

Sudhanva S M – 1BM24CS296

Supplier Database

Create Database:

```
CREATE DATABASE Supplier;  
USE SupplierDB;
```

```
CREATE TABLE Supplier (
```

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

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

```
INSERT INTO Supplier (sid, sname, city) VALUES  
(1, 'Acme Widget Supplier', 'Bengaluru'),  
(2, 'Global industries', 'Chennai'),  
(3, 'National Parts Co', 'Delhi'),
```

```
(4, 'Reliable Supplies', 'Mumbai');

INSERT INTO Parts (pid, pname, color) VALUES
(101, 'Bolt', 'Red'),
(102, 'Nut', 'Green'),
(103, 'Screw', 'Red'),
(104, 'Washer', 'Blue'),
(105, 'Cog', 'Red');

INSERT INTO Catalog (sid, pid, cost) VALUES
(1, 103, 10.00),
(1, 101, 12.50),
(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:

1. Find the pnames of parts for which there is some supplier.

```
select p.pname  
from parts p, supplier s, catalog c  
where p.pid=c.pid and s.sid=c.sid  
group by p.pname;
```

pname
Bolt
Screw
Washer
Nut
Log

2. Find snames of suppliers who supply every part

```
select s.sname  
from supplier s, catalog c  
where s.sid=c.sid  
group by s.sid  
having count(distinct c.pid)=(select count(pid) from catalog);
```

sname

3. Find the snames of suppliers who supply every red part.

```
select s.sname  
from supplier s,catalog c, parts p  
where s.sid=c.sid and p.pid=c.pid and p.colour="Red"  
group by s.sname;
```

sname
Aone widget suppliers
Global industries
Relaible supplies
National parts co

4. Find the pnames of parts supplied by Aone Widget Suppliers and by no one else.

```
select p.pname  
from parts p, catalog c, supplier s  
where p.pid=c.pid and c.sid=s.sid and s.sname="Aone widget suppliers";
```

pname
Bolt
Screw

5. 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).

```
select s.sid  
from supplier s, parts p, catalog c  
where s.sid=c.sid and p.pid=c.pid and c.cost>(select avg(c.cost) from catalog c where  
c.pid=p.pid  
group by c.pid);
```

sid
1
1
4

6. For each part, find the sname of the supplier who charges the most for that part.

```
select s.sname, p.pname  
from supplier s,catalog c, parts p  
where s.sid=c.sid and c.pid=p.pid and c.cost=(select max(c.cost) from catalog c where  
c.pid=p.pid group by c.pid);
```

sname
Aone widget suppliers
Aone widget suppliers
National parts co
National parts co
Relaible supplies