

# B.Sc. III

## Types of Computers

---

Mr. D.M.Panhalkar  
Assistant Professor & Head  
Department of Electronics  
Vivekanand College, Kolhapur  
(Autonomous)

# Types of Computers & Computer Hardware

Computer Technology

# Basic Terminology

---

- Computer

- A device that accepts input, processes data, stores data, and produces output, all according to a series of stored instructions.

- Hardware

- Includes the electronic and mechanical devices that process the data; refers to the computer as well as peripheral devices.

- Software

- A computer program that tells the computer how to perform particular tasks.

- Network

- Two or more computers and other devices that are connected, for the purpose of sharing data and programs.

- Peripheral devices

- Used to expand the computer's input, output and storage capabilities.

# Computer Performance and Processing

---

- Boot Process
  - Bootstrapping is the process of starting up a computer from a halted or powered-down condition.
- Data
  - Refers to the symbols that represent facts, objects, or ideas.
- Information
  - Processed, stored, or transmitted data.
- Output
  - Consists of the processing results produced by a computer.
- Input
  - Information that is created or collected and fed into the system.

# Types of Computers

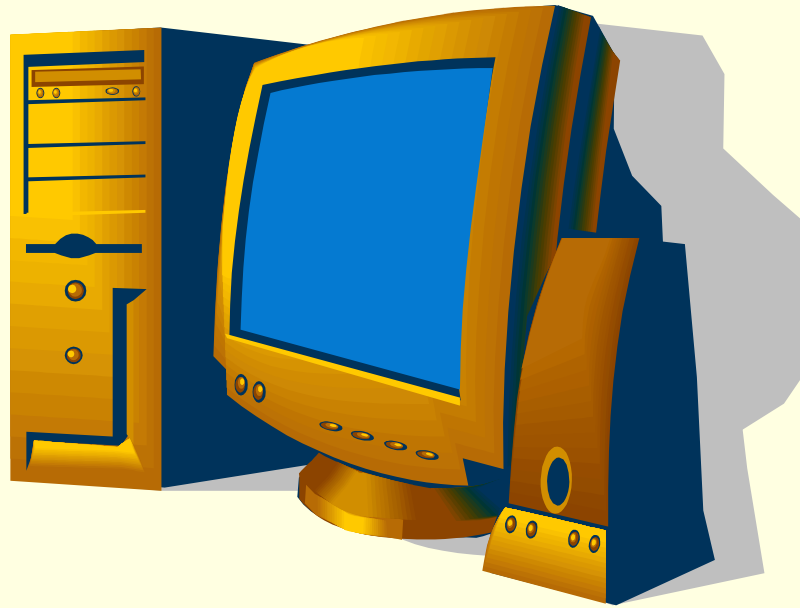
---

- Microcomputer
- A personal computer; designed to meet the computer needs of an individual.
- Provides access to a wide variety of computing applications, such as word processing, photo editing, e-mail, and internet.



# Desktop Microcomputer

---



- A microcomputer that fits on a desk and runs on power from an electrical wall outlet.
- The CPU can be housed in either a vertical or a horizontal case.
- Has separate components (keyboard, mouse, etc.) that are each plugged into the computer.

# Laptop Computer

---



- A portable, compact computer that can run on an electrical wall outlet or a battery unit.
- All components (keyboard, mouse, etc.) are in one compact unit.
- Usually more expensive than a comparable desktop.
- Sometimes called a Notebook.

# Workstation

---

- Powerful desktop computer designed for specialized tasks.
- Can tackle tasks that require a lot of processing speed.
- Can also be an ordinary personal computer attached to a LAN (local area network).



# Supercomputer

---

- A computer that was the fastest in the world at the time it was constructed.
- Can tackle tasks that would not be practical for other computers.
  - Typical uses
    - Breaking codes
    - Modeling weather systems

# Mainframe

---

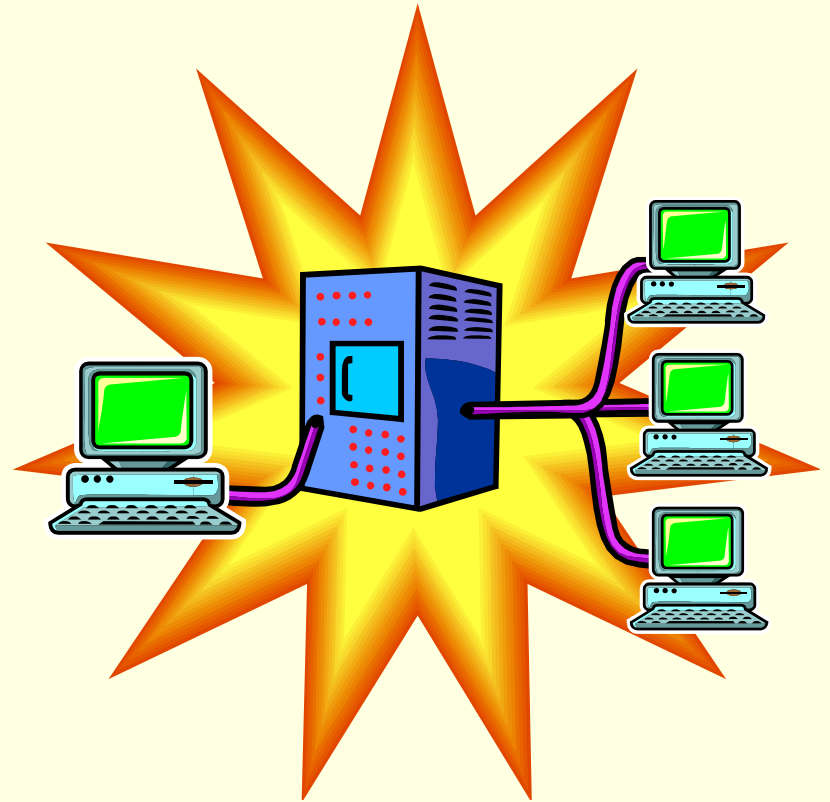


- Large expensive computer capable of simultaneously processing data for hundreds or thousands of users.
- Used to store, manage, and process large amounts of data that need to be reliable, secure, and centralized.
- Usually housed in a closet sized cabinet.

# Server

---

- Purpose is to “serve.”
- A computer that has the purpose of supplying its users with data; usually through the use of a LAN (local area network).



# Handheld

---



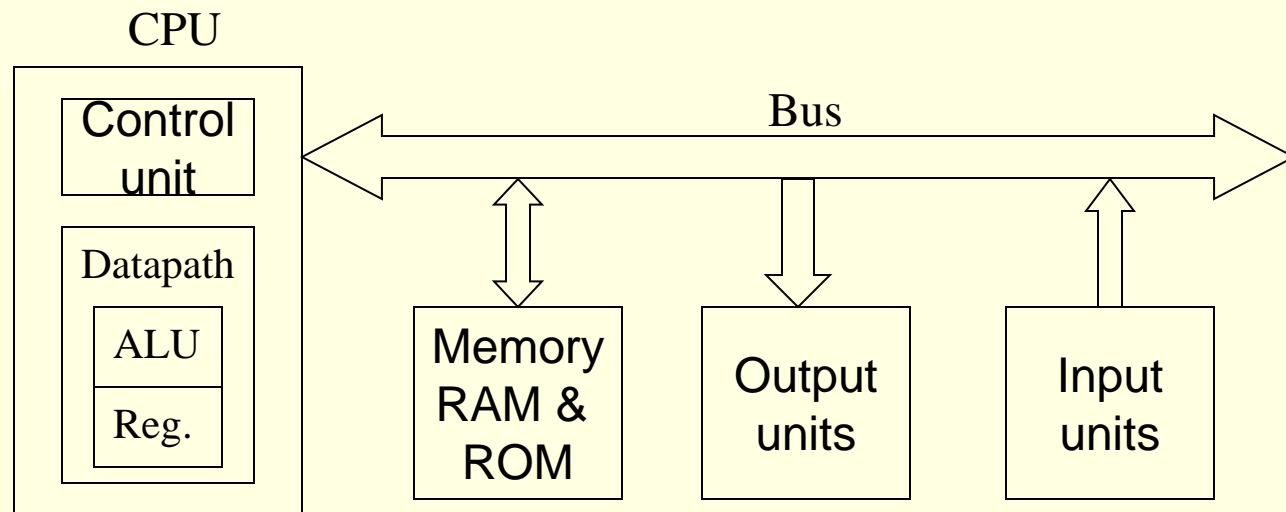
- Also called a PDA (Personal Digital Assistant).
- A computer that fits into a pocket, runs on batteries, and is used while holding the unit in your hand.
- Typically used as an appointment book, address book, calculator, and notepad.
- Can be synchronized with a personal microcomputer as a backup.

# Computer Components Hardware



**FIGURE 1-7**  
Typical computer hardware.

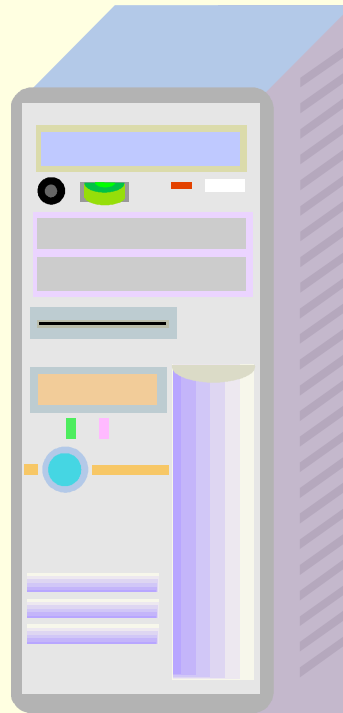
# BLOCK DIAGAM OF MICROCOMPUTER



# System unit

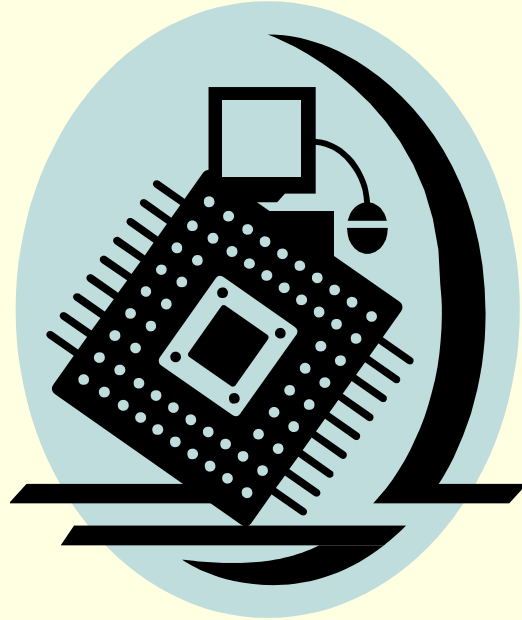
---

- Case that holds the power supply, storage devices, and the circuit boards (including the motherboard).



# CPU (Central Processing Unit)

---



- Where the processing in a computer takes place, often called the brain of the computer.



# Input Devices

---

- Units that gather information and transform that information into a series of electronic signals for the computer, usually it is binary form.

# Keyboard

---

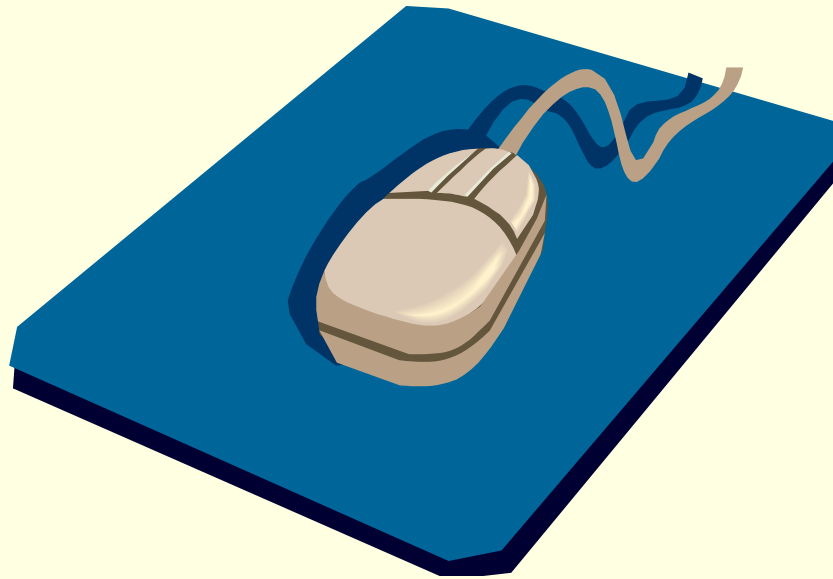


- An arrangement of letters, numbers, and special function keys that act as the primary input device to the computer.

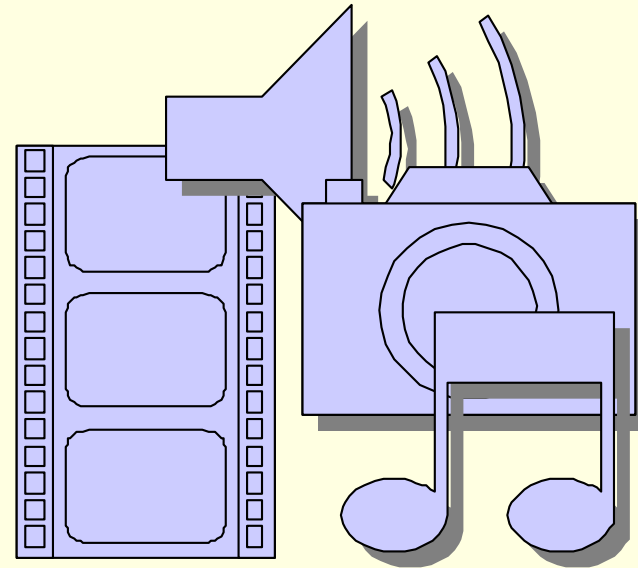
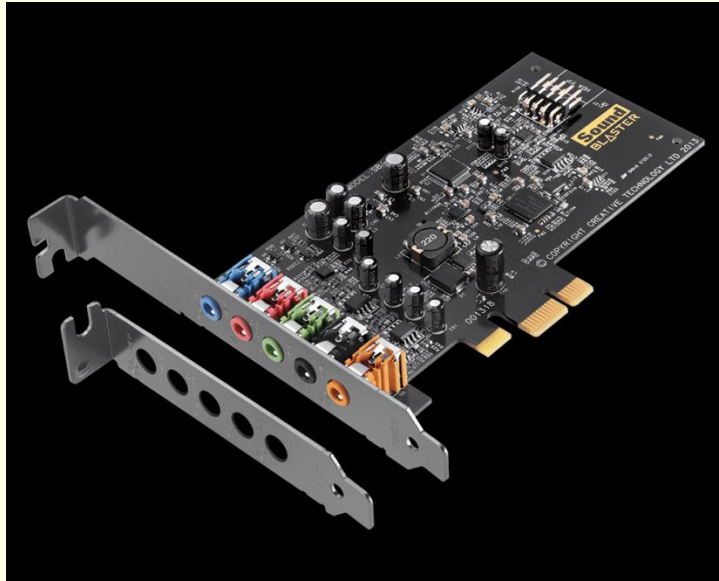
# Mouse

---

- An input device that allows the user to manipulate objects on the screen by moving the device along the surface of a desk.



# Sound Card

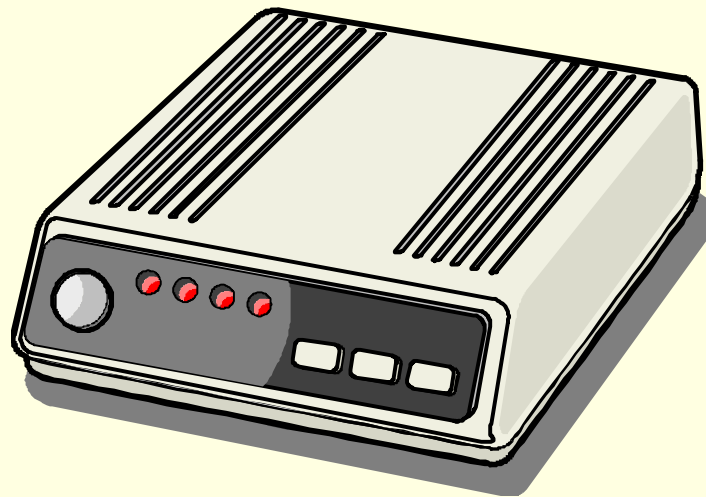


- A circuit board that gives the computer the ability to accept audio input, play sound files, and produce audio output through speakers or headphones.

# Modem

---

- A device that sends and receives data to and from computers over telephone lines.

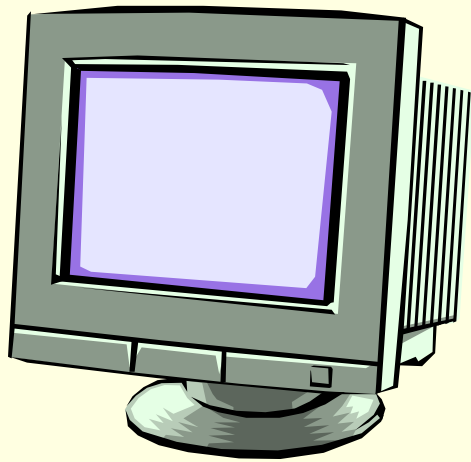


# Output Devices

---

- Devices that display, print, or transmit the results of processing from the computer's memory.

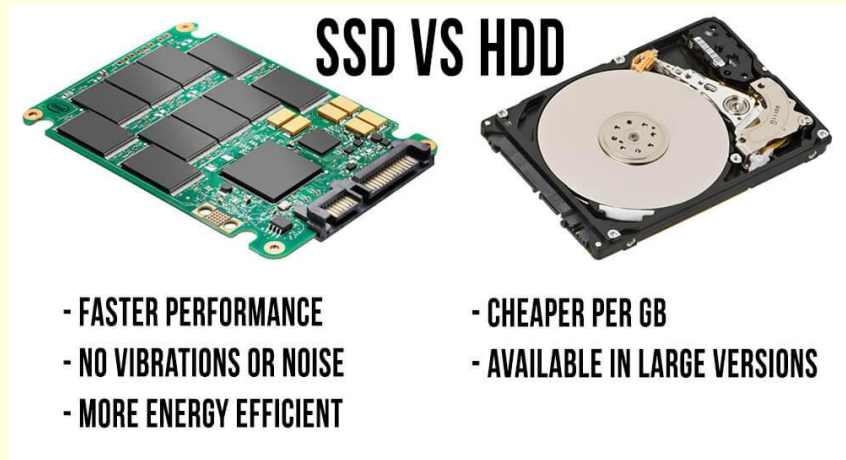
# Monitor



- Display device that forms an image by converting electrical signals from the computer into points of colored light on the screen.
  - Resolution
    - The density of the grid used to display or print text and graphics; the greater the horizontal and vertical density, the higher the resolution.
  - Pixels
    - The smallest unit in a graphic image; computer display devices use a matrix of pixels to display text and graphics.

# Storage Devices(Memory)

- Used to keep data when the power to the computer is turned off.
- Different forms
  - SSD
  - Hard disk
  - CD-Writer
  - PEN DRIVES





# Printer

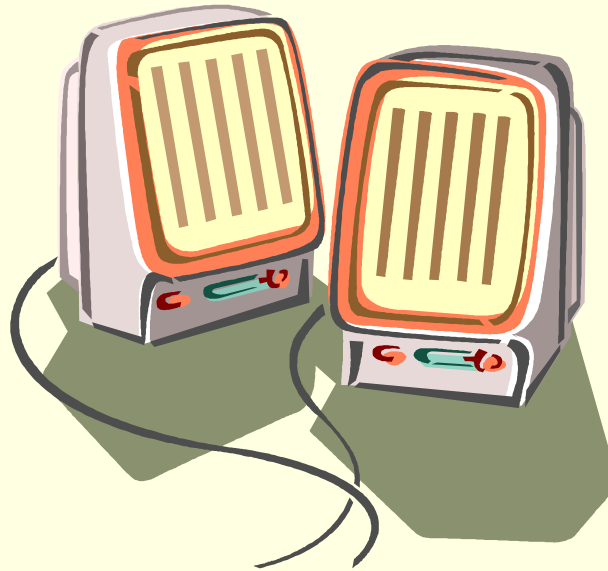
---

- Output device that produces text or graphical images on paper.



# Speakers

---



- Output devices that receive signals from the computer's sound card to play music, narration, or sound effects.

---

■ **Thank you**