**AGGREGATE FUNCTIONS**

**EXPT NO: 3 DATE: 20/9/22**

**AIM**

To study the execution of aggregate function on a schema

**THEORY**

MySQL's aggregate function is used to perform calculations on multiple values and return the result in a single value like the average of all values, the sum of all values, and maximum & minimum value among certain groups of values. We mostly use the aggregate functions with [SELECT statements](https://www.javatpoint.com/mysql-select) in the data query languages.

There are various aggregate functions available in [MySQL](https://www.javatpoint.com/mysql-tutorial). Some of the most commonly used aggregate functions are summarised in the below table:

|  |  |
| --- | --- |
| **Aggregate Function** | **Description** |
| COUNT() | Returns the number of rows returned for a selection |
| SUM() | Returns the sum of the values in a specified column |
| AVG() | Returns the average of the values in the selected column |
| MAX() | Returns the maximum value for a column |
| MIN() | Returns the minimum value of a column |

1. **Count() Function**

MySQL count() function returns the total number of values in the expression. This function produces all rows or only some rows of the table based on a specified condition, and its return type is BIGINT. It returns zero if it does not find any matching rows. It can work with both numeric and non-numeric data types.

            Syntax: SELECT COUNT(<column-name>) from <table-name>;

1. **Sum() Function**

The MySQL sum() function returns the total summed (non-NULL) value of an expression. It returns NULL if the result set does not have any rows. It works with numeric data type only.

            Syntax: SELECT SUM(<column-name>) AS <any-name> FROM <table-name>;

1. **AVG() Function**

MySQL AVG() function calculates the average of the values specified in the column. Similar to the SUM() function, it also works with numeric data type only.

            Syntax: SELECT AVG(<column-name>) AS <any-name> FROM <table-name>;

1. **MIN() Function**

MySQL MIN() function returns the minimum (lowest) value of the specified column. It also works with numeric data type only.

            Syntax: SELECT MIN(<column-name>) AS <any-name> FROM <table-name>;

1. **MAX() Function**

MySQL MAX() function returns the maximum (highest) value of the specified column. It also works with numeric data type only.

            Syntax: SELECT MAX(<column-name>) AS <any-name> FROM <table-name>;

The following operators can be used in the WHERE clause:

|  |  |
| --- | --- |
| **Operator** | **Description** |
| = | Equal |
| > | Greater than |
| < | Less than |
| >= | Greater than or equal |
| <= | Less than or equal |
| != | Not equal |

**CONCLUSION**

The various MySQL Aggregate functions were successfully studied.