# SQL Day 13: Group Functions

SQL Predefined Functions
2) Multi-row Functions or Group Functions.
=> Group functions operate on sets of rows to give one result per group.

=> Types of group functions
      1) AVG()
      2) SUM()
      3) Count()
      4) MIN()
      5) MAX()

1) AVG(): This function is used to calculate average.

General Syntax to use any group Function is as below

select  group_func_name(column_name) from Table_name;

How to use AVG function?

select AVG(column_name) from Table_name;

Example 1: Write a sql query to calculate average salary of all employee.

Ans:  select avg(salary) from Employee;
OR
select avg(salary)as Average_Salary from Employee;

Example 2: Write a sql query to calculate average salary Employee's
Who belongs Pune City

Ans:   select  AVG(salary) as Average_Salary from Employee where City='Pune'

Example 3: Write a sql query to calculate average salary Employee's
Who Department id is 3;

Ans:   select  AVG(salary) as Average_Salary from Employee where dept_id=3

## 2) sum() : This function is used to calculate the sum.

### How to use this function?

Select sum(column_name) from Table_Name;

Example 1: Write a sql query to calculate sum of salary of all Employee's

Ans:  select sum(salary) as Sum_of_Salary from Employee;

Example 2: Write a sql query to calculate sum of salary of Employee's
Who belongs Pune City

Ans: select sum(salary) as Sum_of_Salary from Employee where city='Pune';

Example 3: Write a sql query to calculate sum of salary of Employee's
Whose Department id is 3;

Ans: select sum(salary) as Sum_of_Salary from Employee where dept_id=3;

Example 4: Write a sql query to calculate sum of salary of Employee's
Whose name start with A

Ans: select sum(salary) as Sum_of_Salary from Employee where first_name like 'A%'

3) MIN() : This function is used to find Min value.

This function accept character, date and Number type value.

How to use?

select MIN(column_name) from Table_name;

Example: Write a sql query to find min salary of Employee.

Ans: select MIN(salary) from Employee;


4) MAX() : This function is used to find MAX value.

This function accept character, date and Number type value.

How to use?

Ans:  select MAX(column_name) from Table_name;

Example: Write a sql query to find MAX salary of Employee.

select MAX(salary) from Employee;

5) Count()
count function has 3 formats
1) count(*) : Return number of records or rows from a table.
          It count duplicate and null values

2) Count(column_name) : Returns number of rows with non-null values
          It count duplicate values but does not count
          null values.

3) Count(Distinct column_name): Return number of unique  and non-null values.

          It count only distinct values but does not count null values
          and duplicate values( for duplicate it consider single count)

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Q 1. I have a table Employee and I want to find number of Employee
      Present in table. Write Sql Query to find.

   Ans: Select count(*) from Employee;

Here, I have used first form of count function

Q 2. I have a table Employee and I want to count non-null values from
      city column table. Write a query.

   Ans: select count(city) From Employee.

Here, I have used second from of count function

Q 3 . I have table Employee and I want to count non-null values and
      distinct values from city column. Write a query.

   Ans: select count(Distinct city) from Employee;

Here, I have used third from of Count function