

Chapter 1: A First Program Using C#

1. Machine language is expressed as a series of 1s and 0s.

- a. True
- b. False

ANSWER: True

2. C# programmers must use Pascal casing when creating method names to produce an executable program.

- a. True
- b. False

ANSWER: False

3. The C# programming language was developed as an object-oriented and component-oriented language.

- a. True
- b. False

ANSWER: True

4. When the keyword `void` is used in the `Main()` method header, it indicates that the `Main()` method is empty.

- a. True
- b. False

ANSWER: False

5. The Visual Studio IDE provides programmers with advanced features such as syntax coloring and automatic statement completion.

- a. True
- b. False

ANSWER: True

6. Internally, computers are constructed from circuitry that consists of small on/off switches. What is the most basic circuitry-level language that computers use to control the operation of those switches called?

- a. syntax
- b. machine language
- c. a compiler
- d. a program

ANSWER: b

7. What kind of programming language allows you to use a vocabulary of reasonable terms such as "read," "write," or "add" instead of the sequence of on/off switches that perform these tasks?

- a. high-level programming language
- b. machine language
- c. low-level programming language
- d. assembly language

ANSWER: a

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8. Programmers make use of what type of program in order to translate higher-level language statements into machine code?

- a. Command prompt
- b. IDE
- c. Compiler
- d. JIT

ANSWER:

c

9. A program's execution of various statements and procedures in a correct order to produce the desired results is referred to as the _____.

- a. program's GUI
- b. program's utilized attributes
- c. program's methods
- d. program's logic

ANSWER:

d

10. What process involves removing all syntax and logical errors from a program in order to create a working program that accomplishes all intended tasks?

- a. Debugging
- b. Compiling
- c. Commenting out
- d. Executing

ANSWER:

a

11. What type of program is written by creating and naming memory locations and detailing a series of steps or operations to manipulate the values held in those memory locations?

- a. Object-oriented
- b. Component-oriented
- c. Variable-oriented
- d. Procedural

ANSWER:

d

12. What term describes a one-word name with no embedded spaces that references a variable in a program?

- a. Object
- b. Namespace
- c. Identifier
- d. Attribute

ANSWER:

c

13. Suppose that a series of four or five comparisons and calculations are used together to determine an

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employee's withholding tax value. What sort of logical unit should you use to group them?

- a. An attribute
- b. A method
- c. A class
- d. A structure

ANSWER:

b

14. What programming style capitalizes the first letter of all new words in an identifier, including the first one?

- a. Camel casing
- b. Upper casing
- c. OOP casing
- d. Pascal casing

ANSWER:

d

15. How is an object related to a defined class in a programming language?

- a. An object is a property of the class.
- b. An object is an interface to the class.
- c. An object is an instance of the class.
- d. An object defines the class state.

ANSWER:

c

16. What technique packages an object's attributes and methods into a cohesive unit that can be used as an undivided entity?

- a. Encapsulation
- b. Polymorphism
- c. Inheritance
- d. Interface use

ANSWER:

a

17. Encapsulation produces code that is similar to a device you use without regard for its internal mechanisms. What is the common term for this type of device?

- a. Interface
- b. Black box
- c. Object
- d. Blue box

ANSWER:

b

18. What can be used to extend an existing class so as to create a more specific class?

- a. Inheritance
- b. Encapsulation
- c. Polymorphism

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- d. Abstraction

ANSWER:

a

19. What must be supplied when utilizing a method that requires additional information in order to operate?

- a. literal strings
- b. primitive data
- c. arguments
- d. a namespace

ANSWER:

c

20. Suppose you are writing a program that must output information onto the screen, and then position the cursor on the next line in preparation for additional output. What method should you use?

- a. `Write()`
- b. `Println()`
- c. `Main()`
- d. `WriteLine()`

ANSWER:

d

21. What construct acts like a container to provide a way to group similar classes?

- a. namespace
- b. method
- c. object
- d. black box

ANSWER:

a

22. Both `void` and `static` are examples of which predefined C# language component?

- a. classes
- b. attributes
- c. objects
- d. keywords

ANSWER:

d

23. Nonexecuting statements that you can use to document a program or to add notes to assist in its use are called _____.

- a. verbatim identifiers
- b. program comments
- c. namespaces
- d. whitespaces

ANSWER:

b

24. Once you have written a C# program, your next step toward viewing its output is to _____.

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- a. feed the program to a runtime interpreter
- b. compile the program into intermediate language
- c. remove all comments from the program code
- d. compile the program in both the command line and the Integrated Development Environment

ANSWER:

b

25. Where can a method's name and information about what will be passed into and returned from the method be found?

- a. in the body of the method
- b. in the method's keywords
- c. in the method's class definitions
- d. in the method's header

ANSWER:

d

26. A C# identifier that is prefixed with an @ and allows you to use code written in other languages that do not have the same set of keywords is known as a _____.

- a. variable identifier
- b. verbatim identifier
- c. method identifier
- d. commenting identifier

ANSWER:

b

27. What command can be used to compile a C# program from the Developer Command Prompt?

- a. c#-compile
- b. csc
- c. gcc-c#
- d. csharp

ANSWER:

b

28. When writing C# code, how do you indicate the namespace that contains a class you are using?

- a. You must specify the namespace by using the namespace keyword, followed by the namespace.
- b. You must use the namespace keyword, followed by the namespace.
- c. You must utilize the using clause, or using directive, by writing using, followed by the namespace.
- d. You must create a file called namespace.cs, and include all namespace code in this file. Then, the namespace can be used by name in your program.

ANSWER:

c

29. Which is of the following is an illegal identifier in the C# language?

- a. Bankaccountwithdrawal
- b. _customernumber

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- c. TAXRATE2023
- d. 2023Month

ANSWER:

d

30. Which statement regarding the C# programming language is accurate?

- a. C# was developed as a procedural language.
- b. C# only allows specific pieces of data to be treated as objects.
- c. C# provides constructs for creating components with properties, methods, and events.
- d. C# is modeled after the COBOL programming language.

ANSWER:

c

31. The rules that limit how you can use the vocabulary of a high-level programming language successfully are called its _____.

- a. syntax
- b. logic
- c. conventions
- d. statements

ANSWER:

a

32. Suppose you are debugging a program and realize that one statement adds the values of two variables when it should have multiplied them. You have discovered _____.

- a. an incorrect argument
- b. a state problem
- c. a syntax error
- d. a logical error

ANSWER:

d

33. The line on which you type a command in a system that uses a text interface _____.

- a. is called the command prompt
- b. ends with a colon (:) in DOS
- c. is called the command line
- d. cannot receive program arguments

ANSWER:

c

34. A request for input that appears at the beginning of the command line is called the _____.

- a. console template
- b. command prompt
- c. interpreter
- d. assembler

ANSWER:

b

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35. The state of an object describes _____.
a. whether an object has been instantiated by the program
b. the object's behavior at a given point in time
c. the names of the attributes associated with it
d. the values of all its attributes at a given point in time

ANSWER: d

36. If an object's methods are well written, then to use one of that object's methods someone must understand _____.
a. the low-level details about how that method is executed
b. the interface—that is, the interaction between the method and object
c. the class that the object inherits the method from
d. that method's polymorphism

ANSWER: b

37. A series of characters that will be used exactly as entered _____.
a. is called a literal string
b. appears in parentheses in C#
c. begins with two forward slashes in C#
d. is known as an argument

ANSWER: a

38. Which phrase best describes a computer program?
a. a combination of programming language keywords
b. a system of special words and grammar
c. a set of instructions
d. the logic required to solve a problem

ANSWER: c

39. Which term is used to describe any combination of spaces, tabs, and carriage returns (blank lines) that appears in a program?
a. void
b. header space
c. whitespace
d. empty

ANSWER: c

40. C# intermediate code is translated into executable code by _____.
a. intermediate language
b. the just in time compiler
c. the operating system

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- d. running the `csc` command

ANSWER:

b

41. One difference between system software and application software is that _____.

- a. application software focuses on tasks users wish to complete, such as creating documents
- b. system software programs are often called apps, whereas application software programs are not
- c. operating systems such as Linux are compatible with system software but not application software
- d. application software operates the computer but is not directly used by human users

ANSWER:

a

42. The physical devices that make up a computer _____.

- a. include a compiler, assembler, and interpreter
- b. can be controlled using a high-level programming language
- c. are called software
- d. are called hardware

ANSWER:

d

43. Suppose a programmer is attempting to compile a program and discovers a syntax error. What does this mean?

- a. The program's output was incorrect.
- b. Control was returned to the operating system.
- c. The language rules were not consistently followed in the source code.
- d. The program statements were placed in the wrong order in the source code.

ANSWER:

c

44. When a C# program names a location in computer memory, it creates a(n) _____.

- a. variable
- b. identifier
- c. object
- d. argument

ANSWER:

a

45. For which of the following types of applications was object-oriented programming most frequently used when it was first developed?

- a. programs with command line interfaces
- b. programs that attempt to mimic real-world activities
- c. COBOL programs
- d. data analysis programs

ANSWER:

b

46. A blueprint for an object that describes what features it will have and what it will be able to do once created

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is called _____.

- a. its state
- b. an interface
- c. an instance
- d. a class

ANSWER:

d

47. Which object-oriented programming feature is demonstrated by a program that contains several methods with the same name and can distinguish among them based on the type of object that uses them?

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

ANSWER:

c

48. Which statement accurately compares C# with another programming language?

- a. C# is similar to Java, but Java is considered more truly object oriented.
- b. C# is distinct from other languages because it restricts which types of data can be treated as objects.
- c. C#'s GUI interface makes it similar to Visual Basic, but Visual Basic is considered more concise.
- d. C# is modeled after the C++ language but is considered easier to learn.

ANSWER:

d

49. To determine whether a C# class is runnable, you should check the source code to see whether it contains a Main() method.

- a. True
- b. False

ANSWER:

True

50. Bison, Prairie_Dog, and Road_Runner are all legal and conventional class names in C#.

- a. True
- b. False

ANSWER:

False

51. Suppose you are reading a C# program and see the following lines. What is this?

```
/* System.Console.WriteLine("Pizza time!");  
*/
```

- a. a method call
- b. a block comment
- c. XML documentation
- d. a line comment

ANSWER:

b

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52. Suppose you would like to call the `WriteLine()` method within your `Tree` class's `Main()` method like this:

```
WriteLine("The larch!");
```

You should include the statement `using System;` prior to your `Tree` class definition in your program.

- a. True
- b. False

ANSWER:

False

53. Where is the mistake in this C# program written in a text editor?

```
1 using static System.Console;
2 class MicCheck
3 {
4     static void()
5     {
6         WriteLine("Testing, 1, 2, 3");
7     }
8 }
```

- a. line 4
- b. lines 5 and 7
- c. line 6
- d. line 1

ANSWER:

a

54. To execute a C# program from the command line, you must _____.

- a. type the name of the executable file at the command prompt
- b. include the file extension in the command
- c. first change the current directory to the folder where the operating system is located
- d. enter `csc` followed by the name of the executable file

ANSWER:

a

55. Suppose you are attempting to compile a C# program from the command line and receive the following output:

```
MyAwesomeProgram.cs(10,7): error CS0103: The name 'myFirstMethod' does not exist in the current context
```

This means that the program failed to compile because the compiler found a syntax error in position 7 of line 10 of your source code.

- a. True
- b. False

ANSWER:

True

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56. What happens when you write a short C# program in Visual Studio, select Debug from the menu bar, and then click Start Without Debugging?

- a. If the program is free of syntax errors, it will be compiled but not run.
- b. The program will be compiled and executed even if it contains syntax errors.
- c. If the program is free of syntax errors, it will be compiled and executed.
- d. The Debug Console will open so that you can use the `csc` command to compile your program.

ANSWER: c

57. You can compile and run a C# program in Visual Studio by clicking on a single menu option.

- a. True
- b. False

ANSWER: True

58. When you attempt to compile a C# program with syntax errors in Visual Studio, ____.

- a. light bulb icons appear to the left of the lines in the code that contain errors
- b. wavy underlines appear beneath the syntax errors in the source code pane
- c. program language error messages appear in the Solution Explorer pane
- d. it simply fails to compile—nothing else happens

ANSWER: b

59. When you start a new console application in Visual Studio, this IDE can automatically generate a set of statements called the console template for you.

- a. True
- b. False

ANSWER: True

60. If you want to disable the console template when creating a new console project in Visual Studio, you should leave the “Do not use top-level statements” box unchecked on the Additional Information page during setup.

- a. True
- b. False

ANSWER: False