

Chapter One

MULTIPLE CHOICE

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

ANS: B

2. 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 the above
 - e. None of the above

ANS: D

3. 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: B

4. An Integrated Development Environment typically consists of:
 - a. A text editor
 - b. A compiler
 - c. A debugger
 - d. All of the above
 - e. None of the above

ANS: D

5. The purpose of a memory address is:
 - a. To identify the location of a byte in memory
 - b. To prevent multitasking
 - c. To obtain an algorithm
 - d. To improve the effectiveness of high-level languages
 - e. None of the above

ANS: A

6. The programming process consists of several steps, which include:
 - a. Input, Processing, and Output
 - b. Key Words, Operators, and Punctuation
 - c. Design, Creation, Testing, and Debugging

- d. Syntax, Logic, and Error Handling
- e. None of the above

ANS: C

7. Programmer-defined names of memory locations that may hold data are:
- a. Operators
 - b. Variables
 - c. Syntax
 - d. Operands
 - e. None of the above.

ANS: B

8. Characters or symbols that perform operations on one or more operands are:
- a. Syntax
 - b. Op codes
 - c. Operators
 - d. Program ops
 - e. None of the above

ANS: C

9. The computer's main memory is commonly known as:
- a. The hard disk
 - b. The floppy disk
 - c. RAM
 - d. Secondary storage
 - e. None of the above

ANS: C

10. The _____ decodes an instruction and generates electrical signals.
- a. Arithmetic and Logic Unit
 - b. Main memory
 - c. BIOS
 - d. Control Unit
 - e. None of the above

ANS: D

11. 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 the above

ANS: C

12. _____ are used to translate each source code instruction into the appropriate machine language instruction.
- a. Modules
 - b. Library routines
 - c. Compilers
 - d. Preprocessor directives

e. None of the above

ANS: C

13. During which stage does the central processing unit retrieve from main memory the next instruction in the sequence of program instructions?

- a. fetch
- b. decode
- c. execute
- d. portability stage

ANS: A

14. What statement best describes a variable and its primary purpose?

- a. A variable is a structured, general-purpose language designed primarily for teaching programming.
- b. A variable is a collection of eight bits.
- c. A variable is a word that has a special meaning to the compiler.
- d. A variable is a named storage location in the computer's memory used for holding a piece of information.
- e. A variable is a "line" of code in the body of a program, that may change.

ANS: D

15. This step will uncover any syntax errors in your program.

- a. Editing
- b. Compiling
- c. Linking
- d. Executing
- e. None of these

ANS: B

16. This term refers to the programmer reading the program from the beginning and stepping through each statement.

- a. Pseudocoding
- b. Software Engineering
- c. Desk Checking
- d. Spot Checking
- e. None of the above

ANS: C

17. 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 the above

ANS: B

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

- a. Hierarchy
- b. Algorithm

- c. Central Processing Unit
- d. Encoded instruction
- e. None of the above

ANS: B

19. The statements written by the programmer are called:
- a. Syntax
 - b. Object code
 - c. Source code
 - d. Runtime libraries
 - e. None of the above

ANS: C

20. Internally, the CPU consists of two parts:
- a. The Output Device and the Input Device
 - b. The Software and the Hardware
 - c. The Control Unit and the Arithmetic and Logic Unit
 - d. The Single-task Device and the Multi-task Device
 - e. None of the above

ANS: C

21. Even when there is no power to the computer, data can be held in:
- a. Secondary storage
 - b. The Input Device
 - c. The Output Device
 - d. The Algorithm
 - e. None of the above

ANS: A

22. 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 the above

ANS: C

23. The name for a memory location that may hold data is:
- a. Key Word
 - b. Syntax
 - c. Operator
 - d. Variable
 - e. None of the above

ANS: D

24. 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 the above

ANS: B

25. A variable declaration announces 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 area of the code in which it will be used
 - e. None of the above

ANS: A

26. Three primary activities of a program are:
- a. Variables, Operators, and Key Words
 - b. Lines, Statements, and Punctuation
 - c. Input, Processing, and Output
 - d. Integer, Floating-point and Character
 - e. None of the above

ANS: C

27. An example of a secondary storage device is:
- a. The computer's main memory
 - b. The keyboard
 - c. The monitor
 - d. A hard disk
 - e. None of the above

ANS: D

28. 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?
- a. fetch
 - b. decode
 - c. execute
 - d. portability stage

ANS: B

29. 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 the above

ANS: B

30. Computer programs are also known as
- a. hardware
 - b. firmware
 - c. software
 - d. silverware

e. None of the above

ANS: C

31. Unix and Windows 2000 are examples of _____ operating systems.
- a. single tasking
 - b. multi-tasking
 - c. Macintosh
 - d. command-driven
 - e. None of these

ANS: B

32. This is a volatile type of memory, used for temporary storage.
- a. A floppy disk
 - b. ALU
 - c. RAM
 - d. A hard disk
 - e. None of the above

ANS: C

33. This is a set of rules that must be followed when constructing a program.
- a. Syntax
 - b. Punctuation
 - c. Portability
 - d. Operators
 - e. Key words

ANS: A

34. Which of the following is a preprocessor directive?
- a. `pay = hours * rate;`
 - b. `cin >> rate;`
 - c. `// This program calculates the user's pay.`
 - d. `int main()`
 - e. `#include <iostream>`

ANS: E

35. The programmer usually enters source code into a computer using:
- a. Pseudocode
 - b. A text editor
 - c. A hierarchy chart
 - d. A compiler
 - e. None of the above

ANS: B

36. In a broad sense, the two primary categories of programming languages are:
- a. Mainframe and PC
 - b. Single-tasking and Multi-tasking
 - c. Low-level and High-level
 - d. COBOL and BASIC
 - e. None of the above

ANS: C

37. Which of the following is not one of the five major components of a computer system?
- Preprocessor
 - The CPU (central processing unit)
 - Main memory
 - Input/Output device
 - Secondary storage device

ANS: A

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

ANS: D

TRUE/FALSE

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

ANS: T

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

ANS: F

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

ANS: F

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

ANS: T

5. The preprocessor executes after the compiler.

ANS: F

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

ANS: F

7. A CPU really only understands instructions that are written in machine language.

ANS: T