- What is a **Database** ?

- What is **DMBMS , RDBMS**?

- Can you differentiate between **SQL and MySQL**?

- Why do we use **joins** ?

- What is the output when used **inner join/ left/ right/ outer joins**?

- How u **handle null values**?

- How do u **handle duplicate values** ?

SQL INTERVIEW QUESTIONS PART -3

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What is Database?

Database is a collection of interrelated data.

What is DBMS?

DBMS (Database Management System) is software used to create, manage, and organize databases
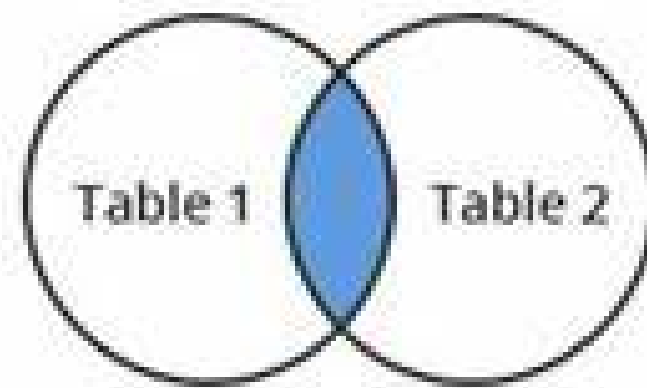
What is RDBMS?

● RDBMS (Relational Database Management System) - is a DBMS based on the concept of tables (also called relations).
● Data is organized into tables (also known as relations) with rows (records) and columns (attributes).
● Eg - MySQL, PostgreSQL, Oracle etc.

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Why do we use joins?

Joins are used in SQL to combine data from multiple tables based on a related column between them. They help us retrieve meaningful information by connecting related data across different tables, avoiding data duplication and improving query efficiency.

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What is the output when used various types of joins

INNER JOIN

Table 1   Table 2

LEFT JOIN

Table 1   Table 2

RIGHT JOIN

Table 1   Table 2

OUTER JOIN

Table 1   Table 2
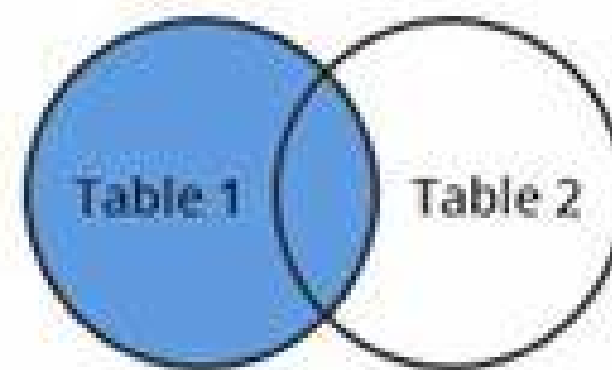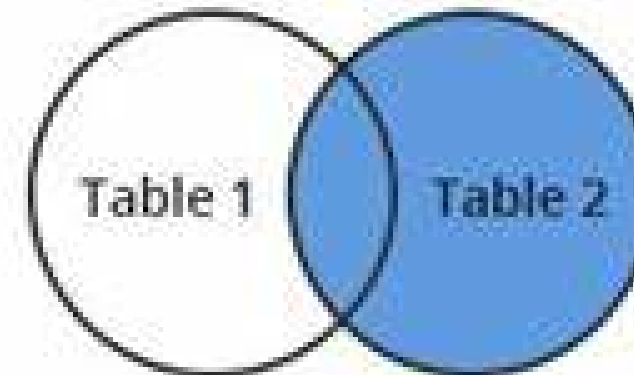
Inner Join:
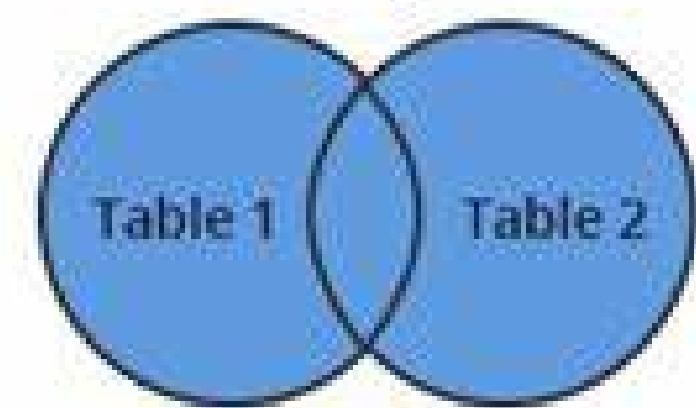*Returns only the rows with matching values in both tables.*

Left Join: Returns all rows from the left table and the matched rows from the right table. Unmatched values in the right table result in NULL.

Right Join: Returns all rows from the right table and the matched rows from the left table. Unmatched values in the left table result in NULL.

Full Outer Join: Returns all rows from both tables, with NULL values in places where there's no match.

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How u handle null values?

Null values can occur when there's no match in a join or when a column doesn't have a value. To handle them:

Use **IS NULL** or **IS NOT NULL** conditions to filter rows with or without null values.

Utilize functions like **COALESCE()** or **ISNULL()** to replace null values with specific default values.

Employ the **NVL() function (in Oracle) or IFNULL() function (in MySQL)** to handle nulls.

How do u handle duplicate values ?

Handling Duplicate Values:

Duplicate values might arise due to improper data entry or database design. To address them:

Use the **DISTINCT** keyword to remove duplicate rows from the result set.

Group data using the **GROUP BY** clause along with aggregate functions like **COUNT(), SUM(), etc.,** to consolidate duplicate values.

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Can you differentiate between SQL and MySQL?

SQL and MySQL are closely related but serve different purposes in the world of databases.

SQL (Structured Query Language):

SQL is a domain-specific language used for managing and manipulating relational databases. It's employed to perform **CRUD (Create, Read, Update, Delete) operations** on the data stored within a **relational database management system (RDBMS)**. These operations include:

CREATE: Creating databases, defining tables, and adding data to tables.
READ: Retrieving data from tables using SELECT queries.
UPDATE: Modifying existing data in the tables.
DELETE: Removing data, tables, or even entire databases.

MySQL:

MySQL, on the other hand, is an example of an RDBMS that uses SQL as its language for managing and querying databases. *It's an open-source database management system that facilitates the storage, organization, and retrieval of data.*

MySQL supports various data types, indexes, and advanced features, making it a popular choice for web applications and various software solutions.

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🗣️ **Have a different approach or Answers for these Data Analyst interview questions?**

I'd love to hear from you! 💬

Share your answers in the comments below and let's exchange valuable ideas.

Together, we can enhance our interview preparation and excel in the world of data analysis!

Feel free to connect if you'd like to discuss more about data analysis

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