UNIT - 1

TYPES OF COMPUTER SYSTEMS

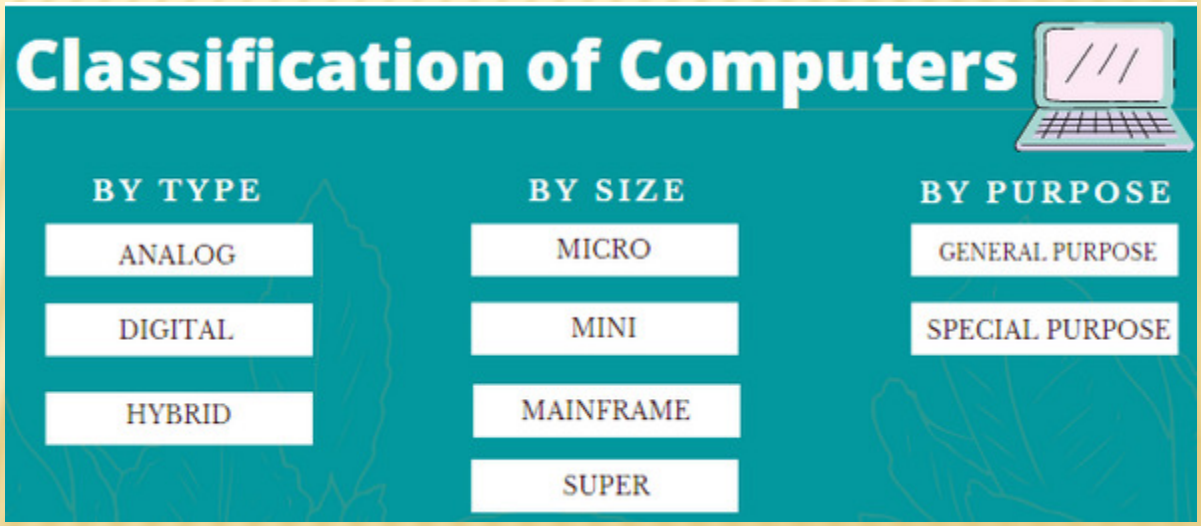
Dr. Saurabh Pal
Associate Professor & Head
Department of Computer Applications
Veer Bahadur Singh Purvanchal University, Jaunpur

OBJECTIVES

- Various types of Computer
- Types of computer according to size and capacity
- Types of computer according to technology
- Types of computer according to purpose

TYPES OF COMPUTER SYSTEM

- There are three major categories based on which computers can be classified. These are:
  - Based on Size and capacity
  - Based on Technology
  - Based on Purpose



TYPES OF COMPUTER BASED ON SIZE AND CAPACITY

- Micro Computer
- Desktop Computer
- Laptop Computer
- Workstation
- Super Computer
- Mainframe Computer
- Server
- Handheld Computer

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

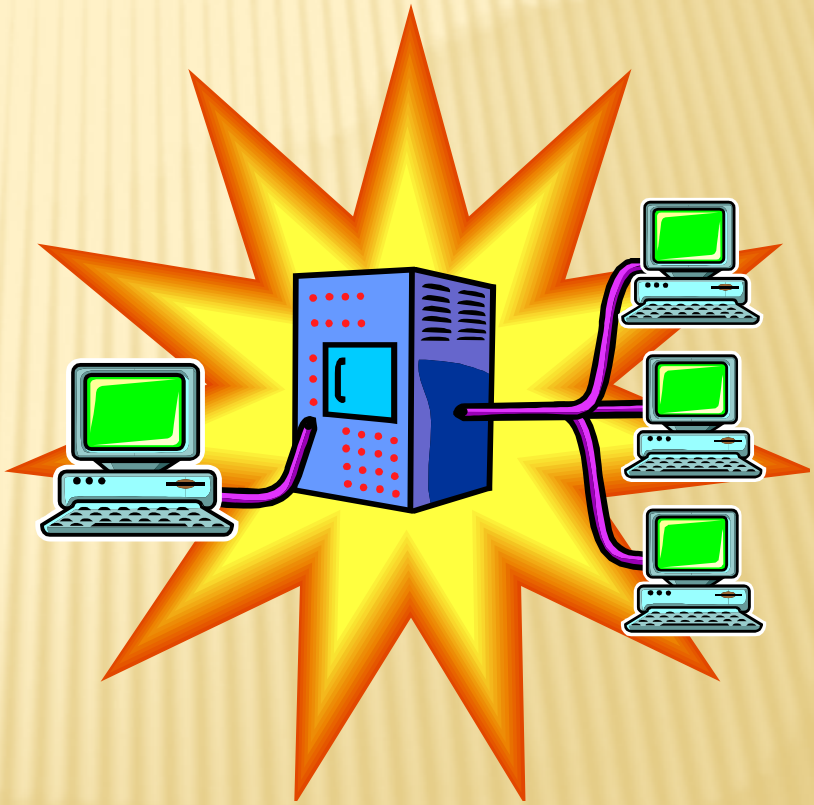
- A computer that was the fastest in the world at the time it was constructed.
- Can tackle tasks that would not be practical for other computers.
  - Typical uses
    - Breaking codes
    - Modeling weather systems

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.

TYPES OF COMPUTER BASED ON TECHNOLOGY

- Analog Computer
- Digital Computer
- Hybrid Computer

ANALOG COMPUTER

- Analog Computer – An analog computer one that uses the continuously changeable aspects of physical phenomena to model the problem being solved. These phenomena may be such as electrical, mechanical, or hydraulic quantities and they are extremely complex to be used. Such computers are mostly used for scientific and industrial applications. Examples of Analog computers include Thermometer, Operational Amplifiers, Electric Integrators, etc.

DIGITAL COMPUTER

- Digital Computer – Such computers are capable of solving problems in discrete format. It only operates on data entered in binary language and can perform the dynamic function of managing large amounts of data and regulating the operations of the machine, Examples of Digital computers are Desktop, Laptop, Mobile Phones, etc.

HYBRID COMPUTER

- Hybrid Computer – Computers that exhibit features of both Analog and Digital computers are called Hybrid Computers. The logical operations are solved by the digital aspects and the differential equations are solved using the analog features. Few important examples of Hybrid Computers include Space Flights, Food processing Plants, etc.

TYPES OF COMPUTER BASED ON PURPOSE

- Special Purpose
- General Purpose

SPECIAL PURPOSE COMPUTER

- Special Purpose – When a computer is designed specifically to perform a certain function, such type of computers are known as Special Purpose computer. These types may include:
  - Thermometers to test temperature
  - Generators to manage electricity
  - Devices used for analysing Climate Change
  - Large computers for IT Companies
  - Machines used at Manufacturing Units and the list goes on and on

GENERAL PURPOSE COMPUTER

- General Purpose – Based on General Purpose, there are these following functions which a device is expected to perform:
  - Basic Input/Output functions
  - Calculations
  - Data Saving on a smaller scale
  - General performing activities