

DATABASE MANAGEMENT SYSTEM

Chapter 1

Objectives of Database Management System

Outlines

- Objectives Of DBMS
- Objectives Of DBMS in Detail

Objective Of DBMS

The main objectives of a Database Management System (DBMS) are as follows:

1. Data Storage and Management
2. Data Integrity and Consistency
3. Data Retrieval and Analysis
4. Concurrent Access and Control
5. Security and Privacy
6. Backup and Recovery
7. Scalability and Performance

Objectives Of DBMS in Detail

- Data Storage and Management:

One of the primary objectives of a DBMS is to provide a reliable, secure, and efficient storage mechanism for data. A DBMS must also provide tools for managing and manipulating data stored in the database.

- Data Integrity and Consistency:

A DBMS must ensure the accuracy, completeness, and consistency of data in the database. It should provide tools for validating and enforcing data integrity constraints, such as unique constraints, referential integrity, and domain constraints.

Objectives Of DBMS in Detail...

- Data Retrieval and Analysis:

A DBMS should provide tools for retrieving and analyzing data stored in the database. These tools should support a variety of data access methods, including queries, reports, and data visualization.

- Concurrent Access and Control:

A DBMS should provide mechanisms for managing concurrent access to the database by multiple users or applications. It should also provide tools for controlling access to data based on user roles and permissions.

Objectives Of DBMS in Detail...

- Security and Privacy:

A DBMS must provide tools for protecting the confidentiality, integrity, and availability of data stored in the database. It should provide mechanisms for user authentication, access control, and data encryption.

- Backup and Recovery:

A DBMS should provide tools for backing up data and restoring it in case of system failure or disaster.

Objectives Of DBMS in Detail...

- Scalability and Performance:

A DBMS should be designed to scale with the growth of data and the number of users accessing the database. It should provide tools for optimizing performance, such as indexing, query optimization, and caching.

Overall, the main objective of a DBMS is to provide a reliable, efficient, and secure platform for storing and managing data, while ensuring its integrity, availability, and confidentiality.

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