

# Introduction to Computing (SE-101)

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**Questions from previous lecture?**

# Introducing Computer Systems (Contd.)

Lecture # 3  
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# Printers

Two Categories of Printers:

- Impact
- Nonimpact

# Impact Printer

- Creates an image by using pins or hammers to press an inked ribbon against the paper
- Example: Typewriter
- Most common impact printer is the dot matrix

# Nonimpact Printer

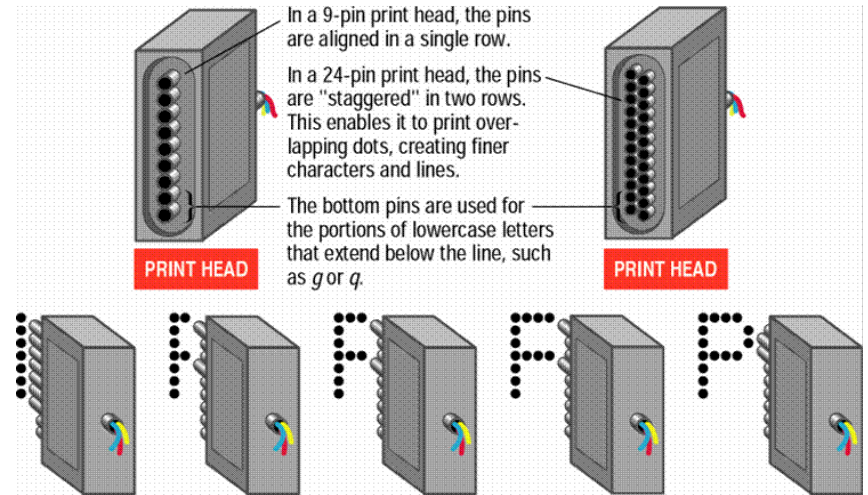
- Uses other means to create an image
- Most common nonimpact printers are ink jet and laser printers

# What to Look for When Buying a Printer

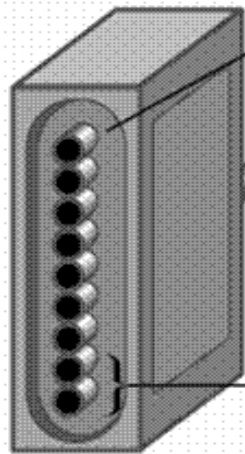
- Image quality (resolution, dpi)
- Speed (ppm)
- Initial cost
- Cost of operation (ink, maintenance)

# Dot Matrix Printer Terms

- Print head
- Resolution depends on the pins
- Speed: characters per second (cps)
- Slowest: 50-70cps
- Fastest: >500cps



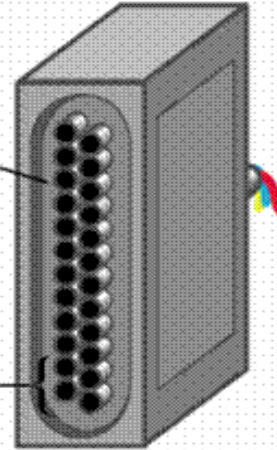
# Dot Matrix Printer



In a 9-pin print head, the pins are aligned in a single row.

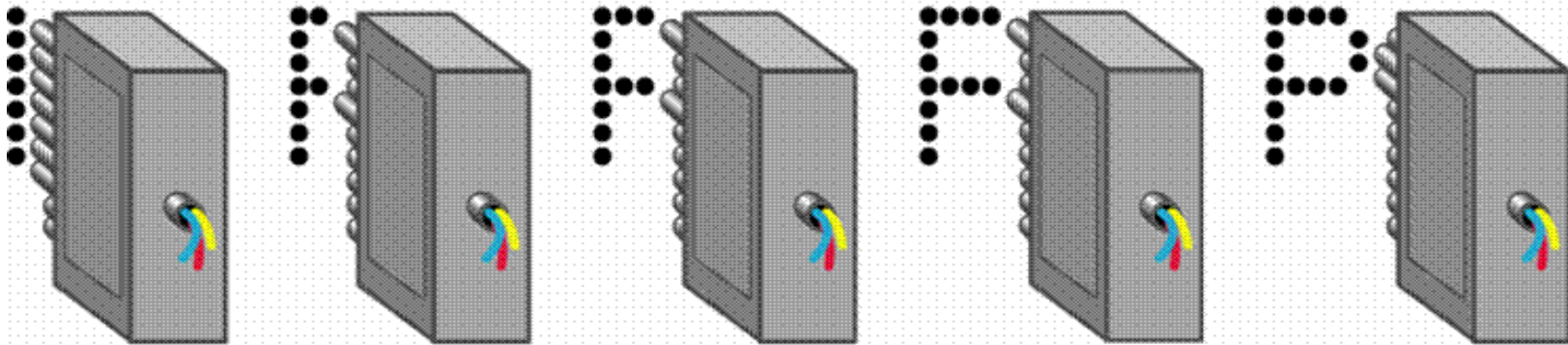
In a 24-pin print head, the pins are "staggered" in two rows. This enables it to print overlapping dots, creating finer characters and lines.

The bottom pins are used for the portions of lowercase letters that extend below the line, such as *g* or *q*.



**PRINT HEAD**

**PRINT HEAD**



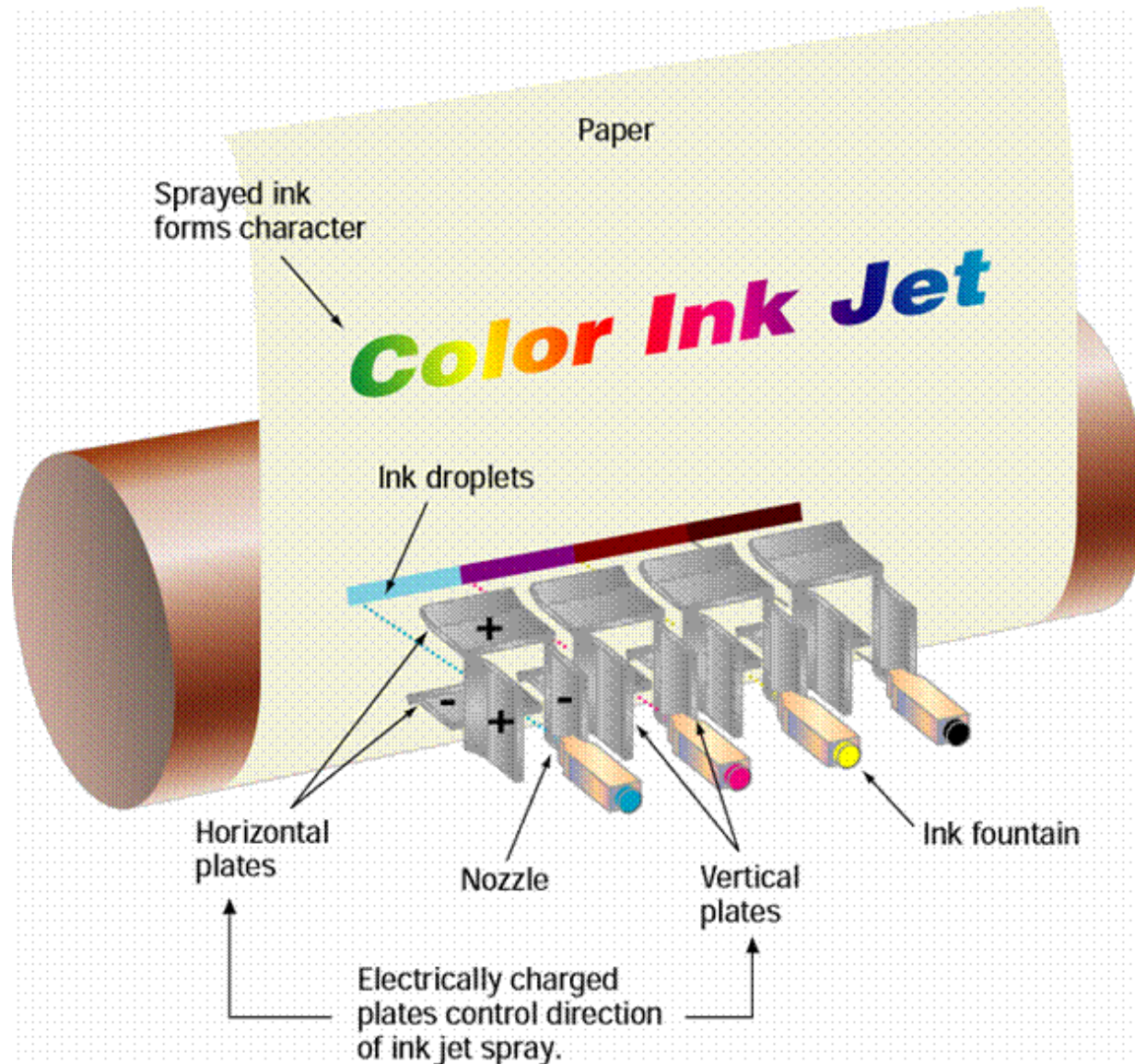
# Other Kinds of Impact Printers

- Line
- Band
- Daisy wheel

# Ink Jet Printer

- Creates an image directly on the paper by spraying ink through tiny nozzles
- Became popular around 1990
- Low operating cost than Laser
- Use ink cartridge
- Color printers use CMYK color process

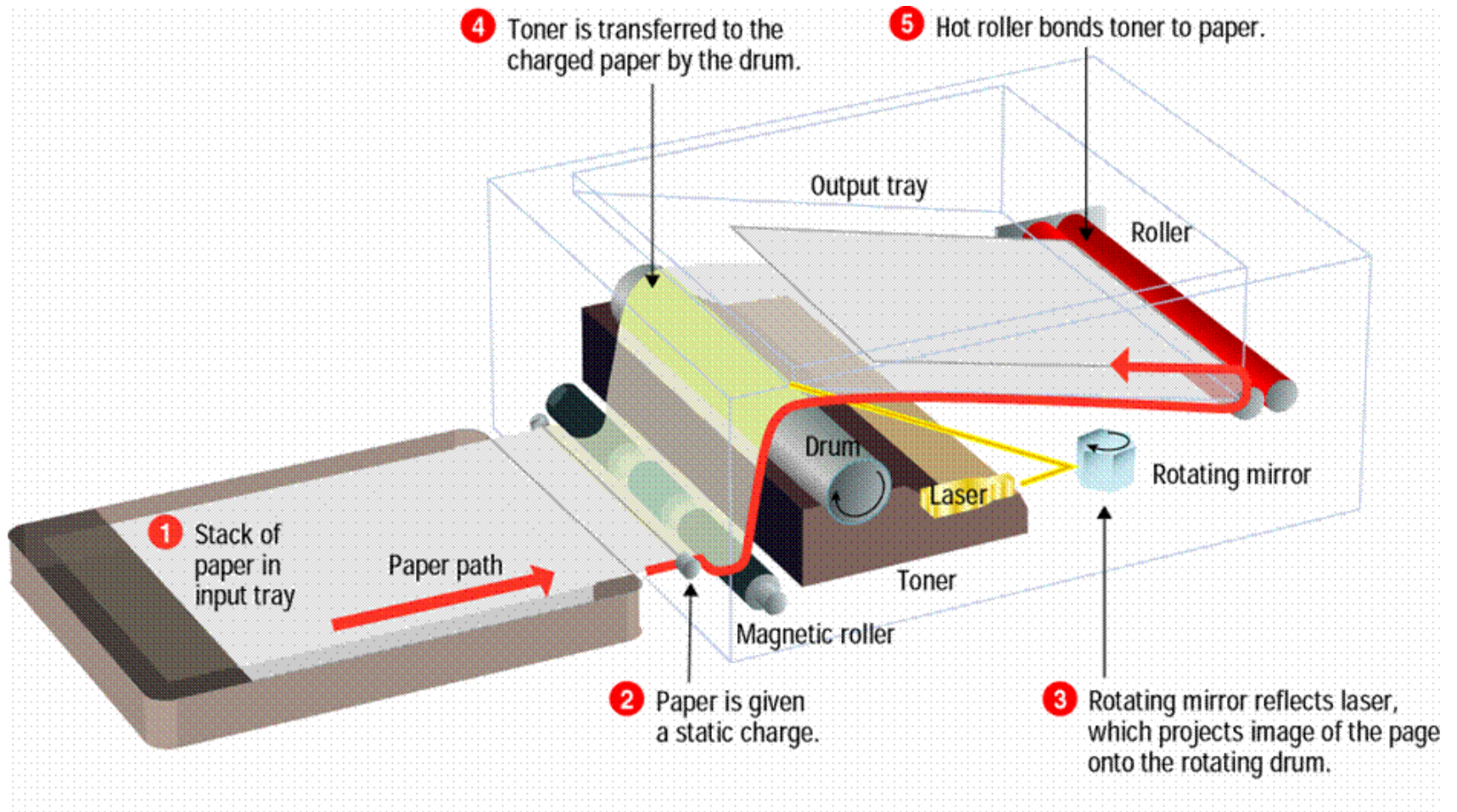
# Inkjet Printer



# Laser Printer

- A laser is at the heart of this printer that uses technology similar to that in photocopiers
- Expensive than ink jet
- High quality & faster
- Have CPU & memory

# Laser Printer



# Other High-Quality Printers

- Thermal-wax
- Dye-sub
- Photo
- Plotter

# All-in-One Peripherals

- Combine printing with:
  - Scanning
  - Photocopying
  - Faxing

Part-II

Data Processing

# Decimal Number System

- Called base 10 because 10 symbols are available

# Binary Number System

- Computers function in base 2, or the binary number system
- There are only two values
- Binary/Decimal

# Bit

- A combination of binary digit
- The smallest possible unit of data a computer can recognize or use

# Byte

- A group of eight bits
- A byte can represent 256 different symbols
- Nibble : half byte

# Text Codes

- EBCDIC
- ASCII
- Extended ASCII
- Unicode

Questions?

If you have any query please feel free to ask

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# Reference

- The slides were taken from the book:
  - “Introduction to computing” by Peter Norton