

50 questions for SQL interview preparation

1. How would you optimize a query that is running slowly on a large database?

2. Can you explain the difference between an inner join and a left outer join? Give an example of when you would use each.

3. How would you design and implement a database schema for a multi-tenant application?

4. How do you handle data consistency and integrity constraints in your SQL queries?

5. Can you explain the use of indexes in a database and how they affect query performance?

6. How would you implement a stored procedure to update data in multiple tables in a transactional manner?

7. Can you explain how you would use window functions to analyze and aggregate data in a query?

8. How would you design a system for reporting and analyzing large amounts of data in real time?

9. Can you discuss your experience with data warehousing and ETL processes?

10. How do you handle security and access controls in your SQL queries and database design?

11. How would you approach troubleshooting a query that is returning unexpected results?

12. Can you explain the difference between clustered and non-clustered indexes?

13. How would you design a database for a system that needs to handle high concurrent read and write operations?



14.How do you handle NULL values in your SQL queries?
15.Can you explain the use of subqueries in SQL and give an example of when you would use one?
16.How would you implement a data auditing system to track changes to specific records in a database?
17.Can you discuss your experience with replication and disaster recovery in databases?
18.How would you optimize a query that is joining multiple large tables?
19.Can you explain the use of views in a database and how they can be used to simplify queries?
20.How would you design a database for a system that needs to handle large amounts of historical data?
21.Can you discuss your experience with partitioning and sharding in databases?
22.How would you implement data encryption in a database?
23.Can you explain the use of cursors in SQL and give an example of when you would use one?
24.How would you design a database for a system that needs to handle a high volume of data insertion?
25.Can you discuss your experience with backup and restore procedures for databases?
26.How would you optimize a query that is using a large amount of temporary data?
27.Can you explain the use of triggers in a database and how they can be used to enforce constraints?

28.How would you design a database for a system that needs to handle high availability?
29.Can you discuss your experience with performance tuning and optimization of the database?
30.How would you implement data validation in a database?
31.Can you explain the use of stored procedures in a database and how they can be used to improve performance?
32.How would you design a database for a system that needs to handle a high volume of data deletion?
33.Can you discuss your experience with monitoring and troubleshooting database performance?
34.How would you implement data archiving in a database?
35.Can you explain the use of transactions in a database and how they can be used to ensure data consistency?
36.How would you design a database for a system that needs to handle a high volume of data updates?
37.Can you discuss your experience with database security best practices?
38.How would you implement data migration in a database?
39.Can you explain the use of dynamic SQL in a database and how it can be used to improve flexibility and maintainability?
40.How would you design a database for a system that needs to handle high scalability?
41.How many types of Privileges are available in SQL?



42.What is a transaction's main controls?
43.What are the valid properties of the transaction?
44.What happens if auto-commit is enabled in SQL?
45.Does a View contain data?
46.What is a query for writing a function block for adding two numbers in SQL?
47.Inside a stored procedure you iterate over a set of rows returned by a query using called?
48.What is SQL Injection?
49.What data type would you choose if you wanted to store the distance (rounded to the nearest mile)?
50.What are the possible values for the BOOLEAN data field in MySQL?

