

Aggregate Function

In database management an aggregate function is a function where the values of multiple rows are grouped together as input on certain criteria to form a single value of more significant meaning.

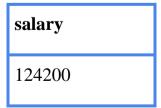
Various aggregate functions are

- **AVG()** returns the average of a set.
- **COUNT()** returns the number of items in a set.
- MAX() returns the maximum value in a set.
- **MIN**() returns the minimum value in a set
- **SUM()** returns the sum of all or distinct values in a set
- 1. Query the highest salary from the employee table

For this let's sort the salary in descending order using order by clause and then access the first value using limit keyword.

```
SELECT
salary
FROM
employee
ORDER BY
salary
DESC LIMIT 1;
```

Output:



The same can be achieved using one function MA.(). The syntax of that is as shown below



Syntax:

SELECT MAX(expression)

FROM table_name

[WHERE restriction];

```
SELECT
   MAX(salary)
FROM
   employee;
```

Output:

MAX(salary)

124200

2. Write a query to get highest salary paid to the employee by adding employee id to the salary

```
SELECT
  MAX(salary + emp_id)
FROM
  employee;
```

Output:

MAX(salary)

124208



3. Query the lowest salary from the employee table

You can get the lowest salary using an order by clause. Instead of that you can make use of MIN() Function

SELECT MIN(salary) FROM sql_notes.employee;

Output:

MIN(salary)

42200

MAX() and MIN() function works along with DISTINCT or ALL.

If in case you want maximum or minimum salary of only distinct data that time you can make use of distinct keyword

If in case you want maximum or minimum salary of by considering all salary that time you can make use of all keyword

4. Write a query to display total salary paid by the company to the employees

This can be achieved using SUM() in sql. Syntax of SUM() is shown below

SUM(expression)

```
SELECT
SUM(salary)
FROM
employee;
```

Output:

SUM(salary)

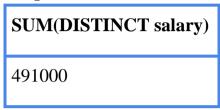
617400



5. Write a query to display sum of distinct salary paid to the employees

```
SELECT
   SUM(DISTINCT salary)
FROM
   employee;
```

Output:



6. Write a query to display the number of employees working in a company This can be achieved using COUNT().

COUNT():

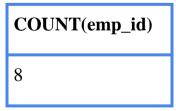
The COUNT() function returns the number of records returned by a select query.

Syntax:

COUNT(expression)

```
SELECT
  COUNT(emp_id)
FROM
  employee;
```

Output:





7. Write a query to display the count of non duplicate salary from employee table

```
SELECT
COUNT(DISTINCT salary)
FROM
employee;
```

Output:

```
COUNT(DISTINCT emp_id)
8
```

8. Query the number of employees working in sales department Dept_id of sales is 2, let's use the department id and fetch the number

```
SELECT
  COUNT(emp_id)
FROM
  employee
WHERE
dept_id = 20;
```

Output:

COUNT(emp_id)

2



9. Query the average salary from the employee table Here we can make use of AVG() Function. Syntax of AVG() Function is shown below

AVG(expression)

```
SELECT
AVG(salary)
FROM
employee;
```

Output:

```
AVG(salary)
77175.0000
```

10. Display the number of employees and maximum salary paid to sales department

```
SELECT
   COUNT(dept_id), MAX(salary)
FROM
   employee
WHERE
   dept_id = 20;
```

Output:

COUNT(dept_id)	MAX(salary)
2	124200



11.Display highest and lowest salary paid to sales department

```
SELECT
  MAX(salary), MIN(salary)
FROM
  employee
WHERE
  dept_id = 20;
```

Output:

MAX(salary)	MINx(salary)
124200	84200