### **Lecture 1: Computer Fundamentals**

#### **Input Devices**

* **Keyboard**
* **Mouse**
* **Scanner**
* **Webcam**

#### **Output Devices**

* **Monitor**
* **Printer**
* **Speaker**

#### **Processing Units**

* **CPU (Central Processing Unit)**

#### **Storage Devices**

**Primary Storage:**

* **RAM (Random Access Memory)**
* **ROM (Read-Only Memory)**

**Secondary Storage:**

* **Floppy Disk**
* **Hard Disk**
* **USB Drive**
* **SD Card**
* **Tape**
* **CD/DVD**

#### **Main Difference**

* A system can operate without secondary storage devices but cannot operate without primary storage devices.
* Data is stored in RAM while a program is running and is lost once the program is closed unless saved to secondary storage.

#### **Example**

* If you start Notepad and write something, the data is stored in RAM.
* Once you save the data, it is moved to secondary storage.
* If Notepad is closed without saving, the data in RAM will be lost.

#### **Units of Measurement in Storage**

* **1 Byte = 8 Bits**
* **1024 Bytes = 1 Kilobyte (KB)**
* **1024 KB = 1 Megabyte (MB)**
* **1024 MB = 1 Gigabyte (GB)**
* **1024 GB = 1 Terabyte (TB)**
* And so on...

#### **Software**

**Operating Systems:**

* Windows (responsible for operating applications)
* DOS
* Unix
* Linux
* Macintosh

**Programming Languages:**

* C, C++
* Fortran
* Pascal
* Java
* Python
* NodeJS
* PHP
* Golang

**Spreadsheet Packages:**

* Excel
* Lotus 123

**Editors:**

* **Plain Text Editors:**
  + Notepad
  + Vim
  + vi
  + Gedit
* **Rich Text Editors:**
  + MS Word (contains additional information like text formatting, alignment, etc.)