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Course Name: O Level (2nd Sem)
Topic: The Printer (Part 1)

Subject: Introduction to ICT Resources
Date: 01-04-2020

THE PRINTER

Introduction:

Printer is an output device that provides information in a permanent readable form. It produces printed output of data. A printer can be divided into two categories:

1. Impact printer
2. Non-impact printer

1. Impact Printers

In these printers, there is a mechanical contact between the print-head and paper. These are further classified into the following categories:

- a) Line printers
- b) Character printers

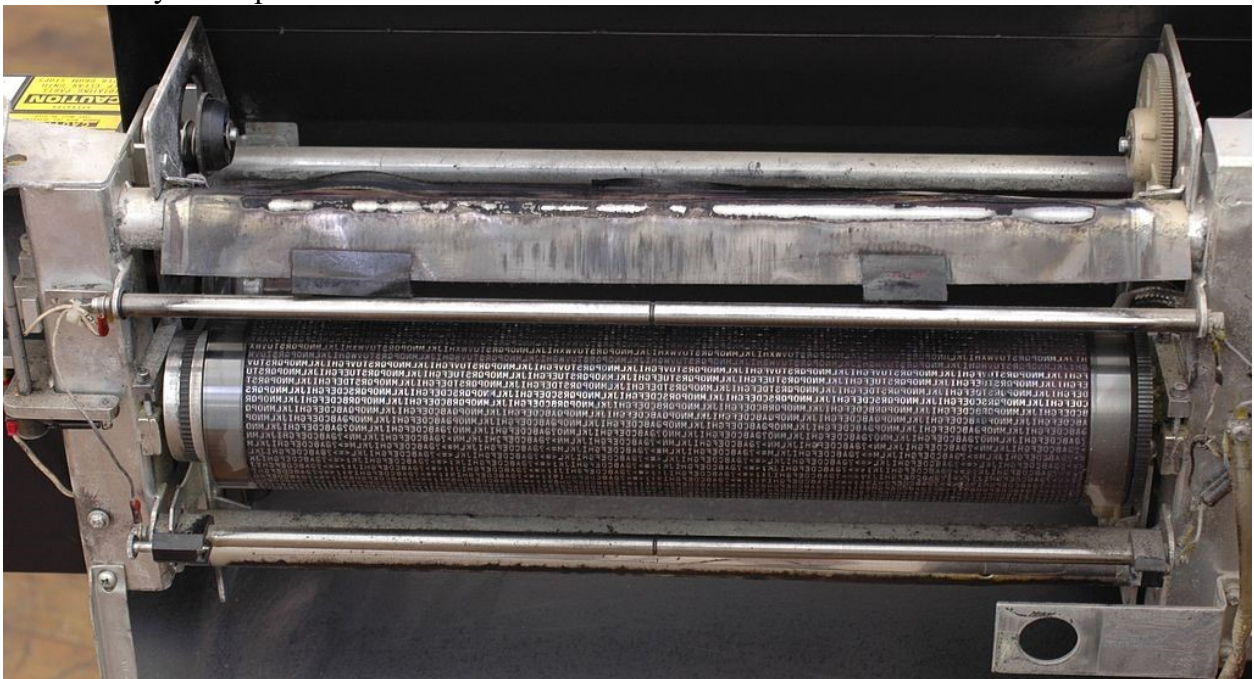
Line printers

A line printer prints one line of text at a time. Printing speeds may vary from 300-3000 lines per minute. Different types of line printers are-

- Drum printer
- Chain printer

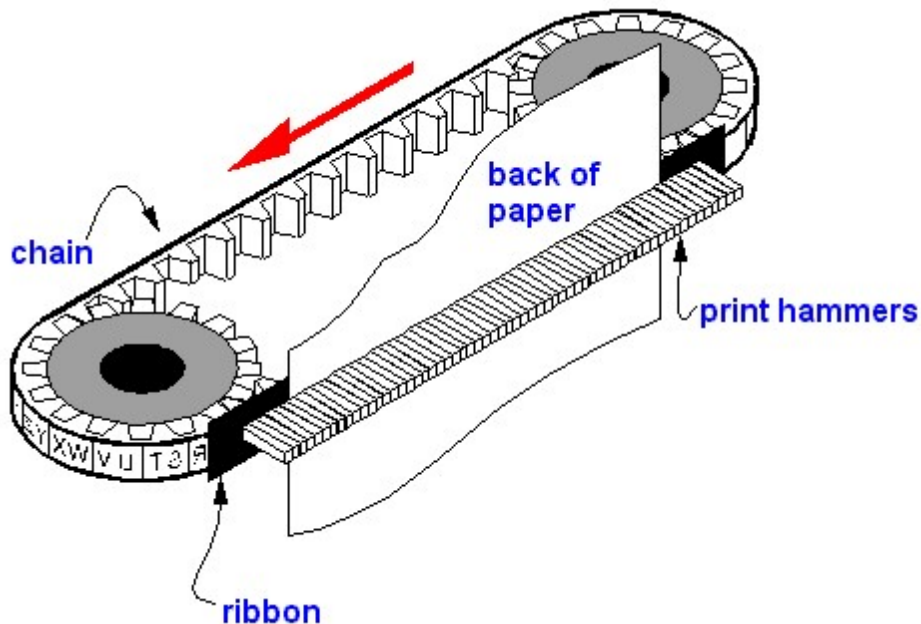
Drum Printer: A drum printer consists of a cylindrical drum on which characters are embossed. One complete set of characters is embossed for each and every print position on a line. The drum is rotated at a high speed. There is a magnetically-driven hammer in each character position of the line. A character is printed by striking a hammer against the embossed character on the surface.

The printer receives all characters to be printed in one line of the text from the processor. The hammers hit the ribbon and paper against the desired character on the drum when it comes in the printing position. Its noise level is high and speed varies from 200 to 2000 lines per minute. They are expensive also.



Chain Printer: A chain printer uses a rapidly rotating chain which is called print chain. Magnetically-driven hammers are located in each print position. To print a line, the characters in the line are transmitted from the memory to the buffer. The band is rotated at a high speed. With the rotation of the band, a hammer is activated when the desired character comes in front of it. Thus, for a printer with 132 characters per line, 132 hammers are positioned to strike the ribbon.

The noise level of the printer is high and its speed lies in the range of 400-2400 lines per minute.



Character printer

A character printer prints one character of text at a time. They are low-speed printers, with speed ranging from 30-600 characters per second. Different types of character printers are

- Dot-matrix printers
- Letter quality printers.

Dot-matrix printer: it is the most popular serial printer. The print-head contains a vertical array of pins and as it moves across the paper, selected pins fire against the ribbon to form a pattern of dots on the paper. The print-head contains a vertical array of 7,9,14,181 or even 24 pins. A dot-matrix printer is faster than a letter quality printer. These printers operate at two or three different speeds. The lower the speed makes the better the printing quality. Higher speed is for draft printing and lower speed is for near-letter quality (NLQ) printing.

They print one line of text from left to right and then the next line from right to left. Dot-matrix printers do not have fixed



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character fonts. They can print special characters and graphics also. There are 80 column and 132 column dot-matrix printers available in the market. Dot-matrix printers are common in accounts department, warehouses and have many administrative purpose, etc.

Letter quality printers: These printers print full characters, which mean that a character is not made up of dots. The most popular printer of this type is **daisy-wheel printer**. In this, the print-head resembles a daisy flower, with its print arms appearing like the petals of the flower. The character to be printed is sent to the printer buffer. The hub is continuously rotating at high speed and a hammer strikes the appropriate character when it is in position. The daisy-wheel printer has a speed up to 90 characters per second. These are no more in use today.



Exercise:

- 1: What is the Printer?
- 2: What is Impact Printer?
- 3: How many type of impact printers ?
- 2: Write short notes on Dot-Matrix Printer?