SQL Exercise 4

1. Display the minimum Status in the Supplier table.

```
mysql> select min(status) as min_status from supplier;
+------------+
| min_status |
+------------+
|         10 |
+------------+
1 row in set (0.00 sec)
```

```
mysql> select `S#`, sname, min(status) as min_status from supplier group by `S#`,
sname;
+------+-------+------------+
| S#   | sname | min_status |
+------+-------+------------+
| S1   | Smith |         20 |
| S2   | Jones |         10 |
| S3   | Blake |         30 |
| S4   | Clark |         20 |
| S5   | Adams |         25 |
| S6   | Alamo |         24 |
+------+-------+------------+
6 rows in set (0.03 sec)
```

2. Display the maximum Weight in the Parts table.

```
mysql> select max(weight) as weight_weight from parts;
+---------------+
| weight_weight |
+---------------+
|            17 |
+---------------+
1 row in set (0.01 sec)
```

```
mysql> select `P#`, pname, max(weight) as weight_weight from parts group by `
P#`, pname;
+------+--------+---------------+
| P#   | pname  | weight_weight |
+------+--------+---------------+
| P1   | Nut    |            12 |
| P2   | Bolt   |            17 |
| P3   | Screw  |            14 |
| P4   | Washer |            12 |
| P5   | Nail   |            10 |
+------+--------+---------------+
5 rows in set (0.00 sec)
```

3. Display the average Weight of the Parts.

```
mysql> select avg(weight) as avgweight from parts;
+-----------+
| avgweight |
+-----------+
|        13 |
+-----------+
1 row in set (0.02 sec)
```

4. Display the total Quantity sold for part ‘P1’.

```
mysql> select sum(quentitysold) as totalquentity from sales where pnum = 'P1'
;
+---------------+
| totalquentity |
+---------------+
|            37 |
+---------------+
1 row in set (0.00 sec)
```

5. Display the total Quantity sold for each part.

```
mysql> select pnum, sum(quentitysold) as totalquantity from sales group by pnum;
+------+---------------+
| pnum | totalquantity |
+------+---------------+
| P1   |            37 |
| P2   |             5 |
| P3   |             8 |
| P4   |             8 |
| P5   |             9 |
+------+---------------+
5 rows in set (0.00 sec)
```

6. Display the average Quantity sold for each part.

```
mysql> select pnum, avg(quentitysold) as avgquentity from sales group by pnum;
+------+-------------+
| pnum | avgquentity |
+------+-------------+
| P1   |     12.3333 |
| P2   |      5.0000 |
| P3   |      8.0000 |
| P4   |      8.0000 |
| P5   |      9.0000 |
+------+-------------+
5 rows in set (0.00 sec)
```

7. Display the maximum Quantity sold for each part, provided the maximum Quantity is greater than 800.

```
mysql> select pnum, max(quentitysold) as maxquantity from sales group by pnum
having max(quentitysold) > 800;
+------+-------------+
| pnum | maxquantity |
+------+-------------+
| P3   |         900 |
| P6   |        1000 |
+------+-------------+
2 rows in set (0.00 sec)
```

8. Display the Status and the count of Suppliers with that Status.

```
mysql> select status, count(*) as statuscount from supplier group by status;
+--------+-------------+
| status | statuscount |
+--------+-------------+
|     20 |           2 |
|     10 |           1 |
|     30 |           1 |
|     25 |           1 |
|     24 |           1 |
+--------+-------------+
5 rows in set (0.00 sec)
```

9. Display the count of Projects going on in different cities.

```
mysql> select city as City, count(*) as projectcount from projects group by c
ity;
+--------+--------------+
| City   | projectcount |
+--------+--------------+
| London |            2 |
| Athens |            2 |
| Paris  |            1 |
+--------+--------------+
3 rows in set (0.00 sec)
```

10. What is the difference between COUNT(Status) and COUNT(*) ?

COUNT(Status)

- **Counts Non-NULL Values**: This function counts only the number of rows where the Status column has a non-NULL value.
- **Example Use Case**: If you have a table where some rows have NULL in the Status column, COUNT(Status) will return a count of only those rows that contain actual values (i.e., non-NULL).

COUNT(*)

- **Counts All Rows**: This function counts all rows in the result set, regardless of whether any column values are NULL or not.
- **Example Use Case**: It is often used to get the total number of rows in a table or result set without any conditions.

11. Display the Status and the Count of Suppliers with that Status in the following format as shown below:-

Status	Count
Ten	1
Twenty	2
Thirty	3

```
mysql> select
    -> case
    -> when status = 10 then 'Ten'
    -> when status = 20 then 'Twenty'
    -> when status = 25 then 'TwentyFive'
    -> when status = 24 then 'TwentyFour'
    -> else 'other'
    -> end as Status,
    -> count(*) as Count
    -> from supplier
    -> group by Status
    -> order by Status;
+------------+-------+
| Status     | Count |
+------------+-------+
| other      |     1 |
| Ten        |     1 |
| Twenty     |     2 |
| TwentyFive |     1 |
| TwentyFour |     1 |
+------------+-------+
5 rows in set, 1 warning (0.02 sec)
```