

# ROW\_NUMBER Function in Oracle

The ROW\_NUMBER function in Oracle is an analytic function or you can say ranking function that is used when we want to return a unique sequential number starting from 1 for record in the result set. The ROW\_NUMBER() function is a built-in function in Oracle that will assign a unique sequential integer number to each row starting from 1 within a partition of a result set. The row number always starts with 1 for the first row in each partition and then increases by 1 for the next row onwards for each partition.

## Parameters:

1. **PARTITION BY value\_expression:** This is optional. The PARTITION BY clause is used to partition the result set that is produced by the FROM clause and then the ROW\_NUMBER function is applied to each partition. Here, the value\_expression specifies the column name (s) using which the result set is going to be partitioned. As it is optional, if you did not specify the PARTITION BY clause, then the ROW\_NUMBER function will treat all the rows of the query as a single partition.
2. **ORDER BY CLAUSE:** This is Mandatory. The ORDER BY clause is used to define the sequence in which each row is going to assign its unique ROW\_NUMBER.

```
SELECT Id, Name, Department, Salary,  
ROW_NUMBER() OVER (ORDER BY Department) AS RowNumber  
FROM Employees;
```

## Row\_Number Function with PARTITION BY Clause in Oracle:

```
SELECT Id, Name, Department, Salary,  
ROW_NUMBER() OVER  
(  
PARTITION BY Department  
ORDER BY Name
```

```
) AS RowNumber
FROM Employees;
```

```
SQL> SELECT Id, Name, Department, Salary,
2 ROW_NUMBER() OVER
3 (
4 PARTITION BY Department
5 ORDER BY Name
6 ) AS RowNumber
7 FROM Employees;
```

ID	NAME	DEPARTMENT	SALARY	ROWNUMBER
1006	Bikash	HR	15000	1
1003	Manoj	HR	15000	2
1007	Priya	HR	67000	3
1011	Rishav	HR	55000	4
1005	Hina	IT	42000	1
1001	Sambit	IT	15000	2
1002	Santosh	IT	35000	3
1010	Anurag	Payroll	15000	1
1008	Preety	Payroll	67000	2
1009	Priyanka	Payroll	55000	3
1004	Rakesh	Payroll	35000	4

1. Partitioned by Department HR  
2. Employees sorted by Name  
3. Row\_Number function provides unique number to the employees of this partition

Sequence reset to 1 when partition changes

1. Partitioned by Department Payroll  
2. Employees sorted by Name  
3. Row\_Number function gives unique number to the employees of this partition

## Finding top N rows of every group using Row Number function in Oracle

```
WITH HighestSalaryEmployees
AS
(
    SELECT Id, Name, Department, Salary,
    ROW_NUMBER() OVER
    (
        PARTITION BY Department
        ORDER BY Salary DESC
    ) RowNumber
    FROM Employees
)
SELECT Id, Name, Department, Salary
FROM HighestSalaryEmployees
WHERE RowNumber <= 2;
```

## Pagination using ROW\_NUMBER() Function in Oracle

```
SELECT * FROM
(
    SELECT Id, Name, Department, Salary,
    ROW_NUMBER() OVER (ORDER BY Id) AS RowNumber
    FROM Employees
) temp
WHERE RowNumber BETWEEN 6 AND 10;
```

## Deleting Duplicate Records in Oracle using ROW\_NUMBER Function:

```
DELETE FROM EMPLOYEE2 WHERE ROWID IN
(
    SELECT ROWID FROM (SELECT ROWID ROWID,
    ROW_NUMBER() OVER ( PARTITION BY CODE ORDER BY ID) ROWNUMBER
    FROM    EMPLOYEE2 )
    WHERE  ROWNUMBER>1
);
```