

Screencast 5-5

Window functions – rank

Database - ADWF

RANK() OVER(.. ORDER BY ..) – each value is assigned a place number according to sorting settings starting from 1. Each repeated value gets the least number of all numbers assigned to such values. For a set of values {1, 2, 2, 30, 40} the calculated rank will be {1, 2, 2, 4, 5}

DENSE_RANK() OVER(.. ORDER BY ..) – works like previous function, but it does not skip place numbers. For a set of values {1, 2, 2, 30, 40} the calculated rank will be {1, 2, 2, 3, 4}

ROW_NUMBER() OVER(.. ORDER BY ..) – finds unique ordinal number in the sorted records. It is a number of a row inside a partition.

Task

Rate products by number of respective orders. The more orders they have - the higher place they will be given.

Query with two versions of ranking:

```
SELECT p.name,  
dense_rank() over(order by order_number desc),  
rank() over(order by order_number desc)  
FROM sales.salesorderdetail AS sd  
      join production.product as p using(productid)
```

```
select productid,  
       row_number() over(order by order_number desc) from (  
       select distinct productid,  
       count(*) over(partition by productid) as order_number from  
       sales.salesorderdetail as sd ) as data
```

Aggregate inside a window function:

```
SELECT p.name,  
       rank() over(order by count(*) desc)  
FROM sales.salesorderdetail AS sd  
      join production.product as p using(productid)  
group by p.name
```

Additional information about ranks

Sometimes we need to return records based on % from the start of some sorted list. SQL provides such functionality. `NTILE(n) OVER()` splits partitions in the record set into `n` buckets of equal size and assigns number of corresponding bucket to each row. If it is not possible to divide groups equally then the last group will be smaller by one row. E.g., to find the first 25% records calculate `ntile(4) over(order by ...)` and then select only records which has 1 in this field.