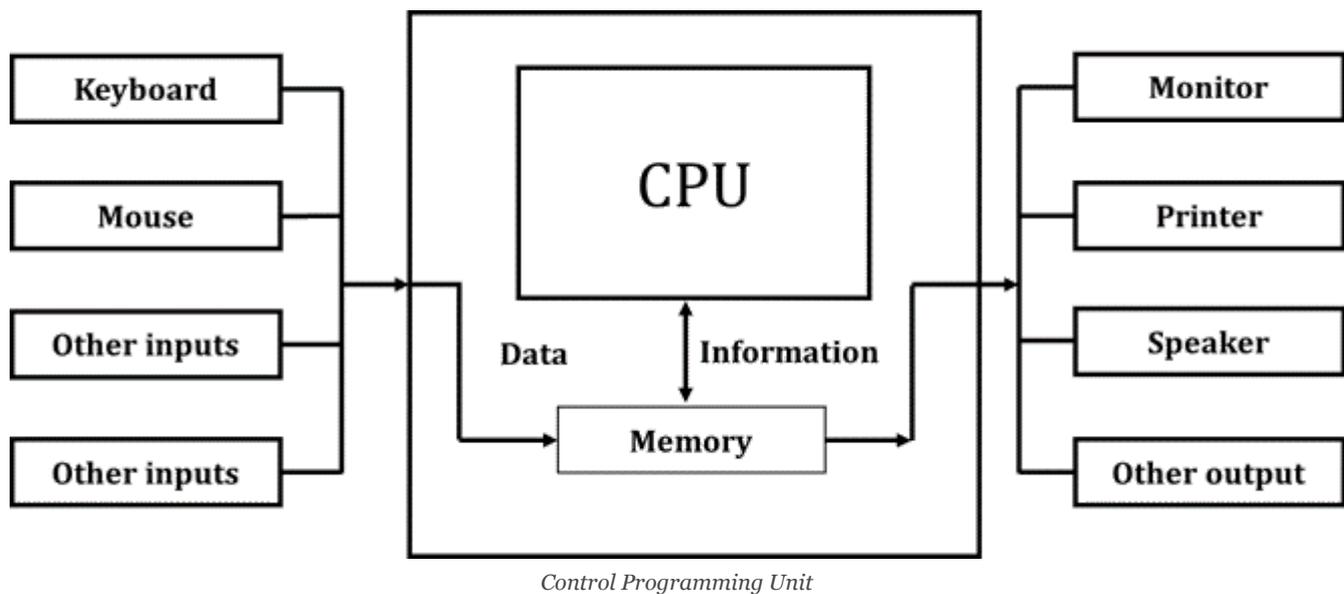


Basics of Computer and Input Devices with Examples for Competitive Exams

A Computer is a General-purpose machine, commonly, accepts (inputs), stores, manipulates, and generates (outputs) data as numbers, text, graphics, voice, video files, or electrical signals, in accordance with instructions called a program.



- **Father of the computer** – Charles Babbage
- **Father of the modern computer** – Alan Turing
- **Basic Architecture of Computer:** John Von Neumann (1947-49) Von Neumann architecture was first published by John von Neumann in 1945. His computer architecture design consists of a Control Unit, Arithmetic and Logic Unit (ALU), Memory Unit, Registers and Inputs/Outputs. This design is still used in most computers produced today.
- **First Programmer:** Lady Ada Lovelae (1880) Augusta Ada King-Noel, Countess of Lovelace was an English Mathematician and writer, chiefly known for her work on Charles Babbage's proposed mechanical general-purpose computer, the Analytical Engine.
- **First Electronic Computer:** ENIAC (1946) – J.P Eckert & J.W. Mauchly at the University of Pennsylvania.
- **First computer for the home user introduced** – IBM in 1981

Father of the computer

- Charles Babbage

Father of the modern computer

- Alan Turing

Basic Architecture of Computer

- John Von Neumann

First Programmer

- Lady Ada Lovelace

First Electronic Computer

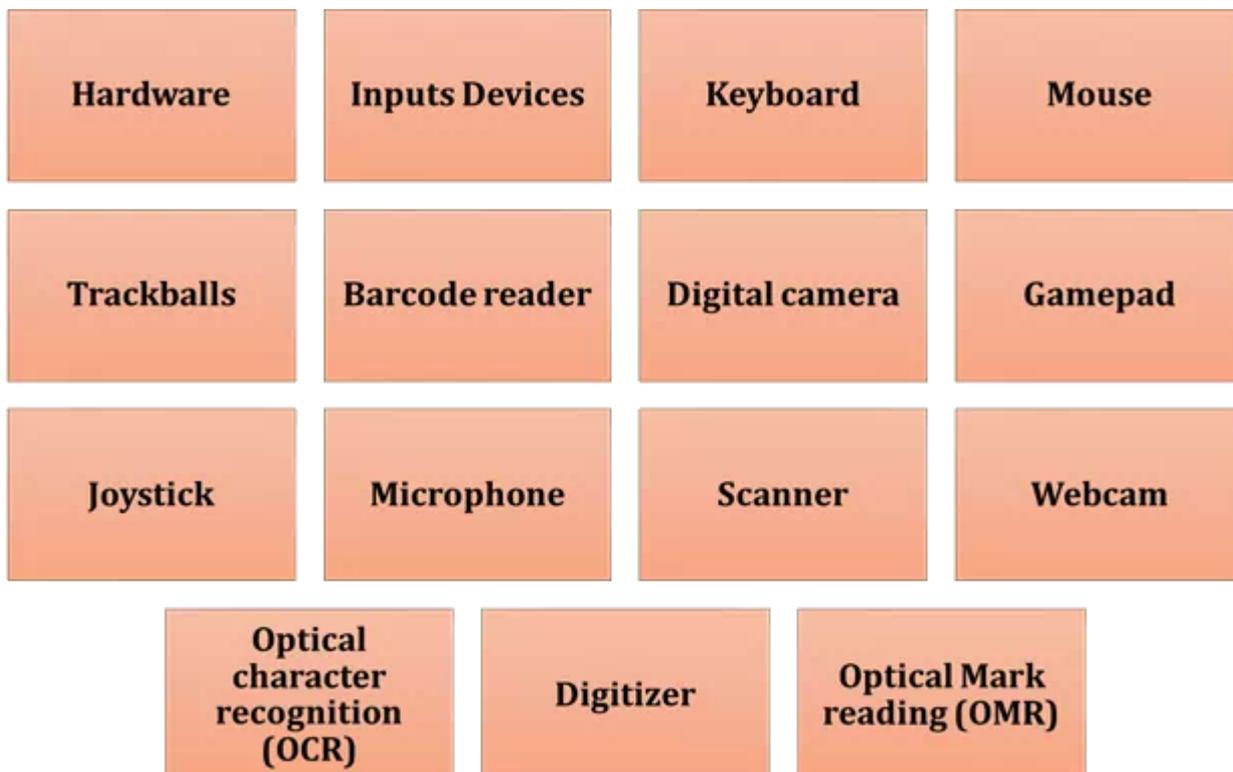
- ENIAC

First computer for the home user introduced

- IBM

Basic Architecture Computer

Parts of Computer



Main Parts of Computer

Hardware – Computer hardware are the physical parts of computer, such as the monitor, keyboard, and mouse. It also includes all the parts inside the parts of computer such as the hard disk drive, motherboard, video card, and many others.

Input Devices - Input device is a part of computer hardware equipment used to provide data and control signals to an information processing system such as a computer or information appliance.

Examples: keyboards, mouse, scanners, digital cameras, and joysticks

- **Keyboard** – A Keyboard is the most fundamental input device for any computer system. It helps to enter data in computer.
- **Mouse** – A mouse is used to input data by sending a signal to the computer, based on hovering the cursor and selecting with the left mouse button. The left mouse acts as a ‘enter’ button. The right mouse button can be selected and will often pop up a window of choices. The scrolling wheel is used to move the view of the screen up or down. By moving your mouse to a location in a document, on a digital photo or over a choice of music, you can click the left mouse button to place the cursor.
- **Trackball** – it is a pointing input device used to enter motion data into computers. It is similar to mouse, but is designed with a movable ball on the top, which can be rolled in any direction.
- **Barcode reader** – a barcode reader or barcode scanner is an electronic device that can read and output printed barcodes to a computer.
- **Digital camera** – a camera that captures photographs in digital memory that can be stored in a computer and displayed on screen.
- **Game pad** – a type of game controller held in two hands, where the fingers are used to provide input. It is a main device for video game.
- **Joystick** – an input device that can be used for controlling the movement of the cursor or a pointer in a computer device. It mainly used in playing games.
- **Microphone** – an instrument for converting sound waves into electrical energy variations, which may then be amplified, transmitted, or recorded.
- **Scanner** – a device that scans documents and converts them into digital data.
- **Webcam** – a video camera connected to a computer, allowing its images to be seen by internet users.
- **Optical character recognition (OCR)** - It is a technology that recognizes text within a digital image. It is commonly used to recognize text in scanned documents.
- **Digitizer** –transformation device used typically analog object, image or a signal into
- **Optical Mark reading (OMR)** – Optical Mark Readers reads pencil or pen marks made in pre-defined positions on paper forms as responses to questions or tick list prompts.

Output Devices

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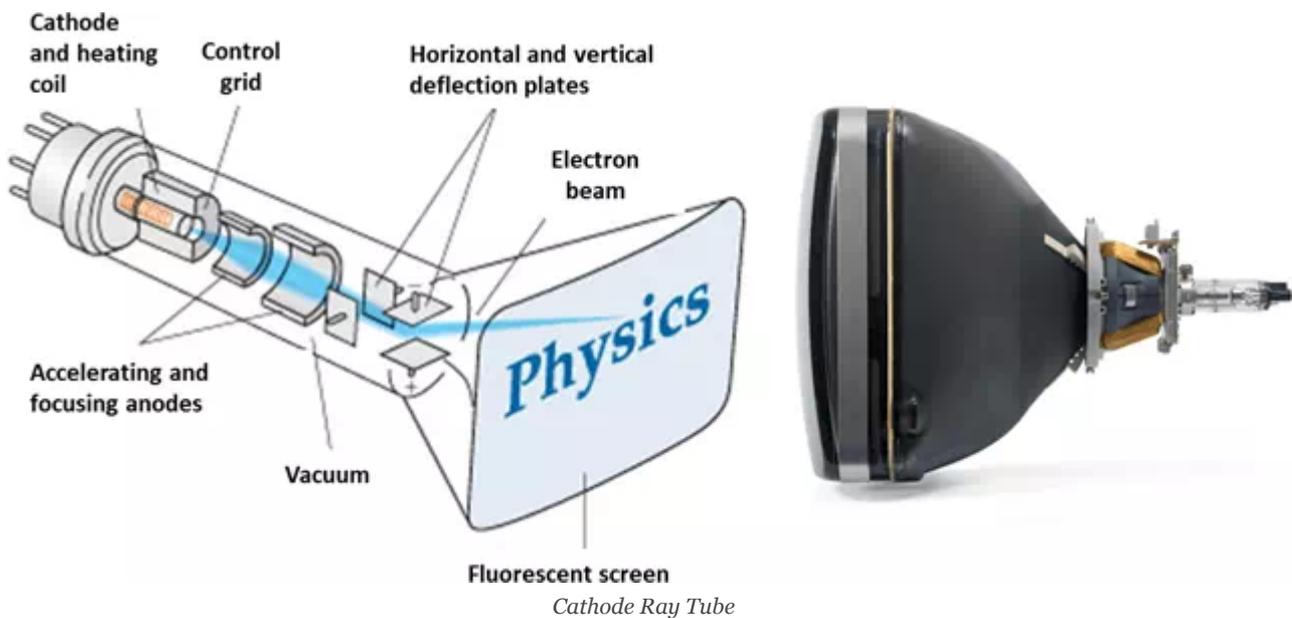
An output device is any device used to send data from a computer to another device or user. Most computer data output that is meant for humans is in the form of audio or video.

Examples – include monitors, projectors, speakers, headphones, and printers.

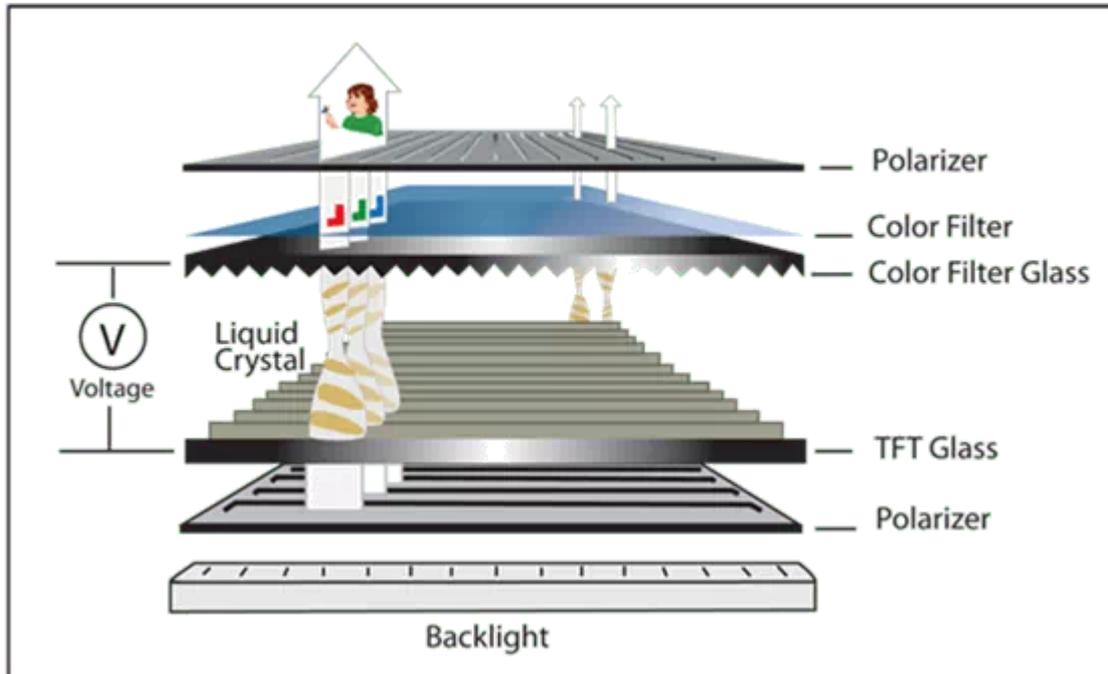
Monitors – A Monitor is a TV-like display attached to the computer on which the outputs can be displayed and viewed. It can be either a monochrome display or a color display.

Types of Monitors

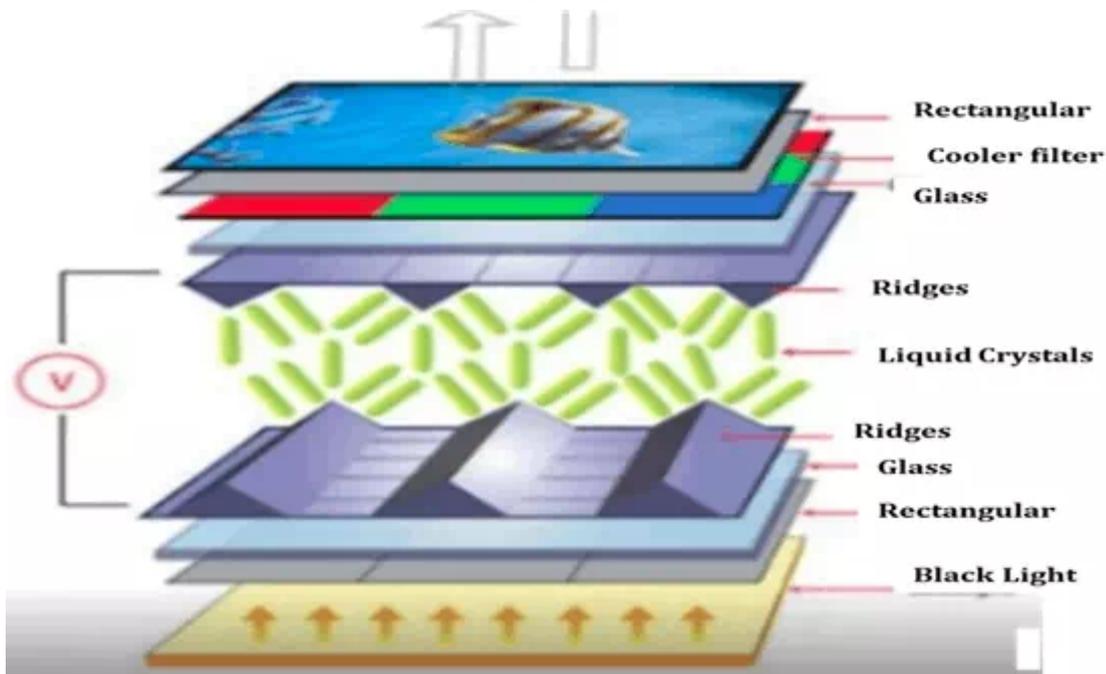
CRT (Cathode Ray Tube) – The cathode ray tube (CTR) is a vacuum tube containing one or more electron guns, and a phosphorescent screen used to view images.



Thin-Film-Transistor Liquid-Crystal Display (TFT LCD) – A thin-film-transistor liquid-crystal display(TFT LCD) is a variant of a liquid-crystal display (LCD) that uses thin-film transistor technology to improve image qualities such as addressability and contrast.



Thin-Film-Transistor Liquid-Crystal Display (TFT LCD)



Thin-Film-Transistor Liquid-Crystal Display

Printer – Printer is an output device for printing text or pictures.

Impact printer

1. It prints characters or images by striking print hammer or wheel against an inked ribbon.
2. Its speed is slower.
3. Its printing quality is lower.

Non-impact Printer

1. It prints characters and images without striking the papers.
2. Its speed is faster.
3. Its printing quality is higher.

4. It normally uses continuous paper sheet.

4. It normally uses individual paper sheet.

5. It generates noise during printing.

5. It does not generate noise during printing.

6. It uses inked ribbon for printing.

6. It uses toner or cartridge for printing.

7. It is less expensive.

7. It is more expensive.

8. Dot matrix or Daisy wheel is an impact printer.

8. Laser printer or inkjet printer is a non-impact printer.

IMACT VS NON-IMPACT PRINTERS

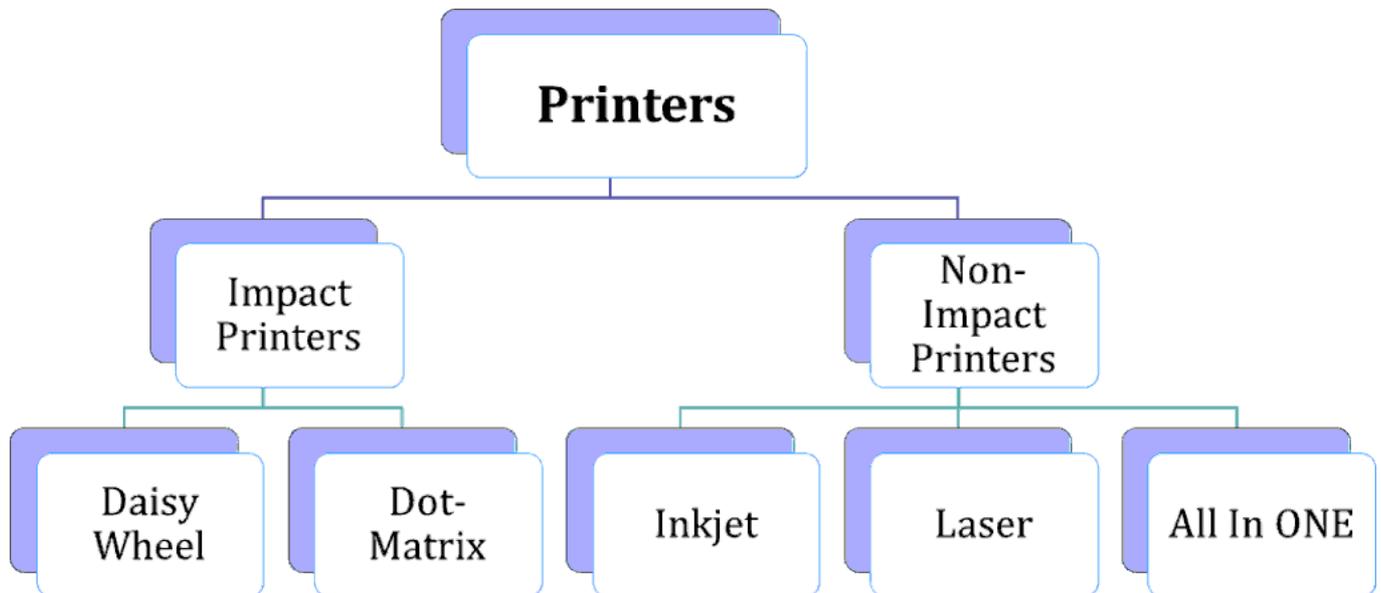


Diagram of Printer

Impact printer – Printer that strikes a print head against an ink ribbon to mark the paper. Oldest printing technology. Common examples include dot matrix and daisy wheel printers.

Dot Matrix

- Dot-matrix printers vary in print resolution and overall quality with either 9 or 24-pin print heads.
- The more pins per inch, the higher the print resolution.

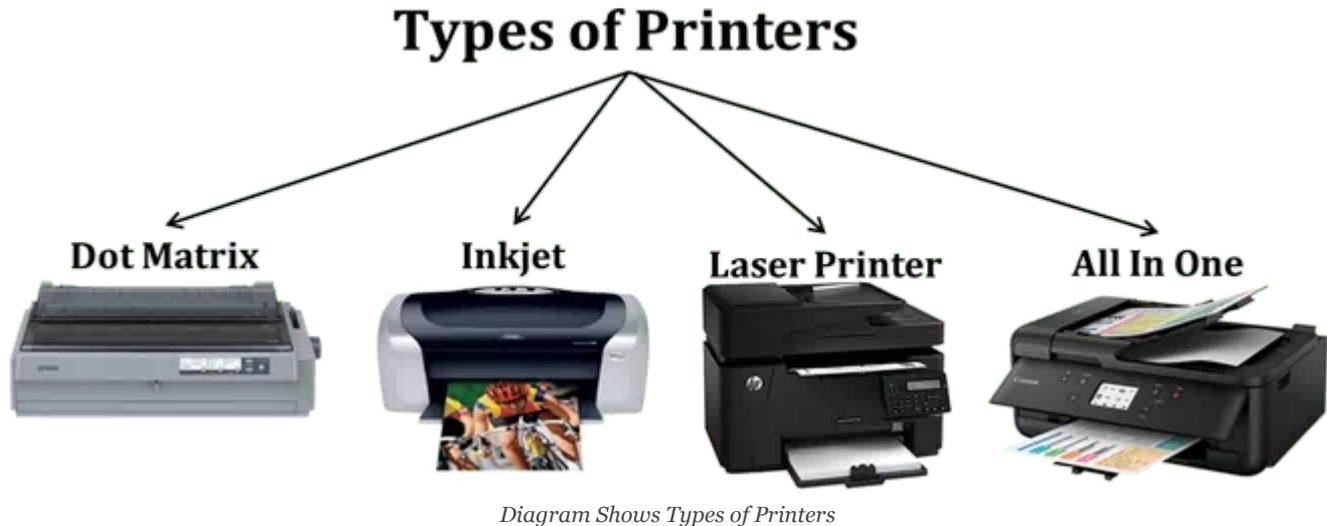
Daisy Wheel

- The printer uses a metal or plastic disk containing each of the letters, numbers, and other characters it supports.

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- They cannot print graphics, and cannot change fonts unless the print wheel is physically replaced.
- With the advent of laser printers, daisy-wheel printers are generally not used in modern computing environments.

Non-Impact printer – Print the characters without using ribbon and are much quieter. Two common types of non-impact printers include inkjet printers, which spray small drops of ink onto each page, and laser printers, use cylindrical drums, which rolls electrically, charged ink onto the paper.



Inkjet Printers

An inkjet printer is a computer peripheral that produces hard copy by spraying ink onto paper.

Laser Printers

- Laser printers use buffers that store an entire page at a time. When a whole page is loaded, it will be printed.
- The speed of laser printers is high and they print quietly without producing much noise.

All in One Printers

An all-in-one printer is a device made up of multiple peripheral functionalities and capabilities, including printing, copying, and scanning.