“Databases and DB Management Systems”
Online Course

Pre-test/Post-test for Class # 3 – Entity-Relationship Modeling

True-False Questions

1. The entity relationship (E-R) model is used to simplify the different views of the data at the conceptual level.

2. The Crow’s Foot model is less implementation-oriented than the Chen model.

3. The conceptual model represents a global view of the data.

4. The least used conceptual model is the entity relationship model.

5. One of the conceptual model advantages is that it provides a relatively easily understood bird's eye view of the data environment.

6. Once a specific DBMS has been selected, the internal model adapts the conceptual model to it.

7. The external model is based on the internal model.

8. The physical model is both software and hardware independent.

9. The external model is DBMS-dependent and hardware-independent.

10. The E-R model refers to a specific table row as an entity instance.

11. Cardinality expresses the specific number of entity occurrences associated with one occurrence of the related entity.

12. Business rules are derived from detailed descriptions of an organization’s data, environment, transactions, and information requirements.

13. Designing databases without first constructing carefully considered data models that are represented by ERDs is inadvisable.

Multiple Choice

1. Database designers must obtain a precise description of the nature of the ________ and the many uses of such data within an organization.
   a. sources
   b. data
   c. software
   d. objects
2. Database designers employ data models as communications tools to facilitate the interaction among
   a. the designers.
   b. the applications programmers.
   c. the users.
   d. all of the above.

3. The American National Standards Institute/Standards Planning and Requirements Committee defines _____ different data models.
   a. two
   b. three
   c. four
   d. five

4. ANSI/SPARC defines different data models according to their degree of abstraction as
   a. conceptual.
   b. external.
   c. internal.
   d. none of the above
   e. all of the above

5. In a conceptual model, the DBMS only needs a(n) _____________ for the relationship.
   a. name
   b. object
   c. table
   d. all of the above
   e. none of the above

6. The external model yields some advantages such as ______________
   a. use of the database subsets to make application program development much simpler.
   b. use of the database subsets to make application program development much harder.
   c. use of the database subsets to make application program development impossible to create.
   d. use of the database subsets to make application program development much cumbersome.

7. Attributes are classified as
   a. simple.
   b. composite.
   c. multivalued.
   d. b and c
   e. a and b
8. The conceptual model
   a. can handle M:N relationships.
   b. can handle multivalued attributes.
   c. should not be implemented in the relational DBMS.
   d. all of the above
   e. none of the above

9. A derived attribute
   a. must be stored physically within the database.
   b. need not be physically stored within the database.
   c. is derived by using an algorithm.
   d. a and c
   e. b and c

10. A relationship is an association between
    a. objects.
    b. entities.
    c. databases.
    d. fields.

**Short Answer**

1. A good database is the foundation for good ____________________.

2. The conceptual model is both software and hardware ________________.

3. Once a specific DBMS has been selected, the internal model adapts the ________________ model to it.

4. The physical model operates at the ________________ level of abstraction.

5. A(n) ________________ attribute need not be physically stored within the database.

6. A(n) ________________ attribute is an attribute that can be further subdivided to yield additional attributes.

7. Cardinality expresses the ________________ number of entity occurrences associated with one occurrence of the related entity.

8. The E-R model refers to a(n) ________________ table row as an entity instance.

9. ________________ expresses the specific number of entity occurrences associated with an occurrence of a related entity.

10. Connectivities and cardinalities are usually based on ________________ rules.