

A computer is an electronic machine/device that accepts input (data), processes that input and stores or outputs the resulting information.

Computers today are available in a wide range of shapes, sizes and styles. Industry experts typically classify computers into eight (8) categories:

- Personal computers
- Mobile computers
- Mobile devices
- Game consoles
- Servers
- Mainframes
- Supercomputers
- Embedded computers

Computers are used by individuals and organizations to perform a wide range of tasks. Today it's becoming harder and harder to find an activity that doesn't involve computers and technology. Individuals use them in both their personal and professional lives for tasks such as communicating with family, business associates and friends, bill payments, electronic banking, purchasing goods and services, and entertainment. Organizations use computers for product development, transaction processing, record keeping, securing lives and property and a wide range of other tasks.

ADVANTAGES OF COMPUTER USAGE

The increasing usage of computers in everyday life is largely due to the advantages gained as compared with doing tasks manually. Advantages include:

- Increased **speed** with which the task is done
- Consistency and **accuracy** of the results produced
- Enhanced **storage** capabilities using a wide range of high capacity, low cost storage devices from which information is easily retrieved
- **Reliability** that organisations can depend on

DISADVANTAGES OF COMPUTER USAGE

- It is easier for the security and integrity of data to be compromised. This is because of the digital nature of the data stored and the ease with which data may be transferred from one computer system to the next.
- The initial cost of setting up a computer system with all the required components is high. There are also costs associated with operating a computer system such as electricity, consumables (paper and ink) and any necessary repairs.

COMPONENTS OF A COMPUTER SYSTEM

Definition – a computer system is a complete computer installation including hardware, software, users, procedures and data.

Hardware – the electronic components that make up a computer system, such as the central processing unit (CPU), storage devices, input devices and output devices.

Peripherals – hardware components are sensitive and are prone to failure and so care must be taken when using them. Some hardware components are called peripherals. These include all input, output, storage and communication devices. The CPU motherboard and memory are not peripherals.

Software – the name given to the programs that run on a computer. Software consists of instructions that tell the computer what to do.

User – anyone who interacts with a computer. Users provide the input, decide how the processes work and design the form the output will take. Users include students who use home computers, an author typing a manuscript, an artist creating a graphic design, or a gamer playing *Call of Duty*.

Procedures – managers formulate procedures for data entry, document processing and the general operation and use of computer hardware and software.

Data – are collections of numbers, characters, images or even audiovisual content that are in a form that can be processed by a computer to provide meaningful information.

HARDWARE

Each hardware device, that is a component of a computer system, has a particular function.

Input devices – input devices are specialized peripherals that serve to get data from users and the environment and prepare it for processing or storage.

Most computer systems include a keyboard and a pointing device such as a mouse or touchpad. Additional devices such as scanners, digital cameras and PC cameras (webcams) are useful in document preparation as they facilitate graphical input. Microphones (mic) are used to accept voice-based input, which may be used to control applications. Users can use voice commands via microphones to enter text and to control applications.

Device	Function
Keyboard	To enter commands and textual data into the computer
Mouse	To position a cursor on a computer screen and to manipulate objects
Microphone	To enter sounds into the computer system
Scanner	To convert hard copy documents to digital format
Digital camera	To capture still images and short movies
PC camera (webcam)	To capture images and sounds
Bar code reader	To capture the information contained in a bar code
Optical character reader (OMR, OCR)	To capture handwritten or printed text
Touchscreen	To allow input direct from the screen

Table 1.1 Functions of various input devices

Output

An output device is a specialized hardware component that allows the end user to look at or listen to the results of the processing activities.



Figure 1.4 Printers, speakers and monitors are the most popular output devices found in offices today.