The GROUP BY clause in SQL is used to group rows that have the same values in specified columns into aggregated data. It is often used with aggregate functions like COUNT(), SUM(), AVG(), MAX(), and MIN() to perform operations on each group.

Syntax

sql

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SELECT column_name, aggregate_function(column_name)

FROM table_name

GROUP BY column_name;

Example Usage

Consider a table named **Employees**:

EmpID	Name	Department	Salary
1	John	IT	50000
2	Alice	HR	45000
3	Bob	IT	55000
4	Eve	HR	47000
5	Mark	Sales	52000

1. Counting Employees in Each Department

sql

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SELECT Department, COUNT(*) AS EmployeeCount

FROM Employees

GROUP BY Department;

Output:

Department	EmployeeCount
IT	2
HR	2
Sales	1

2. Finding the Total Salary per Department

sql

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```
SELECT Department, SUM(Salary) AS TotalSalary
FROM Employees
GROUP BY Department;
```

Output:

Department	TotalSalary
IT	105000
HR	92000
Sales	52000

3. Finding the Maximum Salary per Department

sql

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```
SELECT Department, MAX(Salary) AS MaxSalary
FROM Employees
GROUP BY Department;
```

Output:

Department	MaxSalary
IT	55000
HR	47000
Sales	52000

HAVING Clause with GROUP BY

The HAVING clause is used to filter the grouped results, similar to WHERE, but it works after aggregation.

Example: Departments with Total Salary Greater Than 90,000

sql

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```
SELECT Department, SUM(Salary) AS TotalSalary
FROM Employees
GROUP BY Department
HAVING SUM(Salary) > 90000;
```

Output:

Department	TotalSalary
IT	105000
HR	92000