MSDS 7330
File Organization and Database Management
Homework Assignment 2

This is a homework assignment for MSDS7330, File Organization and Database Management. This quiz is due at the end of the synchronous class period in which the unit is discussed or whenever the instructor turns you to hand it in; whichever comes first. Enter your answer to each question in the MSDS 7330 Homework Answer Sheet Word document. Be sure to place your name and due date in the Homework Answer Sheet, and place your last name and the homework number at the beginning of the file name. For example, the filename for the homework answer sheet for homework 2 for Sohail Rafiqi should be *Rafiqi2MSDS7330HomeWorkAnswerSheet.docx*.

For each question, in the Homework Answer Sheet state the letter of your chosen answer and write out the explanation why the answer is correct. Note that the explanation involves also explaining why the other answers are not correct.

Your answer Word document should be submitted on the Canvas system for the quiz number equal to the homework number. For example, the homework 2 should be submitted for homework assignment 2.

1) The Entity-Relationship model is
   a) a way to graphically represent the logical relationships of entities in a database.
   b) a way to graphically represent the data in a database.
   c) a way to graphically represent only the constraints in a database.
   d) a way to graphically represent strong entity sets but not weak entity sets.
2) In the Entity-Relationship model, to what does an *entity* refer (or represent)?
   a) The organization in which the model is created.
   b) A distinctly identifiable item, thing or object.
   c) A particular instance of data.
   d) A database schema.
3) An *entity set* is
   a) a collection of databases.
   b) a collection of relationships connecting a single entity to many other entities.
   c) a collection of entities of the same type that share the same properties.
   d) a collection of attribute values that are the same across all entities.
4) Entities can be associated with one another by using which of the following?
   a) Entities
   b) Attributes
   c) Identifiers
   d) Relationships
5) In a one-to-many relationship, the entity that is on the many side of the relationship is called what type of entity?
   a) parent
   b) child
   c) instance
   d) subtype
6) In an Entity-Relationship model, attributes may be which of the following?
   a) simple
   b) composite
   c) multi-valued
   d) All of the above.
   e) None of the above.
7) In an Entity-Relationship model, relationship sets are represented by which of the following?
   a) Rectangles
   b) Diamonds
   c) Lines
   d) Ovals
8) Directed lines from a relationship set to all of its related entity sets indicates which type of relationship?
   a) One-to-one
   b) One-to-many
   c) Many-to-one
   d) Many-to-many

9) Consider the entity set *instructor* containing the attributes *ID, name, deptName* and *salary* with *ID* as the primary key and the entity set *department* containing the attributes *deptName, building* and *budget* with *deptName* as the primary key. In order to represent the relationship between *instructor* and *department* we need to do which of the following?
   a) Nothing. The relationship is properly represented by the *deptName* attribute in the *instructor* entity set.
   b) Add a one-to-one relationship *instructorDepartment* that explicitly relates *instructor* to *department* and leave the entity sets unchanged.
   c) Add a one-to-one relationship *instructorDepartment* that explicitly relates *instructor* to *department* and remove the *deptName* attribute from the *instructor* entity set.
   d) Add a one-to-many relationship *instructorDepartment* that explicitly relates *instructor* to *department* and remove the *deptName* attribute from the *instructor* entity set.
10) Which of the following is NOT a basic element of the Chen version of the E-R model?
   a) Entities
   b) Attributes
   c) Relationships
   d) All of the above.
   e) None of the above.
11) An attribute that names or identifies entity instances is a(n):
   a) entity
   b) attribute
   c) identifier
   d) relationship
12) In an Entity-Relationship model, double lines connecting an entity set to a relationship set indicates which of the following?
   a) Two constraints on the entity set.
   b) Every entity participates in up to two relationships of the given type.
   c) Some entities participate in more than one relationship of the given type.
   d) Every entity participates in at least one relationship of the given type.
13) Relationship sets can be used to directly represent which of the following?
   a) Entity attributes.
   b) Relationships between attribute values.
   c) Relationship between multiple entity sets.
   d) All of the above.
   e) None of the above.
14) In the Entity-Relationship model, attributes may be represented as which of the following?
   a) The only name within the top of a double sectioned rectangle.
   b) Ovals
   c) Names above lines
   d) The only name within a diamond.
15) In crow's foot notation of the Entity-Relationship model, consider the simple ER model of entity E1 and entity E2 connected by a relationship line R where the line ends in a crow's foot at E1 but ends simply as a line at E2. This represents which of the following relationship types?
   a) One-to-one
   b) Many-to-one
   c) One-to-many
   d) Many-to-many