Systems Analysis and Design Methods
Chapter 8: Process Modeling

Multiple Choice Questions

1.   In a data flow diagram, _____ are used to represent processes.

A. rounded rectangles
B. squares
C. open-ended boxes
D. arrows

2.   In data flow diagrams, _____ are used for data stores and _____ are used for external agents - the boundary of the system.

A. squares, rounded rectangles
B. squares, open-ended boxes
C. open-ended boxes, rounded rectangles
D. open-ended boxes, squares

3.   In data flow diagrams arrows represent:

A. data flows
B. processes
C. data stores
D. external agents

4.   During _____, each level of abstraction reveals more or less detail as desired, about the overall system or a subset of that system

A. drawing decision table
B. decision analyzing
C. decomposition
D. none of the above

5.   A(n) _____ is a set of related and ongoing activities of the business. It has no start or end; it just continuously performs its work as needed.

A. function
B. event
C. elementary process
D. none of the above

6. Events are sometimes called:

A. functions
B. transactions
C. elementary processes
D. none of the above

7. Which of the following is the lowest level of detail in a process model?

A. functions
B. transactions
C. elementary processes
D. none of the above

8. Which of the following is NOT a components of a decision table:

A. condition stubs
B. data stores
C. rules
D. action stubs

9. Which of the following is the smallest piece of data that has meaning to the end users and the business?

A. attribute
B. entity
C. function
D. event

10. A type of data flow that merges multiple data flows into a single data flow in:

A. converging
B. diverging
C. decomposing
D. none of the above

11. An enterprise process model typically identifies only business _____ and _____. Events and detailed processes are rarely examined.

A. functions, processes
B. models, events
C. areas, functions
D. functions, elementary processes

12. Which type of event trigger processes on the basis of time?

    A. external events
    B. temporal events
    C. state events
    D. none of the above

13. A(n) _____ is anything that needs to interact with the system to exchange information; this could be a customer, user, department, organization or another system.

    A. actor
    B. processes
    C. data store
    D. function

14. For each _____, we need to list: 1) the actor initiating the event; (2) the event; (3) the input or trigger for the event; (4) all outputs and responses.

    A. decision tables
    B. event diagram
    C. decomposition diagram
    D. use case

15. A process-to-location matrix is a table in which:
    1) the _____ indicate processes (event or elementary processes);
    2) the _____ indicate locations; and
    3) the _____ (the intersections of rows and columns) document which

    A. rows; columns; cells
    B. columns; rows; cells
    C. cells; rows; columns
    D. columns; cells; rows

True or False Questions

16. Data modeling is a technique for organizing and documenting the structure and flow of data through a system's processes.

    A. True   B. False

17. Physical models show not only what a system is or does, but also how the system is physically and technically implemented. They are implementation dependent because they reflect technology choices and limitations of those technology choices.

    A. True   B. False

18. Another name for the data flow diagram is a transformation graph.

    A. True   B. False

19. Another name for the data flow diagram is a data model.

    A. True   B. False

20. In a data flow diagram, squares are used to represent processes.

    A. True   B. False

21. In data flow diagrams, data flows are represented by rounded rectangles.

    A. True   B. False

22. A complex system is usually too difficult to understand when viewed as a whole.

    A. True   B. False

23. A system must be viewed as a whole.

    A. True   B. False

24. An entity relationship diagram shows the top down functional decomposition and structure of a system.

    A. True   B. False

25. A data flow diagram is another name for a decomposition diagram.

    A. True   B. False

26. Each logical process is (or will be) implemented as one or more physical processes that may include work performed by people; work performed by robots or machines; or work performed by computer software.

    A. True   B. False

27. A function is a set of related activities of the business that occurs at one specific point in time, and then is over.

    A. True   B. False

28. Events are sometimes called functions.

    A. True   B. False

29. Another name for an elementary process is a primitive process.

    A. True   B. False

30. A miracle is an acceptable elementary process, since the process and data model were specified as metadata.

    A. True   B. False

31. A logical process can sort, filter or otherwise summarize data.

    A. True   B. False

32. Data flow diagrams are very good for detailing the internal logic for a process.

    A. True   B. False

33. Structured English is built using the following fundamental constructs that have governed structured programming: a sequence of simple declarative sentences; a conditional or decision structure; an iteration or repetition structure.

    A. True   B. False

34. A decision structure specifies that a process must perform different steps under well-specified conditions.

    A. True   B. False

35. In Structured English, when in doubt, programmer preferences should take priority over user readability.

    A. True   B. False

36. A data flow can be either 1) the input or output of data from a process; or 2) the representation of the creation, reading, deletion or updating of data in a file or database (known as a data store).

    A. True   B. False

37. It is important to make sure that each data flow represents a single, unique attribute.

A. True   B. False

38. By ensuring that processes receive only as much data as they really need, we simplify the interface between those processes.

A. True   B. False

39. Data structures are specific arrangements of data attributes that define the organization of a single instance of a data flow.

A. True   B. False

40. The data type of an attribute defines what values that an attribute can legitimately take on.

A. True   B. False

41. A converging data flow is one that splits into multiple data flows.

A. True   B. False

42. A data store is the same as a data entity, but includes all the attributes and relationships too.

A. True   B. False

43. An enterprise process model typically identifies only business areas and functions. Events and detailed processes are rarely examined.

A. True   B. False

44. A system context diagram is drawn to partition the system into logical subsystems and/or functions.

A. True   B. False

45. Primitive diagrams are constructed for those event processes that require additional processing details. These data flow diagrams include all the elementary processes, data stores and data flows for single events.

A. True   B. False

46. External events are so named because they are initiated by the basis of time.

A. True   B. False

47. An event diagram is a context diagram for a single event. It shows the inputs, outputs and data store interactions for the event.

A. True   B. False