## ****Top 10 Interview Questions: Detailed Answers****

**What is Normalization?**  
It is the process of organizing data to reduce redundancy and improve data integrity

**Primary Key vs Foreign Key**

Primary Key: Uniquely identifies each row in a table.

Foreign Key: A field that refers to the primary key of another table.

**What are Constraints?**  
Rules enforced on data columns. Examples: NOT NULL, UNIQUE, CHECK, DEFAULT.

**What is a Surrogate Key?**  
An artificial key (e.g., AUTO\_INCREMENT) used instead of a natural key.

**How to Avoid Redundancy?**  
Through normalization, foreign keys, and table splitting (e.g., separate Customers and Orders).

**What is an ER Diagram?**  
A visual representation of entities and their relationships in a database.

**Types of Relationships in DBMS:**

One-to-One

One-to-Many

Many-to-Many

**Purpose of AUTO\_INCREMENT**  
Automatically generates unique values for primary key fields.

**Default Storage Engine in MySQL**  
InnoDB — supports transactions, foreign keys, and row-level locking.

**What is a Composite Key?**  
A primary key made of two or more columns (e.g., order\_id + product\_id in Order\_Items).