

Part - 2

SQL Basics

Interview

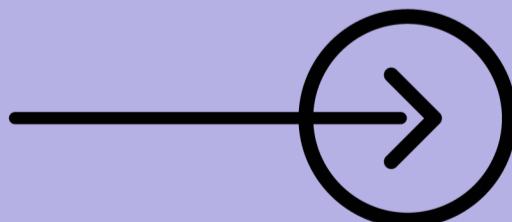
Questions and Answers...!



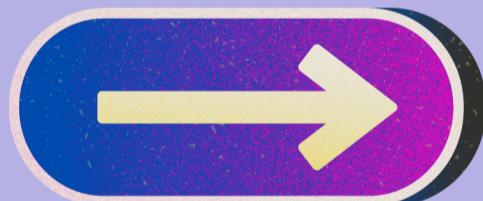
Sharing with
Counter questions ↑



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**In what order does SQL execute
different clauses such as
SELECT, WHERE , GROUP BY
etc.**



Answer:

- In **SQL**, the execution order of different clauses in a query is not the same as their written order.

The SQL query execution order follows a specific sequence to ensure that data is processed correctly.

Here is the order in which SQL executes the various clauses:



Also give some explanation as well

Order Of Execution

1. FROM

The first step is to identify the tables involved in the query and join them if necessary.



2. WHERE

After identifying the tables, SQL applies the filters specified in the WHERE clause to restrict the rows returned.



3. GROUP BY

The first step is to identify the tables involved in the query and join them if necessary.



4. HAVING

After grouping, SQL applies the filters specified in the HAVING clause to the grouped rows.

Order Of Execution

5. SELECT

SQL then selects the columns specified in the SELECT clause from the remaining rows.



6. ORDER BY

Finally, SQL orders the result set based on the columns specified in the ORDER BY clause.



7. LIMIT/OFFSET

If present, SQL applies the LIMIT and OFFSET clauses to restrict the number of rows returned.



Can you explain these all using an example query

Example;



```
SELECT department,  
       COUNT(employee_id) AS employee_count  
  FROM employees  
 WHERE salary > 50000  
  
 GROUP BY department  
 HAVING COUNT(employee_id) > 10  
  
 ORDER BY employee_count DESC  
 LIMIT 5;
```



can you have Explanation of the Execution Order

Explanation of Execution Order:

- **FROM employees:** Identify the table to query, employees.
- **WHERE salary > 50000:** Filter rows where the salary is greater than 50,000.
- **GROUP BY department:** Group the filtered rows by the department column
- **HAVING COUNT(employee_id) > 10:** Filter groups where the number of employees in each department is greater than 10.
- **SELECT department, COUNT(employee_id) AS employee_count:** Select the department and count of employees in each group.
- **ORDER BY employee_count DESC:** Order the result set by the employee count in descending order.
- **LIMIT 5:** Limit the result to the top 5 rows.



wanna see some
Counter Questions

1. What is the difference between WHERE and HAVING clauses?

→ **The WHERE clause filters rows before any grouping occurs,**

while the HAVING clause filters groups after the GROUP BY clause has been applied.



Next Question

2. Can you use HAVING without GROUP BY in a SQL query?

→ Yes, HAVING can be used without GROUP BY, but it would act like a WHERE clause

and apply conditions to the entire result set, rather than to groups.



3. What happens if you omit the ORDER BY clause in a SQL query?

- If we omit the **ORDER BY** clause, the result set is returned in an arbitrary order, which is typically the order in which rows are retrieved from the database.



Next Question

4. Is it possible to use aggregate functions in the WHERE clause?

→ **No, aggregate functions cannot be used in the WHERE clause.**

They should be used in the SELECT or HAVING clauses, as the WHERE clause is applied before grouping.



5. How does SQL handle complex queries with subqueries or joins?

- **SQL executes subqueries first and then processes the main query.**

In the case of joins, SQL first joins the tables specified in the FROM clause before applying other clauses like WHERE, GROUP BY, etc.



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