

***Modern Systems Analysis & Design, 7e (Hoffer)***

**Chapter 2 The Origins of Software**

1) The first administrative information system was General Electric's payroll system.

Answer: TRUE

Diff: 2 Page Ref: 30

2) Internal corporate information systems departments now spend a smaller portion of their time and effort on developing systems from scratch.

Answer: TRUE

Diff: 1 Page Ref: 30

3) Third-party sourcing is the practice of turning over responsibility of some to all of an organization's information systems applications and operations to an outside firm.

Answer: FALSE

Diff: 2 Page Ref: 30

4) An organization may move to outsourcing for political reasons.

Answer: TRUE

Diff: 1 Page Ref: 31

5) Reducing time to market is one reason for outsourcing.

Answer: TRUE

Diff: 2 Page Ref: 31

6) A company may consider outsourcing if it feels that its core mission does not involve managing an information systems unit and that it might achieve more effective computing by turning over all of its operations to a more experienced, computer-oriented company.

Answer: TRUE

Diff: 2 Page Ref: 31

7) Hiring a company to run your applications on your own computers is an example of outsourcing.

Answer: TRUE

Diff: 2 Page Ref: 32

8) Outsourcing is an alternative analysts need to be aware of.

Answer: TRUE

Diff: 1 Page Ref: 32

9) Hardware manufacturers, packaged software producers, custom software producers, enterprisewide solutions, application server providers, and in-house developers are sources of software.

Answer: TRUE

Diff: 2 Page Ref: 32

10) The number one global software company is Microsoft.

Answer: FALSE

Diff: 2 Page Ref: 33

11) Hardware manufacturers are one source of software.

Answer: TRUE

Diff: 2 Page Ref: 33

12) The number one global software company is Accenture.

Answer: TRUE

Diff: 2 Page Ref: 33

13) Sun and Hitachi are well known for their enterprisewide solutions.

Answer: FALSE

Diff: 2 Page Ref: 33

14) In general, custom software producers do not use the same methodologies, techniques, and tools that companies use to develop systems in house.

Answer: FALSE

Diff: 2 Page Ref: 33

15) Software companies will test their systems in actual organizations to determine whether there are any problems or if any improvements can be made, and until this testing is complete, the system is not offered for sale to the general public.

Answer: TRUE

Diff: 3 Page Ref: 34

16) In many instances, off-the-shelf software can meet an organization's needs over 80 percent of the time.

Answer: FALSE

Diff: 3 Page Ref: 34

17) All off-the-shelf software systems can be modified to meet the specific, individual needs of a particular organization.

Answer: FALSE

Diff: 2 Page Ref: 34

18) Properly designed turnkey systems will perfectly match the way an organization does business.

Answer: FALSE

Diff: 3 Page Ref: 34

19) A reasonable estimate is that off-the-shelf software can at best meet 70 percent of an organization's needs.

Answer: TRUE

Diff: 2 Page Ref: 34

20) A turnkey system integrates individual, traditional business functions into a series of modules so that a single transaction occurs seamlessly within a single information system rather than several separate systems.

Answer: FALSE

Diff: 2 Page Ref: 34

21) Referencing enterprise solutions, the difference between the modules and traditional approaches is that the modules are integrated to focus on the business functional areas, rather than on business processes.

Answer: FALSE

Diff: 3 Page Ref: 34

22) Using enterprise software solutions, a firm can integrate all parts of a business process in a unified information system.

Answer: TRUE

Diff: 2 Page Ref: 34

23) SAP AG and Oracle are vendors of enterprise solution software.

Answer: TRUE

Diff: 2 Page Ref: 35

24) One of the primary benefits of using an enterprise software solution is the short time period required for implementation.

Answer: FALSE

Diff: 2 Page Ref: 35

25) Lack of in-house expertise is a disadvantage associated with enterprise solutions software.

Answer: TRUE

Diff: 2 Page Ref: 35

26) The benefits of the enterprise solutions approach include a single repository of data for all aspects of a business process and the flexibility of the separate systems.

Answer: FALSE

Diff: 2 Page Ref: 34

27) Another method for organizations to obtain applications is to rent them or license them from third-party providers who run the applications at remote sites.

Answer: TRUE

Diff: 2 Page Ref: 35

28) IBM captured a large share of the ERP market through its own financial systems and through the acquisition of other ERP vendors.

Answer: FALSE

Diff: 3 Page Ref: 35

29) Cloud computing refers to the provision of applications over the Internet.

Answer: TRUE

Diff: 2 Page Ref: 36

30) A disadvantage of cloud computing is the increased need for internal information technology staff.

Answer: FALSE

Diff: 2 Page Ref: 36

31) Open source software is different because it is freely available, not just the final product but the source code itself.

Answer: TRUE

Diff: 2 Page Ref: 37

32) Advantages to cloud computing include gaining access to applications faster than via internal development, and achieving lower-cost access to corporate-quality applications.

Answer: TRUE

Diff: 2 Page Ref: 36-37

33) When choosing off-the-shelf software, cost, functionality, response time, and ease of installation are some of the common criteria that should be considered.

Answer: TRUE

Diff: 2 Page Ref: 38

34) Hybrid solutions involving some purchased and some in-house software components are not very common.

Answer: FALSE

Diff: 2 Page Ref: 38

35) When choosing off-the-shelf software, the two most important criteria are functionality and ease of installation.

Answer: FALSE

Diff: 2 Page Ref: 39

36) Functionality refers to the tasks the software can perform and the mandatory, essential, and desired system features.

Answer: TRUE

Diff: 2 Page Ref: 39

37) Purchasing application software is a substitute for conducting the systems analysis phase.

Answer: FALSE

Diff: 3 Page Ref: 39

38) Purchasing software is part of one design strategy for acquiring the system identified during analysis.

Answer: TRUE

Diff: 2 Page Ref: 39

39) Functionality refers to how easy it is for you, or the vendor, to customize the software.

Answer: FALSE

Diff: 2 Page Ref: 39

40) Flexibility refers to how long it takes the software package to respond to the user's requests in an interactive session.

Answer: FALSE

Diff: 2 Page Ref: 39

41) One way to get all of the information you want about a software package is to collect it from the vendor.

Answer: TRUE

Diff: 1 Page Ref: 40

42) One method for validating purchased software information is to contact current users of the software.

Answer: TRUE

Diff: 1 Page Ref: 40

43) A request for proposal is a document provided to vendors that asks them to propose hardware and system software that will meet the requirements of a new system.

Answer: TRUE

Diff: 2 Page Ref: 40

44) Baan is a software testing and abstracting service that periodically evaluates software and collects user opinions.

Answer: FALSE

Diff: 2 Page Ref: 41

45) Reuse refers to the use of previously written software resources, especially objects and components, in new applications.

Answer: TRUE

Diff: 2 Page Ref: 41

46) According to a study cited in the textbook, most organizations cannot compete economically with established commercial organizations that focus on selling components as their main line of business.

Answer: TRUE

Diff: 2 Page Ref: 42

47) It is not necessary for an organization to match its approach to reuse with its strategic business goals.

Answer: FALSE

Diff: 1 Page Ref: 42

48) When facilitated reuse is implemented, developers are not required to practice reuse but are encouraged to do so.

Answer: TRUE

Diff: 2 Page Ref: 42

49) Managed reuse is a more economical approach.

Answer: FALSE

Diff: 2 Page Ref: 43

50) Designed reuse is the most extensive and expensive approach.

Answer: TRUE

Diff: 2 Page Ref: 43

51) Sources of software include:

A) information technology services firm

B) packaged software providers

C) application service providers

D) all of the above

Answer: D

Diff: 2 Page Ref: 30

52) The first administrative information system was:

A) General Motor's order tracking system

B) Ford Motor Company's order tracking system

C) General Electric's payroll system

D) Coca-Cola's payroll system

Answer: C

Diff: 2 Page Ref: 30

53) Which of the following is a true statement regarding in-house development?

A) In-house development of information systems has increased by a factor of 3 in the last three years.

B) In-house development of information systems has increased by 42 percent in the last three years.

C) In-house development of information systems has progressively become a smaller piece of all the systems development work that takes place in and for organizations.

D) When developing administrative systems, in-house development of information systems is still the best choice.

Answer: C

Diff: 2 Page Ref: 30

54) The practice of turning over responsibility of some to all of an organization's information systems applications and operations to an outside firm is referred to as:

- A) realignment
- B) downsizing
- C) outsourcing
- D) time sharing

Answer: C

Diff: 2 Page Ref: 30

55) Hiring a company to run your applications at your site on your computers is an example of:

- A) a turnkey system
- B) outsourcing
- C) downsizing
- D) realignment

Answer: B

Diff: 2 Page Ref: 30

56) Reasons for outsourcing include:

- A) freeing up internal resources
- B) increasing processing efficiencies
- C) reducing time to market
- D) all of the above

Answer: D

Diff: 2 Page Ref: 31

57) Which of the following companies are ranked in the top software companies?

- A) IBM
- B) Microsoft
- C) Amazon
- D) all of the above

Answer: D

Diff: 1 Page Ref: 33

58) An example of a prepackaged system is:

- A) Oracle RDBMS
- B) SAP
- C) Microsoft Project
- D) None of the above

Answer: C

Diff: 2 Page Ref: 33

59) Off-the-shelf software systems that cannot be modified to meet the specific needs of a particular organization are sometimes called:

- A) custom software systems
- B) in-house developed systems
- C) turnkey systems
- D) standard systems

Answer: C

Diff: 2 Page Ref: 34

60) A system that integrates individual traditional business functions into a series of modules so that a single transaction occurs seamlessly within a single information system rather than several separate systems best describes:

- A) enterprise resource planning
- B) application service
- C) storage area network
- D) packaged software

Answer: A

Diff: 2 Page Ref: 34

61) SAP AG is a(n):

- A) hardware manufacturer
- B) application service provider
- C) enterprise solution software provider
- D) custom software producer

Answer: C

Diff: 2 Page Ref: 35

62) Benefits of enterprise solutions do not include:

- A) the flexibility of modules
- B) ease of implementation and less implementation time
- C) being an inexpensive alternative to custom development
- D) not requiring the company to change how it does business

Answer: C

Diff: 2 Page Ref: 34-35

63) A major vendor that provides enterprise solution software is:

- A) Microsoft
- B) SAP AG
- C) Macromedia
- D) Adobe

Answer: B

Diff: 2 Page Ref: 35



64) One of the top three reasons for choosing to go with cloud computing is:

- A) having internal IT staff run the application
- B) hosting the application internally
- C) having IT staff install and upgrade
- D) freeing internal IT staff

Answer: D

Diff: 2 Page Ref: 36

65) Some of the most well-known and popular open source software names are:

- A) Linux
- B) mySQL
- C) Firefox
- D) all of the above

Answer: D

Diff: 2 Page Ref: 37

66) According to a study cited in the textbook, which of the following development methods can lead to a larger maintenance burden?

- A) in-house development
- B) packaged software
- C) outsourcing
- D) enterprisewide solutions

Answer: A

Diff: 2 Page Ref: 37

67) The choice to acquire software from outside sources should be made:

- A) at the beginning of the analysis phase
- B) at the middle of the analysis phase
- C) at the end of the analysis phase
- D) at the end of the design phase

Answer: C

Diff: 2 Page Ref: 38

68) Which of the following describes the internal staffing requirements when software components are acquired from enterprise wide solutions providers?

- A) Some internal staff are necessary, but mostly consultants are needed.
- B) Some IS and user staff to define requirements and evaluate packages are needed.
- C) Internal staff may be needed, depending on the application.
- D) Internal staffing requirements vary.

Answer: A

Diff: 2 Page Ref: 38

69) Which of the following describes the internal staffing requirements when software components are acquired from packaged software producers?

- A) Some internal staff are necessary, but mostly consultants are needed.
- B) Some IS and user staff to define requirements and evaluate packages are needed.
- C) Internal staff may be needed, depending on the application.
- D) Internal staffing requirements vary.

Answer: B

Diff: 2 Page Ref: 38

70) Displays and reports may be easily redesigned if the modules are written in:

- A) fourth-generation language
- B) third-generation language
- C) object-oriented language
- D) English language

Answer: A

Diff: 2 Page Ref: 39

71) When purchasing off-the-shelf software, you should consider:

- A) flexibility
- B) response time
- C) vendor viability
- D) all of the above

Answer: D

Diff: 2 Page Ref: 38

72) When choosing off-the-shelf software, which of the following are the two most important criteria?

- A) vendor viability and vendor support
- B) cost and functionality
- C) documentation and response time
- D) flexibility and functionality

Answer: A

Diff: 2 Page Ref: 38

73) Which of the following software criteria refers to the tasks the software can perform and the mandatory, essential, and desired system features?

- A) cost
- B) vendor viability
- C) functionality
- D) flexibility

Answer: C

Diff: 1 Page Ref: 39

74) Which of the following software criteria determines whether the software package can perform all or just some of the software tasks your users need?

- A) cost
- B) vendor viability
- C) functionality
- D) flexibility

Answer: C

Diff: 1 Page Ref: 39

75) Vendor support can take the form of:

- A) providing assistance to install software
- B) training users and system staff on the software
- C) providing help as problems arise after installation
- D) all of the above

Answer: D

Diff: 1 Page Ref: 39

76) Which of the following software evaluation criteria refers to the ease with which you or the vendor can customize the software?

- A) cost
- B) vendor viability
- C) functionality
- D) flexibility

Answer: D

Diff: 1 Page Ref: 39

77) Which of the software evaluation criteria refers to how long it takes the software package to respond to the user's requests in an interactive session?

- A) functionality
- B) return rate
- C) response time
- D) flexibility

Answer: C

Diff: 1 Page Ref: 39

78) Which of the following software evaluation criteria measures the difficulty of loading the software and making it operational?

- A) ease of installation
- B) installation viability
- C) functionality
- D) flexibility

Answer: A

Diff: 1 Page Ref: 39

- 79) Which of the following are ways of validating purchased software information?
- A) reviewing software documentation and technical marketing literature
  - B) sending prospective vendors a questionnaire asking specific questions about their packages
  - C) using the software yourself and running it through a series of tests based on the criteria for selecting software
  - D) all of the above

Answer: D

Diff: 2 Page Ref: 40

- 80) The document sent to vendors asking them to propose hardware and software that will meet the requirements of your new system is called a:

- A) requirements statement
- B) request for proposal
- C) baseline project plan
- D) business case

Answer: B

Diff: 2 Page Ref: 40

- 81) Which of the following is a true statement about reusing software?

- A) Reuse should increase programmer productivity.
- B) Reuse should decrease development time.
- C) Reuse should result in higher-quality software.
- D) All of the above.

Answer: D

Diff: 2 Page Ref: 41

- 82) The reuse of object classes can result in:

- A) reduced rework
- B) reduced defect density
- C) increased productivity
- D) all of the above

Answer: D

Diff: 2 Page Ref: 41

- 83) When considering reuse, which of the following issues should be addressed?

- A) the current lack of a methodology for creating and clearly defining and labeling reusable components for placement in a library
- B) the lack of commitment to reuse
- C) lack of proper training and rewards needed to promote reuse
- D) all of the above

Answer: D

Diff: 2 Page Ref: 41

84) Which of the following is the software reuse step that involves the design of a reusable piece of software, starting from existing software assets or from scratch?

- A) storage
- B) abstraction
- C) recontextualization
- D) conceptualization

Answer: B

Diff: 2 Page Ref: 42

85) Which of the following is the software reuse step that involves making software assets available for others to use?

- A) storage
- B) abstraction
- C) recontextualization
- D) conceptualization

Answer: A

Diff: 2 Page Ref: 42

86) Which of the following is the software reuse step that involves making the reusable asset understandable to developers who want to use it in their systems?

- A) storage
- B) abstraction
- C) recontextualization
- D) conceptualization

Answer: C

Diff: 2 Page Ref: 42

87) Which of the following is not an approach that an organization can take to software reuse?

- A) flexible reuse
- B) facilitated reuse
- C) ad hoc reuse
- D) managed reuse

Answer: A

Diff: 2 Page Ref: 42-43

88) The software reuse approach that allows individuals to find or develop reusable assets on their own, and has few, if any, organizational rewards for reusing assets best describes:

- A) flexible reuse
- B) facilitated reuse
- C) ad hoc reuse
- D) managed reuse

Answer: C

Diff: 2 Page Ref: 42

89) The software reuse approach where developers are not required to practice reuse, but are encouraged to do so best describes:

- A) flexible reuse
- B) facilitated reuse
- C) ad hoc reuse
- D) managed reuse

Answer: B

Diff: 2 Page Ref: 42

90) Which of the following is a software reuse approach that mandates the development, sharing, and adoption of reusable assets?

- A) flexible reuse
- B) facilitated reuse
- C) ad hoc reuse
- D) managed reuse

Answer: D

Diff: 2 Page Ref: 43

91) The most expensive and extensive reuse approach is:

- A) designed reuse
- B) facilitated reuse
- C) ad hoc reuse
- D) managed reuse

Answer: A

Diff: 2 Page Ref: 43

92) \_\_\_\_\_ is the practice of turning over responsibility of some to all of an organization's information systems applications and operations to an outside firm.

Answer: Outsourcing

Diff: 2 Page Ref: 30

93) \_\_\_\_\_ are off-the-shelf software systems that cannot be modified to meet the specific, individual needs of a particular organization.

Answer: Turnkey systems

Diff: 3 Page Ref: 34

94) \_\_\_\_\_ integrate individual traditional business functions into a series of modules so that a single transaction occurs seamlessly within a single information system rather than several separate systems.

Answer: Enterprise resource planning systems

Diff: 2 Page Ref: 34

95) \_\_\_\_\_ enable a firm to integrate all parts of a business process into a unified information system.

Answer: Enterprise software solutions

Diff: 2 Page Ref: 34

96) Together, SAP and Oracle control about 42 percent of the \_\_\_\_\_ market.

Answer: ERP

Diff: 2 Page Ref: 35

97) A \_\_\_\_\_ is an organization that hosts and runs computer applications for other companies, typically on a per use or license basis.

Answer: cloud computing application provider

Diff: 3 Page Ref: 36

98) When resources and staff are available and the system must be built from scratch, a company should consider \_\_\_\_\_.

Answer: in-house developers

Diff: 2 Page Ref: 37

99) When choosing off-the-shelf software, the eight most common criteria are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

Answer: cost, functionality, vendor support, vendor viability, flexibility, documentation, response time, ease of installation

Diff: 2 Page Ref: 38

100) When considering off-the-shelf software, the two most important criteria are \_\_\_\_\_ and \_\_\_\_\_.

Answer: vendor support, vendor viability

Diff: 3 Page Ref: 38

101) When a supported task is generic, a company should consider acquiring its software from a \_\_\_\_\_.

Answer: packaged software producer

Diff: 2 Page Ref: 38

102) \_\_\_\_\_ refers to the tasks the software can perform and the mandatory, essential, and desired system features.

Answer: Functionality

Diff: 2 Page Ref: 39

103) \_\_\_\_\_ includes assistance to install the software, train user and systems staff on the software, and provide help as problems arise after installation.

Answer: Vendor support

Diff: 1 Page Ref: 39

104) \_\_\_\_\_ refers to how easy it is for you, or the vendor, to customize the software.

Answer: Flexibility

Diff: 2 Page Ref: 39

105) \_\_\_\_\_ refers to how long it takes the software package to respond to the user's request in an interactive session.

Answer: Response time

Diff: 2 Page Ref: 39

106) \_\_\_\_\_ is a measure of the difficulty of loading the software and making it operational.

Answer: Ease of installation

Diff: 2 Page Ref: 39

107) A document provided to vendors that asks them to propose hardware and system software that will meet the requirements of a new system is called a \_\_\_\_\_.

Answer: Request for proposal

Diff: 1 Page Ref: 40

108) \_\_\_\_\_ periodically evaluate software and collect user opinions, thus providing a range of opinions about possible software packages.

Answer: Independent software testing services

Diff: 3 Page Ref: 41

109) \_\_\_\_\_ refers to the use of previously written software resources, especially objects and components, in new applications.

Answer: Reuse

Diff: 2 Page Ref: 41

110) The three basic software reuse steps are \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

Answer: abstraction, storage, recontextualization

Diff: 3 Page Ref: 42

111) \_\_\_\_\_ is the software reuse step that involves the design of a reusable piece of software, starting from existing software assets or from scratch.

Answer: Abstraction

Diff: 2 Page Ref: 42

112) \_\_\_\_\_ is the software reuse step that involves making software assets available for others to use.

Answer: Storage

Diff: 2 Page Ref: 42

113) \_\_\_\_\_ is the software reuse step that involves making the reusable asset understandable to developers who want to use it in their systems.

Answer: Recontextualization

Diff: 3 Page Ref: 42

114) \_\_\_\_\_ is the software reuse approach where developers are not required to practice reuse, but are encouraged to do so.

Answer: Facilitated reuse

Diff: 2 Page Ref: 42



115) \_\_\_\_\_ is the software reuse approach that mandates reuse and measures its effectiveness, as well as mandates that assets be designed for reuse as they are being designed for specific applications.

Answer: Designed reuse

Diff: 3 Page Ref: 43

116) What is outsourcing? Identify two outsourcing arrangements. Identify two reasons for outsourcing.

Answer: Outsourcing is the practice of turning over responsibility of some to all of an organization's information systems applications and operations to an outside firm. A company may hire a third party to develop and run its applications on the third party's computers. Another alternative is for the third party to run the applications on-site and on your computers. Reasons for outsourcing include cost-effectiveness and the company's core mission does not involve managing a management information systems unit.

Diff: 2 Page Ref: 30-31

117) Briefly identify six sources of software.

Answer: Software sources can be categorized as hardware manufacturers, packaged software producers, custom software producers, enterprisewide solution providers, application service providers, and in-house developers. Hardware manufacturers are among the largest producers of software. Although, generally not a source of application software, hardware manufacturers are good choices for system software and utilities. Packaged software producers are potential sources of application software. These companies develop software to run on different computer platforms. Custom software producers help firms develop custom information systems for internal use. Custom software producers are often selected when the task requires custom support and the system cannot be built internally. Enterprisewide solutions integrate individual traditional business functions into a series of modules so that a single transaction occurs seamlessly within a single information system rather than several separate systems. Enterprisewide solutions are recommended for complete systems that cross functional boundaries. Application service providers are organizations that host and run computer applications for other companies, typically on a per-use or license basis. ASPs are recommended when the supported task is generic, buying and installing the system locally would be too expensive, or for instant access to an application. In-house developers develop the system internally. This method is chosen when resources and staff are available and the system must be built from scratch.

Diff: 2 Page Ref: 30

118) What are enterprise resource planning systems? How do they differ from traditional approaches? Identify three enterprise resource planning system vendors.

Answer: Enterprise resource planning systems integrate individual traditional business functions into a series of modules so that a single transaction occurs seamlessly within a single information system rather than several separate systems. ERP modules focus on business processes rather than on business functional areas. SAP AG, Oracle, and PeopleSoft, Inc. are three ERP vendors.

Diff: 1 Page Ref: 34-35

119) What is cloud computing? What are the advantages and disadvantages of using a cloud?

Answer: Cloud computing provides a means for applications to be hosted and run for other companies by a provider. Advantages include less need for internal information technology staff, gaining access to applications faster than internal development, and achieving lower-cost access to corporate-quality applications. Some concerns are reliability, security and compliance with government regulations.

Diff: 1 Page Ref: 35-36

120) Identify the most common criteria for choosing off-the-shelf software. Which two criteria would be among the most important?

Answer: The most common criteria are cost, functionality, vendor support, vendor viability, flexibility, documentation, response time, and ease of installation. Cost involves comparing the cost of developing the same system in-house to the cost of purchasing or licensing the software package. Functionality refers to the tasks the software can perform and the mandatory, essential, and desired system features. While vendor support identifies the amount of support the vendor can be expected to provide, vendor viability examines the vendor's marketplace strength. Flexibility refers to the flexibility of customizing the software. The documentation criterion examines issues relating to the user's manual, technical documentation, and cost of acquiring additional copies of the documentation. Response time questions the length of time it takes the software package to respond to the user's requests in an interactive session and how long it takes the software to complete running a job. The ease of installation criterion examines the difficulty of loading the software and making it operational. Vendor support and viability will be among the most important.

Diff: 2 Page Ref: 38-39

121) What is software reuse? Briefly describe four approaches to software reuse.

Answer: Reuse is the use of previously written software resources, especially objects and components, in new applications. Ad hoc, facilitated, managed, and designed are four approaches to reusing software. With the ad hoc approach, individuals find and develop reusable assets on their own; few, if any, organizational rewards for reusing assets exist. With the facilitated approach, developers are encouraged to practice reuse, but are not required to do so. The managed approach mandates the development, sharing, and adoption of reusable assets. The designed approach mandates reuse, measures its effectiveness, and requires assets to be designed for reuse.

Diff: 2 Page Ref: 41-43

122) Identify six sources of software. Briefly describe the internal staffing requirements.

Answer: Hardware manufacturers, packaged software providers, custom software providers, enterprise-wide solution vendors, application service providers, and in-house development are sources of software. When software is acquired from hardware manufacturers, the internal staffing requirements vary. When acquiring software from packaged software producers, some IS and user staff are needed to define requirements and evaluate software packages. When choosing custom software, internal staff may be needed, depending on the application. When application service providers are used, ideally internal staff requirements will not be needed. When enterprise-wide solutions are used, some internal staff are necessary, but mostly consultants are needed. If systems are developed in-house, internal staff are necessary, though staff size can vary.

Diff: 1 Page Ref: 38

123) How can a company validate purchased software information?

Answer: Information about the software can be obtained from the vendor in the form of marketing literature, an RFP, and software documentation. The company can use and test the software on a trial basis; speak with current users of the software, and use independent software testing and abstracting services.

Diff: 2 Page Ref: 40-41

124) For each reuse approach, briefly describe its process and policies.

Answer: The ad hoc approach does not have a process or policies. The facilitated approach uses incentives, an asset check-in process, and limited review before publication. The managed approach includes a reuse-adapted process, mandated with specific goals; reuse reviews and asset documentation, packaging, and certification guidelines, and specified metrics. The designed approach includes some domain analysis, reuse-oriented architecture, and specific steps to design for and with reuse.

Diff: 1 Page Ref: 42-43