101, 11.00),
(2, 103, 9.50),
(3, 104, 8.00),
(3, 103, 9.00),
(4, 105, 15.75),
(4, 101, 13.25),
(5, 102, 10.50),
(5, 105, 14.00);

```

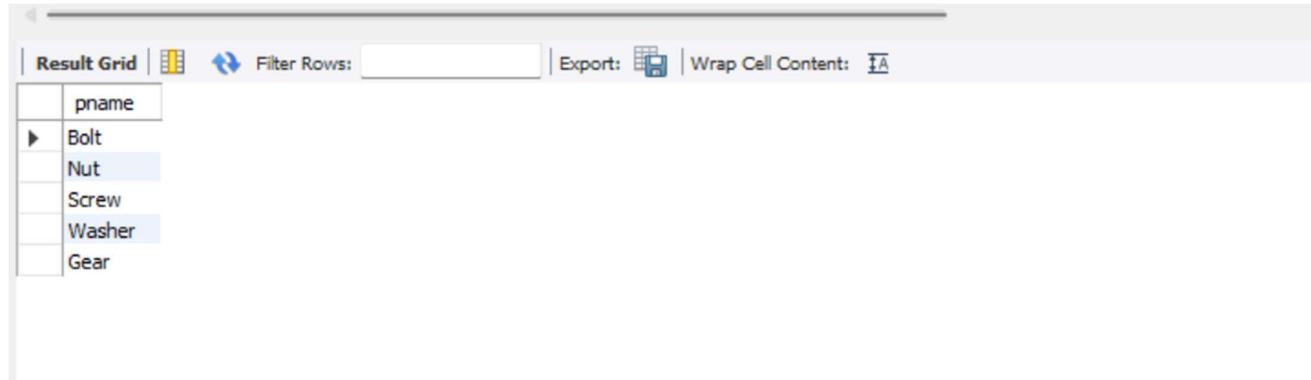
-- Find the pnames of parts for which there is some supplier.

```

select distinct p.pname
from parts p
join Catalog c
on c.pid=p.pid;

```

output:



The screenshot shows a database query results grid. The top bar includes tabs for 'Result Grid' and 'SQL', a 'Filter Rows:' input field, an 'Export:' button, and a 'Wrap Cell Content:' button. The main area displays a table with one column labeled 'pname'. The data rows are: Bolt, Nut, Screw, Washer, and Gear. The 'Washer' row is currently selected, indicated by a blue background.

	pname
▶	Bolt
	Nut
	Screw
	Washer
	Gear

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

```

SELECT s.sname
FROM Supplier s
JOIN Catalog c
ON s.sid = c.sid
GROUP BY s.sname
HAVING COUNT(DISTINCT c.pid) = (

```

```
SELECT COUNT(*)  
FROM Parts  
);
```

Output:

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
sname				

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

```
SELECT s.sname  
FROM Supplier s  
JOIN Catalog c ON s.sid = c.sid  
JOIN Parts p ON c.pid = p.pid AND p.color = 'Red'  
GROUP BY s.sname  
HAVING COUNT(DISTINCT p.pid) = (  
    SELECT COUNT(*)  
    FROM Parts  
    WHERE color = 'Red'  
);
```

Output:

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
sname				
▶ Global Parts Ltd				

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

```
SELECT p.pname  
FROM Parts p  
JOIN Catalog c ON p.pid = c.pid  
JOIN Supplier s ON c.sid = s.sid
```

```

WHERE s.sname = 'Acme Widget Suppliers'
AND NOT EXISTS (
    SELECT 1
    FROM Catalog c2
    JOIN Supplier s2 ON c2.sid = s2.sid
    WHERE c2.pid = p.pid
    AND s2.sname <> 'Acme Widget Suppliers'
);

```

Output:

Result Grid		Filter Rows:		Export:	Wrap Cell Content:
					pname

```

/*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(c2.cost)
    FROM Catalog c2
    WHERE c2.pid = c.pid
);

```

Output:

Result Grid		Filter Rows:		Export:	Wrap Cell Content:							
					sid							
<table border="1"> <tr> <td>▶</td> <td>1</td> </tr> <tr> <td></td> <td>2</td> </tr> <tr> <td></td> <td>4</td> </tr> <tr> <td></td> <td>5</td> </tr> </table>					▶	1		2		4		5
▶	1											
	2											
	4											
	5											

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

```
SELECT P.pname, S.sname  
FROM Parts P  
JOIN Catalog C ON P.pid = C.pid  
JOIN Supplier S ON C.sid = S.sid  
WHERE C.cost = (  
    SELECT MAX(C2.cost)  
    FROM Catalog C2  
    WHERE C2.pid = P.pid  
);
```

Output:

The screenshot shows a database query results grid. The title bar indicates the query is from the 'Parts' table. The results grid has two columns: 'pname' and 'sname'. The data rows are: Bolt (NorthStar Components), Nut (RapidSupply Co), Screw (Global Parts Ltd), Washer (Sunrise Traders), and Gear (NorthStar Components). The 'Nut' row is currently selected.

	pname	sname
▶	Bolt	NorthStar Components
	Nut	RapidSupply Co
	Screw	Global Parts Ltd
	Washer	Sunrise Traders
	Gear	NorthStar Components