Difference between DBMS and RDBMS

The Difference Between DBMS and RDBMS is that DBMS is a collection of inter-related data that is used to retrieve, insert and delete the data efficiently. In contrast, RDBMS is the relational database management system that uses the relational model for storing, accessing, and retrieving data. We have a humongous amount of data on the internet, our systems, servers, etc do you ever think about where this data is stored? How are we able to access the data? All these questions will be well answered while learning the difference between DBMS and RDBMS.

Before starting with the difference between DBMS and RDBMS, let's understand some basics about databases. To organize data we have various types of DBMS software such as Oracle, MySQL, PostgreSQL, etc. This software is used in various applications to manage data. Also, we have different DBMS systems available in the market like flat-file systems, RDBMS(Relational DBMS), Hierarchal DBMS, Network DBMS, etc out of these variants we will only focus on the difference between DBMS and RDBMS.

What is the Difference between DBMS and RDBMS?
The difference between DBMS and RDBMS tells about the basics of databases. DBMS or database management system is software that is used to manage the database. It is used for storing, managing, and retrieving data. A relational Database Management System (RDBMS) is used to store, manage, query, and retrieve data stored in a relational database.

Key Differences Between DBMS and RDBMS

DBMS	RDBMS
Data is stored in file format	Data is stored in relations/table format
Individual data values can be accessed	Multiple data elements can be accessed together

Normalization of data helps in removing data repetition and redundancy	Normalization is not present in RDBMS
Data is stored in small quantity	Data is stored in large quantity
It supports single-user access.	It supports multiple user access.
Data fetching is slower	Data fetching is fast because of the relational approach
Low security of data	Multiple levels of security for data in RDBMS
There is no relation between data elements in DBMS	Data is stored in the form of tables, therefore data is linked in RDBMS
Examples: XML, HTML, Window Registry, etc.	Examples: SQL, MySQL, PostgreSQL, etc.

What is DBMS?

The database is a collection of inter-related data that is used to retrieve, insert and delete the data efficiently. It organizes the data in the form of a table, schema, views, reports, etc. It provides an interface to perform various tasks like creating databases, manipulating data, updating data, storing data, etc.

Tasks That DBMS Allows its User to Perform

DBMS allows its user to perform various tasks on a vast variety of data. Operations that a user can perform to update, alter, delete, and retrieve data in a DBMS system are discussed below:

- Data Definition: DBMS allows users to create, modify and organize data in the database.
- Data Updation: Users can insert, modify and update actual data.
- Retrieval of data: One can retrieve data using database queries.

What is RDBMS?

RDBMS stands for the relational database management system, it is called so because it uses the relational model for storing, accessing, and retrieving data. This model is based on the twelve rules introduced by E.F. Codd. If the database follows all the rules then it is termed a true relational database (RDBMS). Following are the rules:

- The foundation rule.
- Information rule
- Guaranteed access rule
- Systematic treatment of null values
- Dynamic online catalog based on the relational model
- Comprehensive data sublanguage rule
- View updating rule
- Relational level operation rule
- Physical data independence rule
- Logical data independence rule
- Integrity independence rule
- Distribution independence rule
- Non-subversionon rule

Major Differences between DBMS and RDBMS

To organize data we have various types of DBMS software such as Oracle, MySQL, PostgreSQL, etc. RDBMS(Relational DBMS), Hierarchal DBMS, Network DBMS, etc out of these variants we will only focus on the difference between DBMS and RDBMS.

DBMS:

- It organizes the data in the form of a table, schema, views, reports, etc.
- It provides an interface to perform various tasks like creating databases, manipulating data, updating data, storing data, entity sets, etc.
- It allows users to create, modify and organize data in the database.
- In this, users can insert, modify and update actual data.
- One can retrieve data using database queries.

RDBMS:

- It uses the relational model for storing, accessing, and retrieving data.
- This model is based on the twelve rules introduced by E.F. Codd.
- If the database follows all the rules then it is termed a true relational database (RDBMS).