

- 1. Find the names of suppliers who supply some red part**

```
SELECT Suppliers.sname
FROM Suppliers, Parts, Catalog
WHERE Parts.color = 'red' AND Catalog.pid = Parts.pid AND Catalog.sid =
Suppliers.sid
```

- 2. Find the sids of suppliers who supply some red or green part.**

```
SELECT Catalog.sid
FROM Parts, Catalog
WHERE (Parts.color = 'red' OR Parts.color = 'green' )AND Catalog.pid =
Parts.pid
```

- 3. Find the sids of suppliers who supply some red part or are at 221 Packer Street**

```
SELECT Suppliers.sid
FROM Suppliers, Parts, Catalog
WHERE (Parts.color = 'red' AND Catalog.pid = Parts.pid) OR (Suppliers.address
= 221 Packer Street )
```

- 4. Find the sids of suppliers who supply every red or green part.**

```
SELECT DISTINCT Catalog.sid
FROM Catalog
WHERE NOT EXISTS(
    SELECT Parts.pid
    FROM Parts
    WHERE (parts.color = 'Red' OR Parts.color = 'Green')
    AND (NOT EXISTS(
        SELECT Catalog.sid
        FROM Catalog Catalog1
        WHERE Catalog1.sid = Catalog.sid
        AND Catalog1.pid = Parts.pid
    ))
)
```

- 5. Find the sids of suppliers who supply every red part or supply every green part.**

```
SELECT DISTINCT Catalog.sid
FROM Catalog
WHERE (NOT EXISTS(
    SELECT Parts.pid
    FROM Parts
    WHERE P.color = 'Red'
    And (NOT EXISTS(
        SELECT Catalog1.sid
        FROM Catalog Catalog1
        WHERE Catalog1.sid = Catalog.sid
        and Catalog1.pid = Parts.pid
    ))
)
```

```

    ))
    OR (NOT EXISTS(
        SELECT Parts1.pid
        FROM Parts Parts1
        WHERE Parts1.color = 'Green'
        AND (NOT EXISTS(
            SELECT Catalog2.sid
            FROM Catalog Catalog2
            WHERE Catalog2.sid = Catalog.sid
            AND Catalog2.pid = Parts1.pid
        ))
    ))
))

```

- 6. Find pairs of sids such that the supplier with the first sid charges more for some part than the supplier with the second sid.**

```

SELECT DISTINCT Catalog1.sid, Catalog2.sid
FROM Catalog C1,
     Catalog C2
WHERE Catalog1.pid = Catalog2.pid
  AND Catalog1.sid != Catalog2.sid
  And Catalog1.cost > Catalog2.cost

```

- 7. Find the pids of parts supplied by at least two different suppliers.**

```

SELECT DISTINCT Catalog.pid
FROM Catalog
WHERE EXISTS(
    SELECT Catalog1.sid
    FROM Catalog Catalog1
    WHERE Catalog1.pid = Catalog.pid
      And Catalog1.sid != Catalog.sid
)

```

- 8. • find the average cost of the red parts and green parts for each of the suppliers**

```

SELECT C.sid, AVERAGE(Catalog.cost)
FROM Catalog ,
     Parts ,
     Suppliers
WHERE Catalog.sid = Supplier.sid
  AND Catalog.pid = Parts.pid
  AND (Parts.color = 'Red' OR Parts.color = 'Green')

```

- 9. • find the sids of suppliers whose most expensive part costs \$50 or more**

```

SELECT Catalog.sid

```

```
FROM Catalog  
WHERE Catalog.cost >= 50
```