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Grouping data with the GROUP BY clause.

GROUP BY clause – This is used to group rows that have the same values into together. It helps to organize data into groups so that you can do calculations, like finding totals or averages, for each group

This query retrieves the first n rows from the table.

QUERY :

```
SELECT col1, aggregateFun(col2)
FROM tableName
GROUP BY col1 ;
```

ex: `SELECT department, AVG(salary) AS avgsal FROM employee GROUP BY department;`

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HAVING clause.

HAVING clause – The HAVING clause is just like clause but the main difference is it works on aggregated data. It is used with the GROUP BY clause. It helps to filter groups based on given con conditions.ditions.

QUERY :

```
SELECT col1, col2 aggregateFun(col3)
FROM tableName
GROUP BY col1 col2
HAVING condition;
```

ex :

```
SELECT department,  AVG(salary) AS avgsal
 FROM employe
GROUP BY department
HAVING avgsal>1500;
```

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GROUP BY and HAVING clause.

These queries demonstrate how to use

a. GROUP BY to categorize data and

b. HAVING to filter grouped data based on specific conditions in SQL.

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Practice Questions

1. **Write a query to find the maximum number of employees in each city**

Query :

```
Select  city, max(id)
FROM employee
GROUP BY city;
```

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Practice Questions

2. Write a query to find the maximum salary of employees in each city in descending order

Query :

```
Select  city, max(salary)
FROM employee
GROUP BY city
ORDER BY DESC;
```

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Practice Questions

3. Write a query to display the department names alongside the total count of employees in each department, sorting the results by the total number of employees in descending order.

Query :

```
SELECT department, COUNT(id) AS totalemployees
FROM employee
GROUP BY department
ORDER BY totalemployees DESC;
```

LET'S START WITH SQL :)

Practice Questions

4. Write a query to list the departments where the average salary is greater than 1200, also display the department name and the average salary.

Query :

```
SELECT department, AVG(salary) AS avgsalary
FROM employee
GROUP BY department
HAVING AVG(salary) > 50000;
```

LET'S START WITH SQL :)

The general order of SQL commands

Sno	**Command**	**Usecase**
1.	SELECT	Retrieve from the database
2.	FROM	Identify the table
3.	WHERE	Filter rows based on some conditions
4.	GROUP BY	Group rows that have the same values
5.	HAVING	Filter groups based on some conditions
6.	ORDER BY	Sort the result set either aesc/desc
7.	LIMIT	Limit the number of rows returned