

Starting Out with C++ from Control Structures to Objects, 9e (Gaddis)

Chapter 1 Introduction to Computers and Programming

TRUE/FALSE

1. Software engineering is a field that encompasses designing, writing, testing, debugging, documenting, modifying, and maintaining computer programs.

ANS:

2. Pseudocode is a form of a program statement that will always evaluate to "false."

ANS:

3. In programming, the terms "line" and "statement" always mean the same thing.

ANS:

4. In C++, key words are written in all lowercase letters.

ANS:

5. The preprocessor executes after the compiler.

ANS:

6. Machine language is an example of a high-level language.

ANS:

7. A CPU only understands machine language instructions.

ANS:

8. Programs are often referred to as hardware.

ANS:

9. The CPU is the most important component in a computer because without it, the computer could not run software.

ANS:

10. The term "bit" stands for binary digit.

ANS:

MULTIPLE CHOICE

1. What does the term *hardware* refer to?
 - a. The relative difficulty of writing computer programs
 - b. The physical components that make up a computer
 - c. The way a computer's storage space is organized
 - d. The logical flow of instructions
 - e. None of these

ANS:

2. A(n) _____ is a set of instructions that the computer follows to solve a problem.
 - a. compiler
 - b. linker
 - c. program
 - d. operator
 - e. None of these

ANS:

3. Computer programs are also known as
 - a. hardware
 - b. firmware
 - c. software
 - d. Any of these
 - e. None of these

ANS:

4. At the heart of a computer is its central processing unit. The CPU's job is:
 - a. To fetch instructions
 - b. To carry out the operations commanded by the instructions
 - c. To produce some outcome or resultant information
 - d. All of these
 - e. None of these

ANS:

5. A computer stores a program while it is running
 - a. in main memory
 - b. on a hard disk
 - c. on the computer monitor
 - d. in the CPU
 - e. None of these

ANS:

6. The _____ decodes an instruction and generates an electronic signal.
 - a. Arithmetic and Logic Unit
 - b. Main memory
 - c. BIOS
 - d. Control Unit
 - e. None of these

ANS:

7. The CPU's control unit retrieves the next instruction in a sequence of program instructions from main memory in the _____ stage.
- fetch
 - decode
 - execute
 - portability

ANS:

8. During which stage does the central processing unit analyze the instruction and encode it in the form of a number, and then generate an electronic signal?
- fetch
 - decode
 - execute
 - portability

ANS:

9. The two parts of the CPU are
- the output device and the input device
 - the software and the hardware
 - the Control Unit and the Arithmetic and Logic Unit
 - the single-task device and the multi-task device
 - None of these

ANS:

10. A volatile type of memory that is used for temporary storage is
- an address
 - the ALU
 - RAM
 - a disk drive
 - None of these

ANS:

11. The purpose of a memory address is:
- to identify the location of a byte in memory
 - to prevent multitasking
 - to obtain an algorithm
 - to improve the speed of processing
 - None of these

ANS:

12. Programs are normally stored in _____ and loaded into main memory as needed.
- the input device
 - the output device
 - secondary storage
 - the CPU

- e. None of these

ANS:

13. A computer monitor is a type of

- a. input device
- b. output device
- c. storage device
- d. software
- e. None of these

ANS:

14. Which of the following is *not* a common input device?

- a. keyboard
- b. mouse
- c. digital camera
- d. printer
- e. All are common input devices

ANS:

15. Which of the following is *not* one of the major components of a computer system?

- a. the preprocessor
- b. the CPU
- c. main memory
- d. input/output devices
- e. secondary storage

ANS:

16. A set of well-defined steps for performing a task or solving a problem is known as a(n):

- a. hierarchy chart
- b. algorithm
- c. instruction set
- d. statement
- e. None of these

ANS:

17. When a programmer saves to a file the statements he or she writes to create a program, these statements are

- a. high level
- b. source code
- c. a preprocessor file
- d. object code
- e. None of these

ANS:

18. The programmer usually enters source code into a computer with

- a. a hierarchy chart
- b. a text editor

- c. a compiler
- d. pseudocode
- e. None of these

ANS:

19. In the process of translating a source file into an executable file, which of the following is the correct sequence?
- a. Source code, preprocessor, modified source code, linker, object code, compiler, executable code
 - b. Preprocessor, source code, compiler, executable code, linker, modified source code, object code
 - c. Source code, compiler, modified source code, preprocessor, object code, linker, executable code.
 - d. Source code, preprocessor, modified source code, compiler, object code, linker, executable code.
 - e. Source code, linker, object code, compiler, modified source code, preprocessor, executable code.

ANS:

20. An Integrated Development Environment (IDE) typically consists of
- a. a text editor
 - b. a compiler
 - c. a debugger
 - d. All of the above
 - e. None of these

ANS:

21. _____ are used to translate each source code instruction into the appropriate machine language instruction.
- a. modules
 - b. runtime libraries
 - c. compilers
 - d. preprocessor directives
 - e. None of these

ANS:

22. This is a set of rules that must be followed when constructing a program:
- a. syntax
 - b. punctuation
 - c. key words
 - d. operators
 - e. identifiers

ANS:

23. Words that have a special meaning and may be used only for their intended purpose are known as
- a. operators
 - b. programmer defined words
 - c. key words

- d. syntax
- e. None of these

ANS:

24. Which of the following best describes an operator?
- a. An operator is a rule that must be followed when constructing a program.
 - b. An operator allows you to perform operations on one or more pieces of data.
 - c. An operator marks the beginning or ending of a statement, or is used to separate items in a list.
 - d. An operator is a word that has a special meaning.
 - e. An operator is a symbolic name that refers to a variable.

ANS:

25. This is used in a program to mark the beginning or ending of a statement, or separate items in a list:
- a. separators
 - b. punctuation
 - c. operators
 - d. key words
 - e. None of these

ANS:

26. Characters or symbols that perform operations on one or more operands are:
- a. separators
 - b. op codes
 - c. operators
 - d. key words
 - e. None of these

ANS: C

27. This is a complete instruction that causes the computer to perform some action:
- a. line
 - b. statement
 - c. variable
 - d. key word
 - e. None of these

ANS:

28. A named storage location in the computer's memory that holds a piece of information is a(n):
- a. variable
 - b. operator
 - c. key word
 - d. statement
 - e. None of these

ANS:

29. A variable definition defines the name of a variable that will be used in a program, as well as:
- a. the type of data it will be used to hold

- b. the operators that will be used on it
- c. the number of times it will be used in the program
- d. the value it will hold
- e. None of these

ANS:

30. Three primary activities of a program are:
- a. variable definitions, operators, lists of key words
 - b. lines, statements, punctuation
 - c. input, processing, output
 - d. integer, floating-point, character definitions
 - e. None of these

ANS:

31. Which step uncovers any syntax errors in your program?
- a. editing
 - b. compiling
 - c. linking
 - d. executing
 - e. None of these

ANS:

32. Mistakes that cause a running program to produce incorrect results are called:
- a. syntax errors
 - b. logic errors
 - c. compiler errors
 - d. linker errors
 - e. None of these

ANS:

33. The programming process consists of several steps, which include:
- a. key words, operator definitions, punctuation
 - b. design, creation, testing, debugging
 - c. input, processing, output
 - d. syntax, logic, error handling
 - e. None of these

ANS:

34. The first step in writing a program is to
- a. type the code
 - b. visualize the program running on a computer
 - c. visualize logical errors
 - d. clearly define what the program is to do
 - e. None of these

ANS:

35. A model often used when creating a program that begins with the overall task and refines it into smaller subtasks is a(n)
- a. flowchart
 - b. UML diagram
 - c. blueprint
 - d. hierarchy chart
 - e. None of these

ANS:

36. The term that refers to the programmer reading the program from the beginning and stepping through each statement is
- a. pseudocoding
 - b. software engineering
 - c. desk checking
 - d. spot checking
 - e. None of these

ANS:

37. The two methods used by C++ to write computer programs are:
- a. top-down programming and procedural programming
 - b. procedural programming and object-oriented programming
 - c. pseudocoding and object-oriented programming
 - d. flowcharting and procedural programming
 - e. None of these

ANS: