**Types of Computers**

**By mechanism**

1. Analog
2. Digital
3. Hybrid

**By purpose / Use**

1. General
2. Special

**By size**

1. Mini Computers
2. Micro Computers
3. Mainframe Computers
4. Super Computers

**By size**

**1. Mini Computers**

**Features:**

- **Size**: Smaller than mainframes but larger than microcomputers.

- **Processing Power**: Moderate, suitable for medium-sized businesses.

- **Usage**: Multi-user environments, scientific and engineering computations, business applications.

- **Cost**: More affordable than mainframes but more expensive than microcomputers.

**Examples:**

- IBM System/36

- DEC PDP-11

**2. Micro Computers**

**Features:**

- **Size**: Smallest among the categories; includes personal computers (PCs), desktops, laptops, tablets, and smartphones.

- **Processing Power**: Varies widely, from basic processing (in smartphones) to powerful performance (in high-end desktops).

- **Usage**: Personal use, office applications, gaming, internet browsing, multimedia.

- **Cost**: Generally, the most affordable type of computer.

**Examples:**

- Desktops (e.g., Dell Inspiron)

- Laptops (e.g., MacBook Pro)

- Tablets (e.g., iPad)

- Smartphones (e.g., Samsung Galaxy)

**3. Mainframe Computers**

**Features:**

- **Size:** Large, typically occupying entire rooms or dedicated spaces.

- **Processing Power:** Extremely high, capable of processing millions of transactions per second.

- **Usage:** Large organizations, such as banks, airlines, and government institutions, for bulk data processing, large-scale transaction processing.

- **Cost**: Very expensive, both in terms of initial investment and maintenance.

**Examples:**

- IBM Z Series

- Unisys ClearPath

**4. Super Computers**

**Features:**

- **Size**: Very large, often consisting of multiple interconnected units.

- **Processing Power**: The highest, designed for extremely complex computations and simulations.

- **Usage**: Scientific research, weather forecasting, nuclear simulations, complex data modelling.

- **Cost**: Extremely expensive, both to purchase and to maintain, requiring specialized facilities.

**Examples:**

- param

- IBM Summit

**Summary**

- **Mini Computers**: Mid-range processing power for medium-sized enterprises.

- **Micro Computers**: Widely used, ranging from basic to high-performance personal computing.

- **Mainframe Computers**: High processing power for large-scale business operations.

- **Super Computers**: Maximum processing power for advanced scientific and research applications.

**The basic components of a computer system!**

A computer system is made up of several key components that work together to perform various tasks. These components can be broadly categorized into two groups: **hardware** and **software**.

**1. Hardware Components**

**Hardware** refers to the physical parts of a computer that you can touch and see. Here are the main hardware components:

**- Central Processing Unit (CPU):** Often referred to as the "brain" of the computer, the CPU performs all the calculations and tasks that the computer needs to do. It processes instructions from software and performs arithmetic and logic operations.

**- Memory:** This is where data is temporarily stored while being used or processed by the CPU. The most common type of memory is **Random Access Memory (RAM),** which is volatile, meaning it loses its contents when the computer is turned off. Another type is **Read-Only Memory (ROM)**, which is non-volatile and retains its data even when the computer is powered down.

**- Storage:** This refers to devices that store data permanently. The most common types are **Hard Disk Drives (HDDs)** and **Solid-State Drives (SSDs).** Storage is where all your files, programs, and the operating system are kept.

**- Input Devices:** These are devices used to input data into a computer. Common examples include keyboards, mice, scanners, and microphones.

**- Output Devices:** These are devices that output data from a computer. Examples include monitors, printers, and speakers.

**- Motherboard:** This is the main circuit board of a computer. It connects all the hardware components together, allowing them to communicate with each other.

**- Power Supply Unit (PSU):** This component provides the necessary electrical power to all the components of the computer.

**2. Software Components**

**Software** is a set of instructions or programs that tell the hardware what to do. It can be divided into two main types:

**- System Software:** This includes the operating system (OS) and other fundamental programs that manage the hardware and provide a platform for running application software. Examples of operating systems include Windows, macOS, Linux, and Android.

**- Application Software:** These are programs designed to perform specific tasks for the user. Examples include word processors, web browsers, games, and database management systems.

**3. Other Essential Components**

- **Network Interface:** This allows a computer to connect to a network and communicate with other computers. It can be a wired connection (like Ethernet) or wireless (like Wi-Fi).

**- Peripheral Devices:** These are external devices that connect to the computer, like printers, external hard drives, webcams, and USB devices.