

# What is Computer Hardware and Software With Examples

**What is Computer Hardware and Software::** Computer Hardware is defined as the physical part or component of a computer system which can be felt, seen, and touched.

The computer monitor which we use to view the display is a Hardware Device.

**computer memory** is used to store data or programs all the types of hardware used in computer systems for better **functionality of computers**.

The infographic is titled "What is Computer Hardware and Software" in purple. It is divided into two main sections by a vertical line. The left section is titled "Hardware Component Used in Computer" and lists several items with green checkmarks: Cabinet Case, Motherboard, Ram, Hard Disk, CPU, SMPS (Switching Mode Power Supply), Keyboard, Mouse, Monitors, Printers, and Speaker etc. Images of a monitor, printer, motherboard, laptop, mouse, and keyboard are shown. The right section is titled "Computer Software and Their Uses" and is further divided into "Types of System Software" and "Application Software's of Computer". System software icons include Windows, MacOS, and UNIX. Application software icons include various office and utility programs like Photoshop, Word, Excel, PowerPoint, and others. A watermark "www.chtips.com" is visible across the center.

Computer software can be defined as a set of instructions or collection of programs which are designed and developed to perform specific tasks.

IT professionals develop customized programs that can be used in certain areas of our day-to-day life.

These types of software or programs are very helpful and can reduce human efforts immensely.

Different PC Software can be categorized in two main types

1. System Software
2. Application Software

Computer software needs hardware to function properly.

For Example, **Hard disk drive** is a hardware device of a computer system that saves or stores information, programs, or data in high volumes but it cannot work in absence of software programs.

The software helps hardware to run and vice versa.

Another example is if you have installed a sound card on your computer system which is used for playing sound and videos, and also used for playing games, but you cannot hear any sound without proper driver installation which is software that activates the hardware to function properly.

Drivers are software program that comes with the hardware.

So we can say that to use the full features of hardware and software they are dependent on each other both play vital roles in each other functions.

They are independent devices and programs but rely heavily on each other

Hardware is an essential part of the computer system like **CPU, RAM, Power supply, and Monitors.**

We cannot start or use our computer if any part of the devices is missing but speakers, printers, or even mouse are some of the hardware when found missing does not affect the boot process of the computer, these devices are used for additional functions of the computer.

## Types of Hardware Components Used in Computer & Their Differences

As we have discussed above hardware are physical devices that can be touched.

Different and common types of hardware devices and their uses are mentioned below for a better understanding

- **Cabinet Case**
- **Motherboard**
- **Ram**
- Hard Disk
- **CPU**
- SMPS (Switching Mode Power Supply)
- **Keyboard**
- **Mouse**
- Monitors
- **Printers**
- **Speaker** etc.

These are the most used and common hardware devices here mentioned some of the devices are used for better functionality or used for additional features. Like speakers and Printers.

They are not used in the boot process of the PC as when found missing PC cannot start or boot on its own. They are not responsible for booting computers.

But some of the devices mentioned above are responsible for the booting process of a PC, for example, **power supply, CPU, and Computer Memory [RAM]** are essential hardware devices.

They are solely responsible for the booting of a PC and their better computer functionality.

## #1. Cabinet Case.

Cabinet case comes in various shapes and sizes but the commonly used case is a tower case whose height ranges from 15 to 25 inches.

They enable different types of hardware devices to fit in themselves to make it a whole and all the devices are connected to the case using screws.

The Commonly attached hardware devices to the PC case are a Power supply, Motherboard CPU, RAM, Hard disk, DVD-RW, etc.

## #2. Motherboard.

The *Computer Motherboard or mainboard* is nothing but a piece of PCB (printed circuit board) where all the other devices are connected to it using cables & wires.

The motherboard generally distributes all the voltages and power received from SMPS or power supply to other parts of the hardware devices attached to the PC.

## #3. RAM [Random Access Memory].

*RAM [Random Access Memory]* is an essential part of the computer system which is used for storing data or programs temporarily.

It is a volatile memory that tends to lose data when power is missing from a power supply.

When RAM is found missing motherboard gives a sound, and no display is found on monitors.

## #4. Hard Disk Drive.

Computer Hard disk drives are used to store data permanently.

It is a type of non-volatile memory that does not lose data or programs when there is no power.

Nowadays huge volumes of data can be stored on a hard disk.

Which are also called **secondary storage hardware devices**.

The hard disk capacity is measured in MB-MEGABYTES, GB-GIGABYTES & TB-TERABYTES.

## #5. CPU [Central Processing Unit].

CPU stands for Central Processing Unit which is responsible for almost all the operations the computer system performs.

CPU performs Arithmetical and logical operation which includes addition, subtraction, division, and multiplication, and logical operations including comparison, and less and greater values.

Every input which is sent by input devices is first collected in primary memory and later transferred to the CPU for further processing.

## #6. SMPS (Power Supply).

SMPS is known as Switching Mode Power Supply.

Which is responsible to give power to the motherboard later this power is distributed among the other hardware devices for better functionality.

mainly three types of power supply are used in modern day PC.

1. AT (Advance Technology)
2. AT-X (Advanced Technology-Extended)
3. AT-XT(Advanced technology with Extended Technology)

#### #7. Keyboard.

The keyboard is an input device that is primarily used for entering text as input to the CPU.

#### #8. Mouse.

The mouse is a Pointing device that is used for selecting, pointing, and dragging icons, files, and folders from one location to another in hard drives.

#### #9. Monitors.

Monitors are display units or commonly called **VDU** which stands for [**visual display unit**] they are used to display information received from computers on their screen.

They are also called **SOFTCOPY** Terminals.

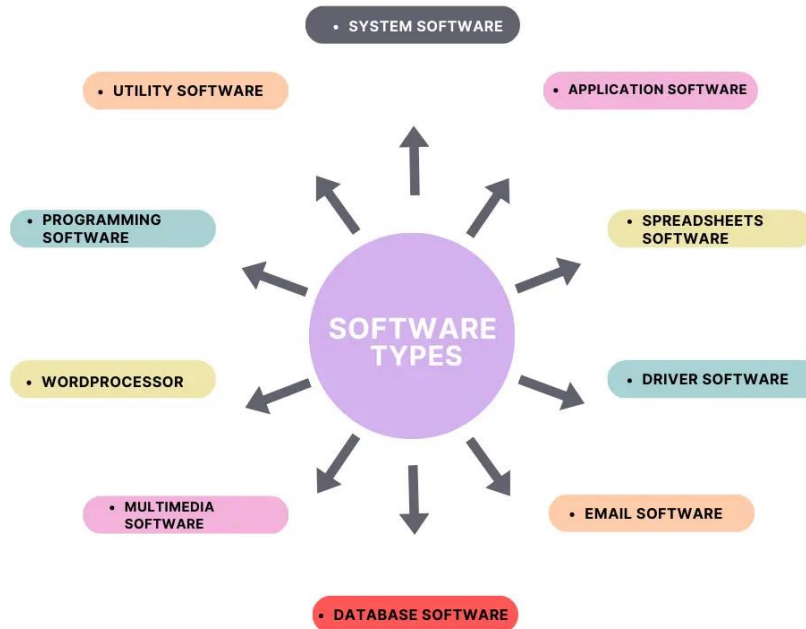
#### #10. Printers.

Printers are hardware component of the computer which is often used for producing outputs on paper as a **HARDCOPY**.

#### #11. Speaker.

Speakers are used to output digital signals. You can use a speaker for hearing sound, videos, and playing games.

## Types of Software



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## Different Types of Computer Software and Their Uses

Computer software is a set of instruction or programs which are used for a specific or special task assign to them.

You cannot touch or feel the software as they are just a set of instructions which is written by SW programmers for an application.

The user will need both hardware and software for a computer system to work properly. Hardware reads software.

Most of the software on our computer system is in the form of programs.

The software can be categorized in two types

### *Types of Computer Software*

- System Software
- Application Software
- Utility Software

### **System Software.**

**System Software** is any software that controls the hardware so that any application software can run and can be executed to perform various tasks mentioned by programmers.

System software runs and executes programs, they also monitor various other components of a computer system like CPU, primary and secondary storage, and other peripheral devices of the PC.

They communicate and control peripherals devices like printers, scanners, webcam, sound cards, etc.

The primary examples of system software's are operating system such as Microsoft Windows, Linux, Mac, Unix, etc.

They control the hardware of computer systems so that they can work efficiently and Properly to perform the specific task given to them and also to provide a platform for applications to perform and execute in the overall development of application software.

They perform transferring of data to hard disk, perform text or images or graphics to be seen on display devices,

There are various other system software which is developed for specific tasks, such as device drivers installed in PC for better functionality of that device,

**for example::** Device drivers of display cards and sound cards are used in viewing better resolutions on the computer screen and hearing sound from soundcards.

Programming tools, utility software, compiler, the interpreter is also considered to be system software. System software can be operating system and language processors

where the operating system acts as the interface between the user and computers and language processors are those which convert programming languages i.e.

Assembly language and High-level languages to machine language which is a language that is understood by computers.

Compilers & Interpreters are examples of language processors.

### Application Software.

The Application Software's designed and developed for performing particular tasks. This software directly interacts between the computer system and users.

Application software is the software used in general-purpose computers.

Applications software are programs installed on computers, laptops, or mobile phones and are incorporated with system software.

Application and system software are two categories of computer software used to perform different tasks and jobs on a computer.

Application software like [Word Processing, Spreadsheet] cannot be installed if software like [ Operating system] is not on the system.

This application software is designed and developed by software developers and engineers to derive specific results.

The companies that release their applications can be free or paid, depending entirely on the company.

Word processing software like MS Word is usually used for text documents, and multimedia software is used for playing songs and videos.

For creating and maintaining presentations, PowerPoint is extensively used widely.

### Utility Software.

Utility Software's are group or collection of programs or tools that are extensively used and utilized for managing a computer's resources and organizing computer files, folders, and internal memory structure.

This software can improve system performance or scan and repair corrupted file systems.

Utility software can be categorized by function: data management, productivity, and collaboration.

Utility software is a vital part of any computer system.

The utility software provides fantastic features that help perform different tasks such as file management, data backup and recovery, virus protection etc.

Utility software is free and sometimes paid. They are designed and developed so that they can be compatible with Windows, Linux, Android, IOS, and Mac.

## Types of Application Software

1. Word Processing Software.
2. Accounting Software.
3. Database Software.
4. Accounting Software.
5. Designing Software.
6. Educational | Learning Software.
7. Multimedia Software.

## Characteristics of Application Software

1. They are designed and developed for particular tasks and operations.
2. They are simple to use and operate [User-Friendly].
3. Application software helps the user complete tasks faster than manual work.
4. They can be installed on various platforms like Windows, Mac, Linux, etc.
5. They are lightly weighted compared to system software like an operating system.

## 9 Differences Between Computer Hardware and Software

# Hardware	Software
1 Computer hardware is manufactured.	Computer software is designed and developed by software engineers.
2 Hardware is physical quantities that can be touched.	The software can be used and utilized but can not be touched.
3 Physical damage occurs to computer hardware devices.	Software is not corrupted or damaged due to physical damage.
4 Computer viruses do not harm hardware devices.	The software can be corrupted by virus infection.
5 The hardware is the physical part of your computer	The software is everything that runs on top of the hardware
6 Computer hardware devices know Machine language or Binary Language	The software can be designed and developed using various languages like C, C++, PHP, Python, etc.
7 If hardware devices are damaged it is changed or replaced.	If the software is corrupted it is reinstalled with a fresh copy.
8 Outdated software needs to be replaced with a new one.	Outdated software can be updated online as well as offline.
9 Ex: Mouse, Keyboard, Monitor, CPU, Motherboard, Hard Disk Drives, etc.	Ex: MS Office, Tally, Photoshop, PageMaker, CorelDraw, etc.

## Different Types of System Software & Their Uses

1. Translators
2. Device Drivers
3. Utility Programs
4. Operating System

### #1. Translators.

These are those programs that translate codes that are written in high-level or Assembly language into Machine language or that language that is easily understood by the computer.

### #2. Device Drivers.

These programs are used to help better the functionality of hardware devices. Such as *mouse, sound cards, and keyboards*.

### #3. Utility Programs.

Format, Defragmentation, cleaning of hard disk space & installing and removing application programs from the computer.

These utility programs help the user to better communicate and interact with software and hardware.

### #4. Operating System.

This acts as the primary interface between a user and computer hardware.

It presents the user with a GUI stands for *Graphical User Interface* where the user can directly communicate or interact with hardware and software used in computer systems.

The system software manages and controls hardware and user inputs.

They are also used in providing an interface for the development of the application SW.

## Application Software of Computer

*Application Software* is a program that is designed and developed for specific purposes and for a special task that is directly used by the users.

In other words, it can be described as an interface between the user and system software, which helps the user to perform a given specific task.

Common Application software is a word processor and spreadsheets.

Some of the applications SW are bound in together with other application software such as MS-OFFICE SUITE comes with MS Word, Excel, PowerPoint, Access, and Adobe including Adobe Photoshop and Image Ready together.

Pre-Installed Application Software is installed automatically or in other words, we can say that they come as a package includes in a Popular Operating system such as *MICROSOFT* Windows.

For Example:: Paint & Windows Media Player.



## User Written or Customized Software.

They are designed and developed as well as customized as per the requirements of the clients.

Software Developer who uses a high-level language such as Visual Basic (VB) for the Front End and *SQL(Structural Query Language)* server for the development of the application software which fulfills the needs of their clients.

They are developed to perform a special and specific task as the user needs. The developer or the programmer has the privilege to change or update or add or delete the source code of the software at any time when found necessary.

They may be used in Railway Reservation, Payroll, Calculating Salaries of Employees in Huge Organizations, Creating Application for online Examination, Graphics and Animation.

## 10 Software and Hardware Examples

#	Software	Hardware
1	Operating System	CPU [Central Processing Unit]
2	Devices Drives	Motherboard
3	Compilers and Interpreters	RAM [Random Access Memory]
4	MS-Office	Hard Disk Drives
5	Photoshop	Keyboard
6	PageMaker	Mouse
7	CorelDraw	Printers
8	VLC Player	DVD-RW
9	Web Browser	SMPS [ Switching Mode Power Supply ]
10	AutoCAD	Joystick, Camera.

## Software Parts of Computer

1. System Software
2. Application Software
3. Utility Software

## Frequently Asked Questions [FAQs] on Computer Hardware and Software

### What are the 5 Examples of Hardware?

Motherboard  
Random Access Memory  
Hard Disk Drives  
Central Processing Unit [CPU]  
SMPS [Switching Mode Power Supply]

### 3 Types of Software

Application Software  
System Software  
Utility Software

## What are the Software Examples

Word processing.  
Database.  
Spreadsheet.  
Web browsers.  
Multimedia.

## What are the Examples of System Software?

Operating System  
Device Drivers  
Antivirus Software  
Hard Disk Utility Software  
Compiler and Interpreter

## Major Difference Between Hardware & Software

Computer hardware devices are physical in nature whereas software are digital.

## What is the Name of the First Software

Manchester Baby

## Who is Software king in World?

Microsoft Corporation.

## Who Wrote the First Software?

Computer scientist Tom Kilburn

## What is the Heart of the Computer?

Central Processing Unit.

## Spread the Knowledge By Sharing.

For More Information, Please Do Visit.

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