1 Introduction to DB Management Systems

Database

- collection of data
- persistent
- shared: qualified users have access to the same data

DB Management System

- data independence
- declarative querying
- transaction management and concurrency control

File System vs. DBMS

- data storage
  - FS: repeat data definitions
  - DBMS: keeps metadata about its content and state
- data access
  - FS: program repeatedly
  - DBMS: declarative queries

2 Conceptual Database Design: The Relational Model

Entity Relationship Model

- data model that depicts associations between different categories of data
- can be converted into a relational schema

Definitions

data stored representation of raw facts
information processed data
metadata data that describes data

relational Database collection of tables of particular 'types', each of which store data as rows with multiple attributes