

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 ⊂ DBMS	True

5 Database Terminology

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

6 Table Explanation

A **table (entity)** contains:

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

Example:

STUDENT TABLE

Srollno	Sname	Marks	%
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- **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, %

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;
```

9 SQL

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

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

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