



Day 52

Window Functions

Part 2





PARTITION BY & ORDER BY

- The **PARTITION BY** clause subdivides the window into partitions.
- The **ORDER BY** clause defines the logical order of the rows within each partition of the result set.

Window functions are applied to the rows within each partition and sorted according to the order specification.



Use Case Example

The following query uses the **AVG()** and **ROW_NUM()** window functions to determine the average car sales for each dealer in Q1 and assign a row number to each row in a partition:

```
SELECT
    dealer_id, sales, emp_name,
    ROW_NUMBER() OVER (PARTITION BY
        dealer_id ORDER BY sales) AS `row`
FROM q1_sales;
```



Output :

dealer_id	sales	emp_name	row
1	8227	Raphael Hull	1
1	9710	Jack Salazar	2
1	19745	Ferris Brown	3
1	19745	Noel Meyer	4
2	9308	Haviva Montoya	1
2	16233	Beverly Lang	2
2	16233	Kameko French	3
3	9308	May Stout	1
3	12369	Abel Kim	2
3	15427	Ursa George	3

10 rows selected (0.37 seconds)

Here row number is **partitioned** by dealer_id and **ordered** by the sales

Types of Window Functions :

Value Window Functions

LAG()
LEAD()
FIRST_VALUE()
LAST_VALUE()

Aggregate Window Functions

SUM()
MAX()
MIN()
AVG()
COUNT()

Ranking Window Functions

RANK()
DENSE_RANK()
ROW_NUMBER()
NTILE()