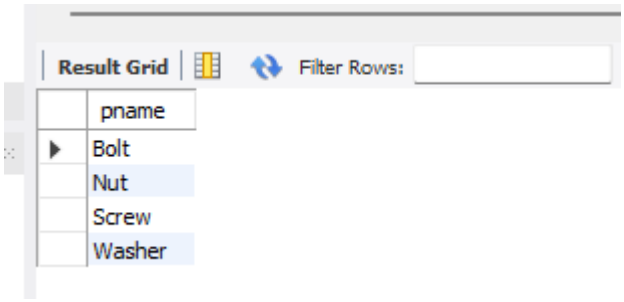
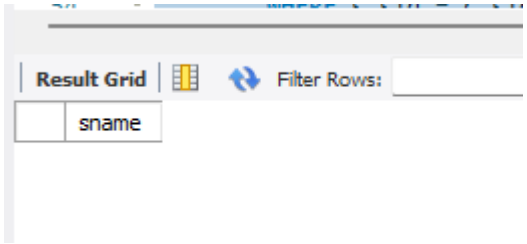
```
CREATE TABLE Supplier (
   sid INT PRIMARY KEY,
   sname VARCHAR(50),
   city VARCHAR(50));

CREATE TABLE Parts (
   pid INT PRIMARY KEY,
   pname VARCHAR(50),
   color VARCHAR(20));

CREATE TABLE Catalog (
   sid INT,
   pid INT,
   cost INT,
   PRIMARY KEY (sid, pid),
   FOREIGN KEY (sid) REFERENCES Supplier(sid),
   FOREIGN KEY (pid) REFERENCES Parts(pid));

INSERT INTO Supplier VALUES
(1, 'Acme Widget Suppliers', 'New York'),
(2, 'Best Parts Co', 'London'),
(3, 'Quick Supplies', 'Paris'),
(4, 'Global Hardware','Tokyo');

INSERT INTO Parts VALUES
(101, 'Bolt', 'Red'),
(102, 'Nut', 'Blue'),
(103, 'Screw', 'Red'),
(104, 'Washer', 'Green');
```

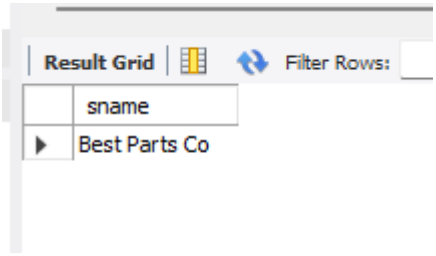
```
INSERT INTO Catalog VALUES
(1, 101, 20.00),
(1, 102, 25.00),
(2, 101, 22.00),
(2, 103, 30.00),
(3, 101, 18.00),
(3, 104, 28.00);

SELECT DISTINCT pname
FROM Parts p,Catalog c
WHERE p.pid = c.pid;
```



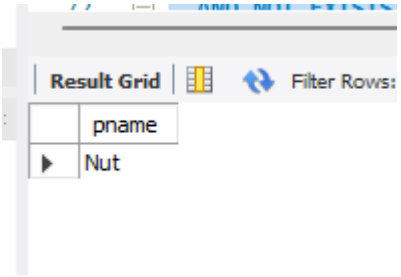

```
SELECT sname
FROM Supplier s
WHERE NOT EXISTS (
   SELECT *
   FROM Parts p
   WHERE NOT EXISTS (
      SELECT *
      FROM Catalog c
      WHERE s.sid = c.sid AND c.pid = p.pid));
```



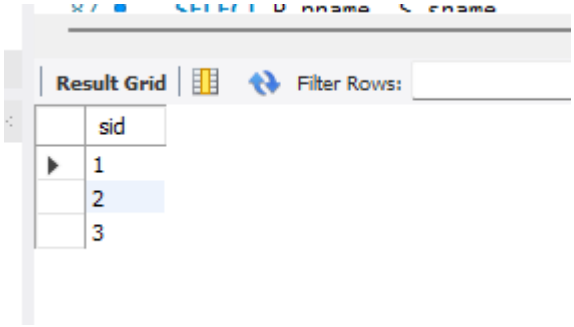
```
SELECT sname
FROM Supplier s
WHERE NOT EXISTS (
   SELECT *
   FROM Parts p
   WHERE p.color = 'Red'
   AND NOT EXISTS (
      SELECT *
      FROM Catalog c
      WHERE c.sid = s.sid AND c.pid = p.pid));
```




```
SELECT pname
FROM Parts p, Catalog c, Supplier s
WHERE p.pid = c.pid
 AND s.sid = c.sid
 AND s.sname = 'Acme Widget Suppliers'
 AND NOT EXISTS (
      SELECT *
      FROM Catalog c2, Supplier s2
      WHERE c2.pid = p.pid
       AND s2.sid = c2.sid
       AND s2.sname <> 'Acme Widget Suppliers');
```



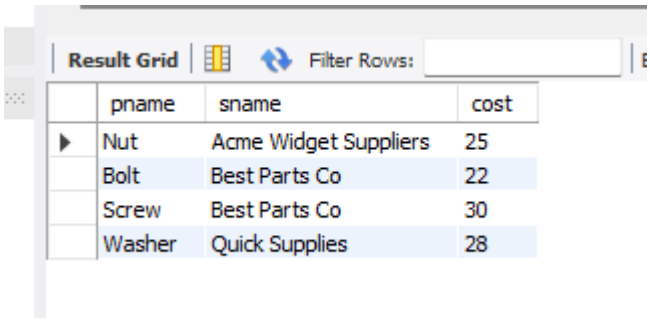
```
SELECT DISTINCT c.sid
FROM Catalog c
WHERE c.cost > (SELECT AVG(cost)
    FROM Catalog c2
    WHERE c.pid=c.pid);
```



Result Grid | Filter Rows:

| sid |
|---|
| 1 |
| 2 |
| 3 |

```
SELECT p.pname, s.sname,c.cost
FROM Parts p, Supplier s, Catalog c
WHERE p.pid = c.pid
 AND s.sid = c.sid
 AND c.cost = (
    SELECT MAX(c2.cost)
    FROM Catalog c2
    WHERE c2.pid=c.pid);
```



Result Grid | Filter Rows:

| pname | sname | cost |
|---|---|---|
| Nut | Acme Widget Suppliers | 25 |
| Bolt | Best Parts Co | 22 |
| Screw | Best Parts Co | 30 |
| Washer | Quick Supplies | 28 |