

Chapter 01: Introduction to Computing and Application Development

True / False

1. Software consists of programs, which are sets of instructions telling you how to use the computer.

a. True

b. False

ANSWER: False

2. System software includes software such as the operating system.

a. True

b. False

ANSWER: True

3. The first step in the program development process is design.

a. True

b. False

ANSWER: False

4. Problem specifications often include the desired output of the program in terms of what is to be displayed, saved, or printed.

a. True

b. False

ANSWER: True

5. During the first phase of software development, you should make sure you understand the problem definition.

a. True

b. False

ANSWER: True

6. Procedural and object-oriented are the two commonly used design methods.

a. True

b. False

ANSWER: True

7. Classes and class diagrams are used most often with the structured procedural approach to software development.

a. True

b. False

ANSWER: False

8. IDE stands for Integrated Development Environment.

a. True

b. False

ANSWER: True

9. The rule that every statement should end with a semicolon is an example of a syntax rule.

a. True

b. False

ANSWER: True

10. The iterative approach in the software development process indicates that the application will never be fully developed.

a. True

b. False

ANSWER: False

11. C# is considered native code.

a. True

b. False

ANSWER: False

12. Good programmers often build test plans while they are in the implementation stage.

a. True

b. False

ANSWER: False

13. Procedural programming is also called structured programming.

a. True

b. False

ANSWER: True

14. As far as the compiler is concerned, you could actually type the entire program without touching the Enter key.

a. True

b. False

ANSWER: True

15. Comments are considered instructions to the computer.

a. True

b. False

ANSWER: False

16. At the beginning of a program, comments are often written to identify how many pages are included in the program listing.

- a. True
- b. False

ANSWER: False

17. A forward slash followed by an asterisk /* marks the beginning of an in-line comment.

- a. True
- b. False

ANSWER: False

18. The Framework Class Library (FCL) consists of more than 2,000 classes.

- a. True
- b. False

ANSWER: True

19. The System namespace contains classes that define commonly used types or classes.

- a. True
- b. False

ANSWER: True

20. Since C# is an object-oriented language, everything is designed around a class.

- a. True
- b. False

ANSWER: True

21. In C#, it is tradition to name the file containing the class the same name as the class name, except the file name will have a .c# extension affixed to the end of the name.

- a. True
- b. False

ANSWER: False

22. A method call is the same as a method declaration.

- a. True
- b. False

ANSWER: False

23. Semicolons are placed at the end of method headings.

- a. True
- b. False

ANSWER: False

24. Several third-party vendors are also marketing .NET-compliant languages.

a. True

b. False

ANSWER: True

25. The Visual Studio IDE is an interactive environment that enables you to type the source code, compile, and execute without leaving the IDE program.

a. True

b. False

ANSWER: True

26. IDEs include a number of useful development tools such as SensitiveWindows, pop-up windows with completion options.

a. True

b. False

ANSWER: False

27. Misspelling a name or forgetting to end a statement with a semicolon are examples of runtime errors.

a. True

b. False

ANSWER: False

28. Prototypes range from being elaborate designs created with graphics, word processing, or paint programs, to being quite cryptic sketches created with paper and pencil.

a. True

b. False

ANSWER: True

29. Each instruction statement has a semantic meaning—a specific way in which it should be used.

a. True

b. False

ANSWER: True

30. Xamarin is included with the latest version of Visual Studio.

a. True

b. False

ANSWER: True

Multiple Choice

31. Using the object-oriented approach, a(n) ____ is a combined set of attributes and actions.

- a. algorithm
- b. prototype
- c. abstraction
- d. class

ANSWER: d

32. The compiler is responsible for ____.

- a. translating high-level programming language into machine-readable form
- b. controlling the operation of the system
- c. producing output from programming language such as C#
- d. producing UML diagrams during the design phase

ANSWER: a

33. During which phase of software development should questions be asked to clarify the problem definition?

- a. analysis
- b. design
- c. coding
- d. testing

ANSWER: a

34. Packaging data characteristics and behaviors into a class is called ____.

- a. inheritance
- b. instantiation
- c. encapsulation
- d. classes

ANSWER: c

If you write a program and, instead of multiplying two values together as intended, you divide one value by the other, you produce a(n) ____ error.

35. If you write a program and, instead of multiplying two values together as intended, you divide one v...

- a. syntax
- b. analysis
- c. logic
- d. design

ANSWER: c

36. The set of rules that a language such as C# has to follow are called ____ rules.

- a. syntax

- b. semantic
- c. compiler
- d. language

ANSWER: a

37. The first step found in most software development methodologies is ____.

- a. design
- b. analysis
- c. code
- d. desk check

ANSWER: b

38. The diagram used in object-oriented development to show the characteristics and behaviors of a class is a(n) ____.

- a. flowchart
- b. structure chart
- c. class diagram
- d. UML

ANSWER: c

39. What object-oriented feature enables you to define subclasses that share some of the characteristics of other classes?

- a. encapsulation
- b. polymorphism
- c. abstraction
- d. inheritance

ANSWER: d

40. A(n) ____ version of software has not been fully tested and may still contain bugs or errors.

- a. alpha
- b. maintenance
- c. bug
- d. beta

ANSWER: d

41. On a class diagram, the minus symbol shown beside the data member indicates the member is ____.

- a. accessible to any methods that use the class
- b. a behavior of the data
- c. public
- d. private

ANSWER: d

42. When should test plans be developed?

- a. During the analysis and design phases
- b. After the solution has been designed
- c. During the implementation phase
- d. After the solution has been coded

ANSWER: a

43. One class predefined as part of .NET is ____.

- a. System
- b. Console
- c. namespace
- d. main

ANSWER: b

44. In a C# program, namespace is used to ____.

- a. display information on the monitor
- b. identify where the program begins
- c. add a reference to the most common classes in .NET
- d. group functionally related types under a single name

ANSWER: d

45. In Visual Studio .NET, the feature that attempts to sense what you are going to type before you type it is called ____.

- a. Help
- b. Tools
- c. IntelliSense
- d. ToolTip

ANSWER: c

46. Which of the following would display "Good day!" on the screen?

- a. `WriteLine.Console("Good day!");`
- b. `Console.WriteLine["Good day!"];`
- c. `WriteLine.Console{"Good day!"};`
- d. `Console.WriteLine("Good day!");`

ANSWER: d

47. Comments that use two forward slashes are called ____.

- a. block
- b. multiline
- c. XML
- d. inline

ANSWER: d

48. Program execution halts in a C# program when ____.

- a. the last line in the program listing is executed
- b. the last statement in Main() is executed
- c. the stop statement is encountered
- d. the Exit command from the File menu is selected

ANSWER: b

49. A(n) ____ is a collection of one or more program statements combined to perform some action.

- a. class
- b. object
- c. method
- d. field

ANSWER: c

50. A quick way to identify a method is by looking for ____.

- a. the keyword class
- b. the { } combination
- c. parentheses
- d. a namespace

ANSWER: c

51. Console is a ____ and WriteLine() is a ____.

- a. method, class
- b. namespace, method
- c. class, namespace
- d. class, method

ANSWER: d

52. WriteLine() differs from Write() in that ____.

- a. WriteLine() does not automatically advance to the next line
- b. smaller items are printed using Write()
- c. WriteLine() was added in later releases of C#
- d. WriteLine() advances to the next line after it finishes displaying output

ANSWER: d

53. Which character is called the escape character in C#?

- a. #
- b. Esc
- c. \
- d. '

ANSWER: c

54. Given the following output statement, what would be displayed? `Console.Write("Ok\\
\\I\\'m sure\\");`

- a. "Ok\\\\"I'm sure\""
- b. Ok\ "I'm sure"
- c. Ok "I'm sure"
- d. Ok I'm sure

ANSWER: b

55. Which method of the Console class allows multiple characters to be input via the keyboard?

- a. Write()
- b. Read()
- c. Input()
- d. ReadLine()

ANSWER: d

56. An IDE enables you to ____.

- a. type your program statements into an editor
- b. debug an application
- c. compile an application
- d. all of the above

ANSWER: d

57. The compiler checks for ____.

- a. semantic violations
- b. files that are too large
- c. debugger options
- d. syntax rule violations

ANSWER: d

58. Run-time errors are more difficult to find than syntax errors because ____.

- a. the program may compile and produce results with a run-time error
- b. run-time errors are violations in the rules of the language
- c. the program can never run if it has a run-time error
- d. the program will never stop if it has a run-time error

ANSWER: a

59. ____ is normally part of the analysis phase of software development.

- a. Making sure you understand the problem definition
- b. Designing a prototype of the desired output
- c. Coding the solution using an algorithm
- d. Developing an algorithm to solve the problem

ANSWER: a

60. Which of the following statements would produce the output shown here? Live Life to the fullest

- a. Console.WriteLine("Live\nLife to the \tfullest");
- b. Console.WriteLine("Live Life to the fullest");
- c. Console.WriteLine("Live Life to the fullest");
- d. Console.WriteLine("Live\\nLife to the \\tfullest");

ANSWER: a

Completion

61. C# has a set of rules, called _____, that must be followed.

ANSWER: syntax

62. The _____ identifies the range of the values an input item includes.

ANSWER: domain

63. When you use the _____ approach to solving a problem, you break the problem into subtasks.

ANSWER: divide and conquer

64. Using the _____ approach, the focus is on determining the data characteristics and the methods or behaviors that operate on the data.

ANSWER: object-oriented

65. A(n) _____ is a mock-up of screens depicting the look of the final output.

ANSWER: prototype

66. An object is a(n) _____ of the class.

ANSWER: instance

67. The most important and frequently used _____ is System.

ANSWER: namespace

68. A(n) _____ is a user-supplied or user-created name.

ANSWER: identifier

69. The method _____ is the entry point for all applications. This is where the program begins execution.

ANSWER: Main()

70. A(n) _____ is a clear, unambiguous, step-by-step process for solving a problem.

ANSWER: algorithm

71. A(n) _____ is a collection of one or more statements combined to perform an action.

ANSWER: method

72. Windows 10, Android, iOS, and Linux are types of _____.

ANSWER: system software

73. The Framework Class Library (FCL) includes a number of different _____.

ANSWER: namespaces

74. _____ marks the end of a block comment.

ANSWER: */

75. Programmers commonly verify that their design is correct by doing a(n) _____.

ANSWER: desk check