Checkpoints

1. A program is a set of instructions that a computer follows to perform a task.
2. Hardware refers to all the physical devices or components, of which a computer is made.
3. The five major components to a computer system are the CPU, main memory, secondary storage devices, input, and output devices.
4. The CPU runs the program.
5. The main memory is the computer’s work area.
6. Secondary storage devices can hold data for long periods of time.
7. Input devices collects data from people and other devices.
8. Output devices formats and presents data for people or other devices.
9. An operating system is the most fundamental set of programs on a computer.
10. A utility program performs a specialized task that enhances the computer’s operation or safeguards data.
11. Software development tools are the programs that programmers use to create, modify, and test software.
12. One byte is only enough memory to store a letter of the alphabet or a small number.
13. A bit is a tiny switch.
14. The binary numbering system are written sequences of 0s and 1s.
15. The ASCII is a set of 128 numeric codes that represent the English letters, various punctuation marks, and other characters.
16. Unicode is an extensive encoding scheme that is compatible with ASCII but can also represent characters for many of the languages in the world.
17. Digital data is data that is stored in binary format. Digital device is any device that works with binary data.
18. A computer’s CPU can only understand instructions that are written in machine language.
19. The program must be copied into the main memory each time the CPU executes it.
20. The CPUT is engaged in fetch-decode-execute cycle.
21. Assembly language consists of short words known as mnemonics. It is a more practical way for people to write programs.
22. High-level languages allow you to create powerful and complex programs without knowing how the CPU works.
23. The syntax is a set of rules that must be followed when writing a program.
24. A compiler is a program that translates a high-level language program into a separate machine language program.
25. An interpreter is a program that translates and executes the instructions in a high-level language program.
26. A syntax error is a mistake such as a misspelled key word, a missing punctuation character or the incorrect use of an operator.

Chapter Questions

1. The CPU is the most important component in a computer because without it, the computer could not run software.
2. When a bit is turned on, it is 1. When a bit is turned off, it is 0.
3. A device that works with binary data is a digital device.
4. The words that make up a high-level programming language are known as key words or reserved words.
5. The short words in assembly language are called mnemonics.
6. A compiler is a program that translates a high-level language program into a separate machine language program. An interpreter is a program that translates and executes the instructions in a high-level language program.
7. The operating system controls the internal operations of the computer’s hardware.

Exercises

3. 1011, 0100 0001, 0110 0100, 1111 1111

4. 13, 8, 43

5. 67, 79, 79, 80, 69, 114