

❖ **DBMS (Database Management System):**

A DBMS is a software system that enables users to create, manage, and interact with databases. It allows for the storage, retrieval, and manipulation of data without requiring users to write extensive code. Examples include Microsoft Access, SQLite, and FileMaker.

❖ **RDBMS (Relational Database Management System):**

An RDBMS is a specific type of DBMS based on the relational model introduced by E.F. Codd. It organizes data into tables (rows and columns) and uses Structured Query Language (SQL) to manage and query data. Examples include MySQL, PostgreSQL, Oracle Database, and Microsoft SQL Server.

❖ **DBMS vs RDBMS**

DBMS	RDBMS
DBMS stores data as file.	RDBMS stores data in tabular form.
Data elements need to access individually.	Multiple data elements can be accessed at the same time.
No relationship between data.	Data is stored in the form of tables which are related to each other.
Normalization is not present.	Normalization is present.
DBMS does not support distributed database.	RDBMS supports distributed database.
It stores data in either a navigational or hierarchical form.	It uses a tabular structure where the headers are the column names, and the rows contain corresponding values.
It deals with small quantity of data.	It deals with large amount of data.
Data redundancy is common in this model.	Keys and indexes do not allow Data redundancy.

DBMS	RDBMS
It is used for small organization and deal with small data.	It is used to handle large amount of data.
Not all Codd rules are satisfied.	All 12 Codd rules are satisfied.
Security is less	More security measures provided.
It supports single user.	It supports multiple users.
Data fetching is slower for the large amount of data.	Data fetching is fast because of relational approach.
The data in a DBMS is subject to low security levels with regards to data manipulation.	There exists multiple levels of data security in a RDBMS.
Low software and hardware necessities.	Higher software and hardware necessities.
Examples: XML , Window Registry, Forxpro, dbaseIIIplus etc.	Examples: MySQL , PostgreSQL , SQL Server, Oracle, Microsoft Access etc.

❖ Types of Databases

❖ There are several types of databases, that are briefly explained below.

1. [Hierarchical databases](#)
2. [Network databases](#)
3. [Object-oriented databases](#)
4. [Relational databases](#)
5. [Cloud Database](#)
6. [Centralized Database](#)
7. [Operational Database](#)
8. [NoSQL databases](#)