Systems Analysis and Design, 9e **(Kendall/Kendall)**
Chapter 2   Understanding and Modeling Organizational Systems

2.1   Multiple Choice

1) Which of these is most closely associated with system control?
A) boundary
B) environment
C) feedback
D) interface
Answer: C
Diff: 1   Page Ref: 20

2) The elements that make up an organizational system are called _____.
A) entities
B) events
C) factors
D) relationships
Answer: A
Diff: 1   Page Ref: 25

3) Which of the following symbols is not used on the context level data flow diagram?
A) rectangle with rounded corners
B) triangle
C) arrow
D) shaded corner square
Answer: B
Diff: 1   Page Ref: 25

4) The context level data flow diagram depicts:
A) the boundaries of a system.
B) detailed processes that transform the incoming data to information.
C) the system entities and how they are related.
D) computer programs and their files.
Answer: A
Diff: 2   Page Ref: 25

5) An external entity may be:
A) a person.
B) another department.
C) another computer system.
D) All of the above.
Answer: D
Diff: 2   Page Ref: 25

6) Which of these is used to depict a relationship in an entity relationship diagram?
A) triangle
B) square
C) crow's foot line
D) rectangle
Answer: C
Diff: 2   Page Ref: 26

7) An organization with many employees and many cubicles with each employee having a unique phone extension is said to be a _____ relationship.
A) 1:1
B) 1:M
C) M:1
D) M:N
Answer: A
Diff: 2   Page Ref: 26

8) A crow's foot notation indicates:
A) none of the other entity.
B) one of the other entity.
C) an attributive entity.
D) many of the other entity.
Answer: D
Diff: 1   Page Ref: 26

9) An entity that describes attributes such as repeating groups is called:
A) a fundamental entity.
B) an associative entity.
C) an attributive entity.
D) an external entity.
Answer: C
Diff: 1   Page Ref: 28

10) An entity that joins two other entities is called:
A) a fundamental entity.
B) an associative entity.
C) an attributive entity.
D) a linking entity.
Answer: B
Diff: 1   Page Ref: 28

11) A many-to-many relationship is replaced with _____ to form two one-to-many relationships.
A) a fundamental entity
B) an associative entity
C) an attributive entity
D) a bipolar entity
Answer: B
Diff: 3   Page Ref: 28

12) Which level of management makes decisions using predetermined rules that have predictable outcomes?
A) operations
B) middle
C) strategic
D) None are interested in detailed information.
Answer: A
Diff: 2   Page Ref: 40

13) Which level of management is most dependent on external information?
A) operations
B) middle
C) strategic
D) None of these are dependent on external information.
Answer: C
Diff: 1   Page Ref: 40

14) Which view of organizations concentrates on myths, metaphors, humor, and ceremonies?
A) culture
B) human relationships
C) leadership style
D) technology
Answer: A
Diff: 1   Page Ref: 41

15) Anything external to an organization's boundaries is considered to be:
A) of little importance.
B) an environment.
C) an enterprise resource system.
D) an associative entity.
Answer: B
Diff: 3   Page Ref: 21

16) The free flow of information within a system is called:
A) open source information.
B) a virtual organization.
C) openness.
D) enterprise wide resource availability.
Answer: C
Diff: 2   Page Ref: 21

17) A(n) _____ uses computer networks and communications technology to bring people together to work on projects.
A) virtual enterprise
B) open system
C) enterprise system
D) official subculture
Answer: A
Diff: 3   Page Ref: 22

18) An integrated organizational information system is called a(n):
A) virtual organization.
B) open system.
C) interrelated external entity.
D) enterprise resource planning system.
Answer: D
Diff: 1   Page Ref: 23

19) An enterprise resource planning system:
A) is purchased rather than developed.
B) links team members at remote distances.
C) uses project management software to develop program coding schedules.
D) involves the use of isolated systems that do not interact.
Answer: A
Diff: 2   Page Ref: 23

20) The symbol used to represent a process on a context level data flow diagram is:
A) a diamond inside a rectangle.
B) a circle.
C) an oval inside a rectangle.
D) a rectangle with rounded corners.
Answer: D
Diff: 3   Page Ref: 25

21) Processes on a data flow diagram:
A) transform incoming data into outgoing information.
B) represent the system boundaries.
C) represent the work that a specific user performs.
D) change the nature of the relationships on a entity-relationship diagram.
Answer: A
Diff: 2   Page Ref: 24

22) Another name for an associative entity is:
A) an attributive entity.
B) an external entity.
C) a co-variant entity.
D) a gerund.
Answer: D
Diff: 1   Page Ref: 28

23) A zero on a relationship line indicates:
A) that the relationship line is undefined.
B) the absence of any well-defined entities.
C) that none is possible for the next relationship.
D) that the relationship should be used to create an associative entity.
Answer: C
Diff: 2   Page Ref: 27

24) Attributes that are underlined on an entity-relationship diagram:
A) are the names of external entities.
B) can be searched for.
C) represent virtual organizational components.
D) are used to create attributive entities.
Answer: B
Diff: 2   Page Ref: 3429

25) The management group that has a high need for historical data along with information that allows prediction of future events is:
A) operations management.
B) middle management.
C) strategic management.
D) virtual management.
Answer: B
Diff: 2   Page Ref: 41

26) All systems are composed of interrelated _____.
A) subsystems
B) enterprise systems
C) database systems
D) design systems
Answer: A
Diff: 1   Page Ref: 19

27) _____ change or transform inputs into outputs.
A) Systems
B) Subsystems
C) Processes
D) Objectives
Answer: C
Diff: 1   Page Ref: 24

28) All systems and subsystems are interrelated and _____, which indicates that when any element of a system is changed or eliminated, other system elements are also affected.
A) interconnected
B) interdependent
C) Both A and B.
D) Neither A nor B.
Answer: B
Diff: 1   Page Ref: 20

29) System outputs are used as _____ to compare performance with goals.
A) feedback
B) data
C) inputs
D) None of the above.
Answer: A
Diff: 2   Page Ref: 20

30) A(n) _____ system is a system with a relatively free flow of information within the organization.
A) open
B) closed
C) primary
D) secondary
Answer: A
Diff: 1   Page Ref: 21

31) A(n) _____ defines the boundaries of the system.
A) context level data flow diagram
B) entity-relationship model
C) open diagram
D) closed diagram
Answer: A
Diff: 2   Page Ref: 25

32) The elements that make up an organizational system can be referred to as _____.
A) entities
B) relationships
C) data flows
D) processes
Answer: A
Diff: 2   Page Ref: 30

33) Another way a systems analyst can show the scope of a system and define proper system boundaries
is to use a(n) _____.
A) flow chart
B) entity-relationship diagram
C) database diagram
D) spreadsheet
Answer: B
Diff: 1   Page Ref: 25

34) A(n) _____ on one end of a relationship indicates that none of the entity are a possibility.
A) circle or zero
B) single line
C) crow's foot
D) circle and a single line
Answer: A
Diff: 1   Page Ref: 27

35) A(n) _____ joins two fundamental entities.
A) associative entity
B) attributive entity
C) process entity
D) None of the above.
Answer: A
Diff: 1   Page Ref: 28

2.2 True/False

1) Systems and subsystems are interrelated and interdependent.
Answer: TRUE
Diff: 1   Page Ref: 20

2) Feedback is a form of system control.
Answer: TRUE
Diff: 1   Page Ref: 20

3) Anything which affects the functioning of an organization is considered to be an environment.
Answer: FALSE
Diff: 2   Page Ref: 21

4) An open system allows free passage of resources (people, information, materials) through its boundaries.
Answer: TRUE
Diff: 1   Page Ref: 43

5) A context level data flow diagram includes many detailed processes representing the computer programs within the system.
Answer: FALSE
Diff: 2   Page Ref: 24

6) In an entity relationship diagram, rectangles represent entities, and ovals represent relationships.
Answer: FALSE
Diff: 2   Page Ref: 25

7) The elements that make up an organizational system are referred to as entities.
Answer: TRUE
Diff: 1   Page Ref: 25

8) A crow's foot on each side of a relationship indicates a one-to-one relationship.
Answer: FALSE
Diff: 1   Page Ref: 26

9) An associative entity joins two entities.
Answer: TRUE
Diff: 2   Page Ref: 28

10) Middle managers make decisions using predetermined rules that have predictable outcomes when implemented correctly.
Answer: FALSE
Diff: 1   Page Ref: 40

11) Strategic managers work in a highly uncertain decision-making environment.
Answer: TRUE
Diff: 1   Page Ref: 40

12) Operations managers most often make one-time decisions but the decisions made by strategic managers tend to be repetitive.
Answer: FALSE
Diff: 2   Page Ref: 40

13) Middle managers are highly dependent on external information.
Answer: FALSE
Diff: 2   Page Ref: 40

14) Strategic managers tend to use information that is more current than information used by middle managers.
Answer: FALSE
Diff: 2   Page Ref: 40

15) Often, considering organizational subcultures is more useful than is considering organizational culture.
Answer: TRUE
Diff: 1   Page Ref: 41

16) Understanding organizational subcultures may help analysts overcome resistance to change.
Answer: TRUE
Diff: 2   Page Ref: 43

17) Virtual enterprises use computer networks and communications technology to bring people together on a project.
Answer: TRUE
Diff: 1   Page Ref: 22

18) One drawback of working on a virtual team is that there is no easy way for members to share project results.
Answer: FALSE
Diff: 1   Page Ref: 22

19) Enterprise resource planning systems are software that help the flow of information between the functional areas in an organization.
Answer: TRUE
Diff: 1   Page Ref: 43

20) ERP systems are only useful in large companies and not able to be used in small and medium-sized enterprises as well.
Answer: FALSE
Diff: 1   Page Ref: 24

21) Another name for an attributive entity is a gerund.
Answer: FALSE
Diff: 2   Page Ref: 32

22) A many-to-many relationship may be implemented by using an attributive entity on one end.
Answer: FALSE
Diff: 2   Page Ref: 27

23) A zero on one end of a relationship line indicates that there may be none of the entity that the line is connected to.
Answer: TRUE
Diff: 2   Page Ref: 27

24) A primary use case describes the standard flow of events in the system.
Answer: TRUE
Diff: 1   Page Ref: 34

25) Use cases allow people to tell stories.
Answer: TRUE
Diff: 1   Page Ref: 39

26) The level of management concerned with making decisions using predetermined rules which have predictable outcomes is the operations manager.
Answer: TRUE
Diff: 1   Page Ref: 40

27) Subcultures coexist with "official" organizational cultures.
Answer: TRUE
Diff: 1   Page Ref: 43

28) A brick-and-mortar location uses computer networks and communications technology to bring people together to work on projects.
Answer: FALSE
Diff: 2   Page Ref: 22

29) An enterprise resource planning system describes an integrated organizational information system.
Answer: TRUE
Diff: 1   Page Ref: 23

30) A use case diagram contains two symbols, the use case and the actor.
Answer: TRUE
Diff: 3   Page Ref: 29

31) The excludes relationship contains a behavior that is common to more than one use case.
Answer: FALSE
Diff: 3   Page Ref: 33

32) The communicates relationships handles exceptions to the basic use case.
Answer: FALSE
Diff: 3   Page Ref: 33

33) Preconditions are the state of the system before the use case may be performed.
Answer: TRUE
Diff: 3   Page Ref: 38

34) Preconditions show the state of the system after the use case has finished.
Answer: FALSE
Diff: 3   Page Ref: 38

35) Middle Management forms the second, or intermediate, tier of the three-tiered management system.
Answer: TRUE
Diff: 2   Page Ref: 39

36) An attributive entity can only exist if it is connected to at least two other entities.
Answer: FALSE
Diff: 3   Page Ref: 28

37) A use case model describes what a system does without describing *how* the system does it.
Answer: TRUE
Diff: 2   Page Ref: 30

38) The requirements met area shows why this use case is important and necessary for the business area to be successful.
Answer: TRUE
Diff: 3   Page Ref: 38

39) Risk is a rough assessment of whether there may be problems or difficulties developing the use case.
Answer: TRUE
Diff: 3   Page Ref: 38

40) Middle managers are highly dependent on information from external sources that supply news of market trends and the strategies of competing corporations.
Answer: FALSE
Diff: 2   Page Ref: 40

2.3   Short Answer

1) Describe the elements of an E-R diagram depicting the relationship between a person and a tee-shirt.   This description should show the following relationship: Each person can have many tee-shirts, but each shirt can only be owned by a single person.

Answer: Students should describe two entities, connected with a one to many relationship.

Diff: 3   Page Ref: 25

2) Give an example of the type of decision that would be made by an Operational Manager?

Answer: Students should provide an example that is consistent with the idea that Operational Managers use predetermined rules that usually have predictable outcomes, e.g., dismissing an employee for reporting to work late three times in a week.

Diff: 2   Page Ref: 40

3) What are the three parts of a use case scenario that are always described?
Answer: A use case always describes three things: an actor that initiates an event; the event that triggers a use case; and the use case that performs the actions triggered by the event.
Diff: 1   Page Ref: 34

4) List the three broad, horizontal levels of management in organizations.

Answer:
1. Operational Management
2. Middle Management
3. Strategic Management
Diff: 2   Page Ref: 39

5) Define openness in an organizational environment.
Answer: Openness in an organizational environment allows for free passage of resources (people, information, materials) through its boundaries.

Diff: 2   Page Ref: 21