

# Computer Devices

A computer is an electronic machine made up of various devices that is used to generate meaningful information from raw data.

## Data and Information

Data refers to collection of numbers, characters, symbol etc. in its raw form. Information is the meaningful output which we get after processing the data.

### This chapter includes

- ▶ Input Devices
- ▶ Processing Devices
- ▶ Output Devices
- ▶ Storage Devices

## Basic Functions of Computer

Four basic functions of a computer are:

- Input
- Processing
- Output
- Storage

## Devices of Computer

A computer is made up of four types of devices:

- Input Devices
- Processing Devices
- Output Devices
- Storage Devices

## Input Devices

The devices through which we enter data are called Input Devices. The most commonly used input devices are keyboard and mouse. Let us discuss some of the input devices.

### Keyboard

Keyboard is used to enter data and instruction into the computer by typing. A keyboard can be divided into four parts:



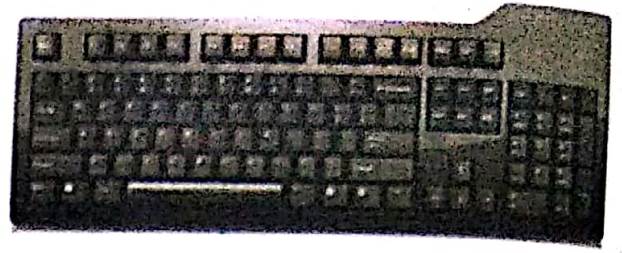


Typing keys—Alphabet keys and Numeric keys

Function keys—F1 to F12 keys

Navigation keys—Arrow keys, Home, End, Page Up and Page Down keys

Control keys—Ctrl, Shift, Alt, Windows and Esc keys



## Mouse

The Mouse is used to control the cursor on the screen. It is also used to draw pictures, select objects and text on the computer.



## Scanner

It is a device that reads text or pictures printed on a paper and translate the information in such a way that a computer can understand. There are three types of scanners: Flat Bed Scanner, Sheet Fed Scanner and Hand Held Scanner.



## Microphone

Microphone is an input device which is used to record voice.



## Joystick

Joystick is an input device used in playing video games. It has a stick which can be moved in all directions and controls the movement of a pointer.



## Light Pen

It allows the user to point to displayed objects or draw on the screen.







## Web Camera

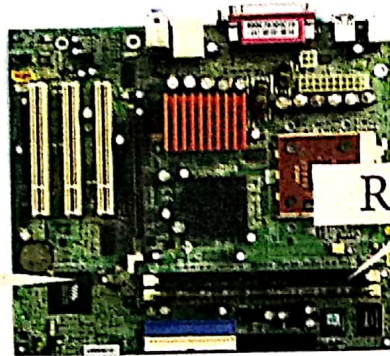
Web Camera is a device that is used to capture still images and videos.



## Processing Devices

Processing devices are the devices that help the computer to process data.

Microprocessor



Ram



CPU is the processing device of a computer.

## Central Processing Unit (CPU)

It is also known as the brain of the computer. This helps the computer to process the data in order to produce valid and desirable output or result.

CPU is divided into three parts:

1. **ALU** - It stands for **Arithmetic Logic unit**. It helps to do all mathematical and logical calculations.
2. **CU** - It stands for **Control Unit**. It manages all the operations of a computer.
3. **MU** - It stands for **Memory Unit**. It stores information temporarily and permanently according to your need.

## Output Devices

Output devices are used to display the result after processing the data.

Let us discuss some output devices:





## Monitor

It is the screen of the computer and looks similar to a television in appearance. It displays the results after processing the data or instruction given by an input device. The output that we get on a monitor is called a soft copy. It is also called VDU (Visual Display Unit).



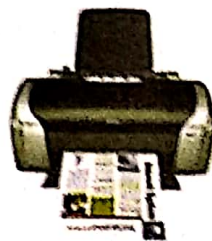
## Printer

As the name suggests printer is used for printing. The output that is printed on a paper using a printer is called a hard copy. There are three types of printers:

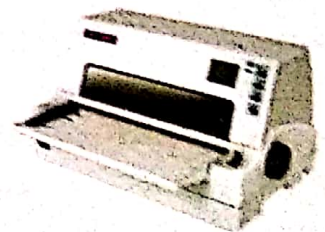
- Laser printer
- Ink-jet printer
- Dot matrix printer



Laser printer



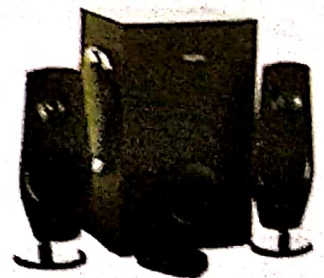
Ink-jet printer



Dot matrix printer

## Speakers

Speakers are used to listen to music and play sound effects from the computer.



## Storage Devices

Devices that help to store data and information are called Storage Devices. Let us learn about storage devices.

## Memory

The storage capacity of a computer is called its memory. It helps the computer to store data and information. There are two types of a computer memory:



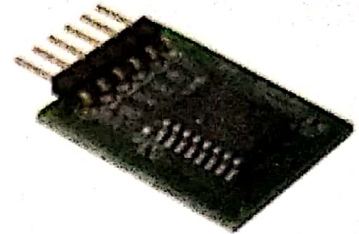


## Primary Memory / Internal Memory

It is the main memory of the computer. It is the main area where data is stored. Primary Memory is of two types: RAM and ROM.



RAM



ROM

**RAM:** It stands for Random Access Memory. It is read and write memory. Data is lost when power is switch off.

**ROM:** It stands for Read Only Memory. It is read only memory. Data can only be read from ROM but cannot be written into it. It is permanent. Data is not lost when power is switch off.

## Secondary Memory / External Memory

The memory where the data is stored on a long term basis is called Secondary Memory. It is used to store data permanently.

Some of the examples of Secondary Memory are: Hard Disk, CD or DVD, Pen Drive, etc.

**Hard Disk:** Hard Disk is generally used to store a large amount of data.



**CD (Compact Disk):** CD is a small, portable disc used to record and store data, text and other information. It stores up to 700 MB of data. It is also used to record and play audio or video files. There are two types of CDs:

1. **CD-ROM:** The data can be written only once but can be read number of times.



**2. CD-RW:** You can read as well as write the data a number of times. It is also called re-writable CD.

**DVD (Digital Versatile Disk):** DVD is similar to CD in shape. It can store more amount of data than a CD. Storing capacity of a DVD varies from 4.7 GB to 17GB.

**Blue ray disc:** It is used for recording and playing of high-definition video (HD), as well as storing large amount of data. It has more than five times the storage capacity of DVD's



CD ROM



DVD



BLUE RAY DISC

**Pen Drive:** It is small portable device that stores large amount of data. It can be plugged into any computer with a USB drive. Now a days pen drives are available with a storage capacity ranging from 2GB to 32 GB. It is easy to use and carry.

## Units of Memory

A computer stores and processes data or information in the form of binary numbers. The smallest unit of data/information is called Bit (Binary Digit). A Bit can have only a single value 0(OFF state) or 1(ON state). A group of 8 bits will make a Byte. Other units of memory are:



1 Nibble	4 Bits
1 Byte	8 Bits
1 Kilo Byte	1024 Bytes
1 Mega Byte	1024 Kb
1 Giga Byte	1024 MB
1 Tera Byte	1024 GB
1 Peta Byte	1024 TB





**Multimedia Cards:** It is small in size and available in various sizes with storage capacity ranging up to 32 GB. It is used as a storage medium for portable devices like mobile, digital camera and music players.



## Beyond the Chapter

Vinod Dham is known as the 'Father of Pentium' for his contribution in the development of the Pentium Processor.



## Terms

**Memory :** Storage capacity of computer.

**CD Drive :** It is a device which is used to read data from CD.

**Compact Disk:** It is a small portable rounded disk used to record and store data.

**Data :** Any information stored by a computer.

## Let's Summarise

- Computer is an electronic device that processes data according to the instructions and give meaningful results.
- Devices through which we enter data are called **input devices**.
- Output devices are used to display the results.
- Processing devices help computer to process the data.
- ALU stands for Arithmetic Logic Unit. It helps to do all mathematical and logical calculation.
- CU stands for Control Unit. It manages all the operation of a computer.
- MU stands for Memory Unit. It stores information.
- Data is raw facts and figures.
- Processed data is information.
- Bit is the smallest unit of Memory



# Exercise

## I Fill in the blanks.

input                      Hard disk                      Microphone                      results

1. The devices through which we enter data called ..... devices.
2. .... is an input device which is used to record voice.
3. Monitor displays the ..... after processing the data or instruction given by an input device.
4. .... is generally used to store a large amount of data.

## II Write T for true and F for false for the following statements.

1. The output that is printed on a paper using a printer is called a hard copy.
2. Processing devices are the devices that help the computer to delete a data.
3. Arithmetic Logical Unit helps to do all mathematical and logical calculations.
4. Memory helps the computer to process data and information.

## III Match the following:

- |               |                                                                        |
|---------------|------------------------------------------------------------------------|
| 1. Speaker    | The storage capacity of a computer                                     |
| 2. Memory     | Devices that help a computer to process the data                       |
| 3. MU         | It is used to listen to music and play sound effects from the computer |
| 4. Processing | Memory Unit                                                            |

## IV Application-Based Question

Sudhir has to perform in his school function. Which device will you suggest him to use for playing music and rehearsing?



**V Project**

Make a collage on the devices of a computer. Collect the pictures from the magazines, newspaper or Internet with the help of your parents.

**VI Group Discussion**

Make two groups in the class and discuss about the Primary and Secondary memory. Share and discuss with your computer teacher.

**VII Answer the following in one word:**

1. The device used to capture still images and video is .....
2. The result that we get on a monitor is .....
3. The memory where the data is stored on long term basis is .....
4. ALU stands for .....

**VIII Write short answers**

1. Name the different parts of a keyboard.

.....  
.....  
.....

2. Define Central Processing unit.

.....  
.....  
.....

3. What do you mean by ROM?

.....  
.....  
.....

4. What is the Secondary Memory? Give examples.