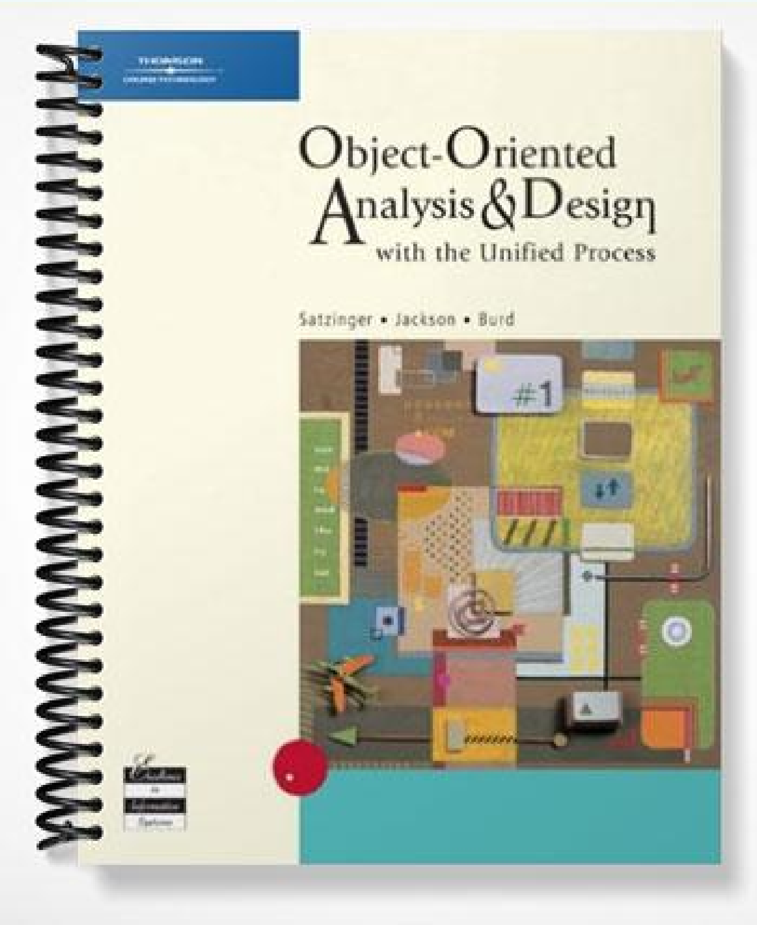
TEST BANK


THOMSON
COURSE TECHNOLOGY
Object-Oriented
Analysis & Design
with the Unified Process
Satzinger • Jackson • Burd
#1

ch02

True/False
Indicate whether the statement is true or false.

____ 1. All system development projects should be completed within a month or two.

____ 2. Several different projects may be required during the life of a system to develop the original system and upgrade it.

____ 3. A predictive SDLC has a high technical risk.

____ 4. A project cannot have both predictive and adaptive elements.

____ 5. The support phase of a traditional SDLC is not normally considered to be part of the initial development project.

____ 6. A pure waterfall approach does not work very well.

____ 7. It is efficient to write program code before having an overall design structure.

____ 8. A modified waterfall approach is appropriate for projects that build well-understood applications.

____ 9. The spiral model approach can be adapted for any number of prototypes.

____ 10. Iteration assumes that no one gets the right result the first time.

____ 11. The amount of iteration in a project depends on the complexity of the project.

____ 12. The object-oriented approach is not highly iterative.

____ 13. In the UP life cycle, some working software is tested and reviewed with system users at the end of each iteration.

____ 14. The elaboration phase of the UP is similar to the traditional SDLC analysis phase.

____ 15. The elaboration phase of the UP is usually completed in one iteration.

____ 16. Most people want a methodology to be flexible.

____ 17. Prior to UML, there was no standard for system models.

____ 18. CASE tools cannot generate program code.

____ 19. The UP is now the most influential system development methodology for object-oriented development.

____ 20. The UP should not be tailored to the needs of a specific organization or system project.

____ 21. Usually, each iteration in a project addresses one use case.

____ 22. The UP defines disciplines primarily in the inception phase.

____ 23. Most iterations in the UP involve work in all disciplines.

____ 24. In a UP project, each iteration ends with a stable executable.

____ 25. Not every discipline has activities that produce artifacts.

____ 26. When programming, developers must have access to the source code for a class that is being reused.

____ 27. Problem domain objects are the easiest to understand because users and developers can see them and interact with them directly.

____ 28. Objects cannot maintain association relationships among themselves.

____ 29. Every object has a unique identity.

____ 30. Rational Rose is referred to as a visual modeling tool rather than a CASE tool.

Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

____ 31. A(n) adaptive SDLC has a low technical risk. _____________________

____ 32. Predictive SDLC approaches are more traditional. _____________________

____ 33. The design phase of a traditional SDLC involves programming, testing, and installing the system for the business users. _____________________

____ 34. The SDLC approach that is most adaptive is called a waterfall approach. _____________________

____ 35. The spiral model is generally considered to be the first adaptive approach to system development. _____________________

____ 36. Many of the more popular adaptive approaches today use iteration as a fundamental element of the approach. _____________________

____ 37. The project manager makes the business case for a new system during the elaboration phase of the UP. _____________________

____ 38. A(n) prototype is a representation of an important aspect of the real world. _____________________

____ 39. The term process is a synonym for methodology. _____________________

____ 40. The development of OOP and UP is credited to Grady Booch, James Rumbaugh, and Ivar Jacobson of Rational Software, now part of IBM. ____________________

____ 41. UML was accepted as a standard by the Object Management Group. ____________________

____ 42. A(n) model is software that helps create models or other components required in a project. ____________________

____ 43. The most comprehensive tool available for system developers is called a(n) IDE tool. ____________________

____ 44. Techniques are generally accepted approaches for completing a system development task that have been proven over time to be effective. ____________________

____ 45. Use cases have become a de facto standard in both predictive and adaptive approaches to development. ____________________

____ 46. By the time a project progresses to the construction phase, most of the use cases have been designed and implemented in their initial form. ____________________

____ 47. Specific UP work products are called objects. ____________________

____ 48. The primary purpose of the requirements discipline is to understand and communicate the nature of the business environment where the system will be deployed. ____________________

____ 49. In a technique called storyboarding, sketches of screens are drawn and arranged in a sequence to illustrate how the user will actually use the computer for each use case. ____________________

____ 50. Object-oriented analysis defines all of the types of objects that the user needs to work with and shows what user interactions are required to complete tasks. ____________________

____ 51. A button is an example of a(n) attribute. ____________________

____ 52. Methods are behaviors or operations that describe what an object is capable of doing. ____________________

____ 53. The term instance and object are often used interchangeably. ____________________

____ 54. Persistent objects are those that are available for use over time. ____________________

____ 55. Encapsulation is a characteristic of objects that allows them to respond differently to the same message. ____________________

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 56. The term _____ describes a planned undertaking that produces a new information system.
a. unified process   c. prototype
b. system development project   d. repository

____ 57. A(n) _____ approach to the SDLC is used when the exact requirements of a system or needs of users are not well understood.
a. predictive
b. persistent
c. incremental
d. adaptive

____ 58. In a traditional SDLC, the _____ phase uses the requirements that have been defined and develops the program structure and algorithms for the new system.
a. implementation
b. planning
c. analysis
d. design

____ 59. In a traditional SDLC, the _____ phase focuses on understanding the business problem that needs to be solved and defining the business requirements.
a. implementation
b. planning
c. analysis
d. design

____ 60. The _____ approach is an SDLC approach that assumes the various phases of a project can be completed entirely sequentially.
a. waterfall
b. artifact
c. prototype
d. spiral model

____ 61. The _____ approach is an adaptive SDLC approach that cycles over and over again through development activities until a project is complete.
a. waterfall
b. artifact
c. prototype
d. spiral model

____ 62. _____ is a system development process in which work activities - analysis, design, implementation - are repeated until the system is closer to what is ultimately needed.
a. Decomposition
b. Iteration
c. Multiplicity
d. Reuse

____ 63. Which of the following is completed in the inception phase of the UP?
a. prepare the deployment
b. resolve high risks
c. design and implement the core architecture and functions
d. produce rough estimates for cost and schedule

____ 64. Which of the following is completed in the transition phase of the UP?
a. complete the beta test
b. resolve high risks
c. design and implement the core architecture and functions
d. prepare for deployment

____ 65. A(n) _____ provides guidelines to follow for completing every activity in systems development, including specific models, tools, and techniques.
a. generalization hierarchy
b. object-oriented analysis
c. system development methodology
d. systems development life cycle

____ 66. _____ is a standard set of model constructs and notations developed specifically for object-oriented development.
a. OOD
b. UML
c. OOA
d. UP

____ 67. Which of the following models uses UML to draw system components?

a. Use case diagram
b. PERT chart
c. Gantt chart
d. Spiral model

____ 68. A(n) _____ can be used to manage the development process.
a. use case diagram
b. activity diagram
c. Gantt chart
d. spiral model

____ 69. A(n) _____ tool creates a model of the project tasks and task dependencies.
a. database management
b. project management
c. CASE
d. IDE

____ 70. A methodology includes a collection of _____ that are used to complete activities of the system development project.
a. methods
b. objects
c. techniques
d. tools

____ 71. A _____ is an activity the system carries out, usually in response to a request by a user.
a. technique
b. use case
c. message
d. method

____ 72. UP disciplines are involved in each iteration, which is typically planned to span _____.
a. one week
b. two weeks
c. four weeks
d. three months

____ 73. In a 7 iteration project, iteration 5 involves minimal focus on _____
a. configuration and change management
b. testing
c. implementation
d. requirements

____ 74. A class contained in a model is an example of a _____ UP artifact.
a. source code
b. document
c. model
d. model element

____ 75. _____ testing verifies that components work together.
a. Integration
b. Acceptance
c. Usability
d. Unit

____ 76. The _____ discipline develops change control procedures and manages models and software components.
a. project management
b. configuration and change management
c. deployment
d. environment

____ 77. _____ consists of writing statements in a programming language to define what each type of object does.
a. OOP
b. OOA
c. OOD
d. OOS

____ 78. The _____ of the object-oriented approach refers to the fact that people usually think about their world in terms of objects.
a. discipline
b. multiplicity
c. naturalness
d. reuse

____ 79. A(n) _____ is a type to which all similar objects belong.

a. class
b. method
c. attribute
d. instance

____ 80. _____ combines attributes and methods into one unit and hides its internal structure of objects.
a. Encapsulation
b. Information hiding
c. Inheritance
d. Polymorphism

Completion

Complete each statement.

81. The __________________________ is the entire process of building, deploying, using, and updating an information system.

82. A(n) ____________________ SDLC approach assumes the development project can be planned and organized in advance and that the new information system can be developed according to the plan.

83. In a traditional SDLC, the ____________________ phase include includes the activities that plan, organize, and schedule the project.

84. In a traditional SDLC, the ____________________ phase includes the activities needed to upgrade and maintain the system after it has been deployed.

85. A(n) ____________________ is a preliminary working model of a larger system.

86. In an iterative approach, address the aspects of the project that pose the greatest ____________________ in early project iterations.

87. ____________________ is a developmental approach that completes parts of a system in several iterations and then puts them into operation for users.

88. The ____________________ life cycle includes phases through which the project moves in time, but each life cycle phase includes one or more iterations involving analysis, design, and implementation for part of the system.

89. During the ____________________ phase of the UP, the lower-risk, predictable, and easier elements of the system are iteratively implemented.

90. Sometimes the term ____________________ is used to refer to a model because an aspect of particular importance is separated out.

91. Graphical models, which are drawn representations that employ agreed-upon symbols and conventions, are generally called ____________________.

92. CASE stands for __________________________.

93. Lighter UP variations are often referred to as ____________________.

94. A(n) ____________________ is a set of functionally related activities that together contribute to one aspect of a UP development project.

95. The ____________________ refers to the area of the user’s business that needs an information system solution.

96. The design of the software that implements each use case is referred to as _________________________.

97. The _________________________ to system development views an information system as a collection of interacting objects that work together to accomplish tasks.

98. A(n) ____________________ is a thing in the computer system that can respond to messages.

99. ____________________ is a benefit of the object-oriented approach that allows classes and objects to be invented once and used many times.

100. An object has ____________________, which are characteristics that have values, such as the name, address, and phone number of a customer.

101. ____________________ are communications between objects in which one object asks another object to invoke, or carry out, one of its methods.

102. ____________________ is a concept in which one class of objects shares some characteristics of another class.

103. A(n) _________________________ is a classification system that structures or ranks classes from the more general superclass to the more specialized subclasses.

104. A CASE tool contains a database of information about a project, called a(n) ____________________.

105. ____________________ automates the process of synchronizing graphical models with program code so changes to code automatically update the models and changes to models automatically update the code.

Essay

106. Why is it necessary for some SDLC phases to overlap?

107. Describe how the spiral model approach to system development might address risk factors.

108. Describe three examples of best practices in system development that are common to many system development methodologies.

ch02
Answer Section

TRUE/FALSE

1.	ANS:	F	PTS:	1	REF:	38
2.	ANS:	T	PTS:	1	REF:	39
3.	ANS:	F	PTS:	1	REF:	39
4.	ANS:	F	PTS:	1	REF:	39
5.	ANS:	T	PTS:	1	REF:	40
6.	ANS:	T	PTS:	1	REF:	40
7.	ANS:	F	PTS:	1	REF:	42
8.	ANS:	T	PTS:	1	REF:	42
9.	ANS:	T	PTS:	1	REF:	43
10.	ANS:	T	PTS:	1	REF:	43
11.	ANS:	T	PTS:	1	REF:	44
12.	ANS:	F	PTS:	1	REF:	45
13.	ANS:	T	PTS:	1	REF:	45
14.	ANS:	F	PTS:	1	REF:	46
15.	ANS:	F	PTS:	1	REF:	46
16.	ANS:	T	PTS:	1	REF:	47
17.	ANS:	T	PTS:	1	REF:	48
18.	ANS:	F	PTS:	1	REF:	49
19.	ANS:	T	PTS:	1	REF:	51
20.	ANS:	F	PTS:	1	REF:	51
21.	ANS:	F	PTS:	1	REF:	52
22.	ANS:	F	PTS:	1	REF:	52
23.	ANS:	T	PTS:	1	REF:	53
24.	ANS:	T	PTS:	1	REF:	54
25.	ANS:	F	PTS:	1	REF:	54
26.	ANS:	F	PTS:	1	REF:	61
27.	ANS:	F	PTS:	1	REF:	63
28.	ANS:	F	PTS:	1	REF:	66
29.	ANS:	T	PTS:	1	REF:	66
30.	ANS:	T	PTS:	1	REF:	69

MODIFIED TRUE/FALSE

31. ANS: F, predictive

PTS: 1 REF: 39

32. ANS: T PTS: 1 REF: 39

33. ANS: F, implementation

PTS: 1 REF: 40

34. ANS: F, predictive

PTS: 1 REF: 40

35. ANS: T PTS: 1 REF: 42

36. ANS: T PTS: 1 REF: 43

37. ANS: F, inception

PTS: 1 REF: 46

38. ANS: F, model

PTS: 1 REF: 47

39. ANS: T PTS: 1 REF: 47

40. ANS: F, UML

PTS: 1 REF: 48

41. ANS: T PTS: 1 REF: 48

42. ANS: F, tool

PTS: 1 REF: 49

43. ANS: F, CASE

PTS: 1 REF: 49

44. ANS: F, Best practices

PTS: 1 REF: 49

45. ANS: T PTS: 1 REF: 52

46. ANS: T PTS: 1 REF: 54

47. ANS: F, artifacts

PTS: 1 REF: 54

48. ANS: F, business modeling

PTS: 1 REF: 55

49. ANS: T PTS: 1 REF: 57

50. ANS: T PTS: 1 REF: 60

51. ANS: F, user interface object

PTS: 1 REF: 62

52. ANS: T PTS: 1 REF: 62

53. ANS: T PTS: 1 REF: 63

54. ANS: T PTS: 1 REF: 66

55. ANS: F, Polymorphism

PTS: 1 REF: 67

MULTIPLE CHOICE

56. ANS: B PTS: 1 REF: 38

57.	ANS: D	PTS: 1	REF: 39
58.	ANS: D	PTS: 1	REF: 40
59.	ANS: C	PTS: 1	REF: 40
60.	ANS: A	PTS: 1	REF: 40
61.	ANS: D	PTS: 1	REF: 42
62.	ANS: B	PTS: 1	REF: 43
63.	ANS: D	PTS: 1	REF: 46
64.	ANS: A	PTS: 1	REF: 46
65.	ANS: C	PTS: 1	REF: 47
66.	ANS: B	PTS: 1	REF: 48
67.	ANS: A	PTS: 1	REF: 48
68.	ANS: C	PTS: 1	REF: 48
69.	ANS: B	PTS: 1	REF: 49
70.	ANS: C	PTS: 1	REF: 50
71.	ANS: B	PTS: 1	REF: 52
72.	ANS: C	PTS: 1	REF: 53
73.	ANS: D	PTS: 1	REF: 53
74.	ANS: D	PTS: 1	REF: 55
75.	ANS: A	PTS: 1	REF: 59
76.	ANS: B	PTS: 1	REF: 59
77.	ANS: A	PTS: 1	REF: 60
78.	ANS: C	PTS: 1	REF: 61
79.	ANS: A	PTS: 1	REF: 63
80.	ANS: A	PTS: 1	REF: 66

COMPLETION

81. ANS:
systems development life cycle
SDLC
systems development life cycle (SDLC)
(SDLC) systems development life cycle

PTS: 1 REF: 39

82. ANS: predictive

PTS: 1 REF: 39

83. ANS:
planning
project planning

PTS: 1 REF: 40

84. ANS: support

PTS: 1 REF: 40

85. ANS: prototype

PTS: 1 REF: 42

86. ANS: risk

PTS: 1 REF: 45
87. ANS: Incremental development

PTS: 1 REF: 45
88. ANS:
Unified Process
UP

PTS: 1 REF: 45
89. ANS: construction

PTS: 1 REF: 46
90. ANS: abstraction

PTS: 1 REF: 47
91. ANS:
diagrams
charts
diagrams or charts

PTS: 1 REF: 48
92. ANS: computer-aided system engineering

PTS: 1 REF: 49
93. ANS: agile development

PTS: 1 REF: 51
94. ANS: discipline

PTS: 1 REF: 52
95. ANS: problem domain

PTS: 1 REF: 56
96. ANS: use case realization

PTS: 1 REF: 57
97. ANS: object-oriented approach

PTS: 1 REF: 60
98. ANS: object

PTS: 1 REF: 60
99. ANS: Reuse

PTS: 1 REF: 61
100. ANS: attributes

PTS: 1 REF: 62

101. ANS: Messages

PTS: 1 REF: 63

102. ANS: Inheritance

PTS: 1 REF: 66

103. ANS: generalization/specialization hierarchy

PTS: 1 REF: 67

104. ANS: repository

PTS: 1 REF: 68

105. ANS: Round-trip engineering

PTS: 1 REF: 71

ESSAY

106. ANS:
Some phases of projects must overlap because they influence and depend on each other. Some analysis must be done before the design can start, but during the design, we might discover that we need more detail in the requirements, or even that some of the requirements cannot be met in the manner originally requested. Another reason for overlap is efficiency. While the team members are analyzing needs, they may be thinking about and designing various forms or reports. To help them understand the needs of the users, they may want to design some of the final system. But when they do early design, they will frequently throw away some components away and save others for later inclusion in the final system. In addition, many components of a computer system are interdependent, which requires analysts to do both analysis and some design at the same time.

PTS: 1 REF: 42

107. ANS:
The spiral model recommends identifying risk factors that must be studied and mitigated. The part of the system that appears to have the greatest risk should be addressed in the first iteration. Sometimes the greatest risk is not one subsystem or one set of system functions; rather, the greatest risk might be the technological feasibility of new technology. If so, the first iteration might focus on a prototype that proves the technology will work as planned. Then the second iteration might begin work on a prototype that addresses risk associated with the system requirements or other issues. Another time, the greatest risk might be user acceptance of change. So the first iteration might focus on producing a prototype to show the users that their working lives will be enriched by the new system.

PTS: 1 REF: 43

108. ANS:

Six best practices in system development are described here. Develop iteratively by dividing the project into a series of miniprojects that are completed by an iteration that builds part of the working software. Define system requirements overall early in the project, and then finalize and refine the details of the requirements as the project progresses through each iteration. Define a software architecture that allows the system to be built using well-defined components, and design and implement the system to achieve a component architecture. Use UML diagrams to complete visual models of requirements and designs of system components. Verify quality by testing the system early and continually, first by defining test cases and then completing unit tests, integration tests, usability tests and user acceptance tests in each iteration. Finally, document the request for any change and the decision to make any change, and make sure the correct version of any model or component is identified and used as the project moves forward.

PTS: 1 REF: 52