42 T-SQL Interview Questions That You Should Ask to Hire Top Engineers

Questions

1. What is the difference between DELETE and TRUNCATE commands in T-SQL?

2. How would you retrieve the first 5 rows from a table named 'Employees'?

3. Explain the purpose of the GROUP BY clause in a SELECT statement.

4. What is a stored procedure and why would you use one?

5. How do you create a new table in T-SQL?

6. What's the difference between UNION and UNION ALL?

7. Explain the concept of a primary key in a database table.

8. How would you find duplicate records in a table?

9. What is the purpose of the HAVING clause in a SQL query?

10. How do you join two tables in T-SQL?

11. What is the difference between a clustered and non-clustered index?

12. How would you convert a string to a date in T-SQL?

13. Explain the concept of a subquery and provide a simple example.

14. What is the purpose of the COALESCE function in T-SQL?

15. How would you handle NULL values in a WHERE clause?

16. What are the different types of joins in T-SQL?

17. Can you explain what a view is in T-SQL and why you might use one?

18. What is the purpose of the DISTINCT keyword in T-SQL?

19. How can you improve the performance of a slow-running query in T-SQL?

20. Explain what a transaction is in T-SQL and why it is important.

21. What is normalization, and why is it important in database design?

22. How would you handle error handling in T-SQL?

23. What do you understand by data integrity, and how do you enforce it in T-SQL?

24. How would you use execution plans to identify performance bottlenecks in a query?

25. Explain the concept of query parallelism and when it might be beneficial.

26. What strategies would you employ to optimize a query that involves multiple joins?

27. How can you use indexing to improve query performance, and what are the trade-offs?

28. Describe the impact of using wildcard characters at the beginning of a LIKE clause on query performance.

29. How does the NOLOCK hint affect query execution, and when should it be used?

30. Explain the benefits and potential drawbacks of using temporary tables in complex queries.

31. How can you use the OPTION (RECOMPILE) query hint to potentially improve performance?

32. What is parameter sniffing, and how can it affect query performance?

33. How would you approach optimizing a query that uses a scalar user-defined function?

34. Explain the concept of statistics in SQL Server and how they impact query performance.

35. How can you use the MERGE statement to improve the performance of UPSERT operations?

36. Can you explain what a transaction is in T-SQL?

37. What is the difference between COMMIT and ROLLBACK in T-SQL transactions?

38. How would you handle errors within a transaction in T-SQL?

39. Why is it important to use transactions in database operations?

40. What is a nested transaction, and how does it behave in T-SQL?

41. What are savepoints and how are they used in T-SQL transactions?

42. How do isolation levels affect transactions in T-SQL?