



Data base management

- DMBS
- RDBMS
- MySQL
- Postgre SQL
- SQL Server

Nawres Ghressi

What is RDBM?

DBMS: Database Management System

DBMS (Database Management System) is a system that is used to store and manage data.

A DBMS is a set of programs that is used to store and manipulation data.

Manipulation of data includes the following:

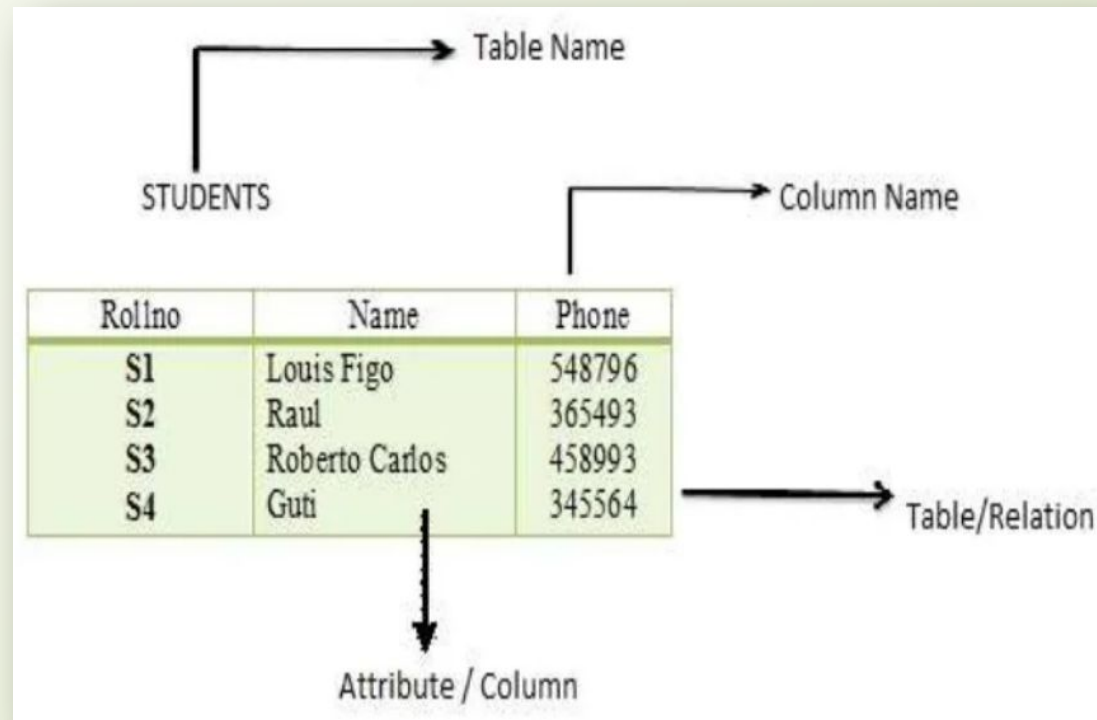
- ☐ Adding new data
- ☐ Deleting unwanted data
- ☐ Changing existing data

Most Popular Database Platforms

	2019	2018	%Change
MySQL	52%	59%	-7%
PostgreSQL	36%	33%	3%
MS SQL Server	34%	42%	-8%

RDBMS(Relational Database Management System)

- ❑ RDBMS data is structured in database tables, fields and records.
- ❑ Each RDBMS table consists of database table rows.
- ❑ Each database table row consists of one or more database table fields.
- ❑ RDBMS store the data into collection of tables, which might be related by common fields (database table columns).
- ❑ RDBMS also provide relational operators to manipulate the data stored into the database tables.



MySQL

MySQL is the most popular RDBMS. It was initially released the 23 May 1995 and written in C/C++. It is currently owned by Oracle Corporation.

It is used by many popular companies: Google, LinkedIn, Amazon, Netflix, Facebook, Twitter, Youtube...

MySQL is open-source and benefits from a very big community.

As a RDBMS it uses a strict schema model (data inputs must strictly respect a certain schema without flexibility as in NoSQL) and relational nature of its data.

As a SQL (structured query language) it uses queries to obtain data via JOINS to join / connect tables together.

Compared to NoSQL, SQL allows to automatically update data redundant in different parts of the databases.



Postgre SQL

Postgre SQL is the second most popular RDBMS. It was initially released the 8 July 1996 and written in C. It is developed and owned by PostgreSQL Global Development Group.

It is used by many popular companies: Cisco, Apple, Skype...

MySQL is open-source and benefits from a very big community.

As a RDBMS it uses a strict schema model (data inputs must strictly respect a certain schema without flexibility as in NoSQL) and relational nature of its data.

As a SQL (structured query language) it uses queries to obtain data via JOINS to join / connect tables together.

Compared to NoSQL, SQL allows to automatically update data redundant in different parts of the databases.



SQL Server

SQL Server is also a RDBMS. It was initially released the 2 April 1989 and written in C,C++ and C#. It was developed and owned by Microsoft.

It is used by many popular companies: EdgeWood College, Palo Alto University, Palo Alto University... MySQL is a commercial solution (everything is licensed so must be purchased).

As a RDBMS it uses a strict schema model (data inputs must strictly respect a certain schema without flexibility as in NoSQL) and relational nature of its data.

As a SQL (structured query language) it uses queries to obtain data via JOINS to join / connect tables together.

Compared to NoSQL, SQL allows to automatically update data redundant in different parts of the databases.





Open-source	Open-source	Licensed
Owned by Oracle	Owned by PostgreSQL Global Development Group	Owned by Microsoft
Scalable buffer pool to pull cache	Scalable buffer pool to pull cache	Isolate processes as separate OS processes
Limited functionality regarding temporary tables to deal with complex processes	More functionality regarding temporary tables (divide tables into local and global). Better with complex processes.	More functionality regarding temporary tables (divide tables into local and global). Better with complex processes.
Organizes indexes into clusters and tables (not very flexible search)	Rich automated functionality for index management	Flexible search
Belongs to the Oracle ecosystem (very large community)	Belongs to the Oracle ecosystem (very large community)	Smaller community but Microsoft support team
Targeted to all sizes of companies	Targeted to all sizes of companies	Targeted to large companies
Flexible, cost efficient and innovative	Flexible, cost efficient and innovative	Professional management tools for big businesses