

CHAPTER ONE

computing hardware and software

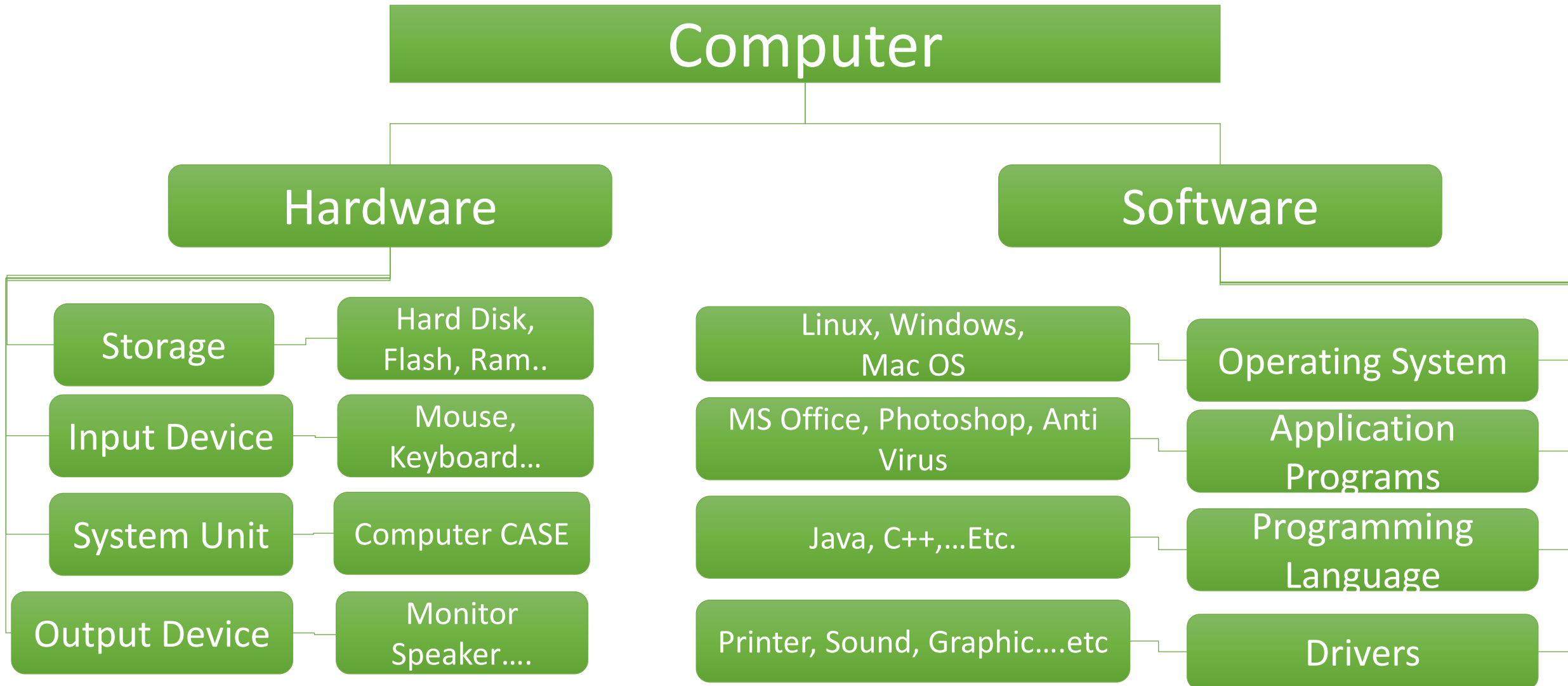
Mariwan



Outline

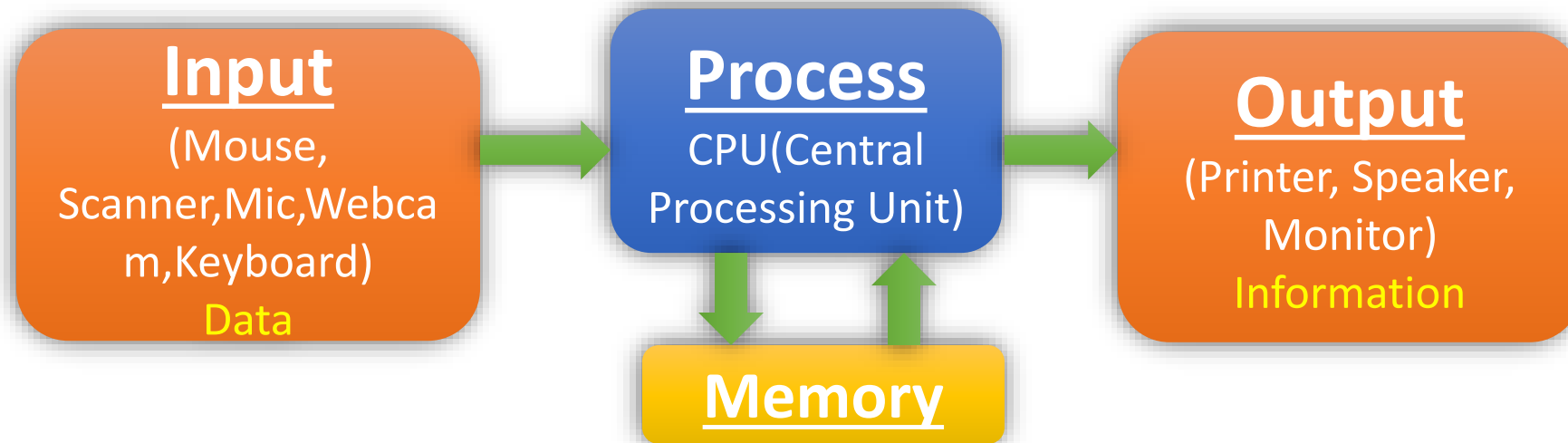
- Computer
- Computer Hardware
- Computer Software
- Computer Types
- Computer Hardware Parts

Computer-1



Computer-2

- A computer is a machine that performs processes, calculations and operations based on instructions provided by a software or hardware program. It has the ability to accept data (input), process it, and then produce outputs.



Computer Hardware

- **Computer Hardware:** is a physical part of the computer that can be touched such as mouse, keyboard, monitor ...etc.



Computer Software

- **Computer Software** is a set of programs, which is designed to perform an operation. Such as Microsoft Office, Photoshop and Facebook.



Computer Types -1

Computers have been categorized based on their **size, speed, uses and contents.**

- Supercomputer
- Mainframe Computer
- Personal Computer
- Laptop Computer
- Tablet
- Smartphone
- PDA personal digital assist
- Embedded Computer
- Server Computer
- Game Computer



Computer Types -2



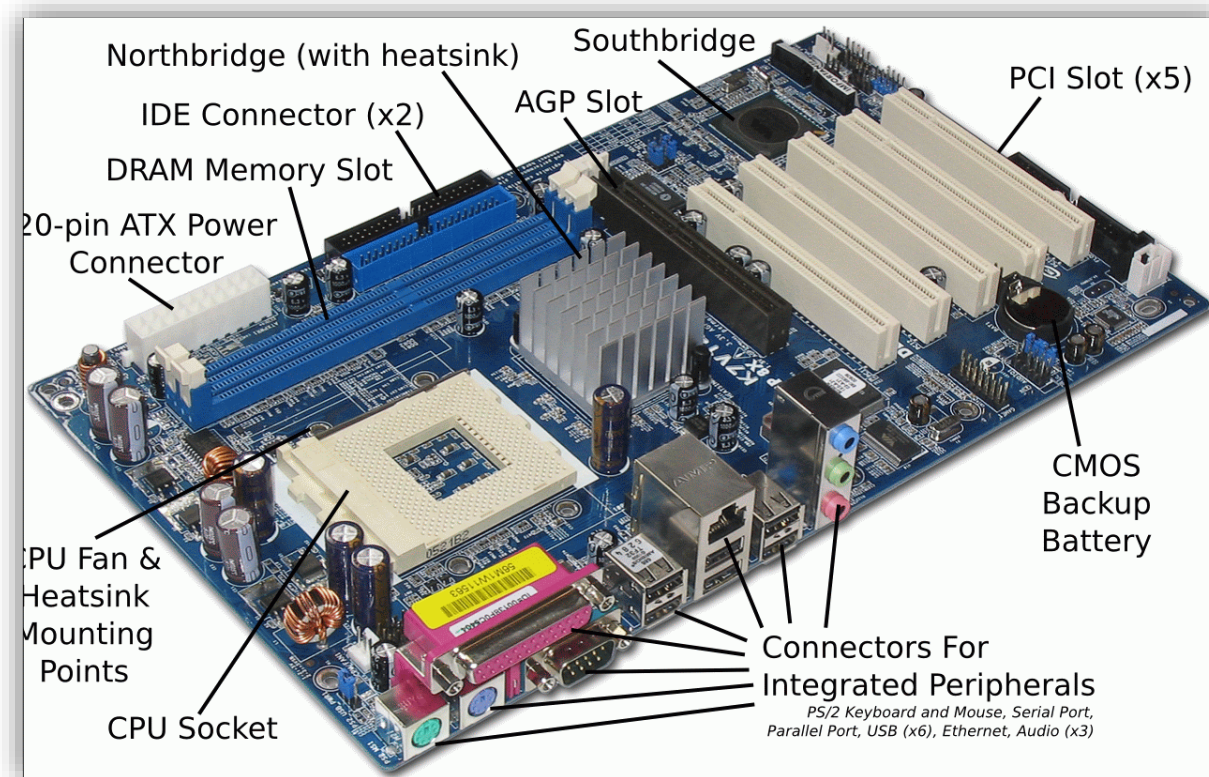
Computer Hardware : System Unit

- **System Unit:** includes all important hardware parts such as Ram, CPU, Motherboard, Hard Disk and DVD Drive.



Computer Hardware : Motherboard

- **Motherboard:** its called mainboard and it provides connections between main parts of computer such as CPU, RAM and Hard Disk



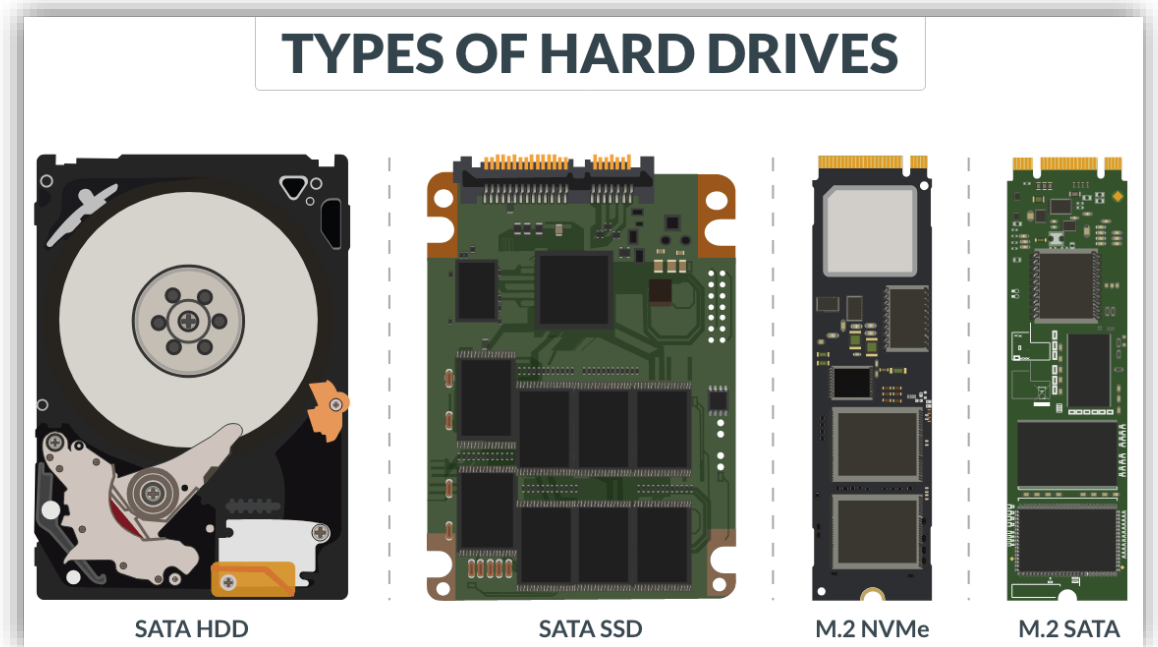
Computer Hardware : CPU

- CPU(Central Processing Unit): It is the brain of the computer, most important part and process all computer's instructions.
- Measured by Gigahertz **GHz** (2.5 which means Process 2.5 Billion instructions per second)
- Companies NVidia, AMD, Samsung,
Intel (Xeon, Core , Pentium, Celeron, Atom, Movidius, IOT Embedded, Core V-Pro)
- Core i9 – X-Series (Generation 10)
- Core i9 (Generation 12)
- Core i7 (Generation 12)
- Core i5 (Generation 12)
- Core i3 (Generation 12)



Computer Hardware : Hard Disk

- It is used to store data, programs and operating system. It is a non-volatile memory
- It has two types: HDD and SSD
 - **HDD** (Hard Disk Drive) – Old Type (140MB/Second)
 - **SSD** (Solid State Drive)
 - **SATA SSD** (500MB/Second)
 - **M.2 SATA SSD** (600MB/Second)
 - **M.2 NVMe SSD** (7GB/Second)



Computer Hardware : RAM

- **RAM** – Random Access Memory
 - It is called main memory
 - It is a volatile memory
 - Loses its contents when power is turned off
 - It has DDR1,DDR2,DDR3,DDR4



Computer Hardware others

- Printer : Output
- Scanner: input
- Plotter: Output
- Keyboard: input
- Mouse: input
- Microphone: input
- Speaker: Output
- Projector: Output
- Camera: Input
- ...etc

