02 Operating System

2.1 Let's learn about the Operating System

The operating system is a software. This software is necessary to fulfil the tasks using a computer. Many tasks are such as controlling hardware and software and providing a user interface are performed by it.

- Provides a user interface to work easily with the computer.
- Controls the functions of the Central Processing Unit (CPU)
- Manages the computer memory efficiently.
- Controls the activities related to storage devices.
- Performs the tasks related to processing files and folders correctly.
- Helps to protect the computer through usernames and passwords.
- Manages the hardware.

2.2 Different Types of Operating Systems

Some examples for operating systems used in computers.

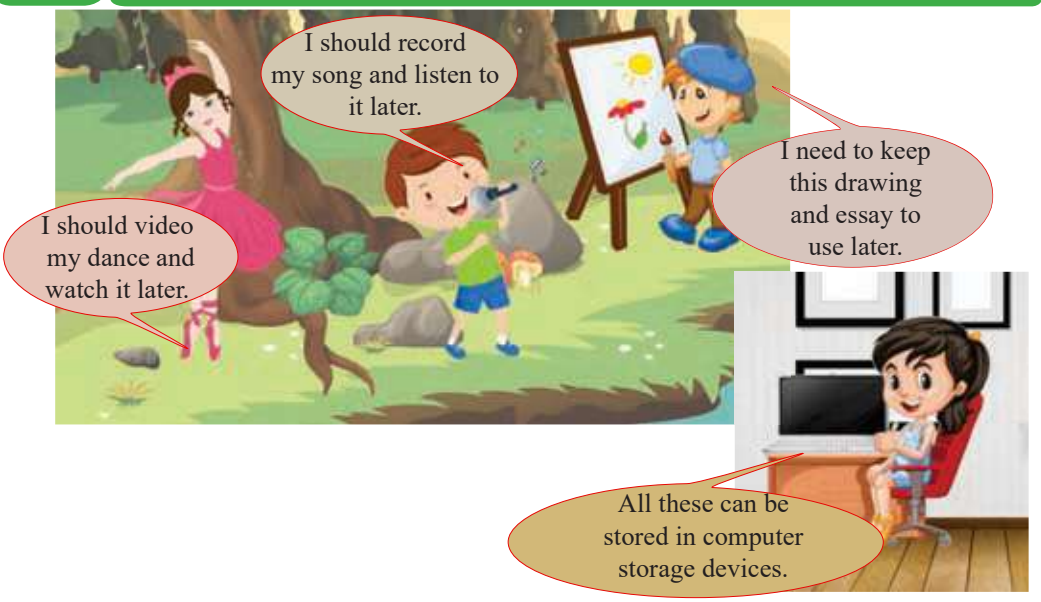
Microsoft DOS (MS DOS)	
Microsoft Windows	 
Apple Macintosh or Mac OS	 
Operating systems produced using Linux Ubuntu Fedora	   

Some examples for operating systems used in mobile phones.

Android Used in smart mobile phones	 
iOS or **iPhone OS** Used in Apple mobile phones such as iPhone, iPad, iPod	 
Blackberry OS Used in Blackberry mobile phones	 
Windows Mobile OS Used in mobile phones like Lumia, HTC	 

Activity 1 - see Workbook 1.1

2.3 Computer Storage Devices



Data and information are in different forms such as doucments, photos, videos, animations, voices and sounds.
That data and information can be stored in computer storage devices. Similarly, computer programmes which give instructions to the computer can be stored too.

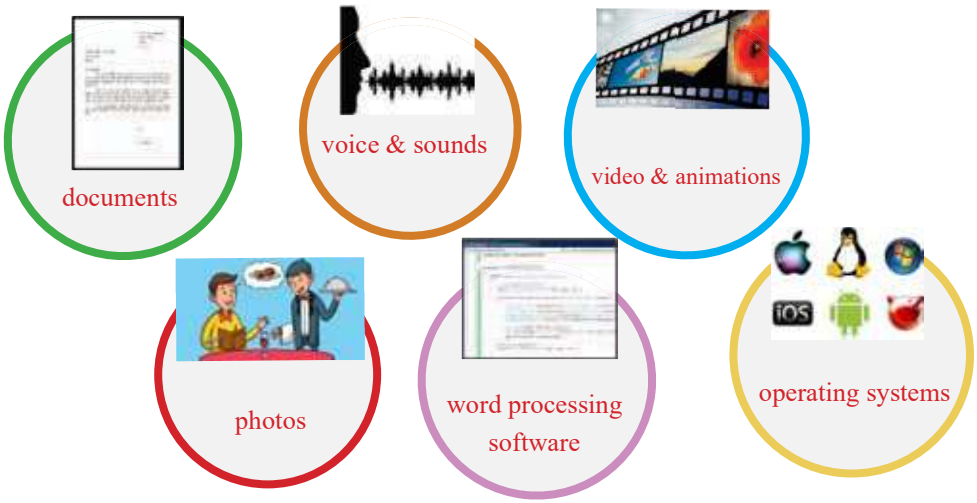


Figure 2.1 - Examples for data, information and programmes that can be stored in storage devices

Computer Storage Devices

Devices which are used to store data, information and programmes that belong to computer are known as computer storage devices.

Computer storage devices can be divided into several parts, according to their manufacturing technology.

1. Magnetic Media Devices. Eg: Hard Disk
2. Optical Media Devices Eg: Compact Disk
3. Solid State Media Devices Eg: Pen Drive

Functions and technology of each of the above media devices are different.

2.3.1 Magnetic Media Devices

Magnetic tapes, floppy disks and hard disks are known as magnetic media devices. They consist of a magnetic surface or a magnetic tape.

• Hard Disk

The hard disk consists of a magnetised platter and a moving metal head. There are two different types of hard disks, internal hard disks and external hard disks.

Magnetised platter and metal head

A large amount of data can be stored permenently in the internal hard disk. It is a magnetic media device which is in the system unit. The external hard disk is a portable storage device. It can be chosen in various capacities such as 500 GB, 1 TB, 2 TB.

hard disk

portable external hard disk

- Magnetic Tapes

A magnetic tape is a thin plastic tape covered with a magnetic substance. It is used for recording sounds, images or computer data etc. The magnatic tape which was used often in the past has now become obsolete.

Magnetic Tape

- Floppy Disk

A floppy disk is a magnetic media device that can be used to store small files. It contains a capacity of 1.44 MB. It is used to carry data because it is an external storage device. But is becoming obsolete.

At present, there are disks which are produced by using the same technology used to produce the floppy disks such as zip disks and jazz disks. The capacity of these disks is greater than that of the floppy disks. But they are not used often.

floppy disk
1.44 MB

zip disk
250 MB

jazz disk
2 GB

2.3.2 Optical Media Devices

In optical media devices, data is read and written by laser beams. Optical disks are of several types. They all are portable.

- CD - Compact Disks

There are two types of disks such as recordable (CD-R) and rewritable (CD-RW). The capacity of these disks are 650MB and 700MB.

Compact Disks
CD-R and CD-RW

- Digital Versatile Disks (DVD)

They are of two types; DVD-R (data can be written once) and DVD - RWC (rewritable). The capacity of these disks are 4.7 GB, 8.5 GB, 15 GB and 30 GB.

Digital Versatile Disks DVD-R and DVD-RW

- Blue Ray Disks

In these disks, data can be stored on several levels as 25 GB on each level.

blue ray disks

2.3.3 Solid State Media Devices

Solid state media devices are a type of device which write and read data electronically at a high speed. As they do not have moving parts as in hard disks and compact disks to write and read data, they are known as solid state media devices.

Solid state Drrive
(SSD drive)

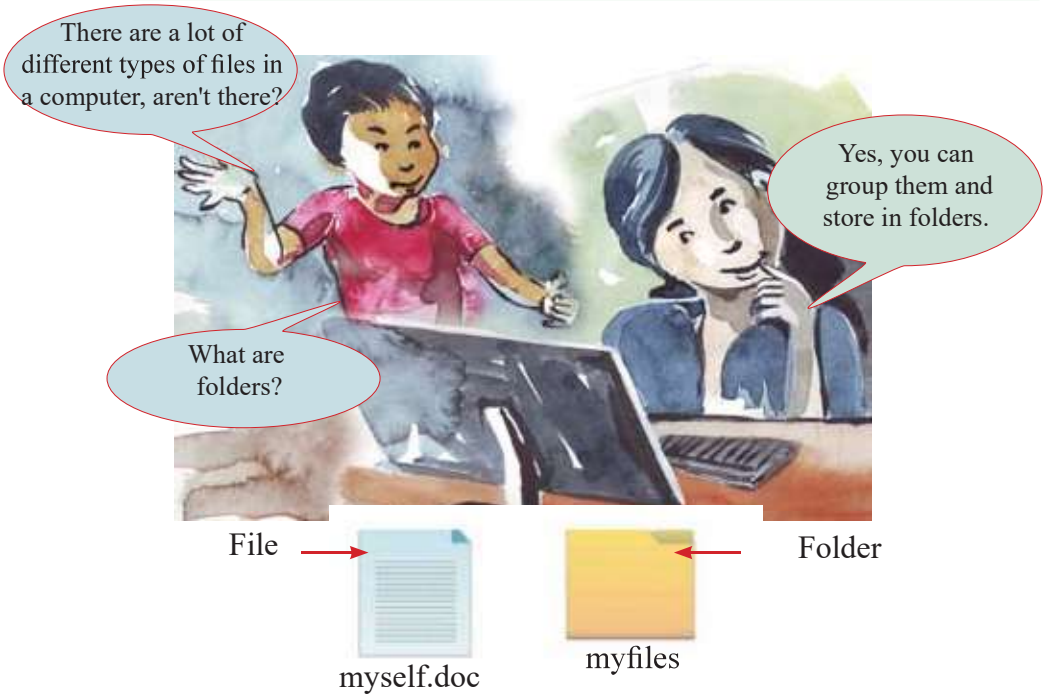
Pen Drive

Memory Card

Figure 2.2 - Examples for Solid state divices media

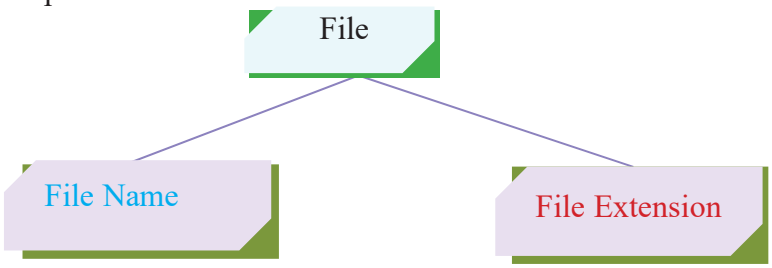
Activity 2 : See Workbook 2.2

2.4 Let's Learn about File and Folder



2.4.1 What is a File?

A file is anything that is saved in the computer such as a letter, a song or a photo.
A file has two parts.



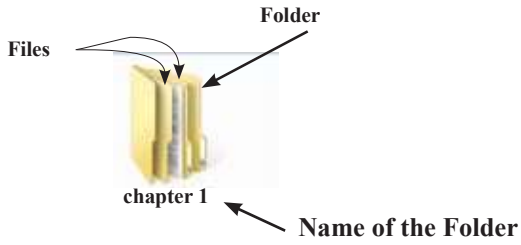
File name : Used to identify the file.
File Extension : Used to indicate the application software of the file.

ဥပမာ - sportmeet.docx

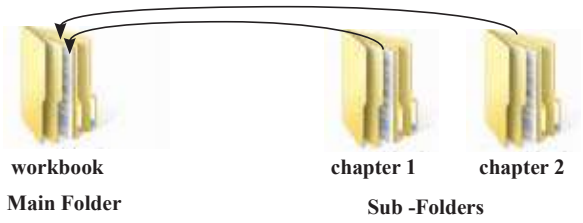
File name — File Extension

This is a file named 'sportmeet', created by a word processing software.

2.4.2 Let's learn about Folder



The palce where files are stored is a folder. They are used to store files that are related to each other. It helps to keep files in order and to retrieve them easily and fast.



2.5 Let's create and edit a Folder

Creating a Folder

The methods used to create a folder can be different according to the operating system. Figure 2.3 shows one such method.

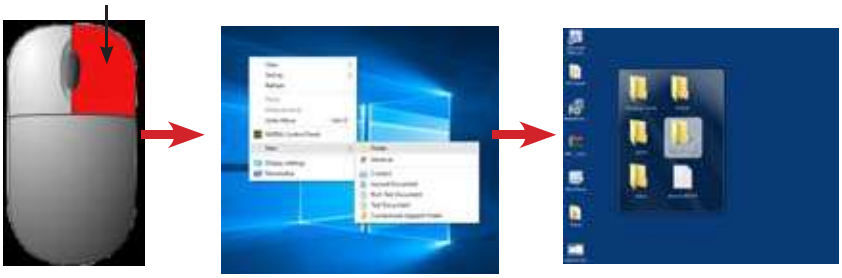


Figure 2.3 - Steps of creating a folder

Activity 3 : See Workbook 2.3

Saving Files in a Folder

Files created should be saved to reuse them later. To save a file, save or Save As commands are used.

When saving a file for the first time, despite the window selected, Save As command window will open.

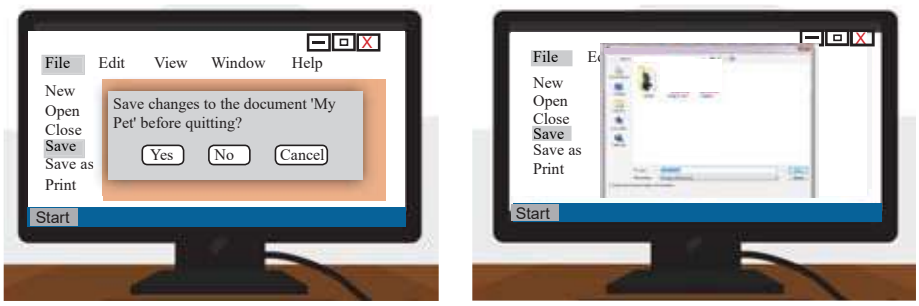


Figure 2.4 - Saving a file

After selecting the folder in which the file is to be stored, by giving the save command, the file is stored in the folder.

Opening a created Folder

The folder can be opened by taking the cursor on to the folder and double clicking on it.

Figure 2.5 - Opening a file

Coping and Moving a Folder

A folder can be copied or moved to another location. It can be internal location or an external storage device.

First, take the cursor to the location of the folder and select it.

To Copy

Step 1

- Firs, select the Copy command in the tool bar or the Copy command shown when the right button of the mouse is clicked.

Step 2

- Then, go to the location where it should be pasted and select Paste command.

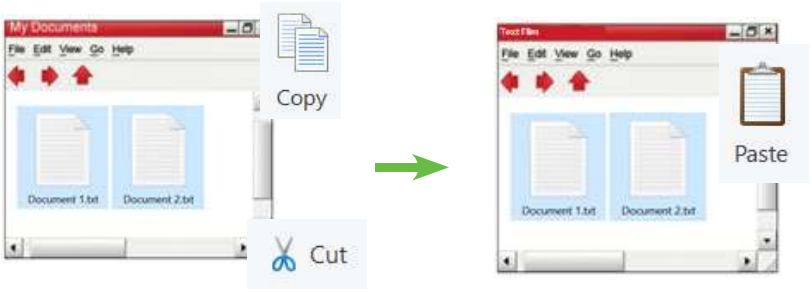
To Move

Step 1

- First, select the Cut command in the tool bar or the Cut command shown when the right button of the mouse is clicked.

Step 2

- Then, go to the relevant location and select Paste command.



Changing the Name of a Folder

Step 1

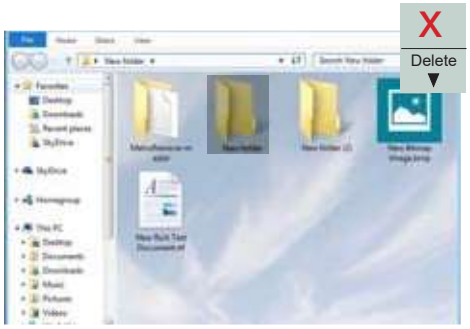
To change the name of a folder, take the mouse pointer on to the folder, Then select Rename command after clicking the right button of the mouse.

Step 2

Type the required name.

Deleting a Folder

Delete temporarily



Step 1
Select the folder that needs to be deleted.

Step 2
Press the Delete button on the keyboard.

Important

- If you delete a folder that is in an internal location such as in a hard disk, it is deleted temporarily. That means, it can be retrieved when needed.
- If you delete a folder that is in an external storage device such as a pen drive, it is permanently deleted. It cannot be retrieved again.

Delete Permanently

Step 1
To delete a file or a folder permanently, press Shift and Delete keys together.

Step 2
Select Yes command in the dialog box.

Activity 4 : See Workbook 2.4

2.6 Let's identify the Characteristics of a File and a Folder

There are characteristics in a file or a folder such as size, type and date modified. When the mouse pointer is taken on to the relevant file or folder and when right button is clicked a menu is displayed. Select the Properties command and you can see these characteristics.

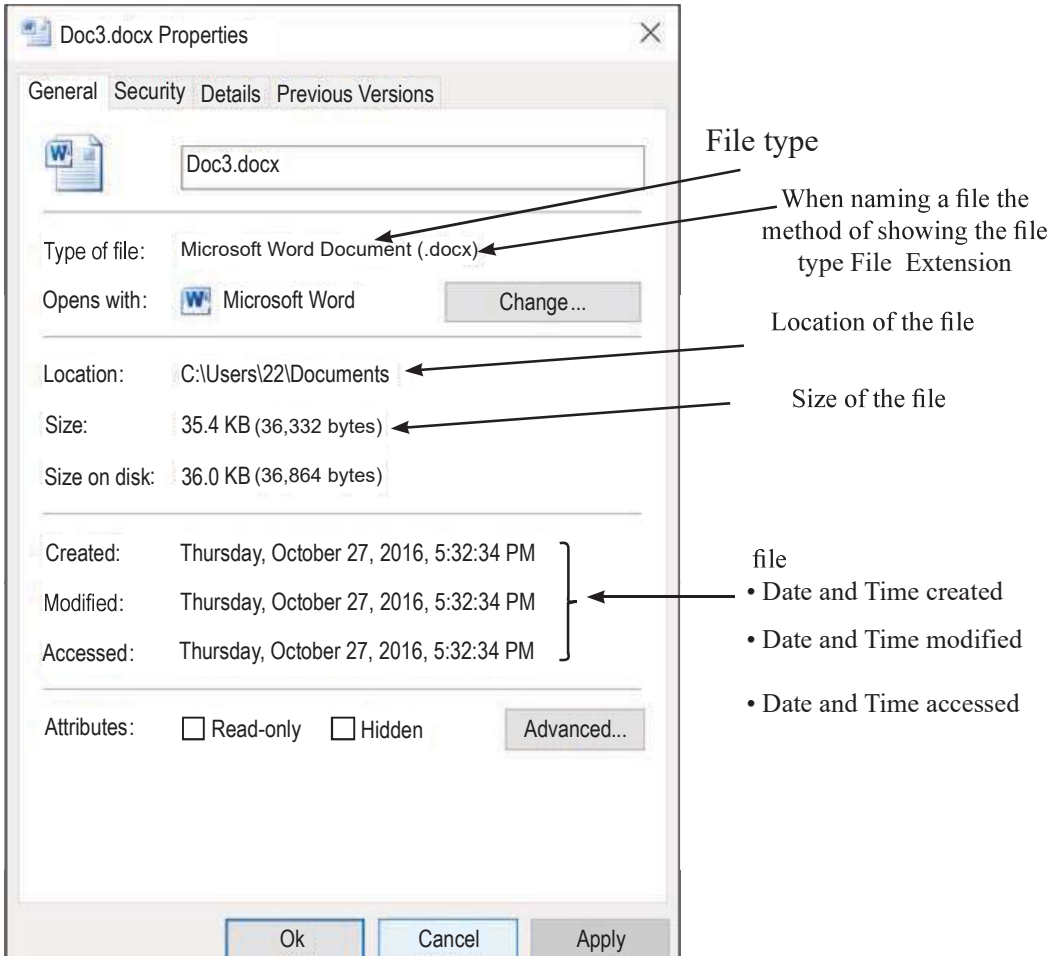


Figure 2.5 - Identifying the characteristics of a File

Summary

- The operating system is the main software in a computer that enables communication between man and the computer and that controls the computer hardware and other software.
- Operating systems like Microsoft Windows, Apple Macintosh, Linux are used in computers and operating systems like Android, IOS, Blackberry OS, Windows Mobile OS are used in mobile phones.
- Data in various forms such as documents, photos, videos, animations, voice and sounds as well as programmes that give instructions to the computer are stored in computer storage devices.
- Storage devices can be divided into three categories according to the technology used. They are magnetic media devices such as hard disks optical media devices such as compact disks and solid state media devices such as pen drives.
- Several managements activities such as creating files and folders, editing, saving, copying and moving can be performed.