

SQL Introduction

Data

Data = collection of information

Examples: text, images, mp3, mp4

Database

A database is used to store data.

DBMS → Database Management System

RDBMS → Relational Database Management System

RDBMS

Data is stored in the form of **rows and columns**. Each data is stored in separate blocks and it is difficult to access; hence we use "**tables format**".

Table: Collection of rows and columns, also known as **records and fields**.

DBMS

Data is stored in the form of a **text file**.

Example: JSON → key:value (dictionary format)

Difference

- **RDBMS** is accessed by **SQL** (Relational data).
- **DBMS** is accessed by **NoSQL** (e.g., MongoDB).

Structured Query Language (SQL)

SQL is a programming language used to communicate with **relational type of data**.

Query: A set of commands/instructions.

Platforms: MySQL, Oracle, SQL Server, PostgreSQL, etc.

MySQL (and others) work on relational databases.

All are similar but have small differences.

Commands in SQL

1. **DDL – Data Definition Language**
Focuses on table structure/architecture
2. **DML – Data Manipulation Language**
Focuses on table data
3. **DCL – Data Control Language**
Grant, revoke access/permissions
4. **DQL – Data Query Language**
To view or fetch the whole table / data
5. **TCL – Transaction Control Language**
To modify or control transactions