



**University of Duhok**

**College of Science**

**Department of Computer Science**

# **Computer Skills (Applications)**

**Lecturer**

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## What is Computer?

- ✓ General-purpose
- ✓ Programmable
- ✓ Calculates
- ✓ Stores results

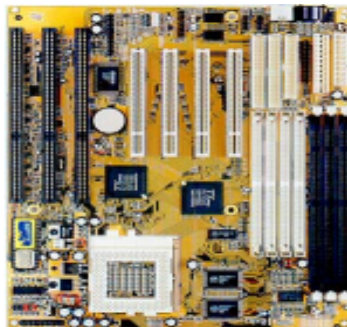


**A computer** is a general-purpose, programmable device that is capable of calculating and storing results

## Computer Main Components (Hardware & Software)

### ● Hardware:

- The term hardware refers to the physical parts of a computer such as the system unit, mouse, keyboard, monitor etc

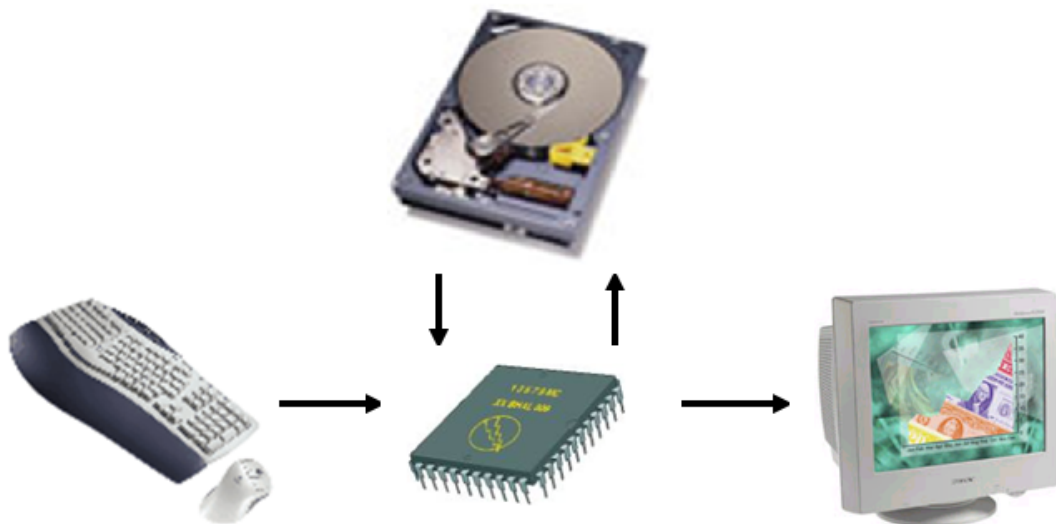
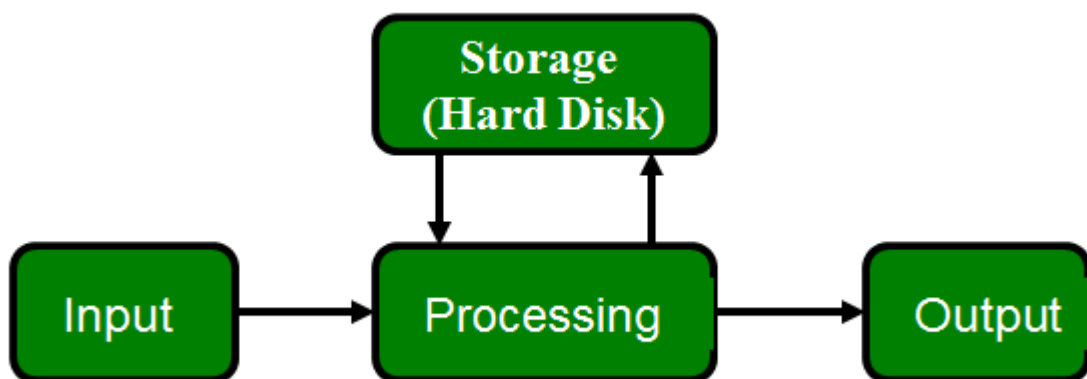


### ● Software:

- The software is the set of instructions that make the computer behave in a given way
- Software is held either on your computer's hard disk, CD-ROM, DVD or on a diskette (floppy disk) and is loaded (i.e. copied) from the disk into the computers RAM (Random Access Memory), as and when required.



1



**Input devices:** are hardware devices which take information from the user of the computer system, convert it into electrical signals and transmit it to the processor. For instance, a mouse allows the user to control the movement of the pointer.



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**Output devices:** take data from the computer system and convert it to a form that can be interpreted by humans. For instance a monitor creates a visual electronic display to output information created by the processor to the user.

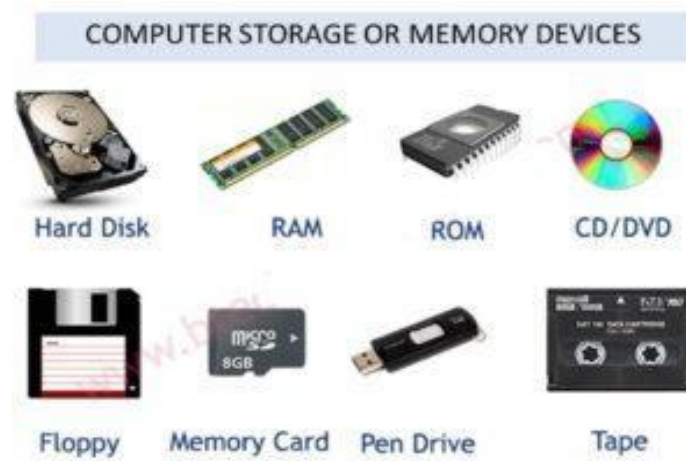


**Central Processing Unit or CPU:** are the components responsible for the processing of information within the computer system. This includes devices such as the CPU, memory and motherboard.



The main 'brain' of the computer which is a small silicon chip with two main parts is measured by its GHz or MHz speed. For example, a 2.4 GHz Pentium is much faster than a 400 MHz Pentium CPU

**Storage devices:** are components which allow data to be stored within a computer system. This includes devices such as **hard disk** drives and compact disk drives.

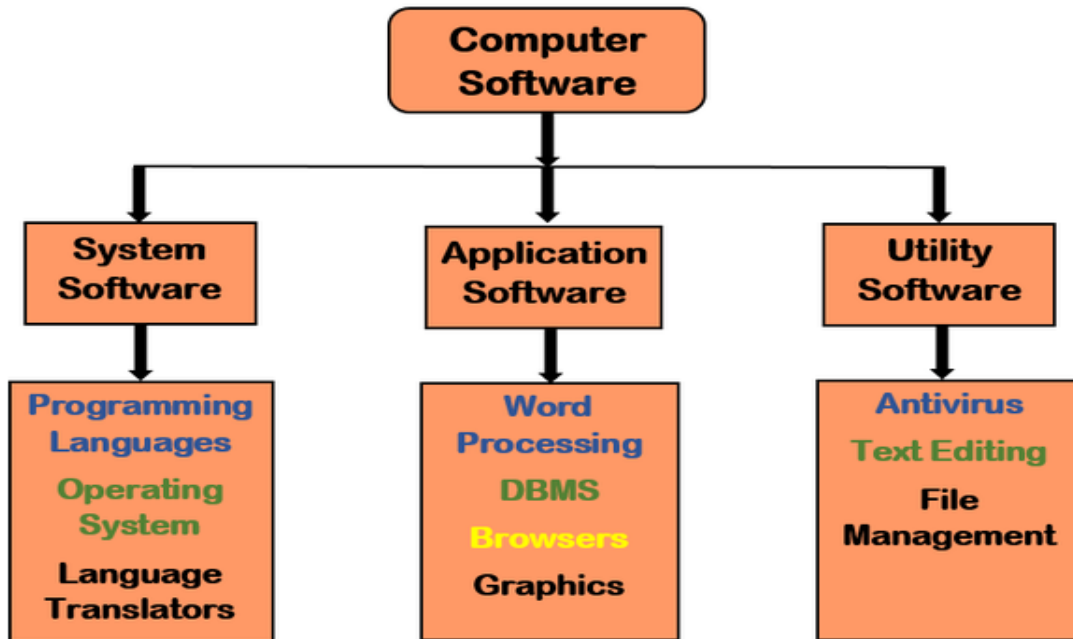


## Types of Computer Software:

**System software** is the software used to manage and control the hardware components and which allow interaction between the hardware and the other types of software. The most obvious type of system software is the computer's operating system.

**Applications software** (also known as 'apps'): are designed to allow the user of the system complete a specific task or set of tasks. They include programs such as web browsers, office software, games and so on.

**Utility software** is software such as anti-virus software, firewalls and so on which helps to maintain and protect the computer system.



## Operating System

Collection of programs and files used to operate computer.

1. MS-Dos
2. Window
3. iOS
4. Mac OS
5. UNIX
6. Linux



## Types of Computers:

### 1. Mainframe Computers

- Very powerful, used by large organisations such as banks to control the entire business operation. Very expensive!



## 2. Network Computers

- Is an inexpensive personal computer designed for a centrally managed network.
- data are stored and updated on a network server
- lacks a disk drive, CD-ROM drive or expansion slots
- A network computer depends on network servers for processing power and data storage



## 3. Personal Computers

- Cheap and easy to use. Often used as stand-alone computers or in a network. May be connected to large mainframe

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## 4. Laptop Computer

- is a battery- or AC-powered personal computer generally smaller than a briefcase that can easily be transported and conveniently used in temporary spaces such as on airplanes, in libraries,



## 5- Personal Digital Module (PDA)

- is a small mobile hand-held device that provides computing and information storage and retrieval for personal or business use
- Most PDAs have a small keyboard

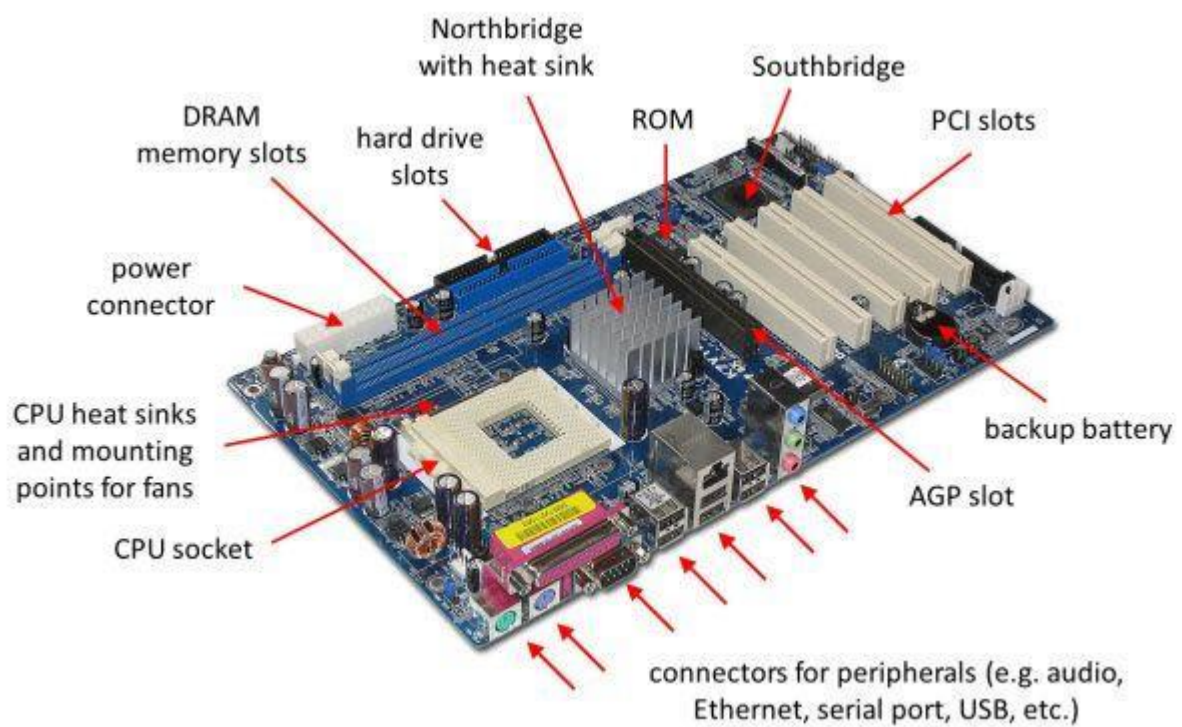
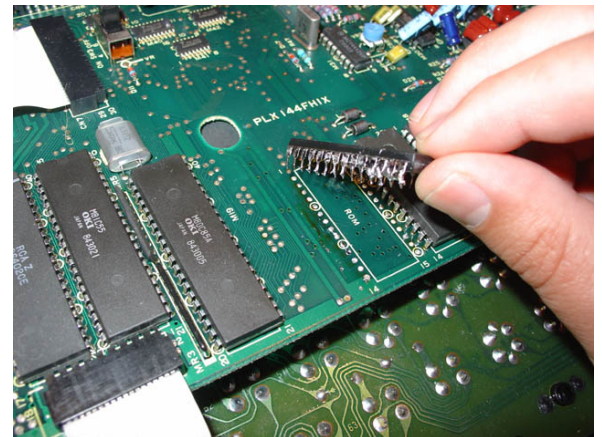


- Some PDAs have an electronically sensitive pad on which handwriting can be received
- Typical uses include schedule and address book storage and retrieval and note-entering
- Increasingly, PDAs are combined with telephones and paging systems



## The Main Parts of Personal Computer (Types of Memory)

- **RAM**
  - The RAM (Random Access Memory) is where the operating system is loaded and also where your applications are



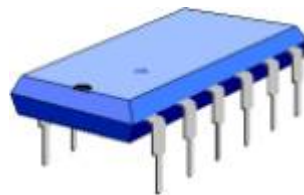
- **RAM - Random Access Memory**

- The main 'working' memory used by the computer
- When the operating system loads from disk when you first switch on the computer, it is copied into RAM
- As a rough rule, a Microsoft Windows based computer will operate faster if you install more RAM. Data and programs stored in RAM are volatile (i.e. the information is lost when you switch off the computer)



- **ROM – Read Only Memory**

- Read Only Memory (ROM) as the name suggests is a special type of memory chip that holds software that can be read but not written to
- A good example is the ROM-BIOS chip, which contains read-only software
- Often network cards and video cards also contain ROM chips



## How Computer Memory Is Measured

Memory is divided into millions of units called bytes.

Bit = binary digit (1 or 0)

Each **byte** contains **8 bits**

1 Kilobyte (KB) = **1024 Bytes**

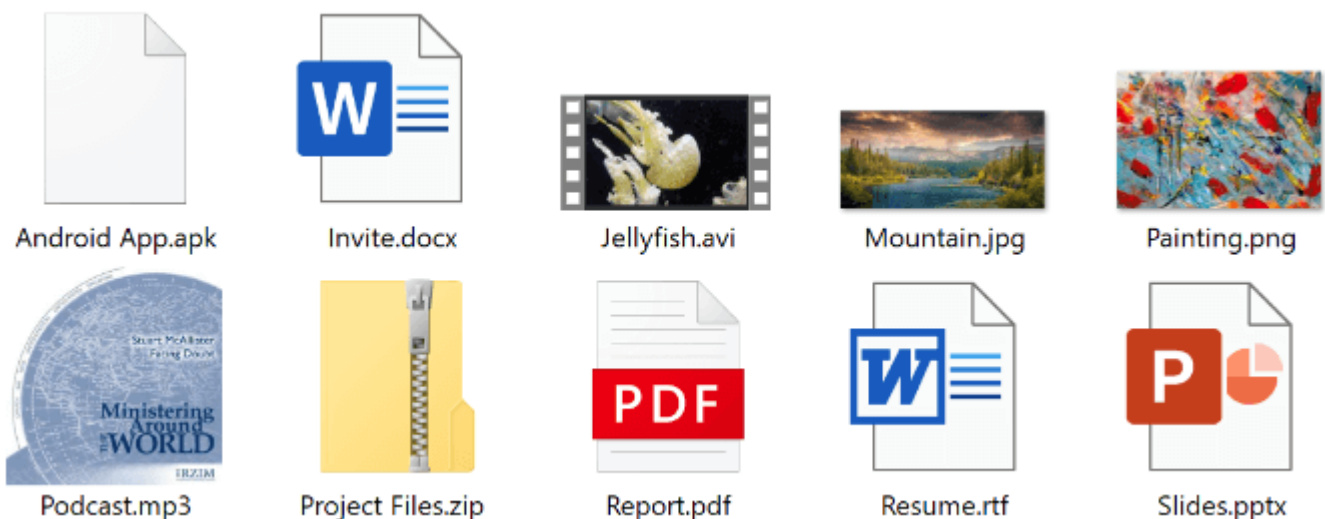
1 Megabyte (MB) = **1024 KB** = 1024 X 1024 Bytes

1 gigabyte (GB) = **1024 MB** = 1024 X 1024 X 1024 Bytes

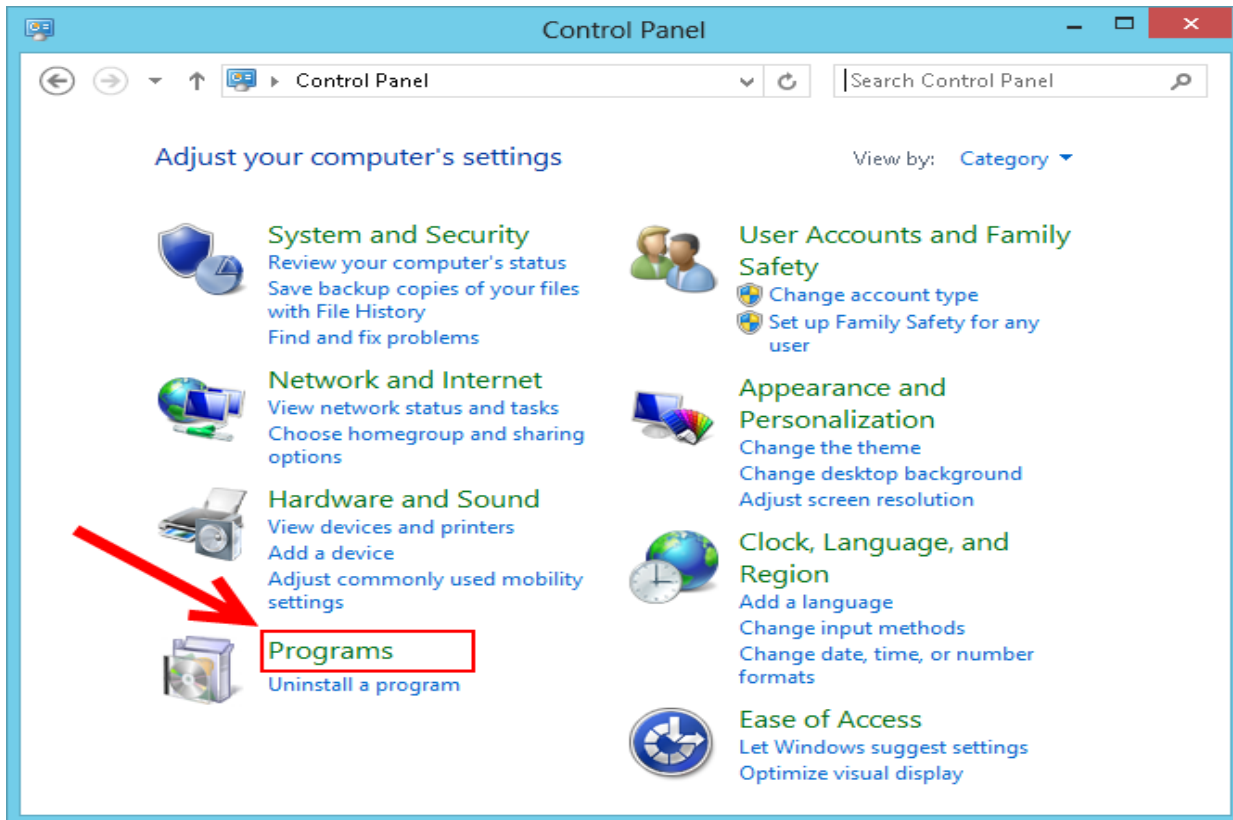
1 Terabyte (TB) = **1024 GB** = 1024 X 1024 MB = 1024 X 1024 X 1024 X 1024 Bytes

## File Extension:

- Usually **Windows** system recognizes the type of file.
- When you save file system will add a full stop followed by an extension.
- System uses the file to identify the program used to create file.



## Control Panel



### Installing and uninstalling software

- Some applications place uninstalls routine in the **Start Menu**.
- Otherwise you should use **Add or Remove Programs** tool in the **Control Panel**
- By clicking **Add New Programs** to install a new applications

### Creating and printing files

- To save or To save as
- Printing file (Print Dialogue box)
- Folder may contains more than one file(s)

### Changing File /Folder status

- File / Folder properties
- Read only / Hidden

- Sharing File / Folder
- Compressing Folder / File Using( zip / rar ) applications
- Extracting a compressed File / Folder
- Searching for File / Folder

## Changing the keyboard language

In Control Panel by choosing Add a language, you can change or add your preferred language to become a



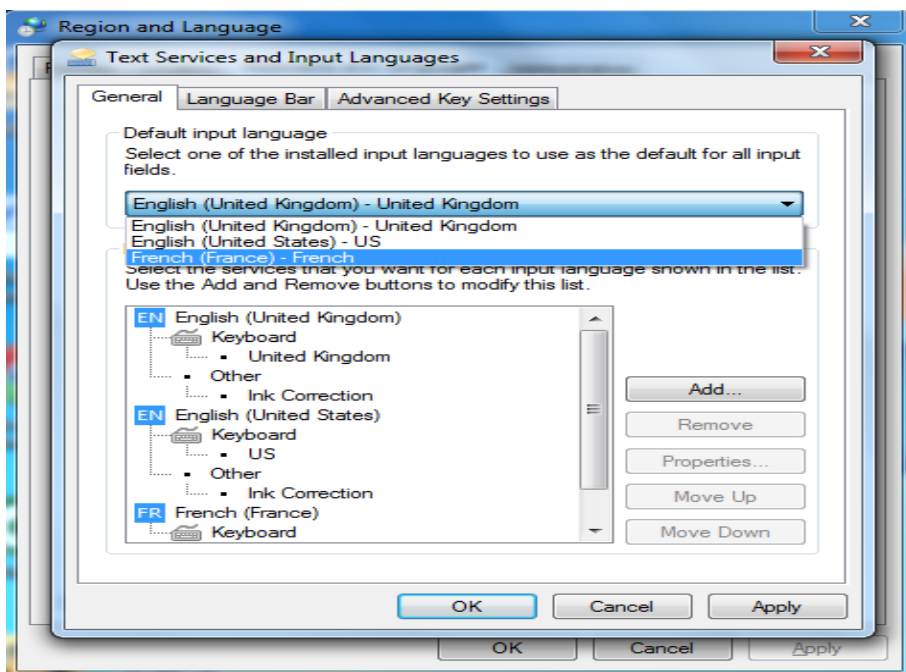
Clock, Language, and Region

[Add a language](#)

[Change input methods](#)

[Change date, time, or number formats](#)

primary language in your computer.



## Print Screen Facility

- To take a screenshot of the whole screen, press the Print Screen key labeled as (**PrtScr**) on the keyboard.
- Click paste in Microsoft Word to copy the screenshot into a document.
- Using Paint to edit Screenshot and modify it. **Paint tool** provides facilities to deal with images.



Paint icon in computer



## Common Computer Shortcut Keys

Shortcut Keys	Description
<b>Alt+Tab</b>	Switch between open programs.
<b>F2</b>	Rename a selected file.
<b>Ctrl+N</b>	Create a new or blank document in some software, or open a new tab in most Internet browsers.
<b>Ctrl+A</b>	Select all text.
<b>Ctrl+B</b>	Change selected text to be bold.
<b>Ctrl+I</b>	Change selected text to be in italics.
<b>Ctrl+U</b>	Change selected text to be underlined.
<b>Ctrl+S</b>	Save current document file.
<b>Ctrl+X</b>	Cut selected item.
<b>PrtScr</b>	Print Screen (Screen Shoot)

