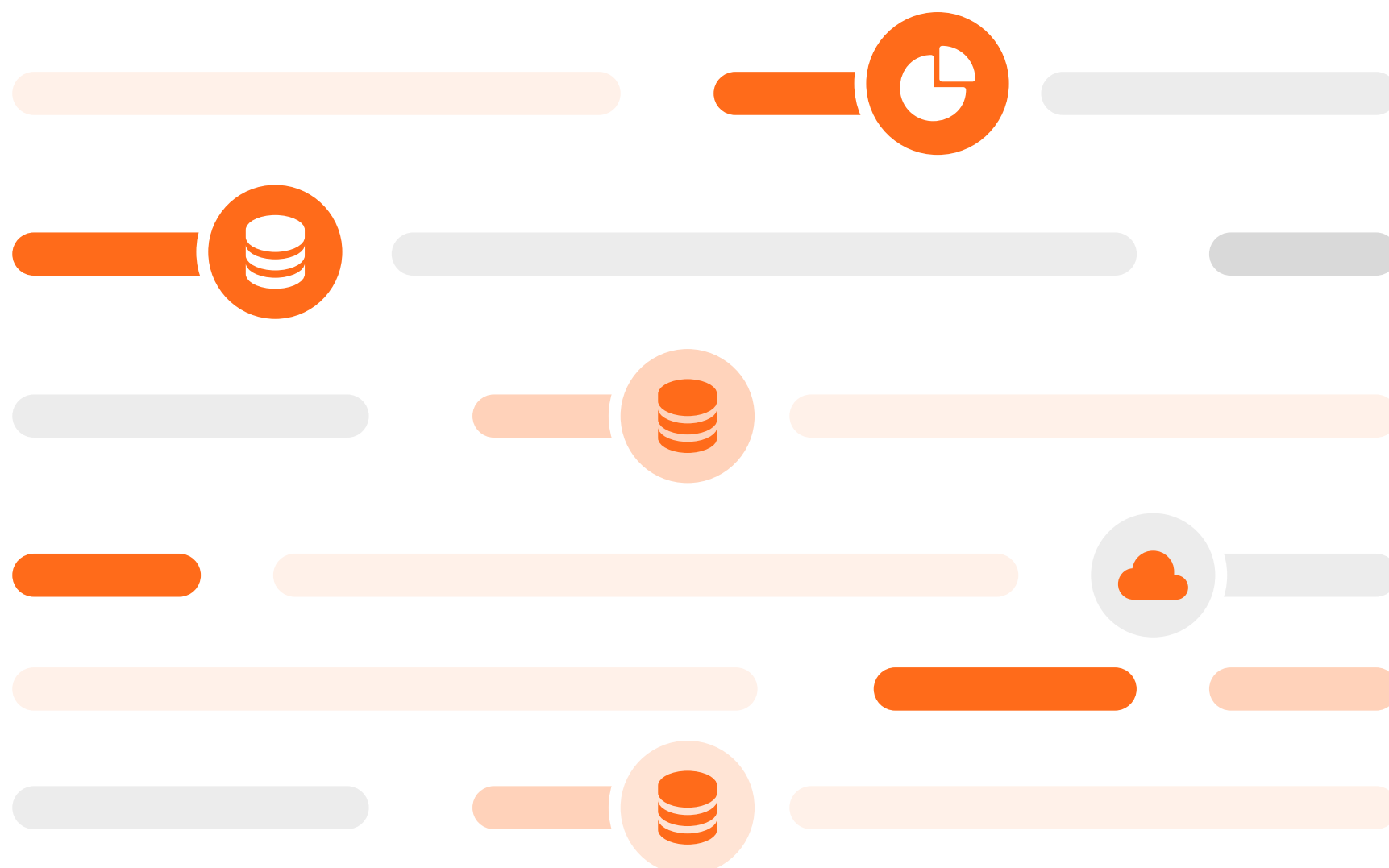


B E T H E

SQL BOSS

Crack Interviews



with Top 20 Questions

Q1. What is SQL?

Ans. SQL (Structured Query Language) is a domain-specific language used to manage and manipulate relational databases.

Q2. What is a Database?

Ans. A database is a structured collection of data that is organized and stored for easy retrieval and management.

Q3. Which SQL command categories are you familiar with?

Ans.

- **Data Definition Language (DDL):** Used to define and modify the structure of a database.
- **Data Manipulation Language (DML):** Used to access, manipulate, and modify data in a database.
- **Data Control Language (DCL):** Used to manage user access to database data, granting or revoking privileges to individuals or groups.



- **Transaction Control Language (TCL):** Used to oversee transactions within a database.
- **Data Query Language (DQL):** Utilized for querying and extracting essential information from a database's data.

Q4. | Explain SELECT statement.

Ans. **SELECT** retrieves data from a database table. It's used to query and fetch specific data.

Q5. | What is a JOIN in SQL?

Ans. **JOIN** combines rows from two or more tables based on a related column to retrieve data from multiple tables.

Q6. | Differentiate between INNER JOIN and LEFT JOIN.

Ans. **INNER JOIN** returns only matching rows from both tables, while **LEFT JOIN** returns all rows from the left table and matching rows from the right table.



Q7. Explain the GROUP BY clause.

Ans. **GROUP BY** groups rows that have the same values into summary rows, typically to perform aggregate functions on the grouped data.

Q8. Can you name some SQL constraints?

Ans.

- **DEFAULT:** Sets a default value for a column.
 - **UNIQUE:** Ensures only distinct values are allowed.
 - **NOT NULL:** Requires values to be non-null.
 - **PRIMARY KEY:** Enforces uniqueness and non-null values (a combination of **NOT NULL** and **UNIQUE**).
 - **FOREIGN KEY:** Establishes connections between multiple tables using shared keys.
-

Q9. Define Index in SQL.

Ans. An index is a database object used to improve the speed of data retrieval operations on a database table.



Q10.

Explain normalization and its types.

Ans. Normalization is the process of organizing data in a database to reduce redundancy. Types include 1NF, 2NF, and 3NF.

Q11.

What is an SQL injection?

Ans. SQL injection is a malicious technique where an attacker inserts malicious SQL code into a query, potentially compromising the database.

Q12.

How to update a table?

Ans. You can update records in a table using the **UPDATE** statement. Here's the basic syntax for updating data in a table:

SQL

```
UPDATE table_name  
SET column1 = value1, column2 = value2, ...  
WHERE condition;
```



Q13.

What is the difference between UNION and UNION ALL?

Ans. **UNION** combines and removes duplicate rows, while **UNION ALL** combines all rows, including duplicates.

Q14.

Explain ACID properties in the context of databases.

Ans. **ACID** stands for Atomicity, Consistency, Isolation, and Durability, ensuring the reliability of database transactions.

Q15.

What is the purpose of the HAVING clause?

Ans. **HAVING** is used in combination with the **GROUP BY** clause to filter grouped rows based on specified conditions.

Q16.

How do you perform a full database backup?

Ans. Use the **BACKUP DATABASE** statement to create a full backup of a SQL Server database.



Q17.

What is the **DISTINCT** statement and how do you use it?

Ans. The **DISTINCT** statement in SQL is used to retrieve unique values from a specific column or set of columns in a database table. It ensures that the result set only contains distinct (unique) values, eliminating duplicate entries.

Here's how you use the **DISTINCT** statement:

SQL

```
SELECT DISTINCT column1, column2, ...  
FROM table_name  
WHERE condition;
```

Q18.

What is a stored procedure?

Ans. A stored procedure is a precompiled collection of one or more SQL statements, stored for future execution.



Q19. What is an ALIAS command?

Ans. In SQL, the **ALIAS** command, often referred to as the **AS** keyword, is used to give a table or column a temporary name. It is primarily used for making column or table names more readable or for shortening lengthy names in query results. For example, you can use **AS** to create an alias like this:

SQL

```
SELECT first_name AS "First Name", last_name AS "Last Name" FROM employees;
```

In this query, "First Name" and "Last Name" are aliases for the first_name and last_name columns, respectively, making the result set more human-readable.

Q20. Explain the concept of a self-join.


Ans. A self-join is when a table is joined with itself, typically using aliases to distinguish between the two instances.





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