lecture 7

1. What are the diagramming techniques used in conceptual database design?
   a) ERDs and Class diagrams
   b) ERDs and Form Analysis
   c) Class diagrams and Form Analysis
   d) All above answers

2. What is the purpose of relationships in an Entity Relationship Diagram?
   a) To represent real-world associations between entities
   b) To describe a characteristic of an entity
   c) To identify a unique instance of an entity
   d) To provide an accurate model of the information needs of the organization

3. How is data modeling supported by CASE?
   a) Diagram generator
   b) Design generator
   c) Code generator
   d) All of the above

4. What are the options for cardinality in relationships?
   a) 1:1, 1:M, M:M
   b) Optional or mandatory
   c) Descriptive or identifying
   d) Binary or ternary

5. ..... is a thing or object of significance, whether real or imagined, about which information needs to be known or held.
   a) Relationships
   b) Entities
   c) Attributes
   d) None of the above

6. ..... describes a characteristic of an entity and identifies a unique instance of an entity.
   a) Relationships
   b) Entities
   c) Attributes

7. What are databases good for?
   a) Storing large quantities of information
   b) Retrieving information quickly
   c) Organizing and reorganizing information
   d) All of the above

8. What is the purpose of conceptual design in database design?
   a) To document the real world and represent real-world information and relationships
   b) To prepare the database schema
   c) To choose the technology and transform the database schema
   d) To handle physical storage within the database

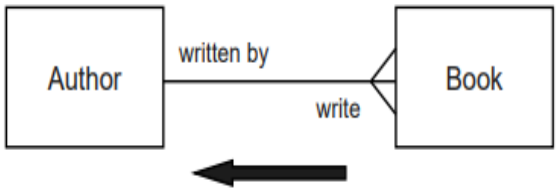
9. How should entities be named in an ERD?
   a) Using singular names
   b) Using ambiguous names
   c) Avoiding abbreviations
   d) A & C

10. What are some examples of tangible things?
    a) Employees
    b) Task forces
    c) Documents
    d) None of them

11. Which of the following is not a category of entities?
a) Tangible things
b) Roles played
c) Incidents, events, or interactions
d) Descriptive attributes

12. What is a strong entity?
a) An entity that exists independently of other entities
b) An entity that depends on another entity for existence
c) An entity that has multiple attributes
d) An entity that represents a real-world association

13. In the following diagram, what is the relationship between an author and a book?



a) An author must write one or more books
b) A book must be written by one and only one author
c) An author may write one or more books
d) A book may be written by one or more authors

14. What does the term "degree" refer to in a relationship?
a) The number of participants in a relationship
b) The number of attributes in a relationship
c) The number of relationships in a database
d) None of the above

15. What does cardinality represent in an entity relationship diagram?
a) How many instances of one entity type can be associated with an instance of the other entity type.
b) The uniqueness of an entity instance.
c) The role of an attribute in identifying an entity.
d) The participation of an entity in a relationship.

16. What is the difference between optional and mandatory attributes?

a) Optional attributes are logical and represented using "null," while mandatory attributes always require a value when an instance is created.

b) Optional attributes are descriptive, while mandatory attributes are identifying.

c) Optional attributes are uniquely identifiable, while mandatory attributes are separate and distinctly identifiable from all other instances of that entity.

d) Optional attributes represent how many instances of one entity type can be associated with an instance of the other entity type, while mandatory attributes represent the participation of an entity.

17. What does multiplicity represent in UML: Class Diagrams?

a) Cardinality
b) Optionality
c) Both cardinality and optionality
d) Inheritance and aggregation

18. What do classes represent in UML: Class Diagrams?

a) Relationships between entities
b) Interface and logic
c) Entity types
d) Behavior

19. What is the main purpose of UML: Class Diagrams?

a) To model data requirements
b) To discuss the differences in notation
c) To show entity classes analogous with ERD
d) To model functionality

20. What is the resulting ERD from form analysis?

a) A model representing the information and relationships obtained from source documents

b) A list of entities identified in the form analysis

c) A diagram showing the cardinality of relationships

d) A description of the data requirements for the ERD

21. How can attributes be represented in an ERD?

a) Diagrammatically

b) Through examples or instances

c) By using synonyms

d) By using roles played

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