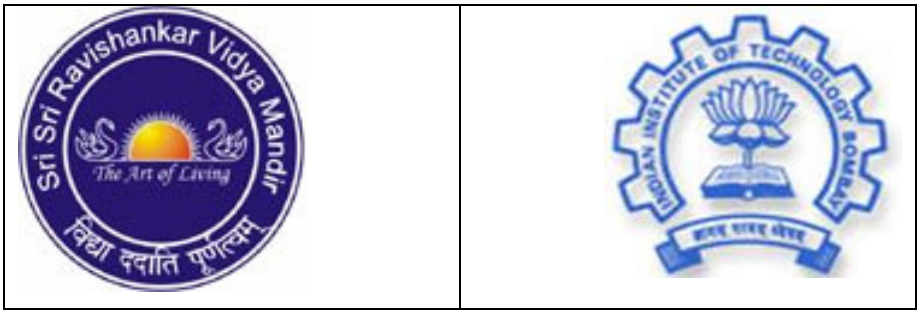
Teaching Material for 2nd Standard

Release 2007

(This document is - May 2007 version)



Sri Sri Ravishankar Vidya Mandir (SSRVM)
in collaboration with
Indian Institute of Technology, Bombay (IIT)

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SSRVM Curriculum, Computer Science, 2007 Edition

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SSRVM Curriculum, Computer Science,
Teaching Material for 2nd Standard, 2007 Edition

Preface:

This teaching material is based upon the model computer science syllabus defined by the SSRVM Academic Council, which gives a week-wise schedule for the topics to be taught for computer science at the 2nd Std level. This teaching material gives a brief introduction to each topic, some suggested lesson plans for the teacher and worksheets for the students. The syllabus and this teaching material are available freely for download and distribution from www.ssrvm.org, under the **Creative Commons license** as described on the previous page.

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Introduction (Extracts from the Model Curriculum Document):

The computer curriculum for each standard is broadly divided into three groups:

1. **Concepts**: Learning computer science concepts that are generally useful in many areas as well as some concepts that are specific to computer usage/functioning.
2. **Usage Skills**: Developing hands-on skill in the use of various hardware/software and programming packages/languages.
3. **Social Aspects:** Understanding ethical and security related issues of computer and Internet usage.

The emphasis is on understanding the concepts behind various computer-based activities, rather than just the usage skills of specific tools. It is hoped that such a concept-oriented approach will equip the children to be self-learners and enable them to cope with the inevitable advent of new tools and technologies of the future.

The design approach of this curriculum is to keep the primary section as elementary as possible, have a slight ramp up during middle school and further ramp up in secondary section to meet the syllabus prescribed for the Board exams.

For each standard, a 32-week schedule is given. Week Nos. 1, 2 and 3 are reserved for revision of the previous Standard. Week Nos. 8, 15, 24 and 31 are for revision of the current Standard. Week Nos. 16 and 32 are reserved for evaluation and assessment. Assuming 10-weeks of vacation, there is still a 10-week buffer for the teacher. This can be used for giving more time to difficult topics, for additional revisions/evaluations and for **project work.**

The teaching material attempts to be vendor-neutral (independent of software platforms). Lesson outlines are to be provided for both Windows XP and Linux Systems (Ubuntu). Hardware specifications and software installation and maintenance guidelines are provided in Annex C, D and E (of the main curriculum document).

A *creative commons* approach is used for generating the lessons and worksheets. All are welcome to participate in this effort. For each topic, detailed subtopics are listed; using which anyone interested can write the lesson outline. The lesson is then reviewed and after approval, may be incorporated into the curriculum. The author retains the rights over his/her work while at the same time allows others to use/modify it freely (without copyright issues).

2ND STANDARD SYLLABUS

What: At the end of 2nd Std, a child should know:

- *Concepts*: Understand that different applications are used for different tasks; notion of response to commands; Input-Output.
- *Usage Skills*: Create, open, save, rename and delete files; different applications associated with different files/icons; familiarity with printer, CDs.
- *Social Aspects*: Care in handling of all computer accessories; sharing resources.

Why: At the end of 2nd Std, a child should be familiar with the versatile uses and applications of a computer (Capability Awareness). The learning of the previous Std should be reinforced and those lagging behind would catch up. The same topics should be advanced to the next level of features. Introduce at most one new topic and concepts.

How: There should be one class per week, roughly as per the following schedule:

Week	Topic
2-1	**Revision of interesting uses and applications learnt in 1st Std.**
2-2	**Revision of parts of a computer learnt in 1st Std.**
2-3	**Revision of social aspects learnt in 1st Std.**
2-4	**Revision of Mouse and Keyboard operations learnt in 1st Std.**
2-5	**Revision of using various applications learnt in 1st Std.**
2-6	Using the basic controls of a Music player and other fun activities. *Such as: increase volume, seek etc. Suite of games played earlier.*
2-7	Using the basic features of Paint software. *Such as: Draw objects using the drawing toolbar, colour palette.*
2-8	**Worksheets related to everything learnt in 1st Std.** *Objective up to this point: extra time for children to get familiar/catch-up.*
2-9	Insert and use of a CD. *Such as: audio or video or a game.*
2-10	Concept of Input and Output mechanisms and devices. *Notion of computer responding (Output) to a given command (Input).* *Categorize all the parts learnt so far.*
2-11	Functionality of additional parts and peripherals *Such as printer and webcam.*
2-12	Worksheets for input output concepts and additional parts.
2-13	Introduction to additional uses of a computer. *Such as: text editor (Notepad), math activities. Gcompris suite of games.*
2-14	Worksheets and lab exercises for additional uses.
2-15	**Revision worksheets and lab exercises.** *Objective up to this point: slightly advancing the 1st Std topics.*
2-16	**Evaluation and Assessment.**

2-17	Operating a Mouse: Selecting objects; Drag and Drop. *Such as: Change the position of a file on the Desktop; Gcompris games.*
2-18	Operating a keyboard. *Such as: Arrows, Page Up/Down, Backspace/Delete keys; Gcompris games.*
2-19	Operating a Keyboard: Using numbers and special keys. *Such as: Shift, CAPS, Ctrl, ESC; KLettres games.*
2-20	Social aspects: Posture, Eye and Wrist exercises. *Such as: Reinforce good habits taught earlier using Worksheets.*
2-21	Introduction to the basic features of a simple text editor. *Such as: Typing 1-2 sentences in Notepad or equivalent.* *Objective: Introduce additional keyboard keys, scrolling etc.*
2-22	Worksheets and lab exercises related to text editor and keyboard.
2-23	Open an existing document; edit, save and close it. *Such as: Repeat what they already know to do in Paint.*
2-24	**Revision worksheets and lab exercises.** *Objective up to this point: mouse and keyboard skills and introduce one application.*
2-25	Elements of a Window: Tool Bar and Scroll bar. Such as: Scrolling up/down an open file; opening a different file using the file tab.
2-26	Create a new document and save it. *Introduce concept of choosing appropriate names for files.* *Multiple ways to create files (Rt click or using tool bar).*
2-27	Concepts of file permanence. *Such as: save a file, remember the name/location and open it later.*
2-28	Copy a file, Rename a file and Delete a file. *Such as: simply using mouse right click options.*
2-29	Worksheets and lab exercises for file handling.
2-30	Precautions while operating (deletion, shutdown etc). *Such as: No hasty action, especially for delete.*
2-31	**Revision worksheets and lab exercises.**
2-32	**Evaluation and Assessment.**

Comments:

If a school is just introducing computers but already has a child in the 2nd Std, then the 1st Std portion can be done in the first half of the year while the 2nd Std portion can be done in the second half of the year, without putting undue pressure on the children. Additional classes may be used for this purpose if necessary. From the next year onwards, the children can follow the regular schedule as prescribed.

Title	Using Basic Controls Of Music Player		
Date	May, 2007	**Ref No.**	2.6
Contributors	Semeena Kader	**Std**	2
		Reviewers	Farida
Brief Description	Explanation on the basic controls of a music player.		
Goal	To teach the students basic controls of a music player.		
Pre-requisites	Familiarity with computer, should know how to open and play a music file.		
Duration	1 session		

Detailed Description:

When we open the music player, we can see various buttons .

The other basic control buttons in the music players are:

	To Play a music file
	To pause the playing file

	To Play a music file
	To Fast Forward
	To Rewind
	To stop playing the music file

Lesson Plan

1. Refresh previous lessons about music player, by asking questions such as “What is music player?”; “What is music file” etc.
2. Ask students to open and play a music file. (If they find any difficulty, teacher can do that)
3. Show them various control buttons available on the player.
4. Show PAUSE button and demonstrate its working by clicking on it. Point out that pause symbol changes to play symbol when clicked on it. Again click on play button and show its symbol changed to pause again.
5. Similarly show other controls --- play previous and next music file --- and explain their purpose.
6. Show volume control and increase/decrease volume while playing the music.
7. Finally play music and ask children to use all the controls by themselves.

Worksheets (Ref. No 2.6)

Match the following

REWIND

PLAY

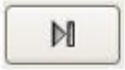
PAUSE

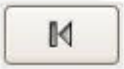
PREVIOUS TRACK

STOP

NEXT TRACK

FAST FORWARD





Title	**Using the basic features of Paint software, such as draw objects using the drawing toolbar and colours**		
Date	May, 2007	**Ref No**	2.7
Contributor	Usha Viswanathan	**Std:**	2
		Reviewer	Farida
Brief Description	Introduction to functionalities of a Paint application.		
Goal	The students will learn how to use the various features of Paint application.		
Pre-requisites	The child should have fairly good mouse control.		
Duration	1 session		

Detailed Description

The Paint (in windows)/ KolourPaint (in Fedora)/ TuxPaint (in Edubuntu) is an easy-to-use application, which is used to draw and paint pictures. You can even insert text matter in these pictures. The opened application gives a Canvas area to draw the pictures. See figure (a).

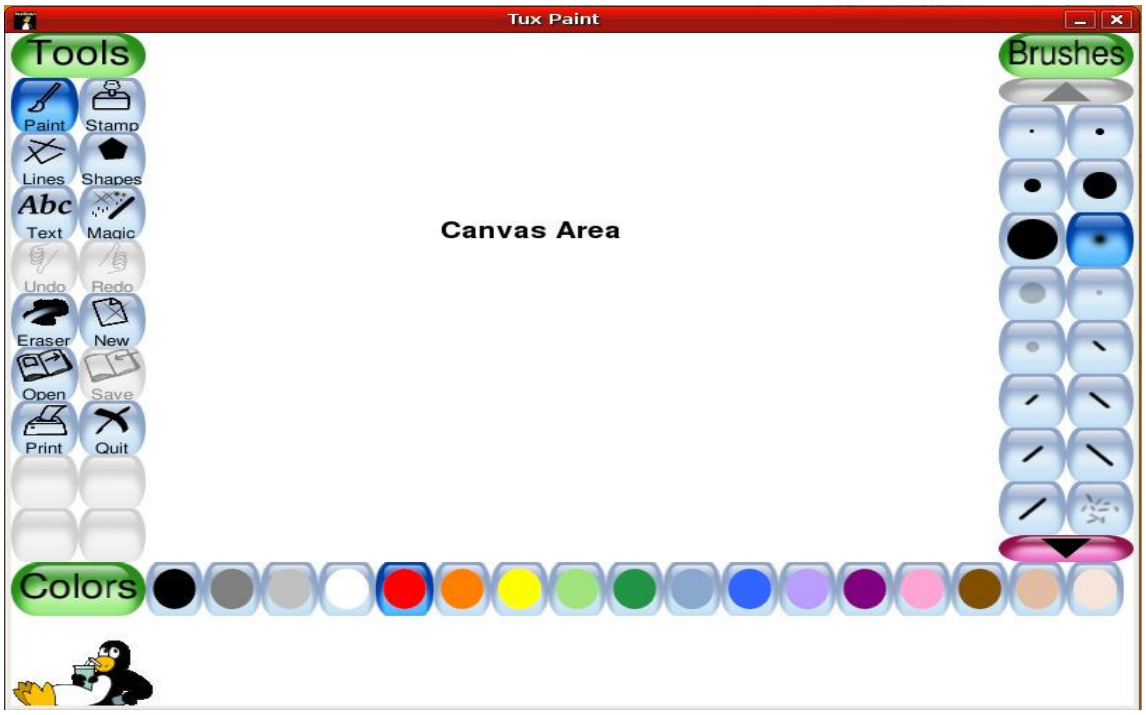


figure a

How to edit an open Paint file?

Keep the TuxPaint icon on the desktop, double click the icon to open the application.

figure b

The 'Open' option on the side bar allows the user to open existing files. Select the file to be opened.

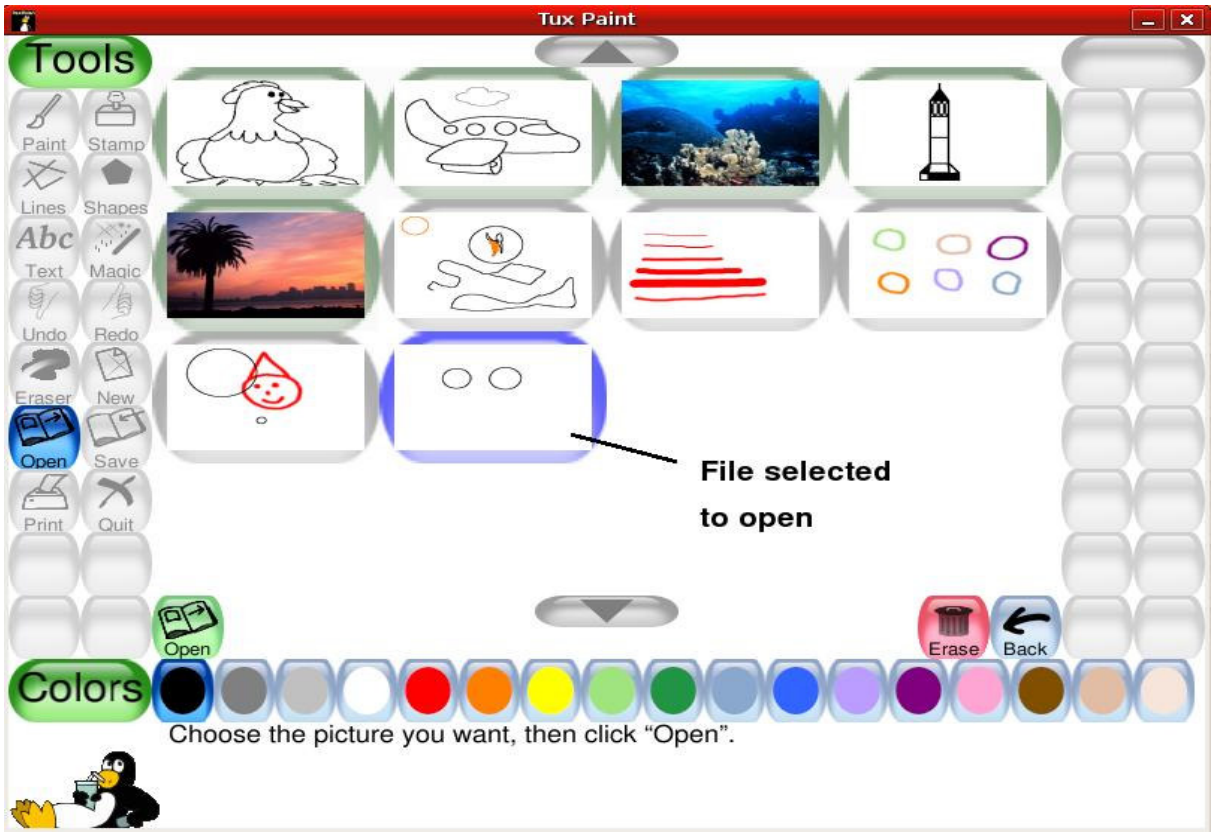


figure c

Now let us modify this file by drawing more figures and painting it. First, let us see how to draw different shapes? For this go to the side bar, select the shapes option by clicking it. Now select the desired shape from the right hand side of the screen. Once we select the shape we can even rotate them to the desired angle.

Let us draw more figures on the open file and paint them. At the bottom side of the window, a colour palette is provided from where we can pick different colours. Click on the desired colour,

Now to select the “Colour Fill” tool : Click on the “Magic” button on the left side bar, on the right side we get the 'Color Fill' option along with many other effects which can be applied to the figure. Now go to the canvas area and click on the shapes to fill. Figure d shows the new modified file.

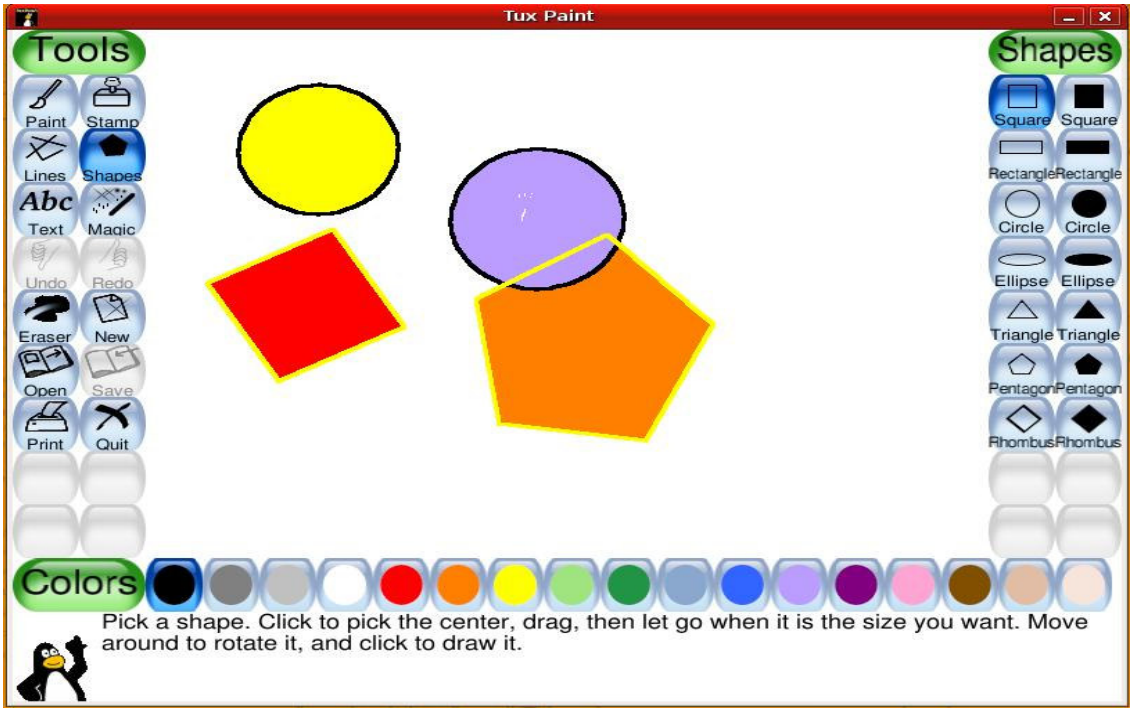


figure d

The modified file can be saved using the 'Save' button on the left side bar. Select it to save the file. A dialog box pops up asking whether to overwrite the previous file. See figure e.

(Note: Figure e also shows the toolbar (on the right hand side) when the 'Magic' option from the left side toolbar is selected.)

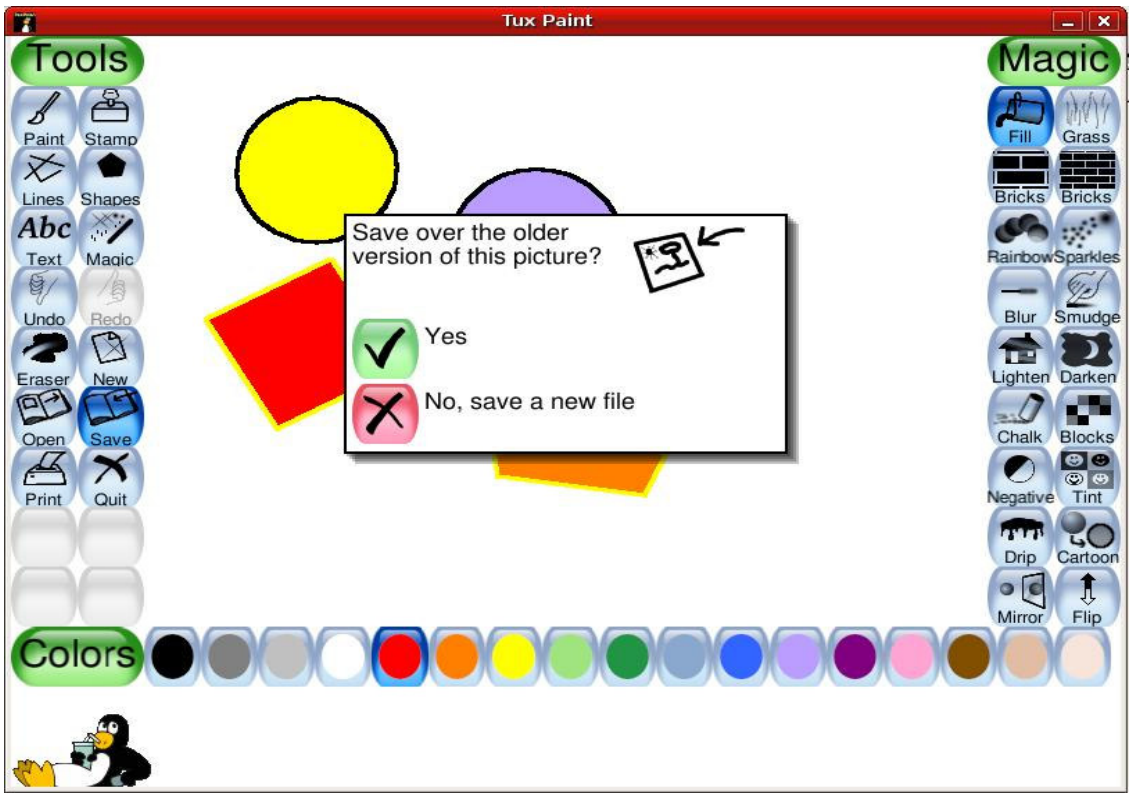


figure e

If 'Yes' option is selected the previous file is overwritten by the modified file; in case of 'No' a new file will be saved.

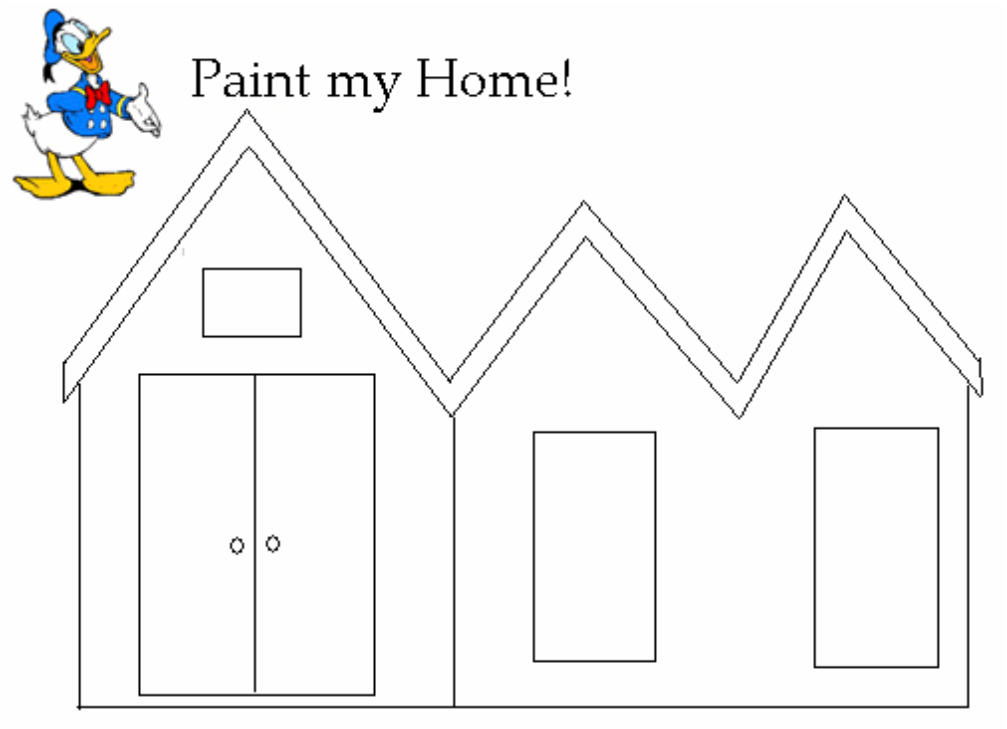
LESSON PLAN

1. Start the class asking the kids why pictures or drawings are needed. Tell them how pictures grab attention and result in clear understanding.
2. Tell the children that till now the pictures they have drawn were not colourful. Ask them if they want to learn how to make them colourful?
3. Open the TuxPaint application.
4. Show them the toolbar on the left side of the canvas area and the colour palette.
5. Now show them that to draw simple figures like circles, rectangles, etc. we have tools.
6. Draw some circles and rectangles. Now select the colour from the colour palette and use “Colour Fill” tool from the drawing toolbar to fill these shapes.
7. Show them the use of pencil and eraser. Now let the kids practice.

Worksheets (Ref. No. 2.7)

Use Paint Application to do the following exercises.

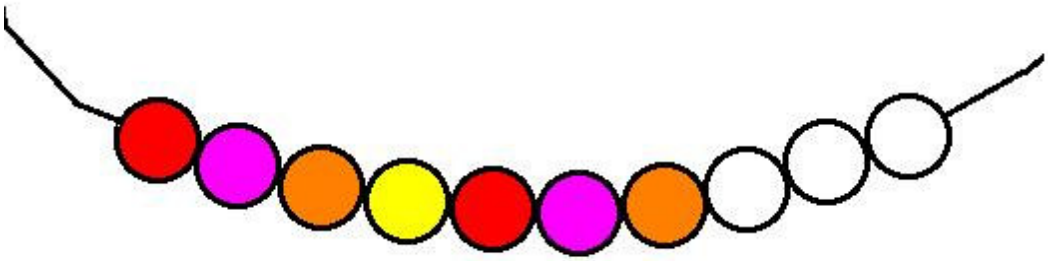
1.



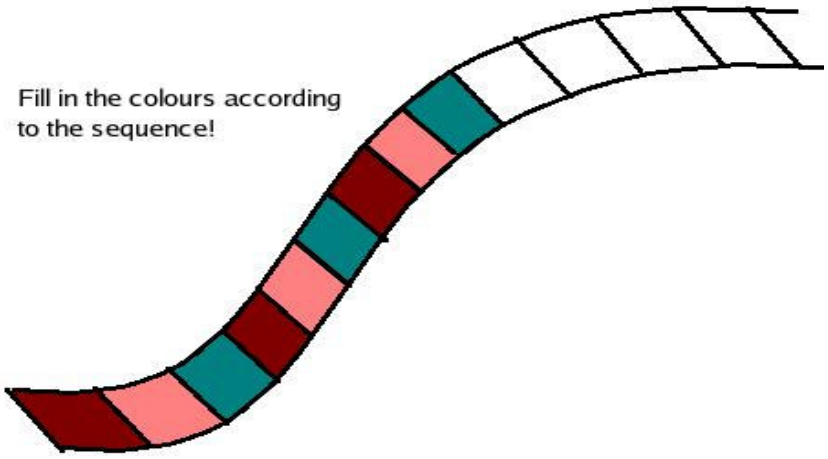
2.

3.

Colour the beads!!



4.

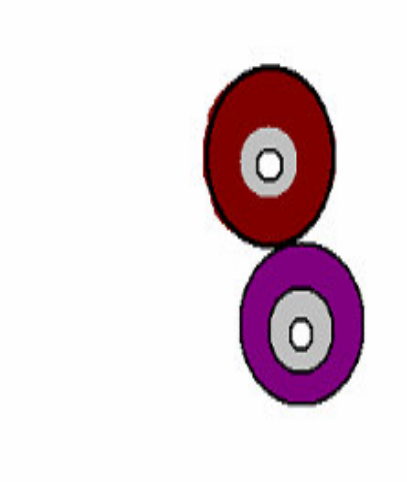


5. Draw a flower and colour it.

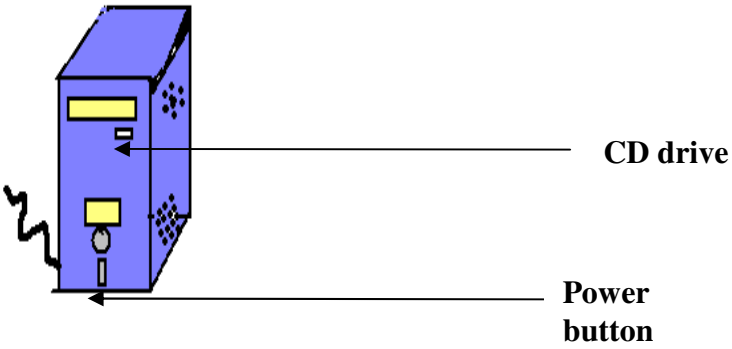
Title	**Insert and use of a CD.**		
Date	May, 2007	**Ref No**	2.9
Contributor	Dhanya	**Std**	2
		Reviewers	Farida
Brief Description	This topic describes how what a CD is and how to use it.		
Goal	To help the child understand how to use a CD.		
Pre-requisites	Familiarity with computer		
Duration	One Session		

Detailed Description

CD stands for Compact Disk and is a single layer, optical storage media that can be used for music or other data storage. A thin platter that has computer data or music recorded on it in optical form.



In the CPU there is a CD drive. If you press the button, it opens and you have to insert the CD inside it.



Lesson Plan

1. Students can be acquainted with a CD as follows:
   Do you know what a CD is? C stand for compact and D stands for disk. Show a CD in the class and ask doesn't it look like a small throw disk you catch and throw in your playtime? That is why it is called a disk and it is so small but can store a lot of information such as more than 100 songs or a 2 hour movie or large documents such as contents of a book. It is round and flat and has a hole in between just like a dough nut!
2. If most of the children in your class are already familiar with the computer, you may want to introduce the computer parts with a guessing game. For example “This goes in and out of a computer carrying information (disk). This can hold a great deal of information, including video (CD- ROM).”

Title	Concept of Input/Output Devices		
Date	**May, 2007**	**Ref No.**	2.10
Contributors	Neela, Farida	**Std**	2
		Reviewers	Farida
Brief Description	Introduction to the concept of input/output devices on a desktop personal computer (PC)		
Goal	To see why we need input/output devices and identify these on a desktop computer. A step further is to teach the concept of input and output device to the student. By the end of lesson, the student will know what input/output devices mean in general, not just in regard to a computer system.		
Pre-requisites	Students should have seen a computer and used them to play games, videos and music. They may also have used the computer to type text into files or paint.		
Duration	One session		
Reference	http://www.kidsdomain.com/brain/computer/worksheet/ws_c1_inputoutput.pdf		

Detailed Description

What is output and what it input?

Input means 'taking in'. Output means 'giving out'.

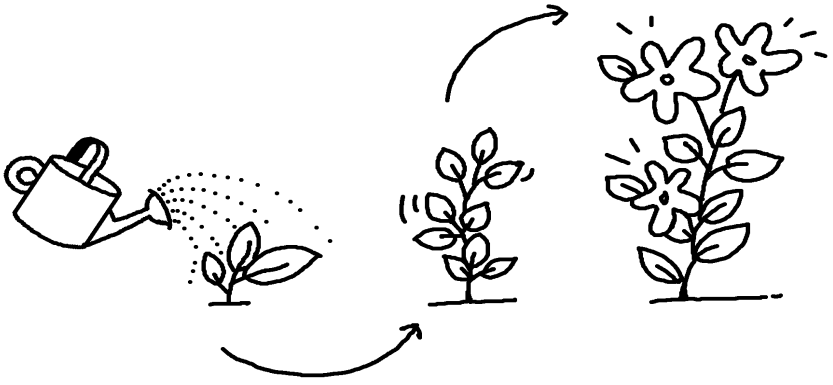


Figure a

Just as you see in figure a that when you water the plant (input) and it results in growth of the plant (output), even in computer we have input and output devices. When we use it in the context of a computer system, these words are defined from the computer's perspective. For example, it takes in what we type on the keyboard, we move the mouse and the computer shows us the position with the cursor. These are examples of input devices. The computer shows us a movie on the monitor; it plays music through the speakers. These are examples of output devices.

Input Devices

Input devices allow us to send information to the CPU and tell the computer what to do. There are several ways to get new information or **input** into a computer. The two most common ways are the **keyboard** and the **mouse**.

Keyboard

As you see in figure b, the keyboard has keys for characters (letters, numbers and punctuation marks) and special commands. Pressing the keys tells the computer what to do or what to write.

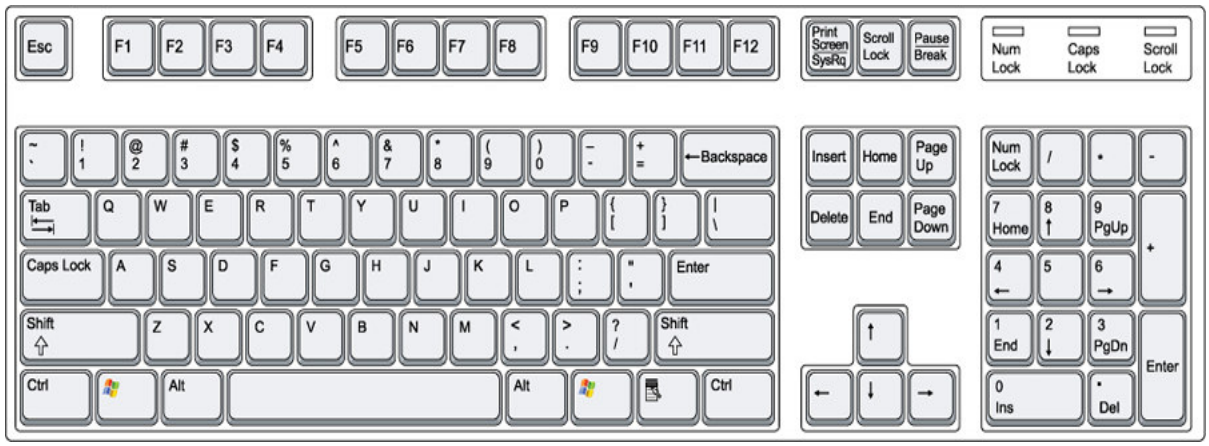


Figure b

Mouse

Figure c shows the mouse. As you see, it has a special ball that allows you to roll it around on a pad or desk and move the cursor around on screen. Just as you read moving a finger on the book, the computer shows the cursor. By clicking on the buttons on the mouse, you give the computer directions on what to do.

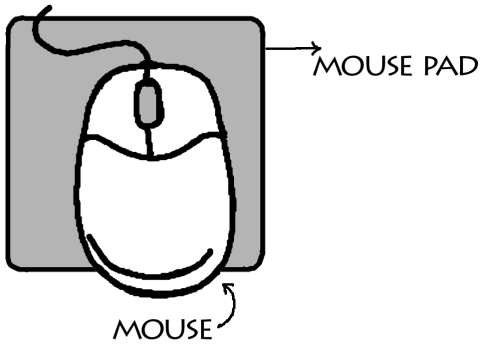


Figure c

Output devices

Output devices receive information from the CPU and translate it into sounds or images we can understand. Output devices display information in a way that you can you can understand.

Monitor

The most common output device is a monitor. As you see in figure d, It looks a lot a like a TV and has the computer screen. The monitor allows you to 'see' what you and the computer are doing together.

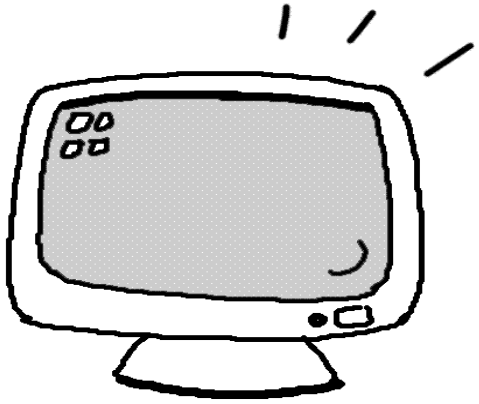


Figure d

Some other output devices are speakers and printer.

Speakers are output devices that allow you to hear sound from your computer. Computer speakers are just like stereo speakers. There are usually two of them and they come in various sizes. Figure e, illustrates this.

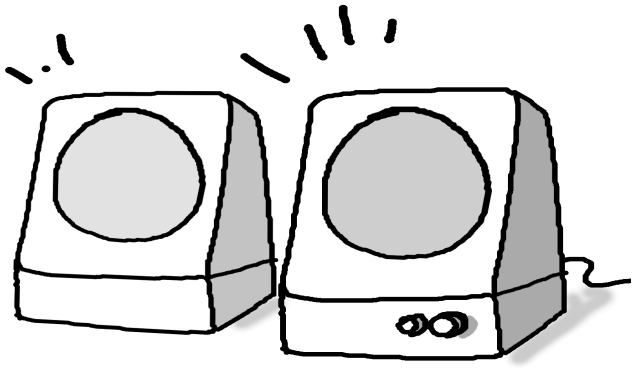


Figure e

Printer

A printer is another common part of a computer system. It takes what you see on the computer screen and prints it on paper.

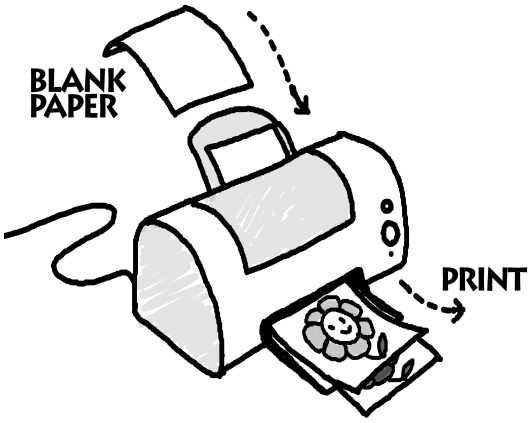


Figure f

<u>Lesson Plan</u>

Start with the computer system in your class. Ask the students what they do with the computer. Some sample answers: play video games, watch videos, do work on computers (sometimes!!), paint, listen to music, etc.

Ask them what would happen if the computer system did not have a monitor, a keyboard, a mouse, a speaker.

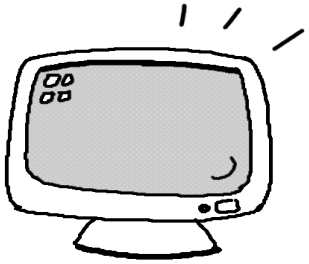
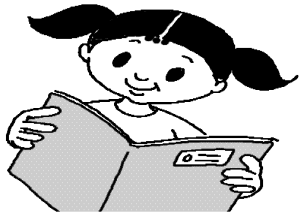
Demonstration

(Plan to spend not more than 15.)

1. Play a video. Turn off the monitor. Can you still hear the sound? What output is missing?
2. Turn the monitor on again and unhook the speakers. Can you see the video playing? Can you hear the sound? If there are built-in speakers, the students may hear the sound even if the speakers are unplugged. Show them where the built-in speakers are located.
3. Ask what are the minimum output devices and input devices that we need to interact with the computer.

Worksheets (2.10)

We can compare these to the input and output devices of our body:

Computer	**Human body**
	
CPU	Brain, mind
Monitor, Speakers	Face, mouth, hands, legs
Keyboard, Mouse	Eyes, ears, nose, skin

- Do we have any organs that serve as both input and output?

  For example, mouth is used not only for talking but also eating.

- What do we have that the computer lacks?

  We do not need somebody else to give us the output, we can do it on our own. We are more intelligent than a computer!

- What does the computer have that we lack?

  It can do several tasks at a time, all equally well. We need training to be able to do this.

Activity

Spend the rest of the class on the activity. Conduct a discussion among the students about input and output devices in general.

1. What other systems require input and output devices?

   E.g., TV – remote control or the buttons on the TV are input devices; the monitor and speakers are output devices.

   The other examples can be vehicles. petrol, driver, brakes are input devices and the wheels on which the vehicle moves are output devices?

   More examples can be drawn form household appliances like mixer grinder

2. Ask the students to draw some input and output devices of the computer.

Title	**Functionality of Additional Parts and Peripherals Such as Printer and Web Cam**		
Date	May, 2007	**Ref No.**	2.11
Contributor	Meera Hirani	**Std**	2
		Reviewers	Farida
Brief Description	This unit contains different parts of the computer such as scanner, printer, web cam , speakers and the functions and uses of each part		
Goal	Teach about additional parts and peripherals of the computer		
Pre-requisites	Familiarity with computers		
Duration	40 minutes		
References	http://familyinternet.about.com/library/game/blwhat5.html http://www.kids-online.net/learn/clickjr/clickjr.html www.kckps.org/courses/intro_comp.html		

Detailed Description

Figure a illustrates the basic parts of the computer.

Figure a

The following are some more parts of a computer.

PRINTER

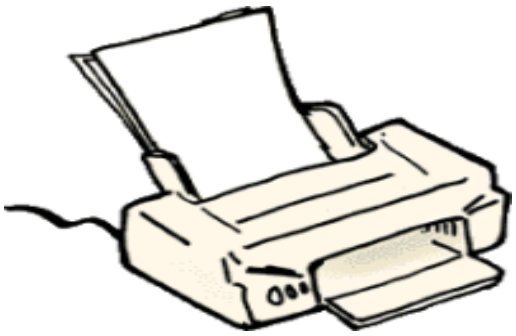
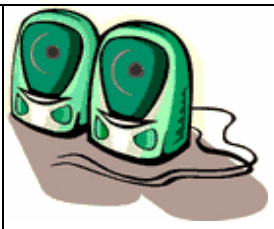


Figure b

- A computer printer, or more commonly just a printer, is a output device that produces a hard copy or into physical print media such as paper or transparencies.
- It is a machine attached with the computer where the letters that you type or the sketch that you make can be printed on a paper.

SPEAKERS

- Computer speakers, or multimedia speakers, are usually a simplified stereo system without a radio or other media sources built Computer speakers range widely in quality and in price.
- Typically, the simplest computer speakers come with computers when bought and have two controls for increase and decrease of volume and treble but there are other high end speakers available which have more than 5 controls!!!!

Computer icon representing speaker. 	 Speakers

Computer with speakers& mike

Figure c

THE WEB CAM

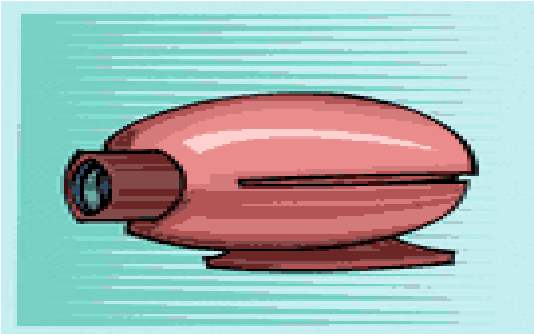


Figure d

A web cam, or web camera, is the frequently used term for any camera that generates images that can be accessed by and displayed on the World Wide Web through a server. A web cam is essentially just a camera connected directly or without wires, and stores images for displaying elsewhere. A web cam is basically an inexpensive simple video camera that sits on top of your computer monitor. It is a machine meant to send live and recorded video over the net to one or more users often also have microphones built in so you can see and chat with friends on line.

Lesson Plan

1. Find out how many students remember what a computer is and how is it useful and the major parts of computer that they had studied the previous year. Revise the following to reinforce what they have already learned.

- The typical computer system that is found in homes, schools and offices are called microcomputers and are also known as personal computers or PC's.

- The Teacher can now show a diagram or a photo of a desktop computer.
- Pointing out each part, one can the name for each such as:
- A computer is a machine for performing calculations automatically.
- The computer is a device that accepts input, processes/stores data, and produces outcome.
- One can not only do mathematic calculations but also write letters , applications , one can draw images and also play games!
- Similarly, rename all the basic parts of computer.
- Ask them - “Have you seen any other part of computer?

2. Now, introduce the additional parts of the computer one by one saying – “the printer is like a painter who sees a real flower and paints a flower on the paper”. Describe who is the painter here (the printer). He sees the real flower so the flower is giving information to the painter just like computer gives information to the printer and the painter paints using paints just like the printer uses ink and the painting is made on paper just like the printer prints on paper or transparencies.
3. Speakers can be introduced to the students in the following manner: “We can see movies and pictures etc on a computer screen. But the movies will remain silent till the time we don't attach speakers to the computer. With the help of these speakers we can listen to songs, listen to any voice. “
4. Web cams are very interesting and can be presented to the children as: “Web cam is like an ordinary camera but is connected to the computer and if you and your friend who lives in abroad want to see each other, both of you must have a web cam and you can even see him smile and see his room this very minute!”

Activity

Getting into groups and making a model of the additional parts can be interesting and also reinforces their knowledge about that part.

Resources

- Scissors, Glue and tape.
- Light-colored construction paper
- Drawings of printer, scanner and other parts without colors.
- Cardboard.

What to Do

- Begin with a brief discussion about computers. Some children may have printers and speakers attached to the computers at home. Ask children to share what they know these parts. What kinds of things do they do with these additional parts of computer? Tell children that they are going to learn the names for the additional parts of a computer and how the parts go together.

- Distribute basic diagram of printer, scanner and other parts without colors. Have each child color the picture and cut out the pieces of the parts and paste them onto a piece cardboard. Encourage children to draw a picture of the basic parts of the computer. Let them do it. Now ask them to attach the additional parts along with the basic parts of computer. Now ask them to take out the monitor/ CPU/ mouse/ Keyboard/ speaker/ scanner and others and ask them can the computer work without the part that has been removed?

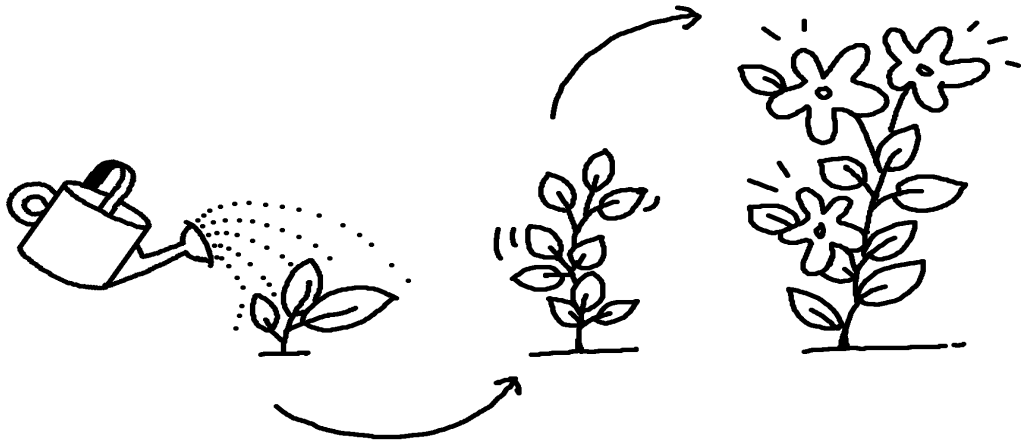
Teaching Options

- You may want to play a game where children act out being a computer. Individuals or groups can take turns being different parts of a computer. One person can be the keyboard and can give the computer a job to do or a problem to solve. Another person can solve the problem and can tell the answer to the person pretending to be the screen. That person can display the answer. One can act like the printer and prints out what the CPU asks it to print, one can act out to be the speaker and sings the song asked by the computer.

Worksheets (2.10, 2.11, 2.12)

1. Label which is the input and output devices in the figures below

1.



_____

_____

2.

_____ _____

3.

_____ _____

2. Answer True or False:

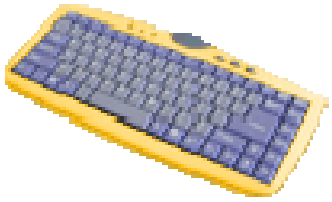
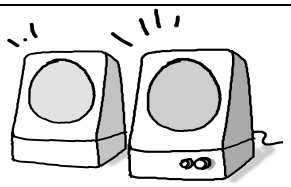
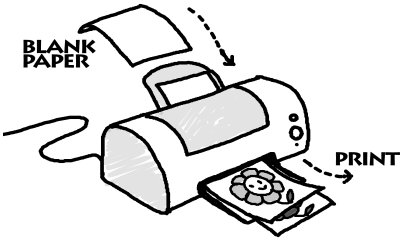
a. Your eyes are the input devices of your body. True / False.

b. Petrol is an output device for a vehicle running on the road. True / False.

c. The computer uses an output device to show us something. True / False

d. We use input devices to tell the computer what to do. True / False.

3. Sort which are the input and output devices of the computer and write their names

 (Input/ Output Device)	 (Input/ Output Device)
 (Input/ Output Device)	 (Input/ Output Device)
 (Input/ Output Device)	 (Input/ Output Device)

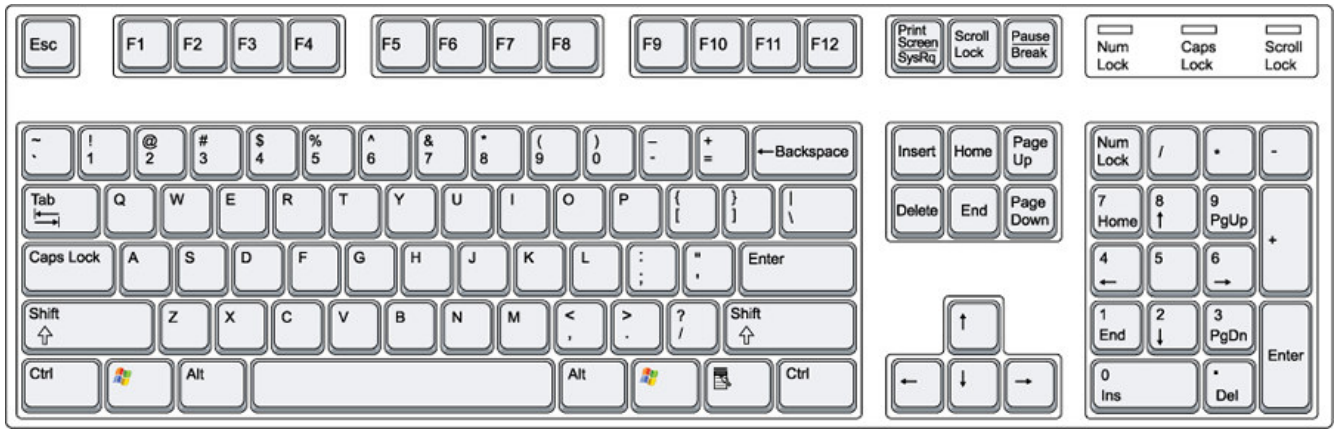
4. Does your school computer system have speakers? How many?

5. The following are names of output devices. Fill in the blanks to identify them.

   a. M __ n __ __ o __

   b. __r __ n __ __ r

6. Look at the flowing and answer the following questions:



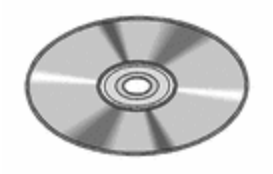
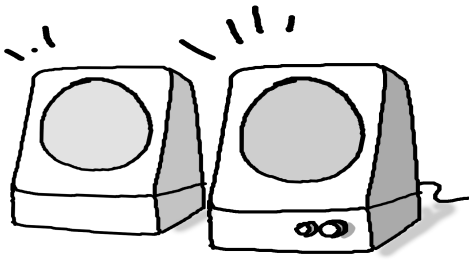
a. Give the name of the above picture.

b. How many alphabet keys does the keyboard have?

c. How many number keys does the keyboard have? Do you think it should have more? Why?

d. What happens if you press the ‘a’ key?

7. MATCH THE COMPUTER PARTS .

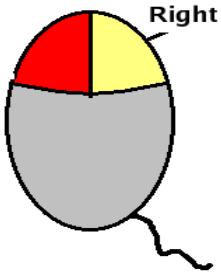
	SPEAKERS
	PRINTER
	WEBCAM
	CD

TELL ME !!

What is this?

Point where is:

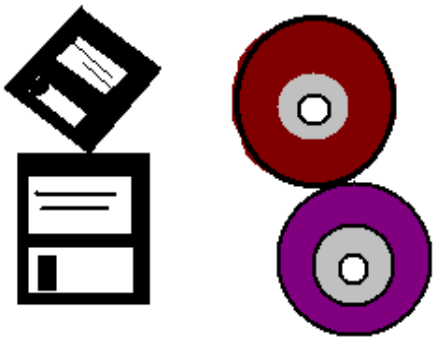
c. CD ROM Drive
d. Floppy Disk Drive
e. Power Button?



What is this?

Which one is:

a. Left Click
b. Right Click



WHICH ONE IS:
CD
Floppy Disk

Mr. Floppy Scan wants to attach all the additional parts of the computer to the basic parts of the computer but doesn't know the way can you guide him?

Title	**Introduction to Additional Uses of a Computer, such as Text Editor (e.g. Notepad) and Math Activities**		
Date	May, 2007	**Ref No.**	2.13
Contributors	Sanjivani Salunkhe	**Std**	II
		Reviewer	Farida
Brief Description	This topic gives the brief description about additional uses of a computer such as text editor and calculator.		
Goal	Learn use to use the text editor and calculator in a computer		
Pre-requisites	Familiarity with computer.		
Duration	1 session		

Detailed Description

There are many other uses of the computer besides paint, games, etc. We will learn some additional uses such as to store text using text editor and to calculate the mathematical expressions using calculator.

Text Editor (e.g. Notepad)

A text editor is a type of program used for editing plain text files. You can type text in it and save the file for future use.

Starting Notepad :

To start Notepad, select Applications ==> Accessories ==> Text Editor, you will see small screen on your Desktop. Doesn't this look like a window on the Desktop? It is called the Notepad window. (See Figure a)

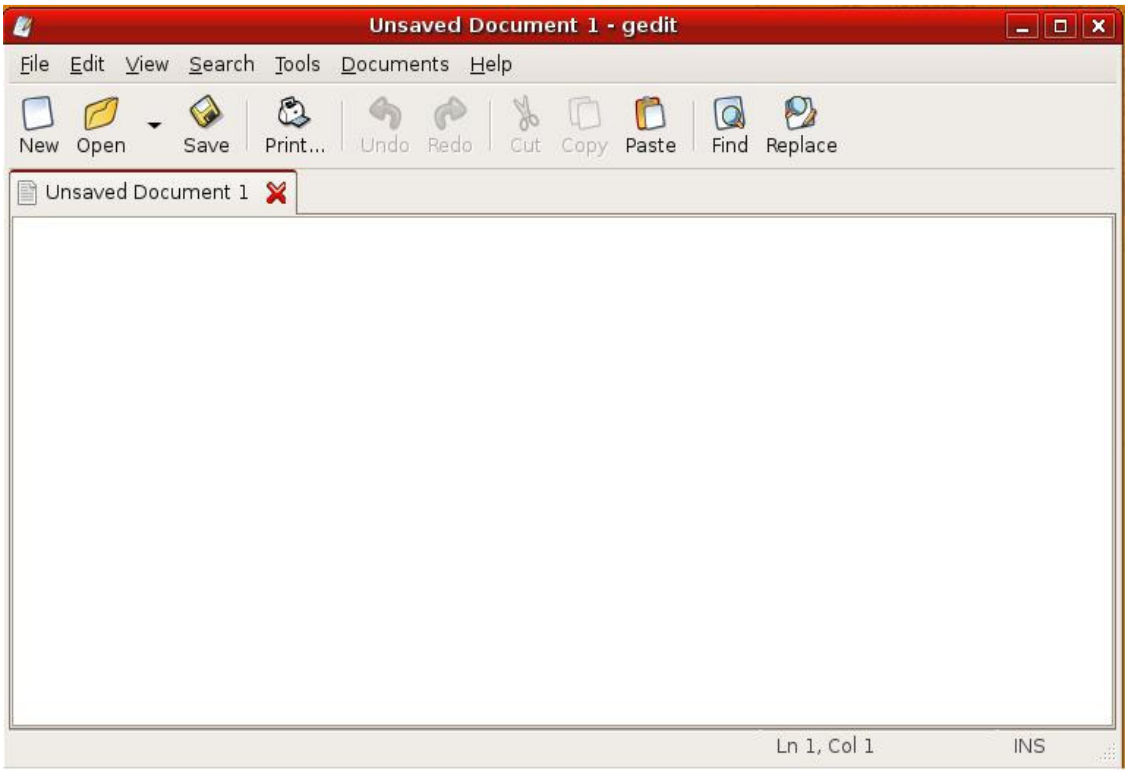


figure a

Do you see a cursor within the Notepad window? If not, click once inside the Notepad window. Now you can type anything in this window. Remember to press the Enter key to move cursor to the next line.

To resizing window click on the middle window control button. Click on it again to restore the window to it's original size.

Move the mouse pointer to the Title bar. Press the left mouse button and move the mouse You will see that Notepad window also move as you move the mouse. Release the mouse button to place the Notepad window at the desired location.

Saving In Notepad:

- To save file in Notepad, select File ==> Save As
- The Save As dialog box appears. See figure b. Enter the name of the file and click “Save”

figure b

- Your file is saved now. You will see that the Title Bar contains the name of your file.

Closing Notepad:

1) To close the Notepad click Exit option of the File menu to exit Notepad.

Math Activities

Mathematical calculations can be done using computer's calculator. It can add, subtract, multiply, divide, calculate formulas and even perform scientific calculations.

Starting Calculator :

To start Calculator, select Applications ==> Accessories ==>Calculator, you will see small screen on your Desktop. It is called the calculator window. As you see in Figure c, you will find number keys and operation keys.

Figure c

Performing Calculations on Calculator:

- To perform a simple calculation, follow the steps gives below –
- Enter the first number in the calculation.
- Press the + to add, - to subtract , * to multiply or / to divide.
- Enter the next number in the calculation.
- Press = for the answer.

Here we are describing use of calculator with the following examples.

Addition of two numbers

- Type 4 on the calculator screen
- Press [+], addition key
- Type 5 on the calculator screen
- Then press [=], equal to key.

Lesson Plan

1. Prepare for the lesson plan by practising some computer application such as text editor, calculator etc.
2. Switch on the computer.
3. Explain the students the different uses of computer in the following manner:
   How to use text editor:

- Open text editor, it is usually located in the Application menu under Accessories.
- Create simple text file using text editor.
- Ask them what they do after they finish writing in their notebooks.
  How to use calculator:
- Open the calculator. On a PC, it is usually located in the Start menu under Accessories.
- Determine the calculation that you want to perform.
- Use either the number keypad or the mouse to perform your calculations. To add, use the + sign. To divide, use the / sign. To multiply, use the * sign. To subtract, use the - sign.
- Click on the = sign or hit the Enter key. The answer will appear in the display window.

4. Let them try it on their own.

Gcompris Suite of games

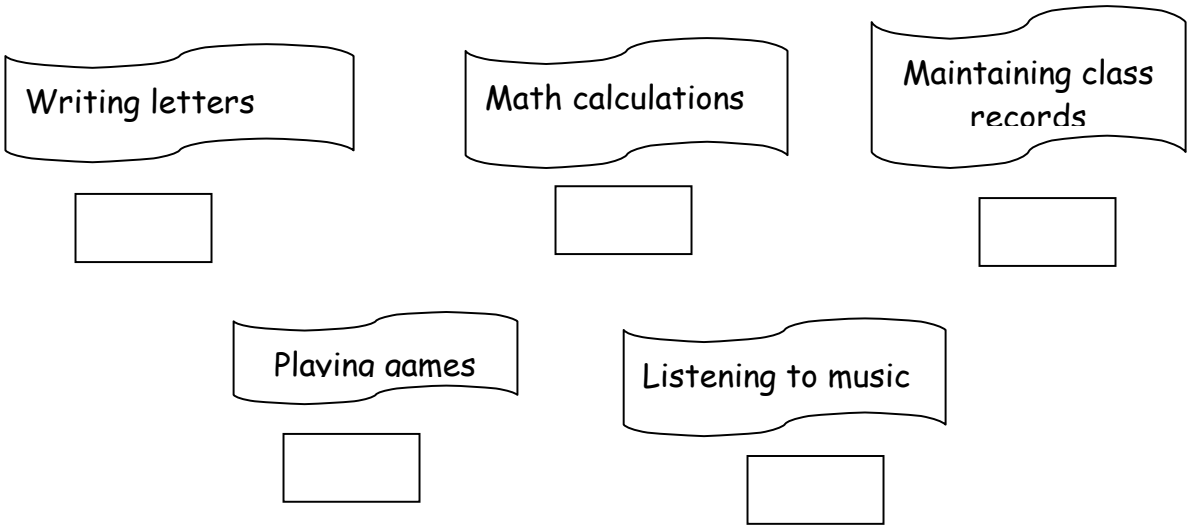
To make the subject more interesting, students can be taught math activities with the aid of games. In edubuntu, go to Applications-> Games -> Education suite gcompris.

Figure d

Worksheets (2.13, 2.14)

Text Editor

1. Check out for which of the following uses can the text editor be use?



2. Number the following to indicate the steps you will follow to start a text editor?

3. Match the following:

Minimise

Restore

Close

Lab Experiment:

In the lab ask students to write a few lines on any one of the following topics in Notepad and execute the instructions given in options (a) to (f).

My Mother

My School

My Teacher

(a) Open the Notepad.

(b) Write the text related to one of the above subjects

(c) Save the file.

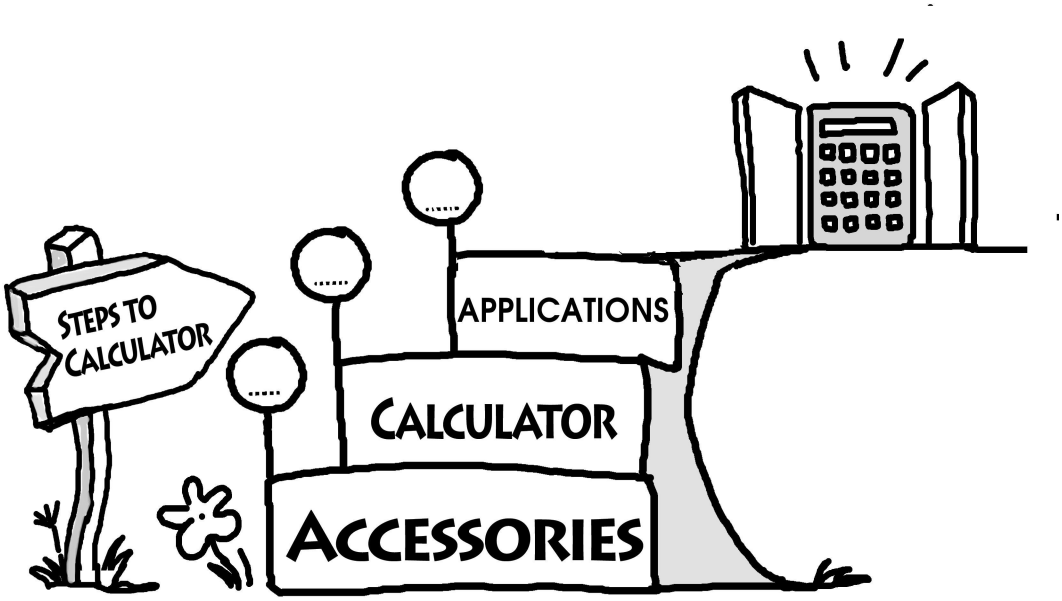
(d) Use the scroll bar to do up-down scrolling.

(e) Try to place this window at the some other place on the desktop.

(f) Close the Notepad.

Calculator

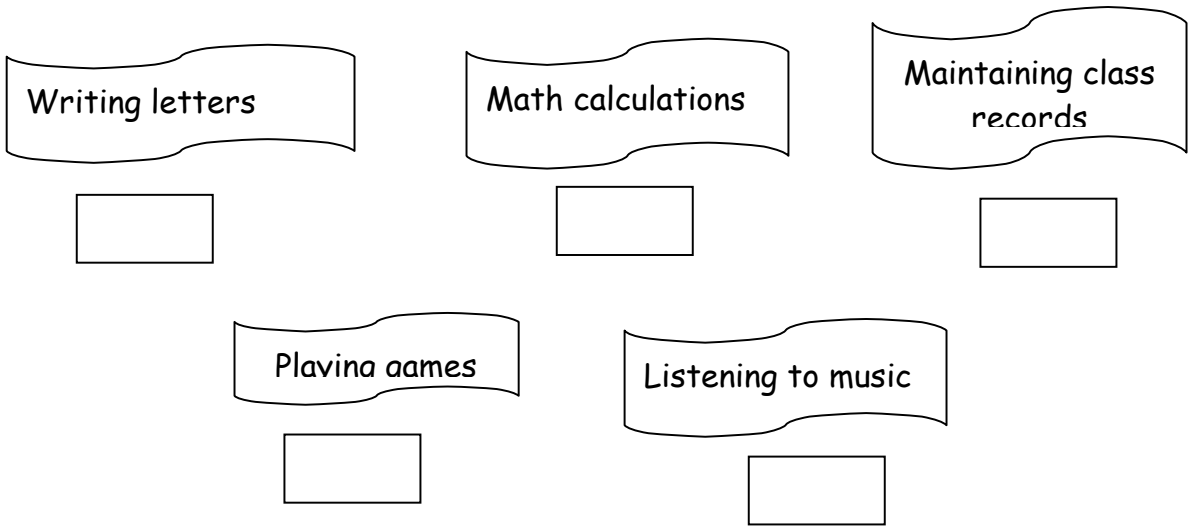
1.Number the following to indicate the steps you will follow to start a calculator



2. Match the following, functions and button symbol

a) Addition	*
b) Subtraction	+
c) Multiplication	/
d) Equal to	-
e) Division	=

3. What is the calculator in the computer used for?



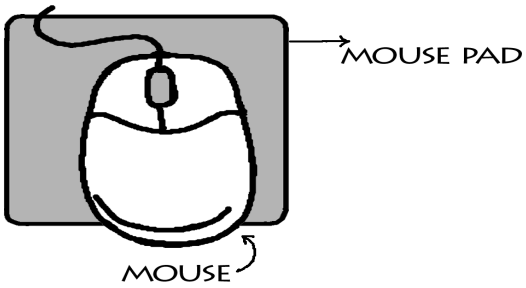
Lab Experiment

Give the few problems to solve using a Calculator on the computer and tell students to write the results in notebook.

- (2 x 4) + 3 = _____
- 20 + 50 + 5 = _____
- (5 – 3) + 2 = _____
- (9 / 3) x 1 = _____

Title	Operating a mouse: Selecting objects, drag and drop. Such as change the position of a file on the desktop		
Date	May, 2007	**Ref No.**	2.17
Contributor	Meera Hirani	**Std**	2
		Reviewer	Farida
Brief Description	This section deals with one of the functions of mouse – selection, drag and drop method		
Goal	The purpose of this lesson is to teach how to use a computer mouse so that one is more comfortable and efficient in using a computer		
Pre-requisites	The student should know the major parts of computer and also should have seen someone working on the computer with a mouse.		
Duration	1 session		
References	http://www.enchantedlearning.com/Webtipsforchildren.html http://departments.oxy.edu/its/help/software/computing_basics/mouse.html http://www.lizardpoint.com/fun/geoquiz/asiaquiz.html http://www.guidebookgallery.org/tutorials/windows311forworkgroups/mouselesson www.jgames.com/connectfour/		

Detailed Description



- A mouse is a small object you can roll along a hard, flat surface. Its name is derived from its shape, which looks a bit like a mouse, its connecting wire that one can imagine to be the mouse's tail, and the fact that one must make it scurry along a surface.
- You can use a mouse in conjunction with the keyboard to operate the PC.
- A mouse is a hardware device, which allows the user to control a cursor to manipulate data without complicated commands.
- As you move the mouse, the pointer on the display screen moves in the same direction. It can be compared to moving a finger while reading the book, as you move the mouse, the cursor moves on the computer screen.

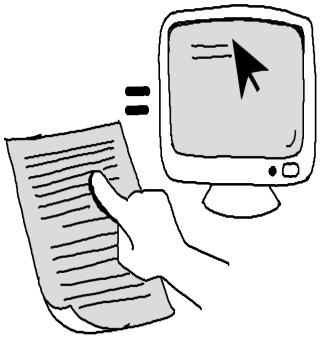


Figure b

- Mouse contains at least one and maximum three buttons, which have different functions.
- It also has a trackball fixed underneath in a holder, which helps to move the cursor on a screen. It is called a scroll wheel .

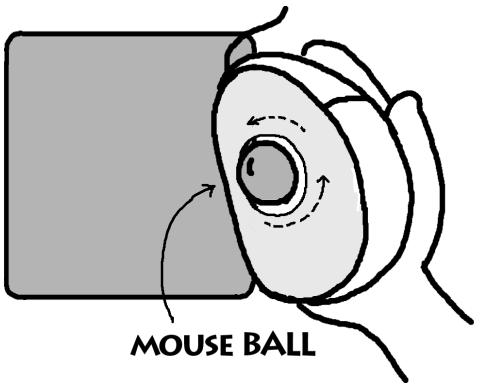


Figure c

- The hot spot of the when you want to click on something, move the tip of the arrow over it, then click the mouse button (if your mouse has two buttons, usually it's the one on the left you'll press).

Figure d

- The mouse or mice was invented by Douglas Engle Bart in 1963. When Douglas invented mouse it looked like this:

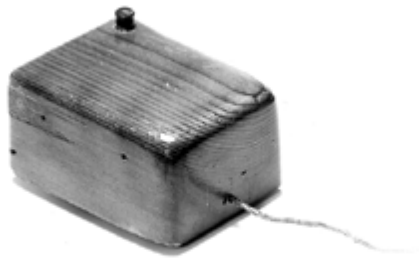


Figure e

- The three basic operations of the mouse (aside from simply moving it around the pad) are the Right-click and the Left-click and Scrolling which has been covered in the previous lessons. part from these there is an operation very frequently used -DRAG AND DROP.
- To drag, press the mouse button down, and keep it down. Then, move the mouse. In some programs you drag and drop items. You first click on the object you want to drag, hold the mouse button down, and then drag the object to some location. Now you release the mouse button and the object is in a new location.
- A faster way to cut and paste is to use the drag-and-drop method. This means a user points to a selected piece of text and drags it to the location where they want it to go.

To cut and paste using the drag-and-drop method:

1. Highlight the piece of text you wish to move
2. Place your pointer directly on the selected piece of text
3. Begin clicking-and-dragging your mouse.
4. Let go of the mouse button in the spot where you want the text to be located.
5. Drag and drop describes a particular action you can make with the mouse. Click an object, such as a folder, and then hold down the mouse button as you drag the object to a new location. You drop the object by releasing the mouse button. Drag and drop can be used to easily move, print, delete, or embed an object or file into another.

Lesson Plan

Mastering the Mouse

Try these tips to help with initial mouse navigation:

- Teach kids what the mouse is used for and how to use it.
- Consider putting a coloured dot or sticker on the left click button of the mouse to differentiate from the right button.

Clicking

The first skill is the ability to click the mouse once while controlling its placement. Even though they might have learned clicking before still get them to practice it for two to three minutes before starting to teach drag and drop.

Drag and drop
It is a skill that might take some time to achieve successfully. The objects that are to be dragged should be large, and students can practice clicking, holding down the button, and moving the object with the mouse. After students are proficient, they can go to a smaller target.

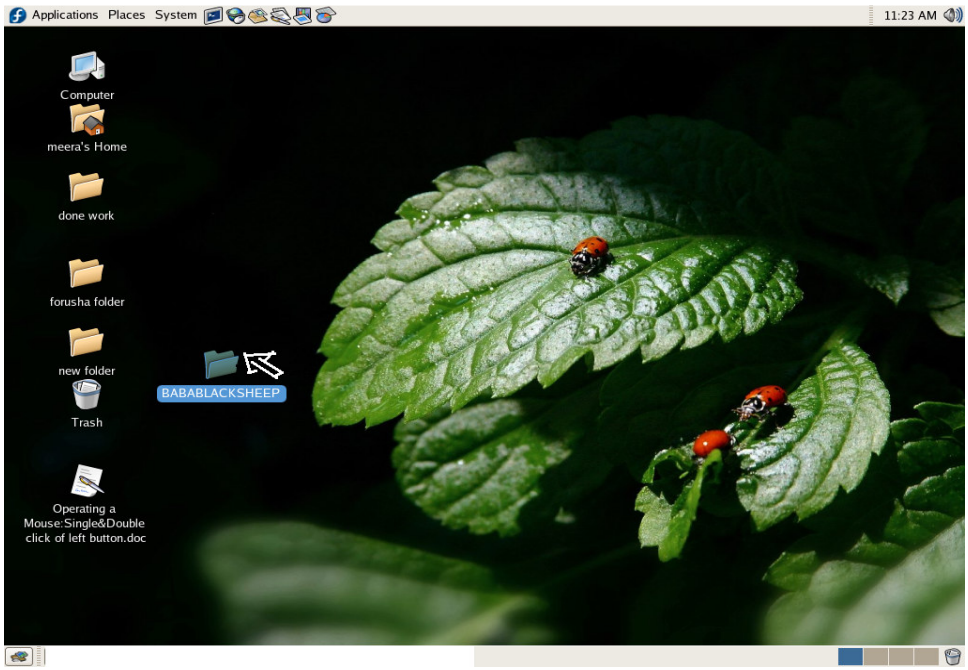


Figure f

Suppose one wants to move a folder called “BABABLACKSHEEP” to a new location. One should select the folder by single left click and hold the left button down and move the mouse over to the preferred location and release the left button when the cursor reaches this location as shown.

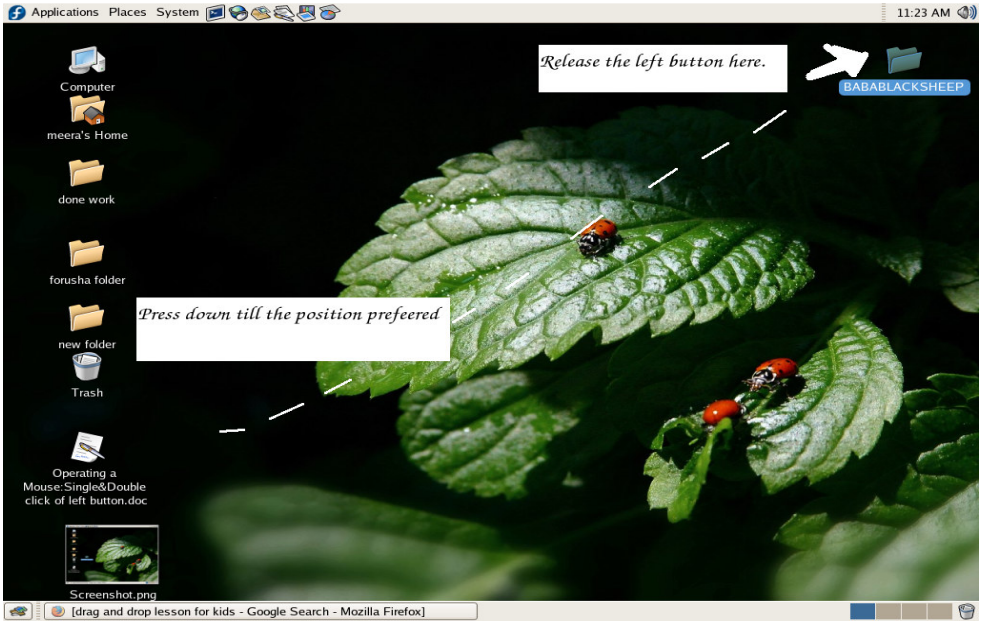


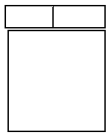
figure g

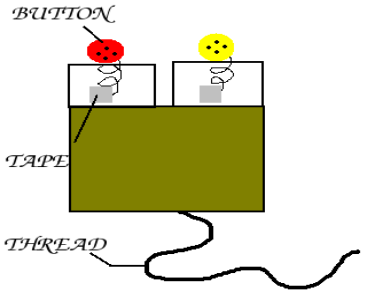
Activity

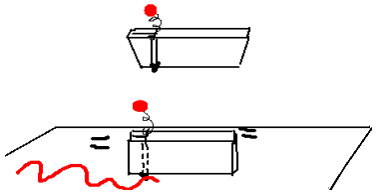
Materials/resources

1. White paper (enough for each individual in the class)
2. Black, red, green markers or crayons (enough for each individual)
3. Cardboard box (1) 3-4" width and height. (2) 1" width and 4" height. It is preferred if the boxes are circular however squares or rectangles are also fine.
4. Springs, glue and double sided tape.
5. Buttons

Teacher demonstrates making of a mouse by using the resources given above.
Stick the two tubular / small boxes to the large box as given. Stick two buttons on one end of the spring and the other side with double sided tape(this sticks on both sides). Now, attach the spring buttons to the small boxes as shown and enjoy practicing single/double and right clicking!!! If you want to practice drag and drop you can attach a colour pen right below the red button on the rear side of the cardboard and leave just about ½" gap between the pen and the paper on which it has to draw. Now only by pressing and holding the red button the pen comes in contact with the paper and it can draw!!!







Lab Activities

- Let the students handle the mouse. Give directions like, "Make the cursor go up, down, left, right, etc.". If time permits, let each student practice moving a mouse on the mouse pad. You can emphasize that “the mouse pad is the mouse's "home," and it never leaves its house”.
- Open draw/paint program on a computer and demonstrate making a line using the mouse. Important: verbalize each step and use correct terminology. Use the mouse to put the cursor on the pencil icon. You can explain what an icon is by comparing it with symbols used in maths as addition (+) and subtraction (-).
- Click the mouse button to select the pencil. Let go of the mouse button. Move the pencil cursor to the middle of the screen.
- Demonstrate drawing a line. You can give the following instructions: "Click and hold down the mouse button. Make a line. Let go of the button and put the pencil cursor somewhere else. Click and hold the button. Make a line."
- Repeat the above steps and have the children explain what you are doing at each step. Demonstrate changing colours.
- As children gain confidence and facility with the mouse, instructions can become more complex and individualized, "Draw a red circle. Make a blue square. Write the digit three in yellow colour. Make two oranges."
- An added bonus: As children become proficient, their exercises can be saved and put together in a slide show for parents; i.e., one child could make squares of various colours, another could make different sized and different coloured letters, etc.
- Students can be taught mastery over the mouse with the aid of games. In edubuntu, go applications Games Education suite gcompris.
- You can select the first top option ---discover the computer play with computer peripherals. If time permits, games form puzzles and reading activities can be explored.

Title	**Operating a keyboard. Such as: Arrows, Page Up/Down, Backspace/ Delete keys; Gcompris games.**		
Date	May, 2007	**Ref No.**	2.18
Contributor	Usha Viswanathan	**Std**	2
		Reviewer	Farida
Brief Description	This section deals with the functions of additional keys (Arrows, Page Up/Down, Backspace, Delete keys) on the keyboard.		
Goal	The purpose of this lesson is to teach the functions of some more keys like the Arrows, Page Up/Down, Backspace, Delete keys on the keyboard.		
Pre-requisites	The student should know the major parts of computer and also should have seen someone working on the computer with a keyboard.		
Duration	1 session(35 mts)		
References	http://www.citycol.com/esol/shena/ www.answers.com www.wikipedia.org www.webopedia.com		

Detailed Description

A Keyboard is a common input device through which data and control commands are fed into a computer. A typical computer keyboard looks like figure (a).

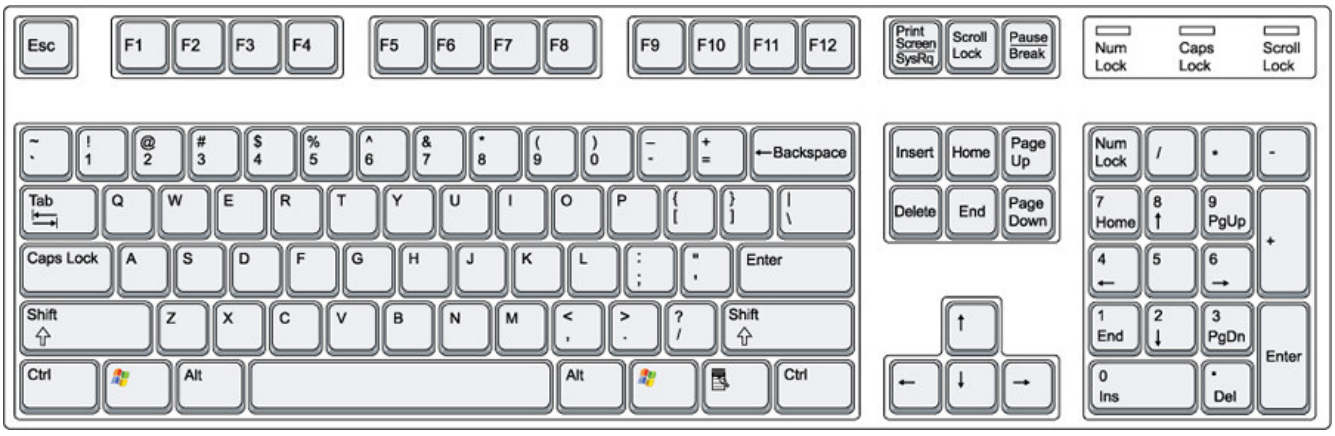


figure (a)

The Backspace Key

A key on the keyboard which moves left and erases whatever is to the left of it. It is the key which is marked either "Back Space" or "Backspace" with a large arrow pointing to the left situated at the top right of the main keyboard area.

The Arrow Keys

These are a set of 4 keys at the right of the computer keyboard that can be used to control the movement of the cursor on the screen up, down, left, and right. They are typically located at the bottom of the keyboard to the left side of the numeric keypad, usually arranged in an inverted-T layout. Arrow keys are commonly used for navigating around documents and for playing games.

Page Up/ Page Down

These two keys are located on the left side of the numeric keypad. These keys are used to move the cursor up and down a page, screen or frame. Often used in combination with shift, control and Alt keys. For example: Shift + Page Up : Selects one page just above the current cursor position.

Delete Keys

This keyboard key deletes the character at the cursor location. This key is located between the main and numeric keyboards . The delete key can also be used to remove the current selection.

Lesson Plan

1. Start off the class with quick recap questions about the keyboard, why it is needed and the keys they already know.
2. Allow the students to show you some of the keys they already know.
3. Now open a new document. Now start typing something, for example name of some students.
4. Spell some wrongly. Now show them how you can delete the wrongly spelt names using the 'Delete' key.
5. Type the names one after the other(can use large fonts) so that more than one page is filled up. Now go to the start of the file using the 'Page Up' key. To go down use the 'Page Down' key.
6. Now show them how they can move the cursor to left/ right/ up/ down using the arrow keys.
7. Finally, let us come to the the 'Backspace' key. Show how it will erase the character just left of the cursor.
8. Now go through all the keys once again and ask them whether they have any doubts.
9. Clear the doubts. Now let them practice!
10. Students can be taught mastery over the keyboard with the aid of games. In edubuntu, go applications -> Games -> Education suite gcompris.
    You can select the first top option: discover the computer -> play with computer peripherals.

Title	**Operating a Keyboard: Using Numbers and Special keys, such as Shift, Caps Lock, Ctrl, Esc.**		
Date	May, 2007	**Ref No.**	2.19
Contributor	Usha Viswanathan	**Std**	2
		Reviewer	Farida
Brief Description	Usage of keyboard using numbers and special keys.		
Goal	This topic seeks to teach the students operation of the keyboard using number and special keys such as: Shift, Caps, Ctrl, Esc.		
Pre-requisites	Familiarity with the parts of a computer, especially the keyboard.		
Duration	One Session		
References	http://www.citycol.com/esol/shena/ www.answers.com www.wikipedia.org www.webopedia.com		

Detailed Description:

A Keyboard is a common input device through which data and control commands are fed into a computer. A typical computer keyboard looks like figure (a).

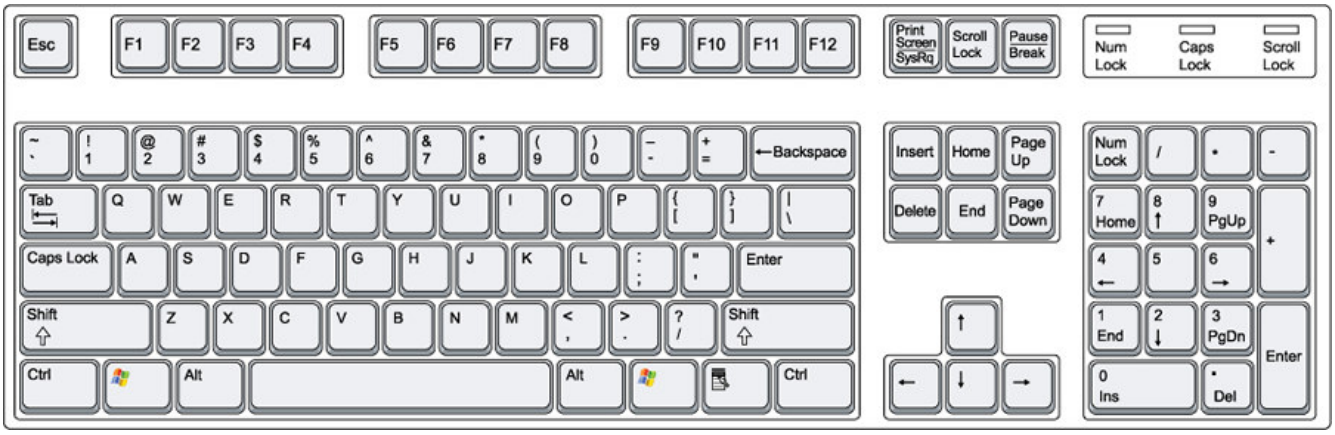


Figure a

Arrow key

As you see, the keyboard has got keys to enter alphabets as well as numbers. The arrow keys allow you to move the cursor up, down, left and right.

Numeric keypad

The numeric keypad consists of all numerals from 0 -9 along with the keys to do basic mathematical calculations like addition, subtraction, division and multiplication. To use the numeric keypad, first we have to activate the “Num Lock”. This is a key provided at the top left hand corner of the numeric keypad. Nowadays on the keyboard we have indicators which lights up, when the “Num Lock” is activated.
The number keys are also provided just under the function keys also. We can use either of them to suit our convenience.
The other special keys on a keyboard, which we are going to discuss, are the Shift, Caps Lock, Ctrl and Esc. Figure (b) shows the Shift, Ctrl and the Caps Lock keys.

Figure b

Shift key:

When the Shift key is combined with alphabetic keys, the keyboard output is capital letters. For example, pressing and holding the shift key while pressing the letter "a" on the keyboard would generate a capital "A". There are typically two shift keys, on the left and right sides of a keyboard and is commonly located below the caps lock key and the enter key respectively. On a keyboard, the characters that typically require the use of the shift key include the parentheses ( ), the question mark (?), the exclamation point (!), underscore (_) and the colon (:).

Caps Lock key:

The Caps Lock key is used to type capital letters continuously. While the Shift key is used to type one capital letter. Nowadays on the keyboards we have indicators which lights up, when the “Caps Lock” is activated. This is located near the “Num Lock” key above the Numeric Keypad.

When this light is on we will be able to type Capital letters. When you are finished typing in capitals, press the Caps Lock key once again to deactivate it. Now the indicator light is turned off.

When the caps lock key is on, the shift key can be used to type lowercase letters

Ctrl (Control) key:

The Ctrl (Control) key is used in the same way as the Shift key. It is pressed with a letter or digit key to give command to the computer. It is helpful in editing the document. For example, holding down ctrl key and pressing the letter “u” turns on underline in Windows word processors. The commands are generally written as ^ followed by the alphabet; for instances ^y means control-y (“Ctrl” key + the letter “y” key)

Some of the common shortcuts used using the “Ctrl” key are:

^x stands for cutting the selected text/ figure/data

^c for copying the selected data

^v for pasting the cut/copied contents

^b to make text bold

^i to make text italic

^d for double underline

^u for single underline

Esc Key:

A key on the computer keyboards, usually labeled Esc. Mostly the Esc key is located in the top-left corner of a keyboard. It is commonly used to exit a mode or routine, or cancel some function.

Lesson Plan

1. Start off the class with quick recap questions about the keyboard, why it is needed and the keys they already know.
2. Allow the students to show you some of the keys they already know.
3. Open a new document. Show them how to type numbers using the numeric keypad located at the two places, left and right of the keyboard.
4. Type in some names of the students with all alphabets in small case.
5. Ask them is there anything wrong. Probably you will get the answer: “ First letter should be capital”.
6. Ask them how to go about the problem. Get their inputs. Now demonstrate the use of the Shift key. Press down the shift key along with an alphabet, to type a capital letter.
7. Show them to type parentheses, colon, etc, and explain how useful the shift key is.
8. Now ask them what they will do if we want just to type in Capital letters? aha! There is another key to help us out! So you don't have to keep the shift key pressed. The Caps

lock key!

9. To demonstrate the function of the Ctrl key, first highlight all the data, which has to be changed using the mouse. Not press Ctrl and u to underline. Explain the students how it was done.
10. Similarly show some of the other shortcuts, like making text bold (^b), cut (^x), copy
11. (^c), paste (^v), etc.
12. Repeat the exercise twice or thrice, to teach the students the use of Ctrl key.
13. To demonstrate the use of escape key, try to close the file (before saving it), then the dialog box pops up asking whether you want to save the file or not.
14. Now press the “Esc” key to cancel the operation.
15. Allow the kids to practice!
16. Students can be taught mastery over the keyboard with the aid of games. In edubuntu, go to Applications -> Games->Education suite gcompris.
17. You can select the first top option ---discover the computer and play with computer peripherals.

Title	**Social Aspects: Posture, Eye and Wrist Exercises**		
Date	May, 2007	**Ref No.**	2.20
Contributor	Farida	**Std**	2
		Reviewer	Usha Viswanathan
Brief Description	This topic describes some acceptable postures and some exercises for eyes and wrists while using a computer.		
Goal	To make the child understand the correct postures while using a computer.		
Pre-requisites	None		
Duration	Two to three Sessions		
Reference	http://ergonomics.ucla.edu/Tips_Users.html http://safecomputingtips.com/ergonomic-exercise.html http://www.wikihow.com/Improve-Your-Posture		

Detailed Description

Maintain good posture when working. Sit all the way back in the chair against the backrest. Keep your knees equal to, or lower, than your hips with your feet supported.

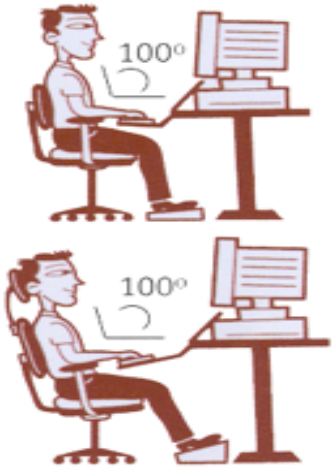


Figure a

Keep your elbows in a slightly away from you body, with your wrists in a straight position. Avoid overreaching. Keep the mouse and keyboard within close reach.

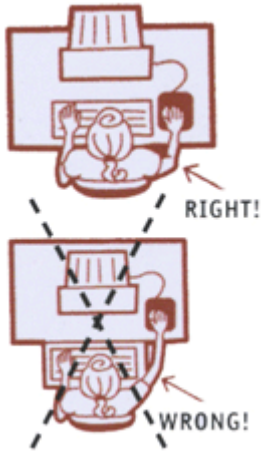


Figure b

Use good typing technique. Float your arms above the keyboard and keep your wrist straight when keying. If you use a wrist rest, use it to support your palms when pausing, not while keying.
Hit the keyboard keys with light force. The average user keys four times harder than necessary.

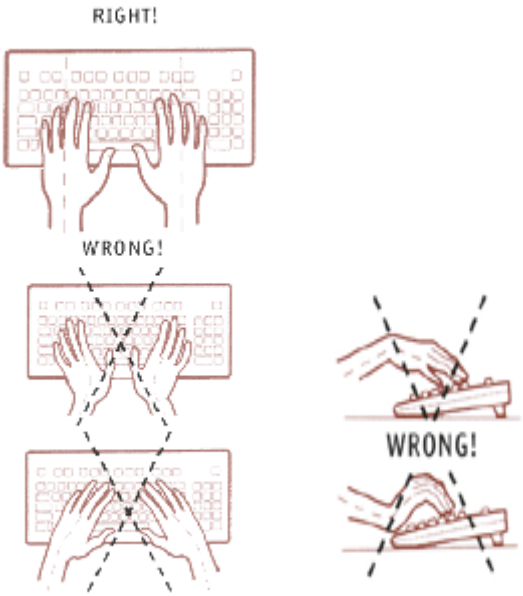


Figure c

Keep your wrists straight and hands relaxed when using the mouse. Don't hold the mouse with a tight grip or extend fingers above the activation buttons. Avoid moving the mouse with your thumb or wrist. Movement should originate at your shoulder and elbow.

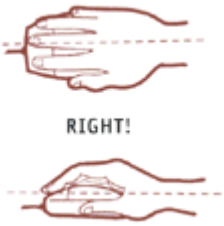


Figure d

Here are some exercises of posture, eyes and hands. Practice them to remain a healthy computer user!

Posture

1. Keep you ears straight over your shoulders. Raise both arms straight up along side your ears. Remember to keep your ears aligned. Bend forearms toward shoulders to touch your shoulder blades. Do 10 repetitions with both arms, then alternately for each arm singularly.
2. Keep you ears straight over your shoulders. Raise both arms out to sides at shoulder length. Hold for a slow count of ten. Slowly lower arms to sides, counting ten as you lower. Slowly raise arms back to shoulder height, counting to ten as you raise arms.
3. Be a penguin. While you wait for computer or a particular program to start, place elbows at your side, and touch your shoulders with your hands. Keeping your hands on your shoulders, and your ears aligned, raise both elbows (count one, two) and lower back to your waist (count one, two). Do as many times as your wait allows.
4. Tilt (stretch) your head in all four directions over your shoulders (forward, back, left, right), and gently massage your neck.

Eyes

1. Sit comfortably on a chair. Rub your hands together until they feel warm. Close your eyes and cover them lightly with your cupped palms. Avoid applying pressure on your eyeballs. Place your palms so that the nose remains uncovered, and the eyes remain behind the slight hollow of the palms. Make sure that no light rays enter the eyes, and leave no gaps between fingers or between the edge of the palms and the nose. Take deep breaths slowly and evenly, while thinking of some happy incident. Repeat the palming for 3 minutes or more.
2. Close your eyes tightly for 3-5 seconds then open them for 3-5 seconds. Repeat this 7 or 8 times.
3. Sit and relax. Roll your eyes clockwise, then counter-clockwise. Repeat 5 times, and blink in between each time.
4. Imagine that you are standing in front of a really big clock. Look at the middle of the clock. Then look at any hour mark, without turning your head. Look back at the center. Then look at another hour mark. Do this 10 times. You can also do this exercise with your eyes closed.

Hands

1. Wrist rotation: Stretch both arms straight to the front with closed fists. Rotate both the fists together ten times in the clockwise direction and ten times in the anticlockwise direction. Do ensure that only your fists are rotating and the rest of your arms are not moving.
2. Elbow rotation: Bend your hands towards the front and hold your shoulders with your palms. Now, rotate your elbows ten times in the clockwise and ten times in the anticlockwise direction.
3. Whole hands, small circles: Stretch both hands to the sides holding your palms straight up. Now, make small circles with both palms ten times in the clockwise and ten times in the anticlockwise direction.
4. Whole hands, big circles: Stretch your hands to the sides. Make big circles (as big as possible) with both the hands ten times in the clockwise and ten times in the anticlockwise direction.

Lesson Plan

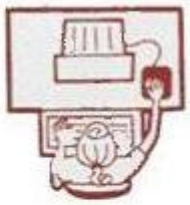
1. Demonstrate the features or appropriate manner of computer use by playing out a small skit where the actors selected amongst the students bring out right and wrong usage of computer.
2. For the exercises, make this a fun lesson for the students. You can even take them out of the classroom to the school ground and practice this exercise!

Worksheet (Ref. No. 2.20)

Select which is the right way of using a computer.(Tick the right ones)

1.

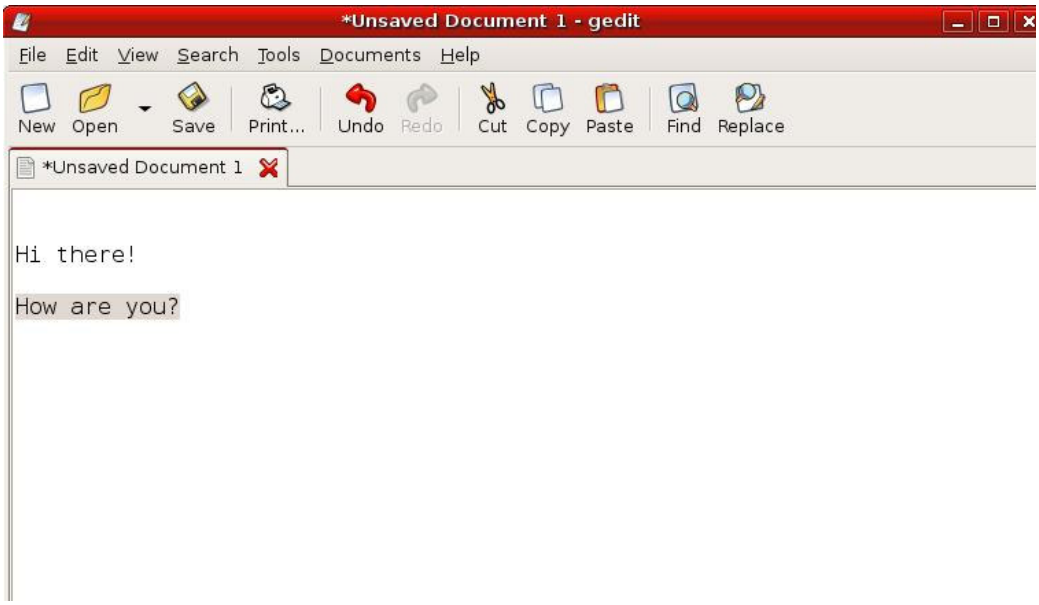
2.



Title	**Introduction to Basic Features of a Simple Text Editor.**		
Date	May, 2007	**Ref No.**	2.21+2.23
Contributors	Sanjivani Salunkhe	**Std**	2
		Reviewers	Farida
Brief Description	This topic gives the brief description about features of a simple text editor.		
Goal	Learn to use of text editor more efficiently		
Pre-requisites	Familiarity with computer.		
Duration	1 Session		

Detailed Description

A text editor is a type of program used for typing and editing plain text files. You can type text in it and save the file for future use. The following figure shows a simple text file.



1. **Copy, cut and paste:** Most text editors provide methods to duplicate and move text within the file by issuing keyboard commands.
2. **Undo and redo:** As with word processors, text editors will provide a way to undo and redo the last edit. Often—especially with older text editors—there is only one level of edit history remembered and successively issuing the undo command will only "toggle" the last change. Modern or more complex editors usually provide a multiple level history such that issuing the undo command repeatedly will revert the document to

successively older edits. A separate redo command will cycle the edits "forward" toward the most recent changes. The number of changes remembered depends upon the editor and is often configurable by the user.

3. **Find and replace:** The process of searching for a word or string in a text file and optionally replacing the search string with a replacement string. Different methods are employed, Global Search and Replace, Conditional Search and Replace, Unconditional Search and Replace. The following figure shows the toolbar shortcuts for all the above functions

4. I**mporting:** Reading or merging the contents of another text file into the file currently being edited. Some text editors provide a way to insert the output of a command issued to the operating system's shell.

After all the editing, we can save the file using the 'Save' or 'Save As' options under the “File” option in the menu bar. A dialog box pops up asking to enter the name of the file. (See figure c). Give the name and click Save to save the file.

figure c

To open a new text file, select the 'File' option from the menu bar, from the drop down menu select the 'New' to open a new file. To open an existing file use the 'Open' option under the

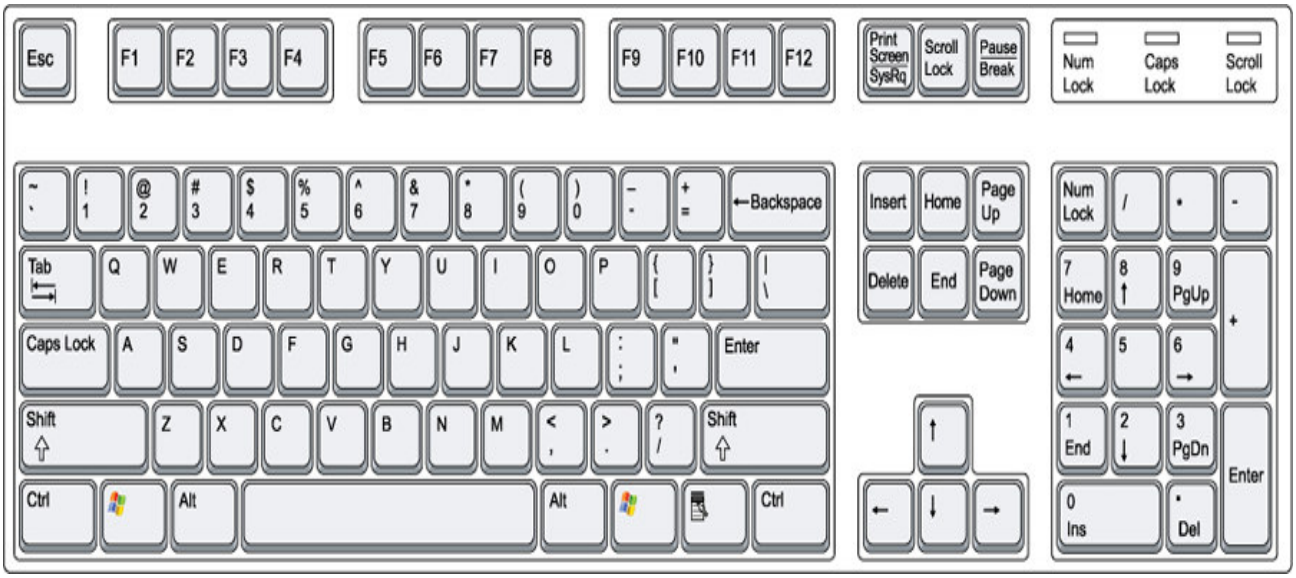
'File' menu. The shortcuts for 'New' and 'Open' option are also provided on the toolbar.

Lesson plan

How to use text editor:

1. Open text editor, it is usually located in the Application menu under Accessories.
2. Create simple text file using text editor.
3. Perform the different functions, like copy, paste, find, replace, save, etc on text file.
4. Ask them what they do after they finish writing in their notebooks.

WORKSHEETS (2.21, 2.22)



1. Colour the keyboard as follows:

    1. Red colour for number keys
    2. blue colour for the alphabet keys
    3. Green for Esc key
    4. Brown for Caps lock key
    5. Pink for arrow keys
    6. Yellow for shift keys
    7. Orange for Ctrl keys

2. Following is the list of short cut Keys using control and what they can do. Match it appropriately

^x	Copying the selected text/picture
^v	Double underline
^i	Single underline
^u	Make text italic
^c	Make text bold
^b	Pasting the selected text/picture
^d	Cutting the selected text/picture

3. Can you guess which of the following I am?

Arrow key	Number key	Caps Lock key
Esc key	Shift key	Ctl key

1) I allow you to move the cursor up, down, left and right.
_____

2) When you press me with alphabetic keys, you can type capital letters
_____

3) You use me to type numbers
_____

4) If you press me you can type capital letters continuously
_____

5) If you press me with a special letter key you can give command to the computer. I help you to make changes in the document quickly.
_____

6) You can press me and exit
_____

4. Supandi does not which keys are seen on a keyboard. Can you help him by colouring them?


Shift
Ctrl
Caps
1
2
4

Title	Elements of a Window: Tool Bar, Scroll Bar		
Date	May, 2007	**Ref No.**	2.25
Contributor	Usha Viswanathan	**Std**	2
		Reviewer	Farida
Brief Description	This topic gives and idea about the title bar, scroll bar and the tool bar of a window.		
Goal	To familiarize the kid with different elements like the toolbar, title bar and the scrollbar of a window.		
Pre-requisites	The kid should know how to open an application by double clicking the application icon.		
Duration	2 sessions		

Detailed Description

Tool Bar and Scroll Bars

Many programs and applications run within windows that can be opened, minimized, resized and closed (See figure a). The top bar of the window is called the Title Bar. This horizontal area at the top of a window identifies the window. The title bar also acts as a handle for dragging the window.

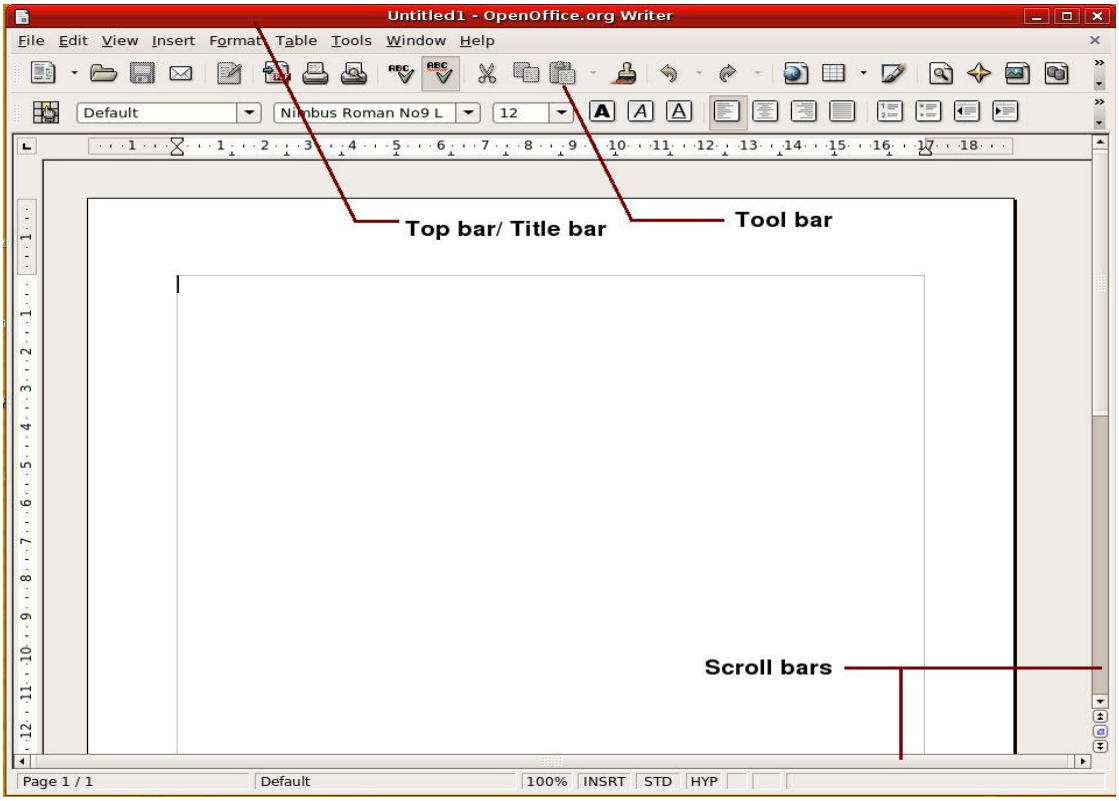


figure a

Tool Bar

A toolbar is a set of tools that are grouped together into an area on the main window of an application. Typically, the tools are arranged into a horizontal strip called a bar, hence the term toolbar. See figure b.

figure b

The tools on a toolbar provide quick and convenient access to commonly performed operations. Buttons are the most common kind of tool on a toolbar. For example in word processor applications, tools are provided to increase or decrease the size of the font, save

the document, print a document, etc. Figure c shows some of the toolbar buttons and their respective functions.

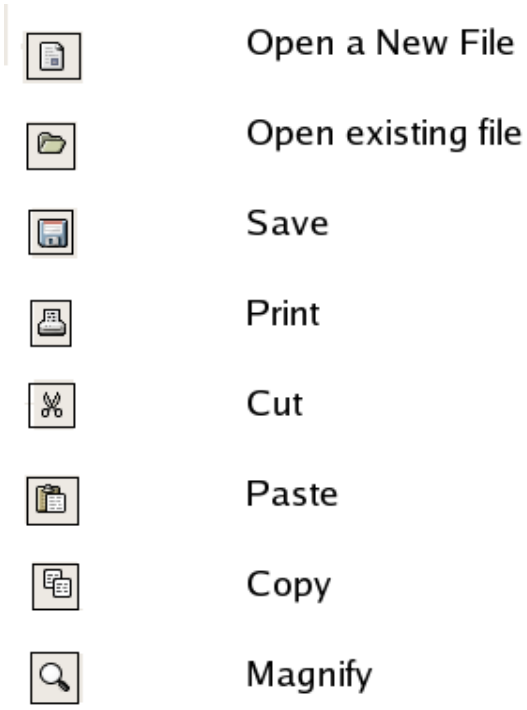


Figure c

Menu Bar

In a graphical user interface, a horizontal bar near the top of the screen contains the titles of available pull-down menus. This is the menu bar. The menu bar extends across the top of the main screen. The option "File" on the menu bar allows the user to do file operations like open/ close/ save/ print files. To do edit operations like cut/ copy/ paste on the opened file use the "Edit" tab. If in doubt use the "Help" tab to get the necessary instructions.

For example to open a file click the "File" menu, a drop down menu just as in the figure d is displayed. The "New" option will open a New file. Select the "Open" option to open an existing file. It will open a Dialog box and ask us to select the required file.

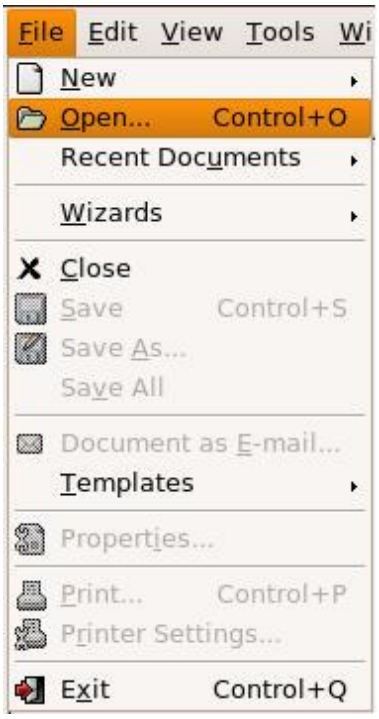


figure d

Scroll Bar

A scroll bar is a tall thin hollow box that appears at the side or the bottom of a window. You can use the scroll bar to scroll the window. The scroll bar feature is supported only by systems having windows.
If there are more elements than can be displayed on the screen, then a scroll bar allows the user to scroll through all the contents. A scroll bar at the bottom of the window lets you move the viewing area left and right. A scroll bar on the right side of the window lets you move the viewing area up and down.

Lesson Plan

1. Let the Icons of different applications kept on the desktop be the starting point to this class. The students can be asked to show the different icons kept on the desktop. Show them how to open a window.
2. Show them the different ways of opening the application. You can double click on the icon or select the icon, right click and select “open” from the drop down menu or the easiest of them all select the icon and press “Enter”.
3. To make the topic more interesting play a music file. Keep the Icon for the music player ready on the Desktop as shown in figure e.

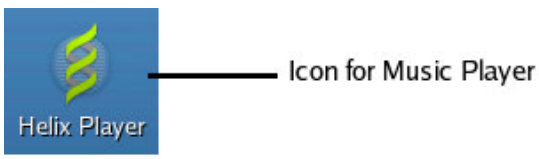


Figure e

4. Click to open the application. Select “Open file” option and then select the music file to be played. The above exercise will make them understand the significance of the “File” option in the menu bar. Enjoy the music!
5. Now open a Document or spreadsheet. Open another file using the file option from the menu bar. Let them watch.
6. Now ask the kids how they will open another file that is already saved in the system.
7. Allow them to show you how to open another file. (The procedure is to select the “File” option from the menu bar and then select “Open” from the drop down list.
8. Now close all the open files, stress using the window title bar button with the “X” sign to close the files (They already know this).
9. Once the desktop is clear, open another file, which has a lot of content in it, or type in some familiar words (like CAT, DOG, BALL, etc.) making the font big. (This is to make sure that we use the scroll bars to navigate through the whole file).
10. For formatting the fonts use the toolbar shortcuts.
11. Ask the kids to read the words, once they reach the end of the visible portion ask them how we can read the rest. Get their ideas.
12. Some may even be familiar with scroll bars!! Now show the scroll bar and show how we can use it to read the whole document.
13. If possible, open a window and allow them to play around. Let them type some words and format the fonts.
14. While leaving the class ask them to close all the open windows. Let them get ample practice!

Lab Exercise

1. Ask the kids to show a scroll bar and how they will use a scroll bar.
2. Show the icon of a music player, ask them to open the same and play a music file.
3. Type in some words on a blank document and ask them to increase the size of the fonts and change the colour.

Worksheet(Ref. No. 2.25)

1.

Select from the toolbar the buttons:

to make the font Bold-

to underline a word-

to change the size of the font-

2 . Match the following buttons with their respective functions:

3 . Fill in the blanks using the correct word from brackets:

1. If there are more elements than can be displayed on the screen, then a _____ allows the user to scroll through all the contents. (scroll bar/ tool bar/ menu bar)
2. The _____ option on the menu bar allows the user to do operations like open/ close/ save/ print files. (file/ edit/ insert)
3. A _____ is a set of tools that are grouped together into an area on the main window. (menu bar/ toolbar/ scroll bar)

4. Find the following words !!

SCROLLBAR TOOLBAR WINDOWS COPY
PASTE SAVE MENUBAR

T H S C R O L L B A R
O G S D P M V Z J R O
O J C O P Y L K E E S
L O M E N U B A R O A
B O A N U R O W Q P V
A P M P A S T E T Y E
R U W I N D O W S P J
X E U P D D H K L B D

Title	Create a New Document and Save it		
Date	May, 2007	**Ref No.**	2.26
Contributor	Dhanya	**Std**	2
		Reviewers	Farida
Brief Description	This topic describes how a new document is created and saved.		
Goal	To familiarize the concept of creating a new document and saving it.		
Pre-requisites	Familiarity with computer		
Duration	One period		
Reference	http://www.cyberciti.biz/faq/linuxunix-rules-for-naming-file-and-directory-names/		

Detailed Description

“Document" refers to any kind of file. For example, it can be a file of types PDF, DOC and so on. Creating a new document means creating a new file. The type of the file created depends on the application you are using. For example, you can create an Open document text (.odt), or Open Office text document (.sxw), or Microsoft Word (.doc) and so on with the application *OpenOffice.org Writer*. And the file you create with the application 'Paint” will be of type JPEG, PNG and so on.

Lesson Plan

Creating a New Document in OpenOffice.org Writer

Open the application by clicking on the icon for it or selecting the application from the main menu. It is under the sub menu 'office' (Applications -> Office -> OpenOffice.org Word Processor).
Selecting this option will open up the word processor window. See figure a.

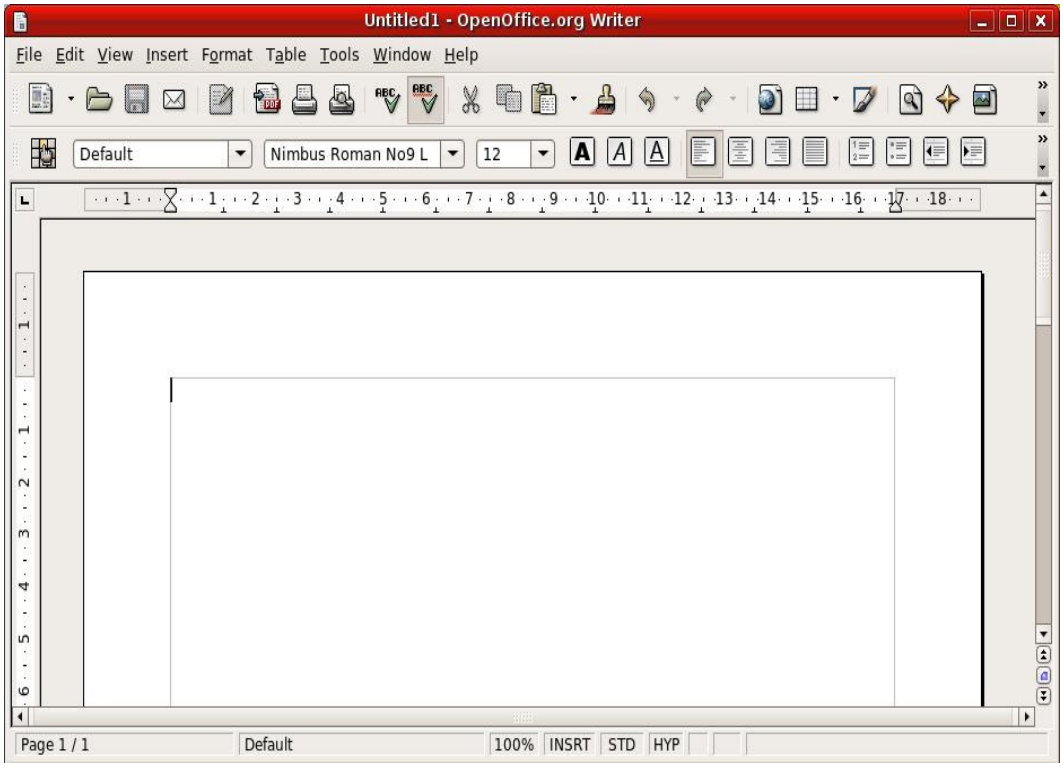


figure a

we can create a document by typing the contents. It can be used for anything from creating a quick letter to producing an entire book.

After creating the document, you need to save it for future use. For saving a document, press Ctrl + S (Pressing the key 'S' while pressing the 'Ctrl' key) or select the 'Save' menu as File -> Save. Then a dialog box as shown below will appear.

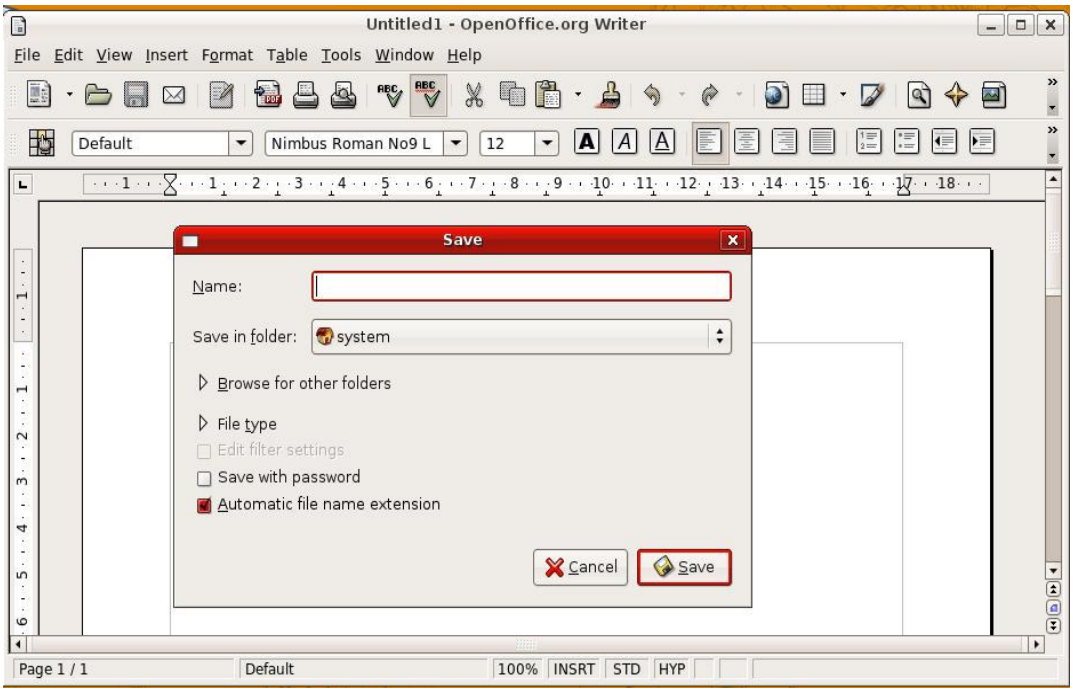


figure b

Enter the name of the file and click 'Save' to save the file.

WORKSHEET(Ref. No. 2.26)

1. Arrange in proper order
Ratish wants to open a new document, tell him what steps he should follow:

2. Neha wants to save the letter she wrote to her uncle. Can you tell her what steps she should follow? (Number the steps in order)

3. Is there a short cut to save the file? What is it?

Title	Concept of File Permanence		
Date:	May, 2007	**Ref No.**	2.27
Contributor	Dhanya.P	**Std**	2
		Reviewer	Farida
Brief Description	This topic describes the concept of saving a file using the 'Save' and 'Save As' option and then opening the file.		
Goal	To familiarize the 'Save','Save As' and Open' options in an application		
Pre-requisites	Familiarity with computer		
Duration	1 session		
References	http://www.duke.edu/~dhewitt/tutorials/explorer/explor.html http://ctl.ifas.ufl.edu/		

Detailed Description

A file is a collection of data or information that has a name, called the filename. There are many different types of files such as data files, text files, program files, directory files, and so on. Different types of files store different types of information. For example, program files store programs, whereas text files store text.

Saving a file

For saving a file, you can use 'Save As' and 'Save' options.

i) Save As

When you first save a file, you are presented with a "Save As" dialog box. This box gives you all the controls you need to specify exactly where and under what name your file is saved. Using the 'Save As' option, a single file can be saved under different names and/or in different location.

When saving a file in a desired location, using any application, you will follow these steps:

1. When you are ready to save a file, click on 'File', 'Save As'
2. When the 'Save As' dialog box comes up, select the directory where to store the file.
3. In the 'File name' box enter your choice of a filename.
4. In the 'Save as type:' box, you can select the type of the file being saved. It depends on the application in which the file is created.
5. Lastly, click on the 'Save' button. The 'Save As' dialog box for an Open Office Writer document is illustrated in figure a.

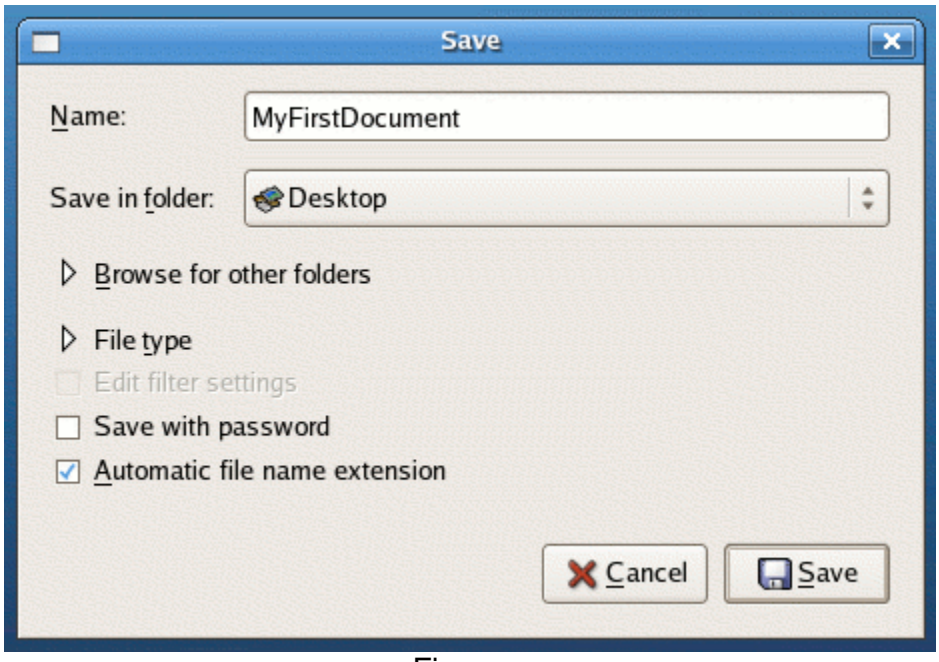


Figure a

Selecting a Location (Folder)

Now, you can select the location where you want to save the file by selecting that from the list. Or you can click on the '*Browse for other folders*' option to select another folder. It is shown in figure b.

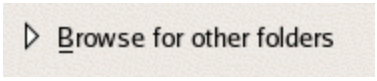


Figure b

Then it will open a window as shown in figure c.

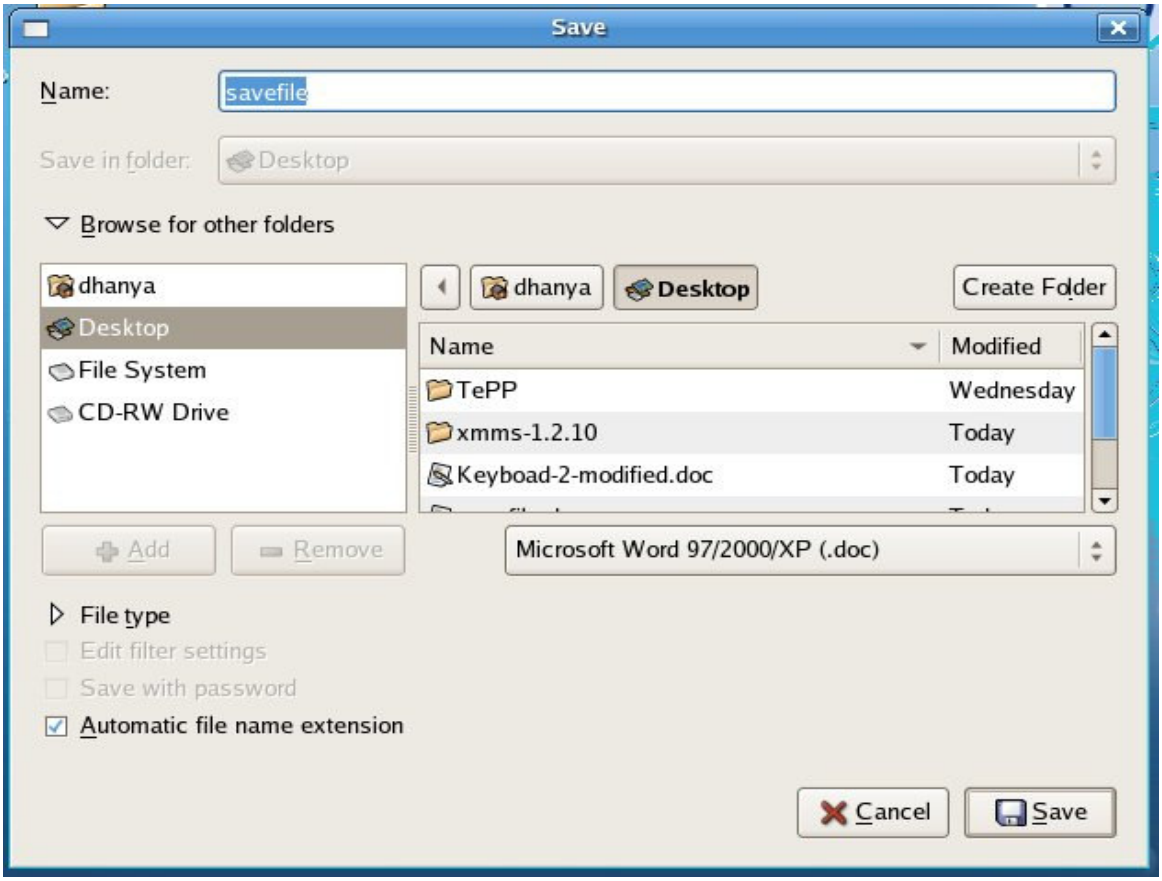
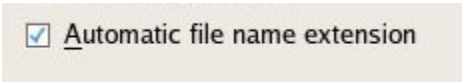


Figure c

If you select the 'Automatic File name Extension' as shown below, the file you created will be saved with an extension depending on the application as shown in figure d. Otherwise you should give the name of the file in the format *Filename.extension*.

Figure d



ii) Save

If u want to save a file in the current location, simply press ‘save’ button. The *Save* option saves a document you've previously saved, writing directly over the earlier version.
However, there's an exception. The first time you save any file, whether you use the 'Save' or 'Save As' options, you'll be presented with the Save As dialog box, so you can initially give the file a name. In this case, the two commands are identical.
You can also use the Save As option to make a copy of an existing document.

Opening a file

If you have created a file and saved it, you can use it for future use. For opening a file, select the 'File->Open' menu. Then select the folder in which the file is saved and then select the name of the file to be opened. The dialog box that is opened when clicking the 'Open' menu is shown in figure e.

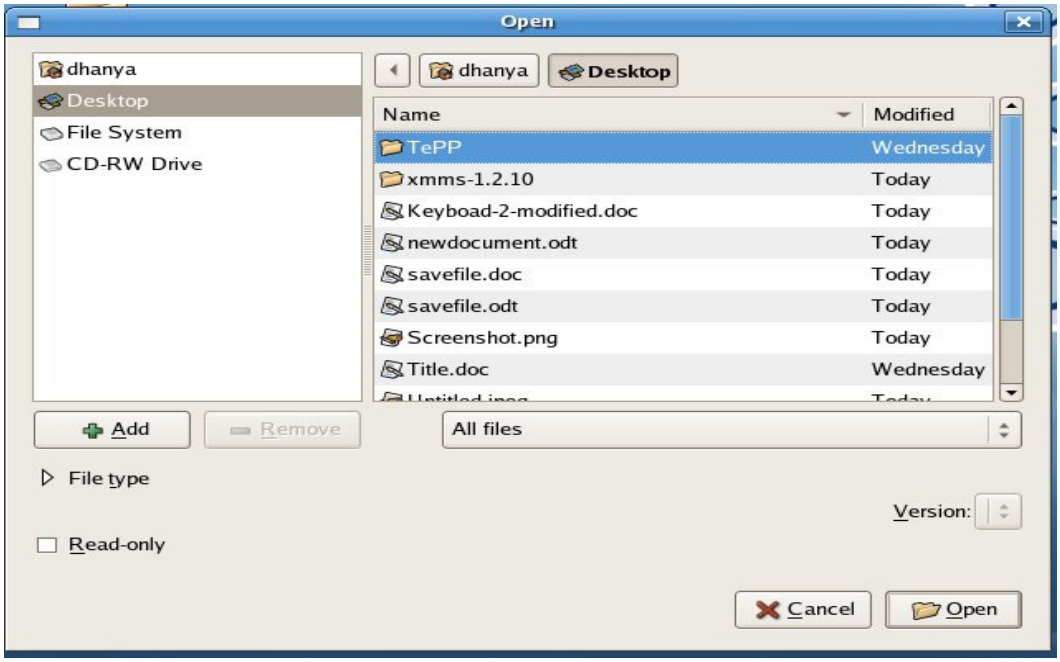


Figure e

After selecting the file, double click on it and click on the 'Open" button shown in dialog box to open the selected file.

Lesson Plan

Perform the steps 1-5 to save a file:

1. Open your word processing program (Open Office Writer) and type the contents of the file.
2. Click on 'File', 'Save As'.
3. In the 'Save in Folder' box, select appropriate location.
4. In the 'File name:' box, type 'test_doc'
5. Click on the 'Save' button
6. Now close the program.

7. Click on 'File', 'Open', and follow the same procedure as above (Selecting a location) to locate the file.
8. When you locate it, double click on the file to open it into your application program.
9. Edit the opened file and save it.
10. You have now completed the exercise and can close your program.

Work Sheet (Ref. No. 2.27)

Fill in the blanks with the following words. [A word can be used more than once]

Save Save As Name Location Open

1. For saving a previously saved file, select the _____option in the 'File' menu.
2. For saving a file for the first time, _____ option takes place even if we click on the _____ option.
3. In order to save a previously saved file to a different name, use _____ option.
4. In the 'Save As' dialog box, we should specify the _____ and _____ of a file.
5. _____ option allows us to save a file with a different name.
6. Use _____ option in the 'File' menu to open a saved file.

Lab Exercise

1. Create a document in Open office Writer and save it in a folder named 'MyDir'. Check the type of the document saved.
2. Open the same file, edit and save it using a different name in the same folder.

Other Notes

This lesson describes the concept of creating, saving and opening a file in the application 'OpenOffice Writer'. Exercise can be done with any application in any Operating System.

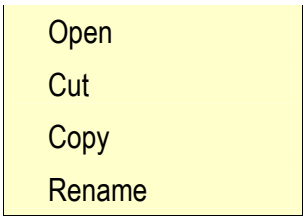
Title	**File Management**		
Date	May, 2007	**Ref No.**	2.28
Contributor	Dhanya.P	**Std**	II
		Reviewers	Farida
Brief Description	This topic introduces the different operations on a file.		
Goal	To introduce the different file operations like create, copy, rename and delete.		
Pre-requisites	Familiarity with computer and mouse usage.		
Duration	1 Session		
Reference	http://www.computerlab.kids.new.net/parts.htm		

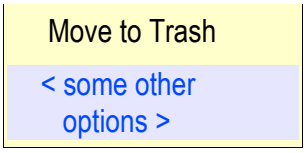
Detailed Description

A file is a collection of data or information that has a name, called the filename. The file you create need to be saved for future use. File management means the various operations that you can perform on a file. They are mainly

a) Create a file
b) Open a file
c) Cut a file
d) Copy a file
e) Paste a file
f) Rename a file
g) Move a file to Trash

When you click on a file, it gets selected and if you right click on it, you can see a menu as shown below containing the various operations that you can perform on that file.





Opening a File

Click on the 'Open' option in the menu. Then the file you selected will be opened. And you can do any operations on the opened file.

Cutting a File

You can cut a file you selected, by clicking on the 'Cut' option and then the selected file will be removed from its location so that it can be paste at the desired place. For instance, you may choose to cut a file from my documents and paste it on the desktop. Remember that only when it is pasted anywhere, the file will be cut. Otherwise it will remain in the previous position only.

Copying a File

A selected file can be copied by clicking on the 'Copy' option. And then you can paste that file anywhere you want. For this, first you have to copy the file using the 'Copy' option and go to the location where you want to paste the file and right click there. Then you will be provided with a menu having an option 'Paste'. Click on that option and the file you copied will be pasted there. This option is used to make a copy of the file. Remember that the file will there in its original location also.

Renaming a File

A selected file can be renamed by clicking the 'Rename' option in the menu shown above. It allows a file to be known by a different name. When you click on the 'Rename' option, you are provided with an option to type the new name for the selected file as shown in figure a

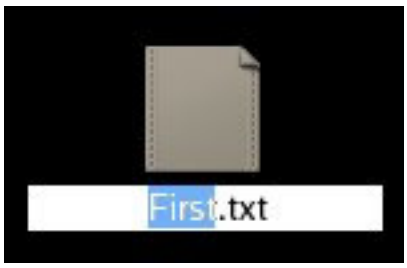


Figure a

In the Fig:1 , the file is a text file, and its name is 'First'. When the 'Rename' option is clicked,

you are provided with an option to type the new name of that file (It is shown in blue colour in the figure). There you can type the new name of the file.

Moving a File to Trash

If you think that a file is no longer needed, you can move that file to the Trash folder. The Trash folder is a location to store all the files and folders that the user finds unwanted. It is like dustbin of a computer. The contents moved to Trash folder can later be moved to anywhere else and used, but those deleted from Trash get permanently deleted from the system. To move a file to Trash, click on the 'Move to Trash' option when that file is selected.

Lesson Plan Outline:

1. Open an application and create a file in it. Save the file and close the application.
2. Select that file, right click on it and open the file using the 'Open' option.
3. Make some changes to that file and close the application after saving the file.
4. Select that file and rename it.
5. Select and open the renamed file and check whether there is any difference to the content of the file from the previous one.
6. Select a file and copy and paste it into another directory (folder).
7. Select a file, cut and paste it into another directory. Check whether there is any difference to this operation from the operation in Step 6.
8. Select a file and cut it, but do not paste it anywhere. Check what happens then.
9. Select a file and move it to Trash. Now select the moved file in Trash and place back it to its previous location.

Lab session:

1. Select a file and open it.
2. Select a file from my documents, copy and paste it into the same location. Check what happens then.
3. Select a file from my documents, cut it and paste it to on the desktop.
4. Select a file and rename it.
5. Move a file to Trash.
6. Cut that file from Trash and paste it back to its previous location.

Worksheets:(Ref. No. 2.28)

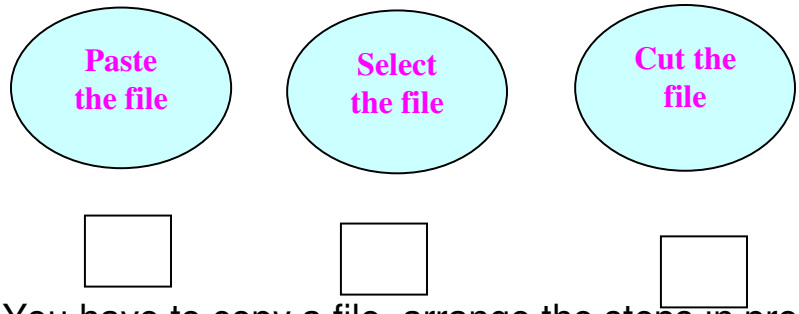
1. For performing an operation on a file, you need to _____ the file by clicking on the file.

   a) Select b) Open c) Cut

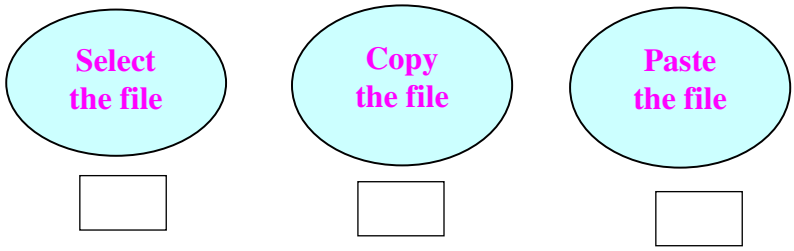
2. You can rename the file by _____click on the file name.

   a) Right b) Left

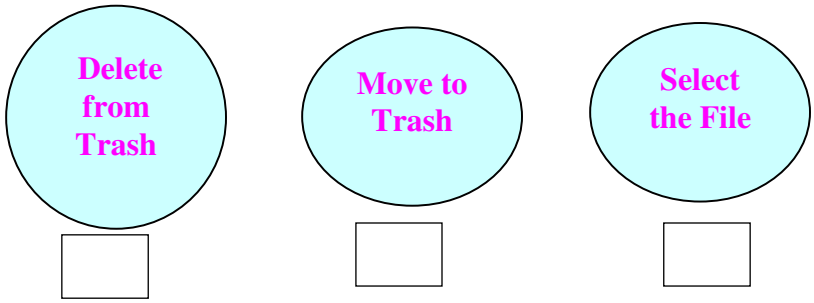
3. You have to cut a file, arrange the steps in proper order



4. You have to copy a file, arrange the steps in proper order

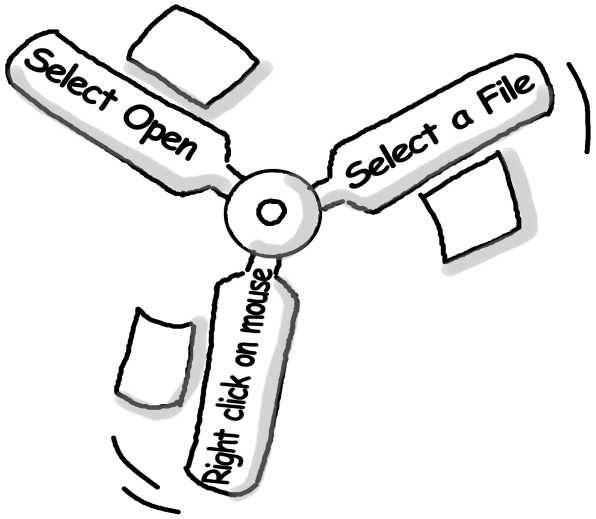


5. You have to delete a file from trash, arrange the steps in proper order



Worksheet (Ref. No. 2.29)

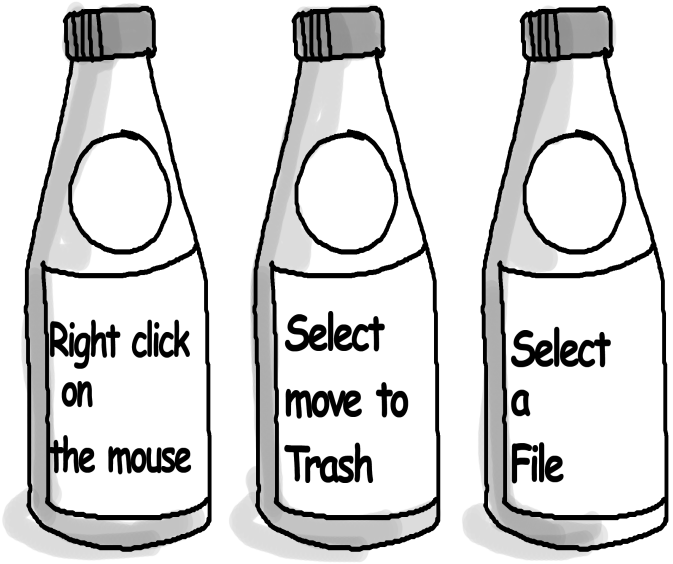
1. Rita wants to open a file, tell her what steps she should follow



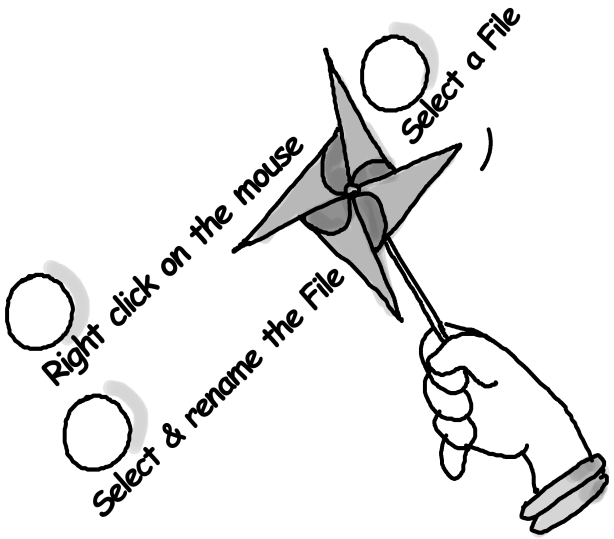
2. Sameer made a card for his mother. It is now in my documents. He wants to copy this file to the desktop. Can you tell him what steps he should follow?

3. Diya wants to move the paint files she made in Class I to trash. Tell her how

to do it.



4. Nisha wants to rename the file her brother made and save it by her name. Tell her how she can do it



5. Answer the following questions

1. What are the operations that you can perform on a file?

2. How to delete a file permanently from its storage?
3. Can a file moved to Trash be restored to its original location?
4. What are the difference between 'Save' and 'Save as' options?
5. What are the ways to create a new document?
6. Can the symbol '/' be included in the name of a file in a Linux system?
7. Is the filename '2ndStd' a valid one?

Lab Exercises

Create a file to store the Roll No: and Name of any 10 students in your class as

Roll No	Name	
1	_____	
2	_____	etc...

Save it by the name 'students' in a folder named 'School' .

- Close the file and open it again.
- Add each student's mother's name as a separate column headed 'Mother's name'.
- Save the file using another name 'students-info' in the same folder.
- Close the file.
- Open both the files and check whether there is any difference in the contents of the file.
- Move the file 'students-info' to another directory by changing its name to 'students-details'.
- Add the name of the subjects you are taught at the end of the file 'students'.
- Copy these added contents to the file 'student-info'.
- Save the file 'student-info' and close it.

Title	Precautions while Operating (deletion, shutdown etc)		
Date	May, 2007	**Ref No.**	2.30
Contributors	Manjesh Kumar, Farida	**Std:**	2
		Reviewers:	Farida
Brief Description	This section deals with the precautions while operating (deleting, shutdown) and teaches how to perform operation such as deletion of any files or folders in safe mode and shut down of the computer appropriately.		
Goal	The purpose of this lesson is to teach cautious operations of the computer		
Pre-requisites	Familiarity with computers and file management		
Duration	1 session (35 Minutes)		

Detailed Description

Computers allow us to be fast in our work. But if, by mistake we delete a file or folder permanently, recovery of deleted data is not possible and we might loose a lot of important work. Hence, it is important that students learn to be cautious in deleting files or folder. They have to be taught to think well before deleting any file or file from the computer. The following steps result in cautious approach on the part of the computer use.

- Temporary Deletion: If you are moving the file to 'Trash', the file can be recovered because when you will delete the file using 'Move to Trash', then file is moved to Trash. Trash is like dustbin of computer, where you put all unwanted files or folders. As by this action, the file is not deleted permanently, this process is known as 'temporary deletion' of data. Please note that file remain in Trash until you delete from the Trash.

- Permanently Deletion: After selecting a file, if you press shift key and while it is pressed also press the delete key, it will ask for confirmation to delete it. If you press 'Delete', the file will be deleted permanently and will not be recovered again. But if you will select 'Cancel' the file will not be deleted. This process is known as ‘permanently deletion’. As by this action, you will not be able to get the file after it is deleted, it is important to be sure that you do not want the file before using this procedure. It is safe to use temporary deletion, so that you can get the file again whenever required.

- Shutdown operation: This operation is used to close the computer. While performing this operation make sure that the files you were working on are saved. If the computer is shut down without saving the files, important information may be lost from these files and you might end up doing the same work all over again.

Lesson Plan

1. In the class room, explain what trash is in a computer. Compare it to the waste paper basket. Show the icon in a computer.

Figure a

2. Ask the students what will they do if they have thrown an important paper (e.g. tickets of the amusement park) in the waste paper basket. They might say, they will search for it in the basket. Now ask them, if they did not use the waste paper basket and threw the tickets from their window. What will happen? Will they get them back? If they made this mistake, what will they do next time? Will they use the waste paper basket or throw the unwanted material out of the window from where they will not be able to get it again!

3. Once the idea of the importance of trash box is fixed, come to the computer technology and explain temporary and permanent deletion of files.

4. Now ask them if they are colouring a drawing at home and their friend calls them for playing. What will they do? Will they just leave all the crayons and drawing paper and run to play or will they put everything in its proper place and then go? Make the students think. Ask them what will happen if they leave everything lying on their desk. They may say " I will loose some crayons, will misplace my drawing paper". Ask them what will happen if you put things in proper place. They might say, "I can find it when I need it back." Now introduce the concept of shut down and tell them how it helps in preventing loss of important information. Emphasize on the importance of being cautious, and being proactive. Do not wait to make a mistake and then learn from it, when you can avoid making mistakes!

5. Now you can take them to the computer lab and demonstrate temporary and permanent deletion and shut down of computer. You can use the following demonstration:

How to delete any file or folder from the computer: There are two ways of deletion of any file or folder

A) Temporary Deletion :

- First of all ensure whether selected file should delete or not. If yes, point the mouse over the selected file and 'Right Click' on the mouse. You will see the list of options, select 'Move to Trash' option .

- Now file will move to Trash. If you want to see the file in 'Trash', go to Trash. You will find this icon on your Desktop. (It is located in the bottom right hand side on the Desktop.) Figure a shows this icon.

figure b

- If you Double click on that, it will open a file browser. Here you can see the deleted file, and if you want to recover it, you can.

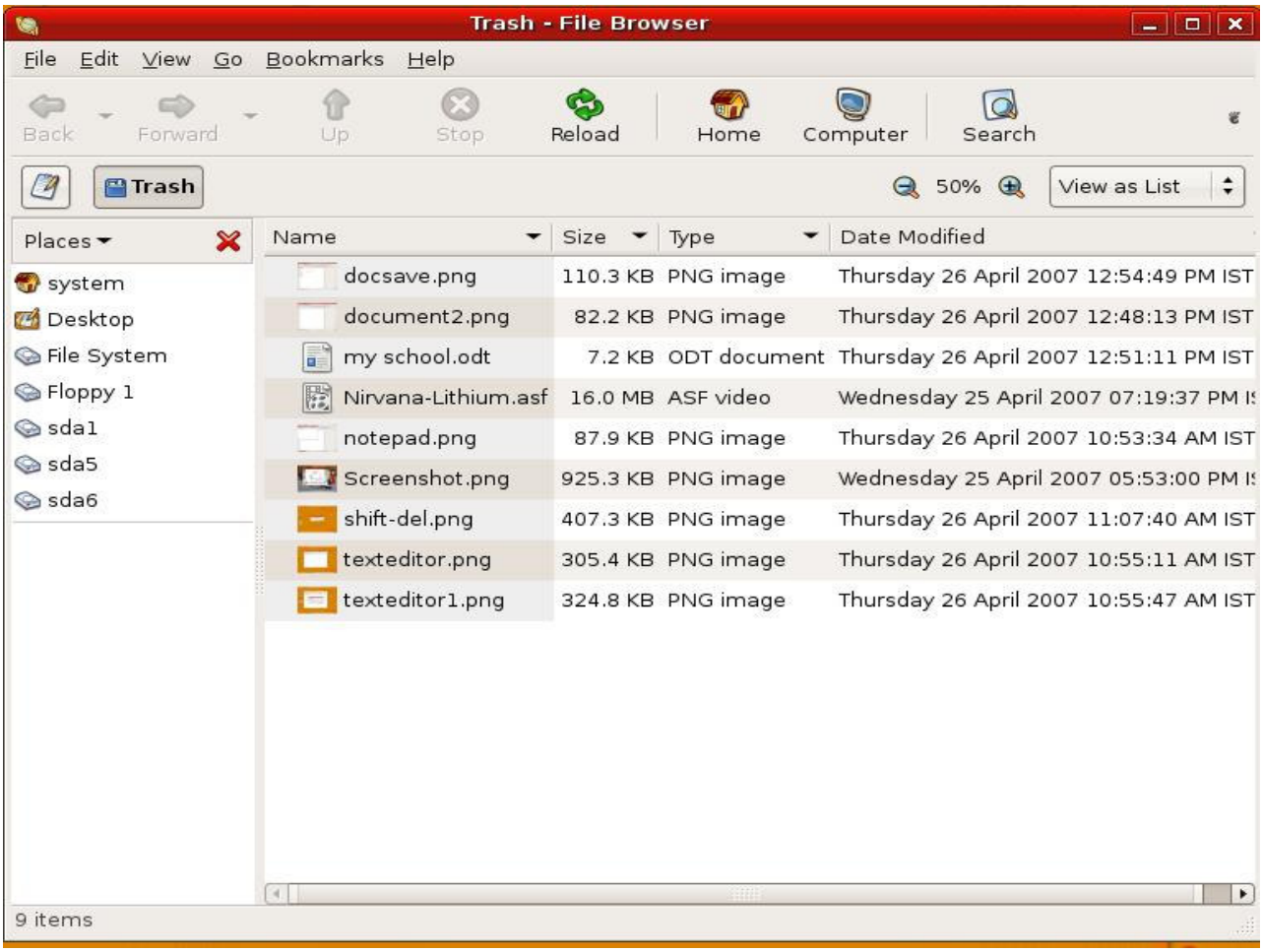


Figure c

B) Permanent Deletion:

- After selecting a file, if you press shift key along with the delete key, you will see one warning window pop up. It has two options 'Delete' and 'Cancel' Se the figure below:

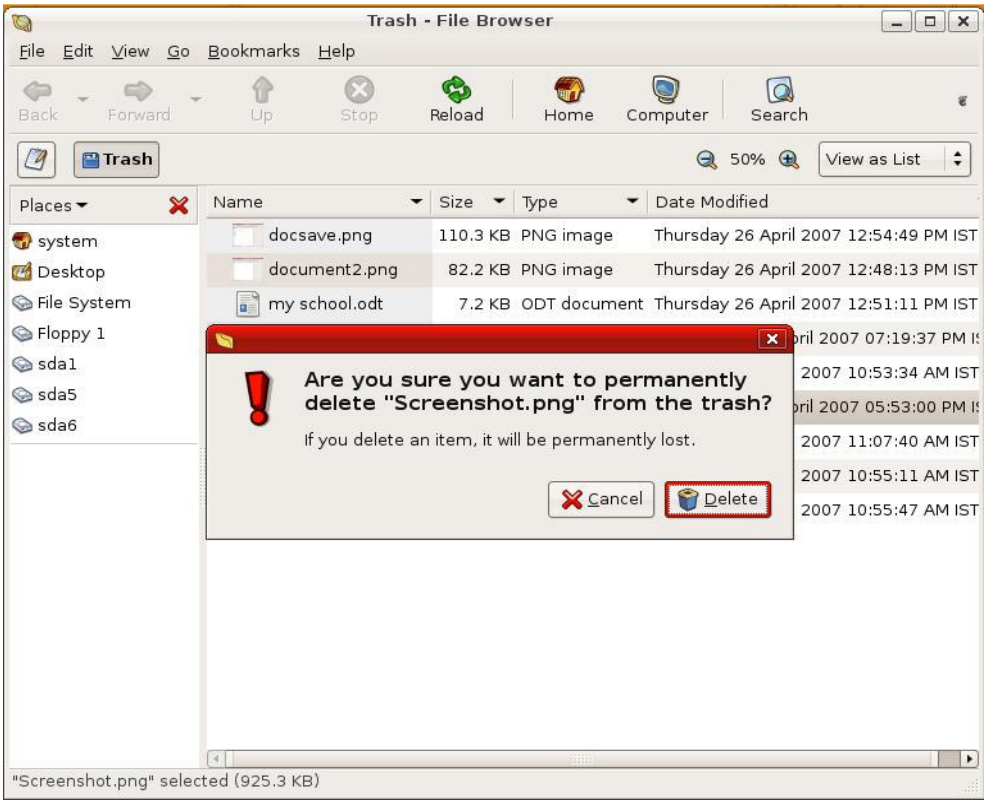


figure d

- If you select 'Delete', file will be deleted permanently and cannot be recovered again.

C) Shut Down:

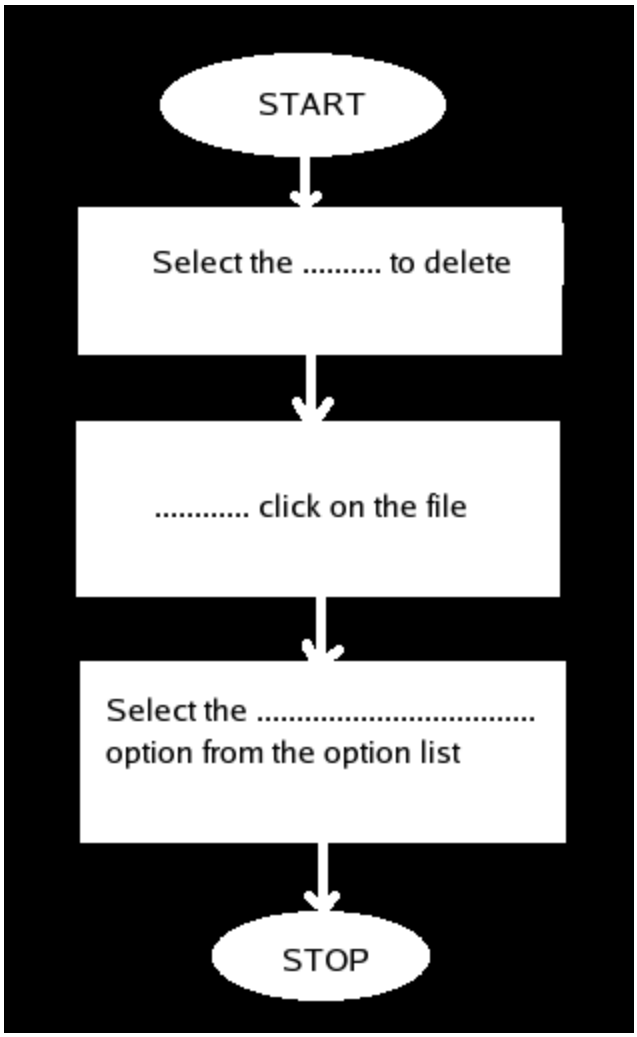
At the time of computer shutdown you should save all files or work whatever you are doing currently otherwise you will loss your work. Here also the system will ask you whether to shutdown/ logout/ restart. Select the option to proceed further.

Worksheet (Ref. No. 2.30)

Fill in the blanks

1) Choose the correct words from below to show how you will delete a file temporarily.

File	left	right	shut down	delete



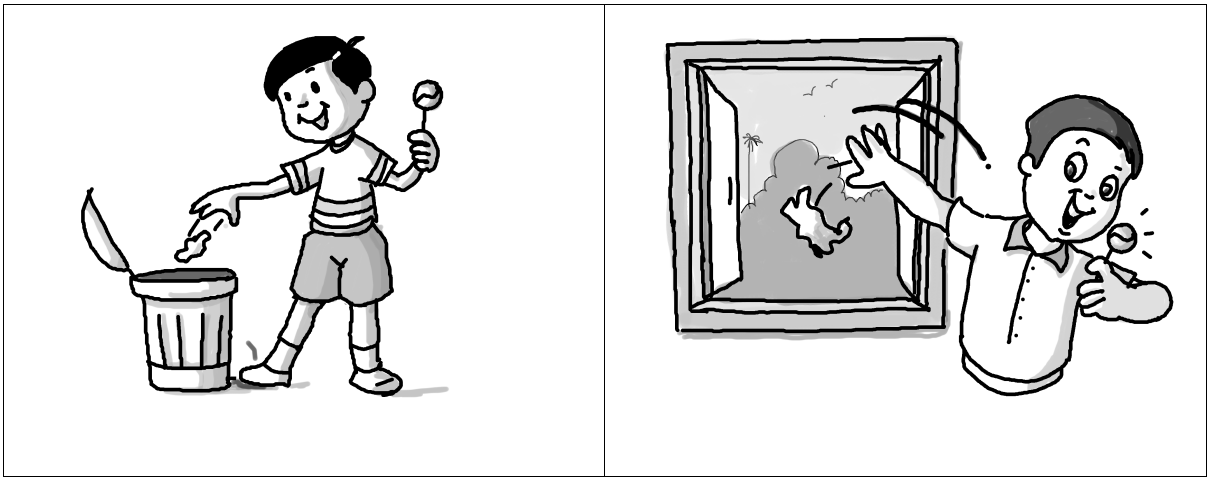
2) Unscramble and fill in the blanks

For permanent deletion of any file

- select the _ _ _ _ (L I E F)
- press shift + _ _ _ _ _ _ _ key . (E D L T E E)
- (c) Click on _ _ _ _ _ _ button from warning window. (L E D E T E)

3) Select Right or Wrong:

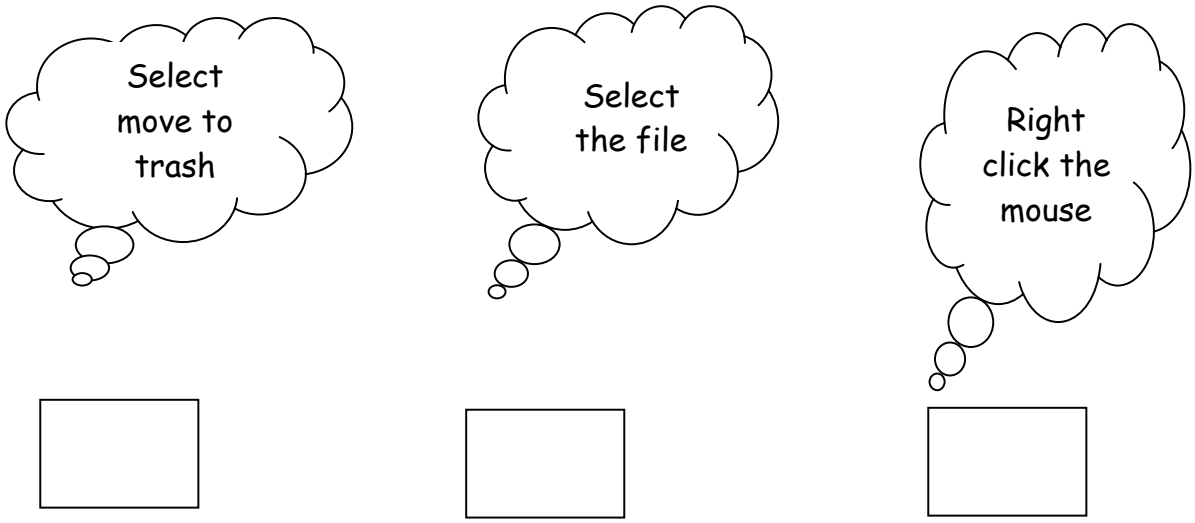
a.



b. Sonu saves all the files and closes them before he shuts down the computer. _____

Reema shuts down the computer without saving the files. _____

4. Rahul wants to delete the paint file that he prepared in the first semester. Tell him what steps he should follow by arranging the following in proper order.



5. Sita wants to delete the file she had prepared in class I. Tell her what steps she should follow by arranging the following in proper order.