***Systems Analysis and Design, 10e*** **(Kendall/Kendall)**
**Chapter 1 Systems, Roles, and Development Methodologies**

1.1 Multiple Choice

1) Which of these software packages are not open source software (OSS)?
A) Microsoft Windows
B) Mozilla Firefox Web browser
C) Apache Web server
D) A Linux operating system
Answer: A
Diff: 1 Page Ref: 15
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

2) Which of these characteristics is most important to a systems analyst?
A) communicator
B) problem solver
C) programmer
D) project manager
Answer: B
Diff: 2 Page Ref: 4
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

3) Which of these statements concerning the systems development life cycle is true?
A) Designing the system is the first step in the SDLC.
B) No phase can occur until the previous phase is completed.
C) Although each phase is presented discretely, it is never accomplished as a separate step.
D) There is widespread agreement that the SDLC is composed of seven phases.
Answer: C
Diff: 1 Page Ref: 4
AACSB: Information technology
Learning Objective: 1a-Understand the need for systems analysis and design in organizations.

4) System maintenance must be performed to:
A) correct software errors.
B) add new features that have never been requested before.
C) remove features that none of the users are using.
D) keep programmers employed.
Answer: A
Diff: 3 Page Ref: 8
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

5) Which of these is not used by analysts when adopting CASE tools?
A) communicating more effectively with users
B) expediting the local area network
C) increasing productivity
D) integrating the work done during life cycle stages
Answer: B
Diff: 1 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

6) An encyclopedia that is used to store all project information is called:
A) a data dictionary.
B) an upper CASE tool.
C) a CASE repository.
D) a lower CASE tool.
Answer: C
Diff: 3 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

7) Which of the following is not a dimension used to categorize an open source community?
A) programming style
B) environment
C) user community
D) licensing
Answer: A
Diff: 3 Page Ref: 15
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

8) When program software is distributed free with the code or computer instructions available for anyone to modify, it is called:
A) freeware.
B) code independent software.
C) a distributed system.
D) open source software.
Answer: D
Diff: 1 Page Ref: 15
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

9) Object-oriented approaches use what industry standard for modeling object-oriented systems?
A) artificial intelligence
B) a distributed system
C) the unified modeling language
D) multi-view
Answer: C
Diff: 2 Page Ref: 12
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

10) Which of the following is not one of the fundamental components of the agile approach?
A) pressure
B) values
C) principles
D) core practices
Answer: A
Diff: 2 Page Ref: 10
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

11) Which of the following is not one of the four values of the agile approach?
A) communication
B) expertise
C) simplicity
D) courage
Answer: B
Diff: 2 Page Ref: 10
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

12) Which of the following questions would NOT be used by the analyst when determining the human information requirements of a system?
A) What needs to be done to make the system audible, legible, and safe?
B) How can the system be made within the approved budget?
C) How can the system be made pleasing or even fun to use?
D) How can the system support a user's individual work tasks and make them more productive in new ways?
Answer: B
Diff: 2 Page Ref: 5
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

13) Which of these is a reason for an organization to participate in open source communities?
A) to maintain mutually beneficial relationships with other software developers
B) to keep down the development costs on a project
C) to increase productivity by leveraging a committed group of developers
D) All of the above.
Answer: D
Diff: 1 Page Ref: 15
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

14) Decision makers are beginning to understand that _____ is not just a byproduct of conducting business, but a critical factor in determining the success or failure of a business.
A) information
B) decoration
C) hesitation
D) frustration
Answer: A
Diff: 1 Page Ref: 1
AACSB: Information technology
Learning Objective: 1a-Understand the need for systems analysis and design in organizations.

15) As a(n) _____, an analyst draws on professional expertise concerning computer hardware and software and their uses in the business.
A) supporting expert
B) consultant
C) programmer
D) agent of change
Answer: A
Diff: 2 Page Ref: 3
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

16) The most prominent quality of an analyst is that of a(n):
A) problem solver.
B) consultant.
C) programmer.
D) agent of change.
Answer: A
Diff: 1 Page Ref: 4
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

17) The _____ summarizes what has been discovered about the users, usability, and usefulness of current systems; provides cost-benefit analyses of alternatives; and makes recommendations on what (if anything) should be done.
A) systems proposal
B) database design
C) template
D) development life cycle
Answer: A
Diff: 2 Page Ref: 7
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

18) _____ tells users how to use software and what to do if software problems occur.
A) Program specifications packet
B) Software development life cycle
C) Programming guidelines
D) Documentation
Answer: D
Diff: 2 Page Ref: 7
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

19) One important justification for CASE tools is to increase analyst:
A) confidence.
B) productivity.
C) skill.
D) None of the above
Answer: B
Diff: 3 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

20) In the information requirements phase of the _____, the analyst is striving to understand what information users need to perform their jobs
A) Software Development Life Cycle (SDLC)
B) Human computer interface
C) The keyboard
D) Human computer interaction
Answer: A
Diff: 2 Page Ref: 5
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

21) Software that is distributed free along with the program source code is called:
A) closed source software.
B) open source software.
C) Microsoft Windows.
D) outsource software.
Answer: B
Diff: 2 Page Ref: 15
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

22) The _____ is based on values, principles and core practices.
A) fragile approach
B) open source approach
C) closed source approach
D) agile approach
Answer: D
Diff: 1 Page Ref: 10
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

23) The most comprehensive and responsible role that the systems analyst takes on is that of a(n):
A) agent of change.
B) compromiser.
C) leader.
D) consultant.
Answer: A
Diff: 1 Page Ref: 3
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

24) The _____ is a phased approach to analysis and design that holds that systems are best developed through the use of a specific cycle of analyst and user activities.
A) systems development life cycle
B) agile approach
C) object-oriented approach
D) open source approach
Answer: A
Diff: 2 Page Ref: 4
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

25) After the system is installed, it must be _____, meaning that the computer programs must be modified and kept up to date.
A) maintained
B) replaced
C) replicated
D) CASE'd
Answer: A
Diff: 2 Page Ref: 8
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

26) _____ is an approach that is intended to facilitate the development of systems that must change rapidly in response to dynamic business environments.
A) Agile method
B) Systems development life cycle
C) Object-oriented analysis and design
D) Open source approach
Answer: C
Diff: 2 Page Ref: 12
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

27) _____ are those for which the conditions, condition alternatives, actions, and action rules can be determined.
A) Useful decisions
B) Sequential decisions
C) System-wide decisions
D) Structured decisions
Answer: D
Diff: 3 Page Ref: 6
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

28) The design phase also includes designing _____ that will store much of the data needed by decision makers in the organization.
A) databases
B) flow charts
C) spreadsheets
D) software design models
Answer: A
Diff: 3 Page Ref: 7
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

29) Maintenance is performed:
A) to correct software errors.
B) to enhance the system and its capabilities in response to changing organizational needs.
C) Both A and B.
D) Neither A nor B.
Answer: C
Diff: 3 Page Ref: 8
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

30) Which of the following do not describe how analysts use CASE tools?
A) decrease maintenance costs
B) increase productivity
C) communicate more effectively with users
D) integrate the work that they do on the system from the beginning to the end of the life cycle
Answer: A
Diff: 3 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

31) A CASE _____ is a large collection of records, elements, diagrams, screens, reports, and other information stored about a particular project.
A) repository
B) database
C) flow chart
D) booklet
Answer: A
Diff: 3 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

32) The four values of the agile approach are:
A) communication, simplicity, user centered design and courage.
B) communication, courage, principals and core practices.
C) communication, values, feedback, and courage.
D) communication, simplicity, feedback, and courage.
Answer: D
Diff: 3 Page Ref: 10
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

33) Object-oriented approaches use the industry standard for modeling object-oriented systems, called _____ to break down a system into a use case model.
A) Extensible Markup Language (XML)
B) HyperText Markup Language (HTML)
C) Unified Modeling Language (UML)
D) Vector Markup Language (VML)
Answer: C
Diff: 3 Page Ref: 12
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

34) The agile approach and the _____ approach both allow subsystems to be built one at a time until the entire system is complete.
A) systems development life cycle
B) unified modeling
C) try and try again
D) object-oriented
Answer: D
Diff: 1 Page Ref: 14
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

35) An analyst should choose the Systems Development Life Cycle approach when:
A) systems have already been developed and documented using SDLC.
B) it is important to document each step of the way.
C) upper-level management feels more comfortable or safe using SDLC.
D) there are adequate resources and time to complete the full SDLC.
E) communication of how new systems work is important.
F) All of the above.
G) None of the above.
Answer: F
Diff: 1 Page Ref: 14
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

1.2 True/False

1) User involvement throughout the systems project is of little importance in the successful development of business information systems.
Answer: FALSE
Diff: 1 Page Ref: 2
AACSB: Information technology
Learning Objective: 1a-Understand the need for systems analysis and design in organizations.

2) The three primary roles of the systems analyst are as consultant, supporting expert, and change agent.
Answer: TRUE
Diff: 2 Page Ref: 2
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

3) When analysts are hired specifically from outside the business to address information systems issues within a business, they are acting as supporting experts.
Answer: FALSE
Diff: 1 Page Ref: 2
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

4) Each phase of the system development life cycle is accomplished as a discrete, separate step.
Answer: FALSE
Diff: 2 Page Ref: 4
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

5) The first SDLC phase that the analyst enters into is that of determining information requirements for the particular users involved.
Answer: FALSE
Diff: 2 Page Ref: 5
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

6) A systems proposal is prepared after the analysis of system needs.
Answer: TRUE
Diff: 1 Page Ref: 7
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

7) During the life cycle of an information system, more time is spent in system maintenance than it took to design and develop the system.
Answer: TRUE
Diff: 1 Page Ref: 8
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

8) CASE tools have the potential of increasing systems analysts' productivity.
Answer: TRUE
Diff: 1 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

9) CASE tools can allow the user to easily draw and modify diagrams.
Answer: TRUE
Diff: 1 Page Ref: 9-10
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

10) It is the drawing of diagrams rather than in their modification that CASE tools excel over the use of templates.
Answer: FALSE
Diff: 1 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

11) Object-oriented techniques are used when systems must change rapidly in response to dynamic business environments.
Answer: TRUE
Diff: 2 Page Ref: 12
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

12) The four values of the agile approach are communication, simplicity, feedback and courage.
Answer: TRUE
Diff: 2 Page Ref: 10
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

13) Open source software is distributed for free and then users pay for updates to the software.
Answer: FALSE
Diff: 1 Page Ref: 14
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

14) The open source software community is a monoculture, a single unified community.
Answer: FALSE
Diff: 2 Page Ref: 15
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

15) It is important for the analyst to determine the human needs of the users involved in a development project.
Answer: TRUE
Diff: 1 Page Ref: 5
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

16) A systems analyst should never be hired specifically to address information systems issues within a business.
Answer: FALSE
Diff: 1 Page Ref: 2
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

17) A systems analyst should never draw on professional expertise concerning computer hardware and software and their uses in the business.
Answer: FALSE
Diff: 2 Page Ref: 3
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

18) As a systems analyst, you are an agent of change whenever you perform any of the activities in the systems development life cycle and are present and interacting with users and the business for an extended period of time.
Answer: TRUE
Diff: 1 Page Ref: 3
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

19) Problem solving is never a good quality for a systems analyst.
Answer: FALSE
Diff: 1 Page Ref: 4
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

20) In the Systems Development Life Cycle (SDLC), several activities may occur simultaneously, and activities may be repeated.
Answer: TRUE
Diff: 1 Page Ref: 4
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

21) When implementing a new system, it is always best to determine the human needs of the users involved
Answer: TRUE
Diff: 1 Page Ref: 5
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

22) When answering questions concerning human-computer interaction (HCI) the analyst should ask questions such as, "What are the users' physical strengths and limitations?"
Answer: TRUE
Diff: 1 Page Ref: 5
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

23) The first phase of the systems development life cycle is critical to the success of the rest of the project.
Answer: TRUE
Diff: 2 Page Ref: 5
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

24) The second phase of the systems development life cycle begins with the documentation of the software being designed.
Answer: FALSE
Diff: 1 Page Ref: 5
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

25) In the third phase of the systems development life cycle, analysts can use data flow diagrams to chart the input, processes, and output of the business functions.
Answer: TRUE
Diff: 1 Page Ref: 6
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

26) The three major tools for analyzing structured decisions are structured English, decision tables, and decision trees.
Answer: TRUE
Diff: 1 Page Ref: 6
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

27) In the design phase of the SDLC, the systems analyst uses the information collected earlier to accomplish the logical design of the information system.
Answer: TRUE
Diff: 2 Page Ref: 7
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

28) After a system is implemented, businesses spend little money on system maintenance.
Answer: FALSE
Diff: 1 Page Ref: 8
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

29) CASE tools were created explicitly to improve an analyst's routine work through the use of automated support.
Answer: TRUE
Diff: 2 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

30) Visible Analyst (VA) is not an example of a CASE tool that enables systems analysts to do graphical planning, analysis, and design in order to build complex client/server applications and databases.
Answer: FALSE
Diff: 2 Page Ref: 9
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

31) The agile approach is a software development approach based on values, principles, and core practices.
Answer: TRUE
Diff: 1 Page Ref: 10
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

32) Object-oriented programming differs from traditional procedural programming in that it examines objects that are part of a system.
Answer: TRUE
Diff: 3 Page Ref: 12
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

33) Object-oriented programming is the same as traditional procedural programming in that it examines objects that are part of a system.
Answer: FALSE
Diff: 2 Page Ref: 12
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

34) The phases in UML are similar to those in the SDLC.
Answer: TRUE
Diff: 2 Page Ref: 12
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

35) The SDLC and object-oriented approaches both require extensive planning and diagramming.
Answer: TRUE
Diff: 2 Page Ref: 14
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

1.3 Short Answer

1) List the three primary roles of the systems analyst.
Answer: The three primary roles of the systems analyst are consultant, supporting expert, and agent of change.
Diff: 1 Page Ref: 2
AACSB: Information technology
Learning Objective: 1b-Realize what the many roles of a systems analyst are.

2) List four of the seven phases of the systems development life cycle.
Answer: Identifying problems, opportunities, and objectives - Determining human information requirements - Analyzing system needs - Designing the recommended system - Developing and documenting software - Testing and maintaining the system - Implementing and evaluating the system
Diff: 2 Page Ref: 4
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

3) Describe a situation in which an analyst would choose to use object-oriented systems analysis and design rather than the systems development life cycle.
Answer: Students should describe a situation in which the system to be designed must change rapidly in response to dynamic business environments or are undergoing continuous maintenance, adaptation and redesign.
Diff: 3 Page Ref: 12
AACSB: Analytical thinking
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

4) What is open source software?
Answer: OSS is software where many users and programmers can study, share, and modify the code, or computer instructions.
Diff: 2 Page Ref: 15
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.

5) What are the four values of the agile approach?
Answer: The four values of the agile approach are communication, simplicity, feedback, and courage.
Diff: 3 Page Ref: 10
AACSB: Information technology
Learning Objective: 1c-Fundamentals of SDLC, Agile, and Object-Oriented systems analysis and design.