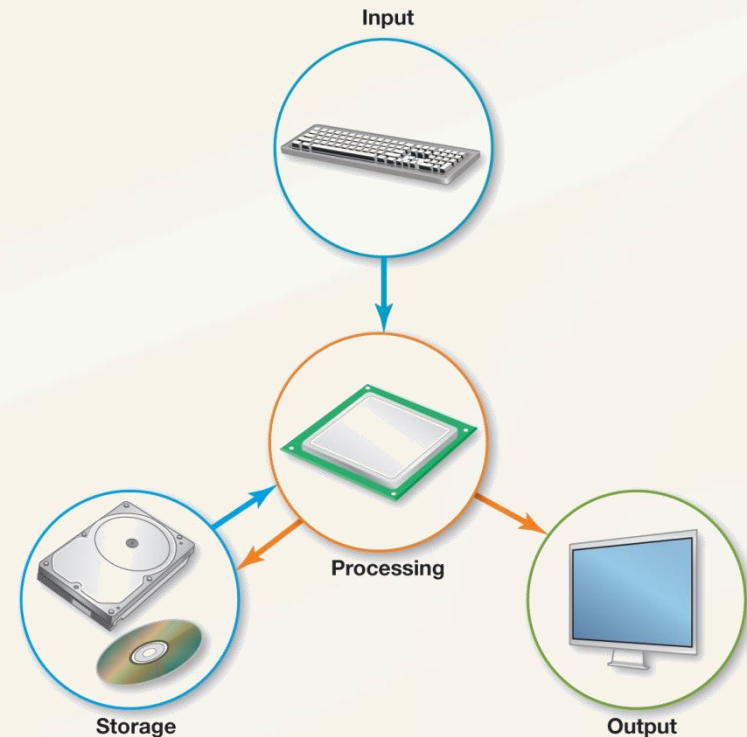


Technology in Action

Jan'abayev Islam

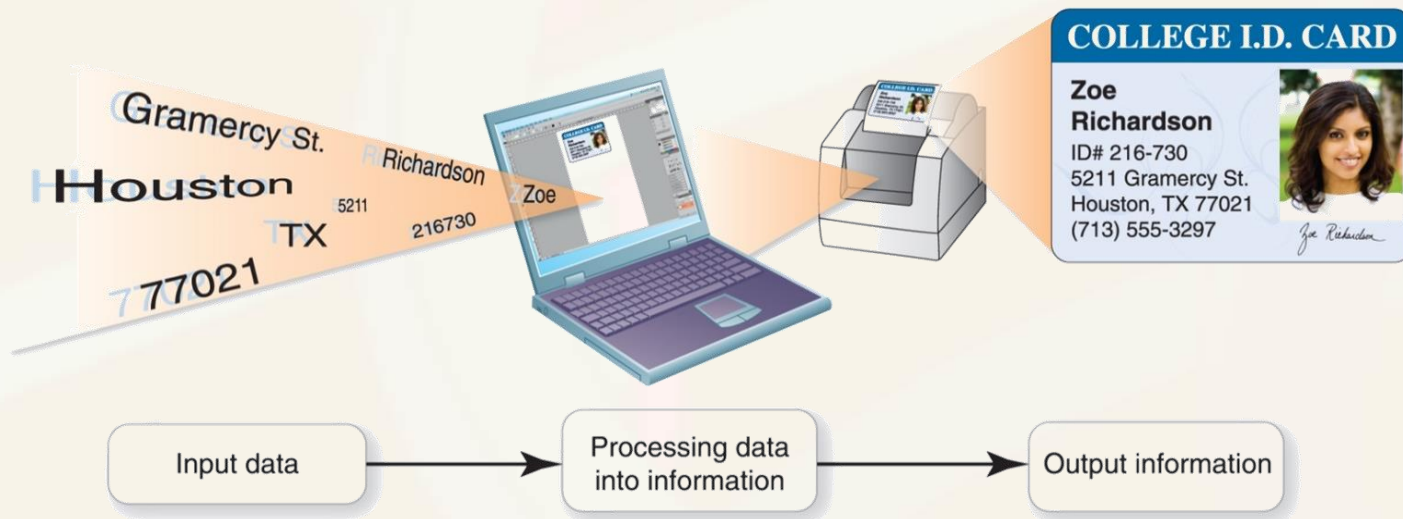
Understanding Your Computer: Computers are Data Processing Devices

- Perform four major functions
 - Input: Gathers data, enter data
 - Process: Manipulates, calculates, or organizes data
 - Output: Displays data and information
 - Storage: Saves data and information



Understanding Your Computer: Computers are Data Processing Devices

- Data
- Information
- Processing



Understanding Your Computer: Bits and Bytes: The Language of Computers

- Bit
 - Binary digit
 - 0 or 1
- Byte
 - Unique combinations of 8 bits of 0s and 1s

Understanding Your Computer:

Bits and Bytes: The Language of Computers

Name	Abbreviation	Number of Bytes
Byte	B	1 byte
Kilobyte	KB	1,024 bytes (2^{10})
Megabyte	MB	1,048,576 bytes (2^{20} bytes)
Gigabyte	GB	1,073,741,824 bytes (2^{30} bytes)
Terabyte	TB	1,099,511,627,776 bytes (2^{40} bytes)
Petabyte	PB	1,125,899,906,842,62 bytes (2^{50} bytes)
Exabyte	EB	1,152,921,504,606,846,976 bytes (2^{60} bytes)
Zettabyte	ZB	1,180,591,620,717,411,303,424 bytes (2^{70} bytes)

Understanding Your Computer: Bits and Bytes: The Language of Computers

- A combination of hardware and software processes data
 - Hardware
 - Software
 - Application software
 - System software
 - Operating system (OS)

Understanding Your Computer:

Types of Computers

- Two basic designs of computers
 - Portable
 - Tablet computers
 - Laptop or notebook computers
 - Netbooks
 - Ultrabooks
 - Tablet (convertible) PCs
 - Stationary
 - Desktop computers
 - All-in-one computers



Output Devices

- Send data out of the computer
 - Text
 - Pictures
 - Sounds
 - Video
- Examples
 - Monitors
 - Printers
 - Speakers and earphones

Output Devices: Monitors

- Liquid crystal display (LCD)
- Light-emitting diode (LED)
- Organic light-emitting diode (OLED)



Output Devices: Monitors

- How LCD monitors work
 - Made up of pixels
 - Two or more sheets of material
 - Liquid crystal solution
 - Crystals block or let light through

Output Devices: Monitors

- Quality of an LCD
 - Aspect ratio
 - Resolution
 - Contrast ratio
 - Viewing angle
 - Brightness
 - Response time

Output Devices: Monitors

- 27-inch monitor
 - 2560 × 1440 pixels
- 21.5-inch monitor
 - 1680 × 1050 pixels
- Blu-ray movies
 - Require at least 1920 × 1080 pixels

Output Devices: Monitors

- Built-in features
 - Speakers
 - Webcams
 - Microphones
 - Multiformat memory card reader
 - USB ports

Output Devices: Monitors

- Projectors
 - Entertainment projectors



Output Devices: Printers

- Inkjet printers
- Laser printers
- Nonimpact printers have replaced impact printers almost entirely

Output Devices: Printers

- Inkjet

- Affordable
- High-quality color
- Quick and quiet



- Laser

- Faster printing speed
- Higher quality printouts
- More expensive

Output Devices: Printers

- Wireless printer
 - No wires
 - Print to same printer from different places
 - Two types
 - WiFi
 - Bluetooth
 - Print from portable devices

Output Devices: Printers

- All-in-one printer
 - Printer, scanner, copier, and fax
- Plotter
 - Prints oversize images
- Thermal printer



Output Devices: Printers

- Selecting a printer
 - Primary printing need first
 - Speed (pages per minute)
 - Resolution (dots per inch)
 - Color output
 - Cost of consumables

Sound Output

- Speaker
 - Output device for sound
 - Surround-sound speakers
 - Wireless speaker systems
- Headphones or earbuds