اذرخش ښوونيز مرکز

کمپيوټر زدکړې کورس

کمپيوټر اساسات

Hardware

Lecture: Sixth

Lecturer: Hayatullah Marwarid

Contents of this Lecture

Monitor, LED & LCD & CRT
Printer
Projector
Motherboard
Central processing unit
Storage devices, HDD & SSD
Memory & RAM & ROM
BIOS
Ports
Unit Of Computer Memory Measurements

Monitor

A Monitor is a screen used to display visual information a computer or other devices.
It allowing users to interact with their computers.
Monitor is an output device.

Monitor types

LCD Monitor

CRT Monitor

LED Monitor

Deference between LCD, LED, CRT Monitors

CRT: Outdated, bulky, good colors, high power consumption.
LCD: Slimmer, decent image quality, moderate power use.
LED: Advanced LCD technology, better image quality, energy-efficient.

Printer

A printer is a output device that produces physical copies of digital documents, images, or graphics on paper.

Projector

A projector is a device that takes images or videos form a computer, DVD player, or other source and displays them on a large screen or wall.

Motherboard

Is also called system board. It is the most important circuit board in system unit. It contains different chips.
It contains processor chip, memory chip, storage chips and etc.

Central Processing Unit (Processor)

A processor, or CPU is the part of a computer that does the thinking and calculation. Its also called brain of the computer And located on the motherboard.

Storage device

A storage device is hardware used to store data permanently.
Storage device can be External or Internal

HDD (Hard disk drive)
Uses spinning disks(platters) coated with magnetic material to read and write data.

SSD (Solid State Drive)
Uses flash memory to store data with no moving parts.

Feature	HDD	SSD
Speed	Slower read write speeds	Much faster read write speeds
Durability	More prone to physical damage	More Durable due to no moving parts
Energy Efficiency	Consumes more power	Consumes less power
Storage capacity	Typically larger capacities	Usually smaller, but growing
Cost	Generally cheaper per GB	More Expensive per GB

Memory

Data and instructions are stored in memory to be executed. This memory is temporary storage unit for data. It is also called primary storage

Memory stores the following three items:

1. Operating system and other system software to control the use of computer system.
2. Application programs to perform specific tasks
3. Data to be processed by application programs

There are two type of memory

1. Volatile Memory: volatile memory loses its contents when computer is turned off.

Example: RAM

2. Non-volatile Memory: it does not lose its contents when computer is turned off.

Example: ROM

RAM

RAM stands for Random Access Memory. It is also called main memory or direct access memory.
RAM is temporary memory when the power is turned off the data in this memory is lost

ROM

ROM stands for Read-Only Memory, the instruction in ROM prepare the computer for use, these instruction can only be read but cannot be changed or deleted.
Exp: BIOS

BIOS

BIOS stands for basic input output system. Is a chip which is store system information for permanently.
Exp: welcome screen, windows 11

PORTS

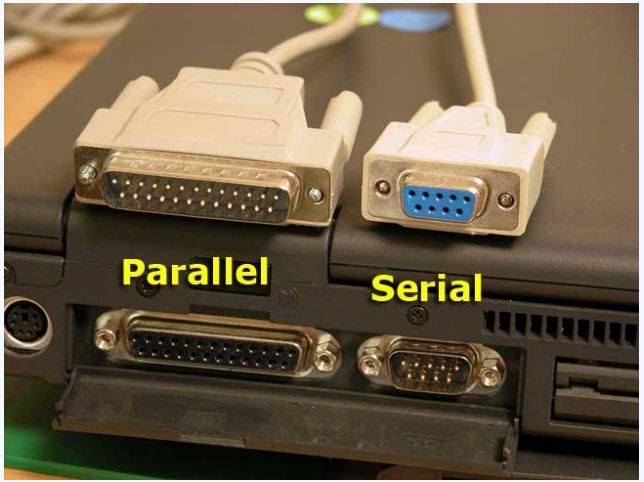
A port is a interface or point of attachment. It is used to connect external device to computer like USB, Projector …

Serial Ports

A serial ports is used to connect devices to the system unit. A serial port transmits data one bit at a time it is usually used to connect devices that do not require fast data transmission like mouse and keyboard etc.

Parallel Ports

Is used to connect devices that transfer many bits at a time printers connect to computer using a parallel port



Some other Ports

HDMI PORT

POWER PORT

USB PORTS

HEADPHONES PORT

NETWORK PORT

UNIT OF COMPUTER MEMORY MEASURMENTS

BIT : is the smallest unit of storage.

One bit stores only a **0** or **1**

1 BIT = one binary digit 0 or 1
8 BIT = 1 Byte
1024 Bytes = 1 KB (Kilo Byte)
1024 KB = 1 MB (Mega Byte)
1024 MB = 1 GB (Giga Byte)
1024 GB = 1 TB (Terra Byte)

Any Question