

# 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.