MySQL FIRST_VALUE Function

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Summary: in this tutorial, you will learn how to use the MySQL FIRST_VALUE() function to get the first row of a frame, partition, or result set.

Introduction to MySQL FIRST VALUE() function

The FIRST_VALUE() is a <u>window function</u> that allows you to select the first row of a window frame, partition, or result set.

The following illustrates the syntax of the FIRST VALUE() function:

FIRST_VALUE (expression) OVER (
[partition_clause]
[order_clause]
[frame_clause]

)Code language: SQL (Structured Query Language) (sql)

In this syntax:

expression

The FIRST_VALUE() function returns the value of the expression from the first row of the window frame.

The OVER clause consists of three clauses: partition_clause, order_clause, and frame_clause.

partition clause

The partition_clause clause divides the rows of the result sets into partitions to which the function applies independently. The partition clause has the following syntax:

PARTITION BY expr1, expr2, ...Code language: SQL (Structured Query Language) (sql)

order clause

The order_clause clause specifies the logical order of rows in each partition on which the FIRST_VALUE() function operates. The following shows the syntax of the order_clause:

ORDER BY expr1 [ASC|DESC], expr2 [ASC|DESC], ...Code language: SQL (Structured Query Language) (sql)

frame_clause

The frame_clause defines the subset (or frame) of the current partition. For detailed information on the frame clause syntax, check out the <u>window functions tutorial</u>.

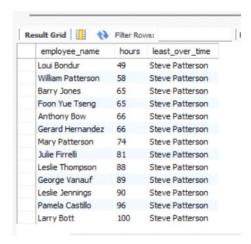
MySQL FIRST VALUE() function examples

The following statements create a new table named overtime and insert sample data for the demonstration:

```
CREATE TABLE overtime (
  employee name VARCHAR(50) NOT NULL,
  department VARCHAR(50) NOT NULL,
  hours INT NOT NULL,
  PRIMARY KEY (employee name, department)
INSERT INTO overtime(employee name, department, hours)
VALUES('Diane Murphy','Accounting',37),
('Mary Patterson', 'Accounting', 74),
('Jeff Firrelli','Accounting',40),
('William Patterson', 'Finance', 58),
('Gerard Bondur', 'Finance', 47),
('Anthony Bow','Finance',66),
('Leslie Jennings','IT',90),
('Leslie Thompson','IT',88),
('Julie Firrelli', 'Sales', 81),
('Steve Patterson', 'Sales', 29),
('Foon Yue Tseng','Sales',65),
('George Vanauf', 'Marketing', 89),
('Loui Bondur','Marketing',49),
('Gerard Hernandez', 'Marketing', 66),
('Pamela Castillo', 'SCM', 96),
('Larry Bott', 'SCM', 100),
('Barry Jones', 'SCM', 65);
Code language: SQL (Structured Query Language) (sql)
```

1) Using MySQL FIRST VALUE() function over the whole query result set example

The following statement gets the employee's name, overtime, and the employee who has the least overtime:

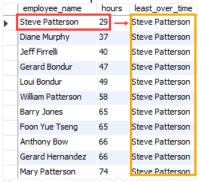


SELECT

employee_name, hours, FIRST_VALUE(employee_name) OVER (ORDER BY hours) least_over_time FROM

overtime; Code language: SQL (Structured Query Language) (sql)

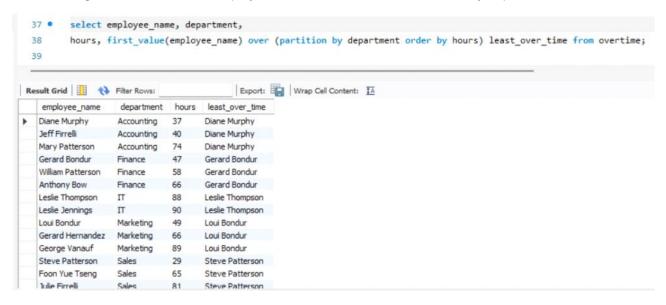
Here is the output:



In this example, the ORDER BY clause ordered the rows in the result set by hours and the FIRST_VALUE() picked the first row indicating the employee who had the least overtime.

2) Using MySQL FIRST VALUE() function with partitions example

The following statement finds the employee who has the least overtime in every department:



SELECT

employee_name,
department,
hours,
FIRST_VALUE(employee_name) OVER (
PARTITION BY department

ORDER BY hours

) least over time

FROM

overtime; Code language: SQL (Structured Query Language) (sql)

The output is:

	employee_name	department	hours	least_over_time
١	Diane Murphy	Accounting	37	Diane Murphy
	Jeff Firrelli	Accounting	40	Diane Murphy
	Mary Patterson	Accounting	74	Diane Murphy
	Gerard Bondur 💙	Finance	47	Gerard Bondur
	William Patterson	Finance	58	Gerard Bondur
	Anthony Bow	Finance	66	Gerard Bondur
	Leslie Thompson	П	88	Leslie Thompson
	Leslie Jennings	IT	90	Leslie Thompson
	Loui Bondur 🗸	Marketing	49	Loui Bondur
	Gerard Hernandez	Marketing	66	Loui Bondur
	George Vanauf	Marketing	89	Loui Bondur
	Steve Patterson	Sales	29	Steve Patterson
	Foon Yue Tseng	Sales	65	Steve Patterson
	Julie Firrelli	Sales	81	Steve Patterson
	Barry Jones	SCM	65	Barry Jones
	Pamela Castillo	SCM	96	Barry Jones
	Larry Bott	SCM	100	Barry Jones

In this example:

- First, the PARTITION BY clause divides the employees into partitions by departments. In other words, each partition consists of employees who belong to the same department.
- Second, the ORDER BY clause specifies the order of rows in each partition.
- Third, the FIRST_VALUE() operates on each partition sorted by the hours. It returns the first row in each partition which is the employee who has the least overtime within the department.

Summary

• Use the MySQL FIRST_VALUE() function to get the first row of a window frame.

Completed

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