“Databases and DB Management Systems”
Online Course

Pre-test/Post-test for Class # 1 – Introduction to Databases

True-False Questions

1. Data constitute the building blocks of processing.
2. The Data Base Management System makes end users more efficient.
3. The DBMS manages the interaction between the end user and the database.
4. Data redundancy fosters an abnormal condition by forcing field value changes in many different locations.
5. There are 3 different types of anomalies: modification, insertion, and deletion.
6. Data anomalies exist because a change in any field value can't be made in multiple places.
7. The logical design is the structural blueprint of the database.
8. A collection of related fields describing a specific entity is a table.
9. Two or more tables connected by a common field are referred to as a relational database.
10. A relational DBMS controls the storage of databases on disk by carrying out data creation and manipulation requests.

Multiple Choice

1. DBMSs are important because
   a. we need good ways of managing such data.
   b. they contain a query language that makes it possible to produce ad hoc queries.
   c. they help create an environment for end users to have access to more data.
   d. All of the above
   e. None of the above

2. A file system is composed of
   a. Hardware - Software - Procedure
   b. People - Hardware - Data
   c. Procedures - Hardware - Software - Data
   d. Procedures - Hardware - Software - Data - People

3. Most DBMS are referred to as ____________database management systems.
   a. elemental
   b. linked
   c. hierarchical
   d. relational
4. A field, or a combination of fields, that has a unique value is a
   a. foreign key.
   b. primary key.
   c. relation.
   d. table.

5. A primary key
   a. consists of only one field.
   b. has the same value for all records.
   c. must contain a unique value for each record within the table.
   d. is defined automatically.

6. A foreign key must
   a. be numeric.
   b. be unique.
   c. be defined in all tables within the database.
   d. match the field value of a primary key in a related table.

7. A database model is a collection of logical constructs used to represent the data structure and relationship. Database models are
   a. conceptual.
   b. conceptual and Relationship.
   c. conceptual and Implementation.
   d. implementation and relationship.

8. The hierarchical database model uses the hierarchic sequence that always starts at
   a. the right side of the tree.
   b. the left side of the tree.
   c. the top of the tree.
   d. the bottom of the tree.

9. Given its parent/child structure, the hierarchical models yields integrity and consistency; there cannot be
   a. a parent without a child.
   b. a large amount of data.
   c. a child without a parent.
   d. many transactions.

10. The hierarchical database models
    a. have no implementation limitations.
    b. promote data sharing.
    c. have very strict standards.
    d. have a simple navigational system.
11. A relational database model  
   a. does not require substantial hardware and system software overhead.  
   b. does not promote "islands of information" problems.  
   c. allows trained people to use a good system poorly.  
   d. improves implementation and management simplicity.  
   e. none of the above  

12. The object-oriented model  
   a. adds semantic content.  
   b. has standards.  
   c. has a simple complex navigational system.  
   d. has a low system overhead that speeds transactions.  

13. The network database models have  
   a. a navigational system that yields simple design.  
   b. a simple system that promotes efficiency.  
   c. an owner/member relationship that promotes database integrity.  
   d. a and b  
   e. b and c  

14. The entity relationship model  
   a. has unlimited constraint representation.  
   b. has unlimited relationship representation.  
   c. has data manipulation language.  
   d. has visual representation that makes it an effective communications tool.  

15. The DataBase Task Group (DBTG) of the Conference on Data System Languages (CODASYL) produced  
   a. standard network specifications for a network schema.  
   b. standard network specifications for a network sub-schema.  
   c. a data management language.  
   d. a, b, and c  
   e. a and c  

**Short Answer**  

1. A collection of programs that manages the database structure and controls access to the data stored in the database is called _________________.  

2. "Raw" facts, such as telephone number, birth date, a customer name are also referred as _________________.  

3. A character or group of characters (alphabetic or numeric) that are related is referred to as _________________.  

4. A logically connected or logically related set of one or more fields that describes a specific item is referred to as a(n) _________________.  

5. A DBMS that supports multiple users (50 or less) is classified as a(n) _________________.
6. A DBMS that supports multiple users (more than 50) is classified as a(n) ________________.

7. Each row of data in a table that is a set of related fields is known as a(n) ________________.

8. A group of related tables is called a(n) ______________________ database.

9. A relational DBMS provides protection of the ___________________ through security, control, and recovery facilities.

10. A(n) ______________________ lets you easily add new records, change field values in existing records, and delete records.

**Essay**

1. Explain why DBMS is important in our information-based society.

2. Explain data redundancy, and what it sets the stage for.