

```
create database supplier;
use supplier;

CREATE TABLE Supplier (
    sid INT PRIMARY KEY,
    sname VARCHAR(100),
    city VARCHAR(100)
);

CREATE TABLE Parts (
    pid INT PRIMARY KEY,
    pname VARCHAR(10),
    color VARCHAR(50)
);

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, 'Universal Corp', 'Mumbai'),
(3, 'Tech Supplies', 'Delhi');

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

INSERT INTO Catalog VALUES
```

```
(1, 101, 50),  
(1, 102, 40),  
(2, 101, 45),  
(2, 103, 60),  
(3, 101, 55),  
(3, 102, 42);
```

```
SELECT DISTINCT p.pname  
FROM Parts p  
JOIN Catalog c ON p.pid = c.pid;
```

	pname
▶	Bolt
	Nut
	Screw

```
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  
    )  
);
```

	Result Grid	grid icon
sname		

```

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
▶	Universal Corp

```

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

```

	pname

```

SELECT DISTINCT c.sid
FROM Catalog c
JOIN (
    SELECT pid, AVG(cost) AS avg_cost
    FROM Catalog
    GROUP BY pid
) A ON c.pid = A.pid
WHERE c.cost > A.avg_cost;

```

	sid
▶	3

```

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

```

	pname	sname
▶	Screw	Universal Corp
	Bolt	Tech Supplies
	Nut	Tech Supplies