SQL | LISTAGG

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LISTAGG function in DBMS is used to aggregate strings from data in columns in a database table.

- It makes it very easy to concatenate strings. It is similar to concatenation but uses grouping.
- The speciality about this function is that, it also allows to order the elements in the concatenated list.

Syntax:

```
LISTAGG (measure_expr [, 'delimiter']) WITHIN GROUP
(order_by_clause) [OVER query_partition_clause]
measure_expr : The column or expression to concatenate the values.
delimiter : Character in between each measure_expr, which is by default a comma
(,) .
order_by_clause : Order of the concatenated values.
```

Let us have a table named Gfg having two columns showing the subject names and subject number that each subject belongs to, as shown below :

```
SQL> select * from GfG;

SUBNO       SUBNAME
----------  ------------------------------
D20         Algorithm
D30         DataStructure
D30         C
D20         C++
D30         Python
D30         DBMS
D10         LinkedList
D20         Matrix
D10         String
D30         Graph
D20         Tree
```

11 rows selected.

Query 1: Write an SQL query using LISTAGG function to output the subject names in a single field with the values comma delimited.

```
SQL> SELECT LISTAGG(SubName, ' , ') WITHIN GROUP (ORDER BY SubName) AS SUBJECTS
  2  FROM   GfG ;
```

Output:

```
SUBJECTS
--------------------------------------------------------------------------------
--
Algorithm , C , C++ , DBMS , DataStructure , Graph , LinkedList , Matrix , Python
,
String , Tree
```

Query 2: Write an SQL query to group each subject and show each subject in its respective department separated by comma with the help of LISTAGG function.

```
SQL> SELECT SubNo, LISTAGG(SubName, ' , ') WITHIN GROUP (ORDER BY SubName) AS
SUBJECTS
  2  FROM   GfG
  3  GROUP BY SubNo;
```

Output:

```
SUBNO      SUBJECTS
------     ----------------------------------------------------------------------
----------
D10       LinkedList , String
D20        Algorithm , C++ , Matrix , Tree
D30        C , DBMS , DataStructure , Graph , Python
```

Query 3: Write an SQL query to show the subjects belonging to each department ordered by the subject number (SUBNO) with the help of LISTAGG function.

```
SQL> SELECT SubNo, LISTAGG(SubName, ',') WITHIN GROUP (ORDER BY SubName) AS
SUBJECTS
  2  FROM   GfG
  3  GROUP BY SubNo
  4  ORDER BY SubNo;
```

Output:

```
SUBNO         SUBJECTS
-----         -------------------------------
D10           LinkedList, String
D20           Algorithm, C++, Matrix, Tree
D30           C, DBMS, DataStructure, Graph, Python
```

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Last Updated : 22 Jun, 2018   12

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