

## 1 MySQL

MySQL is a **software (RDBMS)** used to **store, manage, and retrieve data** from databases.

- Developed in **1995**
  - Developed by **Monty Widenius**
  - Uses **SQL (Structured Query Language)**
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## 2 DBMS

DBMS (**Database Management System**) is a **software** used to manage data in databases.

**Characteristics of DBMS:**

1. Data stored in **unstructured way**
  2. **Time-consuming**
  3. **No accuracy**
  4. **Space complexity**
  5. No proper relationship between data
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## 3 RDBMS

RDBMS (**Relational Database Management System**) is also a **software** used to manage data in databases.

**Characteristics of RDBMS:**

1. Data stored in **structured way**

2. Data stored in **tabular format (rows & columns)**
  3. Maintains **relationships** between tables
  4. More **accurate & efficient**
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## 4 DBMS vs RDBMS (Important)

Statement	True / False
DBMS = RDBMS	✗ False
RDBMS $\subset$ DBMS	✓ True

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## 5 Database Terminology

Normal Term	Database Term
Table	Entity
Row	Record / Tuple
Column	Field / Attribute
Database	Schema
Field list	Field set

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## 6 Table Explanation

A **table (entity)** contains:

- **Rows** → Records / Tuples
- **Columns** → Fields / Attributes

**Example:**

## STUDENT TABLE

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| Srollno | Sname | Marks | %

- **Column headings** → Field set
  - **Text / values / data** → Data set
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## 7 Field Set

👉 Group of column headings is called Field Set

Example:

Srollno, Sname, Marks, %

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## 8 What is a Query?

- **Query** means **questioning the database**
- Used to **fetch, insert, update, or delete data**

👉 Query follows **syntax**

Example:

SELECT \* FROM student;

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## 9 SQL

**SQL (Structured Query Language)** is used to communicate with databases.

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## 10 Types of SQL Languages (5 Types)

### 1 DDL – Data Definition Language

Used to **define database structure**

Commands:

- CREATE
  - ALTER
  - DROP
  - RENAME
  - TRUNCATE
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### 2 DML – Data Manipulation Language

Used to **manipulate data**

Commands:

- INSERT
  - UPDATE
  - DELETE
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### 3 DQL – Data Query Language

Used to **retrieve data**

Command:

- SELECT

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## **4 DCL – Data Control Language**

Used to **control access**

Commands:

- GRANT
- REVOKE

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## **5 TCL – Transaction Control Language**

Used to **manage transactions**

Commands:

- COMMIT
- ROLLBACK
- SAVEPOINT