DBMS

Overview

- In this module you will learn about introduction to database management system.

Contents

In this section we are going to discuss about:

- Introduction to DBMS.
- Why do you need database?
- Characteristics of DBMS
- Advantages and disadvantages of DBMS
- Applications of DBMS

Learning Objectives

- What is dbms?
- The need and use of database.
- Characteristics of dbms.
- Advantages and disadvantages of dbms.
- Application of dbms.

Introduction to DBMS

- **Data** is defined as a collection of facts and figures that can be recorded and has implicit meaning.
- **Database** is a collection of related data.
- **DBMS** stands for **Database Management System**.
- **DBMS** is a collection of inter-related data and set of programs to store & access those data in an easy and effective manner.

Reference: https://i.ytimg.com/vi/lDpB9zF8LBw/maxresdefault.jpg

Why use a database?

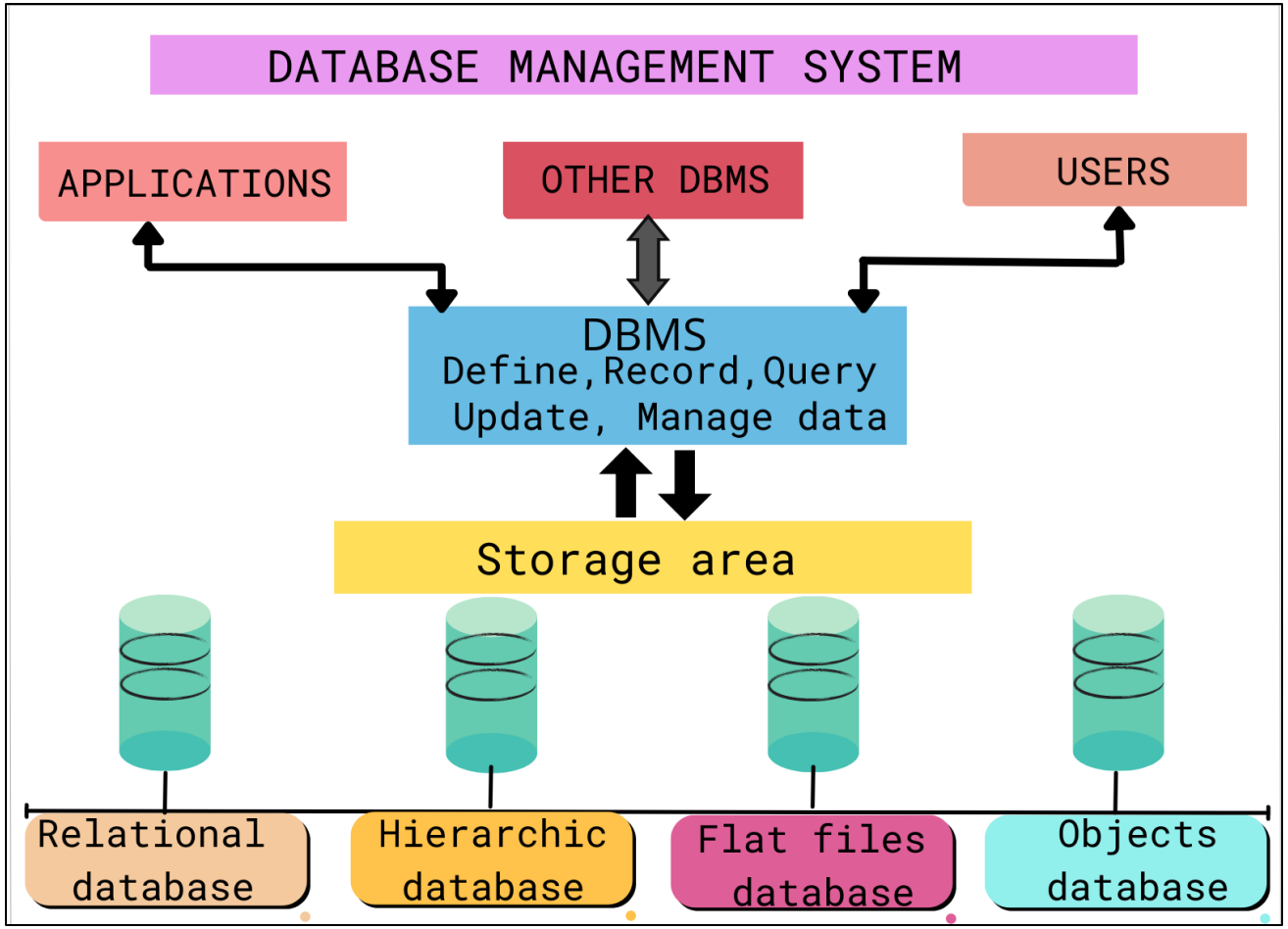
- Databases can store very large numbers of records efficiently
- It is very quick and easy to find information.
- It is easy to add new data and to edit or delete old data.
- Data can be searched & Sorting easily,
- Data can be imported into other applications
- More than one person can access the same database at the same time - multi-access.
- Security may be better than in paper files.

Why do we need a database?

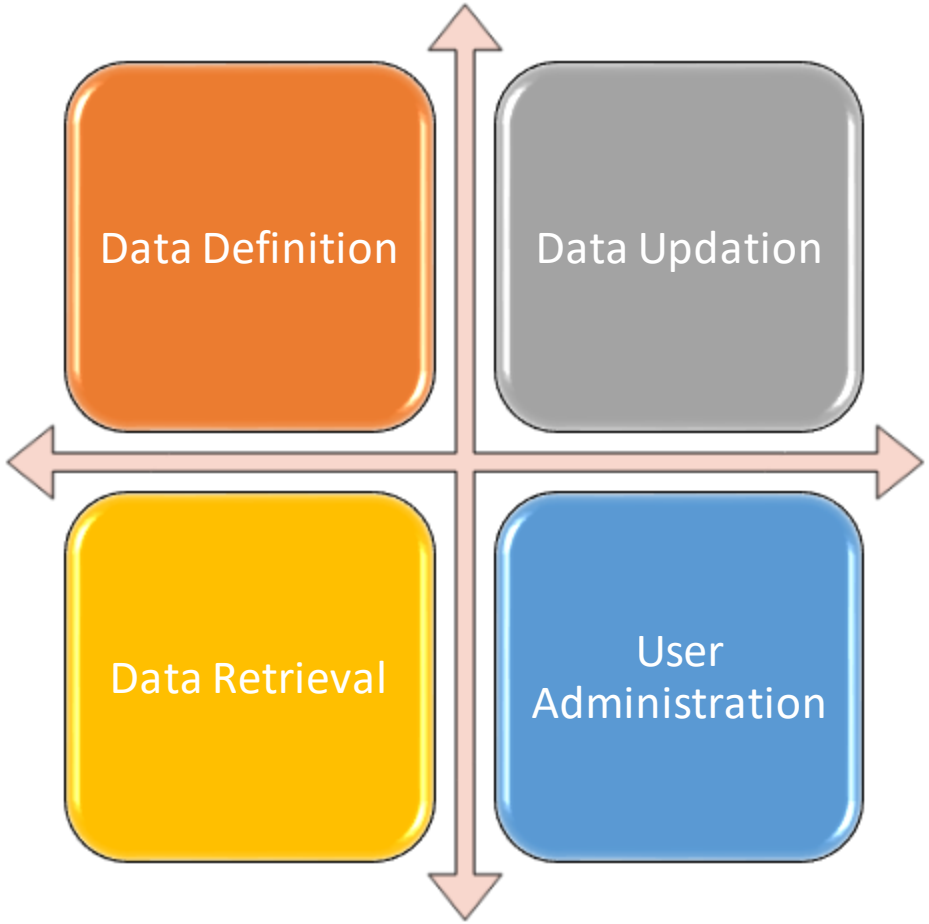
- Manages large amounts of data
- Accurate
- Easy to update data
- Security of data
- Data integrity
- Easy to research data

What is DBMS ?

- Database management system is a software which is used to manage the database.
- DBMS provides an interface to perform various operations like database creation, storing data in it, updating data, creating a table in the database and a lot more.
- It provides protection and security to the database. In the case of multiple users, it also maintains data consistency.



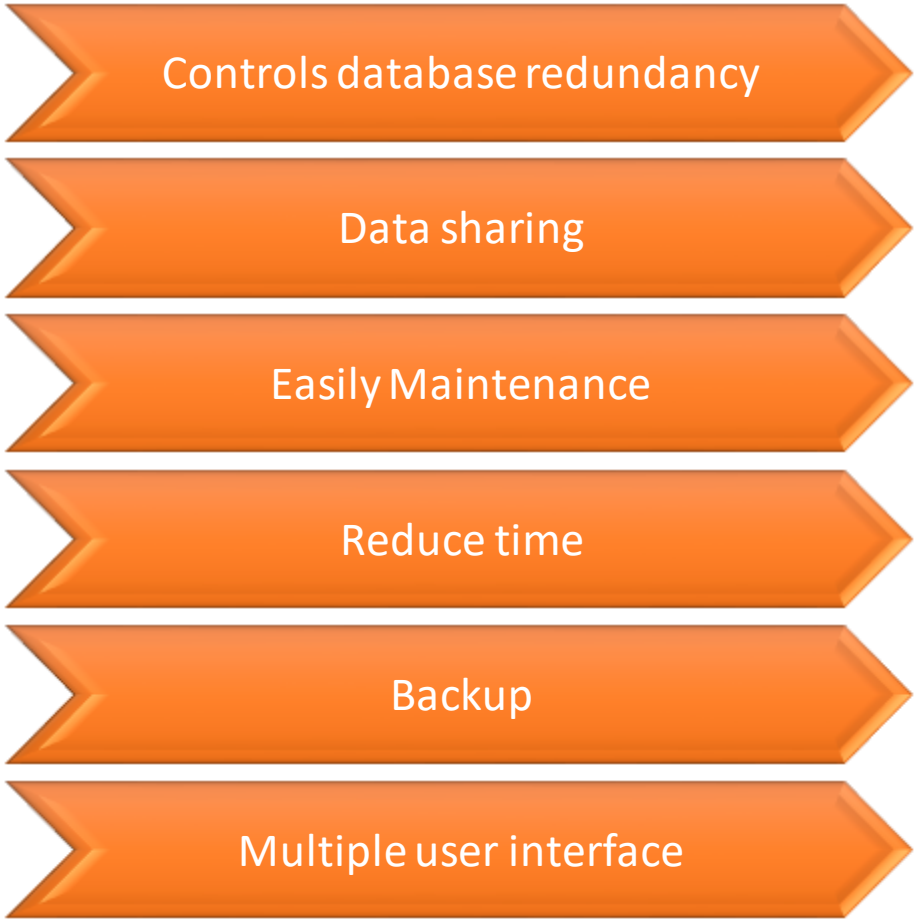
DBMS allows users the following tasks



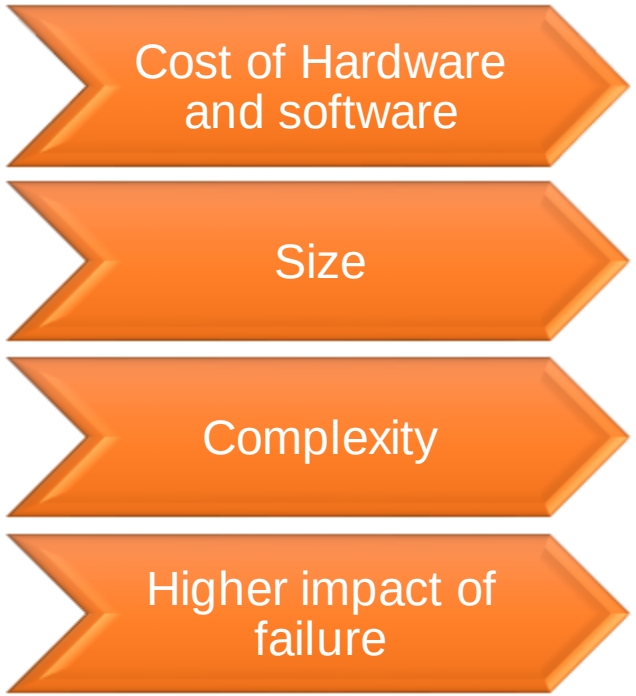
Characteristics of DBMS

- It uses a digital repository established on a server to store and manage the information.
- It can provide a clear and logical view of the process that manipulates data.
- DBMS contains automatic backup and recovery procedures.
- It contains ACID properties which maintain data in a healthy state in case of failure.
- It can reduce the complex relationship between data.
- It is used to support manipulation and processing of data.
- It is used to provide security of data.
- It can view the database from different viewpoints according to the requirements of the user.

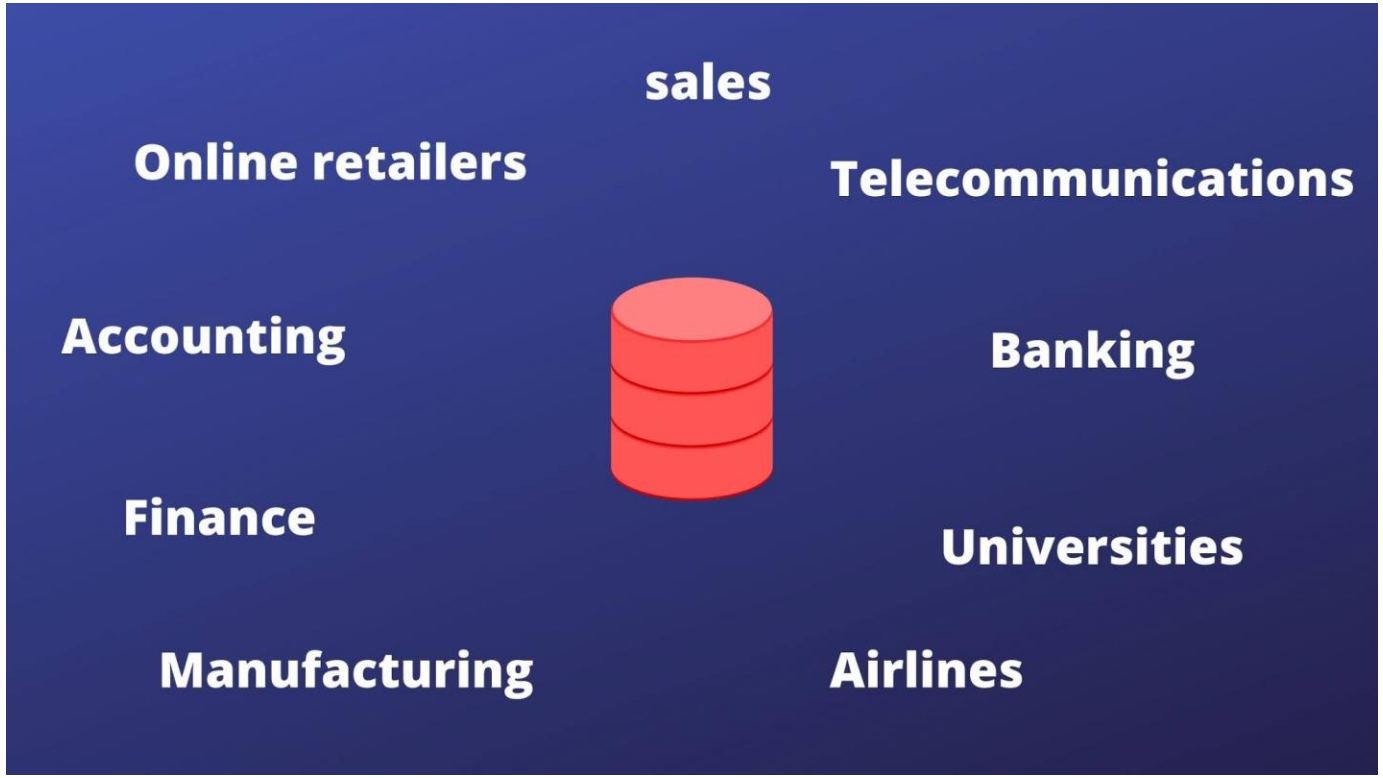
Advantages of DBMS



Disadvantages of DBMS



Application of DBMS



Reference- https://www.thecscience.com/2021/07/DBMS-applications.html

Conclusion

- DBMS is a collection of inter-related data and set of programs to store & access those data in an easy and effective manner.
- There are multiple reasons behind it such as Databases can store very large numbers of records efficiently, It is very quick and easy to find information, It is easy to add new data and to edit or delete old data.
- It uses a digital repository established on a server to store and manage the information., It can provide a clear and logical view of the process that manipulates data., DBMS contains automatic backup and recovery procedures, It contains ACID properties which maintain data in a healthy state in case of failure.
- Advantages and disadvantages of dbms.
- Application of dbms are telecom, banking, online retailers, finance, accounting, sales.

Thank You