

Assignment 1 – Week 1

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(1) List two examples of database systems other than those listed in Section 1.1 of the book.

ANS:

- Warehouse management system
- Digital content management system

(2) Explain what is meant by a database management system, and contrast it with a File Management System.

ANS:

A software system that enables users to define, create, maintain, and control access to the database is the database management system (DBMS). It is the software that interacts with the users' application programs and the database.

DBMS can solve the following problems of the file management system by the following ways.

- Separation and isolation of data – As database is the shared collection of logically related data, it's easy for search or retrieval on one or many entities in DBMS.
- Duplication of data – As all data will work only on one shared database in DBMS, data will not be duplicate or spread over many departments.
- Data dependence – As DBMS provides a view mechanism facility, there is no Data dependence problem with DBMS
- Incompatible file formats – As DBMS will save data in one place and does not need to save with different files, DBMS can solve that problem with File Management System.
- Fixed queries/proliferation of application programs – As DBMS provide a general inquiry facility to the data, called a query language (where the most common one is SQL), queries will not be fixed anymore with DBMS. And DBMS also provide control access to database like security, integrity, concurrency, recovery, user-accessible catalog.

(3) Discuss advantages and disadvantages of DBMSs in short.

ANS:

Advantages of DBMSs

- Control of data redundancy
- Data consistency
- More information from the same amount of data
- Sharing of data
- Improved data integrity
- Improved security
- Enforcement of standards
- Economy of scale
- Balance of conflicting requirements
- Improved data accessibility and responsiveness
- Increased productivity
- Improved maintenance through data independence
- Increased concurrency
- Improved backup and recovery services

Disadvantages of DBMSs

- Complexity
- Size

- Cost of DBMSs
- Additional hardware costs
- Cost of conversion
- Performance
- Greater impact of a failure

(4) What are the 5 major components of the DBMS environment?

ANS:

1. Hardware
2. Software
3. Data
4. Procedures
5. People

(5) A database management System (DBMS) is

- A. Collection of interrelated data
- B. Collection of programs to access data
- C. Collection of data describing one particular enterprise
- D. All of the above

ANS:

D

(6) The DBMS provides uncontrolled access to the database.

- A. True
- B. False

ANS:

B

(7) Disadvantages of File systems to store data is:

- A. Data redundancy and inconsistency
- B. Difficulty in accessing data
- C. Data isolation
- D. All of the above

ANS:

D

(8) The Database Administrator (DBA) is responsible for the management of the data resource including database planning, development and maintenance of standards, policies and procedures, and conceptual/logical database design.

- A. True
- B. False

ANS:

A

(9) Data Manipulation language enables users to

- A. Retrieval of information stored in database
- B. Insertion of new information into the database
- C. Deletion of information from the database
- D. All of the above

ANS:

D

(10) Which of the following is Database language?

- A. Data Definition Language
- B. Data Manipulation Language
- C. Query Language
- D. All of the above

ANS:

D

MUM-DBMS