14/11/2025

Supplier database

```sql
create database suppliers;
use suppliers;

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

CREATE TABLE Parts (
    pid INT PRIMARY KEY,
    pname VARCHAR(100),
    color VARCHAR(50)
);

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 VALUES (1, 'Sullax', 'Delhi');
 INSERT INTO Supplier VALUES (2, 'Global Parts Co', 'Mumbai');
 INSERT INTO Supplier VALUES (3, 'Tata Supplies', 'Bengaluru');
 INSERT INTO Supplier VALUES (4, 'Techno Components', 'Chennai');
INSERT INTO Supplier VALUES (5, 'Acme widget supplies', 'Kolkata');

INSERT INTO Parts VALUES (11, 'Bolt', 'green');
INSERT INTO Parts VALUES (12, 'Nut', 'black');
INSERT INTO Parts VALUES (13, 'Screw', 'Red');
INSERT INTO Parts VALUES (14, 'Steel bars', 'Green');
INSERT INTO Parts VALUES (15, 'Gear', 'blue');

INSERT INTO Catalog VALUES (1, 11, 0.50);
INSERT INTO Catalog VALUES (2, 12, 0.35);
INSERT INTO Catalog VALUES (3, 13, 0.45);
INSERT INTO Catalog VALUES (4, 14, 0.60);
INSERT INTO Catalog VALUES (5, 15, 0.90);

SELECT * FROM Supplier;
SELECT * FROM Parts;
SELECT * FROM Catalog;

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

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

```sql
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
    )
);

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 supplies'
AND p.pid NOT IN (
    SELECT pid
    FROM Catalog
    WHERE sid <> (SELECT sid FROM Supplier WHERE sname='Acme widget supplies')
);
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;

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.pid, c.cost) IN (
    SELECT pid, MAX(cost)
    FROM Catalog
    GROUP BY pid
);

```

Tables:

Suppliers

sid	sname	city
1	Sullax	Delhi
2	Global Parts Co	Mumbai
3	Tata Supplies	Bengaluru
4	Techno Components	Chennai
5	Acme widget supplies	Kolkata
NULL	NULL	NULL

Catalog

sid	pid	cost
1	11	0.50
2	12	0.35
3	13	0.45
4	14	0.60
5	15	0.90
NULL	NULL	NULL

Parts

pid	pname	color
11	Bolt	green
12	Nut	black
13	Screw	Red
14	Steel bars	Green
15	Gear	blue
NULL	NULL	NULL

Queries Output:

iii. Find the pnames of parts for which there is some supplier.
iv. Find the snames of suppliers who supply every part.
v. Find the snames of suppliers who supply every red part.
vi. Find the pnames of parts supplied by Acme Widget Suppliers and by no one else.
vii. 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).
viii. For each part, find the sname of the supplier who charges the most for that part.

iii)

	pname
▶	Bolt
	Nut
	Screw
	Steel bars
	Gear

iv)

	sname

0 row(s) returned

v)

	sname
▶	Tata Supplies

vi)

	pname
▶	Gear

vii)

	sname

0 row(s) returned

viii)

pname	sname	cost
Bolt	Sullax	0.50
Nut	Global Parts Co	0.35
Screw	Tata Supplies	0.45
Steel bars	Techno Components	0.60
Gear	Acme widget supplies	0.90