

Top 30 SQL Interview Questions and Answers

For Data Analyst & Fresher Interviews

1. What is SQL?

SQL stands for Structured Query Language. It is used to store, retrieve, update, and manage data in relational databases.

2. What is a database?

A database is an organized collection of data stored electronically for easy access and management.

3. What is a table in SQL?

A table stores data in rows and columns. Each row is a record and each column is a field.

4. What is a primary key?

A primary key uniquely identifies each record in a table and cannot contain NULL values.

5. What is a foreign key?

A foreign key links a column in one table to the primary key of another table.

6. What is the SELECT statement?

SELECT is used to retrieve data from one or more tables.

7. What is the WHERE clause used for?

WHERE is used to filter records based on conditions.

8. What is GROUP BY?

GROUP BY groups rows that have the same values into summary rows.

9. Difference between WHERE and HAVING?

WHERE filters rows before grouping, while HAVING filters data after GROUP BY.

10. What is ORDER BY?

ORDER BY sorts the result set in ascending or descending order.

11. What are aggregate functions?

Functions like COUNT, SUM, AVG, MIN, and MAX that perform calculations on multiple rows.

12. COUNT(*) vs COUNT(column)?

COUNT(*) counts all rows including NULLs, while COUNT(column) ignores NULL values.

13. What is DISTINCT?

DISTINCT removes duplicate values from the result set.

14. What is a JOIN?

JOIN combines rows from two or more tables based on a related column.

15. What is INNER JOIN?

INNER JOIN returns only matching records from both tables.

16. What is LEFT JOIN?

LEFT JOIN returns all records from the left table and matching records from the right table.

17. What is RIGHT JOIN?

RIGHT JOIN returns all records from the right table and matching records from the left table.

18. What is DELETE?

DELETE removes specific rows from a table and supports rollback.

19. What is TRUNCATE?

TRUNCATE removes all rows from a table quickly and does not support rollback.

20. DELETE vs TRUNCATE?

DELETE removes selected rows and allows rollback, while TRUNCATE removes all rows permanently.

21. What is DROP?

DROP deletes the entire table including its structure.

22. What is NULL?

NULL represents missing or unknown data and is not equal to zero.

23. What is a subquery?

A subquery is a query written inside another SQL query.

24. What is an index?

An index improves the speed of data retrieval operations.

25. What is a view?

A view is a virtual table created using a SELECT query.

26. What is normalization?

Normalization organizes data to reduce redundancy.

27. What is a schema?

A schema organizes database objects like tables and views.

28. What is data cleaning in SQL?

Removing duplicates, handling NULLs, and correcting incorrect data.

29. Do interviewers ask to write queries?

Yes, basic SQL queries are commonly asked in interviews.

30. What SQL skills are important for freshers?

SELECT, WHERE, GROUP BY, JOIN, and clear logical thinking.