DATABASE MANAGEMENT SYSTEM

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1. Understand the fundamental concepts of Database Management System (DBMS) at various levels of data abstraction, including physical, conceptual, and external levels.
2. Apply the Entity Relationship Model to effectively design database structures, including entity sets, relationship sets, keys, and mapping constraints.
3. Analyze the Relational Model and its components, such as relational databases, schema, query languages like Relational Algebra, and Structured Query Languages.
4. Implement database design principles, including constraints like domain constraints and normalization techniques such as INF, 2NF, 3NF, and BCNF.
5. Evaluate different file organization techniques and operations on files, including fixed-length records, variable-length records, and sequential file organization.
6. Understand the basics of Transaction Processing, including the ACID properties and concurrency control mechanisms in a database system.