**Group By and Having Clause**

GROUP BY

-- The GROUP BY Statement in SQL is used to arrange identical data into groups with the help of some functions.

-- If a particular column has the same values in different rows then it will arrange these rows in a group.

-- Syntax:

*SELECT column1, function\_name(column2)*

*FROM table\_name*

*WHERE condition*

*GROUP BY column1, column2*

*ORDER BY column1, column2;*

-- GROUP BY clause is used with the SELECT statement.

-- In the query, the GROUP BY clause is placed after the WHERE clause.

-- In the query, the GROUP BY clause is placed before the ORDER BY clause if used.

1. Fetch total salary distribution for each department.

SELECT

dept.department\_name, SUM(emp.salary) as total\_salary

FROM

dev\_schema.employee as emp INNER JOIN dev\_schema.department as dept

ON emp.fk\_department\_id = dept.department\_id

GROUP BY dept.department\_name ORDER BY total\_salary DESC;

2. Fetch total number of employees and total amount of salary for each department.

SELECT

dept.department\_name, COUNT(employee\_id) as Total\_Employees, SUM(emp.salary) as Total\_Salary

FROM

dev\_schema.employee as emp INNER JOIN dev\_schema.department as dept

ON emp.fk\_department\_id = dept.department\_id

GROUP BY dept.department\_name ORDER BY Total\_Salary DESC;

3. Fetch average salary for each job title.

SELECT

job.job\_title, AVG(emp.salary) as avg\_salary

FROM

dev\_schema.employee as emp INNER JOIN dev\_schema.job as job

ON emp.fk\_job\_id = job.job\_id

GROUP BY job.job\_title ORDER BY avg\_salary DESC;

Having Clause

-- The HAVING clause was introduced in SQL to allow the filtering of query results based on aggregate functions and groupings, which cannot be achieved using the WHERE clause that is used to filter individual rows.

-- The HAVING clause is used to apply a filter on the result of GROUP BY based on the specified condition.

-- The WHERE clause places conditions on the selected columns, whereas the HAVING clause places conditions on groups created by the GROUP BY clause.

-- Syntax:

*SELECT col\_1, function\_name(col\_2)*

*FROM tablename*

*WHERE condition*

*GROUP BY column1, column2*

*HAVING Condition*

*ORDER BY column1, column2;*

1. Fetch departments with total salaries greater than 1.5 lacs.

SELECT

dept.department\_name, SUM(emp.salary) as total\_salary

FROM

dev\_schema.employee as emp INNER JOIN dev\_schema.department as dept

ON emp.fk\_department\_id = dept.department\_id

GROUP BY dept.department\_name HAVING SUM(emp.salary) >= 150000 ORDER BY total\_salary DESC;

2. Fetch total number of employees and total amount of salary for each department having no of employees greater than 2.

SELECT

dept.department\_name, COUNT(employee\_id) as Total\_Employees, SUM(emp.salary) as Total\_Salary

FROM

dev\_schema.employee as emp INNER JOIN dev\_schema.department as dept

ON emp.fk\_department\_id = dept.department\_id

GROUP BY dept.department\_name HAVING COUNT(employee\_id) > 2 ORDER BY Total\_Salary DESC;