

Hardware and Software

A computer system is made up of a combination of hardware and software.

Hardware:

All of the electronic and mechanical equipment in a computer is called the hardware. Examples include:

- **Motherboard**
- **Hard disk**
- **RAM**
- **Power supply**
- **Processor**
- **Case**
- **Monitor**
- **Keyboard**
- **Mouse**



Software:

The term software is used to describe computer programs that perform a task or tasks on a computer system. Software can be grouped as follows:

- **System software:** These are the programs that control the operation of the computer system. Operating systems and utility programs are the most common. The Operating System starts the computer, provides a user interface, manages the computer memory, manages storage, manages security and provides networking and internet facilities to mention a few of its capabilities. There are many OS's on the market including Microsoft Windows XP, Microsoft Windows Vista, Apple OS X, Unix and Linux. Windows is by far the most commonly used OS in the world, but Linux in particular, is making inroads into this dominance.

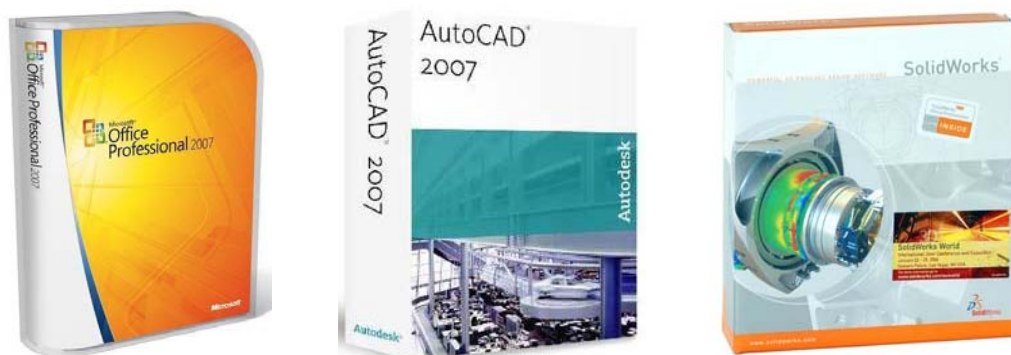


Utility programs perform maintenance tasks on the computer system. This includes file management programs, uninstall programs, disk scanners and defragmenters, backup utilities, antivirus etc. These can be included in the OS or purchased separately.



Device drivers are programs that control particular hardware devices. They are supplied with new hardware and must be run so they the hardware can communicate with the OS. They are supplied with printers, graphics cards, scanners etc.

- **Application Software:** This software is used to do non-system based tasks. Categories include business software, engineering software, medical software, games etc.



- Sometimes, application software packages are grouped together to form **productivity suites**. Examples include Microsoft Office and OpenOffice. These combine word processing, spreadsheet, database and presentation software with a common interface making them easier to learn. The Adobe Creative suite combines Adobe Photoshop, Adobe Illustrator, Adobe InDesign etc. as an all-in-one graphics and web design suite. As well as common interfaces, these suites offer great compatibility between the applications.

PC Components

A **computer system** is a collection of electronic and mechanical devices operating as a unit. These devices can be sorted according to the role they play in the computer system. The main device categories are:

Input devices	These devices are used to get data into the computer system
Processing devices	These manipulate the data using to a set of instructions called a program
Output devices	These are used to get data out of a computer system
Storage devices	The can store the data for use at a later stage
Communications devices	These can send the data to another computer system

The main parts of a computer system are:



1	System Unit	The container for the motherboard, disk drives etc.
2	Monitor	The main output device for the system.
3	Keyboard	The main input device for the system
4	Mouse	An input device allowing interaction with the system using pointing and clicking
5	Speakers	Used to output sounds and music from the system

System Unit Devices and Peripherals

The **system unit** is the main container for system devices. It protects the delicate electronic and mechanical devices from damage. Typical system unit devices include:

- Motherboard
- CPU (Processor)
- Memory
- Disk drives
- Expansion cards - sound card, graphics card, network card etc.
- Ports - USB etc.
- Power supply



Peripherals are devices that connect to the system unit using cables or wireless technologies. Typical peripherals include:

- Monitor
- Keyboard
- Mouse
- Speakers
- Printer
- Plotter
- Scanner



Plotter