

UNIT 3: HARDWARE AND SOFTWARE

II. TEXT

A. Reading text

HARDWARE AND SOFTWARE

In order to use computers effectively to solve problems in our environment, computer systems are devised. A "system" implies a good mixture of integrated parts working together to form a useful whole. Computer systems may be discussed in two parts. The first part is hardware - the physical, electronic and electromechanical devices that are thought and recognized as "computers". The second part is software - the programs that control and coordinate the activities of the computer hardware and that direct the processing of data.

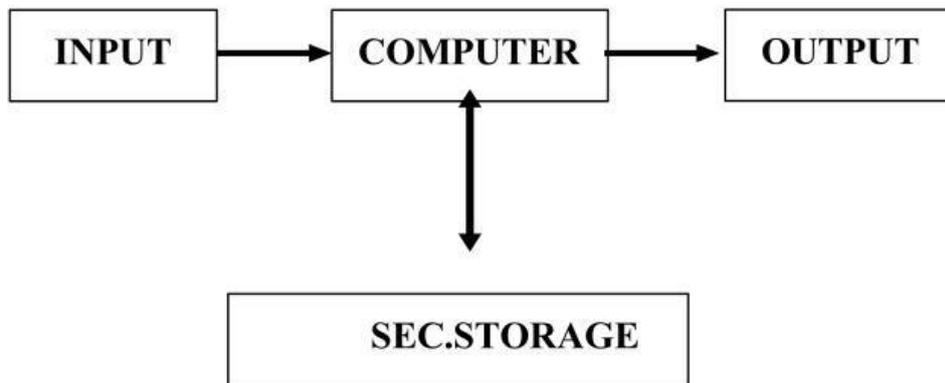


Figure shows diagrammatically the basic components of computer hardware joined together in a computer system. The centerpiece is called either the computer, the processor, or usually the central processing unit (CPU). The term "computer" usually refers to those parts of the hardware in which calculations and other data manipulations are performed, and to the internal memory in which data and instructions are stored during the actual execution of programs. The various peripherals, which include input and/or output devices, various secondary memory devices, and so on, are attached to the CPU.

Computer software can be divided into two very broad categories systems software and application software. The former is often simply referred to as "systems". These, when brought into internal memory, direct the computer to perform tasks. The later may be provided along with the hardware by a systems supplier as part of a computer product designed to answer a specific need in certain areas. These complete

hardware/software products are called turnkey systems.

The success or failure of any computer system depends on the skill with which the hardware and software components are selected and blended. A poorly chosen system can be a monstrosity incapable of performing the tasks for which it was originally acquired.

B. Comprehension check

Task 1: Answer the following questions

- a. What is the hardware of the computer?
- b. What is the software of the computer?
- c. What is the centerpiece called?
- d. What does the term "computer" usually refer to?
- e. Into what categories can computer software be divided?
- f. What decides the success or failure of any computer system?

Task 2: Indicate whether the following ideas are stated or not stated (S/NS) in the text.

1. A system implies a good mixture of parts working together.
2. Input and output devices operate more slowly than the decision making devices.
3. The control unit and the arithmetic - logical unit are part of the processor.
4. The "computer" is the hardware.
5. Software is the programs on cards, tapes and disks.
6. The processor is usually referred to as the CPU.
7. The word "computer" means the processor and the internal memory.
8. Systems software is usually referred to as programs.
9. Complete hardware/software products are called turnkey systems.
10. Computers process specially prepared items of information.

Task 3: Choose the best answer

1. What are the two main parts into which computer systems may be discussed?
 - A. Input and Output
 - B. Hardware and Software
 - C. CPU and Peripherals
 - D. Systems and Applications
2. Which of the following best describes hardware?
 - A. Programs that control computer activities
 - B. The physical, electronic, and electromechanical devices of a computer
 - C. Data and instructions stored during program execution
 - D. Turnkey systems
3. What is software defined as?
 - A. The physical components of a computer
 - B. The programs that control and coordinate hardware activities and direct data processing
 - C. The centerpiece of the computer system
 - D. Input and output devices
4. What is the centerpiece of a computer system often called?
 - A. Peripherals
 - B. Secondary memory devices
 - C. The central processing unit (CPU)
 - D. Turnkey system
5. The term "computer" usually refers to parts of the hardware where calculations and data manipulations are performed, and to what else?
 - A. External memory
 - B. The internal memory where data and instructions are stored during program execution
 - C. Peripherals
 - D. Application software
6. What are peripherals attached to?
 - A. The internal memory
 - B. The CPU
 - C. Systems software

D. Turnkey systems

7. Into which two broad categories can computer software be divided?

A. Input software and Output software

B. Hardware software and Peripheral software

C. Systems software and Application software

D. Processor software and Memory software

8. What are complete hardware/software products designed to answer a specific need called?

A. Systems software

B. Application software

C. Turnkey systems

D. Integrated parts

9. What determines the success or failure of any computer system?

A. The cost of the hardware

B. The skill with which the hardware and software components are selected and blended

C. The number of peripherals attached

D. The size of the internal memory

10. What can a poorly chosen computer system be?

A. An integrated whole

B. A useful tool

C. A monstrosity incapable of performing its intended tasks

D. A simple system