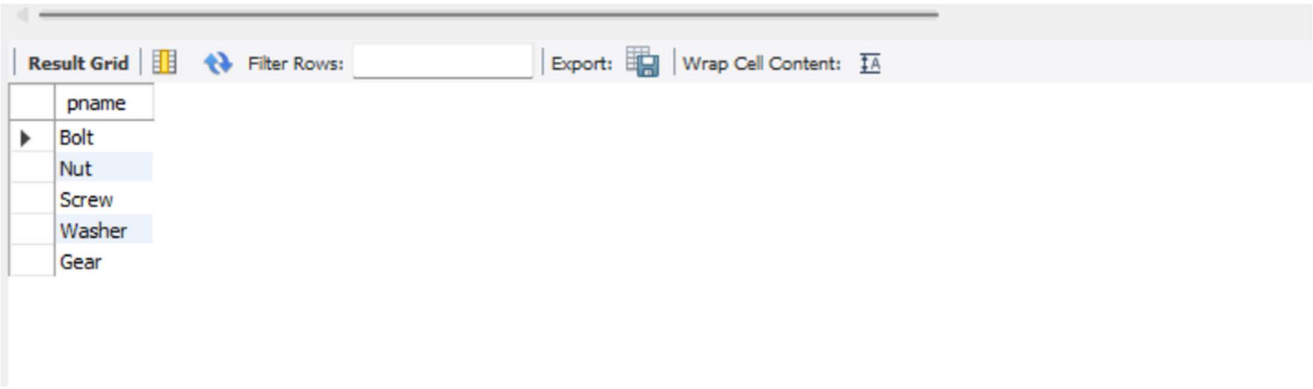
DBMS LAB -SUPPLIER DATABASE 14/11/25

```
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;
```

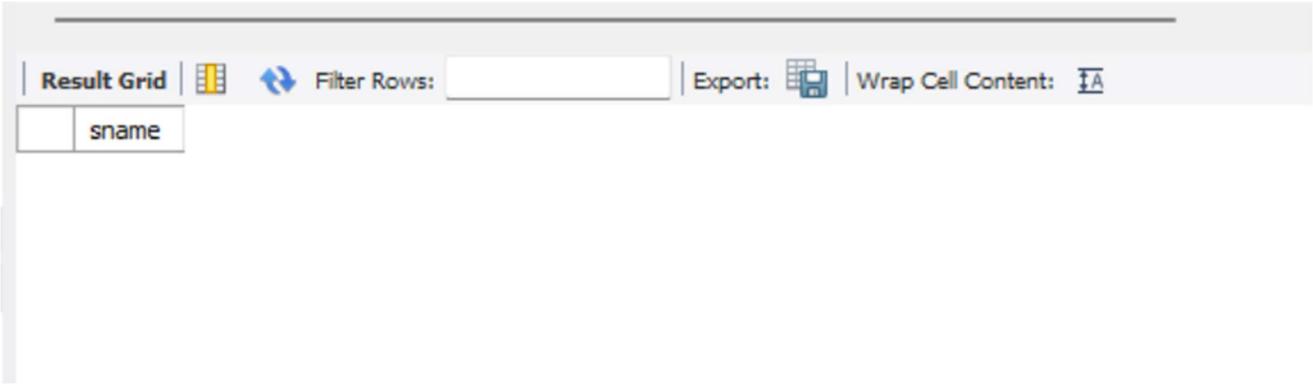
output:




```
-- 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) = (
```

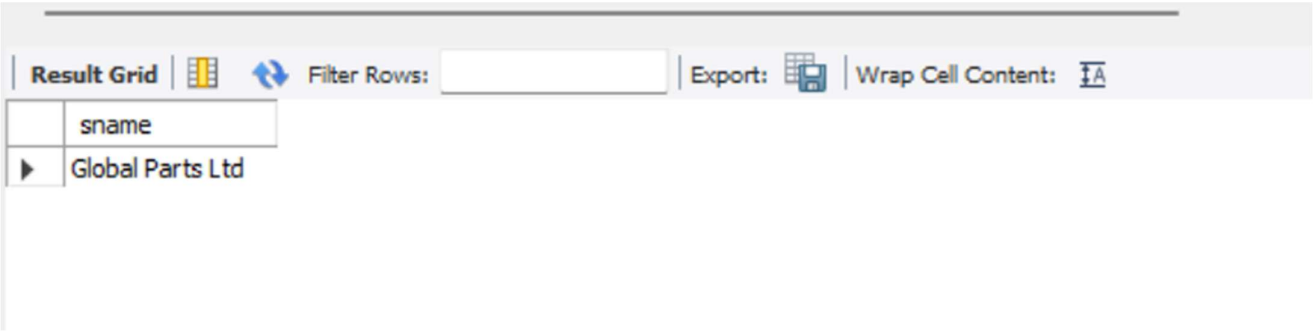
```
    SELECT COUNT(*)
    FROM Parts
);
```

Output:




```
-- 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'
);
```

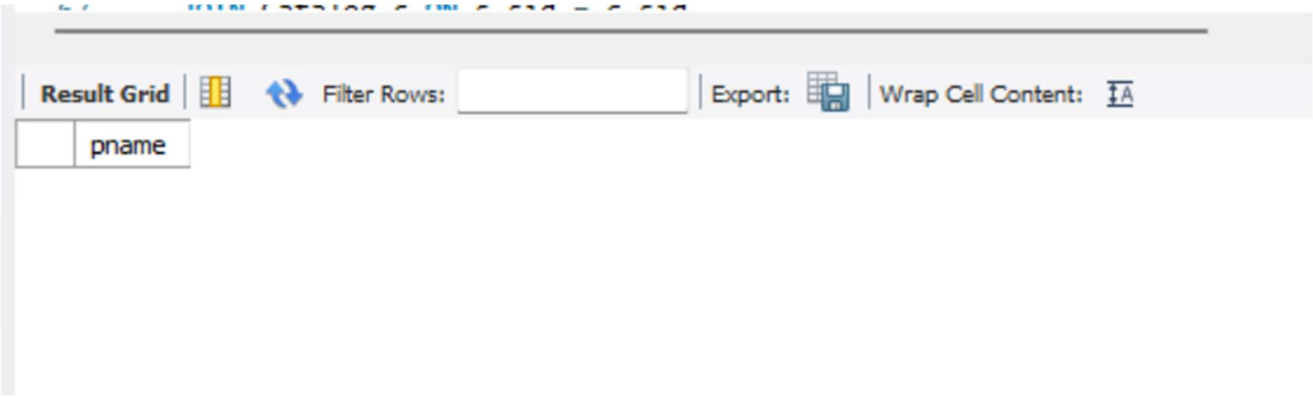
Output:




```
-- 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
```

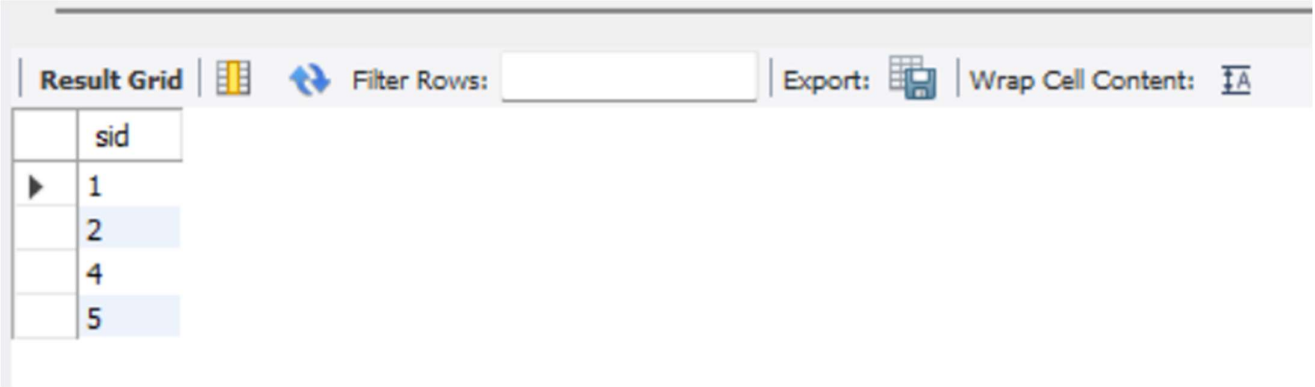
```
WHERE s.sname = 'Acme Widget Suppliers'
  AND NOT EXISTS (
    SELECT 1
    FROM Catalog c2
    JOIN Supplier s2 ON c2.sid = s2.sid
    WHERE c2.pid = p.pid
      AND s2.sname <> 'Acme Widget Suppliers'
  );
```

Output:




```
/*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
);
```

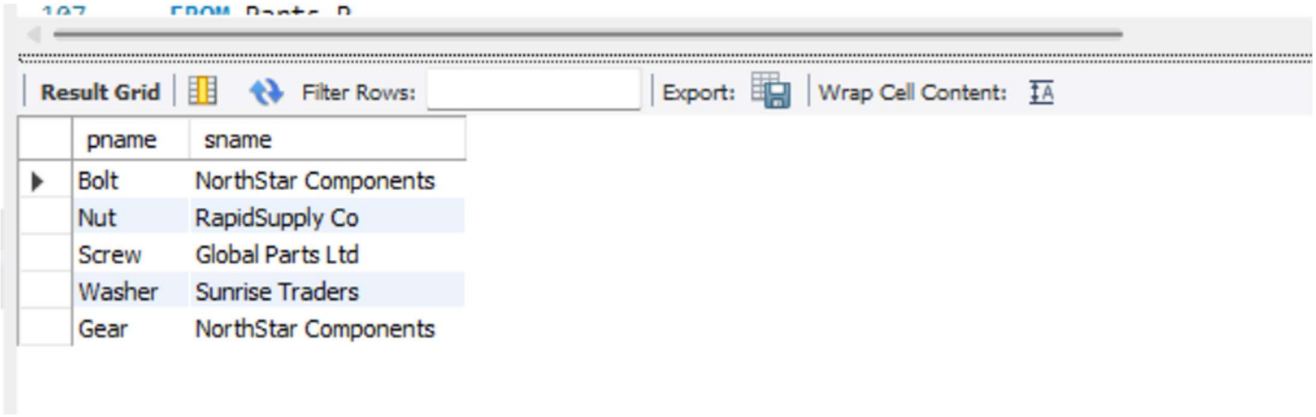
Output:



-- 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:



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

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