

Assignment 4

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- 1 List the part numbers for all parts supplied.

```
SELECT pnum  
FROM sp
```

- 2 List the full details of all suppliers

```
SELECT *  
FROM s
```

- 3 List supplier numbers for all suppliers in Paris with a status greater than 20

```
SELECT snum  
FROM s  
WHERE city = 'Paris' AND status > 20
```

- 4 List the supplier numbers and status for suppliers in Paris in descending order of status.

```
SELECT snum, status  
FROM s  
WHERE city = 'Paris'  
ORDER BY status DESC
```

- 5 For each part supplied, get the part number and names of all the cities supplying the part.

```
SELECT sp.pnum, s.city
FROM s,sp
WHERE s.snum = sp.snum
```

- 6 List the supplier numbers for all pairs of suppliers such that two suppliers are located in the same city

```
SELECT s1.snum, s2.snum
FROM s AS s1,s AS s2
WHERE s1.snum < s2.snum AND s1.city = s2.city
```

- 7 List the supplier names for suppliers who supply part P2.

```
SELECT sname
FROM s,sp
WHERE s.snum = sp.snum AND sp.pnum = 'P2'
```

- 8 List the supplier numbers for suppliers with status less than the current maximum status value in the S table.

8.1 With aggregator

```
SELECT snum
FROM s
WHERE status < (
    SELECT MAX(status) FROM s
)
```

8.2 Withouth aggregator

```
SELECT DISTINCT s1.snum
FROM s AS s1, s AS s2
WHERE s1.status < s2.status
```

- 9 List the supplier names for suppliers who supply at least one red part.

```
SELECT DISTINCT sname
FROM s, sp, p
WHERE sp.pnum = p.pnum AND s.snum = sp.snum AND p.color↵
= 'Red '
```

- 10 List the supplier numbers for suppliers who supply at least one part also supplied by S2.

```
SELECT DISTINCT snum
FROM sp AS sp1, sp AS sp2
WHERE sp1.snum = 'S2' AND sp2.snum ~='S2' AND sp1.pnum↵
= sp2.pnum
```

- 11 List the part numbers for all parts supplied by more than one supplier.

11.1 With aggregator

```
SELECT pnum
FROM sp
GROUP BY pnum
HAVING COUNT(snum) > 1
```

11.2 Withouth aggregator

```
SELECT DISTINCT sp1.pnum
FROM sp AS sp1, sp AS sp2
WHERE sp1.pnum = sp2.pnum AND sp1.snum != sp2.snum
```

12 List all the names of suppliers who do not supply part P2.

```
SELECT DISTINCT s1.sname
FROM s AS s1
WHERE s1.snum NOT IN (
    SELECT sp2.snum
    FROM sp AS sp2
    WHERE sp2.pnum = 'P2'
)
```

13 Ex13: List the supplier numbers for suppliers who are located in the same city as supplier S1.

```
SELECT DISTINCT snum
FROM s
WHERE s.snum != 'S1' AND s.city IN (
    SELECT s1.city
    FROM s AS s1
    WHERE s1.snum = 'S1'
)
```

14 List the supplier names for suppliers who supply all the parts.

Division operator in Relational algebra, But figured out how to solve

```

SELECT DISTINCT s1.sname
FROM s AS s1
WHERE s1.snum = (
    SELECT s2.snum
    FROM s AS s2, sp
    WHERE s2.snum = s1.snum AND s2.snum = sp.snum
    GROUP BY s2.snum
    HAVING COUNT(sp.pnum) = (
        SELECT COUNT(*)
        FROM p
    )
)

```

- 15 Get supplier numbers for all suppliers who supply at least all those parts supplied by S2.

Requires division operator in relational algebra, tried to solve, but had troubles

- 16 Get the part numbers for all parts that either weigh more than 18 pounds or are currently supplied by supplier S2.

```

SELECT p.pnum
FROM p
WHERE p.weight > 18 OR p.pnum IN (
    SELECT sp.pnum
    FROM sp
    WHERE sp.snum = 'S2'
)

```