INFORMATION AND COMMUNICATIONS TECHNOLOGY

Standard IX

Part 2 2/2

Government of Kerala
Department of General Education

State Council of Educational Research and Training (SCERT), Kerala
2019

NT-867-1-ICT-9(E)VOL.2

The National Anthem

Jana-gana-mana adhinayaka jaya he
Bharatha-bhagya-vidhata,
Punjab-Sindh-Gujarat-Maratha
Dravida-Utkala-Banga
Vindhya-Himachala-Yamuna-Ganga
Uchchala-Jaladhi-taranga
Tava subha name jage,
Tava subha asisa mage,
Gahe tava jaya gatha.
Jana-gana-mangala-dayaka jaya he
Bharatha-bhagya-vidhata,
Jaya he, jaya he, jaya he,
Jaya jaya jaya jaya he!

Pledge

India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give my parents, teachers and all elders respect, and treat everyone with courtesy.

To my country and my people, I pledge my devotion. In their well-being and prosperity alone lies my happiness.

Information and Communications Technology-IX

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Preface

Dear Learners,

The Information and Communications Technology (ICT) textbook for Standard IX is prepared and presented to you with the firm conviction that the ICT textbook for Std VIII could successfully guide you across the marvellous and ever advancing world of information and communications technology, providing you with various innovative learning experiences.

You have already learnt the basic lessons of Graphic Designing. This textbook has been prepared with the intention of providing you with practice in using graphic software for designing posters and pictures by yourself for curricular and extracurricular activities, familiarizing you with the various possibilities of word processor, equipping you to use software like spreadsheet, presentation, etc. for doing various activities including projects.

The activities included in this textbook are designed using various interactive software like GeoGebra, RasMol, GPlates and Stellarium. Which will help you to get a deeper understanding of the various concepts. The textbook also initiates you into the world of computer languages by providing opportunities to prepare programs using Python. In addition to familiarising the various services provided through Internet, the textbook also offers practice in handling Wiki software.

This textbook that provides you with interesting and novel learning experiences will prove to be a good companion to you in the learning of other languages and subjects.

Dr. J. Prasad
Director
SCERT, Kerala

CONSTITUTION OF INDIA

Part IV A

FUNDAMENTAL DUTIES OF CITIZENS

ARTICLE 51 A

Fundamental Duties- It shall be the duty of every citizen of India:

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievements;

(k) who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between age of six and fourteen years.

Contents

Icons used in this book for easy reference

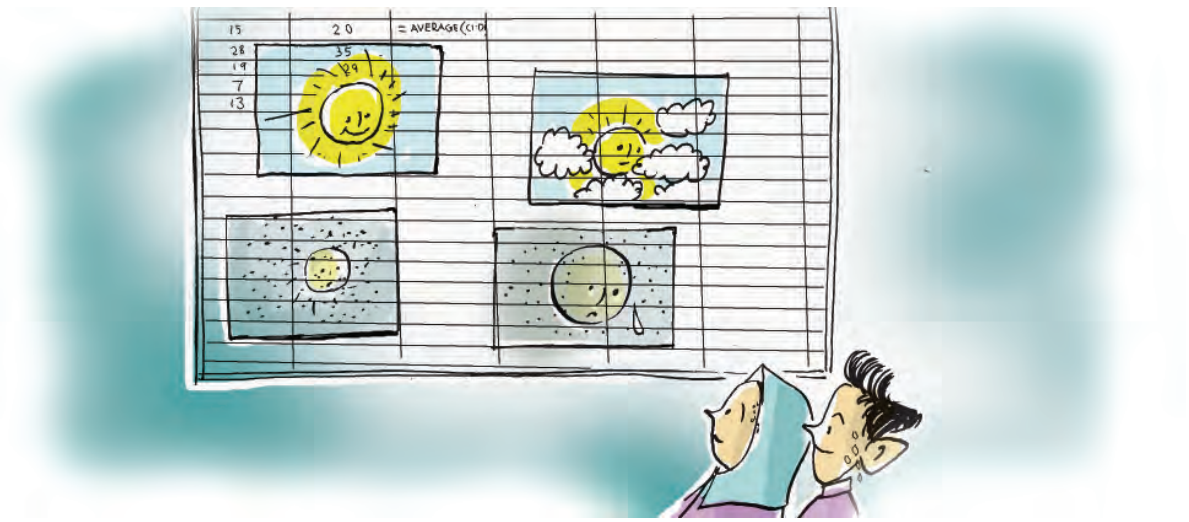
For further reading
(Not to be evaluated)

Let's evaluate

Extended activities

Chapter 6

Analysing Data in the Computer



These statements indicate the recent changes in atmospheric temperature. You might have understood how the change in atmospheric temperature influences the climatic conditions.

In the lesson 'Sun: The Ultimate Source' in your Social Science textbook, different types of analyses of temperature in various parts of India are referred to. Anu and Amina are getting ready to gather information on the temperature in different parts of India as referred to in the lesson and analyse them. Anu is of the opinion that the activity is a bit difficult since a lot of data is to be handled. It was their teacher who hinted that Spreadsheet software could be used for analysing data and for arriving at conclusions.

With the help of LibreOffice Calc familiarised in Standard 8, let's help Anu and Amina to do this activity as per the teacher's instruction.

For this, they collected the data of the maximum and minimum temperature at different parts of India from the Internet. Then, it was tabulated in LibreOffice Calc as shown in Fig.6.1. The table was saved with the name 'Temperature' in the prescribed folder in Home.

File Edit View Insert Format Styles Sheet Data Tools Window

Liberation San 10

I5

	A	B	C	D
1	**Sl No**	**Place**	**Maximum Temperature °C**	**Minimum Temperature °C**
2	1	AGRA	39	22
3	2	ALLAHABAD	39	28
4	3	AMRITSAR	34	16
5	4	BHOPAL	38	22

Fig. 6.1 Temperature at different areas

The table of temperatures is ready. Now, we have to find out the daily mean temperature at each place.

How do we do that?

Weather information on the Internet

Information regarding the daily weather conditions of all the important cities in India is available on the Internet. We get daily information from the official website (imd.gov.in) of the Indian Meteorological Department under the Ministry of Earth Sciences. The department is entrusted with the responsibility of studying the climatic changes and giving prior warnings of natural disasters.

Daily Mean Temperature

Daily Mean Temperature is the average of the maximum and the minimum temperatures in a locality.

Activity 6.1 - Let's find the average temperature

Add the title Daily Mean Temperature to the first cell of the column next to Minimum Temperature in the table that you have saved. You know that you need to divide the sum of maximum temperature and minimum temperature by 2, to find the average temperature of any town. You may remember from your previous classes the way to find the sum. Here, you need to find the sum of the cells from C2 to D2. Follow the process given below.

- Select the cell in which you intend to get the average (E2).
- Type =SUM(C2:D2)/2 and press Enter key. (Fig. 6.2)

Now, save the file.

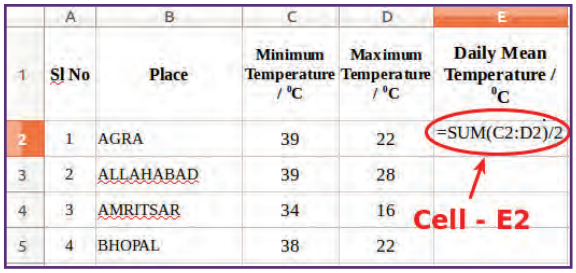


Fig. 6.2 To find the Average

You can also find the average, using the function *AVERAGE* which is available in LibreOffice Calc.

Moreover, you may use the functions for making more complex calculations and analyses.

Functions - A scaffolding

Don't you remember the function SUM you have used to find the sum of numbers? There are more than 350 functions in LibreOffice Calc to analyse and interpret data. On the basis of their use they are classified into different categories as ***Mathematical, Statistical, Logical, Financial*** etc. We can open the Function Wizard using Function Tool (f_x) and also by selecting Function from Insert Menu. (Keyboard shortcut Ctrl + F2). You can select the necessary function from the window and give information according to the instructions to get correct results.

AVERAGE, ROUND, IF, LOOKUP, COUNTIF etc. are some of the useful functions.

The user can construct his or her own functions in addition to the available ones. You can learn more about this in your higher classes.

How will you find out the average temperature of other cities? Do you have to repeat the activities you have done earlier? Is it possible to do this using Fill handle that you have learnt earlier?

Select the cell E2 in which you have found the average temperature and drag the Fill handle (the **+** sign seen when the mouse pointer is brought to the right bottom of a cell) downwards.

The required digits to be retained after decimal can be determined using the ***ROUND*** Function available in ***LibreOffice Calc.***

Activity 6.2 - Let's round off the decimal places

We can give the title Daily Mean Temperature Rounded to the column (Column F) which is next to ***Daily Mean Temperature Rounded.*** Try to do the activities by selecting the cell (F2) where the result is to be obtained.

- Select the ***Function*** tool (f_x) in the toolbar.
- From the window that opens, select ***ROUND*** from the Function list and click ***Next.***
- Click on the box ***Number*** and give the cell address (here E2) in which the decimal place has to be rounded (Fig.6.3).
- You have to give the number of digits that should be there after the decimal point in the box called ***Count***. As we don't need any number after the decimal point here, we need not give anything (you can also type 0).

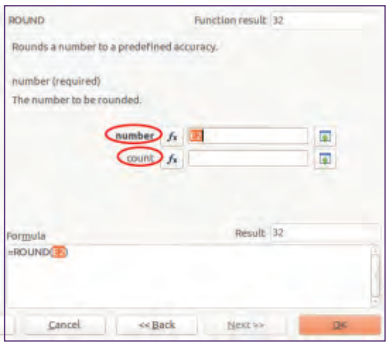


Fig. 6.3 ROUND function window

Now click on ***OK*** and drag the Fill handle in F2.

Do not forget to save the file.

What difference should be brought about in this activity, if you want to show two digits after the decimal point using the ***ROUND*** function?

Activity 6.3 - Let's include the functions directly to the cell

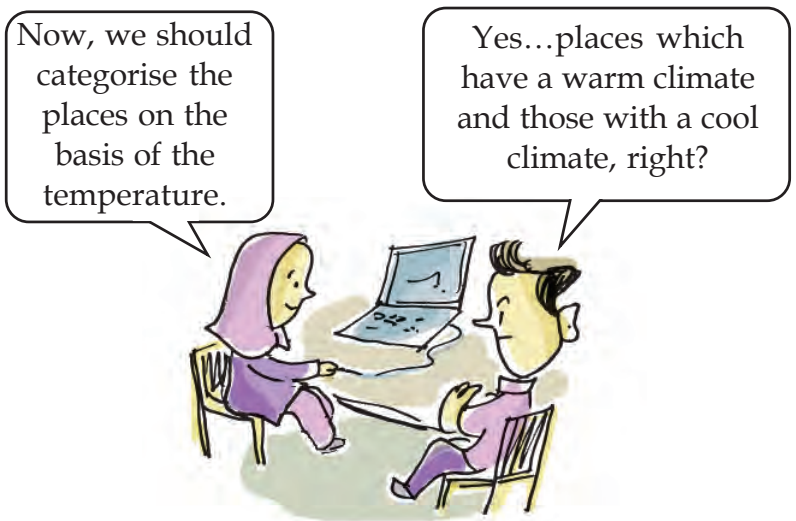
Complete the following table (Table 6.1) by finding out how to include the necessary functions for the activities given below.

Activity	Function	What should be typed in the cell
Find the sum of cells from A1 to A6.	SUM	= SUM (A1:A6)
Find the average of the numbers in the cells from A1 to A6		
Round the number in A7 to two decimal points		
Find the average of numbers in the cells from A1 to A6 as a whole number.	ROUND & AVERAGE	= ROUND(AVERAGE(A1:A6), 0)

Table 6.1 Functions and Instructions

When Fill handle is double clicked

You know that to copy a function or formula easily to the next cell, it is enough to drag the Fill handle. Or, you may double click on the Fill handle and see what happens. Does the formula/function/ sequence get copied to the downwards cells? It is seen that in certain situations this is not possible. This can be possible only if the data are there in the columns that precede or succeed the column in which Fill handle is used.



Is it not possible to categorise the places in the table as places with warm climate and those with cool climate on the basis of a fixed norm? Calc has many functions for categorising the data. Let's see how the function IF is used in this category.

Activity 6.4 - 'IF' to categorise data

There should be a criterion for categorising the data. Imagine that you need to categorise places as those with the average temperature below 25^{0}C as Cool Climate and those above 25^{0}C as Warm Climate places. Add the title **Climate** in the 'G' column which is next to Daily Mean Temperature Rounded column in the table and try to do the following activities.

- Click on ***Function*** tool, after selecting the cell where you should get the result (G2).
- Select ***IF*** from the Function list in the ***Function Wizard*** window that opens and click on ***Next.***
- In the ***Test*** box, fix the average temperature as below 25°C, which is the criterion for categorisation. Using the cell address you may add as F2 < 25 (Fig.6.4).
- In the ***Then value*** box, you should add what is to be displayed if the norm is correct. (here "Cool Climate").
- In the ***Otherwise value*** box, you should add what is to be displayed if the norm is incorrect (here "Warm Climate").
- After that click ***OK*** and drag the Fill handle in G2.

  You may save the file now.

Anu has a doubt at this point. If we want to compare the climate of more than two categories, can we use ***IF*** in such cases?

When you have to categorise the data into three or more groups, ***LOOKUP*** function is more suitable than IF function.

Let's include more sheets

At the bottom left of the Spreadsheet window, a label Sheet 1 is indicated. It means, the table that includes temperatures is the first sheet in this file. You can include more sheets according to your need by a click on the + sign that is seen here. The Spreadsheet file that includes more than one sheet is also called a Workbook.

In Spreadsheet, facility to give suitable names to the sheets is also available.

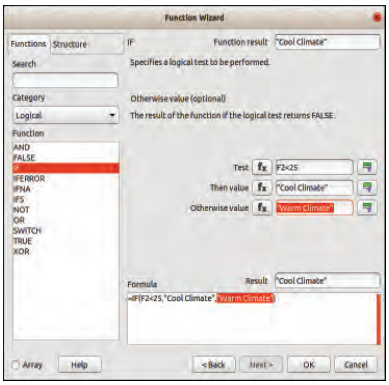


Fig. 6.4 IF function window

Activity 6.5 - LOOKUP for categorising data

Let's fix the criteria for categorising the data just as we used ***IF***. For example, imagine that you are using the following method:

Be careful while using IF...!

While using IF, do not forget to type in quotes (" ") when you enter the sentences to be displayed in the value boxes. ("Cool Climate", "Warm Climate", etc.) But if the numbers have to be entered instead of sentences, it is not mandatory. Don't you remember Strings and Numbers that you have studied in the previous lessons?

Temperature below 20°C - Cool Climate
Temperature between 20°C and 30°C - Moderate Climate
Temperature above 30°C - Hot Climate

Save the table with the name 'temperature_climate' using ***Save As***. Delete the data of the last column which was categorised using IF and try to do the activities as given below.

- Type the criteria either in the sheet of the table or in any other sheet (Fig. 6.5). This is the ***LOOKUP*** chart. Here LOOKUP chart is typed in Sheet2. (You should remember that you can include any number of sheets.)
- Select the LOOKUP chart wholly and click on ***Define Range*** in the ***Data*** menu.
- Give a name in the ***Name*** box in the window that opens and click ***OK***. (Here the name given is **Climate**) (Fig. 6.6).

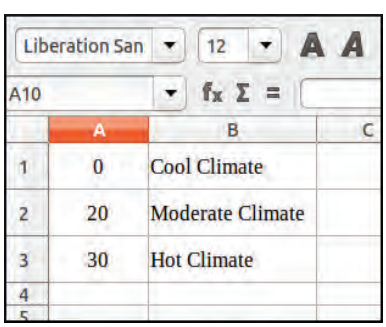


Fig. 6.5 LOOKUP Chart

- Now, select the cell in which you want to get the result in Sheet 1 and click on the function tool in the tool bar.
- Select LOOKUP from the Function Wizard window that opens and click Next.
- Give the cell address of the average temperature in the ***Search criterion*** (here F2) box and the name of the LOOKUP chart (climate) in the box named ***Search vector*** (Fig. 6.7).
- Do not enter anything in the ***Result vector*** box.
- Now, click on ***OK*** and drag the Fill handle. Are they categorised in the desired way? (Fig. 6.8).

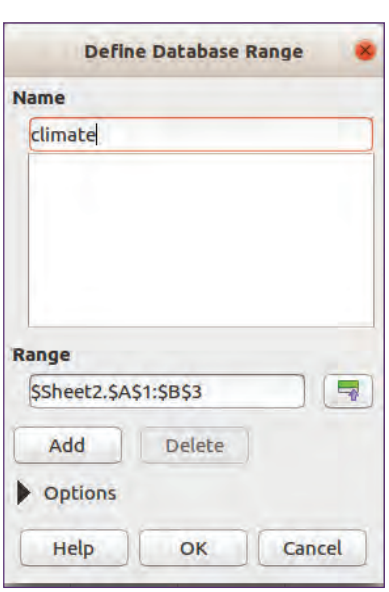


Fig. 6.6 Define Range window

There is a facility available in Calc to classify a particular type of data and make a new table from the table you have prepared. We use the facility named ***Auto Filter*** for this purpose.

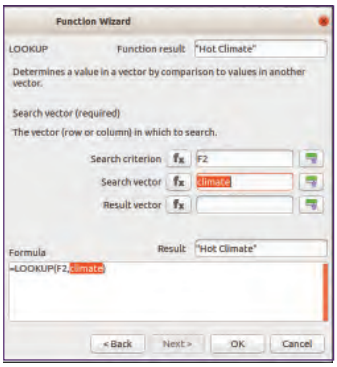
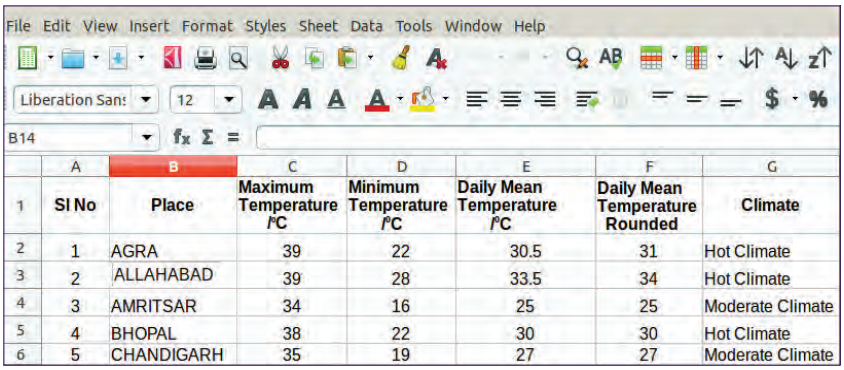


Fig. 6.7 LOOKUP function window



	A	B	C	D	E	F	G
1	Sl No	Place	Maximum Temperature /°C	Minimum Temperature /°C	Daily Mean Temperature /°C	Daily Mean Temperature Rounded	Climate
2	1	AGRA	39	22	30.5	31	Hot Climate
3	2	ALLAHABAD	39	28	33.5	34	Hot Climate
4	3	AMRITSAR	34	16	25	25	Moderate Climate
5	4	BHOPAL	38	22	30	30	Hot Climate
6	5	CHANDIGARH	35	19	27	27	Moderate Climate

Fig.6.8 Analyses of temperatures

Activity 6.6 - Let's classify data

In this table, how can I segregate only those places which have the same temperature?

Suppose you want to find places that experience a daily average temperature of 25°C. Let's see how this activity can be done using ***Auto Filter***.

- Select any one of the cells from the title cells.
- Click ***Auto Filter*** tool in the Tool bar (Fig. 6.9) (Or, select ***Auto Filter*** from the ***Data*** menu).
- From the buttons ( ) you see in the cells that have the titles, click on the button which is close to the data that have to be classified (here F1).
- Retain the tick marks of the necessary data in the window that opens (here the tick mark of 25 alone has to be retained) (Fig. 6.10).
- When you click ***OK***, you will get the table of those cities that have a daily average temperature of 25°C.
- Include a new sheet in the Spreadsheet window and Copy→ Paste the table that has been filtered. Then, save the file.

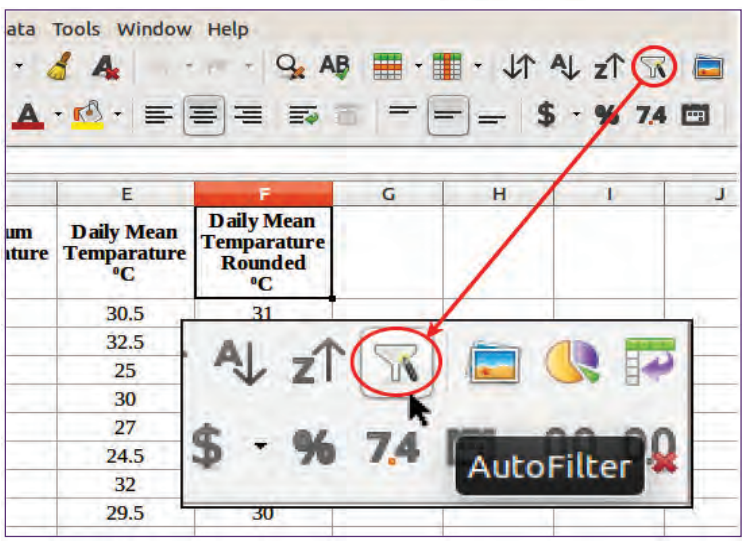


Fig. 6.9 Auto Filter tool

You can filter the data by selecting ***Standard Filter*** in the ***Auto Filter*** window by fixing the criteria for filter.

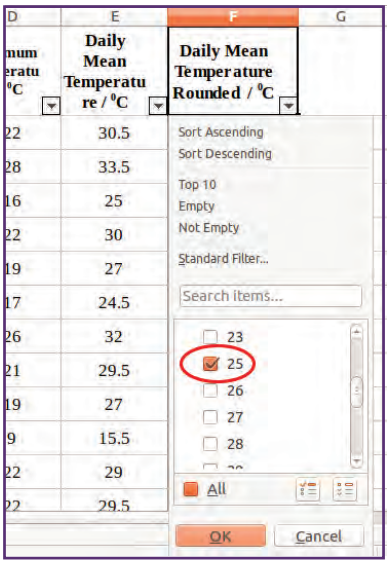
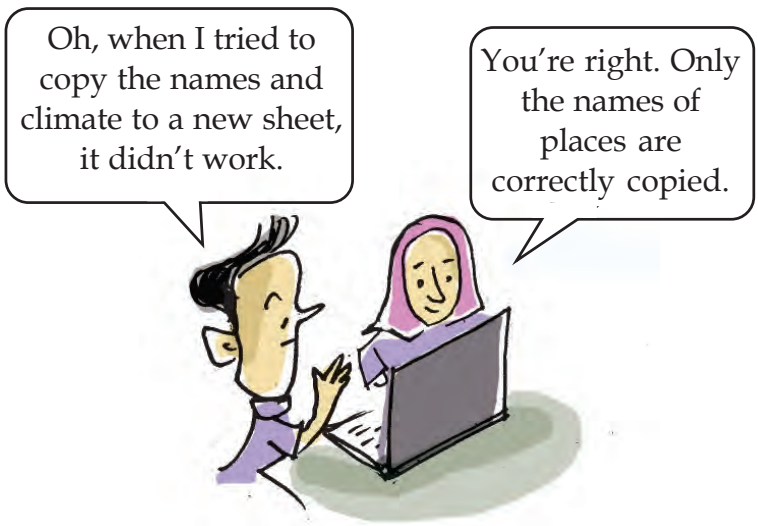


Fig.6.10 Auto Filter window

Data can be filtered by setting criteria in the order ***More Filters → Standard Filter*** from the ***Data*** Menu. Now, filter the table and using this method, find out the data in which the average temperature is below 20 °C.



You must also have faced such a problem while copying the data prepared by a function or formula from the Spreadsheet and pasting it in another cell/sheet.

We can solve this problem using the facility ***Paste Special*** in LibreOffice Calc.

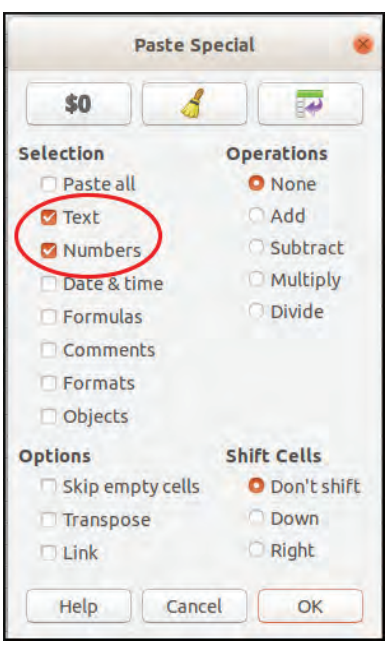


Fig. 6.11 Paste Special window

Activity 6.7 - Paste special

Add a new sheet to the Spreadsheet file. Copy the names of places including title from the table and paste them in the first column (Column A) in the new sheet. Now, follow the process in the order it is given.

(1) Open the sheet that contains the table and copy the column in which the climate is recorded along with the title.

(2) Then, select the second column in the new sheet. Select ***Paste Special*** from the ***Edit*** menu.

(3) Tick only ***Text*** and ***Numbers*** in the window that opens and click ***OK*** (Fig. 6.11).

You may not be able to open the Spreadsheet file that we saved in the computer that has a different

operating system or office application, or on any other device. This problem can be solved by converting this file to pdf format.

Activity 6.8 - Let's export as PDF

We have learnt in earlier units that files in pdf format are supported by most of the operating systems. Now, try to export the Spreadsheet file that you prepared to pdf format.

Even if we save our Spreadsheet file, it is likely that others may bring in changes to it. Such corrections may create difficulty. Let's see what facility is there in Calc to solve this without hampering the freedom to open and see the file.

Activity 6.9 - Let's protect our file

You can protect your files from unnecessary editing using the facility ***Protect Sheet***. Follow the process given below.

(1) Open the sheet that you want to protect.

(2) Open the ***Protect Sheet*** window from the ***Tools*** menu.

(3) Give a password in the box when it is demanded. Type out the password again in the Confirm box and then click ***OK***.

(4) Save the file.

Now, try to edit the file. Does it work? What if you need to edit the file again? Try to do it in the same way as shown above.

Online Spreadsheets

We have been discussing the Spreadsheets that can be worked by installing it in the operating system. But there are Spreadsheet applications that can be used online without installing, in a computer that has internet facility. The major advantage of online Spreadsheets is that they support most of the Spreadsheet formats. But, online Spreadsheets can be used only if you agree to the conditions specified by the organisation that provide them.

Let's interchange rows and columns

If you click Paste Special while you copy and paste the data in a row and tick on Transpose under Options in the window (Fig. 6.11), then, the data will be arranged in a column. If you copy more than one row using this facility, the rows will be arranged in the same order as columns.

Let's evaluate

1. Which of the following facilities is available for a table that you have included in a sheet of LibreOffice Calc, if protected through ***Protect Sheet***?

   - The data in the sheet cannot be copied by anyone else.
   - The data in the sheet cannot be edited by anyone else.
   - The data in the sheet cannot be seen by anyone else.
   - The data in the sheet cannot be printed by anyone else.

2. If you categorise the data using the following LOOKUP chart, in which category will 41 appear?

LOOKUP chart	
0	A
10	B
20	C
30	D

   - A
   - B
   - C
   - D

3. As part of the activities of the School Health Club, find out the weight (in kg) and height (in m) of all the children in your class. Calculate the BMI (Body Mass Index) of each child by tabulating the data in LibreOffice Calc.

   Hint : BMI = (weight in kg/height in m^2)

4. Based on the table of BMI in the previous activity, use LOOKUP function and categorise the health condition of the children as Under Weight, Normal Weight, Over Weight and Obesity.

   Hint : LOOKUP chart

   BMI less than 20 - Under Weight

   BMI between 20 and 25 - Normal Weight

   BMI between 25 and 30 - Over Weight

   BMI 30 and above - Obesity

Extended activities

1. Tabulate the national income of the last three years of some countries using LibreOffice Calc. Calculate the average national income of each country using ***AVERAGE*** function.

2. Collect data on the population of all states in India and tabulate them in Calc. Using the Filter facility, categorise only those states which have a population of more than 8 crore. Add a new sheet and include this table in it. Give the name 'Highly Populated States' to this sheet.

3. Collect data on the consumption of electricity for a period of ten days in the houses of all your classmates and tabulate them in Calc. Calculate the daily average consumption of electricity. Filter those houses where the average consumption is more than 5 units and show them in a separate sheet. Visit these houses and create awareness on the need to reduce the consumption of electricity.

4. Prepare a Spreadsheet table of School Kalolsavam which shows the grades according to the given criteria, when the scores given by the judges for various items are entered.

5. There are many Spreadsheet applications supported by different operating systems. Collect information regarding them and list them in the following table.

Spreadsheet Application	Developed by	Operating systems that support

Chapter 7

Making a Presentation Impressive

"കത്തുന്ന സൂര്യന്റെ കണ്ണുകളിൽ നിന്നഗ്നി
വർഷിച്ചു രോഷമുണരുന്നു
ആടിമുകിൽമാല കൂടിനീരു തിരയുന്നു
ആതിരകൾ കുളിരു തിരയുന്നു."

- Bhoomikkoru Charamageetham
(O N V Kurup)

All the pulsations of life on our Planet Earth are controlled by the Sun. The very existence of the biosphere depends on solar energy. You might have learnt about the human deeds that cause changes in the atmospheric temperature and also about the need for protecting the Earth for the upcoming generation, in the lesson **Sun: The Ultimate Source** in your Social Science textbook.

Varsha and Vipin are preparing a presentation in the computer on the topic 'Global Warming', to be presented at the seminar to be conducted in the school on the World Environment Day. Can you help them? You are already familiar with the presentations using LibreOffice in the eighth standard. What are the prerequisites for this?

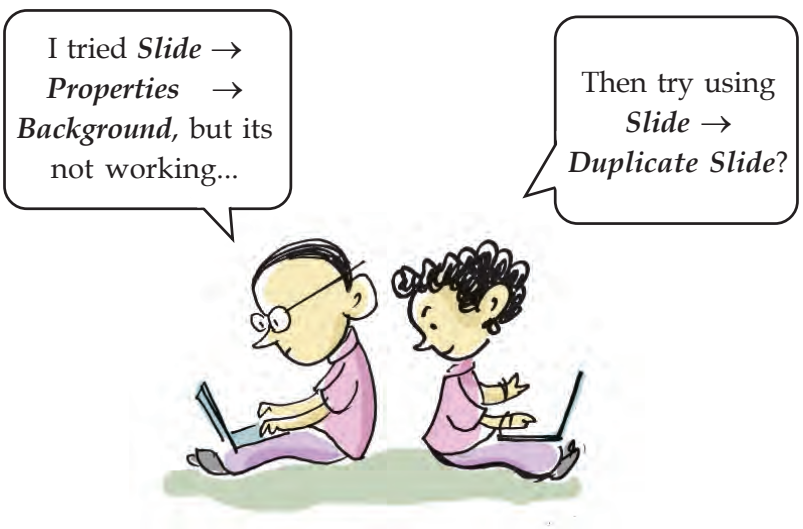
- Decide/finalize the content.
- Prepare the storyboard.

- .....
- .....

You know how to prepare a good storyboard, don't you? Now, you have to collect information, pictures and videos required for the presentation. From where will you get them?

You can gather information from various content CDs, Internet and other digital collections. Then store it in a separate folder.

You can start preparing slides, if you have completed the ground work preparations. For this, open LibreOffice Impress and type the contents needed for the slides. You were taught in the previous class to give the appropriate background colour to the slides. So you can give background colour to the slides. What should be done to give the same background colour to all the slides?



We have already been trained to give suitable background colour from ***Properties*** in ***Slide*** menu. If we click ***Masterview*** tab from ***Properties*** Window and Select background colour, we can give the same background colour to all the slides.

Slide Template

Slide templates are used for getting uniformity on the slides used for preparing presentations. Various built-in templates are available in LibreOffice Impress. Downloadable free templates are available on the Internet too. If needed, you can download such templates and include them in your presentations. The slides which are prepared using a template will have the following features:

- one design
- one background colour
- uniqueness in fonts

Using Master View window

When the activities in the ***Master View*** window is completed, we must close the window by clicking ***Close Master View*** button.

Scrolling texts in presentations

Scrolling texts can also be made in presentations. You have studied in Standard VIII about adding animations to texts. We can create a Scrolling text using the following process :

- Type the required text using the textbox.
- After Selecting Text, go to Format menu and click in the order ***Object and Shape – Text – Text Animation***
- Click on ***Scroll Through*** option seen in the box below ***Effect*** and select suitable direction from ***Direction*** and then click ***OK.***

Activity 7.1 - Select a template

Impress contains provisions for providing the same background to all the slides. Let's examine how the templates can be included.

- Impress has provision to select templates as soon as it is opened. You can also select templates by clicking on ***Master Slides tool*** from the ***Sidebar*** of the ***Presentation Window*** (Fig. 7.1)

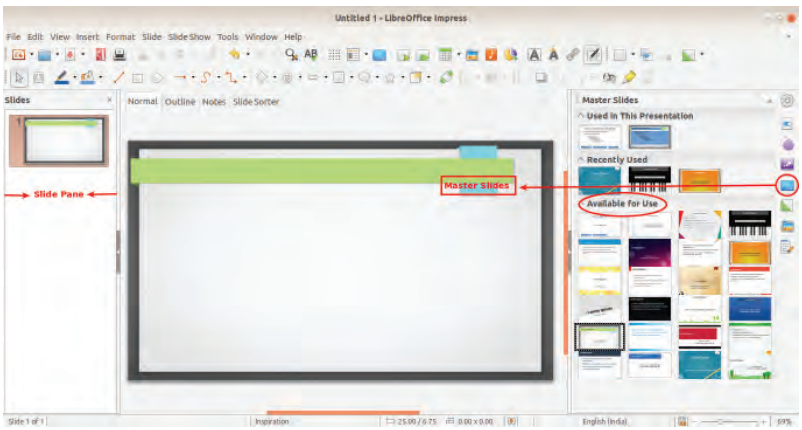


Fig. 7.1 Impress window

- The appropriate template can be selected from 'Available for use' bar in ***Master Slides*** Window.

You have already set the selected template as the background of the slide. Now, insert a new slide. What do you see? All the slides have the same background, haven't they? You may now save the prepared presentation in the folder after giving it a file name.

Now, you may include information and pictures needed for the presentation. You have practised how to include pictures and information in a presentation in the previous class, haven't you?

Activity 7.2 - Let's include and arrange a picture

This happened because the picture came on top of the text. If you can place the picture behind the text, you can solve this problem. How can this be done? Follow the instructions given below.

- Click on the picture and select it.
- Click on ***Arrange*** from the ***Format*** menu and select ***Send to Back***.
  (You can also right click on the picture and perform this process.)

Observe the changes that happen when you click on the other options available on the ***Arrange*** menu.

You can also use the ***Arrange*** tool in the tool bar to perform this process.

Activity 7.3 - Include a video

You have already included pictures and text. What about including a video in our presentation? How can this be made possible?

- Select the ***Slide*** to which the video is to be included.
- Click on ***Audio or Video*** in the ***Insert*** menu and include the video you want to insert.

You can also click on ***Insert Audio or Video*** tool to insert a video (Fig. 7.2).

Click and select the video that appears on the slide and adjust the size of the video window, if necessary. Now, view the presentation. Videos of all formats may not play in the presentation if inserted like this. To play such videos you can use the Interaction option.

Activity 7.4 - Provide interaction

While browsing/visiting websites, it is a common practice to click on the links provided in them. Like this, you can link from the presentation to the video file using ***Interaction*** tool. (You can use this technique to provide link to any files in any format).

- Select ***Object*** (text, picture, etc.) on the slide you intend to include in the Interaction.

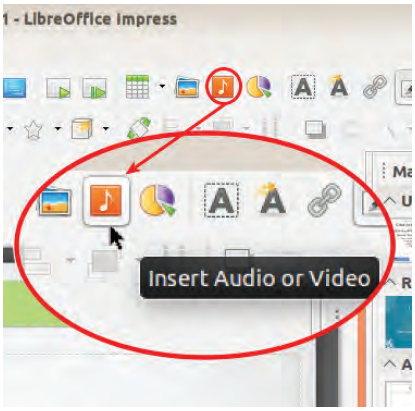


Fig.7.2 Window that includes Audio or Video tool

Add audio files

You can insert audio files in the same manner as you inserted the video files. Here, you have to select the audio files and insert them instead of the video files.

Into the slides...

You can link to a slide using Interaction. Select Go to page or Object from Action at Mouse Click. Select Target (Slide No) and click OK.

Interactive buttons

The buttons needed for giving Interaction can be drawn using the tools in the Drawing toolbar. After selecting the button, click on the ***Properties*** tool in the Sidebar. What are the changes that can be made in the button?

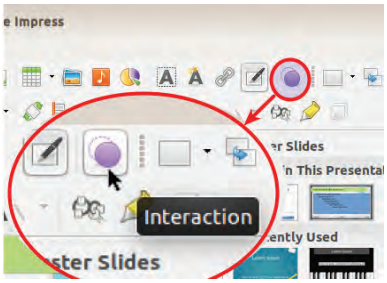


Fig.7.3 The window that includes Interaction tool

- Select Interaction from ***Format*** menu. Alternately, the window can be opened by clicking ***Interaction*** tool (Fig. 7.3).
- When the Interaction window opens, select ***Go to document*** from the box near the ***Action at mouse click*** (Fig 7.4).
- Click on ***Browse*** and select video file and click ***OK*** (Fig. 7.4).

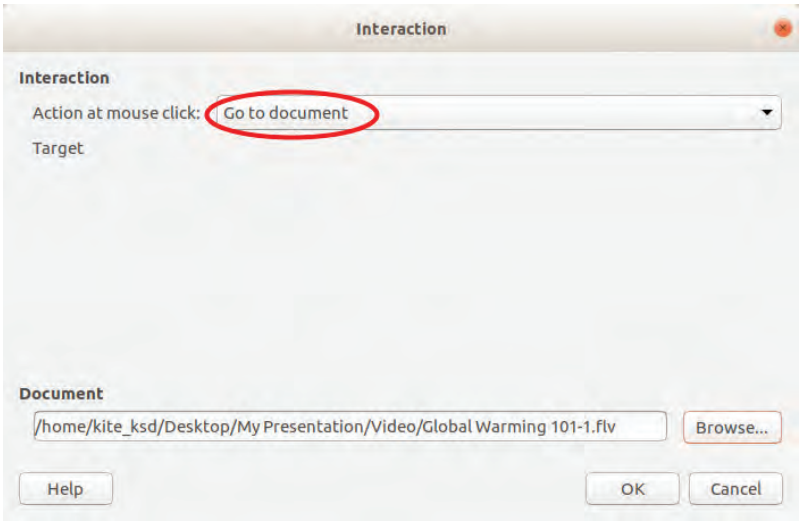


Fig.7.4 Interaction window

What activities can be done this way using Interaction? Find out other options and their uses in the ***Action at mouse click*** box and list them in the given table (Table 7.1).

Action	Target
No action	
Go to previous slide	to move back to the previous slide
Go to next slide	
Go to first slide	
Go to last slide	
Go to page or object	
Go to document	
Exit presentation	to exit the presentation

Table 7.1 Action and their targets

Think of including additional information related to the seminar. What are the sources from which you can collect the additional information?

Is it practically possible to include all the additional information you have collected in the presentation?

You can make use of the provision of hyperlink like Interaction.

Activity 7.5 - Let's hyperlink

You have seen a lot of information in the Internet related to global warming. Now, think of how to link Wikipedia to your presentation.

- Select the word in the slide which you intend to hyperlink.
- You can enter the window by clicking on the ***Hyperlink*** tool or selecting ***Hyperlink*** in the Insert menu.
- Select ***Internet*** from the box on the left side of the window (Fig. 7.5).
- Type the web page address (URL) to be linked in the ***URL*** box (Fig. 7.5). The text you selected to give hyperlink will appear in the ***Text box***. This will be the Mark-up Text. Click on ***Apply*** and then, ***OK***.

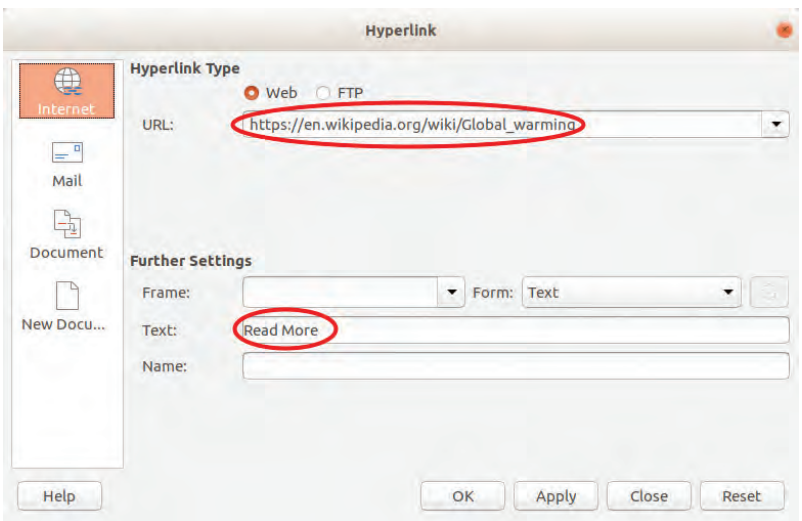


Fig.7.5 Hyperlink window

Now, view the presentation. What changes occur when the mouse pointer reaches the top of the mark-up text? And what happens if you click on it? You reach the web page which you hyperlinked earlier, don't you?

Mark-up texts

You might have noticed some underlined words in blue colour while you visit sites like Wikipedia. You might have noticed the changes when you bring the mouse on the top of it. These are called Mark-up Texts. When you click on it, you reach the file to which the text is linked. This process is called Hyperlink.

While linking files

If you change the position of the files you included in a presentation through Interaction, Hyperlink, etc., it may not work properly in the presentation. Therefore, it is better to copy such files to a folder in which you intend to save the presentation and then link them to the presentation.

Activity 7.6 - Let's insert a table

If you include the information you have gathered for the seminar in the form of a table, the presentation would become more effective. Consider the following steps to include a table in the presentation.

- Select the slide in which you want to insert the table. Then, click on ***Table*** in the ***Insert*** menu.
- In the box that opens, type the number of rows and columns and then click ***OK***. (You can also click on the ***Table tool*** and select the number of rows and columns required in the table.) Now, include the information in the table.
- You can make the table attractive using the tools that appear in the ***Properties*** window while selecting the table.

You might have understood how to add rows and columns in a table. Select the table and right click on it to see the options available and their uses. If you insert a chart in the slide with the details of the table, won't you be able to get the complete data at one go?

Include data in charts

- To add data to the chart, click on ***Data Table*** and provide the data in the window that opens. You can also add or delete rows and columns in the chart by giving details here (Fig. 7.6).
- Click on ***Chart Area*** or ***Chart Wall*** and provide suitable background colour to the slide.
- Click on ***Title*** and give names to the ***X*** and ***Y*** axes of the chart.

Activity 7.7 - Insert a chart

You have studied how to insert a chart in Spreadsheet in Standard VIII. Now, let's see how a chart can be inserted in a presentation slide.

- Select the slide in which the chart is to be inserted.
- Click on ***Insert*** menu and then on ***Chart*** and the window to insert the chart will open now. (This can be done by clicking on the ***Chart tool*** also).
- Format the chart using the tools marked in the picture (Fig. 7.6).
- After formatting, the chart can be inserted in the slide by clicking outside the chart.

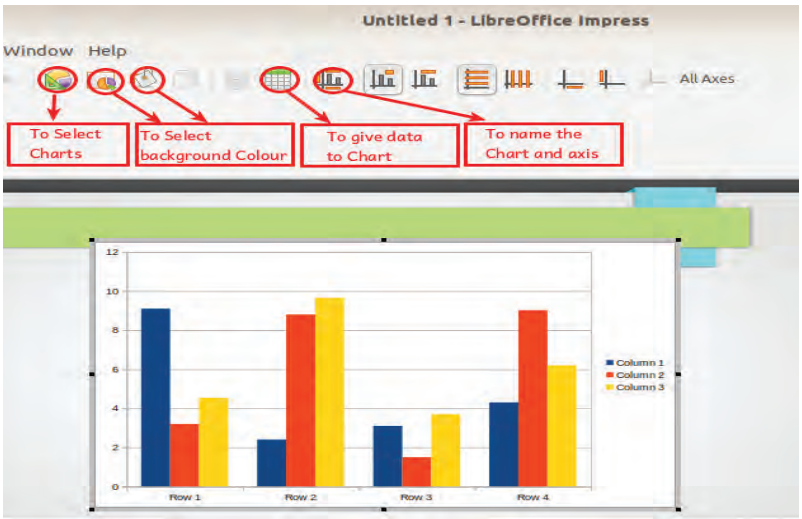


Fig.7.6 Window for inserting chart

Activity 7.8 - How to add presentation files

Will it be possible to add presentations prepared by other groups on the seminar topic, to your presentation? How is it done?

Let's see what should be done to add a presentation wholly or partly to another presentation file?

- Select the slide which is at the point where you would like to add the presentation file.
- Select the presentation file you intend to add by clicking the ***Insert Slide from File*** from the ***Slide*** menu. Select the file and click ***Open***.
- Then, click ***OK*** in the ***Insert Slides/Objects*** that appears.

Did you notice that all the presentation files that you have selected have been included?

If you want to add only a part of the presentation or only certain slides to the presentation file, select and copy those slides and paste in the ***Slide Pane*** wherever it is to be added (Fig 7.1).

Did you notice the change in the background colour of the slides you have just added now? To solve this problem, click on the Master page and select a suitable template from it.

Slide Pane...

What are the facilities available in Slide Pane?

- See the ***Thumbnail view*** of the slides.
- Select a slide easily.
- Copy - Paste a slide.
- Add new slides to the presentation.
- Delete a particular slide.
- Rename a slide.
- Arrange the slides.
- Hide a particular slide.

To arrange animation

- Select a slide.
- Click on the Animation tool from the Sidebar.
- Click on Up/Down button after selecting animation.

Facilities to make changes in animation, remove animation and preview animation are available in this window. Find them.

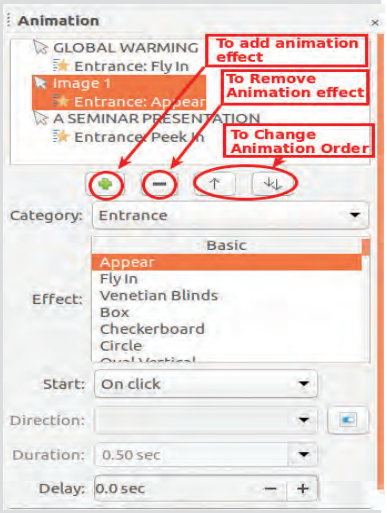


Fig.7.7
Custom Animation window

Now, let's slide show the presentation.

After the slide show of the presentation, Vipin noticed that certain text and pictures are repeated and some are not in the expected position. The teacher told in the class that it was due to some error in giving animation to the presentation. If we animate an object more than once, this problem may happen. How can we overcome this problem?

Activity 7.9 - Slide sorting

You have seen how the arrangement of animation is changed. How can you change the arrangement of slides?

- Click on ***Slide Sorter*** from ***View*** menu. The presentation slide will appear together in a window.
- Drag the slide, the position of which you want to change the position and drop it in the correct position.
- To go to previous window click ***Normal*** in ***View*** menu.

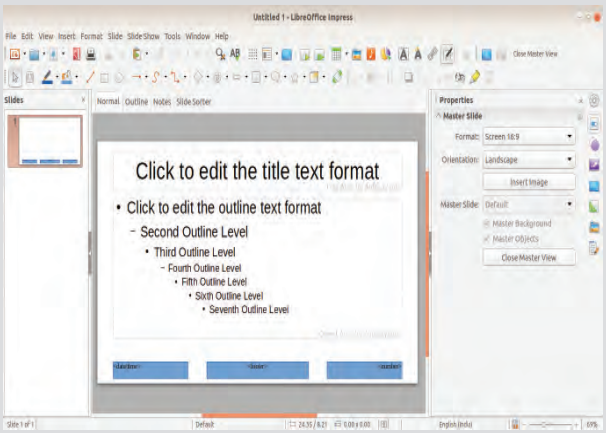
Haven't you saved the work that you have done till now in a folder? Now, you may present the slides before your friends.

Let's make master slides

Did you notice the templates that you used while selecting the slide design? You can make similar templates of your own.

- You can select ***Master Slide*** by clicking ***Master View*** from ***Properties*** window or by clicking ***Master Slide*** from ***View*** menu.
- A window as shown in the picture appears. (Note that here you can see only the master slide here).
- The colours, pictures, etc. you add as background will be seen in all the slides.
- Select whatever is needed from <date/time>,<footer>,<number>, etc. and then add the data. Then the same will be included in all the slides. Unnecessary data can be avoided.

- When you thus prepare master slides and then prepare the slides, such designs cannot be edited in *Normal View Mode*.
- Whatever change/editing done in the master slide will be effected in all the slides.
- To go back to the *Normal View Mode*, click on *Normal View* in *View* menu.



Let's evaluate

1. Which of the following tools from ***Arrange*** will you select to bring a typed text or picture to the front of the slide?

   a) Send to back b) Send Backward

   c) Bring to Front d) Bring Forward

2. Which of the following from the ***Interaction*** window will you select to link the first slide to the fifth slide in a presentation?

   a) Go to document b) Go to page or object

   c) Go to first slide d) Go to next slide

3. What will you do to remove a slide temporarily from a presentation?

   a) delete the slide b) hide the slide

   c) sort the slides using Slide Sorter d) click on the master page

4. Which of the following icons in the ***Hyperlink*** window will you select to link a presentation in a previously prepared file through Hyperlink?

   a) Internet b) Mail

   c) Document d) New Document

5. What will you do to add only two slides from another presentation to the presentation you have prepared?

a) Insert slide

b) Insert Duplicate slide

c) Insert media

d) Insert file

Extended activities

- We have studied in the earlier classes how to convert a word processor file into PDF. Convert the presentation file you have prepared into PDF format.
- Prepare a presentation as part of the IT Quiz competition in the School IT Fair by setting a master page using Slide Master.
- Prepare a presentation on the topic 'Ozone depletion and its Remedies' based on the lesson from your Chemistry Textbook.
- Prepare notes on the three important parts you see in the main Impress window and their major features.

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Chapter 8

Designing a Web Page

Anu and Amina are watching the programmes of State School Kalolsavam at the Kalolsavam site. Apart from the results of the competitions, all the stage presentations are available as video in the Kalolsavam site. "All the competitions staged in the Kalolsavam and all the important events are shown in the social media", says Vipin.

Let's prepare a page for the Kalolsavam

In the earlier classes, you have studied that a website contains more than one web page. We can also construct a website for including the details of the major events of our school. We can add information about various programmes organised at our school related to Sports, Youth Festival, etc. and also programmes of excellence in different pages of the school's website.

Let's see how the website with different pages can be constructed. Shall we prepare a web page to show the programmes of this year's School Kalolsavam?

What are the details and information to be included in the web page that we intend to prepare?

HTML

Web pages are inter-connected hypertext documents. The markup language used for preparing these web pages is called HTML. In ancient days, symbols were used to give instructions to the typesetter to set the type for printing. The size of letters, colours to be used, slant of letters, etc. for the text to be printed were represented using symbols or codes called markups. Since HTML language is marking up the content, it is called markup language. The fifth authorised edition of HTML is HTML 5.

Activity 8.1 - Deciding the content

Open various websites from the Internet and analyse their content and also how they are arranged.

Shouldn't we make our webpages also attractive in this manner? Let's list out the contents to be included in the Kalolsavam page

- Heading
- Pictures
- .....
- .....

Now, let's start preparing the web page. You know that web pages are opened on web browsers. But web browsers cannot prepare web pages. How the texts, images, sounds, videos, etc. shall be displayed on the web page are given as special instructions in the Text editor. Accordingly, the browsers and visualise the contents of these files language used for preparing such web pages is called Hypertext Markup Language.

Activity 8.2 - Let's create a web page

The set of instructions used to define the contents and their arrangements in a web page are called HTML tags. They are typed in angular (< >) brackets. The content along with the HTML tags included in a webpage is called HTML Element.

HTML tags

When a web page is prepared, <html> (opening) tag is given initially to denote the beginning and </html> (closing) is used at the end, to denote the ending of the page. The contents are given in between. The instructions that contain an opening and a closing tag

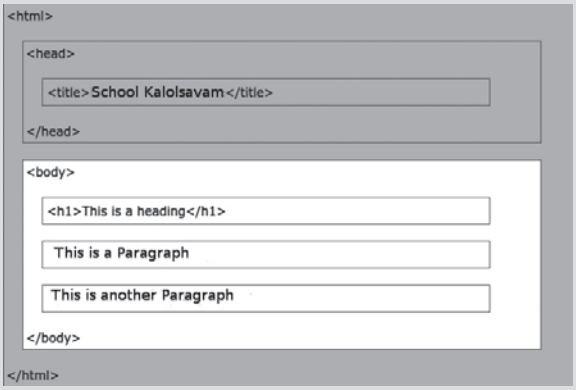


Fig. 8.1 HTML page layout

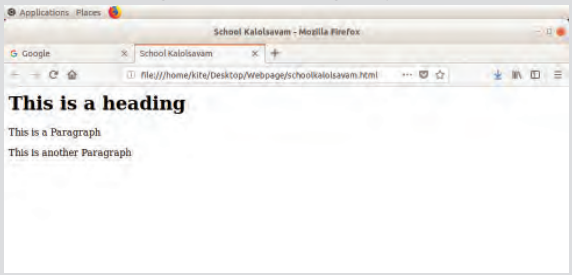


Fig. 8.2 Title bar

is called container tags. Those that do not need a closing tag is called an empty tag.

The common structure of HTML tags in a web page is given in Fig. 8.1. The main tags that come between the <html> ... </html> opening and closing tags are <head> tags and <body> tags. The things related to a web page which are not the contents should be given under the <head> ... </head> tag. Eg. <title>..</title>. This is the instruction to show a text on the title bar when a web page is opened (Fig. 8.2). The content to be shown in the web page should be included in <body> ..... </body> tag.

- To prepare a Kalolsavam page of your school, open a Text editor and type the instructions as given in the Picture (Fig. 8.3).

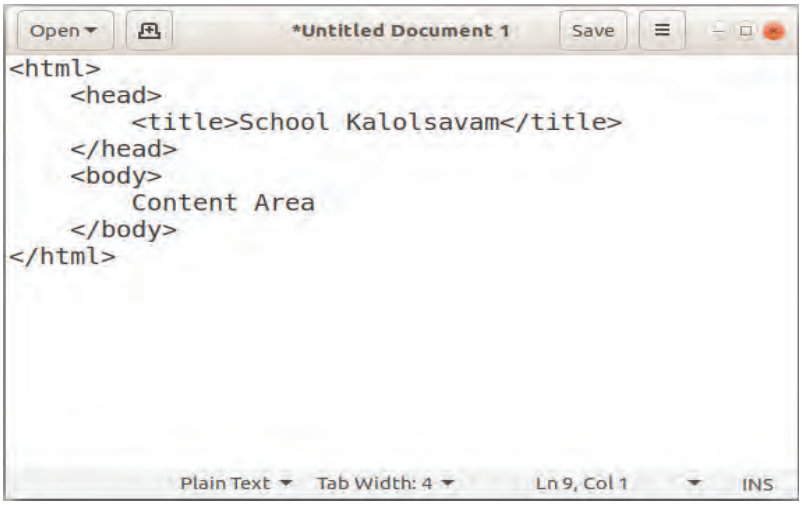


Fig. 8.3 Basic HTML tags

- Save this file in the sub folder Web page in your folder with a name 'kalolsavam.html' and close it. (This text file becomes a web page when you give the file extension **.html**)

- Open the file you have saved (Double click).
- Examine how the web browser displays the details you have entered in the web page.
  - ◊ Where is the text ***School Kalolsavam*** shown?
  - ◊ What other contents can you see in the page?

Details in the webpage are to be included. You might have decided the content to be included in the webpage. In that case, what should appear on the top of the page?

Look at the headings and subheadings in your text. Likewise there are different tags to display headings and subheadings in the webpage. Using the model given below you can give a suitable heading to your Kalolsavam page.

Heading	HTML Elements
FIRST HEADING	FIRST HEADING
SECOND HEADING	SECOND HEADING
THIRD HEADING	THIRD HEADING

Table 8.1 Headings

Activity 8.3 - Adding a page heading

Include the name of your school as the main heading and "Kalolsavam" as the sub heading in the web page you created where 'Content Area' is typed (Fig.8.3).

To include this in the webpage, first open the file in Text Editor. For this,

- Right click on this file.
- In the list that appears, click ***Open with Other Application***.
- Select the ***Text Editor*** from the list and click the ***Select*** button at the right top.

- If ***Text Editor*** is not there in the list, Click the ***View All Applications*** button at the bottom.

See the html instructions given by Anu to include heading and how the browser has displayed it (Fig.8.4).

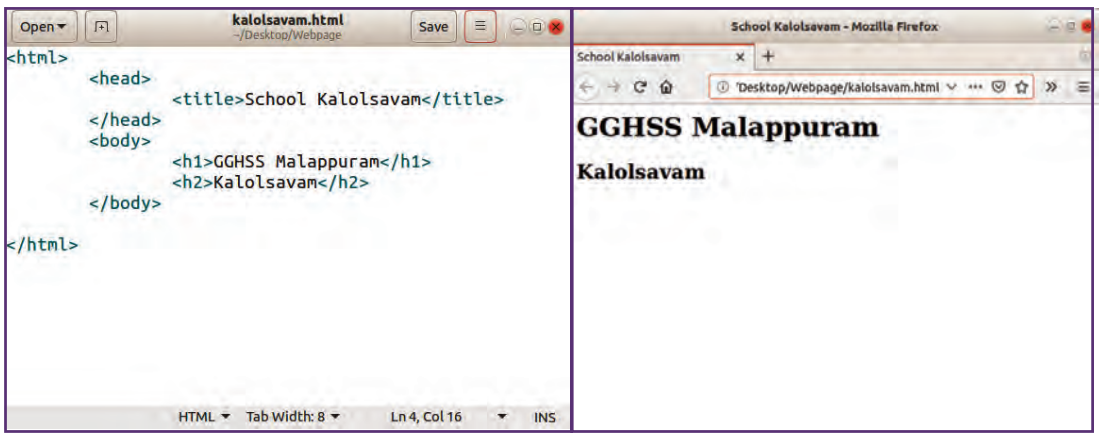


Fig. 8.4 Instructions given to include a heading and the corresponding web page window display

Compare this instruction with the one you have already prepared. Observe the changes happening to the heading when you use h3, h4 tags instead of h1, h2 tags. Find out the heading tags other than h1, h2, h3 and h4.

You might have heard the saying "*A picture is worth a thousand words*". You would have seen the images in the websites you have visited? Don't you think web page becomes more attractive if suitable images are added?

Prepare a banner in Image editing software for your Kalolsavam page. Let's familiarise ourselves with inserting the banner in the web page.

Activity 8.4 - Let's include a banner

You know how to insert a picture in the word processor, don't you? In a web page, image file can be inserted with the help of the HTML tag <img>. Along with this instruction, the details of the kind of image to be included, from where the image is to be included, the size of the picture, etc. can be given using the attributes src, height, width, etc.

For example: <img src="images/banner1.jpg" height= "300" width="1024">

Attributes

Attributes are instructions given for additional arrangements to be made within a tag. Attributes need be given in the opening tags alone.

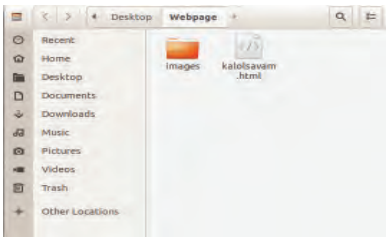


Fig. 8.5 Folder in which the web page is saved

As you have to give instruction for inserting a picture and its position, the picture you intend to include can be saved in the folder in which the web page is saved. The pictures can be saved in a new folder (e.g. Images) inside the folder 'Webpage' (Fig.8.5).

To insert this picture in the web page, open the web page Kalolsavam.html in Text editor. Type the instruction <img src="images/banner1.jpg"> as shown in Fig.8.6. Don't give a closing tag for this instruction. Save this web page and observe this page in the browser.

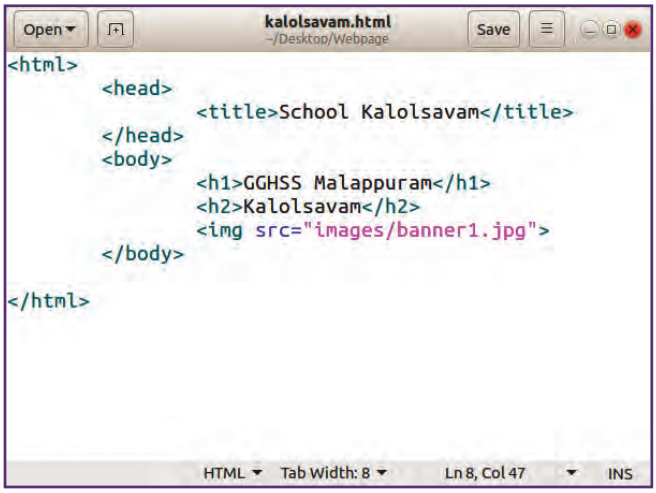


Fig. 8.6 Source of a web page in which an image is included

The background colour of a page is one of the major factors that make a web page attractive. Background colour should suit the content and to the images of the web page.

Activity 8.5 - Change the background colour

With the help of the hints given below, give suitable background colour to the web page you have prepared. For this,

- Include background colour attribute along with the <body> tag. Eg. <body bgcolor= "green">.
- Instead of names of colours, you can also give hexadecimal colour codes.

  Eg. <body bgcolor = "#00ff00">

Relative path and Absolute path

While creating a web page, the position of an image file is represented in two ways. i.e.Relative Path and Absolute Path. Relative path is the way in which the image has been inserted here. But the path to the image will be clearly defined in the Absolute path. The absolute path of the above image may be as follows: */home/kite/Desktop/Webpage/images/banner1.jpg*

It is appropriate to give relative path to images and files while creating web pages. Only the web page created with relative path of the files, will function properly when copied to another computer.

Activity 8.6 - Adding a Text

Given below is the web page prepared by Anu in which the Kalolsavam items are included (Fig. 8.7). Compare it with the Kalolsavam page prepared by you. What differences do you find?

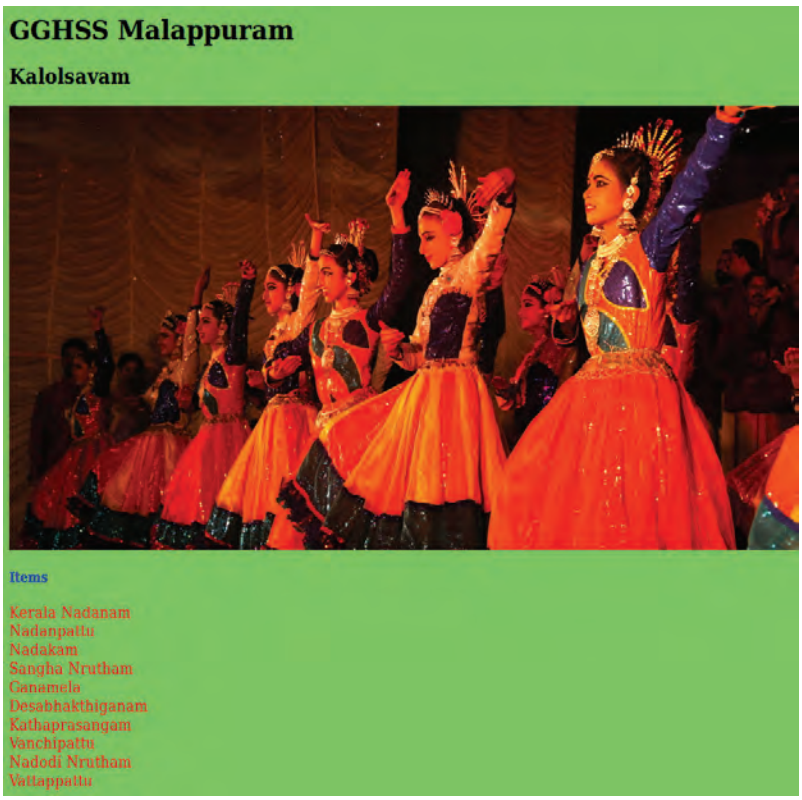


Fig. 8.7 Web page that includes Kalolsavam items

- Anu has included the Kalolsavam items in it.
- The word 'Items' is given in bold letters.
- Words are given in colour.
- .....
- .....

You may also add the Kalolsavam items below the picture in your web page as in the given model and make changes in the page source.

Some HTML tags are given overleaf which will help you to make the words attractive (Table 8.2). You may try the tags and make the words attractive.

Hexadecimal colour code

You can mix the colours like red, green, blue etc. in various proportions to form new colours. A colour containing red, green and blue beams with the intensity from '0' to 'f', 16 codes (hexadecimal) can be represented using 6 digits. (e.g. :#5fd0ff)

Line by line

Even though we type the Kalolsavam items line by line in the web page source, they appear in the browser as continuous words depending on to the availability of space. To denote the end of a line, the tag <br> can be given and the words can be arranged in different lines.

Insert paragraphs

When details are entered in a web page, some times you may have to include more than one paragraph. The text can be split into paragraphs by giving the tag ... . This is how paragraphs are inserted in a web page.

Objective	Tags	How to use
to make a text bold		Kerala Nadanam
to italicise a text		Nadanpattu
to 'underline'	<u>	<u> Ganamela </u>
to give colour to the text		Bandmelam
to change the font		Bandmelam
to increase the size of the font		Kathaprasangam
to change the colour and size		 kathaprasangam
to align at the centre		item

Table 8.2 Formatting tools

Don't you remember the table used in the presentation software? Likewise, you can include a table in a web page and display the contents in different columns and rows.

Look at the Kalolsavam items prepared in the web page (Fig. 8.7). Now, discuss the advantages of arranging these items in two columns as shown in Fig. 8.8.

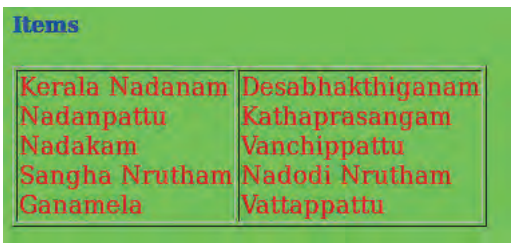


Fig. 8.8 List of Kalolsavam items

Activity 8.7 - Let's include a table

Given below (Fig. 8.9) are the instructions to include the Kalolsavam items in a table of two columns. Like this, prepare a table in your web page. Open the browser and evaluate how it appears.

Open ▾ | kalolsavam.html ~/Desktop/Webpage | Save

```
<html>
        <head>
                <title>School Kalolsavam</title>
        </head>
        <body bgcolor="lightgreen">
                <h1>GGHSS Malappuram</h1>
                <h2>Kalolsavam</h2>
                <img src="images/banner1.jpg">
                <font color="Blue"><h4>Items</h4></font>
                <table border=1><tr><td>
                <font size="4" color="Red">
                Kerala Nadanam <br>
                Nadanpattu<br>
                Nadakam<br>
                Sangha Nrutham<br>
                Ganamela<br>
                </td>
                <td>
                Desabhakthiganam<br>
                Kathaprasangam<br>
                Vanchippattu<br>
                Nadodi Nrutham<br>
                Vattappattu</font>
                </td>
                </tr></table>
        </body>

</html>
```

HTML ▾ Tab Width: 8 ▾ Ln 28, Col 8 ▾ INS

Fig. 8.9 Source of webpage in which table tag is included

The instructions to include a table and its process are given below. Supply the missing parts.

Instructions	Use
	to include a table.
<tr>	
	to include rows and columns (cell) in each lines.
<table border=1>	to thicken the lines of the table.

Table 8.3 Use of table tags

You might have seen web pages with videos in it. Now, let's see how to insert a video in the web page.

Activity 8.8 - Let's insert a video

Video files can be inserted in the same manner as image files. The videos that are to be used in the web page can be kept in a folder near the web page (e.g. "video"). Use the instruction <video> </video> to insert the video in the web page.

Insert a video of the programmes in your web page with the help of the instructions given below and see how it appears in the web page.

```
<video width="400" height="250" controls>

<source src="video/oppana.mp4" type="video/mp4">

</video>
```

In the <video> tag, out of the three attributes, width and height are provided to adjust the size of the video as it appears. To show the play and stop buttons of the video, you have to include the 'Controls' attribute. Two attributes 'src' and 'type' are given in the source tag. The attribute 'src' tells you which video is to be added, and the attribute 'type' indicates the type of video is used.

e.g. type="video/mp4" or "video/ogg" or "video/webm"

Let's design a table

Won't it be better to add the video to the table? Discuss with your friends and find out how you can do this.

Design the page using table

You can design a web page according to your wish by preparing table/tables and include words, pictures, videos etc. in it.

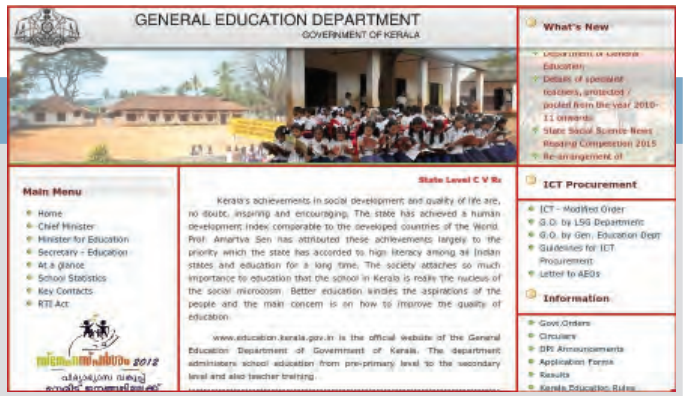


Fig. 8.10 Tables for page layout

You might have seen flash news in TV, haven't you? You can see words and pictures scrolling in various websites. You can also scroll words in your web page.

Activity 8.9 - Scrolling texts

Scroll the text 'Registration Started' below the banner of your web page.

You can scroll texts and pictures using the tag <marquee> </marquee>. Usually words scroll from right to left in a web page. But you can give special instructions to the attributes to scroll the text rightwards, downwards or upwards.

For example: <marquee direction=right> Registration Started</marquee>

You might have noticed the change that happens to the mouse pointer when it reaches the top of certain words or pictures in websites. See what happens when you click on it. Another page opens. These are hyperlinked texts named Hypertext. You can give hyperlink from your web page to other pages or to the school website or School Wiki.

Activity 8.10 - Hyperlink to School Wiki

You have given the name of your school as the heading of your web page. Now, hyperlink the school name in such a way that when you click on it, School Wiki will open.

Hyperlink

<a> - - - is the tag which is used to give hyperlink or to make a word in a hyper text. You have to indicate the attribute "href" to denote the place to link the text.

For example, if you want to give hyperlink in the name GGHSS Malappuram to the School Wiki, give the instruction as: GGHSS Malappuram .

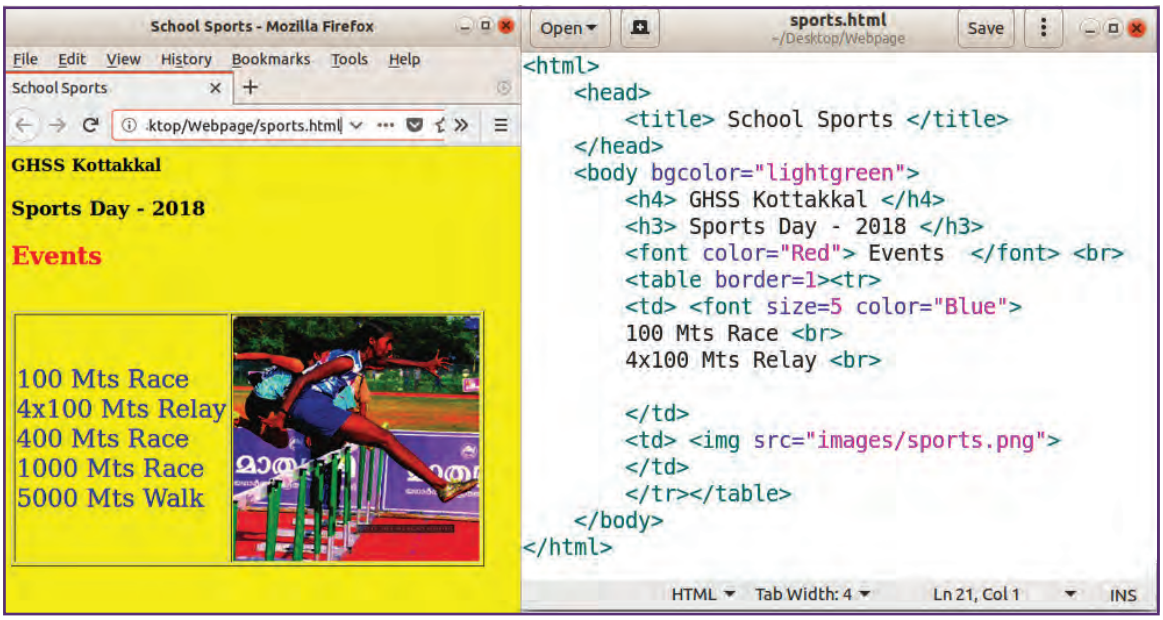
When you prepare your school website, the pages in it can be linked to the main page by giving hyperlink to the file name of the main page along with its path.

Let's evaluate

1. Which one of the following HTML tags can be used to give the heading of a page?

   1. <title> 2.
  3.   4. <h1>

2. Given below to the right are the HTML instructions prepared by Saleena to make a web page. Prepare a web page using these instructions. Are these instructions adequate to prepare this web page? Make changes wherever necessary.



3. Match the list of items with the corresponding HTML instructions.

1	Image	<body bgcolor>... </body>
2	Underline	<a>....
3	Hyperlink	<u>.... </u>
4	Background colour	...
5	Paragraph	<img src=...>

Extended activities

- Prepare a web page which shows the sports activities in the school.
- Prepare web pages showing the excellence of your school. Connect them to one another using hyperlink.
- Include a table of Kalolsavam winners in your web page. Give different colours to the words and background of the table.
- Visit the page source of the website https://kite.kerala.gov.in. Evaluate the usage of certain familiar instructions (***Right click → View Page Source***).
- Prepare a web page keeping in mind any of the web pages you have visited on the Internet. (Design the layout of the web page using <table>)

Chapter 9

Video Editing

Vipin and Varsha are preparing a video documentary of Kalolsavam programmes to be included in the Kalolsavam web page prepared by the Little KITEs Club. The details to be included in the documentary were prepared by Saleena and based on that a visual presentation was also prepared by Anu.

If you prepare video documentation of the important programmes in your school, it will be an effective method to evaluate and publish them. Which programmes can be documented in this manner?

- School Pravesanolsavam
- Sports Meet
- Independence Day Celebrations
- Tour programme
- .....
- .....
- .....

Which video documentary would you like to prepare? Discuss with your friends and select a programme conducted in your school for preparing a

documentary. Then, shoot the programme with details that you intend to include in the documentary and save it in your computer.

What should be done to the video clips that you have saved in the computer, to combine them to make a video documentary? List them out.

- Arrange the videos
- Remove the unwanted parts
- .....
- .....

In your previous classes you have studied the process of editing a text or image or sound in your previous class. Recall the process of editing.

In a similar way, let's see how you can prepare a video documentary can be prepared using OpenShot Video Editor which is included in the IT@School GNU/Linux.

Activity 9.1 - Let's familiarise openshot

Open OpenShot Video Editor in your computer and examine the facilities provided in it. (Fig. 9.1)

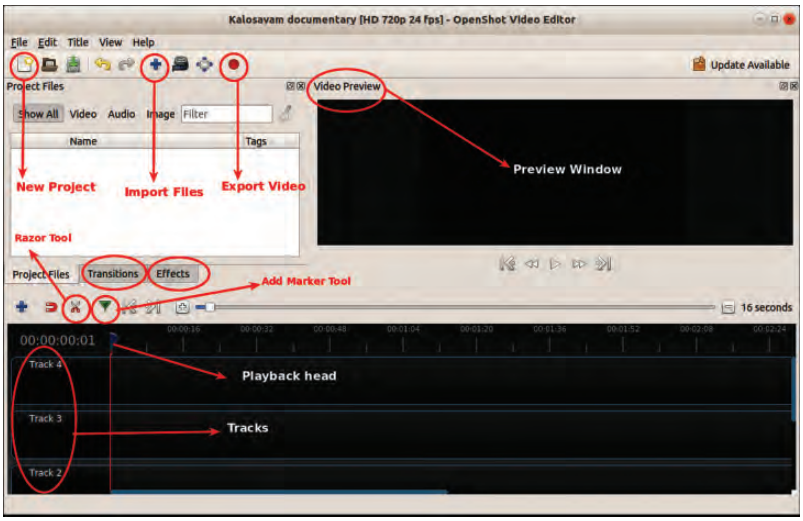


Fig. 9.1 OpenShot Video Editor window

Video editing

Video Editing is the process of arrangement of videos in a suitable manner and editing and removing unnecessary parts from a video. It also includes the process of adding dialogues, background music, special effects, title, etc. to the video and organising it for a presentation. In earlier days, tape-to-tape linear video editing using video tapes were common. Later, with the introduction of computers and video editing software, non-linear video editing using digital facilities became popular. Thus, editing a part of the video file with perfection and speed was made easier.

Now, there are various software which help in the process of video editing. OpenShot Video Editor, Kdenlive, Kino, Pitivi Video Editor etc. are some of the video editing software available in GNU/Linux.

OpenShot Video Editor

OpenShot Video Editor is a simple video editing software. The project was started in 2008 by Jonathan Thomas, an American, with the aim of producing a simple and stable video editor for GNU/Linux. Within two years he produced a stable version. The OpenShot Video Editor developed using Python programming language supports many other video file formats.

Activity 9.2 - Let's start a video project

You are now familiar with OpenShot Video Editor, aren't you? Now, let's start editing videos.

To edit the audio and video files stored in the folder, the first step is to bring them to the OpenShot Project.

- For that import required video and audio files to the project by using  button from the toolbar or Import files from file.
- These can be seen in ***Video***, ***Audio*** and ***Image*** tabs. (Click ***Show All*** to view all files together).
- Video Transition, Video/Audio effects are arranged in the ***Transitions***, ***Effects*** tabs respectively.

It is better to save the Project file which you intend to edit at the beginning itslef.

- Click ***Save Project i***n ***File*** Menu.
- Select your folder, give a name to the Project and then click Save button.

While selecting a Project Profile

While selecting Video Profile, it is better to arrange Project profile in a suitable manner before starting video editing. New Video Profile can be chosen either by clicking ***File*** → ***Choose Profile*** in ***OpenShot*** or by clicking the icon ***Choose Profile*** in the main Toolbar. It is desirable to choose the profile HDV 720 24p (1280x720) which is set as default in the ***Openshot Video Editor***. The revised version of Openshot supports the video formats such as HD and HDV.

Activity 9.3 - Files to Timeline

To edit the imported files, you have to move them to the ***Timeline***.

For this, drag them from the Project File to the Timeline tracks below in the order in which they should appear (Fig. 9.2).

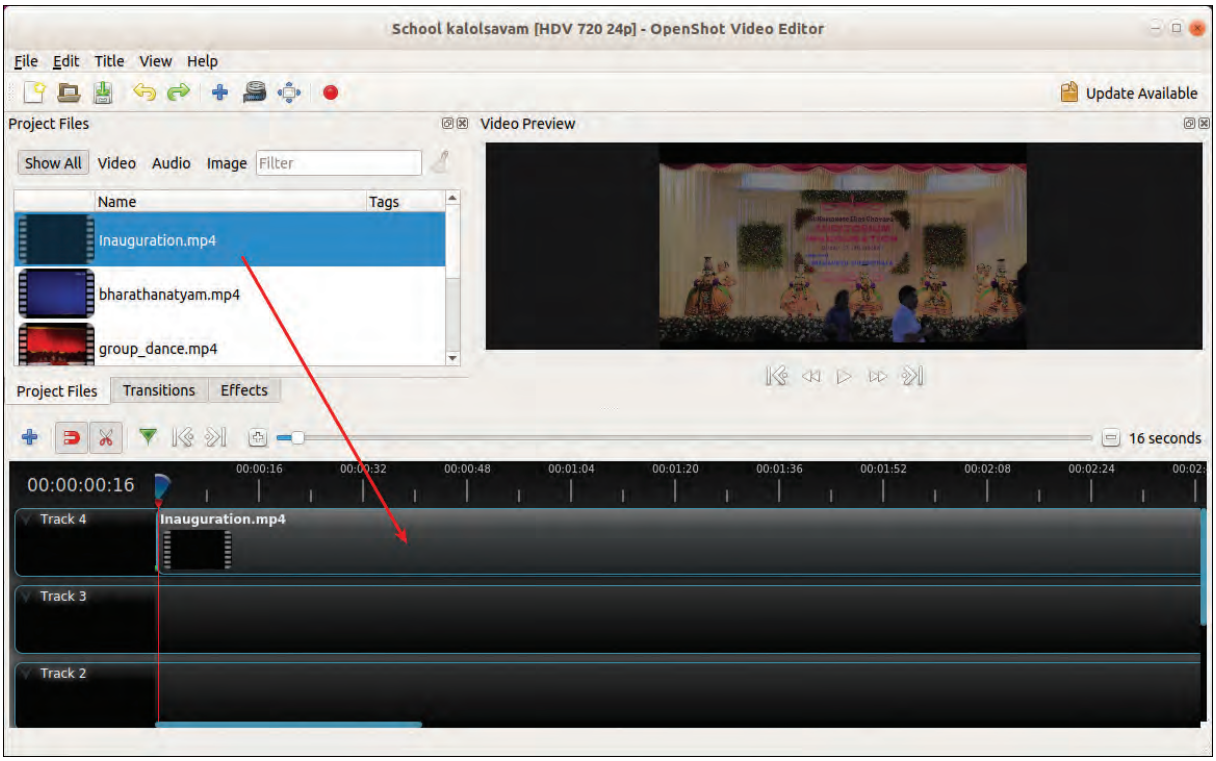


Fig. 9.2 When videos are included in the track

- You can run the clips or stop running them by pressing the Space key in the keyboard or click on the ***Play/ Pause*** button in the ***Video Preview*** window.

You may include the parts of the video from the Project Files to the ***Timeline*** track. You can add or cut files in these tracks.

Activity 9.4 - Let's compile video files

When the video clips that were to be edited had been dragged and played, Vipin and Varsha had some doubts regarding them.

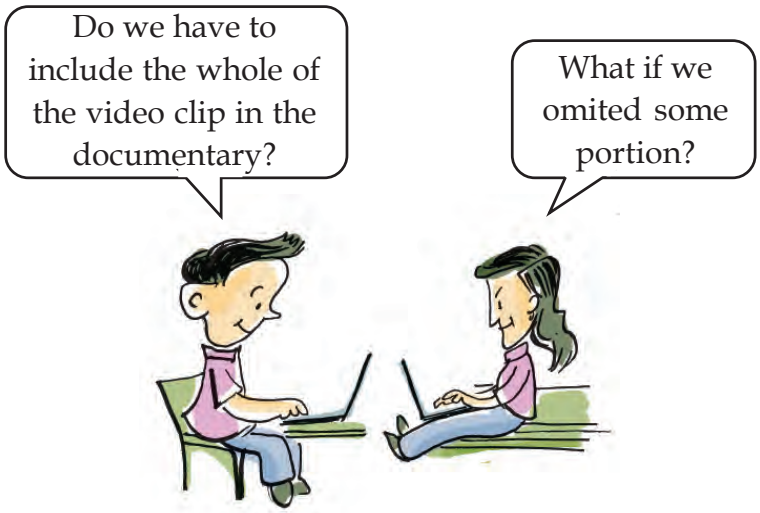
Timeline

In the video editing software, film, picture, sound, title, etc. can be edited at the timeline based on their timing. In a timeline, normally there are video and audio tracks. The process of editing is done by inserting the video files in the video track and the audio files in the audio track. But in the existing version of OpenShot, there is no separate track for sound clips. Instead, videos in video files or video tracks are separated and then deleted to make audio files.

Playback head

The video clips in the track appear in the video preview according to its position on the Playback Head tool. When you activate the Play button on the timeline, the Playback Head starts moving through the clips on the track. During its movement, the Playback Head displays/ produces sounds of all the files on the track on its path. While displaying, the priority will be given to the video clips on the top of the track. If there are no videos on the top track, the Playback Head displays the video file placed in the track just below. But, for audio clips this file is not considered.

Fig.9.3 using Razor tool



How can you remove the unwanted parts from a video?

- Identify the exact part to be removed by moving the ***Playback head***.
- Mark the part to be removed using ***Add Marker*** Tool . (To remove the marking, right click on it and click on ***Remove Marker.***)
- You can cut the marked parts using the ***Razor Tool*** (Fig. 9.3).
- For deleting the unnecessary video from the track, Right Click on the video and then click ***Remove Clip***. (For removing the selection of once selected tool, click on the same tool again)

You have now removed the unnecessary parts from the video clips. Now, include the existing video parts in the track and edit them and arrange them (Fig. 9.4).

Fig. 9.4 When the edited video parts are arranged on the track

Slide Transition

You know how to prepare a slide presentation using the presentation software. You have also studied how to make the presentation attractive by giving slide transition effect to the slides.

You usually use the technique of slide transition when you have more than one slide to present. What are the advantages of providing slide transition effect to slides?

- Ideas in each slide will be specially noticed by the audience.
- .....

Activity 9.5 - Let's give transition

In films and telefilms, transition effects are provided in between scenes to fully experience the change of the scene. The video documentary that is prepared by you can also be made attractive by providing transition effects. For this, follow the process given below.

- Click on the ***Transitions*** tab.
- Include suitable transition effects in between the video clips that are arranged in the track (Fig. 9.5).

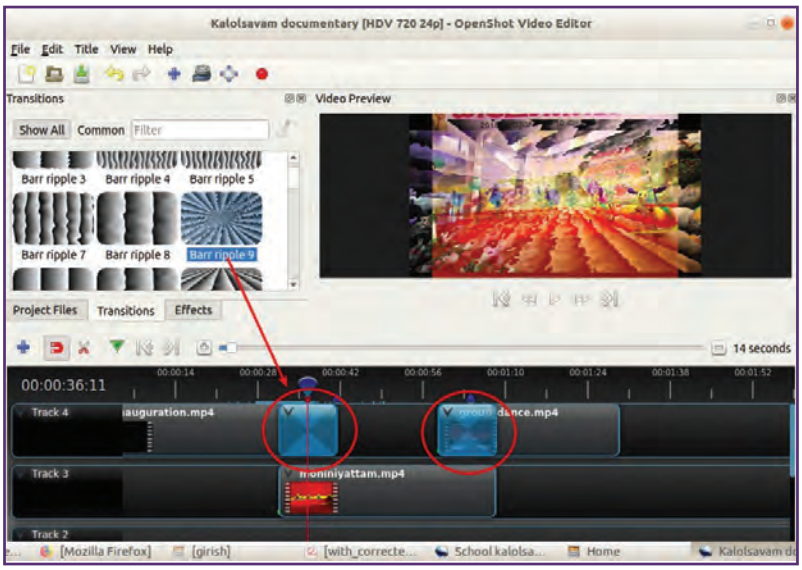


Fig. 9.5 When transition is effected on videos

Special Notice

Do not forget to save each activity that you perform while editing. Then only it will be saved in the file. So, click in the order ***File → Save Project*** and save the project intermittently. The OpenShot project file format is osp.

While providing transition

To give transition between two videos in the OpenShot, it is better to arrange video parts in the adjacent tracks above and below. (Transition can also be given by arranging video files in the same track. But in this method, all effects need not work effectively) If necessary, we can adjust the direction of transition by using reverse transition after right clicking ***Transition.*** (Fig. 9.6).

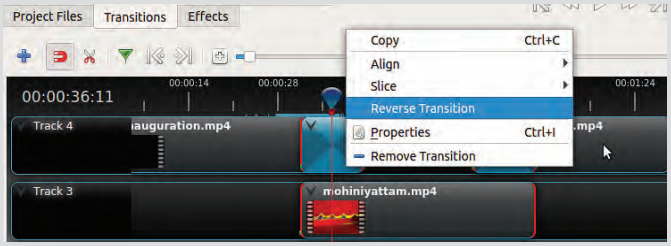


Fig. 9.6 Adjusting the direction of transition

The timespan of transition can be adjusted between video files. For this, place the mouse pointer at the beginning or end of transition and drag as needed.

Activity 9.6 - Add effects

You might have understood how transition effect can be added to the place where two video clips join together. Apart from this, adding effects to all video clips is also possible in OpenShot Video Editor. Follow the process given below and add suitable video effects to the clips.

- Right click on the video clip which you have included on the track.
- Provide effects like ***Fade, Animate***, etc. one by one to the video clips and play them through ***Video Preview*** window and see how they work.
- Identify effects and include them in the video clips suitably.

Including audio files

Don't you have to include a background narration along with the documentation? You would have already kept ready the text to be included as description. This narration can be included in the video file, only if it is converted into a digital format.

Record the text for description using any Sound recording software and convert it to an audio file format (wav, mp3, ogg). Save it in your folder. You can use the ***Audacity*** software which you have familiarised in the previous classes or any other sound recording software. If you intend to add music, collect such files in your folder well in advance.

In the timeline of OpenShot Video Editor, there are normally two tracks. If we include videos in the two tracks, how can we include an audio file in it? We need a new track for this purpose. See, how can a new track be added and how can the sound file be inserted?

Activity 9.7 - Add sound files

- To add a new track, click on ***Add Track***  icon or right click on the existing track and then click on ***Add Track above/Add Track*** below.

- Drag audio files in to the timeline in the same manner as you included video files (Fig.9.7).

Fig. 9.7 Sound file included in the track

- In order to give the relevant background narration or sound to a video, the sound file should be arranged in the track just below the video track.

- In the video files, if the existing sound is not needed, the same is to be removed before adding a new audio file. For this, right click on the video clip and select ***single clip*** under ***Separate audio*** from the menu (Fig.9.8). Only the audio file gets separated from video file and it moves to the next track. Select the file and delete it to remove sound. Likewise, if necessary, we can retain the sound file and remove video.

If you need more tracks

Do you want to add more tracks? You can add more tracks by clicking on ***Add Track Above/Add Track Below*** obtained by right clicking on the current track or by clicking on the add track icon.

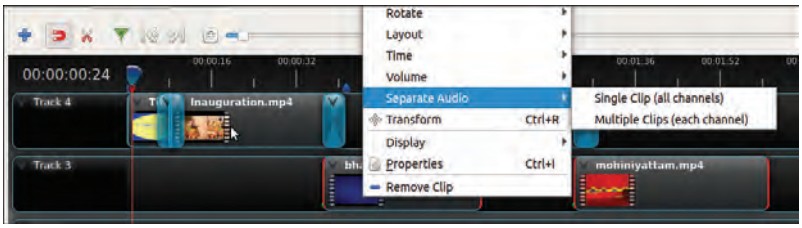


Fig.9.8 Split Sound file from the track

Titles

While watching movies or documentaries you might have seen at the beginning and the end the names of persons who worked behind such films (titles). In a similar way, you can also include titles/ acknowledgements in your documentary. Note down the titles you intend to include in your documentary.

- School IT Club presents
- .....
- .....
- .....

Now, do the following activities.

Activity 9.8 - Let's include titles

- Open the project and choose appropriate template by clicking on Title from ***Title*** Menu (Fig.9.9).

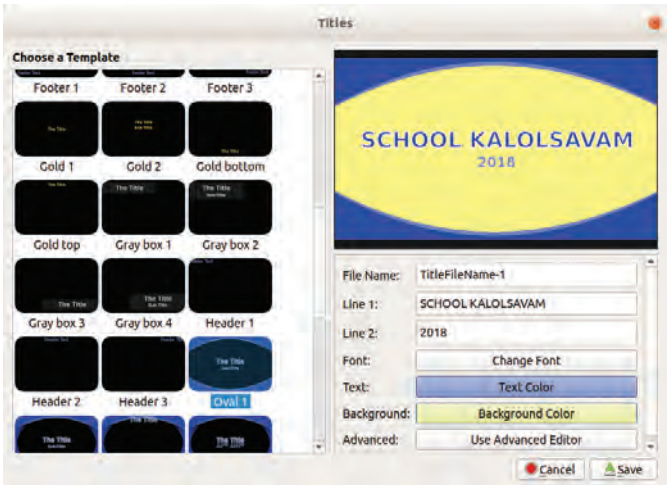


Fig. 9.9 Title Editor window

- In the window the file name of the title slide and the information to be displayed can be typed. The required font colour and background colour are to be selected.
- Click on the *Save* button.
- With this, the titles that are created appear under the *Images* tab near the Project files.
- The Titles can be arranged in the appropriate places in the same manner in which video files were added.

Activity 9.9 - Export the project

The video and audio files are now placed in different tracks in OpenShot. If you want to make this file work as a video, it has to be converted into a video file. Then, you can play it using a media player. You can export your project file to video format using the following process.

- Save the project.
- Open *Export Video* window either by clicking on *Export Video* button or by selecting *Export Video* from the *File* menu.
- Give the file name and select the folder to be saved, profile and additional options of the profile, etc. (Fig.9.10)
- Then click on *Export Video*. When the process is completed, close the project window.

Video file formats

Digital videos are stored in data computers in various video file formats. Some of the important video file formats are ogv, mpg, mp4, avi, flv, mov, wmv, 3gp.

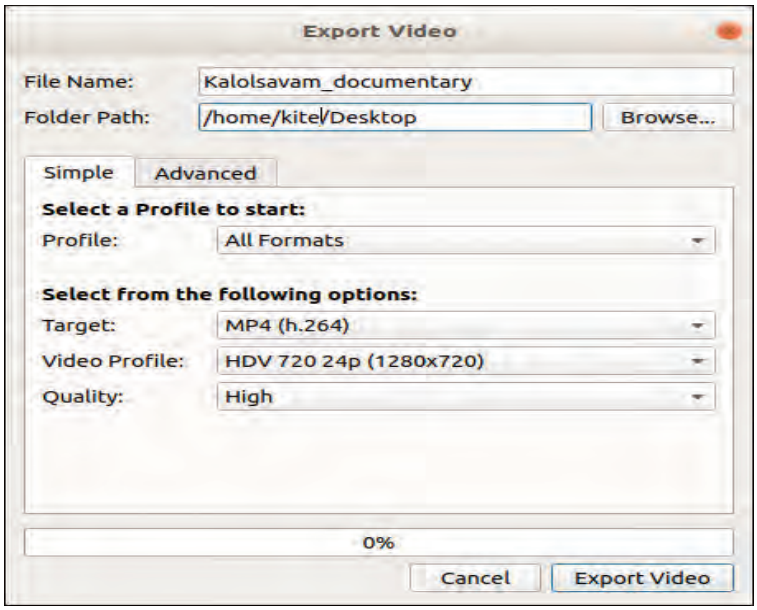


Fig. 9.10 Export Video window

Convert image files to video files

You might have stored many photographs of festivals/programmes held in your school. Don't you like to make a video file compiling all the photographs you have stored? This facility is available in OpenShot Video Editor. Follow the process given below.

- Open OpenShot software. Include all the image files together all the Project files section of OpenShot.
- Select the images that are to be included in the video files (Ctrl+A).
- Right click on the selected pictures and click on ***Add to Time Line***.
- From the window that opens, click on ***Transition, Transition time,*** etc. seen on the ***Transition*** tab. Then, click on the ***Add*** button.
- It can be now seen that the image files have been given transition and are arranged on the track. (Here pictures are arranged in the same track).
- You may export this to a Project Video file.

Activity 9.10 - Let's play the videos

Did you play the exported video files in the computer? This can be done in two ways: Double click on the video files or follow ***Right Click → Open with*** and select a suitable media player and play the video files. Are you able to open your video documentary in all the media players in the computer? This video need not necessary work in websites, tablets, etc.

In such cases, these video files can be converted to other file formats with the help of software. WinFF, HandBrake, etc. are the software packages that help in converting these file formats in the GNU/Linux system.

Activity 9.11 - Changing the video format

Let's convert the video documentary that we have prepared, using WinFF software. For this, follow the steps mentioned below:

- Open WinFF from ***Sound & Video*** menu.

- From the columns seen below ***Output Details*** (Fig. 9.11) select the details of the format you to be converted and the folder in which you have to save the project.

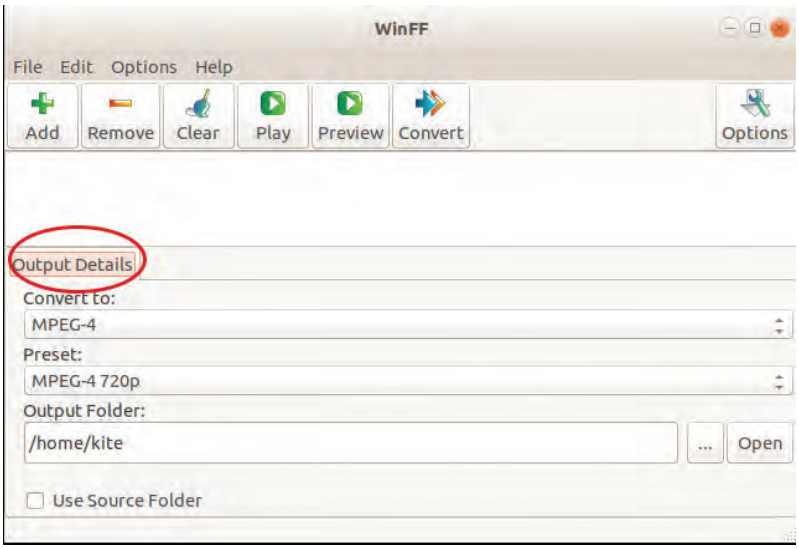


Fig. 9.11 WinFF window

- Click on the ***Add***  button to include the file for which the format of which is to be changed, into the software.

- Then, click on ***Convert***  button.

Close WinFF window when the process is completed. Now, check the output folder. You can see the file in it with format change.

You may include this video documentary in the web page that you have prepared earlier.

Opportunities in Video Editing

Video editing provides numerous opportunities for those who have imagination and interest.

Video editing plays a major role in improvising movies, documentaries and advertisement. Video editors work in various audiovisual fields including television and cinema. Many institutions are conducting various courses in this field. Sky is the limit for those who have experience and expertise in the field of video editing.

Let's evaluate

1. Which among the following is a video format?

   (a) mp3 (b) wma (c) wav (d) avi

2. What is the need for exporting a Project file into a Video Editing software?

3. Prepare titles for the video documentary related to a tour programme of your school in OpenShot Video Editor software.

Extended activities

1. Prepare a video documentary on the life of the famous poet ONV Kurup, collecting his poems, video clips and images from the Internet.

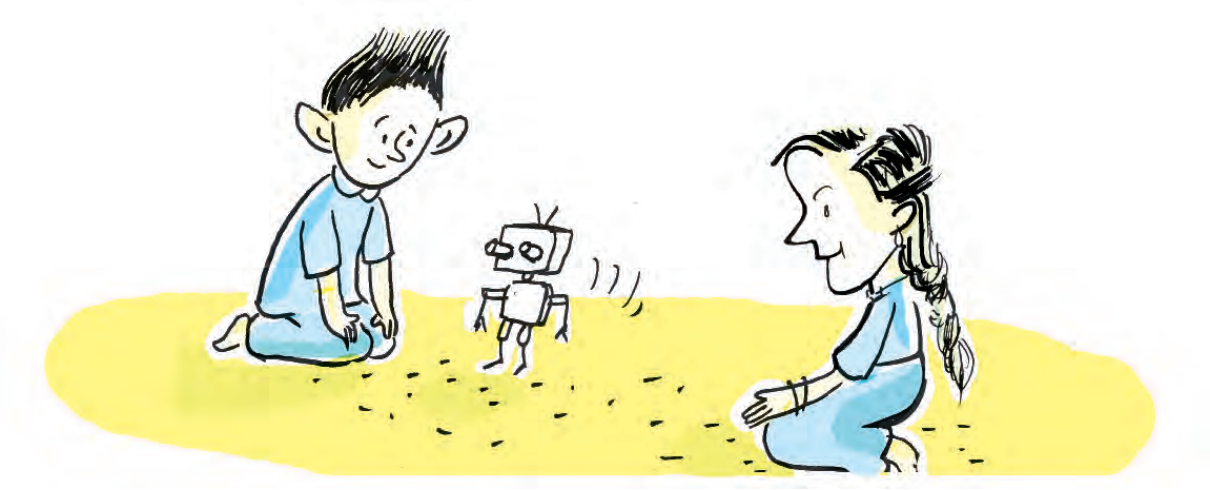
2. Prepare a documentary of the annual report to be presented on the School Annual Day, using OpenShot Video Editor software.

3. Prepare a short film using OpenShot Video Editor software on the topic 'Drug Abuse among School Children'.

4. Convert a video file you have prepared to another video file format with the help of WinFF software.

Chapter 10

Inside the Computer



Atul and Divya, who won prizes in IT Quiz competition, came to school with two tiny boxes. Everybody was astonished when Atul told that the box contained a small computer named Raspberry Pi. Kunjamina expressed her doubt whether a computer could be made in such a small size. Jobin at once cleared the doubt by saying that most of the smart phones could perform all the tasks performed by a computer.

Have you ever thought of how the computers are varied in size, performance and facilities? You know that equipment like smart phones and desktop computers work with the help of a number of big and small components.

Day by day changes occur in the size and shape of computers and its allied instruments because of the high leap in the field of electronics and information communication technology. What other changes do you observe?

- reduction of size
- increase in storage capacity increases

Raspberry Pi

Raspberry Pi is a credit card sized computer. The facilities that are available in a normal computer are also available in it. But this consumes only very low electricity. This computer is designed mainly for educational purposes. But various computer programs can be prepared with the help of this computer. Using these kinds of programs, this computer has facilities to control external equipment also.

- .....
- .....

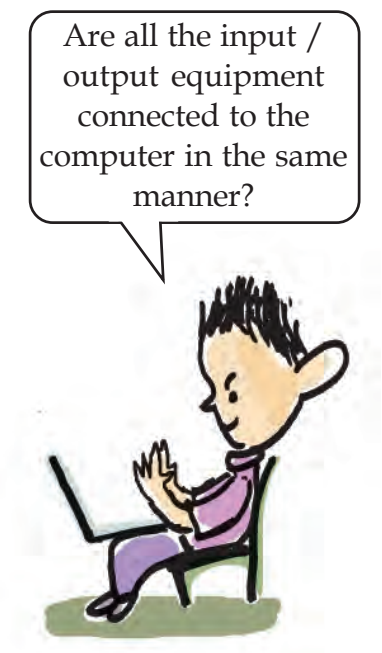
Have you ever thought of what process goes on in a computer when it works?

A computer stores the data that are received through the input devices and gives them back whenever required using the output equipment. In the previous classes we have familiarised ourselves with some of the input / output devices we use. Try to remember those devices.

Fig. 10.1 Old model mouse

The picture of an old model of a major input device is given in Picture 10.1. Can you identify the device? This is the old model of a significant input device called mouse. Identify the differences between the old mouse and the mouse we use today. Like this, drastic changes are occurring in most of the equipment related to computer.

In desktop computers, all components other than input/output devices are kept inside a box called cabinet. How are components like monitor, keyboard, mouse, etc. connected to the cabinet? These are connected to the ports seen in the cabinet of the computer using different kinds of connectors. You have identified the differences that have occurred in the shape and function of a mouse over the years, haven't you? Likewise, the system of connecting the input/ output equipment to a computer also has changed a lot.



Activity 10.1 - How to connect?

Interfaces of certain equipment and their names are given in the table below. Examine the computers in your school computer lab and write down in the table (Table 10.1) the names of equipment that can be connected to each interface.

Examine how the keyboard and the mouse that you use are connected to the computer. Instead of the various types of ports of the earlier days, USB ports are used more

Connectors	Equipment	Ports
 PS2	Mouse Keyboard	
 VGA (Video Graphics Array)	....	
 DVI (Digital Visual Interface)	....	
 HDMI (High Definition Multimedia Interface)	....	
 USB (Universal Serial Bus)	....	
 R J 45	....	
 TRS (Tip-Ring-Sleeve)Connector	....	

Table 10.1 Various ports and connectors

Be Careful !

Carefully fix the connectors to the ports or else the pins in the connectors will get broken or bent. This will lead to disruption of information transfer and the equipment may get destroyed.

USB
(Universal Serial Bus)

USB is an advanced technology that helps in the speedy transfer of information between equipments. Apart from ordinary USB connectors, micro USB connectors to be used in mobile phones and cameras are also available now. They are used for supplying electricity to those instruments that require a minimum electricity. You might have seen mobile phone chargers, fans, lights, etc. working using USB. The new generation equipment use the USB 3.0 technology which has high speed data transfer.

nowadays. What are the advantages of using USB connectors? Modern computers need no ports or connectors for different equipment. Moreover, the rate of information transfer using USB technology is too high.

You have seen devices that can be connected using USB.

Which output devices are used to present the visuals from a computer?

- monitor
- projector

The output devices used to present the visuals from a computer is the monitor (Fig.10.2). What kind of monitors do you know? List them.

- CRT monitor
- LCD - TFT monitor
- .....

Fig. 10.2 Monitor

You have understood that monitors are attached to computers through VGA (Video Graphics Array) adapters. High-Definition Multimedia Interface (HDMI), Digital Visual Interface (DVI) Display port, etc. are modern interfaces that are used to transmit audiovisual data. You can gather more information using the Internet.

The data that we give as input in various methods are later given as output through a complicated processing. This is done with the help of microprocessors in the Central Processing Unit (CPU) of the computer. These highly important microprocessors are fixed inside a computer.

Visual display unit

Monitors are commonly known as Visual display units. They use various kinds of technology.

Cathode Ray Tube (CRT) monitors consume more electricity than other monitors. But the Thin - Film - Transistor (TFT) and Liquid - Crystal - Display (LCD), monitors that we use nowadays consume very little electric power and are more clear and vibrant.

Light Emitting Diode (LED), Organic Light Emitting Diode (OLED) technologies are also commonly used in display units. They provide clear and vibrant screen and will also provide visual clarity.

Analyse the picture given (Illustration 10.1). Microprocessors help to make basic mathematical calculations and control the activities of input /output equipment in the computer. The joint activities of the software and other peripherals in the computer help in getting the necessary information through output devices.

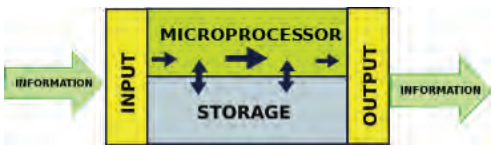


Illustration 10.1 Working of CPU

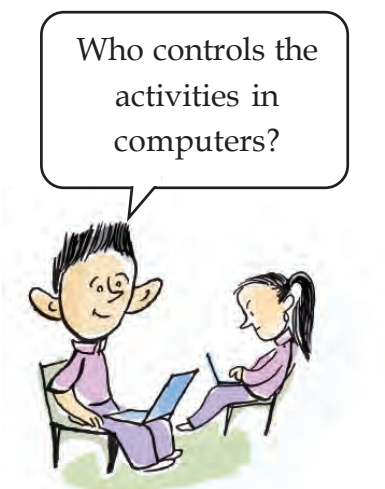
Do you think that the microprocessors used in different computers have the same speed and same efficiency? How can you identify the features of the processors used in your computer?

You can know the details of the computer and the peripherals in it without even opening and examining them. Many applications are available for this. ***Sysinfo*** is such an application available in your computer.

Activity 10.2 - Types of Microprocessors

Open Sysinfo software in the computer (Fig.10.3). Observe the features of the CPU in the systems used by you and your friends. Who are the major manufacturers of microprocessors? Use the information given in Sysinfo note, won't you?

Examine what additional basic information you can available about your computer in Sysinfo.



Those who leave the stage

With the advancement of modern technology, many sources and components have been replaced by new technological devices. The PS2 ports used for connecting the mouse and the keyboard, serial ports used for connecting printers and the parallel ports are examples for such replacements.

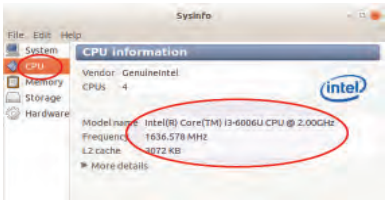


Fig. 10.3 Sysinfo window

In order to absorb the heat produced during the working of various microelectronic components, a heatsink and a small fan are attached with the microprocessor. A very important factor that influences the working speed and efficiency of computers in the microprocessor used in them. You've now understood that there are different kinds of microprocessors. New generation microprocessors have technology which enables them to handle many instructions at the same time. Frequency, cache memory, the speed of information transfer to other components of the computer etc. are features related to the efficiency of processors.

Clock speed and cache memory

When a computer works, a lot of information is transferred to and from the CPU many times within a second. The rate of information transfer in a microprocessor is referred to as frequency or clock speed. If the clock speed of the microprocessor is more, then the instructions it handles also increase. Clock speed is normally measured in unit Hertz (Hz).

When the CPU works, it depends mainly on the primary memory of the computer. Sometimes the CPU which works very fast may find it difficult to get the information in time. Hence, facility is available in the microprocessor to retain the frequently used information in the CPU itself. This is cache memory of the CPU. Processors differ in their levels of cache memory.

System	Model	Frequency	L2 Cash
• Computer 1	•	•	•
• Computer 2	•	•	•
• Computer 3	•	•	•
• Computer 4	•	•	•

Table 10.2 Features of the microprocessor

The information and instructions handled by the microprocessors will be in the memory of the computer. Where is the memory of the computer situated?

Imagine that you are preparing an article in Word Processor software. If the power supply stops, your file will be lost. But if that file is saved we can retrieve it later. The file would be in the temporary memory of the computer before it was saved. But after the file is saved, it is sent to the permanent memory.

Permanent memory and temporary memory

Computers store temporary information files in RAM, a component which is made up of IC chips. When the power supply stops, the data stored in the RAM get lost. The hard disk in which the operating system and all the other files are stored, is the permanent memory of the computer.

If you increase the storage capacity of the RAM, the processing speed of the computer will increases. Examine the RAM available in your computer lab. You can see the name of the manufacturer and the storage capacity of the RAM. Examine and record these details.

Activity 10.3 - Know the storage capacity of RAM

You are now familiar with the Sysinfo application which helps you to know the details of the components within the computer. Now, find out the capacity of the RAM in your computer and write it in the space below.

- .....

How much percentage of the total capacity of RAM is now being utilised by your computer for its working?

- .....

While performing some tasks like video editing, it may require more memory than the existing capacity of the RAM for its functioning. A part of the hard disk is usually kept apart for these purposes. This is called ***Swap Space***.

Random Access Memory (RAM)

Drastic changes are taking place happen in the structure and storage capacity of RAM. We use big size RAM in desktop computers and small size RAM in laptops. In gadgets like smart phones, tablets, etc., the RAM is inbuilt in the Motherboard. Nowadays we use RAM which has more storage capacity than the RAM used earlier.

Becoming smaller

The vacuum tubes used in the earlier computers were very big in size. After making transistors using semiconductors, the size of computers became small. Later it was due to the invention of integrated chips which contain millions of transistors, that the size of electronic equipment has become smaller in size and the efficiency has gone up.

How much is the Swap available in your computer?

- .....

Hard disks

You have seen that the permanent memory of the computer is the hard disk. Normally all files including pictures, music, videos and the operating system of the computer are stored in the hard disk. Hard disk drives of various storage capacities are now available. Try to find out the storage capacity (size) of the hard disk in your computer. Is this facility available in Sysinfo? Examine.

Activity 10.4 - Let's find the storage capacity of the hard disk

Open ***Disks*** software in your computer.

Identify the storage capacity of the hard disk in your computer and write it down.

.....

Connect a USB flash drive to the USB port of the computer. Examine the storage capacity of the USB drive.

Units of data storage

The basic unit of the capacity of data storage devices is byte. A byte is eight bits. Bit is a word formed from binary digit. A bit is a value of either a 1 or 0 (one, zero). You have understood this in the lesson 'Programming'. One kilobyte (KB) is made up of 1,000 bytes. Subsequently, higher units like Megabyte (MB), Gigabyte (GB) and Terabyte (TB) are formed. In the place of Kilobyte and Megabyte, units like Kibibyte (KiB) and Mebibyte (MiB) are also used. For further information visit the link https://en.wikipedia.org/wiki/Kilobyte.

Which are the data storage devices used nowadays?

- Hard Disk Drive (HDD)
- Solid - state Drive (SSD)

- Secure Digital Cards (SD Cards)
- .....
- .....

You may collect more details regarding this with the help of the Internet.

Motherboard

You are now familiar with the components of a computer like CPU, RAM and hard disk drive, etc. When the computer works, all these components and other parts of the computer have to exchange the data. How is this possible?

This happens through the motherboard or the main board. Motherboard is a complicated circuit board which contains a number of electronic chips and electric circuits. All these components in the computer are connected to the motherboard. The connectors of the input/output equipment also reach the motherboard. Slots for connecting the expansion cards can also be seen in the motherboard. Now, you might have understood how the motherboard got its name.

Switched Mode Power Supply (SMPS)

You have seen that many components are connected to motherboard. In order to transfer data, electricity is inevitable. There are small and big components in the computer. Do all these components need the same quantity of electricity? Regular and accurate quantity of power supply to components like motherboard, processor, hard disk and DVD drive is carried out by the equipment called Switched Mode Power Supply (SMPS) (Fig. 10.4).

What process should start when you switch on the computer? You know that the operating system is in the hard disk. The instructions of the operating system in the hard disk should reach the temporary memory RAM. All

Paths of information transfer

The paths used to transfer information between computers or between the components in the computer are called bus. Nowadays Serial Advanced Technology Attachment (SATA) cables are used to connect the DVD drive and the hard disk drive to the motherboard. This helps in the speedy transfer of information.

Fig. 10.4 SMPS

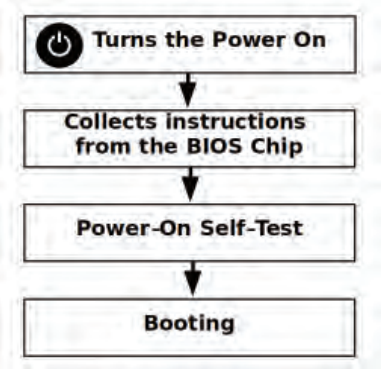
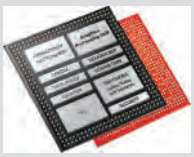


Illustration 10.2
The activities while the computer is turned on

System on Chip (SoC)



These are Chips in which the control of all the components of the computer are included in one integrated circuit. Microprocessor, RAM, storage components and input/output controls are included in one single chip. In this ***System on Chip*** of smart phones and tablets, the controls of sound, images, videos and wireless communication are also included along with the microprocessor. High speed and low energy consumption are their main features.

the components including the CPU should become functional. Where will these components get the instructions from?

Examine Illustration 10.2. All these components function from the instructions they get from the chip called Basic Input/Output System (BIOS) which is fixed in the motherboard.

When you switch the power on, the first process that takes place inside the system unit is known as Power-On Self-Test (POST). This is a test to examine whether the components in the computer are functioning properly.

What happens after the 'Power-On Self-Test'?

Booting is a process by which the operating system in the hard disk starts functioning.

If the computer is not used for many days, do the system time and date show errors? When there is no power supply, the CMOS battery that lies near the BIOS chip gives power to it. That is why there is no error in the system time and date even when there is no power.

Activity 10.5 - Identify the major components in the Motherboard

The motherboard of a desktop computer is given in Fig. 10.5. Observe a motherboard available in your school computer lab. Compare the motherboard with the model (Fig. 10.5) and identify the parts. Complete the table given (Table 10.3).

What will happen next?

Innovative development in the field of science and technology has brought about drastic changes in the shape and working of computers. The uses and services of computers have encompassed almost all sectors. This has moved beyond the mobile phones and computers to the concept of ***ubiquitous computing***. The facilities of the computer and its services in the future can only be visualised.

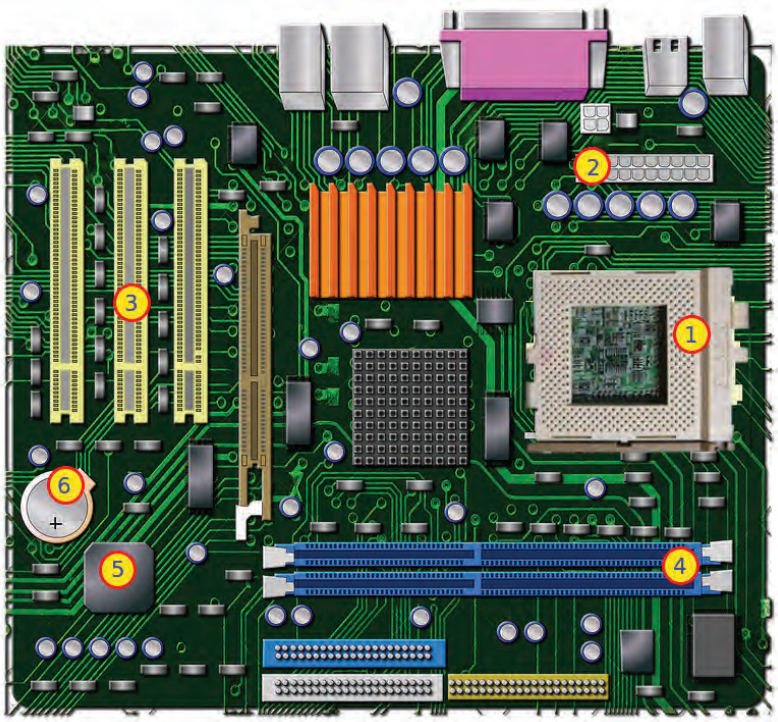


Fig. 10.5 Model of Motherboard

No. in the picture	Name of the component in the Motherboard
1	• Processor socket
2	• .....
3	• .....
4	• .....
5	• BIOS chip
6	• .....

Table 10.3 Components in Motherboard

Green computing

Green computing is the environment friendly way of designing, manufacturing and using electronic devices. It also includes the disposition of defunct materials and waste in an effective manner.

Useless parts of computers, electronic devices such as phones have become a big cause of pollution. These, Known as Electronic Wastes (E-wastes), they affect living beings and affect the environment badly.

Using high durable and low power consuming equipment is a part of Green computing. What can we do to promote green computing?

- Shut down the computer and other electronic devices after use.
- Print on paper only when it is very essential.
- .....
- .....

Computing in all fields

Ubiquitous computing is a situation in which the computer technology reaches you wherever you are in the world. This can be used in any instrument, in any place and in any manner you like. Imagine a situation in which the Internet, mobile phones, electronic chips, Global Positioning System (GPS), etc. come to your help even if you are on the road, or in a vehicle or in the kitchen.

For more details: https://en.wikipedia.org/wiki/Ubiquitous_computing

Employment opportunities in Computer field

Nowadays there are different job opportunities in the computer hardware field. You can do repairs related to the hardware of the computer and activate (make them work) them after undergoing some training related to this. There are a lot of opportunities in areas such as Green Computing, System on Chip, Robotics, e-waste management, hardware designing etc.

Let's evaluate

1. Find the odd man out and explain.

   a) HDMI b) DVI c) Display port d) Network cable

2. Where does the computer get the first instruction to load the operating system when you switch on the computer?

   a) Hard disk b) SMPS

   c) DVD drive d) BIOS chip

3. On which one of the following does the speed of the computer depend?

   a) Frequency of the microprocessor

   b) Storage capacity of the RAM

   c) Cache memory of the microprocessor

   d) All of these

Extended activities

- Conduct a hardware exhibition in your school collecting the unused or damaged parts of the computer as part of the school IT corner activities. Exhibit the computer parts with their details in writing.
- Compare the features like storage capacity, microprocessor, RAM, etc. of various smartphones from the details you can collect from newspaper advertisements.
- Conduct a seminar in your class on the changes that had occurred to the following components. You may collect details from the Internet. You may divide the class into groups and assign each component to each group. You can present it including pictures with the help of the presentation software.

  a. mouse b. keyboard c. microprocessor d. monitor

- List down the E-waste materials in your school and house. Suggest ways to dispose them off safely and publish the details in the school notice board.

Notes

Notes

Notes

Let's know about cyber safety

There is absolutely no need to mention the advantages of Internet and Social Networking sites. We have embraced their potential for communication, entertainment and information seeking.

But over the period, it is seen that a lot of teenagers are being harassed and fall prey to the abuse of Social Media. You can easily prevent yourself from being a victim, if you take a few precautionary measures while being online.

How Social Networking sites can be dangerous

- Sharing and posting too much of personal information such as phone number, address, location, photos, etc., can be misused.
- Trusting strangers believing their profile to be true can be dangerous, as they may not be the same as stated.
- Snapshots of chats, photos, videos, etc., are saved and will be used for blackmailing and threatening.
- Being cyber bullied by posting negative, derogatory comments, posts, photos, etc. to tarnish one's image.
- Lots of predators and adult criminals are lurking online to trap children.

Tips for safe Social Networking

- Always keep your personal information strictly personal.
- Customize your privacy settings so that others can see only the basic information.
- Just know about and manage your friends. Don't trust all the online friends.
- Let your friends know that you are uncomfortable if they post something inappropriate about you.
- Do not publish any information that reveals your identity.
- Always use strong passwords. Don't share them with others.
- Never share your pictures, photographs, email accounts, etc., with anyone.
- Keep your personal messages strictly personal. Once posted they are published for ever.
- If ever threatened or bullied seek the help of parents/teachers.

Helpline Phone Numbers

Crime Stopper: 1090
Cyber Cell (Tvm): 9497975998
Control Room: 100
Child Helpline: 1098 / 1517