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GROUP BY

SQL GROUP BY statement is used to arrange identical data into groups. The GROUP BY statement is used with the SQL SELECT statement.

The GROUP BY statement follows the WHERE clause in a SELECT statement and precedes the ORDER BY clause.

The GROUP BY statement is used with aggregation function.

EX

```
SELECT column
FROM table_name
WHERE conditions
GROUP BY column
ORDER BY column
```

TABLE PRODUCT_Shravan

PRODUCT	COMPANY	QTY	RATE	COST
Item1	Com1	2	10	20
Item2	Com2	3	25	75
Item3	Com1	2	30	60
Item4	Com3	5	10	50
Item5	Com2	2	20	40
Item6	Cpm1	3	25	75
Item7	Com1	5	30	150
Item8	Com1	3	10	30
Item9	Com2	2	25	50
Item10	Com3	4	30	120

EX

```
SELECT COMPANY, COUNT(*)
FROM PRODUCT_Shravan
GROUP BY COMPANY;
```

Output:

Com1 5

Com2 3

Com3 2

HAVING

HAVING clause is used to specify a search condition for a group or an aggregate.

Having is used in a GROUP BY clause. If you are not using GROUP BY clause then you can use HAVING function like a WHERE clause.

EX

```
SELECT COMPANY, COUNT(*)
FROM PRODUCT_MAST
GROUP BY COMPANY
HAVING COUNT(*)>2;
```

Output:

Com1 5

Com2 3

JOIN

A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

Different Types of SQL JOINs

Here are the different types of the JOINs in SQL:

(INNER) JOIN: Returns records that have matching values in both tables

LEFT (OUTER) JOIN: Returns all records from the left table, and the matched records from the right table

RIGHT (OUTER) JOIN: Returns all records from the right table, and the matched records from the left table

FULL (OUTER) JOIN: Returns all records when there is a match in either left or right table

INNER JOIN:

EX

SELECT *column_name(s)*
FROM *table1*
INNER JOIN *table2*
ON *table1.column_name* = *table2.column_name*;

SELECT Orders.OrderID, Customers.CustomerName
FROM Orders
INNER JOIN Customers ON Orders.CustomerID = Customers.CustomerID;

LEFT JOIN

EX

SELECT *column_name(s)*
FROM *table1*
LEFT JOIN *table2*
ON *table1.column_name* = *table2.column_name*;

```
SELECT Customers.CustomerName, Orders.OrderID
FROM Customers
LEFT JOIN Orders ON Customers.CustomerID = Orders.CustomerID
ORDER BY Customers.CustomerName;
```

RIGHT JOIN

EX

```
SELECT column_name(s)
FROM table1
RIGHT JOIN table2
ON table1.column_name = table2.column_name;
```

```
SELECT Orders.OrderID, Employees.LastName, Employees.FirstName
FROM Orders
RIGHT JOIN Employees ON Orders.EmployeeID = Employees.EmployeeID
ORDER BY Orders.OrderID;
```

FULL OUTER JOIN

EX

```
SELECT column_name(s)
FROM table1
FULL OUTER JOIN table2
ON table1.column_name = table2.column_name
WHERE condition;
```

```
SELECT Customers.CustomerName, Orders.OrderID
FROM Customers
FULL OUTER JOIN Orders ON Customers.CustomerID=Orders.CustomerID
ORDER BY Customers.CustomerName;
```