Hardware and Software

- A computer system consists of two main parts: **Hardware and Software. Hardware** refers to the physical components, like the CPU and RAM, while Software includes the programs and applications that control these components. Both are essential for the computer to function properly, and they work together to ensure smooth performance. This article will highlight their key differences and how they interact in modern computing.

What is the Computer Hardware?

Computer hardware refers to the physical components of a computer that you can touch and see. These parts work together to process data and perform tasks. Examples include the Processor, Memory Devices, Monitor, Printer, Keyboard, Mouse, and Central Processing Unit (CPU).

Different Types of Computer Hardware?

Here is a list of the main types of computer hardware:

1. Input Devices
Input devices allow users to enter data and instructions into the computer. These devices enable interaction with the system by providing information for processing.
Examples: Keyboard, Mouse, Scanner, Microphone etc.

2. Output Devices
Output devices display or produce the results of computer processing, allowing users to see or hear the information processed by the computer.
Examples: Monitor, Printer, Speakers etc.

3. Storage Devices
Storage devices are used to store data either temporarily or permanently. They allow the computer to save information for later retrieval.
Examples: Hard Disk Drive (HDD), Solid-State Drive (SSD), USB Drives, CDs, DVDs.

4. Internal Components
Internal components are essential hardware parts inside the computer that process and manage data, enabling the system to run efficiently.
Examples: CPU (Central Processing Unit), Motherboard, RAM (Random Access Memory), GPU (Graphics Processing Unit).

What is the Computer Software?

Software is a collection of instructions, procedures, and documentation that performs different tasks on a computer system. We can say also Computer Software is a programming code executed on a computer processor. The code can be machine-level code or code written for an operating system.
Examples of software are MS- Word, Excel, PowerPoint, Google Chrome, Photoshop, MySQL, etc.

Different Types of Computer Software

Here is a list of the main types of computer software:

1. System Software

System software is responsible for directly interacting with computer hardware and managing its internal functions. It helps control hardware devices such as printers, storage devices, and more.
Examples of System Software: Operating Systems, Language Processors, Device Drivers.

2. Application Software

Application software is designed to perform specific tasks for users. It operates on top of system software and supports everyday computer functions.
Examples of Application Software: Word Processors, Spreadsheets, and more specialized software like graphic design tools or database management systems.
Also read, Software and Types.

Difference Between Hardware and Software

Parameters	Hardware	Software
Basic Definition	Hardware is a physical part of the computer that causes the processing of data.	Software is a set of instructions that tells a computer exactly what to do.
Development	It is manufactured.	It is developed and engineered.
Dependency	Hardware cannot perform any task without software.	The software can not be executed without hardware.

Parameters	Hardware	Software
Process of creating	Electronic and other materials are used to create hardware.	Created by utilizing a computer language to write instructions.
Tangible	Hardware is tangible as hardware is a physical electronic device, that can be touched.	Software is intangible as we can see and also use the software but can't touch them.
Durability	Hardware typically wears out over time.	The software does not wear out with time. However, it may contain flaws and glitches.
Types	It has four main categories: • Input Devices • Output Devices • Storage Devices • Internal Components.	It is mainly divided into • System software • Application software.
Virus effect	Hardware is not affected by computer viruses.	Software is affected by computer viruses.
Transfer	It cannot be transferred from one place to another electrically through the network.	It can be transferred via a network means.
Machine-Level language	Only machine-level language is known to be understood by hardware.	The program accepts human-readable input, interprets it in machine-level language, and sends it to hardware for additional processing.
Replacement	If the hardware is damaged, it is replaced with a new one.	If the software is damaged, its backup copy can be reinstalled.

Parameters	Hardware	Software
Failures	Dust, overheating, humidity, and other factors are commonly responsible for hardware failures.	Overloading, systematic error, major-minor version error, and other factors are commonly responsible for software failures.
Examples	Ex: Keyboard, Mouse, Monitor, Printer, CPU, Hard disk, RAM, ROM, etc.	Ex: MS Word, Excel, PowerPoint, Photoshop, MySQL, etc.

Conclusion:-

In conclusion, Hardware refers to the physical component of any computer whereas Software is the set of instructions that let the computer know what to execute and when to execute. Both Hardware and Software are different, but their inter-dependencies help the entire execution of any operating system.