

ROLLUP in SQL Server

ROLLUP is an extension of the GROUP BY clause used to generate subtotals and grand totals automatically. Generates subtotals along a specified column hierarchy, from the most detailed up to a grand total. The order of columns matters.

Syntax

```
SELECT column1, column2, aggregate_function(column)
```

```
FROM table_name
```

```
GROUP BY ROLLUP (column1, column2);
```

Example Scenario

ROLLUP using Customer & Product (SQL Server)

A company wants:

Sales per Customer & Product

Subtotal per Customer

Grand Total of all sales

```
CREATE TABLE Sales
(
    CustomerName VARCHAR(30),
    ProductName VARCHAR(30),
    Amount INT
);
```

```
INSERT INTO Sales VALUES
('Ravi', 'Laptop', 50000),
('Ravi', 'Mouse', 2000),
('Ravi', 'Keyboard', 3000),
('Neha', 'Laptop', 52000),
('Neha', 'Mouse', 2500),
('Amit', 'Laptop', 48000);
```

ROLLUP on Customer and Product

```
SELECT
    CustomerName,
    ProductName,
    SUM(Amount) AS TotalAmount
FROM Sales
GROUP BY ROLLUP (CustomerName, ProductName)
ORDER BY CustomerName, ProductName;
```

251 %

Results Messages

	CustomerName	ProductName	TotalAmount
1	NULL	NULL	157500
2	Amit	NULL	48000
3	Amit	Laptop	48000
4	Neha	NULL	54500
5	Neha	Laptop	52000
6	Neha	Mouse	2500
7	Ravi	NULL	55000
8	Ravi	Keyboard	3000
9	Ravi	Laptop	50000
10	Ravi	Mouse	2000

ROLLUP with GROUPING() (Readable Report)

```

SELECT
  CASE
    WHEN GROUPING(CustomerName) = 1 THEN 'All Customers'
    ELSE CustomerName
  END AS Customer,

  CASE
    WHEN GROUPING(ProductName) = 1 THEN 'All Products'
    ELSE ProductName
  END AS Product,

  SUM(Amount) AS TotalAmount
FROM Sales
GROUP BY ROLLUP (CustomerName, ProductName)
ORDER BY GROUPING(CustomerName), CustomerName;

```

251 %

Results Messages

	Customer	Product	TotalAmount
1	Amit	Laptop	48000
2	Amit	All Products	48000
3	Neha	Laptop	52000
4	Neha	Mouse	2500
5	Neha	All Products	54500
6	Ravi	Keyboard	3000
7	Ravi	Laptop	50000
8	Ravi	Mouse	2000
9	Ravi	All Products	55000
10	All Customers	All Products	157500