

## 1.1

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This chapter has described several major advantages of a database system. What are two disadvantages?

As a result, a database system is a large, complex software system whose task is to manage a large, complex collection of data.

Managing complexity is challenging, not only in the management of data but in any domain. Key to the management of complexity is the concept of abstraction

The knowledge, money, skills, and time to setup a Database

## 1.9

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List five responsibilities of a database-management system. For each responsibility, explain the problems that would arise if the responsibility were not discharged.

- A DBMS needs to prevent concurrent-access anomaly. Otherwise the data may be accessed by many different application programs that have not been coordinated previously.
- The DBMS needs to ensure safety. DBMS have the concept of a ROLE (user) it is easier for setting access management.
- The DBMS needs to solve the atomicity problem to prevent the inconsistent database state.
- The DBMS needs to offer a way to access data. Otherwise the DBMS does not allow needed data to be retrieved in a convenient and efficient manner.
- The DBMS needs to prevent the data redundancy and inconsistency. Or it will lead to higher storage and access cost.