

Review Questions Multiple Choice

1. A(n) is a set of instructions that a computer follows to perform a task.
a. compiler b. program c. interpreter d. programming language
2. The physical devices that a computer is made of are referred to as .
a. hardware b. software c. the operating system d. tools
3. The part of a computer that runs programs is called .
a. RAM b. secondary storage c. main memory d. the CPU
4. Today, CPUs are small chips known as .
a. ENIACs b. microprocessors c. memory chips d. operating systems
5. The computer stores a program while the program is running, as well as the data that the program is working with, in . a. secondary storage b. the CPU c. main memory d. the microprocessor
6. This is a volatile type of memory that is used only for temporary storage while a program is running.
a. RAM b. secondary storage c. the disk drive d. the USB drive
7. A type of memory that can hold data for long periods of time, even when there is no power to the computer, is called .
a. RAM b. main memory c. secondary storage d. CPU storage
8. A component that collects data from people or other devices and sends it to the computer is called .
a. an output device b. an input device c. a secondary storage device d. main memory
9. A video display is a(n) device.
a. output b. input c. secondary storage d. main memory
10. A is enough memory to store a letter of the alphabet or a small number.
a. byte b. bit c. switch d. transistor
11. A byte is made up of eight .
a. CPUs b. instructions c. variables d. bits
12. In the numbering system, all numeric values are written as sequences of 0s and 1s.
a. hexadecimal b. binary c. octal d. decimal
13. A bit that is turned off represents the following value: .
a. 1 b. -1 c. 0 d. "no"
14. A set of 128 numeric codes that represent the English letters, various punctuation marks, and other characters is .
a. binary numbering b. ASCII c. Unicode d. ENIAC
15. An extensive encoding scheme that can represent characters for many languages in the world is .

- a. binary numbering b. ASCII c. Unicode d. ENIAC
16. Negative numbers are encoded using the technique.
a. two's complement b. floating point c. ASCII d. Unicode
17. Real numbers are encoded using the technique.
a. two's complement b. floating point c. ASCII d. Unicode
18. The tiny dots of color that digital images are composed of are called .
a. bits b. bytes c. color packets d. pixels
19. If you were to look at a machine language program, you would see .
a. Python code b. a stream of binary numbers c. English words d. circuits
20. In the part of the fetch-decode-execute cycle, the CPU determines which operation it should perform.
a. fetch b. decode c. execute d. deconstruct
21. Computers can only execute programs that are written in .
a. Java b. assembly language c. machine language d. Python
22. The translates an assembly language program to a machine language program.
a. assembler b. compiler c. translator d. interpreter
23. The words that make up a high-level programming language are called .
a. binary instructions b. mnemonics c. commands d. keywords
24. The rules that must be followed when writing a program are called .
a. syntax b. punctuation c. keywords d. operators
25. A(n) program translates a high-level language program into a separate machine language program.
a. assembler b. compiler c. translator d. utility

True or False

1. Today, CPUs are huge devices made of electrical and mechanical components such as vacuum tubes and switches.

False

2. Main memory is also known as RAM.

True

3. Any piece of data that is stored in a computer's memory must be stored as a binary number.

True

4. Images, like the ones created with your digital camera, cannot be stored as binary numbers.

False

5. Machine language is the only language that a CPU understands.

True

6. Assembly language is considered a high-level language.

False

7. An interpreter is a program that both translates and executes the instructions in a high-level language program.

True

8. A syntax error does not prevent a program from being compiled and executed.

False

9. Windows, Linux, Android, iOS, and macOS are all examples of application software.

False

10. Word processing programs, spreadsheet programs, email programs, web browsers, and games are all examples of utility programs.

False

Short Answer

1. Why is the CPU the most important component in a computer?

The CPU (Central Processing Unit) is the most important component in a computer because it performs all the instructions and calculations that are needed for the computer to operate. It acts as the brain of the computer, executing commands from both hardware and software.

2. What number does a bit that is turned on represent? What number does a bit that is turned off represent?

A bit that is turned on represents the number 1. A bit that is turned off represents the number 0.

3. What would you call a device that works with binary data?

A device that works with binary data is called a digital device.

4. What are the words that make up a high-level programming language called?

The words that make up a high-level programming language are called keywords.

5. What are the short words that are used in assembly language called?

The short words that are used in assembly language are called mnemonics.

6. What is the difference between a compiler and an interpreter?

A compiler translates a high-level language program into a separate machine language program, which can then be executed independently of the original source code. An interpreter, on the other hand, translates and executes the instructions in a high-level language program line by line, without producing a separate machine language program.

7. What type of software controls the internal operations of the computer's hardware?

The type of software that controls the internal operations of the computer's hardware is called an operating system.