Database Management Chapters 1-4

Based on Modern Database Management (12th Edition)

Jeff Hoffer, Ramesh Venkataraman, Heikki Topi

Chapter 1: The Database Environment

- - Definition and Importance of Databases
- - File Systems vs. Database Systems
- - Components of the Database Environment
- - Database Development Life Cycle (DBLC)
- - Roles in Database Management (DBA, Developers, Users)

Chapter 2: Modeling Data in the Organization

- - Introduction to Data Modeling
- - Conceptual, Logical, and Physical Models
- - Entity-Relationship (ER) Model Basics
- - Entities, Attributes, and Relationships
- - ER Diagram Notations and Examples

Chapter 3: The Enhanced E-R Model

- - Need for Enhanced ER Models
- - Specialization, Generalization, and Inheritance
- - Supertype and Subtype Relationships
- - Aggregation and Composition in ER Models
- - EER Diagrams and Practical Applications

Chapter 4: Logical Database Design

- - Introduction to the Relational Model
- - Tables, Keys, and Integrity Constraints
- - Converting ER Models to Relational Models
- - Normalization (1NF, 2NF, 3NF, BCNF)
- - SQL Basics for Relational Databases