Aggrateation Function

An Aggregate Function in SQL performs a calculation on multiple values and returns single value as result.

They are known as Multiple Row Function OR Group Function.

An aggregate function ignores NULL values when it performs the calculation, except for the COUNT function.

The Aggregate functions are commonly used with SELECT statement to generate summary reports from a database.

Aggregate functions are often used with GROUP BY Clause.

Some important Aggregate Function: COUNT(), SUM(), AVG(), MIN(), MAX()

COUNT

The COUNT() aggregate function returns the total number of rows from a database table that matches the defined criteria.
It can work on both numeric (int, float, long, double) and non-numeric (string, text) data types.

Sytax

SELECT COUNT(argument) FROM table_name WHERE condition;

Q1) Write SQL query to count the total number of employees in the 'employee' table.

SELECT COUNT(*) AS total_employee FROM employee;

Q2) Write SQL query to get total number of unique departments with a column name 'total_department' from the 'employee' table.

SELECT COUNT(DISTINCT department) AS total_department FROM employee;

SUM

The SUM() function takes the name of the column as argument and returns the sum of all the non-NULL values in that column.
It works only on numeric fields. For non-numeric fields, it returns 0.

Sytax

SELECT SUM(argument) FROM table_name WHERE condition;

Q3) Retrieve total monthly salary paid to the employees from HR department.

SELECT SUM(salary) AS MONTHLY_SALARY FROM employee WHERE department = 'HR';

AVG

The AVG() function is used to calculate the average value of a column.

Sytax

SELECT AVG(argument) FROM table_name WHERE condition;

Q4) Retrieve the average salary of employees from the employee table as average_salary.

SELECT AVG(salary) AS average_salary FROM employee;

MIN

The MIN() function is used to find the minimum value of a column. It ignores NULL values.

Sytax

SELECT MIN(column_name) FROM table_name WHERE condition;

Q5) Find the minimum date of birth from the employee table.

SELECT MIN(dob) FROM employee;

MAX

The MAX() function is used to find the maximum value of a column.

Sytax

SELECT MAX(column_name) FROM table_name WHERE condition;

Q6) Find the maximum salary paid to employees in IT department from the 'employee' table.

SELECT MAX(salary) FROM employee WHERE department = 'IT';