



WEB DEVELOPER

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# 100 SQL INTERVIEW Q/A



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## 1. What is SQL?

Structured Query Language used to interact with databases.

## 2. What are the types of SQL statements?

DDL, DML, DCL, TCL.

## 3. What is DDL?

Data Definition Language, e.g., CREATE, ALTER.

## 4. What is DML?

Data Manipulation Language, e.g., INSERT, UPDATE.

## 5. What is DCL?

Data Control Language, e.g., GRANT, REVOKE.

## 6. What is TCL?

Transaction Control Language, e.g., COMMIT, ROLLBACK.

## 7. What is a primary key?

A unique identifier for a record in a table.

## 8. What is a foreign key?

A key that links two tables together.

## 9. What is a unique key?

A constraint that ensures all values in a column are distinct.

## 10. What is a NULL value?

Represents missing or unknown data.

## 11. What is a join?

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

## 12. What is an inner join?

Returns rows with matching values in both tables.

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### 13. What is a left join?

Returns all rows from the left table, and matching rows from the right.

### 14. What is a right join?

Returns all rows from the right table, and matching rows from the left.

### 15. What is a full join?

Returns all rows when there is a match in either table.

### 16. What is a cross join?

Returns the Cartesian product of two tables.

### 17. What is a self join?

A table joined with itself.

### 18. What is an index?

A performance-tuning method for faster retrieval of records.

### 19. What is a clustered index?

Physically reorders the data in the table.

### 20. What is a non-clustered index?

Does not alter the physical order but creates a logical order.

### 21. What is a view?

A virtual table based on the result set of a query.

### 22. What is a subquery?

A query nested inside another query.

### 23. What is a correlated subquery?

A subquery that uses values from the outer query.

### 24. What is a stored procedure?

A saved collection of SQL statements for reuse.

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### **25. What is a function?**

Returns a value based on given input parameters.

### **26. What is a subquery?**

A query within another query.

### **27. What is a correlated subquery?**

A subquery that depends on the outer query for its values.

### **28. What is a constraint?**

A rule enforced on data columns in a table.

### **29. What is the CHECK constraint?**

Limits the values that can be placed in a column.

### **30. What is the DEFAULT constraint?**

Sets a default value for a column if no value is provided.

### **31. What is the UNIQUE constraint?**

Ensures all values in a column are distinct.

### **32. What is the NOT NULL constraint?**

Ensures a column cannot have NULL values.

### **33. What is a sequence?**

Generates a sequence of unique numbers.

### **34. What is ACID compliance?**

Set of properties ensuring reliable transaction processing.

### **35. What is a transaction?**

A sequence of operations performed as a single logical unit.

### **36. What is COMMIT?**

Saves the changes made by a transaction.

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### **37. What is ROLLBACK?**

Undoes the changes made by a transaction.

### **38. What is SAVEPOINT?**

Sets a point within a transaction to which you can ROLLBACK.

### **39. What is a cursor?**

A database object used to retrieve row-by-row results.

### **40. What is a UNION?**

Combines the result of two SELECT statements, removing duplicates.

### **41. What is UNION ALL?**

Combines the result of two SELECT statements, without removing duplicates.

### **42. What is an INTERSECT?**

Returns only the rows common to both SELECT queries.

### **43. What is an EXCEPT?**

Returns rows from the first query that are not in the second query.

### **44. What is GROUP BY?**

Groups rows with the same values into summary rows.

### **45. What is HAVING?**

Filters groups based on a condition.

### **46. What is the difference between WHERE and HAVING?**

WHERE filters rows, HAVING filters groups.

### **47. What is ORDER BY?**

Sorts the result set based on one or more columns.

### **48. What is LIMIT?**

Limits the number of rows returned by a query.

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### **49. What is DISTINCT?**

Removes duplicate rows from a result set.

### **50. What is an alias?**

A temporary name for a table or column.

### **51. What is a schema?**

Defines the structure of a database.

### **52. What is a database?**

An organized collection of data stored and accessed electronically.

### **53. What is a table?**

A collection of related data in rows and columns.

### **54. What is a column?**

A vertical entity in a table that holds data of the same type.

### **55. What is a row?**

A horizontal entity in a table representing a single record.

### **56. What is data integrity?**

Ensures the accuracy and consistency of data.

### **57. What is a composite key?**

A key made of two or more columns to uniquely identify rows.

### **58. What is a surrogate key?**

An artificially generated key, typically an auto-incremented number.

### **59. What is the difference between DELETE and TRUNCATE?**

DELETE removes rows individually, TRUNCATE removes all rows without logging individual row deletions.

### **60. What is the difference between DROP and DELETE?**

DROP removes the table structure, DELETE removes data but keeps the structure.

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### **61. What is the difference between DROP and TRUNCATE?**

DROP deletes the table structure, TRUNCATE deletes only the data.

### **62. What is a data type?**

Specifies the kind of data that can be stored in a column (e.g., INT, VARCHAR).

### **63. What is VARCHAR?**

Variable-length character data type.

### **64. What is CHAR?**

Fixed-length character data type.

### **65. What is TEXT?**

Holds large strings of text data.

### **66. What is INT?**

Stores whole numbers.

### **67. What is FLOAT?**

Stores floating-point numbers.

### **68. What is BOOLEAN?**

Stores true or false values.

### **69. What is DATE?**

Stores date values (year, month, day).

### **70. What is TIMESTAMP?**

Stores both date and time values.

### **71. What is the difference between CHAR and VARCHAR?**

CHAR is fixed-length, VARCHAR is variable-length.

### **72. What is a JOIN?**

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

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### **73. What is an aggregate function?**

Performs calculations on multiple values (e.g., SUM, AVG).

### **74. What is COUNT?**

Returns the number of rows.

### **75. What is SUM?**

Returns the total of numeric values.

### **76. What is AVG?**

Returns the average value of numeric data.

### **77. What is MIN?**

Returns the smallest value.

### **78. What is MAX?**

Returns the largest value.

### **79. What is COALESCE?**

Returns the first non-NULL value in a list.

### **80. What is NULLIF?**

Returns NULL if two expressions are equal.

### **81. What is IFNULL?**

Returns a value if the expression is NULL.

### **82. What is a recursive query?**

A query that refers to itself to retrieve hierarchical data.

### **83. What is a pivot table?**

A table that summarizes data from other tables, usually for reporting.

### **84. What is a window function?**

Performs calculations across rows related to the current row.

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### **85. What is a materialized view?**

A view that stores query results physically.

### **86. What is a scalar function?**

Returns a single value based on input values.

### **87. What is a table-valued function?**

Returns a table as a result.

### **88. What is EXISTS?**

Checks if a subquery returns any rows.

### **89. What is IN?**

Tests if a value exists in a list of values.

### **90. What is BETWEEN?**

Filters values within a range.

### **91. What is LIKE?**

Searches for a specified pattern in a column.

### **92. What is CASE?**

Returns different values based on conditions.

### **93. What is the difference between INNER JOIN and OUTER JOIN?**

INNER JOIN returns only matching rows; OUTER JOIN returns matching and non-matching rows.

### **94. What is a temporary table?**

A table created temporarily for the duration of a session.

**96. What is a deadlock?**

A situation where two transactions block each other.

**97. What is query optimization?**

Improving the performance of a query.

**98. What is a relational database?**

A database based on the relational model.

**99. What is a non-relational database?**

A database that does not follow the relational model, often NoSQL.

**100. What is the difference between SQL and NoSQL?**

SQL databases are relational, NoSQL databases are non-relational.