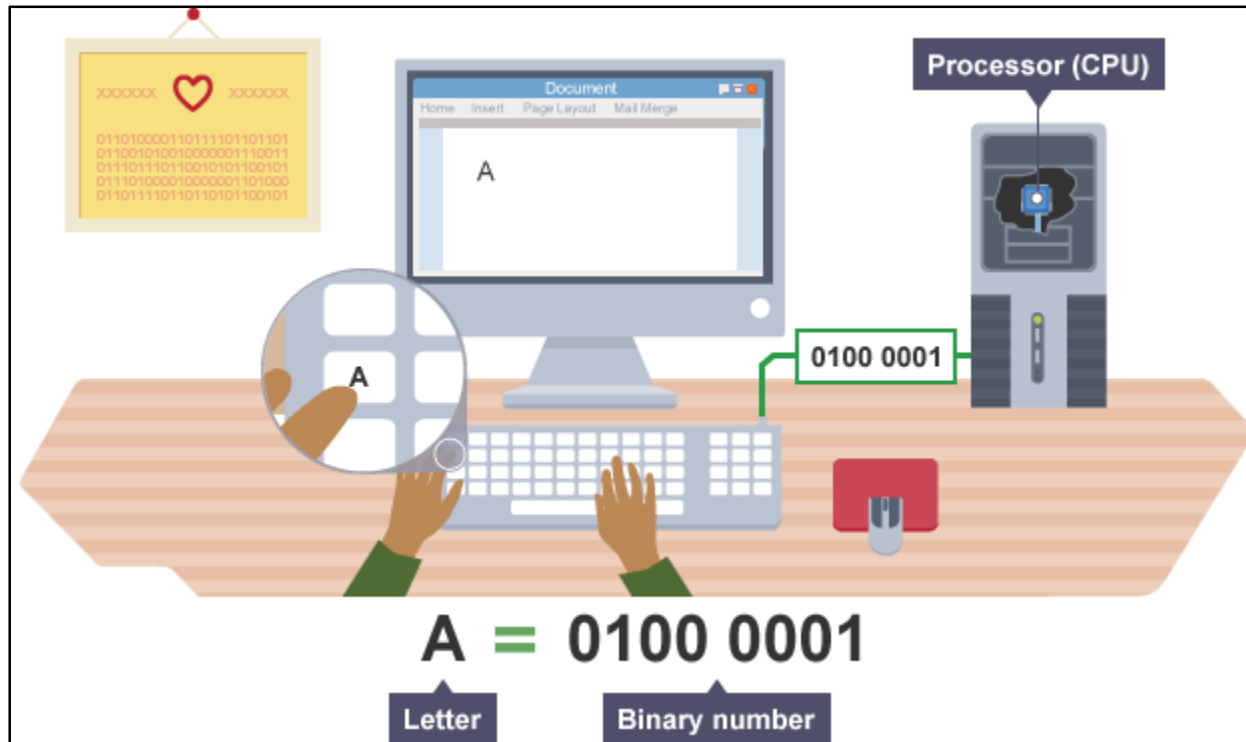# Computer Skills

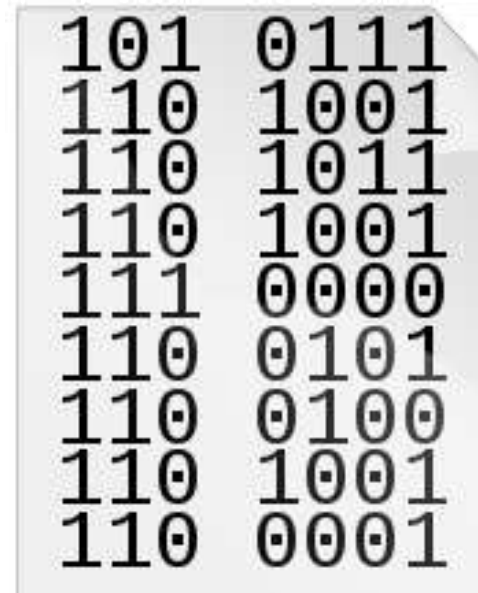زانکۆی سەلاحەددین- کۆلێژی پەروەردی بنەڕەتی
قۆناغی یەکەم First Class
2022-2023

What is IT (Information Technology) ?

IT: **Information technology** (**IT**) is the use of [computers](#) to store, retrieve, transmit, and manipulate [data](#) or [information](#)

1.2 A typical Computers

Computer is a programmable electronic device designed to accept data, perform prescribed mathematical and logical operations at high speed, and display the results of these operations.

The word of **"Computer"** was first recorded as being used in **1613** and originally was used to describe a **human** who performed calculations or computations until the end of the 19th century when realized **electronic devices**.

1.4 Types of Computers

1. Supercomputer : a high performing computer that operates at extremely high speeds

2. Mainframe : a centralized computer used for large scale computing

3. Mini Computer : computer that is smaller than a mainframe

4. WorkStation : equipment designed for a single user to complete a specialized technical/scientific task

5. PC (Personal Computer) : a digital computer designed to be used by one person at a time

1.4.5 Personal Computer

1. Desktop Computers

2. Laptop (a Notebook) Computers

3. Tablet PCs

4. Personal Digital Assistants (PDAs)

5. Mobile Phones

6. Smartphones

7. Multimedia Players

1.5 Computer Components

1. **Users**

2. **Software**

3. **Hardware**

1.5 Computer Components

1. User:

User is a person who uses a computer or network service.

2. Software:

Software is a program which consists of step by step instructions that tell the computer how to do its work.

In general, we have

    1 Operating Systems

    2 Application Software

1.5.2 Software

1.Operating Systems(System Software):

It is system software that manages computer hardware and software resources and provides common services for computer programs.

- **Windows**
- **Linux**
- **Mac OS**
- **DOS**

2.Applications:

It is a program or a group of programs used to accomplish a variety of tasks which you can use once the operating system has been loaded.

1. **Word-processing programs** (e.g. MS Word, Writer)
2. **Spreadsheet programs** (e.g. MS Excel, Calc
3. **Database programs** (e.g. MS Access, Base)
4. **Presentation graphics programs** (e.g. MS PowerPoint)
5. **Photo editing programs** (e.g. MS PhotoEditor, Adobe PhotoShop)
6. **Internet Web Browsers** (e.g. MS Internet Explorer, Mozilla Firefox..)
7. **Communications software** (e.g. MS Outlook, yahoo massenger)

1.5 Computer Components

3. Hardware:

The term Hardware refers to the physical components. Hardware works with software to make a computer function.

An example of Hardware like Processor Keyboard ,Mouse ,Speaker and Cable.

1.5.3 Hardware Components

1. Central processing Unit (CPU)
2. Input Devices(Keyboard ,Mouse...)
3. Output Devices(Printer ,Monitor ...)
4. Memory Device(RAM,ROM)
5. Storage Device (Hard ,CD,DVD ,Flash Memory...)
6. Communication Devices (Hub , Router...)

1.5.3 Hardware Components

2. Central Processing Unit (CPU):

It also called a processor, the **CPU** is built into a single chip of two-inch ceramic square a silicon chip with a complex electronically circuit.

There are many manufactures for personal computers, but the most well-known ones are **intel** and **AMD**.
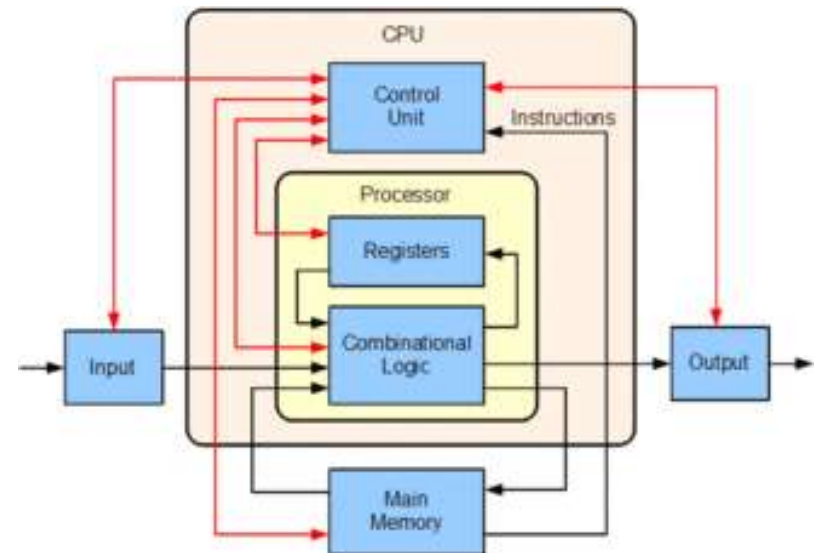
Works of CPU:

- Acts as "**Brain**" of computer.

- Performs all calculations.

- CPU speed measured in **MHz** or **GHz** it means million or billion instructions per second.

1.5.3.2 Central Processing Unit (CPU):

CPU Elements:

- **Control Unit:** Control sequencing and time of other CPU elements

- **Arithmetic Logic Unit (ALU):** Performs arithmetic and logical operations.

- **Registers:** Hi-Speed storage locations used to store data and results of **ALU**.

- **Buses:** collection of wires which are used to transmit data.

1.5.3 Hardware Components

1.Input Devices:

Input Devices are devices that allow you to input information to the computer.

Keyboard, mouse, scanner, webcam, light pen, joystick, touch sensitive monitor etc.

Input Example

1.5.3.1 Input Devices:

1.Mouse:

It is a device that controls the movement of the cursor or pointer on a display screen. The mouse may contain up to three push buttons each of which has a different functions.

1. **Click (Left):** to Select file ,folder or programs.

2. **Double-Click (Left):** to open file ,folder or programs.

3. **Right Click:** to show list of commands.

4. **Scrolling wheel:** to scroll pages up or down

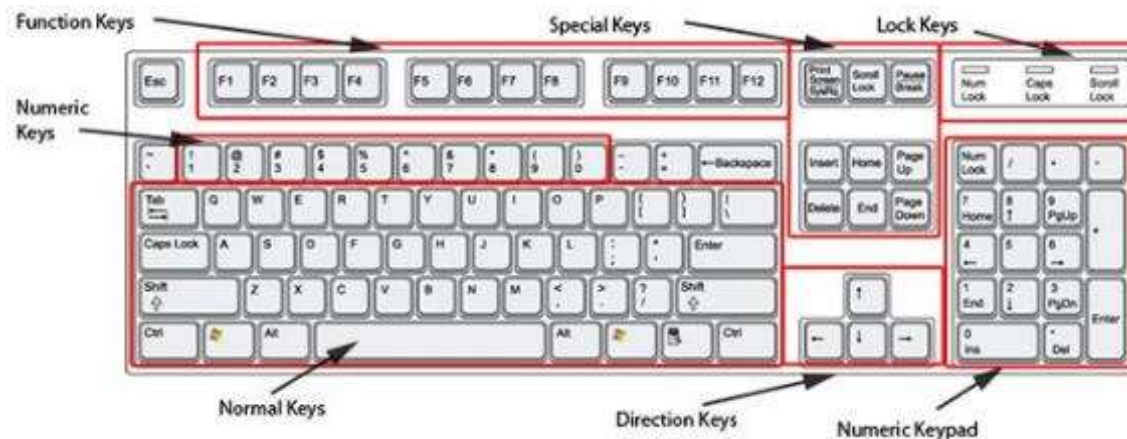5. **Drag and Drop:** to move file ,folder or painting

1.5.3.1 Input Devices:

2. Keyboard:

It contains a set of keys that enable you to enter data in the computer. The keys on computer keyboards are often classified as follows:

– Alphanumeric keys: letters and numbers

– Punctuation keys: comma, period, semicolon etc.

– Special keys: function keys, control keys, arrow keys, Caps Lock key etc.

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1.5.3.1 Input Devices:

3. Joystick:
It is input device that is used to control computer games.

4. Microphone:
It is a type of input device that receives information (sound) from a user.

5. Touchpad:
It is (also called **trackpad)** another peripheral device that can do the same thing a mouse can do, but with a different look and feel. It is a touch-sensitive pad, which common on laptop computer.

1.5.3.1 Input Devices:

6.Scanner:

It is input device that that allows copying an image or document and saving it to the computer with a digital format (image or pdf). The resolution of a scanner is measured by dpi (**dot per inch**). For example a 1200 dpi scanner gives cleaner more details images than a 300 dpi scanner.

1.5.3.1.5 Scanner:

Types of scanners:

- Flatbed Scanner: It is build like a photocopier; and it is for desktop-use.

- Hand-held Scanner: It is small and T-shaped.

- Part of – Scanner: It is included as part of an all-in-one printer.

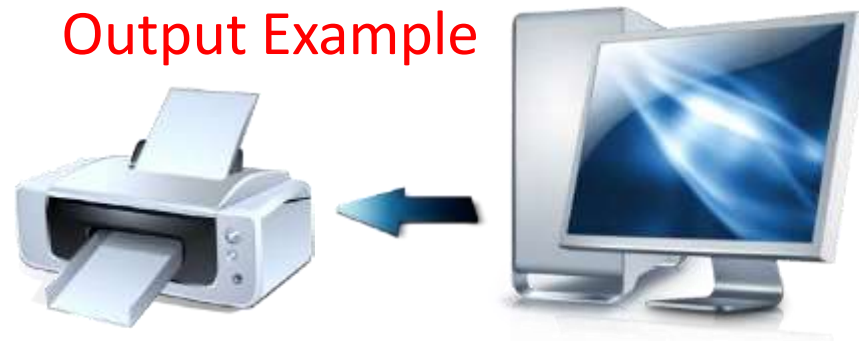- Barcode Scanner: It uses to read barcodes on products sold in shops.

1.5.3 Hardware Components

5. Output Devices (Unit):

Output Devices are devices that allow you to output information from the computer. Output is also called as Result.

Monitor, printer, speaker etc.

Output Example

1.5.3.5 Output Devices (Unit):

1. Monitor:

It also known as the display screen, video display or visual display unit (**VDU**), is the most common output device. Monitors can have different screen sizes e.g. 14"-, 15"-, 17"-, 19"- and 21"-inch.

Types of monitors:

CRT: Stands for **cathode ray tube**. The traditional, glass-screen, television-set-like monitor.

LCD: Stands for **liquid crystal display**. The new, flatter type of computer screen.

LED: Stands for **light emitting diodes**. The new, flatter type of computer screen.

1.5.3.5 Output Devices (Unit):

2. Printers:

It is an output device that takes the electronic data (text and graphic) stored on a computer or other device and generates a hard copy of it such as a paper.

1.5.3.5.2 Printers:

Types of printers:

- 3D printer

- All-in-one (AIO) printer

- Dot matrix printer

- Inkjet printer