Unit 1

The First Lesson

Computer System Basics

Objectives

The General objective:

      To identify the main concept of the computer system.

The specific objective:

By the end of the lesson, the student will be able to:

- **define the computer concept.**
- **identify some modern computer types.**
- **deduce the main elements of the computer system.**
- **differentiate between data and information.**
- **differentiate between hardware and software.**
- **state the kinds of the main memory.**
- **show the job of the central processing unit**
- **distinguish the different kinds of software**
- **identify capacity storage units**
- **search for internet websites with his colleagues**

(Introduction)

What is a Computer?

It is an electronic set which has the ability to store data and process them to reach certain results {information} by doing logical and mathematical processes using series of logical arranged instructions called the program.

Some Modern Computer Shapes

The computer is used in all everyday fields, when we call it so, the personal computer comes to our minds {desktop and laptop}. The computer appears in different shapes, size and do a lot of different jobs in our daily life .They can be classified according to speed, cost and size……etc.

laptop

Desktop

Smart Devices

Dear student: (enrichment)

The school administration has the desire to use the computer system instead of the traditional manual system to save and process data, print the final reports related to students and calculate the staff salaries and the school buffet sales.
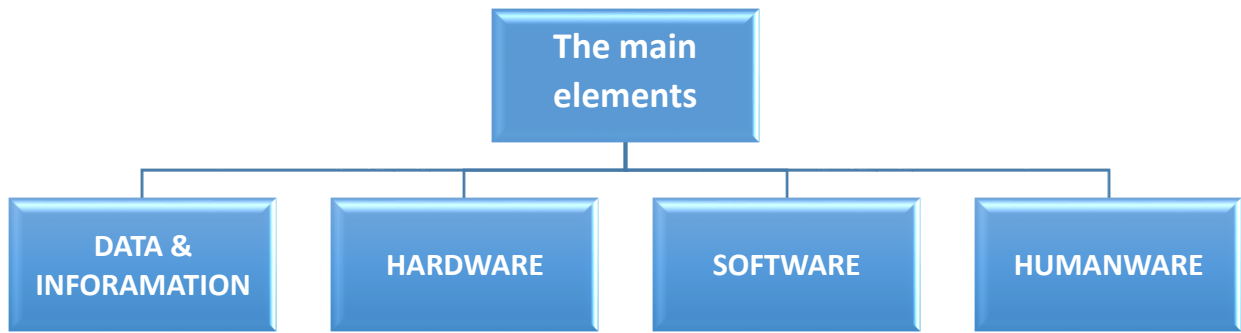
An activity

(enrichment)

With the help of your teacher and cooperation with your mates, determine the elements which the school administration needs to generalize using the electronic system and determine the relation among the main components of the computer system.

The main elements of computer system

The computer system consists of several elements working together to enable the computer to do its function. The most important elements are:

```
                    The main
                    elements
```

| DATA & INFORAMATION | HARDWARE | SOFTWARE | HUMANWARE |

Data & Information
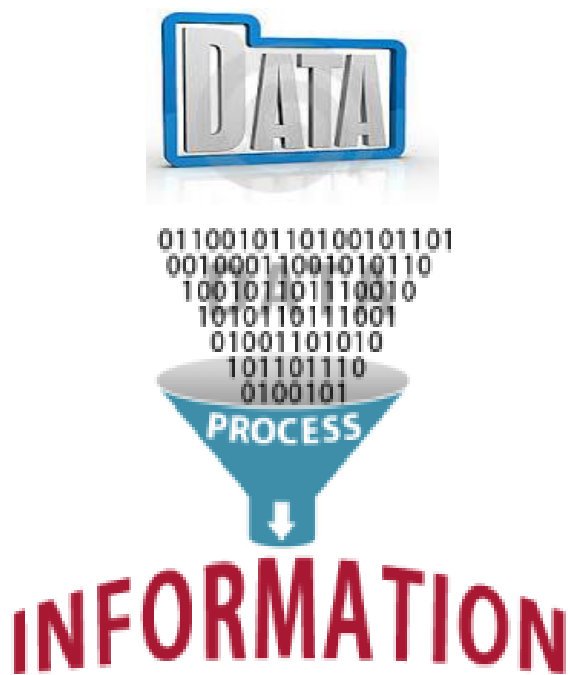
An activity

Dear students:

Is there difference between Data and Information? Cooperate with your classmates; search the internet to find the difference between data and information.

Data:

They are set of facts that can be obtained by observation or watching. These data can be text ,number ,character, image , video ,audio..etc .
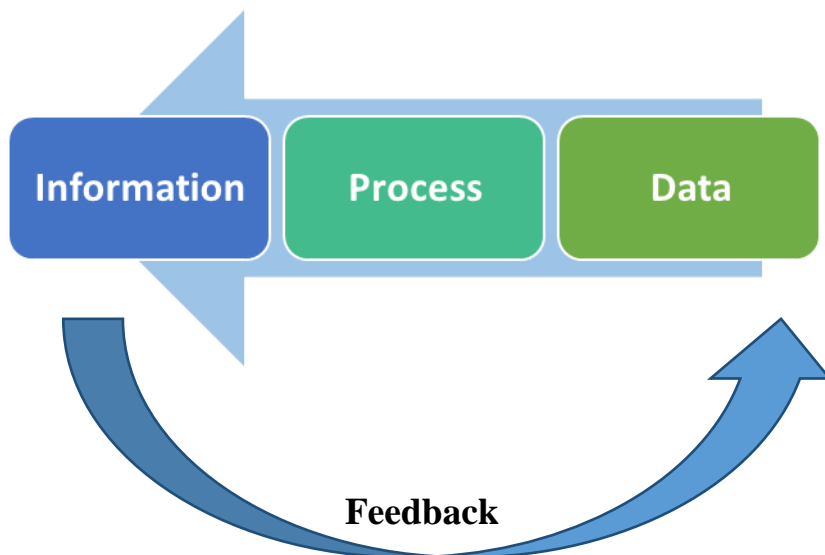
Texts   Images

sounds
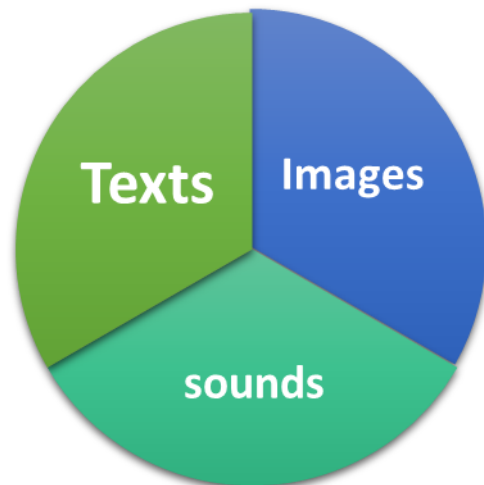
Data

(Information):

Data are processed by classifying, organizing and analyzing to have sense to achieve certain goal (objective). They may be in the form of reports, tables and charts ……….. etc.
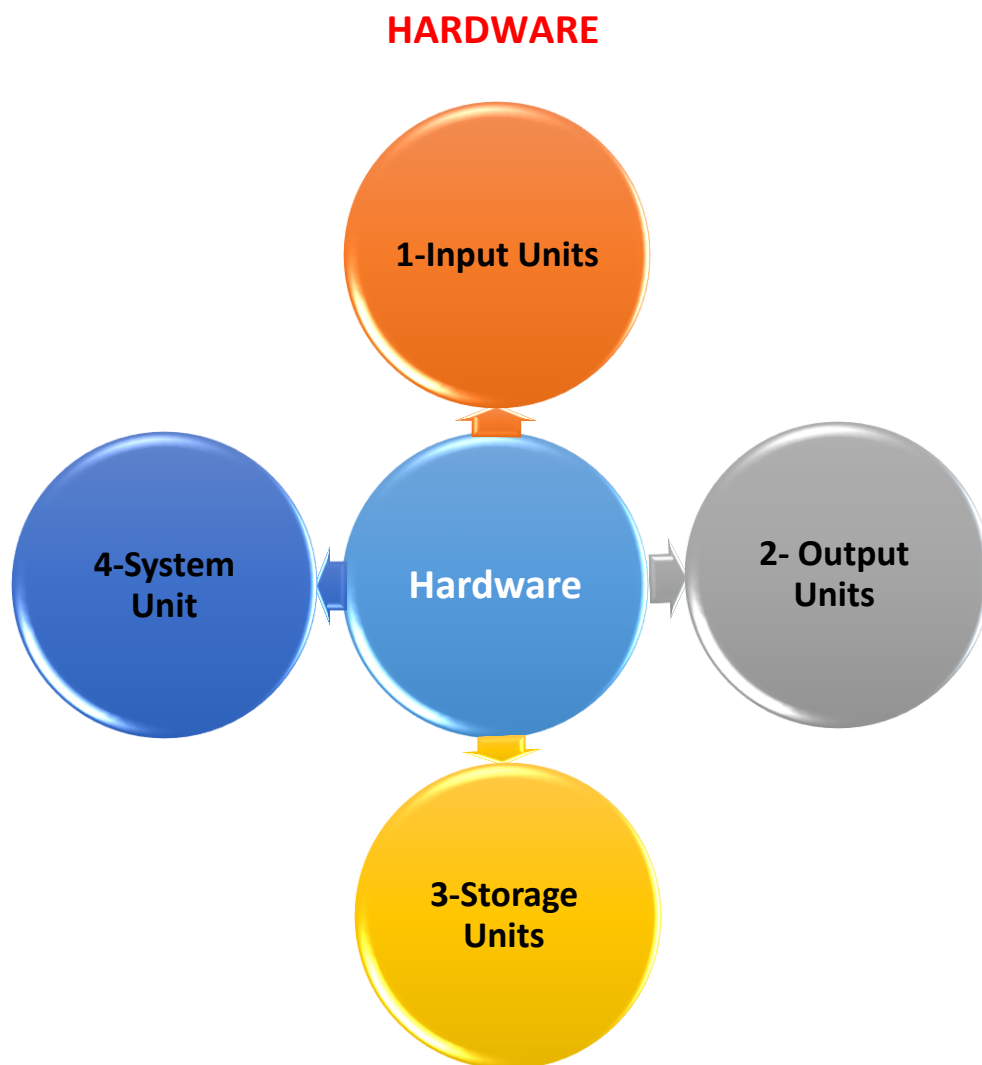
The following diagram shows the difference between data and information

Feedback

SECONDLY: HARDWARE

Hardware is the actual content of the computer device which can be observed and touched. They include system unit, the screen, keyboard, the mouse………… etc. They can be divided into:

HARDWARE

1. **Input units: The devices and units which are responsible for inputting different data into the device.**

2. **Output units: The devices and the units which are responsible for outputting and displaying information and the results that the computer processed and executed according to the user's instructions.**

3. **Storage unit: It is used to store data that can be retrieved (got back) at any time according to the user's need. The contents can't be lost when the electricity turns off.**

The most important storage units

Hard disc

Flash Memory

An activity (3)

Dear student:

Cooperate with your mates; classify the set units in the following images:

1. **Input unit**
2. **Output unit**
3. **Storage unit**

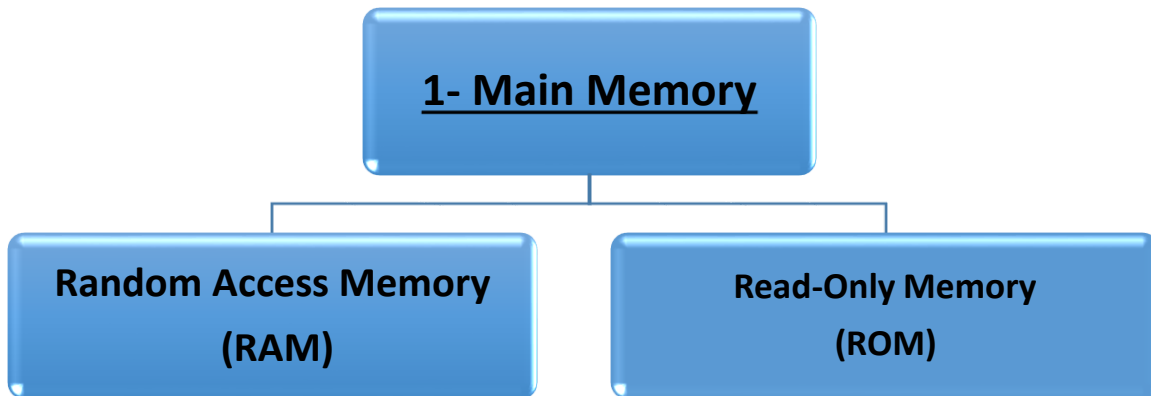**Tip:** There are some units that can be used to input and output together such as Touch screen.

Hardware:

(4) System Unit

The most important components of the system unit:

– **The main memory unit**

– **Processor**

– **Motherboard**

1- Main Memory

Random Access Memory (RAM)

Read-Only Memory (ROM)

- **Random Access Memory (Temporary Memory RAM):**

It loses its contents when the electricity turns off. It is the part that the user deals with.

- (ROM):

It contains all the main programs to start the device on contents (BIOS). Its by the are saved producer company. It is called Read-only Memory because it is legible. Never can you write on. It is called the permanent memory because its contents are never affected by turning the electricity off and it can save its content permanently.

An activity (4)

Dear student:

Cooperate with your mates to compare between RAM & ROM.

Central Processing Unit (CPU)

(CPU) is responsible for doing any logical and mathematical processes which lead to data Processing according to the orders and instructions of the different programs.

- The processor consists of two main units:
    - Arithmetic and logic unit (ALU).
    - Control unit (CU).

Tip.: (enrichment)

Processor, RAM & ROM can be constructed inside the computer case.

ComputerCase

Motherboard

(enrichment)   **(enrichment)**

An activity (5)

With the help of your teacher and cooperation with your mates.

– **Identify the unit of measuring the capacity of the computer memory.**

– **Identify the unit of measuring the processor speed in your personal computer.**

Measuring units
(The processor speed - storage capacity)

1-Storage Units:

Byte : can be used in most computer systems as a unit of measuring data. It is used to represent a letter or a symbol. It consists of 8 bits. Storage unit can be measured by doubling Byte.

Bit: represents passing or not passing the electric current. It takes the value of 0 or 1 as 1 represents passing the electric current (on) and 0 represents not passing the electric current (off).

1 Byte = 8 bits a unit of measuring storage capacity
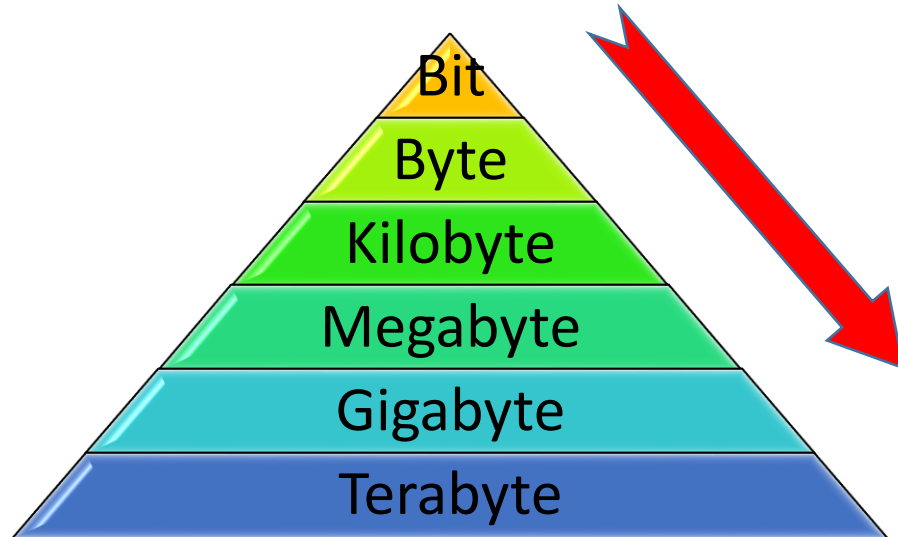**1 Kbyte** = 1024 Bytes a unit of measuring units of computer storage.

1 Kbyte = 1024 bytes (kilobyte)
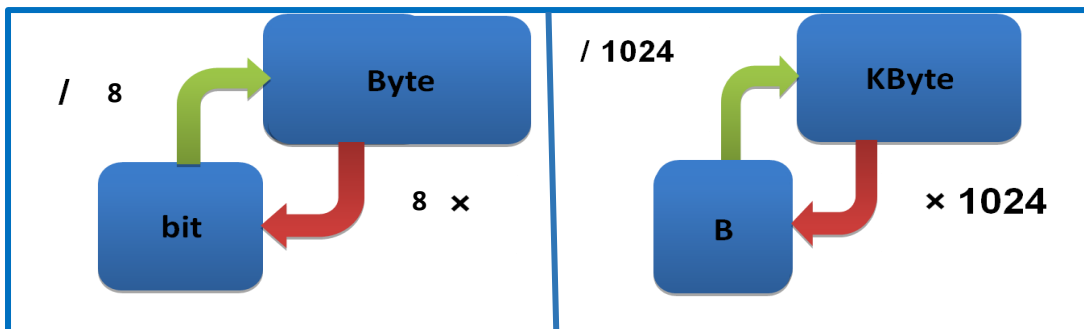**1 M byte**= 1024 kbytes (Megabyte)
1 G byte = 1024 M bytes (Gigabyte)
1 T byte = 1024 Gbyte (Tirabyte)

The order of units of measuring storage capacity from the smallest to the biggest (A to Z) (enrichment)

Bit
Byte
Kilobyte
Megabyte
Gigabyte
Terabyte

To change among the units of measuring: (enrichment)

/ 1024

Byte

/ 8

bit

8 ×

KByte

B

× 1024

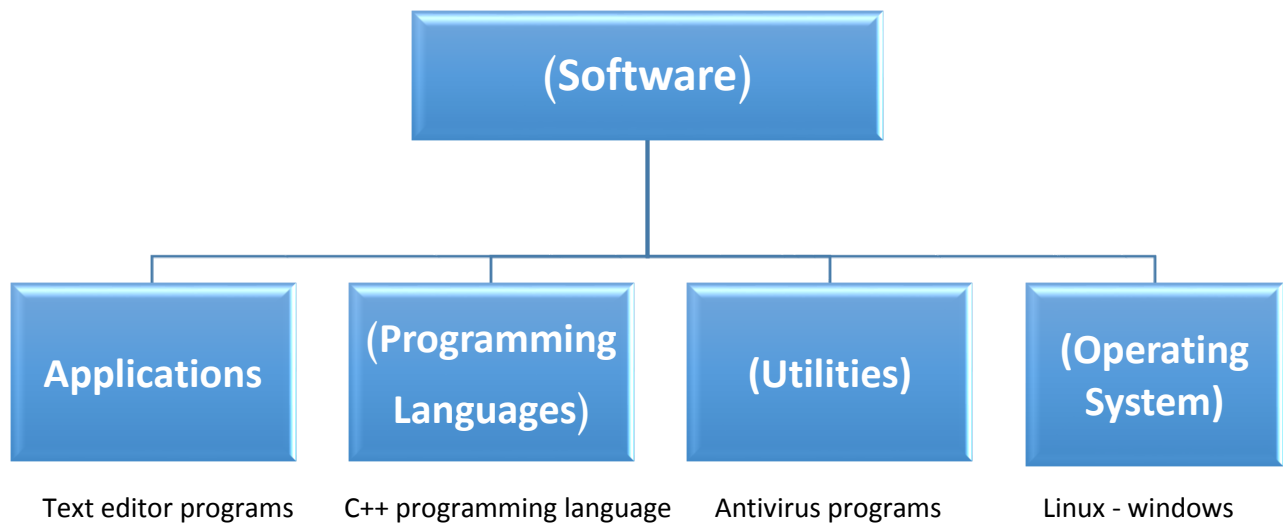**Tip:**

When you change from Bit into Byte divide by 8

When you change from Byte into Bit you, multiply by 8 and so does the rest of changes (/) means division process instead of (÷) in arithmetic system.

2- The unit of measuring the processor speed :

Hertz (HZ) and its doubling is the unit of measuring the processor speed.

THIRDLY: SOFTWARE

Software is a set of programs used to operate the computer and employ it to do different tasks.

```
                        (Software)
        ┌───────────────┬───┴───┬───────────────┐
  Applications    (Programming   (Utilities)   (Operating
                   Languages)                    System)
```

Text editor programs   C++ programming language   Antivirus programs   Linux - windows

Closed Source Programs:

A type of programs where you can't read its source code. It is only available for programmers or designers; (The source code is the programming code of the program).

Closed Source Program

Open Source Programs:

They are the programs of source code available for use, editing, development and distribution.

Open Source Programs

- The comparison between open and closed source programs:

Open source	Closed source
Available for free	**Determine costs according to the usage license**
The source code is available for all to modify and develop it	**Developing the source code is done by the programmers of the owners only**
Distributing programs to others without restriction is available	**Not allowed for use but after getting the license.**

An activity (6)

Dear students:

With the help of your teachers; Is this phrase right or wrong, and why?

- All open source programs are free but not all free programs are open source. ( )

- Software is divided into three types according to the copy rights:

(enrichment)

1- Freeware:

The responsible company lets the user make full use of it for free.

2- Shareware:

Shareware is an experimental copy for the original software with limited abilities or limited time and when time is up/over, shareware must be bought.

3- Software that can't be used except by buying the original copy.

It is protected by ID.

FOURTHLY:
HUMANWARE

User	Programmer	Designer	Analyst
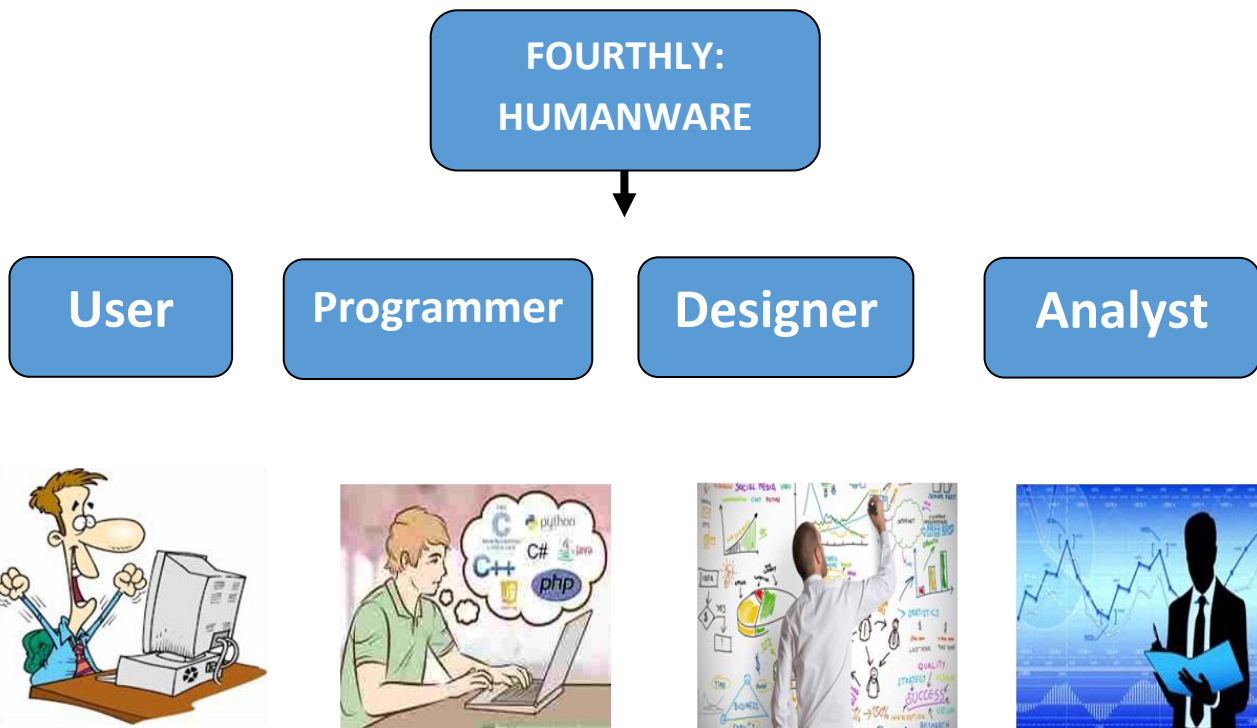
Remember
Computer : 　　It is an electronic device with ability to store data and process them to reach certain results (information) by doing some logical and mathematical processes using a series of logically arranged orders (instructions) called the program.
The main content of computer: 　　Human ware – software – hardware – Data and information. **The computer hardware components :** 　　Input units – output units – storage units – system unit. **The most important components of system unit.** 　　－　The main memory unit
－　Mother board 　－　CPU central processing unit (Processor)
The Processor consists of two main units: 　－　Arithmetic and Logic Unit (ALU) 　－　Control Unit (CU)
Software is a set of programs used to operate the computer and employ it to do different tasks: - Closed Source Programs - Open Source Programs **According to the copy rights, software is divided into three kinds:** 　－　**Freeware** 　－　**Shareware** 　－　**Software that can't be used except by buying the original copy**

Questions & Exercises

First question: Choose the correct answers:

1. "Touch screen" is one of …………….. units.

    A) Input only   C) output only
    B) Input and output   D) None of all mentioned

2." ………………… "is one of the output units.

    A) Printer   C) Keyboard
    B) The mouth   D) Microphone

3. "…………………"is the memory which keep data temporarily.

    A) RAM   C) ROM
    B) Flash Memory   D) All mentioned

4. Three Kbytes is equal to…….. bytes.

    A) 3 X 1024   C) 1024 X 1024 X 1024
    B) 3 X 1000   D) nothing of what was mentioned

Second question: Complete the following:

1. …………. , …………. , …………. are examples of computers
2. …………. , …………. , …………. are computer system elements.
3. …………. , …………. , …………. are of the output units.
4. ……………………………………….. is the unit of measuring the processor speed.

Third question: Answer the following questions:

1. Why is the permanent memory unit called so?
2. What do you mean by open source programs?
3. Show the difference between: freeware – shareware

The questions can be answered through:
MS Word program from the first lesson answer file in
(Answer and project folder)

Pre-question for the next lesson

There are several kinds of operating system which can be used.

- **What are the operating systems?**
- **What are the operating systems which can be used?**

Lesson two

Operating Systems

Objectives

The general objective:

- **To identify the computer operating systems.**

The procedural objective, at the end of the lesson:

The student will be able to …..

- **give the meaning of operating system.**

- **numerate the operating system jobs.**

- **differentiate the different types of modern operating systems.**

- **mention the similarities of Graphical user interface (GUI) elements of operating system.**

Operating Systems

Operating system is the most important kind of computer programs as there must be an operating system installed in the computer to be able to run the other types of different programs and applications and managing the Hardware of the computer.

Operating system is the main structure of the computer system as the computer searches for it every time on starting inside one of the storage units (often H.D). Then, the operating system is loaded inside RAM. Hence, the computer becomes ready to receive the user's command or instructions.

● Operating system definition:

It is a set of programs responsible for managing the hardware of the computer. On one hand it is a bridge between the user and his programs and the hardware on the other hand.

Operating systems are responsible for managing:

- Computer hardware
- Applications
- Command prompt is where the user can prompt commands to operating system or through graphical user interface(GUI).
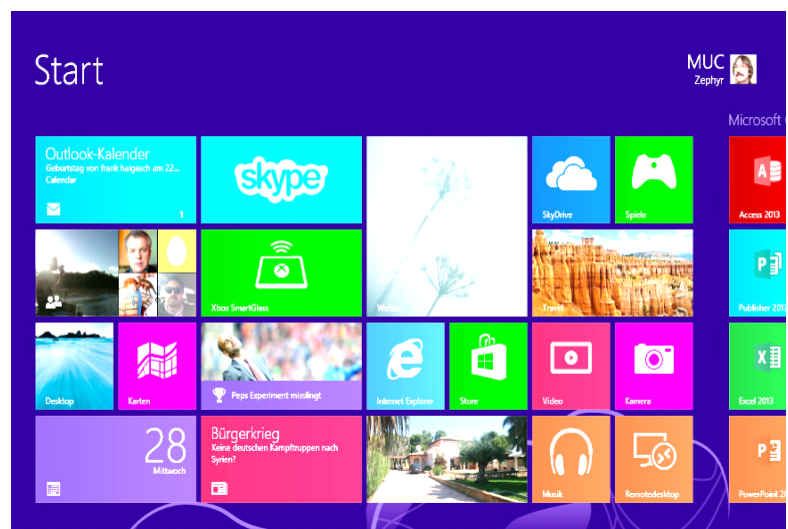
Command Prompt:

It is called "Terminal" in some operating systems where the user prompts commands to the operating system from command prompt using the keyboard.

`[moe@localhost ~]$ clear_`

Graphical User Interface (GUI)

It contains some different commands and instructions in the form of menus, graphics , tool bars and the basic input unit is the mouse that makes computer more interesting.

The user can prompt commands in two ways:

- **Command Prompt**

- **GUI**

Operating systems Jobs

Operating system has several tasks and functions to do related to operating computer, controlling its contents, Hardware and Software.

We can define some tasks of operating systems in the following points:

The most operating system functions are to: (enrichment)

- manage storage units and the other components of computer (printer – scanner).

- organize the software dealing with memory.

- transmit data among the different units and save them on storage.

- secure (password – different user validity).

- provide interface for users through which the user can deal with computer.
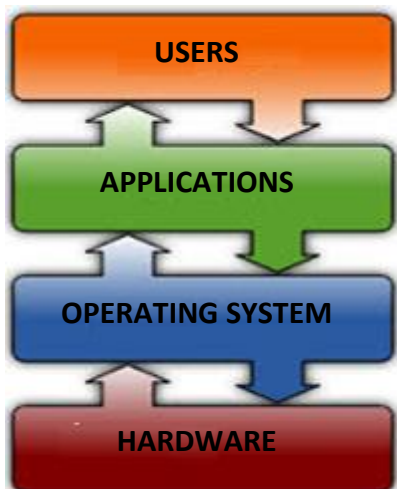
Operating Systems (Open or closed Source)

Different Operating Systems

Windows

Android

Linux

OS MAC for Apple

Previously, we referred that software can be classified into open and closed source. Hence, we can classify operating systems into

Closed source operating systems:

- **Mac OS X** is an operating system specified for apple Mac devices that is attractive and easy to use.

- **<u>Windows</u> :**

One of the most famous operating systems and more common for personal computer.

<u>- Open source operating system:</u>

Linux: Open source operating system – easy to use and developable.

**A lot of its distributions are found (available) and the most famous are Ubuntu, Fedora**

Mobile phones operating systems:

There are open and closed source operating systems for mobile phones. On purchasing, operating systems and software applications are important factors especially when the technological specifications of mobile phones are approximated with each other. Android is one of the open–operating systems. It is not only used in Mobile phones but also in tablets.

Characteristics of GUI

It provides the user with graphic user interface which allows:

- Showing programs in the regular window frames.
- Using simple drop down menu and tool bars.
- The capability of operating several programs at the same time.
- The capability of using Arabic and other languages as application interface.
- Provide web browsers for web sites pages.
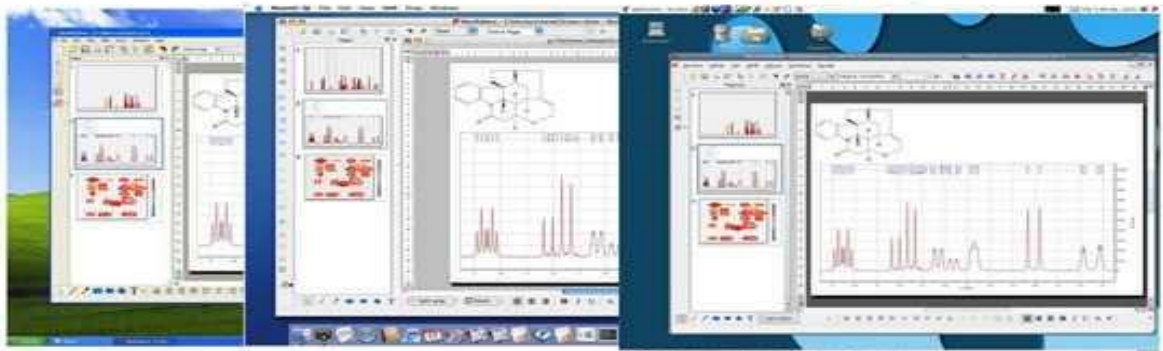
Dear student:

- There are some specific icons for operating system write the operating system name which refers to each icon.

- Cooperate with your teacher; look for examples of Mobile phone operating systems.

....
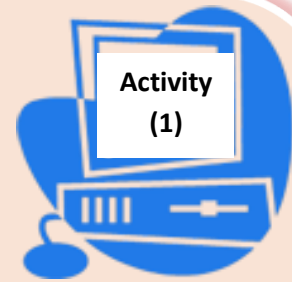
Opening Screen of the Operating System

On turning on the computer, it makes sure of the safety of main units such as temporary memory (RAM), Keyboard, screen and disc drivers. The self–test program which found in ROM can do that; In case of having no problems, operating system starts then, the opening screen appears for user to start achieving his work.

There is similarity in GUI operating systems
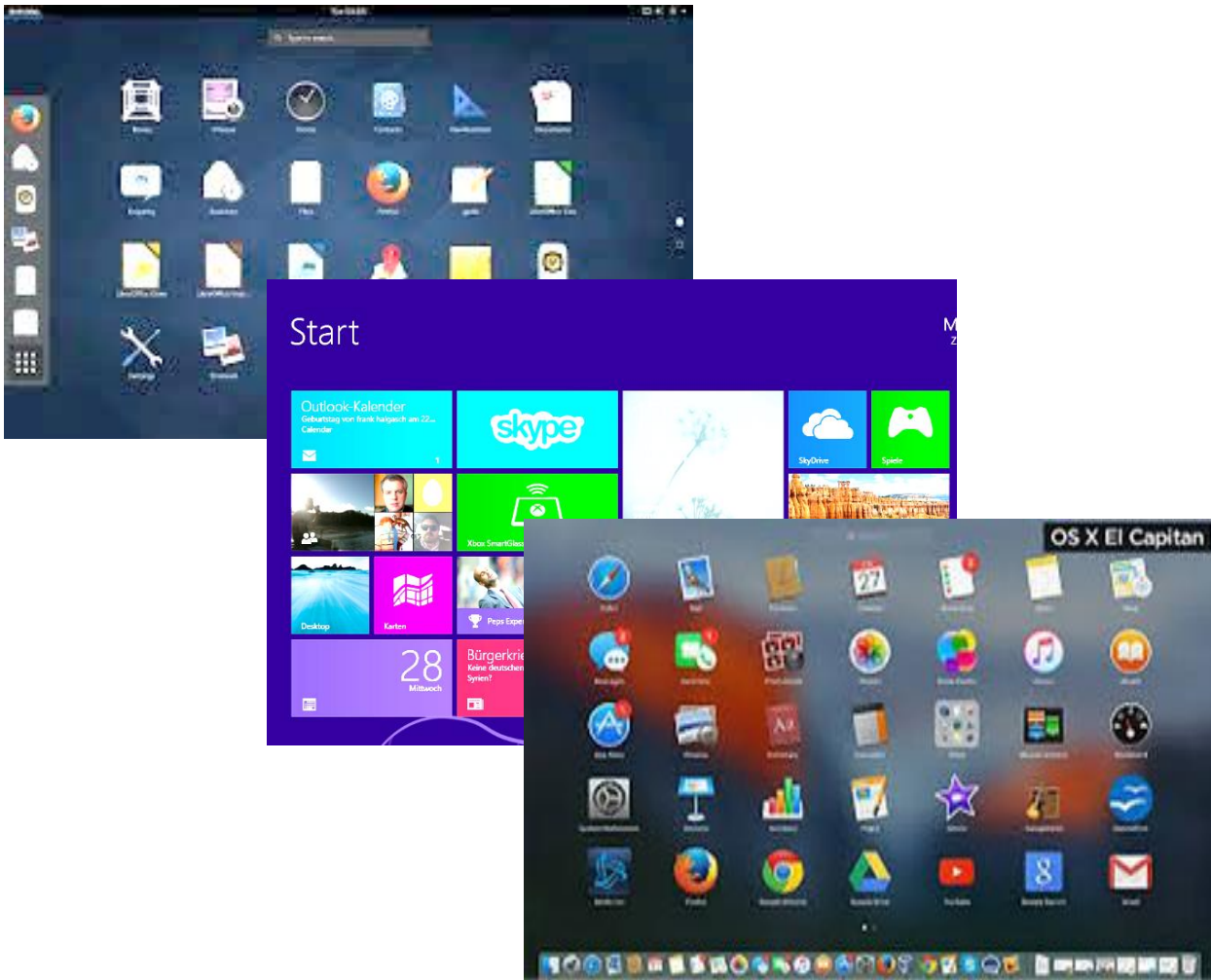
There is similarity among the main components of the starting screen in different opening systems.

- **Background:** is a color or image that can be changed by the user.

- **Icons:** small symbols used in running different programs quickly as soon as you double click the left button of the mouse.

- **Bars:** group of symbols of installed software on operating systems and others related to the important preparations of the system such as time and date setting and sound control and the network

Tip:

The computer can contain more than one operating system but on starting, choose one of them to be loaded.

Dear student:

Activity (2)

With the help of your teacher, do the following:

- Choose and load one of the operating systems installed on your computer such as windows.
- Write three icons names found on the desktop.
- Change the background (image or color)
- Adjust time and date
- Look for one of the programs to change the image.
- Search for internet transverse icon, load internet transverse program.
- Load Ministry of Education website.
- Look for one of the text editors and write your notes about the ministry website using text editor.

Remember

Operating system: a set of programs responsible for managing the Hardware moreover, it is considered a means between the user and his programs on one hand and the Hardware on the other hand.

Operating system is responsible for:

- **The Hardware of the computer**
- **Software applications**

Operating system functions:

- **To control storage units and the other components such as printer, scanner………..etc.**
- **Organizing the software dealing with memory**
- **Data transmission among different units of the computer and keeping in storage units.**
- **Security (password – user different validity).**
- **provide interface for the user through which he can deal with the computer.**

* There are different closed and open source operating systems.

Modern operating systems are distinguished with:

- providing GUI for the user as it provides:

- **Program display in the form of organized windows.**
- **Using the simple drop-down menu and toolbars.**
- **The main components of the main screen are similar among the different operating systems.**

Exercises

The first question: Tick (√) infront of the right phrases and (×) infront of the false ones

- Operating system must be installed on the computer to be able to operate the rest kinds of different programs and applications (   )

- The user can prompt commands and instructions of the operating system through command prompt   (   )

- MAC OS X is one of the open source operating systems.   (   )

- Android is an open source operating system.   (   )

The second question:

- Define three functions of operating system?

- Show the most important advantage of (GUI) graphical user interface?

- What is the main function of self-test program?

The answers can be done through MS word program at the second lesson answer file in project and answer folder

Prepare for the next lesson

One of the advantages of operating systems is file and folder management and arranging them in folders and indexes.

How do we manage files and folders (Create, save...)?

The Third Lesson

Dealing with files and folders

Objectives

The General objective:

  To perfect dealing with files and folders

The procedural objective, at the end of the lesson students will be able to:

- **identify the file and folder concept.**

- **identify the most important kinds of files.**

- **deal with the file (create, save, copy and cut)**

- **deal with the folder (create, save, copy and cut).**

Dealing with files and folders

One of the most advantages of operating system is to control files management and organize them in folders and indexes.

Each operating system depends on kind of file systems which is used for how to store, restore, organize and manage files.

Firstly dealing with files

Files are the most important sources used on dealing with operating system; each text document , image , video or audio you deal with is a file. To be able to manage files and deal with them efficiently, we must collect and arrange those files logically, this can be done in operating systems by creating folders including connected files inside them.

Tip:

- **All processes carried out by the computer are** Kept inside RAM and when the electricity is off this temporary memory loses its contents.

- To keep your doings permanently, you should save them in the file on a storage unit.

An activity (1)

Dear students :

With the help of your teacher, compare between the different storage units concerning the storage capacity as follows:

Different Storage Units

Flash Memory

Compact Disk (**CD**)

Hard Disk (HD)
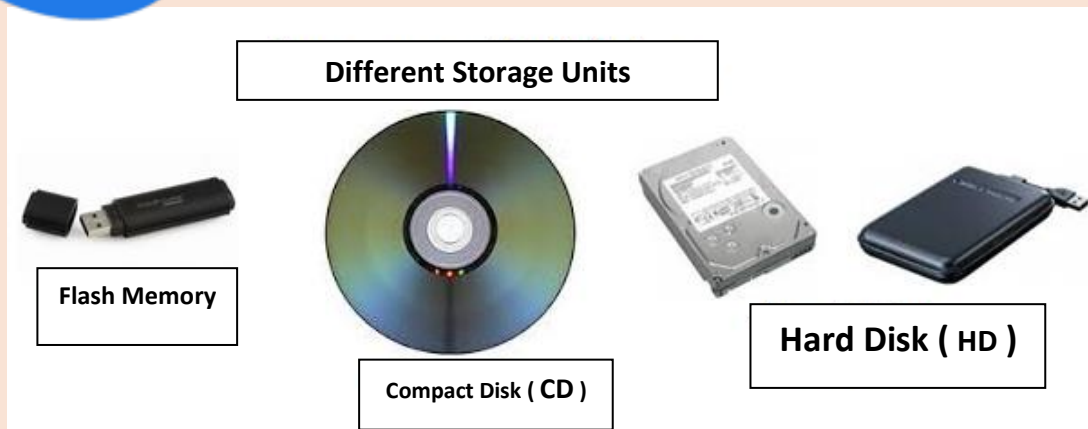
File :

Is a set of data which is stored in storage units in different kinds and extensions.

The user can deal with it on restoring, modifying, deleting, sharing and printing ……etc.

- **File name consists of two parts, the first is the origin name and the second is called extension which distinguishes file type. It often consists of 3 letters.**
- **The file origin name is separated from its extension with a (dot).**

- **The file has certain types which differ according to the application used in its creation.**

dot

Hello • txt

Origin file name
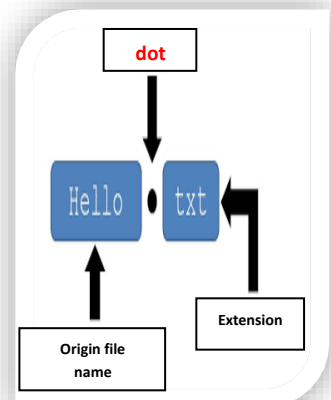
Extension

The most important file types

Video files:

This file contains sound and images. It is created by special programs for recording videos or audios.

Image files:

They are created by graphic programs including graphic data with different extensions which defines the image accuracy, clearance and size.
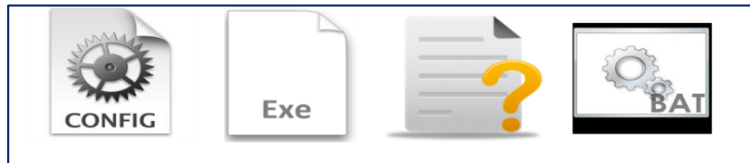

Text files:

There are several office programs such as MS office, libreoffice through which text files are created.

System files:

They belong to the operating systems, programs and sets connected to the computer.

These files must not be played with or deleted so as not to affect operating system work badly.

File creation and saving

**Dear student, with the help of your teacher, do the following:**

An activity (2)

- create text file through one of the text editor
- Save this file in one of storage units

file creation:

- open one of the text editor programs
- Write one of the text phrases

File saving:

- Open file menu.
- Chose save as, *save as* dialogue box appears.
  1. Write the file name in the specific place.
  2. Define the place in which file be saved.
  3. Click save.

Text Editor Program window
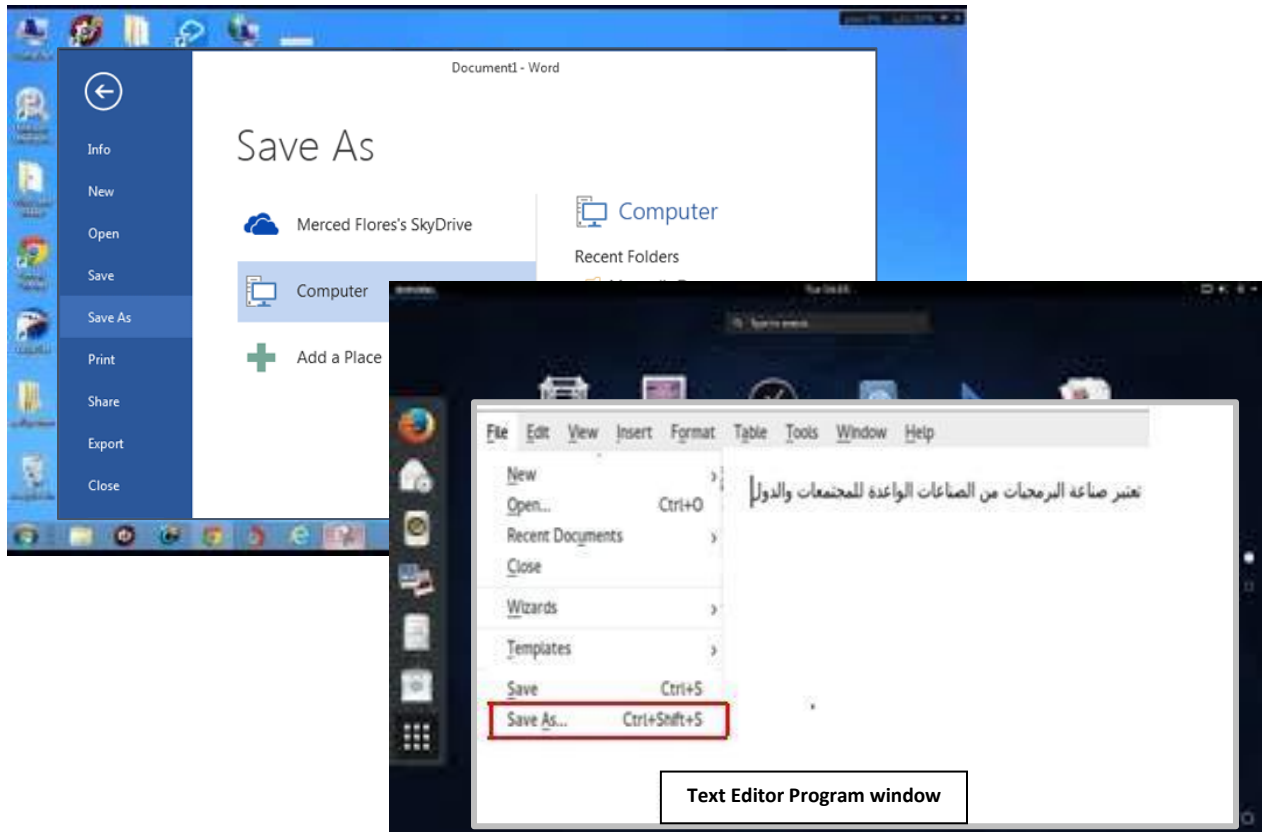
Note that:

## File saving ways are similar even if operating systems are different

Tips:

- At the first time to save files the command save is similar to save as command.
- Save as is used to save file copy using new name at the same place or any other place.
- You can use the short keys in the keyboard (CTRL+S) to save the file.
- It is preferred to file name to suit its content to be easy to remember.
- You must remember the place where you saved.

An activity (3)

With the help of your teacher.

- create an image file and save it using one of the image processing programs available in your computer.

- Differentiate between <u>save</u> and <u>save as</u> command.

File Creation
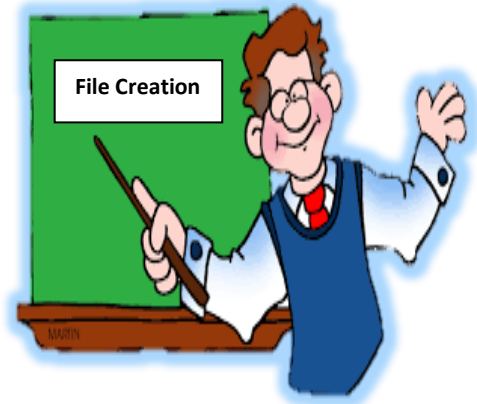
SAVE AS	Save
Used on creating the file at the first time	Used on creating the file for the first time.
Used on changing the name of the file or saving the file after modification and with a desire to save the file with different extension	Used on modifying the file with a desire to save the modification at the same file and with the same name as it is.

Searching for a file in the computer (enrichment)

**You can search for the file in different ways:**

- **Using the origin name part of it, or by the extension (type). This can be done using search command which different operating systems provide.**

Tip.:

Search tape can be shown by pressing (CTRL+F) on the keyboard.

The search using the name:

Write part of the file name or the fill name in the search bar then file names appear including the file name.
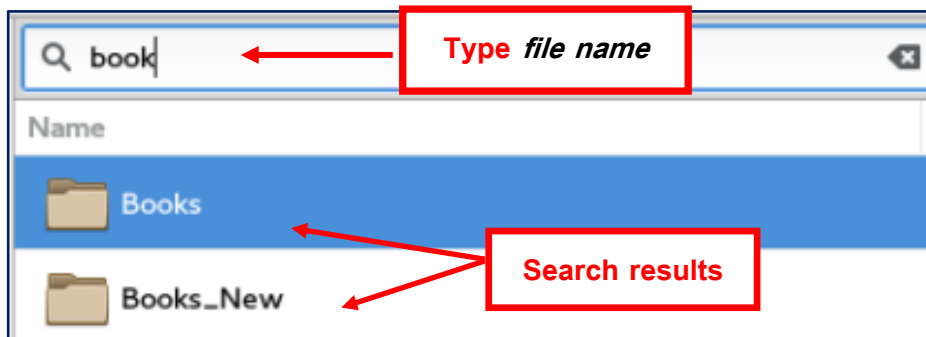
The search using file extensions:

This can be done using the symbol (*) instead of the file origin name and write the file extension and they can be separated with a dot (.) in the following example, means search all files with extension PNG.
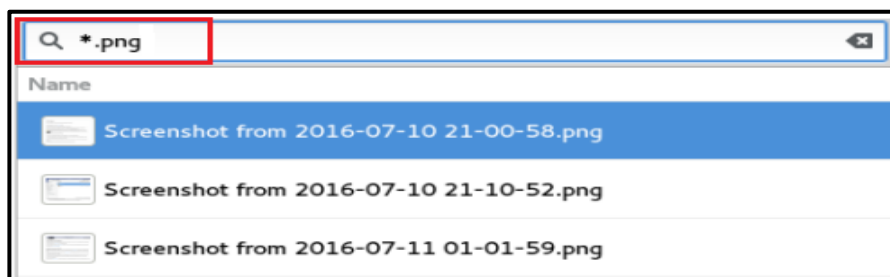
Dealing with Folders

The more your work is arranged and organized, the less effort you do and the less time you take to reach your goal. So you need to organize and arrange your files by putting each connected group in a separate place to be easy to reach.

Folder Definition:

It is a place inside a storage device which contains a file or more and also other folders called sub-folder.

Sub-folders:

The purpose of using folders is an organized process for the storage units contents to reach the required files easily and quickly where operating system allows the user to create several folders with certain names which refers to the folder content.
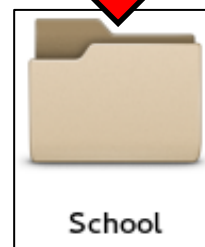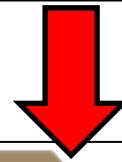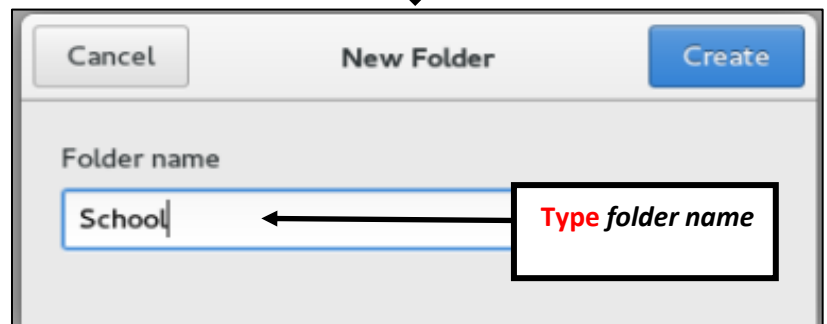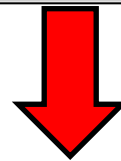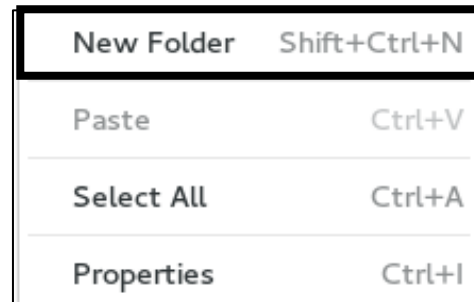
Folders have several similar shapes according to operating system type and content.

creating a folder

To create a folder, do the following steps:

- **Click the mouse in the place where you need to create the folder. Click the right button of the mouse, the context menu appears as found in the following shape.**
- **Select the New folder command**
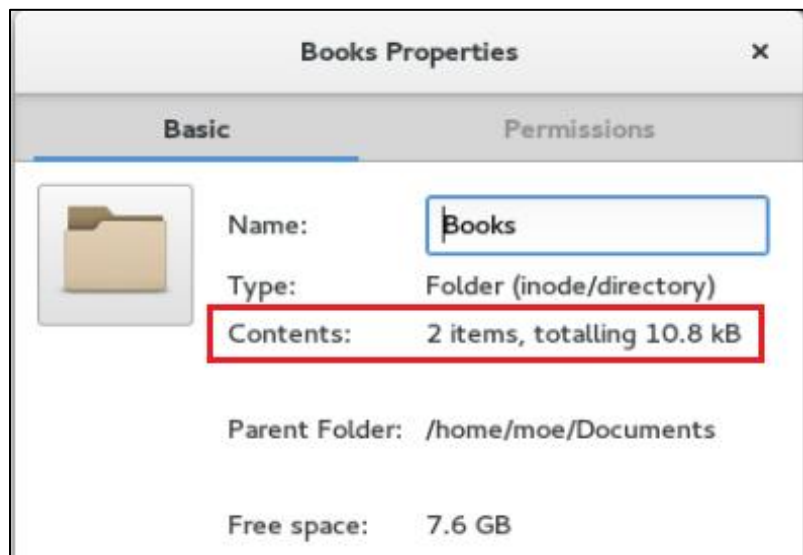- **write the folder name.**
- **Click "create".**

New Folder	Shift+Ctrl+N
Paste	Ctrl+V
Select All	Ctrl+A
Properties	Ctrl+I

Cancel	New Folder	Create

Folder name

School

Type *folder name*

School

Activity (4)

With the help of your teacher, create a new a folder in a different way by pressing the following buttons

| Ctrl | + | Shift | + | N |
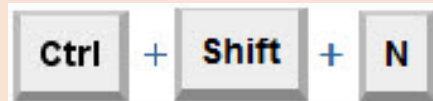
Tips:

- **The folder may contain files or sub folders.**
- **One of the folder properties is to identify its size and the number of its contents (items).**

Books Properties ✕

Basic   Permissions

Name: Books
Type: Folder (inode/directory)
Contents: 2 items, totalling 10.8 kB

Parent Folder: /home/moe/Documents

Free space: 7.6 GB

Activity (5)

With the help of your teachers, create two folders:
My work, games in Documents folder found in Home folder as shown in the following diagram shape.
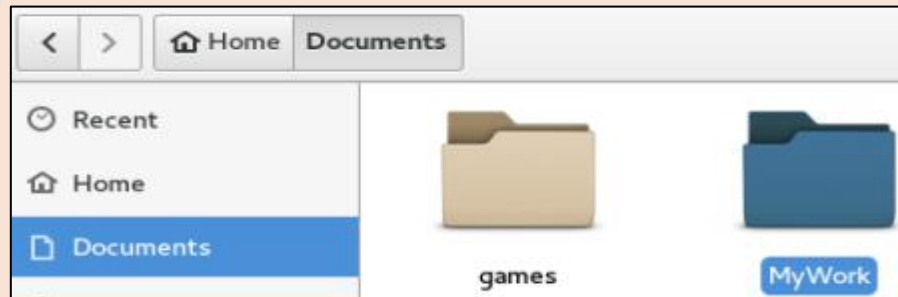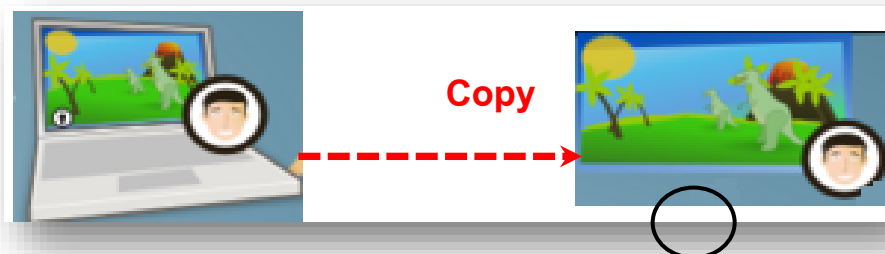

The folder cut & copy

- **Cutting The folder:** to move the folder with its contents from its current place to a new place at the same storage unit or any other storage unit.
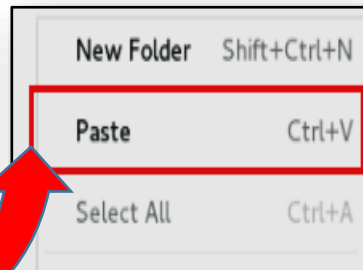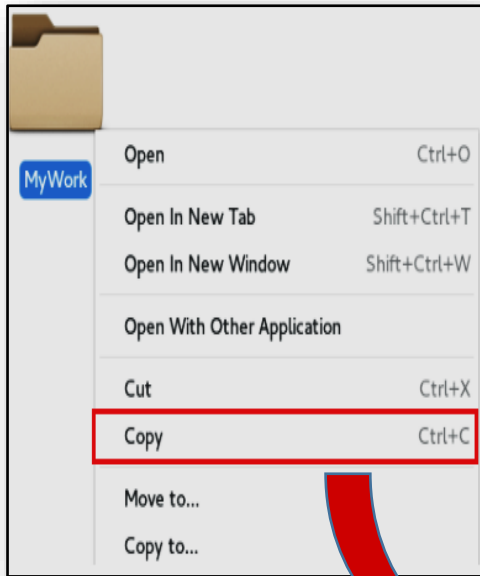

Cut

- **Copying The folder:** make another instance to get spare copy of the file either at the same storage unit or any other.

Copy

The folder "copy" steps:with your teacher discuss the steps of the folder copy
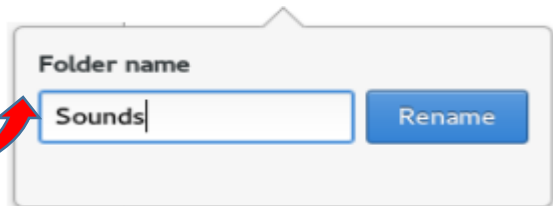
- Using the context menu of the folder.
- Choose "copy" command.
- Move to the new place (the same storage unit or the other)
- display the context.
- Choose "paste" command then the folder is copied.

MyWork	
Open	Ctrl+O
Open In New Tab	Shift+Ctrl+T
Open In New Window	Shift+Ctrl+W
Open With Other Application	
Cut	Ctrl+X
Copy	Ctrl+C
Move to...	
Copy to...	

New Folder	Shift+Ctrl+N
Paste	Ctrl+V
Select All	Ctrl+A

Re-naming the folder

To change the folder name, follow these steps

- Use the context menu of the folder.
- Click "Rename" command
- Write the new name.
- Click "Rename"

MyWork	
Open	Ctrl+O
Open In New Tab	Shift+Ctrl+T
Open In New Window	Shift+Ctrl+W
Open With Other Application	
Cut	Ctrl+X
Copy	Ctrl+C
Move to...	
Copy to...	
Move to Trash	Delete
Rename	F2

Folder name

Sounds | Rename
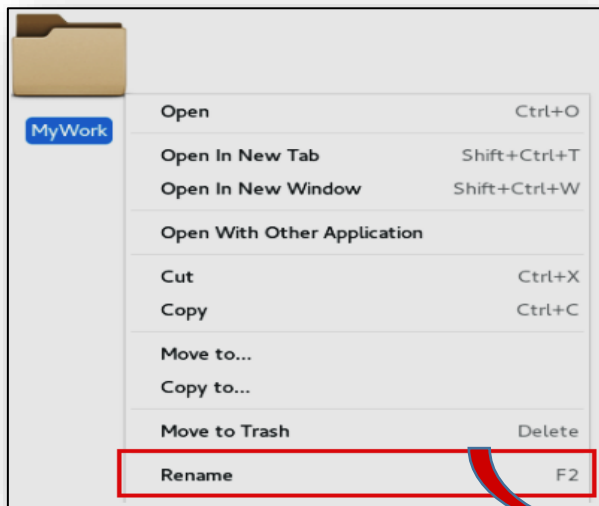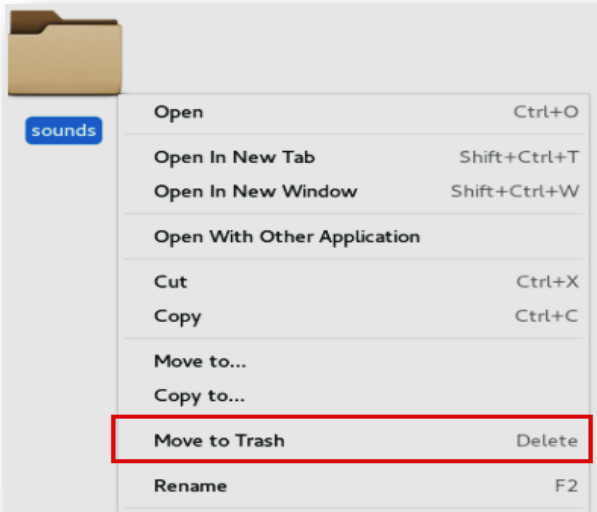
Delete Folder

To delete the folder follow these steps:

- **Using the context menu of the folder.**
- **Click "Move to trash"**

restoring the deleted (files or floders):

Any deleted folder or file can move to trash (the basket where deleted files or folders exist) where it can be restored again or deleted forever.

The steps of restoring deleted file or folder:

- **Move to trash, deleted files or folders appear.**
- **Restore the folder or delete it forever.**
- **Click "Delete" from Trash to delete the folder forever.**
- **Click "restore from Trash" to restore the folder.**

As shown:
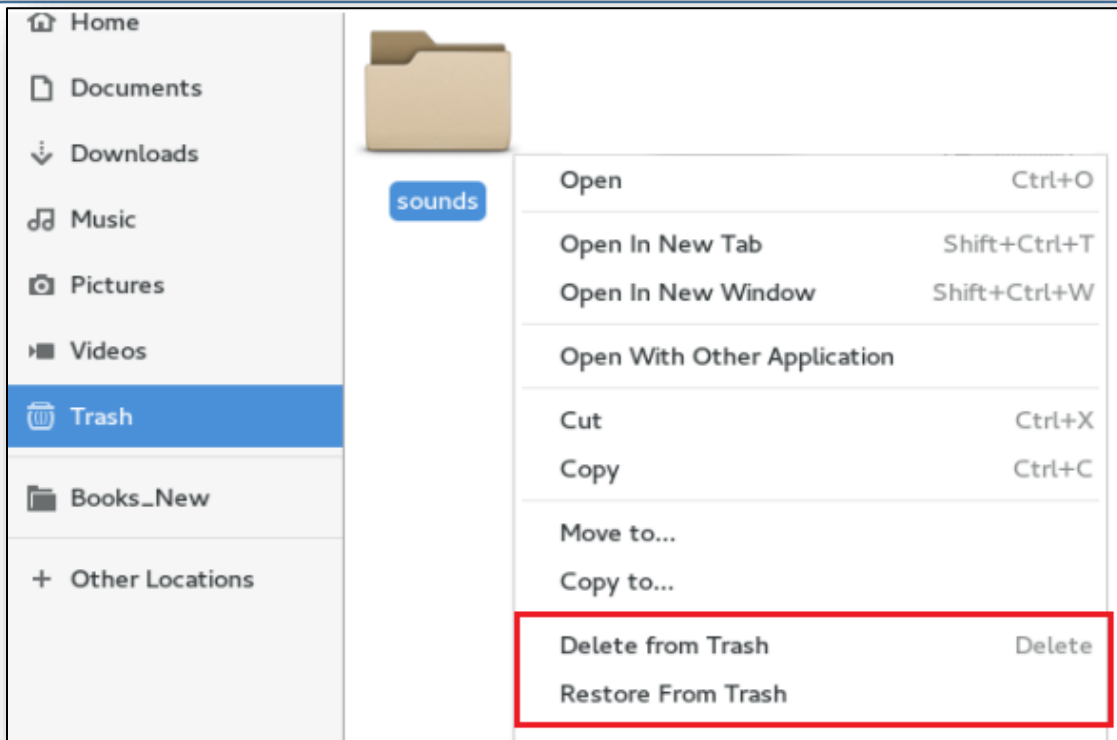
restoring the deleted files / folders or deleted forever

> **Activity (6)**
>
> With the help of your teacher do the following steps
>   - create a new folder named "games".
> - open it, then create folder "cars" inside it.
> - copy "cars" folder and past it at the same place with another name "football".
> - After doing the previous steps, make sure that the folder "games" is found and inside it the other two folders "cars" "football" are found.

Remember

- One of the most important advantages of operating system is managing files and organizing them in folders and indexes.
- In order to save your work permanently, they must be saved in files in a storage unit.

File : is a set of data which is stored in a storage unit with different extensions and types. The user can deal with them by restoring, modifying deleting, Sharing, printing ……………etc.

The file name consists of two syllables – the first is the origin name and the second is called extension which determine file type. It often consists of three letters.

On saving the file.

- For the first time, "save" is equal to "save as"
- You can use "save as" to save the file with a new name at the same place or another.

You can search for the file in several ways:

- Search using a name
- Search using the file extension

The folder definition :

- It Is a place in the storage unit containing file or set of files in addition, it often contains a folder, other folders called sub folders.
- The folder may contain files or sub folders.
- One of the properties of the folder is to identify its size and the number of its contents.

The folder can be manipulated by: cut – copy – Rename – delete

Restoring the deleted files or folders:

On deleting a file or a folder, it moves to Trash where it can be restored or deleted forever.

Questions & Exercises

The first questions: Put (√) in front of the right phrase and (×) in front of the false ones

(1)   The type of the file can be identified through its icon or extension   (   )

(2)   The permanent delete in Trash can be restored again   (   )

(3)   Cut and paste of the folder means repeating it to get a spare copy either at the same storage unit or at another.

(4)   Files can be saved by using (Shift + S).

The second question: what is the difference between:

(1)   File and folder

(2)   Save and save as

(3)   Delete and Delete from Trash

The third questions: Write the scientific term:

(1)   Files belong to operating system and components connected to computer, never play with it.

(2)   A collection of data which is stored in the storage units in different extension.

The questions can be answered through:
MS Word program in the first lesson answer file in
(Answer and project folder)

Pre question for the next lesson

There is what we call computer networks and files share

- **What are the computer networks?**

- **How can you share your files with your mates?**

The Fourth Lesson

The Computer Networks

Objectives

The general objective:

      To identify the computer networks and sharing files

Procedural objectives :

At the end of the lesson, the student will be able to:

- **define the computer networks concept.**

- **identify types of computer networks.**

- **mention the importance of computer networks and its usage**

- **share files with his mates.**

Computer networks

Information and communications are the most important factors for any association to pay off (succeed). in the past, each association had a number of computers and communication devices such as (phones, faxes ……..) but each one of them worked separately so the association was informatively.

To solve this problem to benefit from information technology in a better way, there had to be computer networks to connect associations together. This is called computer and communication sets integration.

Computer networks enable their user to reach remote data base found in the same association or others. The computer has the power to process data. If it is connected to a network of other computers. It will become more powerful and capable of doing different tasks.

The computer net and its importance:

It is a connection between two sets or more through a wire or wireless means to share the resources (sets and data).

<u>The most important benefits of computer net:</u> (enrichment)

1- The possibility of exchanging data and programs among the net sets.

2- Sharing the Hardware such as (printer, scanner, different storage units …….etc.)

3- Data centralization such as the main branch of a bank has a computer with data base for the customers' accounts and connected to other computers in the other branches of the same bank in order to update the data at any branch of the bank.
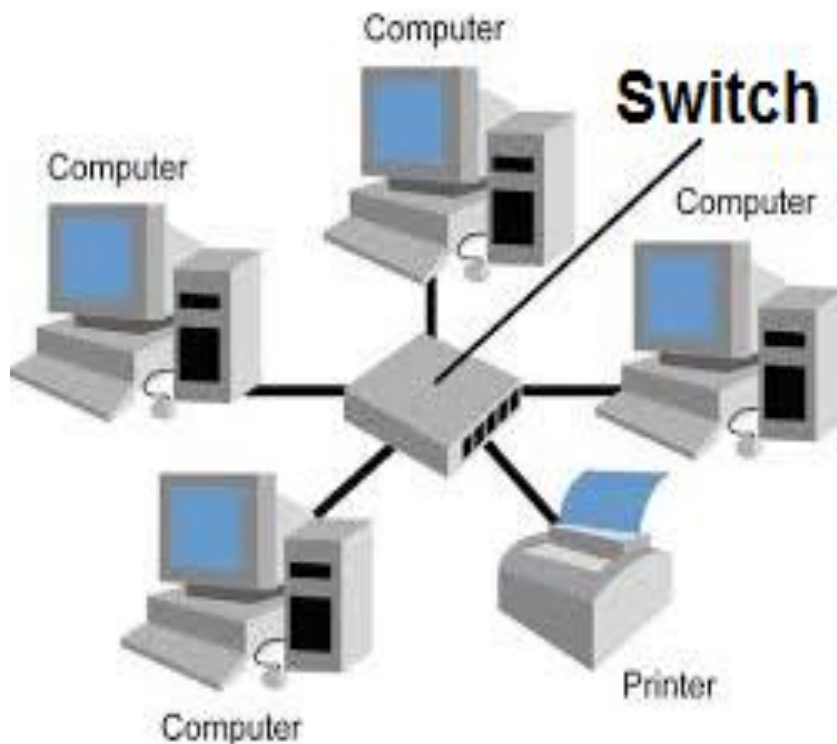
Types of Networks

1- Local Area Network (LAN):

It is a limited network area inside a building or several near buildings. It is used at small institutions, schools, universities or at home.
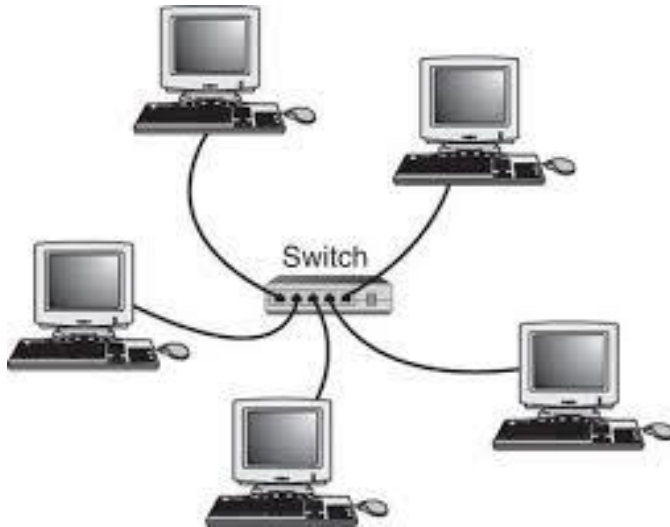
2- Wide Area Network (WAN):

It is used to connect devices separated by long distances like cities, states or continents, so other methods are used to connect devices that are different from the local network. The Internet is considered a special type of the wide area networks

File Sharing

-File Sharing:

 Sharing files is the process of spreading digitally stored information, such as documents, electronic books, computer software or multimedia (audio files, video or photos). This is to help accessing any of them through computer networks where any files can be shared as well as some of the devices such as a printer among different network devices.

First, Sharing files in Windows Operating System:

To share a file or a group of files in Windows Operating system the following steps are to be followed:
 -Add the files in a folder.
 -Select the folder to be shared (for example the folder, **Books**), right-click the mouse then select **Share with** from the context menu.
Note: It is important to configure all the network settings. (by your teacher).
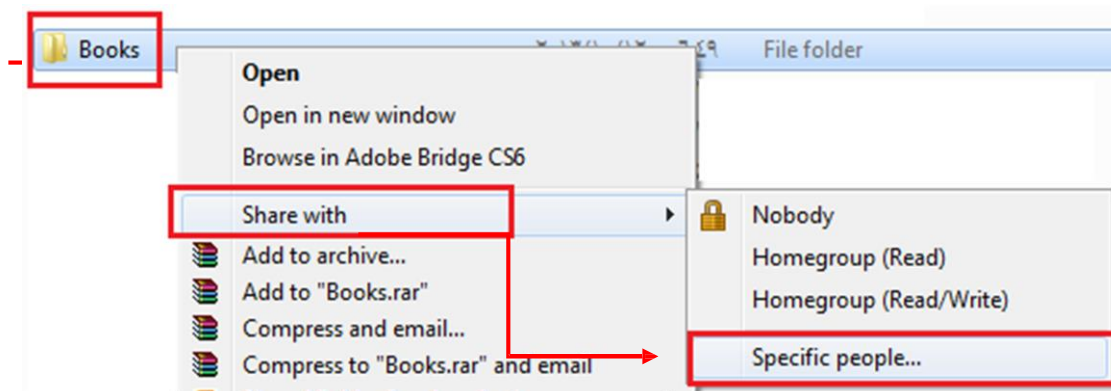
Select the option **"Specific people"**, a dialogue box **File Sharing** appears (the following numbered pictures guide towards identifying the steps).

File Sharing

Choose people to share with

Type a name and then click Add, or click the arrow to find someone.
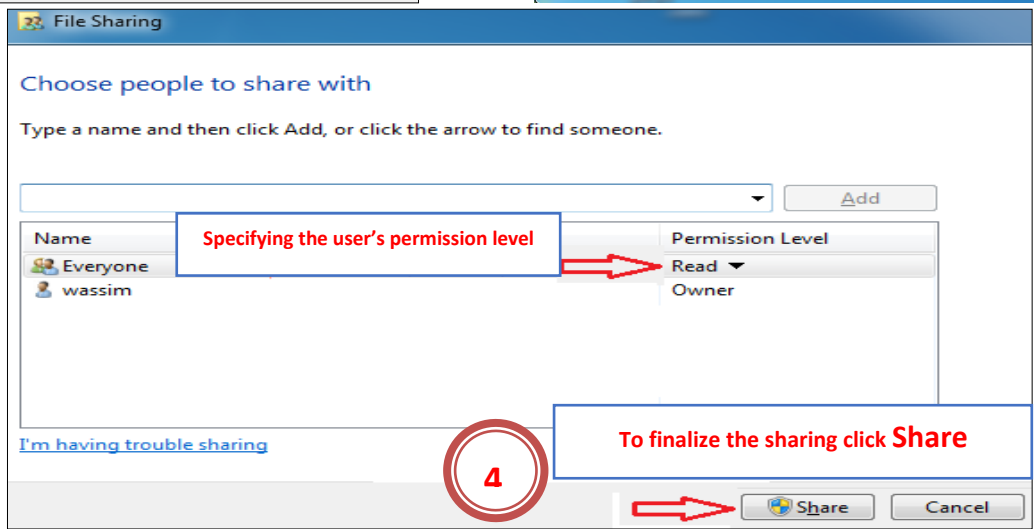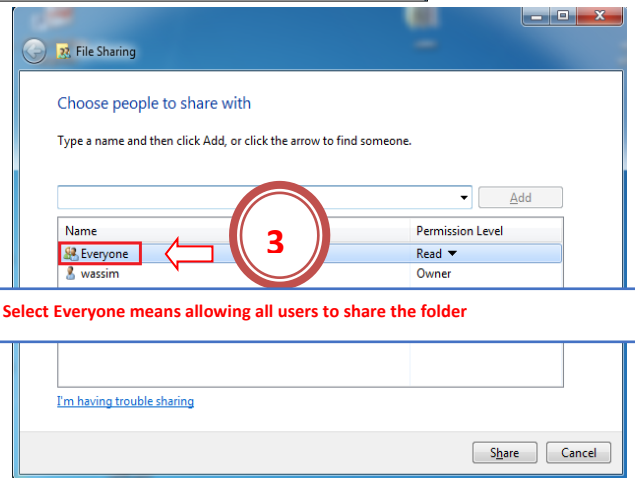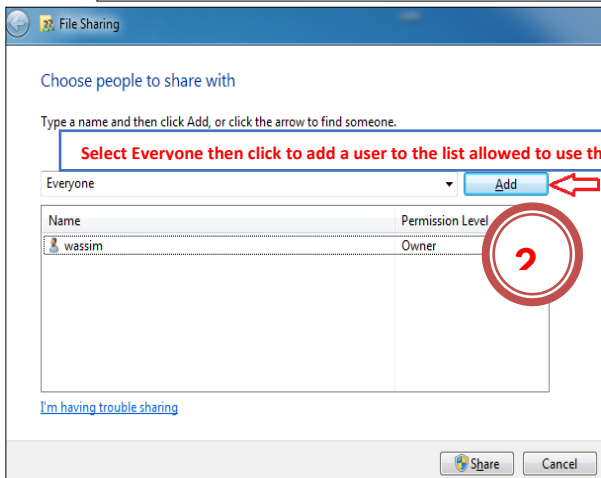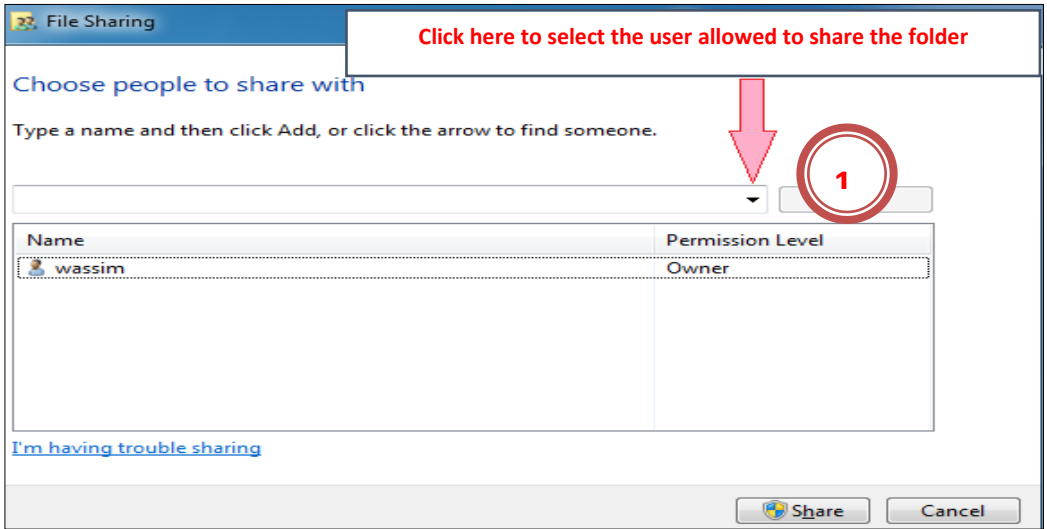
Click here to select the user allowed to share the folder

1

Name	Permission Level
👤 wassim	Owner

I'm having trouble sharing

Share   Cancel

File Sharing

Choose people to share with

Type a name and then click Add, or click the arrow to find someone.

Select Everyone then click to add a user to the list allowed to use the folder

Everyone ▼   Add

Name	Permission Level
👤 wassim	Owner

2

I'm having trouble sharing

Share   Cancel

File Sharing

Choose people to share with

Type a name and then click Add, or click the arrow to find someone.

▼   Add

Name	Permission Level
👥 Everyone	Read ▼
👤 wassim	Owner

3

Select Everyone means allowing all users to share the folder

I'm having trouble sharing

Share   Cancel

File Sharing

Choose people to share with

Type a name and then click Add, or click the arrow to find someone.

▼   Add

Name	Permission Level
👥 Everyone	Read ▼
👤 wassim	Owner

Specifying the user's permission level

I'm having trouble sharing

4

To finalize the sharing click Share

Share   Cancel

1 .Choose the user allowed to share the folder from the drop down list. Let the user be **Everyone** to allow all the users to share the specified folder.

2 .Press the button **add** to add this user to the list of users allowed to share.

3.Different permission can be assigned through **Permission level** where the choice **Read** means allowing reading the files only and the choice **Read/write** means allowing reading, modification or deletion.

4.Press **Share** to complete fulfilling sharing the folder with special validations**.**

To allow your colleagues to reach your available files through the network,they must search for your computer through the network. The search for your computer is to be through the name of the computer.
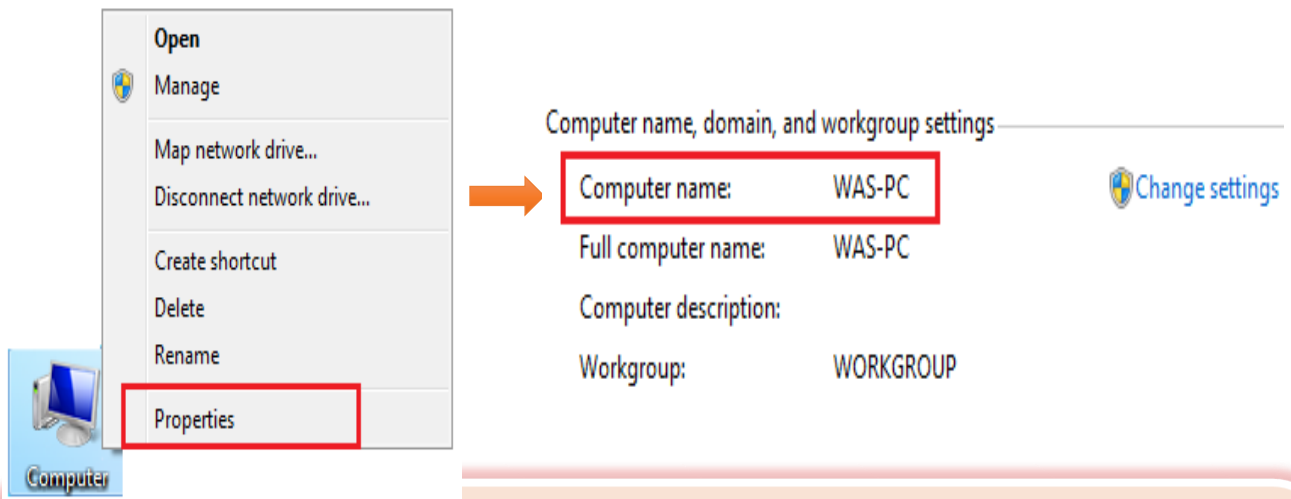

Activity (1)

By the help of your teacheridentify the name of the computer you are working on.

What is the name of your computer?

To know the name of your computer or the one whichyou are working onthese steps are to be followed:

1 .Show the context menu of the **Computer** icon on the desktop.

2 .Click on the option **Properties**.

3 .The name of the computer is displayed in the item **Computer name.**

Open
Manage
Map network drive...
Disconnect network drive...
Create shortcut
Delete
Rename
Properties

Computer

Computer name, domain, and workgroup settings

Computer name:	WAS-PC	Change settings
Full computer name:	WAS-PC	
Computer description:		
Workgroup:	WORKGROUP	

By the help of your teacher help your colleagues to identify the names of their computers.

Activity (2)

Accessing your colleagues' folder (folders) on a network

Accessing a folder (folders) which was shared through the network by your colleagues:

1- Double Click on the computer network icon (**Network**), the following window which includes all the computers of your colleagues who are connected to the network appears.
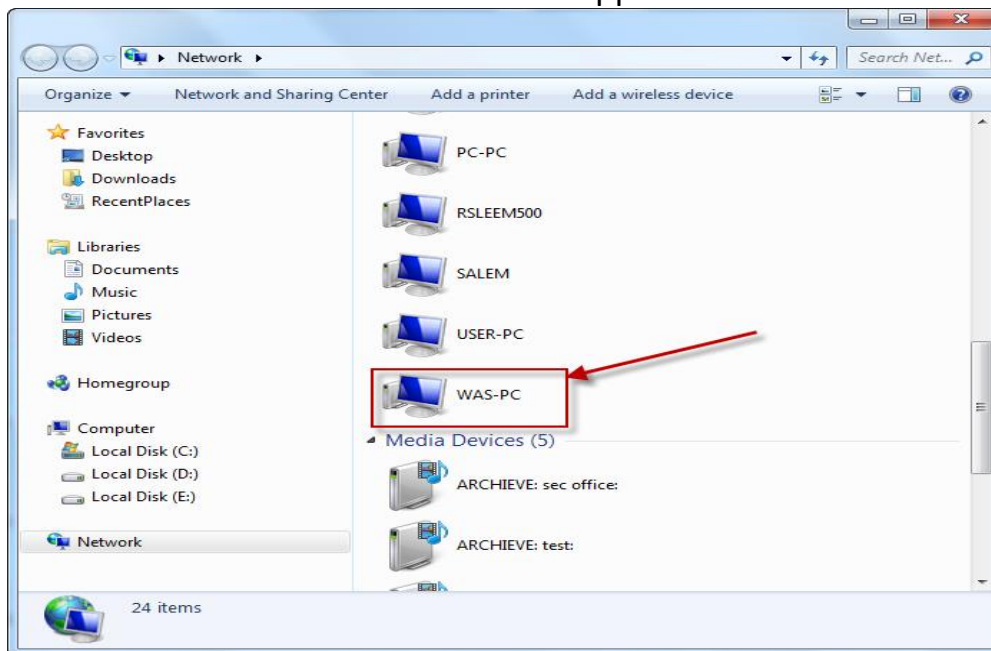
2- Search for the required device through its name. By double clicking the mouse, you can access the device (in the previous figure the name of the device is **WAS_PC**) then all the shared folders appear as shown in the following window:
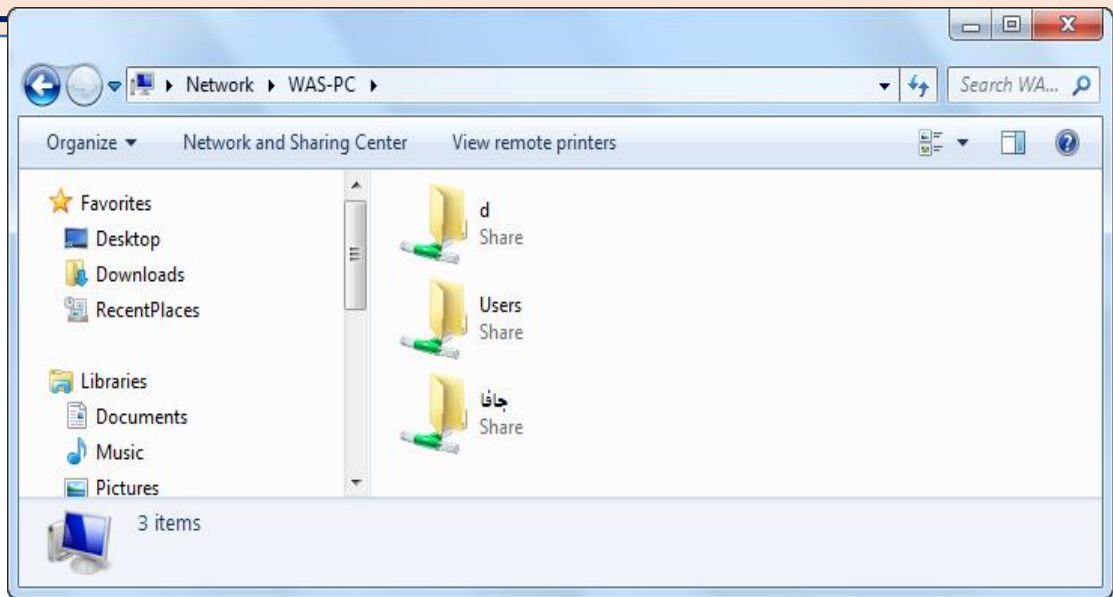
After accessing the required device on the network, all the folders that were shared on the device appear.

Activity (3)

By the help of your teacher do the following:
- create a folder, copy and paste some of the files to that folder.
- Share the folder to be available for the rest of your colleagues' devices on the network.
- Compare between **Read** and **Read/Write** (This is the permission available to deal with the folder while sharing).

First: to conduct this activity the teacher does the following:

-Create a folder entitled **Teacher**

-Through a word processing program create a text file that contains a table of students' data as follows: "number - the student's name - the email address of the student."

No.	Student's name	E-mail

- Save the file as **Email** in the folder **Teacher**.

-Share the folder **Teacher** with the permission of **Read/write**.

Second: students do the following through the network:

-Open the teacher's computer through the icon of the network.

-Open the folder **Teacher** which is shared with the permission of **Read/Write**

-Open the file entitled **Email** saved in the folder **Teacher** and register both the name and email address of the student.

- save the modifications of the file.

Important Note:

Using the permission of **Read/Write** may cause a problem as it allows others through the network to change the content shared as well as deleting it totally from your device which may cause damage, falsification or missing the information.

## Second: Sharing files in Fedora Operating System

Sharing files in Fedora Operating System:

Implementing the file sharing in Fedora Operating System could be through allowing the users of the network to access a folder entitled **Public** in the folder **Home** through other computer devices connected to the same network.

Consequently, add all the files required for sharing in the Folder **Public**.

**Settings required allowing others to access the contents of the folder Public:**

1-Click **Activities** which appears on the top ribbon of Fedora opening screen.

2-Start by writing the term **Sharing** in the search box so the **Sharing** icon appears
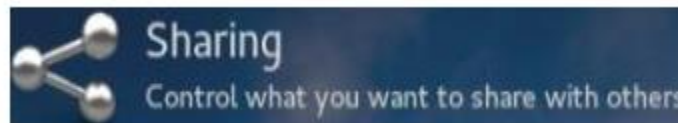
3-By clicking on the **Sharing** icon a window of configuring the sharing settings is shown.
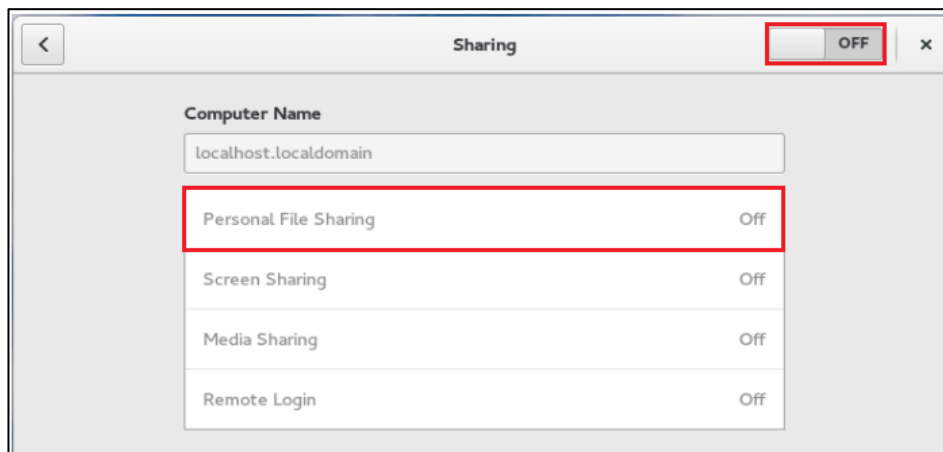
1. Reset the sharing button on the top right of the window to the **ON** state
2. Reset **Personal File Sharing** also to the **Active** state.
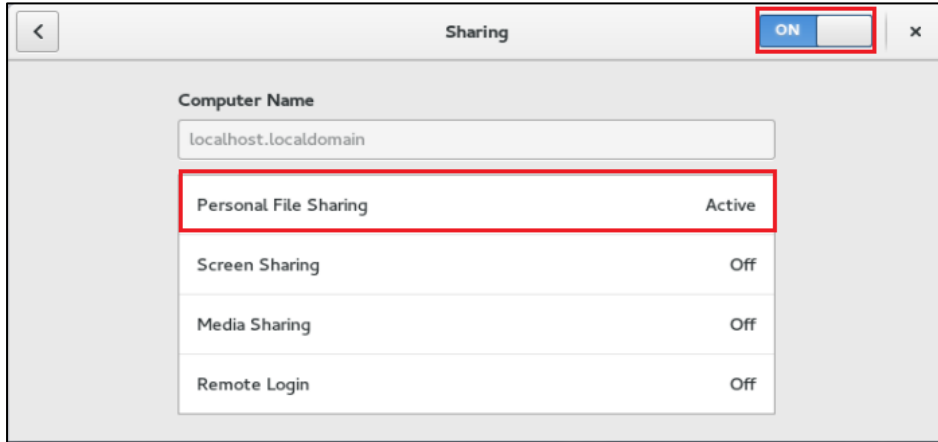
By doing that other users of the same network can have access to your folder **Public** through their devices accordingly, they can access the files inside it.

Remember
The definition of a computer network and its importance: It is linking two or more devices through a wired or wireless connection medium to share resources. (Data and devices).
The most important benefits of a computer network: -the exchange of data and programs between the devices of the network. -sharing some devices -Centralizing the Data
The types of computer networks range: - Local Area Network (LAN) - Wide Area Network (WAN)
The concept of File Sharing Sharing files is the process of spreading digitally stored information, such as documents, electronic books, computer software or multimedia (audio files, video or photos). This is to help accessing any of them through computer networks where any files can be shared as well as some of the devices such as a printer among different network devices.

Questions and exercises

Question 1: Mark (√) on the right statement and (x) on the wrong one:

1- Linking devices together within a computer network gives the possibility of sharing the data only( ) .

2- The Internet is considered a special type of wide area networks( ) .

3- The wide range network uses different methods than that of the local network to maintain connectivity( ) .

4- To share folders, your device must be connected to the network to help other users to reach it.( )

5- To share files in Windows Operating System, It is not necessary to be added in a folder( ) .

6- Specifying the user **Everyone** to share a folder in Windows Operating System means allowing all users to share it ( ) .

7- The **Computer** icon is used to access the shared folders in Windows Operating System.( )

8- Sharing files in the Fedora Operating System is to be implemented through allowing the network users to access a folder **Document**( ) .

9- To make the process of sharing files accessible in Fedora Operating System, the **sharing** setting must be set upon an **Off** state. ( )

Question 2: Complete the sentences using the words between brackets

   (files - size - data - users - the name - research - devises)

1. One of the most important benefits of the network is centralizing ………………………

2. The local network is a limited network in the ………………………

3. Sharing ……………………… is a process of spreading digitally stored information.

4. Searching for accessing required device on the network is to be through ……………

5. It is possible to other .... to access the files that you shared through accessing your folder **Public**.

6. The term **Sharing** is written in t .... dialog box to access the **Sharing** icon**.**

Question 3: Answer the following questions:

−   Mention the most important benefits of computer networks?

−   The type of network differs according to the geographical area it occupies. Mention two types of networks range?

−   Using the **Read/Write** option may cause a problem to users when sharing folders. Explain

Question 4: rearrange the following steps to share a folder in Windows Operating System:

( ) Choose the user allowed to share the folder.

( ) Choose the option **Specific people** then a dialogue box **File Sharing** appears.

( ) click **ADD to** add this user to the list of users who are allowed to share.

( ) open the context menu of the folder to choose the command **Share with**.

( ) Press **Share** to complete sharing the folder**.**

Answer questions through:

MS Word program in the file of "answers of the fourth lesson" in

(The template of Answers and projects).

A question to prepare for the next lesson:

Photo editing programs are used for creating and modifying pictures

What are these programs? How can they be used in modifying and creating the Pictures?