**Data** Some values referring to real world facts, may be in various formats; **Database** A large collection of inter-related data; **Database management system** databases + a set of programs that store and access the data; Drawbacks of storing databases in file systems: Difficulty/Inefficiency in accessing data, Data redundancy and inconsistency, Data isolation (files may be in different formats), Atomicity problems, Concurrent access anomalies, Integrity problem;

**Data abstraction** physical level (how the data are actually stored, complex low-level data structured in detail), logical level (what data are stored, relations among data, physical data independence), view level (only part of the database, simplify user interaction)