

Data - Raw bits stored in a computer.

Individual raw bits can be meaningless.

Information - Meaningful collection of data

Database - Huge (organized, related) collection of data

Database management system - a software package to manage & huge databases. Ex- Oracle, MySQL, Foxpro, Access, SQL server etc.

Problems with conventional file processing system to handle database

1. Data redundancy and inconsistency.

2. Difficulty in accessing data.

3. Data isolation

4. Integrity problems. → can't put constraints easily

5. Atomicity problems. →

6. Concurrent access anomalies

7. Security issues.

Diagram illustrating a concurrent access anomaly:
A → \$100 → B
\$500
→ if system fails midway, the floating amount can be caught by atomicity property
→ if two persons withdraw money from same account at the same time.

Properties of DBMS: ACID

- Atomicity
- Consistency
- Isolation
- Durability

Recommended books -

1. Database system concepts -

Korth & Silberschatz

2. DBMS - Elmasri & Navathe

* 3. DBMS - C.J. Date

4. Oracle - Evan Bayson

5. ANSI SQL - M. Galletta