CHAPTER-1 Database and Database Users

Data is the collection of information, collection of known facts which are to be recorded and they have the implicit meaning.

Database is a collection of related data.

Database Management System: It is a collection of programs that enables users to create and maintain a database. It is a general-purpose software system that facilitates the processes of **defining, constructing, and manipulating** databases for various applications.

Database System: The Database and DBMS software collectively known as Database System.

Characteristics of the Database Approach:

1. Self-Describing Nature of a Database System

2. Insulation between Programs and Data, and Data Abstraction

3. Support of Multiple Views of the Data

4. Sharing of Data and Multiuser Transaction Processing

Actors on the Scene:

1. Data Administrators
2. Database designers
3. End Users
    i.   Casual end users
    ii.   Parametric end users   Ex. Bank tellers, Clerks, Reservation Clerks...
    iii.   Sophisticated end users
    iv.   Stand-alone users Ex. Tax Data for a business person…
4. System Analysts and Application Programmers

Workers behind the Scene:

1. DBMS system designers and implementers
2. Tool developers
3. Operators and maintenance person

Advantages using DBMS software:

1. Controlling Redundancy
2. Restricting Unauthorized Access
3. Providing Persistent Storage for Program Objects and Data Structures
4. Permitting Inferencing and Actions Using Rules
5. Providing Multiple User Interfaces

6. Representing Complex Relationships among Data
7. Providing Backup and Recovery

When Not to Use a DBMS

1. The database and applications are simple, well defined, and not expected to change.
2.   There are stringent real-time requirements for some programs that may not be met because of DBMS overhead.
3.   Multiple-user access to data is not required.

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