Ch : 1

# Review Questions

* 1. Define the following terms:
* *Data* : By **data**,we mean known facts that can be recorded and that have implicit meaning. For example, consider the names, telephone numbers, and addresses of the people you know.
* *Database* *:* A **database** is a collection of related data.
* *DBMS* : A **database management system (DBMS)** is a collection of programs that enables users to create and maintain a database.
* *database system* : we will call the database and DBMS software together a **database system**.
* *database catalog* :
* *program-data independence* *:*
* *user view* :
* *DBA* *:*
* *end user* :
* *canned transaction* *:*
* *deductive database system* :
* *persistent object* :
* *meta-data :*
* *transaction-processing application* :

**1.2.** What four main types of actions involve databases? Briefly discuss each.

**1.3.** Discuss the main characteristics of the database approach and how it differs

from traditional file systems.

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**1.4.** What are the responsibilities of the DBA and the database designers?

**1.5.** What are the different types of database end users? Discuss the main activities

of each.

**1.6.** Discuss the capabilities that should be provided by a DBMS.

**1.7.** Discuss the differences between database systems and information retrieval

systems.

# Exercises

**1.8.** Identify some informal queries and update operations that you would expect

to apply to the database shown in Figure 1.2.

**1.9.** What is the difference between controlled and uncontrolled redundancy?

Illustrate with examples.

**1.10.** Specify all the relationships among the records of the database shown in

Figure 1.2.

**1.11.** Give some additional views that may be needed by other user groups for the

database shown in Figure 1.2.

**1.12.** Cite some examples of integrity constraints that you think can apply to the

database shown in Figure 1.2.

**1.13.** Give examples of systems in which it may make sense to use traditional file

processing instead of a database approach.

**1.14.** Consider Figure 1.2.

a. If the name of the ‘CS’ (Computer Science) Department changes to

‘CSSE’ (Computer Science and Software Engineering) Department and

the corresponding prefix for the course number also changes, identify the

columns in the database that would need to be updated.

b. Can you restructure the columns in the COURSE, SECTION, and

PREREQUISITE tables so that only one column will need to be updated?