1.8:

- 1. Both systems contain a collection of data and a set of programs which access that data. A database management system coordinates both the physical and the logical access to the data, whereas a file-processing system coordinates only the physical access.
- 2. A database management system reduces the amount of data duplication by ensuring that a physical piece of data is available to all programs authorized to have access to it, whereas data written by one program in a file-processing system may not be readable by another program.
- 3. A database management system is designed to allow flexible access to data, whereas a file-processing system is designed to allow predetermined access to data.
- 4. A database management system is designed to coordinate multiple users accessing the same data at the same time. A file-processing system usually designed to allow one or more programs to access different data files at the same time. In a file-processing system, a file can be accessed by two programs concurrently only if both programs have read-only access to the file.

1.9

Physical independence refers to the fact that the user's application is independent of the data in the on-disk database. Physical independence separates applications from the data stored on disk. Applications are not dependent on physical schemas, so they do not need to be overridden if the physical schemas change.

1.13

- 1. To create the scheme definition
- 2. To define the storage structure and access methods
- 3. To modify the scheme and physical organization when necessary
- 4. To grant authorization for data access
- 5. To specify integrity constrains

1.15

- 1. User information table; containing user ID, password, name, date of birth, etc
- 2. Group information table; containing the group name, creation information, introduction information, participant ID, and so on
- 3. Event information table; containing information about public events, such as introduction,