**8) Significance of % and \_ operators in the LIKE statement**

* **%**: Represents zero, one, or multiple characters in a string.
  + Example: 'A%' matches strings like 'Apple', 'Android', or 'A'.
* **\_**: Represents exactly one character in a string.
  + Example: 'A\_' matches strings like 'AB' or 'AC', but not 'ABC'.

**9) Explain normalization in the context of databases**

Normalization is the process of organizing database tables to reduce redundancy and improve data integrity. It involves dividing larger tables into smaller, related tables and defining relationships between them.

**Advantages of normalization:**

* Minimizes duplicate data.
* Ensures consistency and data integrity.
* Simplifies maintenance and updates.

**Common normalization forms:**

1. **1NF**: Removes duplicate columns and ensures atomicity (single values in cells).
2. **2NF**: Removes subsets of data that depend on part of the primary key.
3. **3NF**: Ensures no transitive dependency (non-key column depending on another non-key column).

**10) What does a join in MySQL mean?**

A JOIN in MySQL combines rows from two or more tables based on a related column.

**Types of joins:**

1. **INNER JOIN**: Returns rows with matching values in both tables.
2. **LEFT JOIN (OUTER JOIN)**: Returns all rows from the left table and matching rows from the right table. Non-matching rows from the right table are filled with NULL.
3. **RIGHT JOIN (OUTER JOIN)**: Returns all rows from the right table and matching rows from the left table. Non-matching rows from the left table are filled with NULL.
4. **FULL OUTER JOIN**: Combines results of both left and right joins. (Not natively supported in MySQL; requires UNION.)
5. **CROSS JOIN**: Returns a Cartesian product of both tables.

**11) Explain DDL, DCL, and DML in MySQL**

1. **DDL (Data Definition Language)**:
   * Deals with defining and altering database structures.
   * Commands: CREATE, ALTER, DROP, TRUNCATE.
   * Example: CREATE TABLE Employee (...);
2. **DML (Data Manipulation Language)**:
   * Handles data manipulation within tables.
   * Commands: INSERT, UPDATE, DELETE, SELECT.
   * Example: INSERT INTO Employee (FirstName, LastName) VALUES ('John', 'Doe');
3. **DCL (Data Control Language)**:
   * Controls access and permissions.
   * Commands: GRANT, REVOKE.
   * Example: GRANT SELECT ON Employee TO 'username';

**12) Role of the MySQL JOIN clause and common types**

The JOIN clause connects rows from two or more tables based on a related column. It helps retrieve data that spans across multiple tables in a relational database.

**Common types of joins**:

1. **INNER JOIN**: Retrieves rows with matching values in both tables.
2. **LEFT JOIN**: Returns all rows from the left table, with matching rows from the right table.
3. **RIGHT JOIN**: Returns all rows from the right table, with matching rows from the left table.
4. **CROSS JOIN**: Produces a Cartesian product of both tables.
5. **SELF JOIN**: A table is joined with itself to compare rows within the same table.