

DBMS LAB

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BATCH: 3K2

DATE: 14/11/25

SUPPLIER DATABASE

```
create database supplier;
```

```
use supplier;
```

```
CREATE TABLE Suppliers (
```

```
    sid INT PRIMARY KEY,  
    sname VARCHAR(50),  
    address VARCHAR(100));
```

```
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 Suppliers(sid),  
    FOREIGN KEY (pid) REFERENCES Parts(pid));
```

INSERT INTO Suppliers VALUES

(1, 'Acme Widget Suppliers', 'Bangalore'),
(2, 'Global Industries', 'Chennai'),
(3, 'National Parts Co.', 'Delhi'),
(4, 'Reliable Supplies', 'Mumbai');

INSERT INTO Parts VALUES

(101, 'Bolt', 'Red'),
(102, 'Nut', 'Green'),
(103, 'Screw', 'Red'),
(104, 'Washer', 'Blue'),
(105, 'Cog', 'Red');

INSERT INTO Catalog VALUES

(1, 101, 12.50),
(1, 103, 10.00),
(2, 101, 11.00),
(2, 104, 9.50),
(3, 102, 7.75),
(3, 105, 15.00),
(4, 103, 8.00),
(4, 104, 9.75);

-- Queries

-- (i) Parts that have at least one supplier

```
SELECT DISTINCT p.pname
```

```
FROM Parts p, Catalog c
```

```
WHERE p.pid = c.pid;
```

pname
Bolt
Nut
Screw
Washer
Cog

-- (ii) Suppliers who supply every part

```
SELECT s.sname
```

```
FROM Suppliers s, Catalog c
```

```
WHERE s.sid = c.sid
```

```
GROUP BY s.sid
```

```
HAVING COUNT(DISTINCT c.pid) = (SELECT COUNT(*) FROM Parts);
```

Result Grid Filter Rows:

sname

-- (iii) Suppliers who supply every red part

```
SELECT s.sname  
FROM Suppliers s, Catalog c, Parts p  
WHERE s.sid = c.sid AND c.pid = p.pid AND p.color='Red'  
GROUP BY s.sid  
HAVING COUNT(DISTINCT p.pid) = (SELECT COUNT(*) FROM Parts  
WHERE color='Red');
```

Result Grid Filter Rows:

sname

-- (iv) Parts supplied only by Acme Widget Suppliers

```
SELECT p.pname  
FROM Parts p, Catalog c, Suppliers s  
WHERE p.pid=c.pid AND s.sid=c.sid AND s.sname='Acme Widget  
Suppliers'  
GROUP BY p.pid  
HAVING COUNT(DISTINCT s.sid)=1;
```

Result Grid		Filter Rows:
	pname	
	Bolt	
	Screw	

-- (v) Suppliers who charge more than avg for some part

```
SELECT DISTINCT c.sid  
FROM Catalog c, (SELECT pid, AVG(cost) AS avgcost FROM Catalog  
GROUP BY pid) a  
WHERE c.pid=a.pid AND c.cost>a.avgcost;
```

sid
1
4

-- (vi) For each part, supplier charging the most

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

pname	sname	cost
Bolt	Acme Widget Suppliers	12.50
Screw	Acme Widget Suppliers	10.00
Nut	National Parts Co.	7.75
Cog	National Parts Co.	15.00
Washer	Reliable Supplies	9.75