

Printer

Introduction:

Printer is the most important output device, which is used to print information on paper or.

It is an output device to produce paper copy (hard copy) for a document, pictures etc. The job of a printer is to put on paper what is seen on the monitor. Printers vary mainly in cost, quality, speed and noise levels.

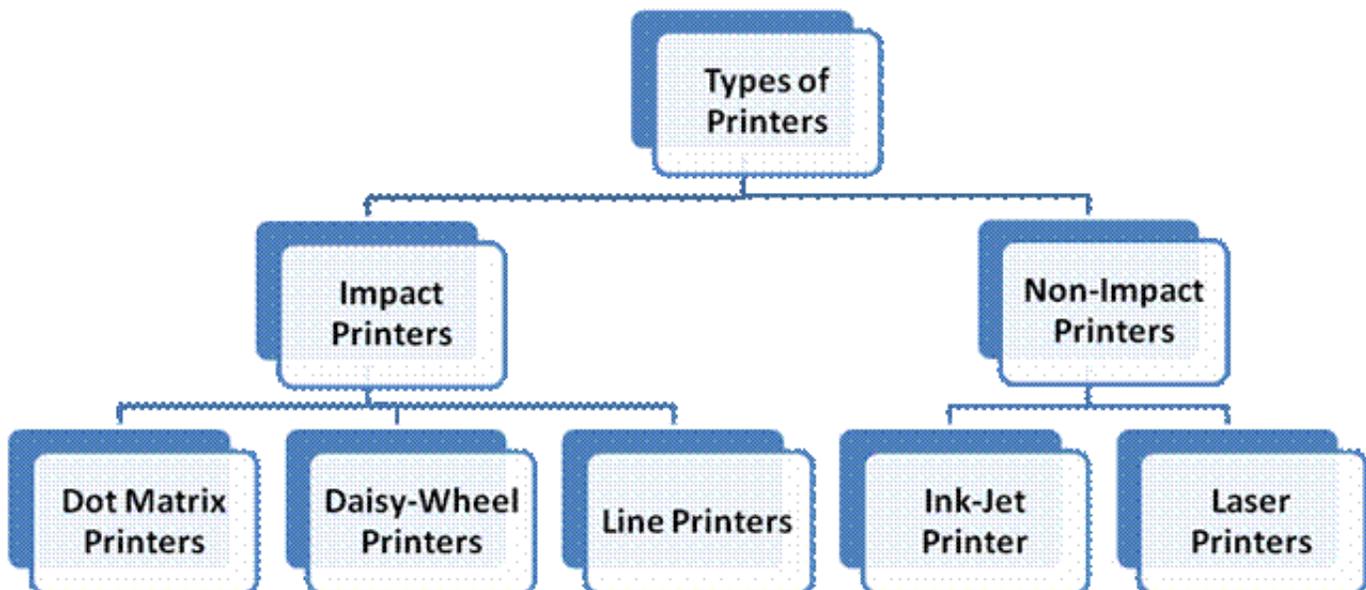


A printer is an electromechanical device which converts the text and graphical documents from electronic form to the physical form. Generally they are the external peripheral devices which are connected with the computers or laptops through a cable or wirelessly to receive input data and print them on the papers. A wide range of printers are available with a variety of features ranging from printing black and white text documents to high quality colored graphic images.

Quality of printers is identified by its features like color quality, speed of printing, resolution etc. Modern printers come with multipurpose functions i.e. they are combination of printer, scanner, photocopier, fax, etc. To serve different needs there are variety of printers available that works on different types of technologies.

Types of printer:

Since the invention of the printing technology, a variety of technologies have been employed in computer printers. Broadly printers are categorized as impact and non impact printers. Impact printers are the type of printers in which a key strikes the paper to make a letter. The most popular printers are described below.



➤ **Impact Printers:** In this hammers or pins strike against a ribbon and paper to print the text. This mechanism is known as electro-mechanical mechanism.

Impact printers are the oldest printing technologies still in active production. Some of the largest printer vendors continue to manufacture, market, and support impact printers, parts, and supplies. Impact printers are most functional in specialized environments where low-cost printing is essential. The three most common forms of impact printers are dot-matrix, daisy-wheel, and line printers.

- **Dot Matrix Printers:** It prints characters as combination of dots. Dot matrix printers are the most popular among serial printers. These have a matrix of pins on the print head of the printer

which form the character. The computer memory sends one character at a time to be printed by the printer. There is a carbon between the pins & the paper. The words get printed on the paper when the pin strikes the carbon. There are generally 24 pins.



- **Daisy-Wheel Printers:** These printers have printheads composed of metallic or plastic wheels cut into petals. Each petal has the form of a letter (in capital and lower-case), number, or punctuation mark on it. When the petal is struck against the printer ribbon, the resulting shape forces ink onto the paper. Daisy-wheel printers are loud and slow. 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.



- **Line Printers:** Another type of impact printer somewhat similar to the daisy-wheel is the line printer. However, instead of a print wheel, line printers have a mechanism that allows multiple characters to be simultaneously printed on the same line. The mechanism may use a large spinning print drum or a looped print chain. As the drum or chain is rotated over the paper's surface, electromechanical hammers behind the paper push the paper (along with a ribbon) onto the surface of the drum or chain, marking the paper with the shape of the character on the drum or chain.

Because of the nature of the print mechanism, line printers are much faster than dot-matrix or daisy-wheel printers. However, they tend to be quite loud, have limited multi-font capability, and often produce lower print quality than more recent printing technologies.

Because line printers are used for their speed, they use special tractor-fed paper with pre-punched holes along each side. This arrangement makes continuous unattended high-speed printing possible, with stops only required when a box of paper runs out.



- **Non-Impact Printers:** These printers use non-impact technology such as ink-jet or laser technology. These printers provide better quality of O/P at higher speed. These printers are of two types:
- **Ink-Jet Printer:** It prints characters by spraying patterns of ink on the paper from a nozzle or jet. It prints from nozzles having very fine holes, from which a specially made ink is pumped out to create various letters and shapes. The ink comes out of the nozzle in a form of vapors. After passing through a reflecting plate, it forms the desired letter/shape at the desired place.



- **Laser Printers:** A type of printer that utilizes a laser beam to produce an image on a drum. The light of the laser alters the electrical charge on the drum wherever it hits. The drum is then rolled through a reservoir of toner, which is picked up by the charged portions of the drum. Finally, the toner is transferred to the paper through a combination of heat and pressure. This is also the way copy machines work.

