Modern Database Management, 11e **(Hoffer et al.)**
Chapter 2 Modeling Data in the Organization

1) Data modeling may be the most important part of the systems development process because:
A) data characteristics are important in the design of programs and other systems components.
B) the data in a system are generally less complex than processes and play a central role in development.
C) data are less stable than processes.
D) it is the easiest.
Answer: A
Diff: 1 Page Ref: 56
Topic: Introduction
AACSB: Analytic Skills, Use of Information Technology

2) The logical representation of an organization's data is called a(n):
A) database model.
B) entity-relationship model.
C) relationship systems design.
D) database entity diagram.
Answer: B
Diff: 1 Page Ref: 57
Topic: The E-R Model: An Overview
AACSB: Use of Information Technology

3) The common types of entities are:
A) strong entities.
B) weak entities.
C) associative entities.
D) all of the above.
Answer: D
Diff: 2 Page Ref: 57
Topic: Introduction
AACSB: Use of Information Technology

4) In an E-R diagram, there are _____ business rule(s) for every relationship.
A) two
B) three
C) one
D) zero
Answer: A
Diff: 2 Page Ref: 59
Topic: The E-R Model: An Overview
AACSB: Use of Information Technology

5) Business policies and rules govern all of the following EXCEPT:
A) managing employees.
B) creating data.
C) updating data.
D) removing data.
Answer: A
Diff: 2 Page Ref: 60
Topic: The E-R Model: An Overview
AACSB: Reflective Thinking
Subtopic: Metadata

6) A business rule:
A) defines or constrains some aspect of the business.
B) asserts business structure.
C) controls or influences the behavior of the business.
D) all of the above.
Answer: D
Diff: 1 Page Ref: 61
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: Overview of Business Rules

7) Which of the following is NOT a characteristic of a good business rule?
A) Declarative
B) Atomic
C) Inconsistent
D) Expressible
Answer: C
Diff: 2 Page Ref: 62
Topic: Modeling the Rules of the Organization
AACSB: Analytic Skills
Subtopic: Scope of Business Rules

8) Which of the following is NOT a good characteristic of a data name?
A) Relates to business characteristics
B) Readable
C) Repeatable
D) Relates to a technical characteristic of the system
Answer: D
Diff: 2 Page Ref: 63
Topic: Modeling the Rules of the Organization
AACSB: Analytic Skills
Subtopic: Data Names and Definitions

9) A fact is an association between two or more:
A) words.
B) terms.
C) facts.
D) nuggets.
Answer: B
Diff: 1 Page Ref: 64
Topic: Modeling the Rules of the Organization
AACSB: Analytic Skills
Subtopic: Data Definitions

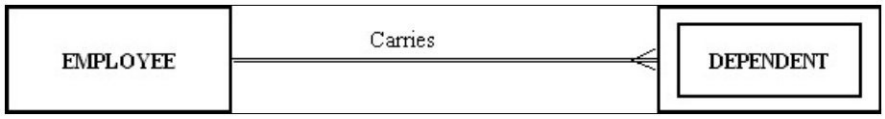
10) A good data definition will describe all of the characteristics of a data object EXCEPT:
A) subtleties.
B) examples.
C) who determines the value of the data.
D) who can delete the data.
Answer: D
Diff: 1 Page Ref: 64
Topic: Modeling the Rules of the Organization
AACSB: Analytic Skills
Subtopic: Data Definitions

11) Customers, cars, and parts are examples of:
A) entities.
B) attributes.
C) cardinals.
D) relationships.
Answer: A
Diff: 1 Page Ref: 66
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Use of Information Technology

12) Which of the following is an entity type on which a strong entity depends?
A) Owner
B) Member
C) Attribute
D) None of the above
Answer: D
Diff: 2 Page Ref: 67, 68
Topic: Modeling Entities and Attributes
AACSB: Reflective Thinking, Use of Information Technology
Subtopic: Strong Versus Weak Entity Types

13) An entity type whose existence depends on another entity type is called a _____ entity.
A) strong
B) weak
C) codependent
D) variant
Answer: B
Diff: 1 Page Ref: 67
Topic: Modeling Entities and Attributes
AACSB: Reflective Thinking
Subtopic: Strong Versus Weak Entity Types

14) The following figure shows an example of:



A) a one-to-many relationship.
B) a strong entity and its associated weak entity.
C) a co-dependent relationship.
D) a double-walled relationship.
Answer: B
Diff: 2 Page Ref: 67, 68
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills
Subtopic: Strong Versus Weak Entity Types

15) A(n) _____ is the relationship between a weak entity type and its owner.
A) member chain
B) identifying relationship
C) jump path
D) chain link
Answer: B
Diff: 2 Page Ref: 68
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Reflective Thinking
Subtopic: Strong Versus Weak Entity Types

16) An entity type name should be all of the following EXCEPT:
A) concise.
B) specific to the organization.
C) as short as possible.
D) a singular noun.
Answer: C
Diff: 2 Page Ref: 68, 69
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Reflective Thinking
Subtopic: Naming and Defining Entity Types

17) A property or characteristic of an entity type that is of interest to the organization is called a(n):
A) attribute.
B) coexisting entity.
C) relationship.
D) cross-function.
Answer: A
Diff: 1 Page Ref: 70
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Attributes

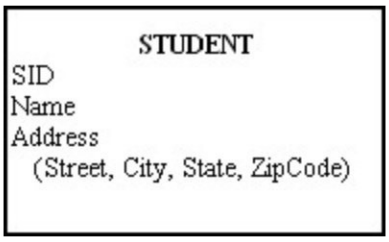
18) An attribute that must have a value for every entity (or relationship) instance is a(n):
A) composite attribute.
B) required attribute.
C) optional attribute.
D) multivalued attribute.
Answer: B
Diff: 1 Page Ref: 70
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills
Subtopic: Attributes

19) A person's name, birthday, and social security number are all examples of:
A) attributes.
B) entities.
C) relationships.
D) descriptors.
Answer: A
Diff: 2 Page Ref: 70
Topic: Modeling Entities and Attributes
AACSB: Reflective Thinking
Subtopic: Attributes

20) An attribute of an entity that must have a value for each entity instance is a(n):
A) optional attribute.
B) composite attribute.
C) required attribute.
D) fuzzy attribute.
Answer: C
Diff: 1 Page Ref: 70
Topic: Modeling Entities and Attributes
AACSB: Reflective Thinking
Subtopic: Attributes

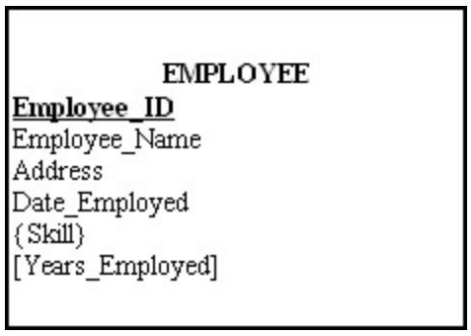
21) An attribute that can be broken down into smaller parts is called a(n) _____ attribute.
A) associative
B) simple
C) composite
D) complex
Answer: C
Diff: 1 Page Ref: 71
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Attributes

22) The following figure shows an example of:



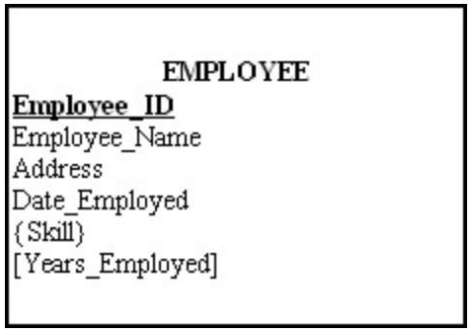
A) a composite attribute.
B) a relational attribute.
C) a derived attribute.
D) a multivalued attribute.
Answer: A
Diff: 2 Page Ref: 71
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Attributes

23) In the figure below, which attribute is multivalued?



A) Years_Employed
B) Employee_ID
C) Skill
D) Address
Answer: C
Diff: 2 Page Ref: 71
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Attributes

24) In the figure below, which attribute is derived?



A) Years_Employed
B) Employee_ID
C) Skill
D) Address
Answer: A
Diff: 2 Page Ref: 72
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Attributes

25) An attribute that can be calculated from related attribute values is called a(n) _____ attribute.
A) simple
B) composite
C) multivalued
D) derived
Answer: D
Diff: 1 Page Ref: 72
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Attributes

26) The total quiz points for a student for an entire semester is a(n) _____ attribute.
A) derived
B) mixed
C) stored
D) addressed
Answer: A
Diff: 1 Page Ref: 72
Topic: Modeling Entities and Attributes
AACSB: Reflective Thinking
Subtopic: Attributes

27) Which of the following criteria should be considered when selecting an identifier?
A) Choose an identifier that is stable.
B) Choose an identifier that will not be null.
C) Choose an identifier that doesn't have large composite attributes.
D) All of the above.
Answer: D
Diff: 1 Page Ref: 73
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Identifier Attribute

28) An attribute that uniquely identifies an entity and consists of a composite attribute is called a(n):
A) composite attribute.
B) composite identifier.
C) identifying attribute.
D) relationship identifier.
Answer: B
Diff: 1 Page Ref: 73
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Identifier Attribute

29) An entity that associates the instances of one or more entity types and contains attributes specific to the relationships is called a(n):
A) associative entity.
B) connecting entity.
C) intersectional entity.
D) all of the above.
Answer: A
Diff: 1 Page Ref: 77
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Basic Concepts and Definitions in Relationships

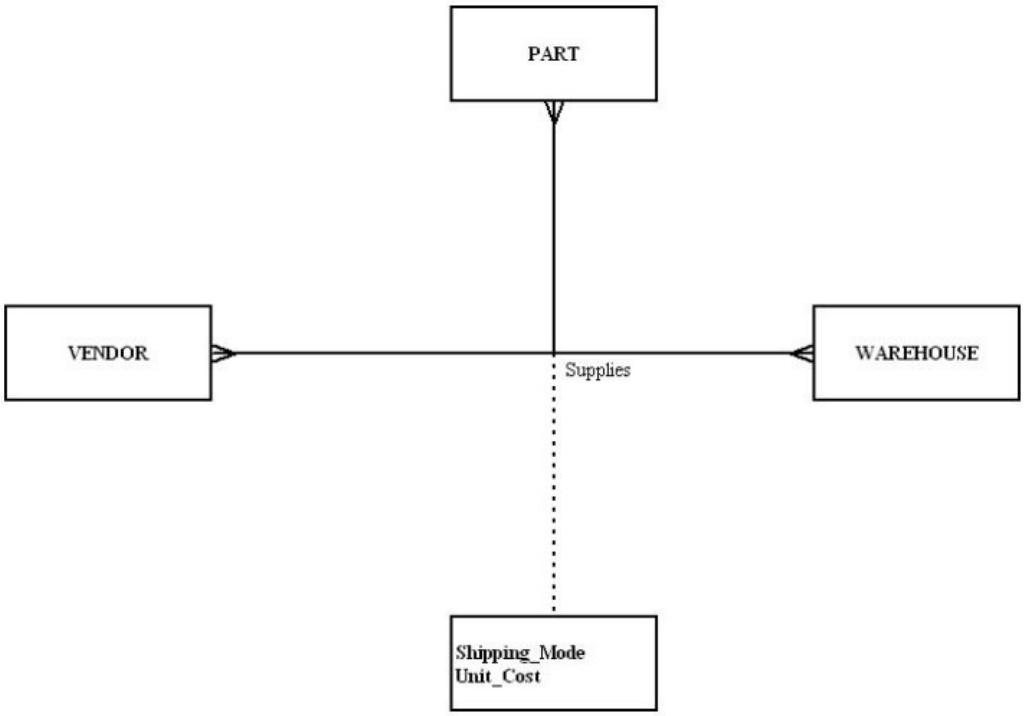
30) Which of the following conditions should exist if an associative entity is to be created?
A) All the relationships for the participating entities are many-to-many.
B) The new associative entity has independent meaning.
C) The new associative entity participates in independent relationships.
D) All of the above.
Answer: D
Diff: 2 Page Ref: 78
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Associative Entities

31) The number of entity types that participate in a relationship is called the:
A) number.
B) identifying characteristic.
C) degree.
D) counter.
Answer: C
Diff: 1 Page Ref: 79
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Degree of a Relationship

32) A relationship between the instances of a single entity type is called a(n) _____ relationship.
A) ternary
B) primary
C) binary
D) unary
Answer: D
Diff: 2 Page Ref: 79
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Degree of a Relationship

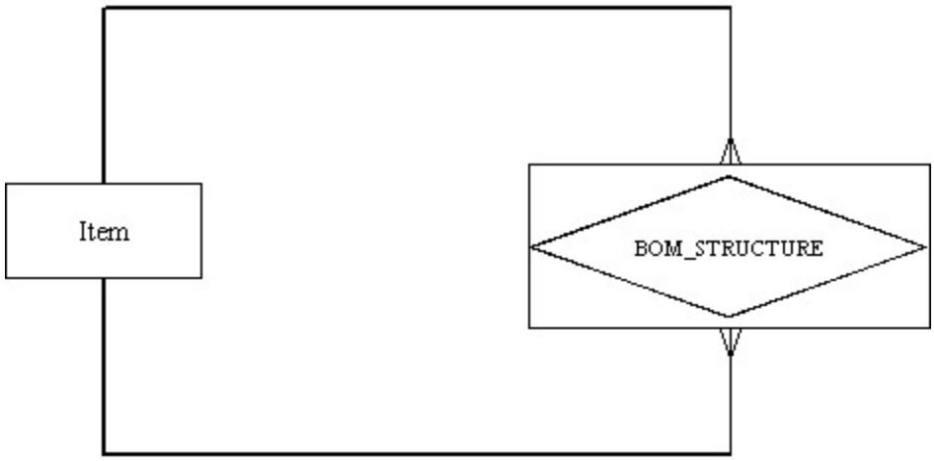
33) A student can attend five classes, each with a different professor. Each professor has 30 students. The relationship of students to professors is a _____ relationship.
A) one-to-one
B) many-to-many
C) one-to-many
D) strong
Answer: B
Diff: 3 Page Ref: 81
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Degree of a Relationship

34) In the following diagram, what type of relationship is depicted?



A) Unary
B) Binary
C) Ternary
D) Quad
Answer: C
Diff: 2 Page Ref: 82
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Degree of a Relationship

35) In the following diagram, which is true?

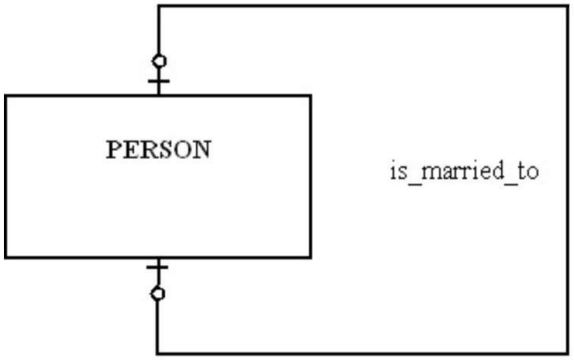


A) It depicts a unary relationship.
B) It depicts a many-to-many relationship.
C) There is an associative entity.
D) All of the above.
Answer: D
Diff: 3 Page Ref: 81, 82
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Degree of a Relationship

36) A _____ specifies the number of instances of one entity that can be associated with each instance of another entity.
A) degree
B) cardinality constraint
C) counter constraint
D) limit
Answer: B
Diff: 1 Page Ref: 85
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Cardinality Constraints

37) A simultaneous relationship among the instances of three entity types is called a(n) _____ relationship.
A) ternary
B) tertiary
C) primary
D) binary
Answer: A
Diff: 1 Page Ref: 82
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Degree of a Relationship

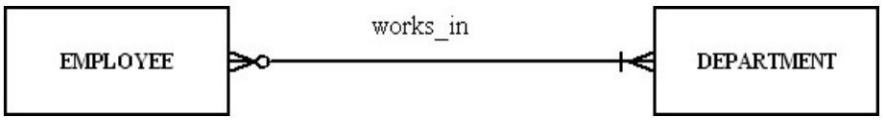
38) In the figure shown below, which of the following is true?



A) A person can marry at most one person.
B) A person has to be married.
C) A person can marry more than one person, but that person can only be married to one person.
D) A person can marry more than one person.
Answer: A
Diff: 2 Page Ref: 86
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Cardinality Constraints

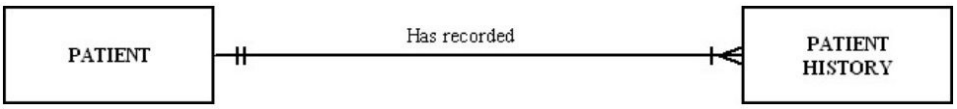
39) A relationship where the minimum and maximum cardinality are both one is a(n) _____ relationship.
A) optional
B) unidirectional
C) mandatory link
D) mandatory one
Answer: D
Diff: 2 Page Ref: 86
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Cardinality Constraints

40) For the relationship represented in the figure below, which of the following is true?



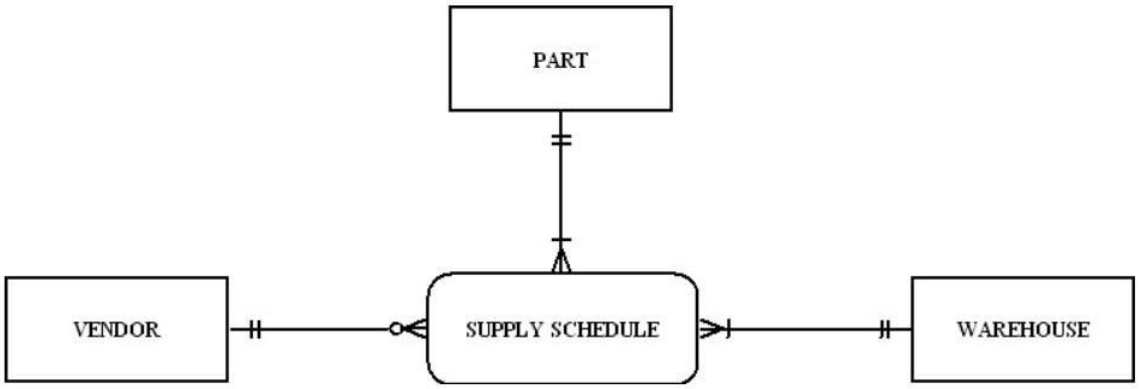
A) An employee can work in more than one department but does not have to work for any department.
B) A department must have at least one employee.
C) A department can have more than one employee.
D) An employee has to work for more than one department.
Answer: C
Diff: 3 Page Ref: 85, 86
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Cardinality Constraints

41) In the following diagram, which of the answers below is true?



A) Each patient has one or more patient histories.
B) Each patient has one and only one visit.
C) Each patient history belongs to one and only one patient.
D) Both A and C
Answer: D
Diff: 2 Page Ref: 85, 86
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Cardinality Constraints

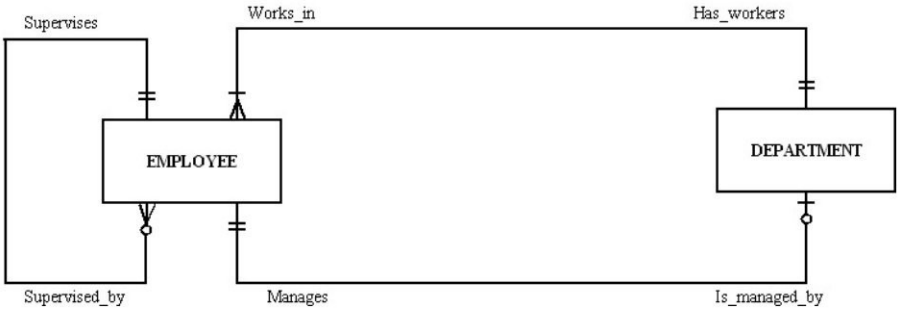
42) In the figure shown below, which of the following business rules would apply?



A) Each vendor can supply many parts to any number of warehouses, but need not supply any parts.
B) Each part must be supplied by exactly one vendor to any number of warehouses.
C) Each warehouse can be supplied with any number of parts from more than one vendor, and each warehouse could be supplied with no parts.
D) None of the above.
Answer: A
Diff: 3 Page Ref: 87
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: A Ternary Relationship

43) A value that indicates the date or time of a data value is called a(n):
A) value stamp.
B) time stamp.
C) checkpoint.
D) check counter.
Answer: B
Diff: 1 Page Ref: 87, 88
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Modeling Time-Dependent Data

44) In the following diagram, which answer is true?



A) Each employee can supervise one employee, no employees or many employees.
B) Each employee can manage many departments.
C) Each employee works in more than one department.
D) All of the above.
Answer: A
Diff: 3 Page Ref: 90, 91
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Multiple Relationships

45) A mutually exclusive relationship is one in which:
A) an entity instance can participate in many different relationships.
B) an entity instance can participate in only one of several alternative relationships.
C) an entity instance cannot participate in a relationship with another entity instance.
D) none of the above.
Answer: B
Diff: 3 Page Ref: 92, 93
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Naming and Defining Relationships

46) Most systems developers believe that data modeling is the least important part of the systems development process.
Answer: FALSE
Diff: 2 Page Ref: 56
Topic: Introduction
AACSB: Reflective Thinking

47) Data, rather than processes, are the most complex aspects of many modern information systems.
Answer: TRUE
Diff: 2 Page Ref: 56
Topic: Introduction
AACSB: Reflective Thinking

48) The E-R model is used to construct a conceptual model.
Answer: TRUE
Diff: 2 Page Ref: 56
Topic: Introduction
AACSB: Reflective Thinking

49) In an E-R diagram, strong entities are represented by double-walled rectangles.
Answer: FALSE
Diff: 2 Page Ref: 60
Topic: The E-R Model: An Overview
AACSB: Use of Information Technology
Subtopic: E-R Model Notation

50) In an E-R diagram, an associative entity is represented by a rounded rectangle.
Answer: TRUE
Diff: 2 Page Ref: 60
Topic: The E-R Model: An Overview
AACSB: Use of Information Technology
Subtopic: E-R Model Notation

51) Data modeling is about documenting rules and policies of an organization that govern data.
Answer: TRUE
Diff: 2 Page Ref: 60
Topic: The E-R Model: An Overview
AACSB: Reflective Thinking
Subtopic: Metadata

52) One of the roles of a database analyst is to identify and understand rules that govern data.
Answer: TRUE
Diff: 1 Page Ref: 61
Topic: Modeling the Rules of the Organization
AACSB: Reflective Thinking

53) The purpose of data modeling is to document business rules about processes.
Answer: FALSE
Diff: 2 Page Ref: 61
Topic: Modeling the Rules of the Organization
AACSB: Reflective Thinking

54) A business rule is a statement that defines or constrains some aspect of the business.
Answer: TRUE
Diff: 1 Page Ref: 61
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: Overview of Business Rules

55) The intent of a business rule is to break down business structure.
Answer: FALSE
Diff: 1 Page Ref: 61
Topic: Modeling the Rules of the Organization
AACSB: Reflective Thinking
Subtopic: Overview of Business Rules

56) Enforcement of business rules can be automated through the use of software tools that can interpret the rules and enforce them.
Answer: TRUE
Diff: 2 Page Ref: 62
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: The Business Rules Paradigm

57) When systems are automatically generated and maintained, quality is diminished.
Answer: FALSE
Diff: 2 Page Ref: 62
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: The Business Rules Paradigm

58) A business rule is a statement of how a policy is enforced or conducted.
Answer: FALSE
Diff: 2 Page Ref: 62
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: Scope of Business Rules

59) While business rules are not redundant, a business rule can refer to another business rule.
Answer: TRUE
Diff: 2 Page Ref: 62
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: Scope of Business Rules

60) A business rule should be internally consistent.
Answer: TRUE
Diff: 1 Page Ref: 64
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: Scope of Business Rules

61) Business rules are formulated from a collection of business ramblings.
Answer: FALSE
Diff: 2 Page Ref: 63
Topic: Modeling the Rules of the Organization
AACSB: Reflective Thinking, Use of Information Technology
Subtopic: Gathering Business Rules

62) Data names should always relate to business characteristics.
Answer: TRUE
Diff: 1 Page Ref: 63
Topic: Modeling the Rules of the Organization
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Data Names and Definitions

63) Data names do not have to be unique.
Answer: FALSE
Diff: 2 Page Ref: 63
Topic: Modeling the Rules of the Organization
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Data Names and Definitions

64) An example of a term would be the following sentence: "A student registers for a course."
Answer: FALSE
Diff: 3 Page Ref: 64
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: Data Names and Definitions

65) A fact is an association between two or more terms.
Answer: TRUE
Diff: 1 Page Ref: 64
Topic: Modeling the Rules of the Organization
AACSB: Use of Information Technology
Subtopic: Data Names and Definitions

66) A good data definition is always accompanied by diagrams, such as the entity-relationship diagram.
Answer: TRUE
Diff: 1 Page Ref: 64
Topic: Modeling the Rules of the Organization
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Data Names and Definitions

67) An entity is a person, place, object, event, or concept in the user environment about which the organization wishes to maintain data.
Answer: TRUE
Diff: 1 Page Ref: 66
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology

68) A single occurrence of an entity is called an entity instance.
Answer: TRUE
Diff: 2 Page Ref: 66
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology

69) The relationship between a weak entity type and its owner is an identifying relationship.
Answer: TRUE
Diff: 1 Page Ref: 68
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Strong Versus Weak Entity Types

70) An entity type on which a strong entity is dependent is called a covariant entity.
Answer: FALSE
Diff: 2 Page Ref: 67
Topic: Modeling Entities and Attributes
AACSB: Reflective Thinking, Use of Information Technology
Subtopic: Strong Versus Weak Entity Types

71) An entity type name should always be a singular noun.
Answer: TRUE
Diff: 1 Page Ref: 68
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Naming and Defining Entity Types

72) The name used for an entity type should never be the same in other E-R diagrams on which the entity appears.
Answer: FALSE
Diff: 2 Page Ref: 69
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Naming and Defining Entity Types

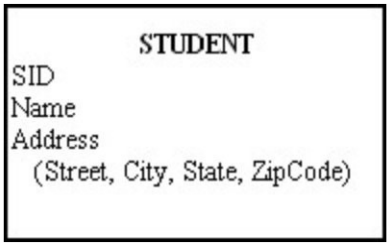
73) Some examples of attributes are: eye_color, weight, student_id, student.
Answer: FALSE
Diff: 2 Page Ref: 70
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Attributes

74) A simple attribute can be broken down into smaller pieces.
Answer: FALSE
Diff: 1 Page Ref: 71
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Attributes

75) An attribute whose values can be calculated from related attribute values is called a derived attribute.
Answer: TRUE
Diff: 1 Page Ref: 72
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Attributes

76) A multivalued attribute may take on more than one value for a particular entity instance.
Answer: TRUE
Diff: 1 Page Ref: 71
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Attributes

77) In the figure below, one might want to create a single-attribute surrogate identifier to substitute for the composite identifier.



Answer: FALSE
Diff: 3 Page Ref: 72, 73
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Identifier Attribute

78) When choosing an identifier, choose one that will not change its value often.
Answer: TRUE
Diff: 1 Page Ref: 73
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Identifier Attribute

79) It is desirable that no two attributes across all entity types have the same name.
Answer: TRUE
Diff: 2 Page Ref: 73
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Naming and Defining Attributes

80) It is not permissible to associate attributes with relationships.
Answer: FALSE
Diff: 2 Page Ref: 76
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Basic Concepts and Definitions in Relationships

81) A relationship instance is an association between entity instances where each relationship instance includes exactly one entity from each participating entity type.
Answer: FALSE
Diff: 1 Page Ref: 76
Topic: Modeling Relationships
AACSB: Reflective Thinking
Subtopic: Basic Concepts and Definitions in Relationships

82) One reason to use an associative entity is if the associative entity has one or more attributes in addition to the identifier.
Answer: TRUE
Diff: 1 Page Ref: 78
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Associative Entities

83) The degree of a relationship is the number of attributes that are associated with it.
Answer: FALSE
Diff: 1 Page Ref: 79
Topic: Modeling Relationships
AACSB: Reflective Thinking, Use of Information Technology
Subtopic: Degree of a Relationship

84) The relationship between the instances of two entity types is called a binary relationship.
Answer: TRUE
Diff: 1 Page Ref: 81, 82
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Degree of a Relationship

85) The relationship among the instances of three entity types is called a unary relationship.
Answer: FALSE
Diff: 1 Page Ref: 82
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Degree of a Relationship

86) A cardinality constraint tells what kinds of properties are associated with an entity.
Answer: FALSE
Diff: 1 Page Ref: 85
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Cardinality Constraints

87) The maximum criminality of a relationship is the maximum number of instances of entity B that may be associated with each instance of entity A.
Answer: FALSE
Diff: 1 Page Ref: 85
Topic: Modeling Relationships
AACSB: Reflective Thinking, Use of Information Technology
Subtopic: Cardinality Constraints

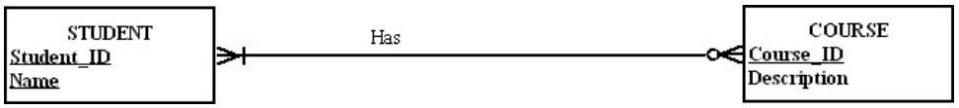
88) Participation in a relationship may be optional or mandatory.
Answer: TRUE
Diff: 2 Page Ref: 85
Topic: Modeling Relationships
AACSB: Reflective Thinking, Use of Information Technology
Subtopic: Cardinality Constraints

89) A ternary relationship is equivalent to three binary relationships.
Answer: FALSE
Diff: 2 Page Ref: 87
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Cardinality Constraints

90) A time stamp is a time value that is associated with a data value.
Answer: TRUE
Diff: 2 Page Ref: 88
Topic: Modeling Time-Dependent Data
AACSB: Use of Information Technology

91) Relationships represent action being taken using a verb phrase.
Answer: TRUE
Diff: 2 Page Ref: 92
Topic: Modeling Relationships
AACSB: Use of Information Technology
Subtopic: Naming and Defining Relationships

92) In the figure below, the name of the relationship follows the guidelines for naming a relationship.



Answer: FALSE
Diff: 2 Page Ref: 92, 93
Topic: Modeling Relationships
AACSB: Analytic Skills, Use of Information Technology
Subtopic: Naming and Defining Relationships

93) On what premises are business rules based?
Answer: A business rules approach is based on the following:
1. Because business rules are an expression of business policy, they are a core concept in an enterprise.
2. Natural language for end-users and a data model for developers can be used to state business rules.
Diff: 2 Page Ref: 61, 62
Topic: Modeling the Rules of the Organization
AACSB: Reflective Thinking
Subtopic: The Business Rules Paradigm

94) What are some of the guidelines for good data names of objects in general?
Answer: Data names always should:
1. Relate to the business, not technical characteristics. Student would be a good name but not filest023.
2. Be meaningful so that the name tells what the object is about
3. Be unique
4. Be readable
5. Be composed of words taken from an approved list
6. Be repeatable
7. Follow a standard syntax
Diff: 2 Page Ref: 63, 64
Topic: Modeling the Rules of the Organization
AACSB: Analytic Skills, Reflective Thinking
Subtopic: Data Names and Definitions

95) What is the difference between an entity type and an entity instance?
Answer: An entity type is a collection of entities that share common properties. An entity instance is a single occurrence of an entity type. So, for example, STUDENT is an entity type and John Smith is an entity instance.
Diff: 2 Page Ref: 66
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills
Subtopic: Entities

96) How is a strong entity different from a weak entity?
Answer: A strong entity type exists independently of any other entities. A weak entity type depends on another (strong) entity type. When an instance of the strong entity type no longer exists, any weak entity instances which depend upon the strong entity cease to exist.
Diff: 2 Page Ref: 67, 68
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills
Subtopic: Strong Versus Weak Entity Types

97) What is the difference between a simple attribute and a composite attribute?
Answer: A simple attribute cannot be broken down into smaller components, whereas a composite attribute can be. An example of a simple attribute is last name. An example of a composite attribute is mailing_address, which would have street, city, state and zip code as components.
Diff: 2 Page Ref: 71
Topic: Modeling Entities and Attributes
AACSB: Analytic Skills
Subtopic: Attributes

98) What is a derived attribute, and how is it different from a stored attribute?
Answer: A derived attribute is an attribute whose value can be calculated from other related attributes. A derived attribute is not stored in the physical table which is eventually created from the ERD. A stored attribute, as its name implies, is stored as a column in the physical table.
Diff: 2 Page Ref: 72
Topic: Modeling Entities and Attributes
AACSB: Use of Information Technology
Subtopic: Stored vs. Derived Attributes

99) What is an associative entity? What four conditions should exist in order to convert a relationship to an associative entity?
Answer: An associative entity is an entity type that associates the instances of one or more entity types and contains attributes that are peculiar to the relationship between those entity instances. Often, a many-to-many relationship is converted to an associative entity. The following four conditions should exist in order to do this:
1. All the relationships for the participating entities types are many relationships.
2. The resulting associative entity has independent meaning.
3. The associative entity has one or more attributes other than the identifier.
4. The associative entity participates in one or more relationships independent of the entities in the associative relationship.
Diff: 2 Page Ref: 77, 78
Topic: Modeling Relationships
AACSB: Analytic Skills
Subtopic: Associative Entities

100) What are the three different degrees of relationship?
Answer: The three possible degrees are: Unary (an instance of one entity is related to an instance of the same entity type), Binary (an entity instance of one type is related to an entity instance of another type), and Ternary (instance of three different types participate in a relationship).
Diff: 2 Page Ref: 79-82
Topic: Basic Concepts and Definitions in Relationships
AACSB: Analytic Skills, Reflective Thinking
Subtopic: Degree of a Relationship