Al Shorouk Academy

The Higher Institute of Engineering

Communication and Computer Engineering Department

Database

Sheet 1

Name:	**Mohamed Ahmed Elsayed Bastawy**

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

Answer:

a. Setup of the database system requires more knowledge, money, skills, and time.

b. The complexity of the database may result in poor performance.

2- List five ways in which the type declaration system of a language such as Java or C++ differs from the data definition language used in a database

Answer:

a. executing an action in the DDL results in the creation of an object in the database; in contrast, a programming language type declaration is simply an abstraction used in the program.

b. Database DDLs allows consistency constraints to be specified, which programming language type systems generally do not allow. These include domain constraints and referential integrity constraints.

c. Database DDLs support authorization, giving different access rights to different users. Programming language type systems do not provide such protection (at best, they protect attributes in a class from being accessed by methods in another class).

d. Programming language type systems are usually much richer than the SQL type system. Most databases support only basic types such as different types of numbers and strings, although some databases do support some complex types such as arrays, and objects.

e. A database DDL is focused on specifying types of attributes of relations; in contrast, a programming language allows objects, and collections of objects to be created.

3-List six major steps that you would take in setting up a database for a particular enterprise.

Answer:

Six major steps in setting up a database for a particular enterprise are:

• Define the high level requirements of the enterprise (this step generates a document known as the system requirements specification.)

• Define a model containing all appropriate types of data and data relationships.

• Define the integrity constraints on the data.

• Define the physical level.

• For each known problem to be solved on a regular basis (e.g., tasks to be carried out by clerks or Web users) define a user interface to carry out the task, and write the necessary application programs to implement the user interface.

• Create/initialize the database.