

TRUE/FALSE

1. Logical errors are mistakes that cause the program to produce erroneous results.

ANS: T

2. The Java Virtual Machine is a program that reads Java byte code instructions and executes them as they are read.

ANS: T

3. Colons are used to indicate the end of a Java statement.

ANS: F

4. Compiled byte code is also called source code.

ANS: F

5. Application software refers to programs that make the computer useful to the user.

ANS: T

6. Each byte is assigned a unique number known as an address.

ANS: T

7. Encapsulation refers to the combining of data and code into a single object.

ANS: T

8. Java source files end with the **.class** extension.

ANS: F

9. A procedure is a set of programming language statements that, together, perform a specific task.

ANS: T

10. A solid-state drive has no moving parts and operates faster than a traditional disk drive.

ANS: T

11. The computer is a tool used by so many professionals that it cannot be easily categorized.

ANS: T

12. Without programmers, the users of computers would have no software, and, without software, computers would not be able to do anything.

ANS: T

13. The contents of a variable cannot be changed while the program is running.

ANS: F

14. Java source files end with the `.class` extension.

ANS: F

15. When an object's internal data is hidden from outside code and access to that data is restricted to the object's methods, the data is protected from accidental corruption.

ANS: T

MULTIPLE CHOICE

1. While _____ is centered on creating procedures, _____ is centered on creating objects.
- procedural programming, object-oriented programming
 - object-oriented programming, procedural programming
 - routine programming, method programming
 - procedural programming, class programming

ANS: A

2. RAM is usually
- an input/output device
 - a volatile type of memory, used for temporary storage
 - secondary storage
 - a static type of memory, used for permanent storage

ANS: B

3. The two primary methods of programming in use today are
- procedural and object-oriented
 - hardware and software
 - practical and theoretical
 - desktop and mobile

ANS: A

4. Validating the results of a program is important to
- correct runtime errors
 - make sure the program solves the original problem
 - create a model of the program
 - correct syntax error

ANS: B

5. Software refers to
- a. programs
 - b. the physical components a computer is made of
 - c. firmware
 - d. data stored in RAM

ANS: A

6. An object typically hides its data but allows outside code access to
- a. the pseudocode
 - b. the methods that operate on the data
 - c. private data members
 - d. the data files

ANS: B

7. Variables are
- a. symbolic names made up by the programmer and once created, their values cannot be changed
 - b. operators that perform operations on one or more operands
 - c. symbolic names made up by the programmer that represent memory locations
 - d. reserved words

ANS: C

8. _____ refers to the physical components that a computer is made of.
- a. Input
 - b. Main memory
 - c. Control unit
 - d. Hardware

ANS: D

9. A characteristic of _____ is that only an object's methods are able to directly access and make changes to an object's data.
- a. classes
 - b. procedures
 - c. data hiding
 - d. component reusability

ANS: C

10. Because Java byte code is the same on all computers, compiled Java programs
- a. are nonexistent
 - b. must be re-compiled for each different machine before they can be run
 - c. are highly portable
 - d. cannot run on computers with different operating systems

ANS: C

11. A cross between human language and a programming language is called
- a. a compiler
 - b. pseudocode
 - c. the Java Virtual Machine
 - d. the Java language

ANS: B

12. Byte code instructions are
- machine code instructions
 - syntax errors
 - read and interpreted by the JVM
 - another name for source code

ANS: C

13. One type of design tool used by programmers when creating a model of a program is
- the ALU
 - byte code
 - syntax
 - pseudocode

ANS: D

14. Key words are
- symbols or words that perform operations on one or more operands
 - words or characters representing values that are defined by the programmer
 - the data names in your program
 - words that have a special meaning in the programming language

ANS: D

15. Computers can do many different jobs because they are
- programmable
 - reliable
 - automated
 - electronic

ANS: A

16. A(n) _____ is a software entity that contains data and procedures.
- object
 - program
 - class
 - method

ANS: A

17. Application software refers to
- the programs that make the computer useful to the user
 - the operating system
 - key words
 - pseudocode

ANS: A

18. The end of a Java statement is indicated by a _____.
- bracket ()
 - asterisk (★)
 - semicolon (;)
 - colon (:)

ANS: C

19. What is syntax?
- the rules that must be followed when writing a program

- b. the words that have a special meaning in the programming language
- c. the symbols or words that perform operations in a program
- d. the words or characters that are defined by the programmer

ANS: A

20. A set of programming language statements that perform a specific task is a(n)

- a. pseudocode chart
- b. source code
- c. object
- d. procedure

ANS: D

21. The central processing unit (CPU) consists of two parts which are

- a. the input and output devices
- b. the control unit and the arithmetic and logic unit (ALU)
- c. the control unit and main memory
- d. the arithmetic and logic unit (ALU) and main memory

ANS: B

22. There are _____ bits in a byte.

- a. 4
- b. 8
- c. 16
- d. 32

ANS: B

23. A runtime error is usually the result of

- a. a logical error
- b. a syntax error
- c. a compiler error
- d. bad data

ANS: A

24. A(n) _____ is used to write computer programs.

- a. pseudocode document
- b. operating system
- c. application
- d. programming language

ANS: D

25. _____ refers to the physical components that a computer is made of.

- a. The device
- b. Hardware
- c. Software
- d. The system

ANS: B

26. A computer program is

- a. the same as main memory
- b. only used for desktop computers
- c. a set of instructions that allow the computer to solve a problem or perform a task
- d. another name for an operating system

ANS: C

27. Which of the following is not part of the programming process?

- a. defining and modeling the problem
- b. entering code and compiling it
- c. testing and debugging
- d. All of these are parts of the programming process

ANS: D

28. Computer programming is
- a. an art
 - b. a science
 - c. both of the above
 - d. neither of the above

ANS: C

29. The original name for Java was
- a. JavaScript
 - b. HotJava
 - c. Elm
 - d. Oak

ANS: D

30. A program is a sequence of instructions stored in
- a. the CPU
 - b. the computer's memory
 - c. software
 - d. firmware

ANS: B

31. Which of the following is **not** one of the major components of a typical computer system?
- a. the CPU
 - b. input/output devices
 - c. main memory
 - d. secondary storage devices
 - e. All of the above are major components

ANS: E

32. Byte code instructions are
- a. another name for source code
 - b. syntax errors
 - c. machine code instructions
 - d. read and interpreted by the JVM

ANS: D

33. Which of the following is a software entity that contains data and procedures?
- a. a method
 - b. an object
 - c. a class
 - d. a program

ANS: B

34. Each different type of CPU has its own
- a. syntax
 - b. firmware
 - c. machine language
 - d. software

ANS: C

35. Internally, the central processing unit (CPU) consists of two parts which are _____
- a. the control unit and the arithmetic/logic unit (ALU)

- b. the control unit and main memory
- c. the arithmetic/logic unit (ALU) and main memory
- d. the input and output devices

ANS: A

36. Java was developed by
- a. Microsoft
 - b. IBM
 - c. Sun Microsystems
 - d. Hewlett-Packard

ANS: C

37. Which of the following will compile a program called ReadIt?
- a. `java ReadIt.java`
 - b. `java ReadIt.javac`
 - c. `javac ReadIt.java`
 - d. `javac ReadIt.javac`

ANS: C

38. Which of the following will run the compiled program called ReadIt?
- a. `java ReadIt.java`
 - b. `java ReadIt`
 - c. `run ReadIt`
 - d. `go ReadIt`

ANS: B