```
CREATE TABLE Supplier (
   sid INT PRIMARY KEY,
   sname VARCHAR(30),
   city VARCHAR(30)
);

CREATE TABLE Parts (
   pid INT PRIMARY KEY,
   pname VARCHAR(30),
   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', 'Bangalore'),
(2, 'Global Traders', 'Mumbai'),
(3, 'Universal Supplies', 'Chennai'),
(4, 'Star Industries', 'Delhi'),
(5, 'Metro Suppliers', 'Bangalore'),
(6, 'Peak Corp', 'Hyderabad');

INSERT INTO Parts VALUES
```

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

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

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

(104, 'Washer', 'Green'),

(105, 'Wheel', 'Blue'),

(106, 'Pipe', 'Red');

INSERT INTO Catalog VALUES

(1, 101, 30),

(1, 102, 50),

(2, 103, 40),

(3, 104, 60),

(4, 105, 55),

(5, 101, 35),

(2, 102, 45),

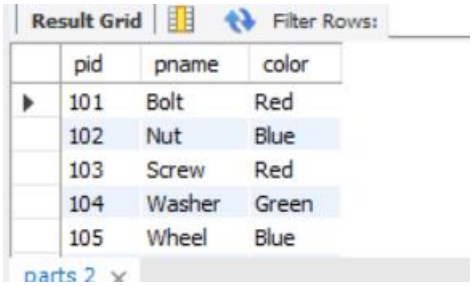
(3, 103, 42),

(6, 106, 70),

(1, 106, 75);

select *from supplier;

select * from parts;

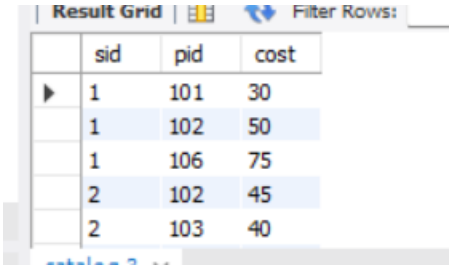


Result Grid | Filter Rows:

pid	pname	color
101	Bolt	Red
102	Nut	Blue
103	Screw	Red
104	Washer	Green
105	Wheel	Blue

parts 2

select * from catalog;



Result Grid | Filter Rows:

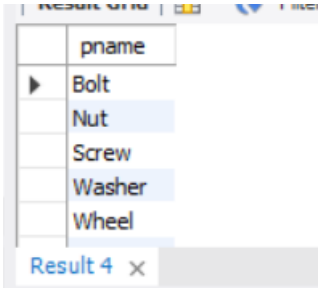
sid	pid	cost
1	101	30
1	102	50
1	106	75
2	102	45
2	103	40

iii. Find the names of parts for which there is some supplier

SELECT DISTINCT p.pname

FROM Parts p

JOIN Catalog c ON p.pid = c.pid;



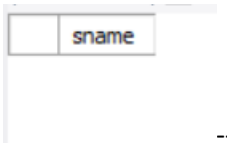
pname
Bolt
Nut
Screw
Washer
Wheel

Result 4

-- iv. Find the names of suppliers who supply every part

-- Supplier must supply ALL parts.

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



	sname

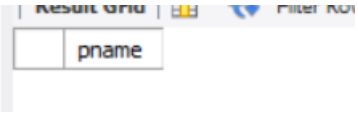
-- v. Find the names of suppliers who supply every red part

```
SELECT s.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
   )
);
```

	sname

-- vi. Find names of parts supplied by Acme Widget Suppliers and no one else

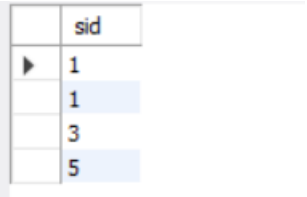
```
SELECT p.pname
FROM Parts p
JOIN Catalog c1 ON p.pid = c1.pid
JOIN Supplier s ON s.sid = c1.sid
WHERE s.sname='Acme Widget Suppliers'
AND NOT EXISTS (
   SELECT * FROM Catalog c2
   WHERE c2.pid = p.pid AND c2.sid <> s.sid
);
```



	pname

- vii. Find sid of suppliers who charge > average cost of that part

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



	sid
▶	1
	1
	3
	5

- viii. For each part, find the supplier who charges the maximum

```
SELECT p.pname, s.sname, c.cost
FROM Catalog c
JOIN Supplier s ON c.sid = s.sid
JOIN Parts p ON c.pid = p.pid
WHERE 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	50
Pipe	Acme Widget Suppliers	75
Screw	Universal Supplies	42
Washer	Universal Supplies	60
Wheel	Star Industries	55

Result 9