


→ Read the Chapter Know Your Computer (image attached) and Write the New Words in your word meaning copy and definitions also.

**1**

## Know Your Computer

A computer is also called a **computer system**. It can do a variety of jobs for us. Let us find out how it works.



**◆ HOW A COMPUTER WORKS?**

A computer takes data from the user, processes it according to the instruction and then gives back the information as result to us. This means that a computer follows three stages —

IPO (Input → Process → Output).

For example, if we want to add 5, 4 and 2, the following stages will take place.

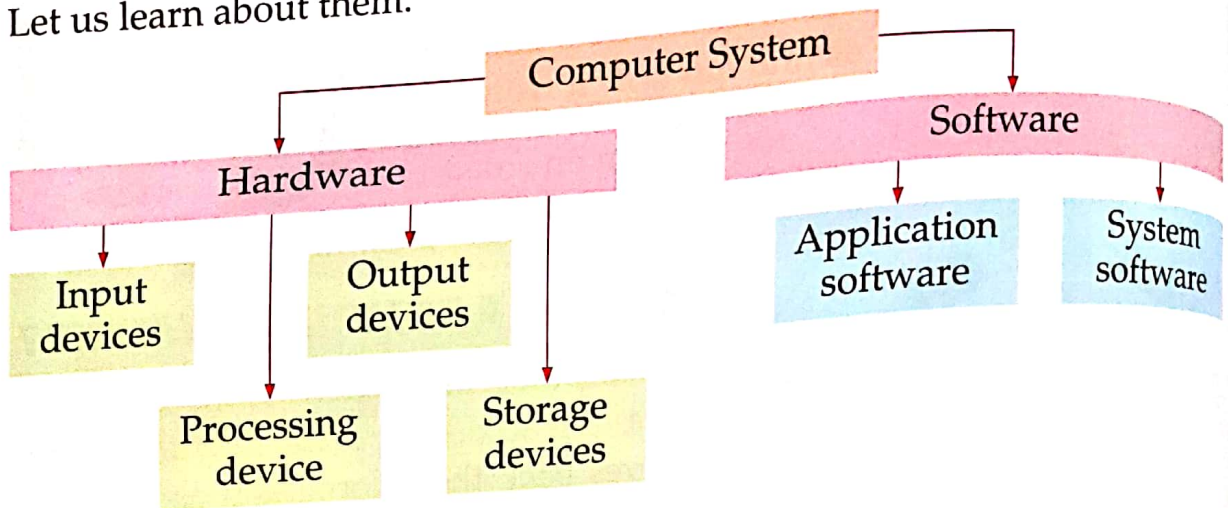
```
graph TD; A["We will feed the numbers and the instruction to add. (5, 4, 2, +)"] --> B["The computer will add the numbers. (5 + 4 + 2)"]; B --> C["The computer will display the result. (11)"]; style A fill:#add8e6,stroke:#000; style B fill:#90ee90,stroke:#000; style C fill:#fff9c4,stroke:#000;
```

**IN THIS CHAPTER**

- ▶ How a computer works?
  - ▶ Hardware
  - ▶ Software

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**Input:** The values, facts and instructions given by us is called the input.  
**Process:** The calculations and comparisons done by CPU is called the processing.  
**Output:** The result given by the computer after processing is called the output.  
A computer follows these three stages using its hardware and software parts.  
Let us learn about them.



## ◆ **HARDWARE**

All the physical parts of a computer which can be seen or touched are called hardware. The hardware parts are further classified into input devices, processing device, output devices and storage devices.

### **Input Devices**

The parts of computer we use to **feed data and instructions** to it are called input devices. Some of the input devices are:

#### **Keyboard**

A keyboard is used to feed data and instructions by pressing its keys. It has many types of keys each having a different role.



### Mouse

A mouse is used to feed data and instructions by clicking its buttons. Nowadays, optical and laser mouse are the most popular. A mouse may be fixed to the CPU box or may be wireless.



### Light Pen

A light pen looks like a real pen. It is used to input by selecting objects and drawing directly on the screen, just as we draw a picture with a normal pen on a paper.



### Joystick

A joystick has a lever that moves in all directions and controls the movement of the pointer on the screen. It has buttons called triggers that are used to click and double-click. It is mostly used while playing games.



### Gamepad

A gamepad is used while playing games. It is held in two hands and thumbs are used to provide input.

### Touchscreen

A touchscreen is a screen which gives input to a computer by touching it on the screen. We use our finger to point directly to objects on the screen and select them. Touchscreens are not only in the computer monitors but nowadays even some mobile phones and ATMs have touchscreen.



*Touchscreen ATM*



*Touchscreen Mobile*

### Touchpad

This has a special surface which can sense the movement of finger. It is used to move the pointer by moving the fingers on the pad. This is mainly found in laptop computers.



Flatbed Scanner



Handheld Scanner

### Scanner

A scanner is used to input directly from a page. It reads text or pictures from the page and displays on the monitor. There are many types of scanner. The most commonly used are Flatbed and Handheld scanners.

### Microphone

A microphone is used to record voice or music into a computer.

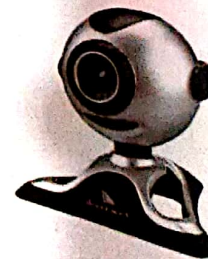


### Digital Camera

A digital camera stores captured photos in a removable memory card which is fixed inside the camera. The images in the card can be transferred as input to the computer.

### Webcam

A webcam captures photos and stores directly on the computer. It is connected to a computer so there is no memory card required. Some laptops have a webcam fixed inside it.



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## Quick Quiz

Complete the names of these input devices.

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T \_ C \_ R \_ N \_

\_ C \_ NN \_ R \_

G \_ M \_ \_ A \_

### Processing Device

The CPU (Central Processing Unit) is the processing device. It is fixed inside the CPU box. It processes and stores the data and instructions given by us. It controls all input devices and output devices.



### Output Devices

The parts of a computer that give the information (result after processing) are called output devices. Some of the output devices are:

#### Monitor

A monitor displays the output (text, pictures or videos) on it. The output we get on the monitor is also called *softcopy*. It is the most common output device. It is also known as VDU (Visual Display Unit).

There are two types of monitors: CRT (Cathode Ray Tube) and LCD (Liquid Crystal Display). CRT monitors are bigger in size whereas LCD monitors are flat and thus take less space.



CRT Monitor



LCD Monitor

#### Printer

A printer gives the output (text and pictures) on a paper. The printed copy is called *hardcopy*. The three main types of printer are:

##### Dot Matrix Printers

- ◆ print only in black
- ◆ make a lot of noise while printing
- ◆ can print only a few pages in a minute



### Inkjet Printers

- ◆ print in color also
- ◆ make very less noise while printing
- ◆ can print many pages in a minute



### Laser Printers

- ◆ print in color also
- ◆ make very less noise while printing
- ◆ can print up to 100 pages in a minute
- ◆ best in quality



### Speakers and Headphones



Speakers



Headphones

Speakers and headphones are used to listen to music and songs as output from the computer. Speakers give out loud sound, while headphones are used by an individual without letting others to get disturbed with the sound.

### Plotter

A plotter also gives the output on a paper. These are generally used to generate high quality large printouts of construction maps, engineering drawings and big posters.



### Quick Quiz

Rewrite the names of these output devices correctly.

1. TREINPR \_\_\_\_\_
2. HNOPDAEHSE \_\_\_\_\_
3. RTLPOTE \_\_\_\_\_

### Storage Devices

The parts of computer we use to store work are called storage devices. They are also called **memory devices**. There are two types of memory devices —

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## Primary Memory Devices

It is the main memory of the computer. It is present inside the CPU box. We cannot access the primary memory. The primary memory devices are:

### RAM

RAM stands for **Random Access Memory**. It stores data temporarily while the computer is working. It is a temporary memory because the data gets erased when the computer is switched OFF.



RAM

### ROM

ROM stands for **Read Only Memory**. It stores the instructions given by the manufacturer to operate the computer. It is a permanent memory.



ROM



A **motherboard** is the main circuit board inside a CPU box that holds the internal parts of a computer, such as CPU, RAM, ROM, Hard disk, etc.



## Secondary Memory Devices

These storage devices store data and information for a longer period of time. Some of the secondary memory devices are:

### CD and DVD

CD stands for **Compact Disc** and DVD stands for **Digital Versatile Disc**. These are portable devices that can store data and information. We can carry our stored work. The storage capacity of a DVD is higher than that of a CD.



CD



DVD

### Pen Drive

A pen drive is small in size like a thumb. We can store work and carry it in our pocket. Pen drive is also called **USB drive**. Its storage capacity is higher than a DVD.



### Memory Card

It is a removable storage device that is usually fixed inside a mobile phone, tablet computer or a digital camera. It comes in different storage capacities that can even be same to that of a pen drive.



### Hard Disk

It stores all the software, data and information. It is fixed inside the CPU box. It has the largest storage capacity. Nowadays, external hard disk are also available in the market.



Hard Disk



External Hard Disk

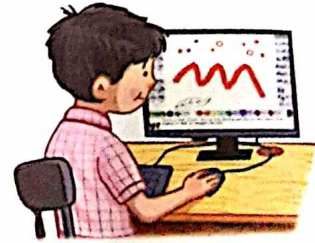


Earlier Floppy disks were used as storage devices. Their capacity was very less.



## ◆ SOFTWARE

While drawing pictures in Paint app, we use a computer mouse to draw and see our picture on the monitor. The mouse and monitor are hardware parts while the Paint app is a software.



A computer is made up of many hardware parts. These hardware need instructions to work. A set of instructions given to a computer to make it work are called **software**.

### Why is Software Needed?

Without software a computer cannot work. It enables the user to interact with a computer, its hardware, or perform tasks. Similarly, any software can be used only when it is stored inside a storage device, i.e. a hardware. Hence, both hardware and software are equally important for a computer.

We install and store many software inside our computer so that we can use them anytime.



## Types of Software

There are two types of software.

### Application Software

An application software is also called an app. This software does a specific type of work. For example, Paint app for drawing, Calculator app for doing sums, Word app for typing, etc.



Paint



Word

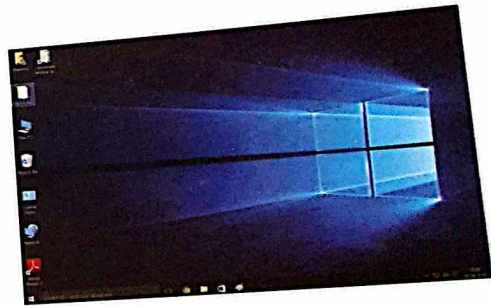


Calculator

We can install an app on our computer according to our requirement.

### System Software

This software controls the overall working of a computer. Operating system is an example of system software. Without an operating system we cannot even start the computer. When we purchase our computer, the operating system software is already installed on our computer. Windows is the most popular operating system.



A software is made up of one or more computer programs.



### Vocabulary

**Access:** make use of something

**Install:** putting software on a computer so that it is ready to execute



## Recap

- ◆ Hardware are the parts of a computer which we can see and touch.
- ◆ Software is a set of instructions given to a computer to make it work.
- ◆ Input devices are the parts of computer we use to feed data and instructions to it.
- ◆ Some of the input devices are keyboard, mouse, scanner, joystick, microphone, digital camera, touchscreen and touchpad.
- ◆ The CPU (Central Processing Unit) is the processing device.
- ◆ Output devices are the parts of a computer that give the information.
- ◆ Some of the output devices are monitor, printer, speakers, headphones and plotter.
- ◆ The parts of computer we use to store work on computer are called storage devices.
- ◆ Some of the storage devices are CD, DVD, Hard disk and Memory card.
- ◆ There are two types of software — system software and application software.



## SCRATCH YOUR BRAIN











A. Tick (✓) the correct answer and fill in the blank.

1. Touchpad is present on a \_\_\_\_\_.  
 desktop                       laptop                       Both of these
2. An application software is also called an \_\_\_\_\_.  
 Tile                               App                               Hardware
3. \_\_\_\_\_ are used to print engineering drawings and big posters.  
 Dot matrix printers       Plotters                       Inkjet printers
4. The \_\_\_\_\_ is the processing device.  
 CPU                               Printer                       Webcam

**B. Write full forms of the following.**

1. LCD \_\_\_\_\_
2. CRT \_\_\_\_\_
3. VDU \_\_\_\_\_
4. CPU \_\_\_\_\_
5. RAM \_\_\_\_\_
6. ROM \_\_\_\_\_

**C. Name the following devices. Also, write whether it is an input or output or storage device. One is done for you.**

 Hard disk Storage				
				

**D. Write T for true or F for false.**

1. Keyboard is an output device.
2. Microphone is used to record the sound in a computer.
3. VDU stands for Visual Digital Unit.
4. The speed of dot matrix printer is higher than a laser printer.
5. Hard disks have the largest storage capacity.

<input type="checkbox"/>
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**E. Answer these questions.**

1. Explain IPO cycle.

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2. Give one example of-

a. Input device \_\_\_\_\_

b. Output device \_\_\_\_\_

3. What are input and output devices used for?

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4. What are secondary storage devices? Give two examples.

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5. Name the three types of printers.

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6. What is an application software? Give an example.

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7. What is the difference between hardware and software?

Hardware

Software

_____	_____
_____	_____

8. Write the use of the following devices-

a. Webcam \_\_\_\_\_

b. Touchscreen \_\_\_\_\_

c. Inkjet printers \_\_\_\_\_

d. Hard disk \_\_\_\_\_

