INFORMATION & COMMUNICATIONS TECHNOLOGY

Standard VIII

Part 1 1/2

GOVERNMENT OF KERALA
Department of General Education

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

NT-473-1-ICT-8-E-VOL.1

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 & Communications Technology VIII

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FOREWORD

Dear Learners,

The world around us is changing fast. The borderlines that were created by time and distance are fading away. The infinite potentials of Information and Communications Technology made so many things possible which were considered impossible. This is the era in which our classrooms are rapidly transforming into smart rooms with multimedia facilities, as a result of new technology. In tune with these changes, the contents in this textbook are developed to enable you to move towards the world of technology, to promote self-study and to construct new knowledge.

Each and every activity included in this textbook is prepared by assimilating the contexts in similar lessons from other subjects. It will be helpful for the study of those lessons.

The lessons are designed in such a way that practical work is given prime emphasis. I sincerely believe that you will be able to do and practise all learning activities given in this textbook, and make use of those acquired skills in the study of other subjects as well.

Dr. J Prasad
Director
SCERT

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

Certain icons are used in this textbook for convenience

For further reading
(Evaluation not required)

Let's Evaluate

Extended activities

1 When A Letter Reaches the Computer

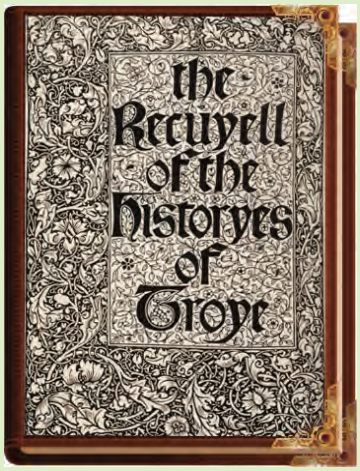
With the passage of time, stone moulds which were used for printing gave way to metal moulds. Later these moulds also went out of use. Nowadays, the contents of a book are typed and arranged (layout) with the help of computers.

Have a look at the extract from a page of your English Reader given below (Fig. 1.1). How would this have been prepared? Definitely, with the help of a computer. This is exactly what we are going to learn in this chapter - how to prepare a page like this with the help of a computer.

The Recuyell of the Historyes of Troye

William Caxton was the first Englishman who learned to use a printing press. The Recuyell of the Historyes of Troye was the first book he printed and this was the first ever book printed in English. It was produced in 1473 either in Bruges or Ghent in the European Continent. The book by Raoul Lefèvre is a recuyell (compilation) of stories about the Trojan War, originally written in French. Caxton himself translated the book.

British Library - Learning English; Timeline



Taj Mahal

Taj Mahal is considered as one of the seven wonders of the world. It is a work of art that excels time and history. The following lines are from Tagore's poem 'Shah Jahan'. In this poem Tagore speaks of the immortal creation, the Taj Mahal and the timeless appeal of that great monument.

You knew, Emperor of India, Shah Jahan,
That life, youth, wealth, renown
All float away down the stream of time.
Your only dream
Was to preserve forever your heart's pain.
The harsh thunder of imperial power
Would fade into sleep
Like a sunset's crimson splendour,
But it was your hope
That at least a single, eternally-heaved sigh
would stay
To grieve the sky.

Though emeralds, rubies, pearls are all
But as the glitter of a rainbow tricking out empty air
And must pass away, Yet still one solitary tear
Would hang on the cheek of time
In the form
Of this white and gleaming Taj Mahal

Fig. 1.1 Tagore's poem - Taj Mahal

Text entry

This page contains text and images. How can we input a text into the computer? Which hardware do we make use of for this purpose?

It is the keyboard which is familiar to us that we use for this. The manner in which the letters of the alaphabet are arranged in a keyboard is called ***Keyboard Layout***. Look at Fig.1.2 and examine the layout of an English keyboard.

Typewriter

Have you ever seen a machine like this? This is a typewriter which was used in earlier days for typing. As computer became popular these machines are no longer in use.

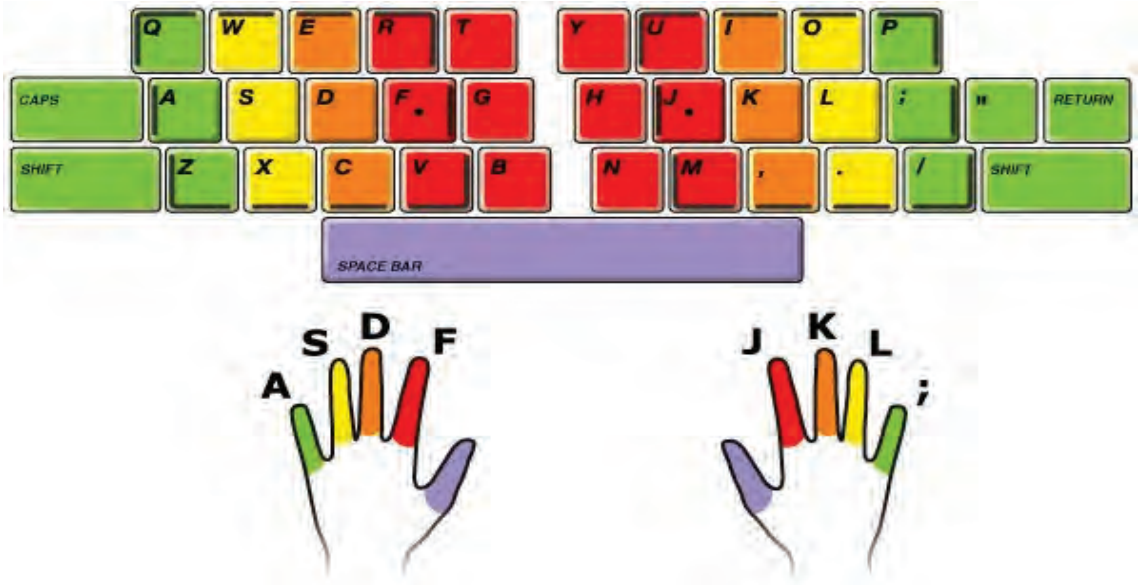


Fig.1.2 English keyboard layout

Have you noticed a mark on the keys 'F' and 'J' on the keyboard (see Fig. 1.2)? We must position our index finger of both the hands on these keys and then the other fingers on the subsequent keys accordingly. Now, move your fingers to the top and bottom rows to find out which keys can be typed using each finger. You might have to stretch your fingers to type some keys in the other rows.

You can see that you will have to use your index finger and little finger of both hands to type more keys arranged in all rows of the keyboard. Refer Fig. 1.2 and identify the keys to be typed using each finger.

Practice typing

To type quickly and accurately is a skill one has to acquire through practice. There are various software that help us to learn typing in a scientific way. ***KTouch***, ***Tux Typing***, etc. are examples of typing tutor software. Test your typing speed using the KTouch typing tutor installed in a computer. One must be able to type at least 40 words (200 characters) per minute without mistakes.

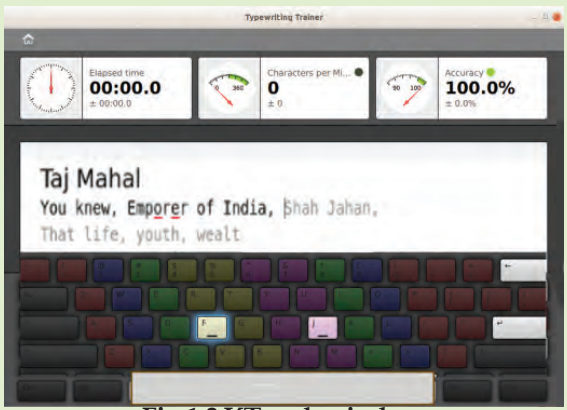


Fig.1.3 KTouch window

Information in the form of letters

We have learned to type letters, numbers and symbols using a keyboard. What are the occasions where we need to type letters, words and sentences?

- To draft letters
- To prepare articles
- To prepare documents
- .....

Here we want to type a poem in a computer. What should we do?

- Type the words of the poem. If mistakes occured during typing, we have to correct them.
- If some words are found inappropriate, we will have to replace them with some other words.
- If you have to replace a particular word or a name with another in an article containing 500 pages, what will you do?
- You may sometimes find sentences misplaced. How will you place them correctly?
- Headings and letters can be made attractive by giving colours.
- .....
- .....

Likewise there are a number of things that we have to do while using a computer. There are various options in our computer that help us to do these activities.

Word processor

There are numerous software which help us to prepare or process the text that we input into a computer in the way we wish to. See Table 1.1.

Little finger not too little!

How many letters are there which are to be typed using the right hand little finger? List them down. You can see that your little finger is not that little!

Text

The information given as input to a computer in the form of characters, is technically known as text. The characters like letters, numbers and symbols that we have already typed can also be called text. The major device used to input text is a keyboard.

Software	Software developed by
LibreOffice Writer	The Document Foundation
Microsoft Word	Microsoft Corporation
Appache OpenOffice Writer	Appache Software Foundation
Abi Word	Abi Source Project

Table. 1.1 Software and their developers

The software listed in the above table are generally called ***word processors***. Identify which of these software are there in your computer.

How can you open the software ***LibreOffice Writer*** installed in your computer?

.....

Activity 1.1 - Let's type a poem

Using the keyboard of your computer type the lines given below in ***LibreOffice Writer***.

Taj Mahal

Taj Mahal is considered as one of the seven wonders of the world. It is a work of art that excels time and history. The following lines are from Tagore's poem 'Shah Jahan'. In this poem Tagore speaks of the immortal creation, the Taj Mahal and the timeless appeal of that great monument.

You knew, Emperor of India, Shah Jahan,
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All float away down the stream of time.
Your only dream
Was to preserve forever your heart's pain.
The harsh thunder of imperial power
Would fade into sleep
Like a sunset's crimson splendour,
But it was your hope

That at least a single, eternally-heaved sigh would stay
To grieve the sky.

.....

.....

.....

.....

While typing these lines, leave a space after each word and when we complete a sentence, don't forget to put a full stop mark and a space.

We know that when the text reaches the end of a line, it automatically goes to the next line. To start a new paragraph, press the Enter key. If we want to go to next line - not as a new paragraph - without completing the previous line (it often happens when we type poems), hold the Shift key and press the Enter key.

Other input methods

There are many people around us who are not able to type using a keyboard. Similarly, there are some who cannot read the text displayed on the computer screen. Won't they have the need to use computers? How is it possible for them to use a computer? There are various ways to help such people to input text and read the matter displayed on the screen.

Text from books

The matter from a book can either be identified and read or converted to a text file in a computer using various software. Normally it is done in the following way :

- Take an image of the page using scanner and save it in the computer.
- The next step is to identify the characters in the image and change them to a text format, like the one we get while typing using a keyboard. There are software which can do this work very well. They are called OCR (Optical Character Recognition) software. LIOS available in our system is one such software. It works based on the OCR software like CUNEIFORM and TESSERACT.
- Software that converts handwritten words on the screen of our mobile phone, into text is very common these days. This is also an example of a software which identifies letter forms and converts them to text.

- Such a file which contains the data so converted can be used as an ordinary text file.

Text from speech

Identifying the words of our speech, converting them to text and feeding them into a computer (Speech to text) is another method.

Such text input is done as follows :

Input our voice into the computer using a microphone.

Convert the audio data that has been input in the computer into a text with the help of software. ***Sphynx, Julius, Simon,*** etc. are such speech recognition software for English. Find out if there are any such software for Malayalam.

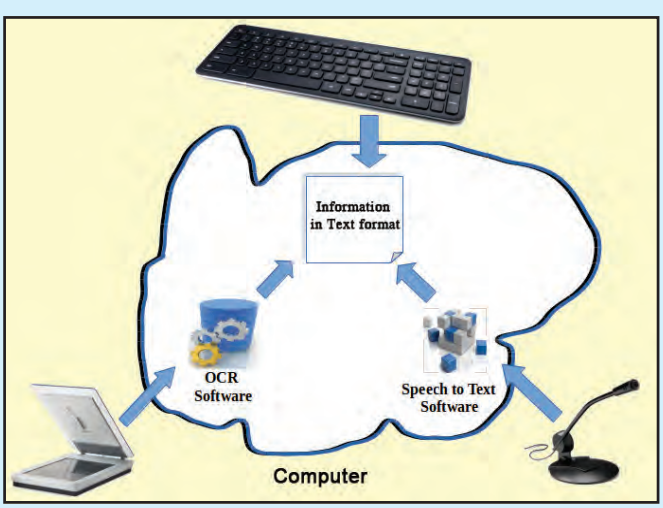


Fig.1.4 Different input methods

Text editing

It is natural to make mistakes while typing. How do we correct them? Should we do the correction while typing itself?

- Notice the vertical blinking black line in the software window that moves as we type. This is called the cursor. Cursor denotes the position of the text that we are typing. We can place the cursor anywhere in the text by clicking the mouse on that place (we can also use the arrow keys on the keyboard).

- It is better to make the correction after typing the whole matter. This will save time.

- If we find mistakes after typing the matter, what will we do? Place the cursor on the incorrect word. Use the Backspace key to delete the letter on the left of the cursor (before the cursor). To delete the letter on the right of the cursor (after the cursor) use the Delete key. Then, type the correct letter.
- A dictionary is included in the word processor software. Each word that we type in is verified with this dictionary. When a word which has not been included in the dictionary is typed, it will be underlined automatically. Right click the mouse on the underlined word. What do you see in the menu?
- Imagine that we have misspelt a word and we are not sure of the correct spelling. What will we do now?
  - Right click the mouse on the word.
  - .....
- How can you include a new word in the dictionary?
  - .....
- If the word is not in the dictionary and if we don't want to add it, what is to be done?
  - .....

While dealing with more than one window

Fig. 1.5 shows the ***Desktop*** of a computer (Operating system). The rectangular regions seen on the right hand bottom indicate different workspaces.

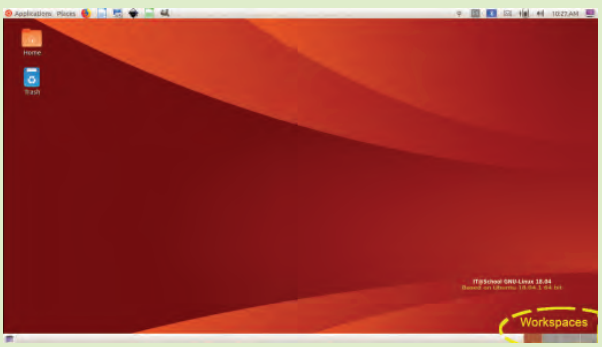


Fig.1.5 Desktop and Workspace

Let's open one window in the first workspace. Examine whether it is visible when we switch over to the second workspace. This is an efficient system when we have to deal simultaneously with more than one window. We can open different software in each workspace, if needed. We can also transfer or share data between windows that are opened.

QWERTY Keyboard

Examine a keyboard in detail. We can see that the letters are arranged in 3 rows. The first few letters towards the left in the first row are Q , W , E , R , T , Y . Therefore, this keyboard layout is called 'QWERTY Layout'.

Let's copy from one file to another

At present we are on the first workspace. Now, click on the second workspace and open the ***Home*** folder. Here you can see ***School_Resources*** folder in which you can see a file ***Taj*** in the Std VIII folder. You have observed the poem that is typed in, haven't you? You may copy the required lines and paste it in your page. How can we do it?

- Select the required lines: Place the cursor before the first letter of the text to be copied. Then, click and hold the left button of the mouse and move the pointer to the last letter. This process is called ***click and drag***.

- Copy the selected part : Click the shortcut tool  you see in the tool bar or click on ***Copy*** seen in the ***Edit*** menu.

- Now, let's go back to the window that was left open in the first workspace. Here, we can see the file that was opened earlier. Now, paste the copied text in the required position.

Did you notice ***Paste*** in the ***Edit*** menu when you opened it for copying? Now, how can you paste the copied text?

.....

.....

One can also see ***Cut*** in the ***Edit*** menu. What happens if you ***Cut*** and ***Paste*** instead of ***Copy*** and ***Paste***? What difference do you notice?

.....

.....

Activity 1.2 - Let's copy a file

From the given file ***Taj***, copy the second paragraph and paste it into your file. Write down in your notebook the process you followed.

Death by comma

Make sure to type the symbols in appropriate position. See what happens other wise.

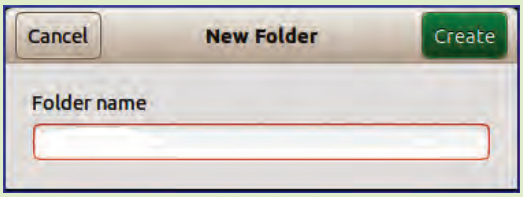
Let's save

Now, we have completed typing the poem. Let's store this before we proceed. We generally come across instances where we have to reuse the work done previously by us in a computer. For this, we have to store such files. This process is called 'saving'. How do we save this page?

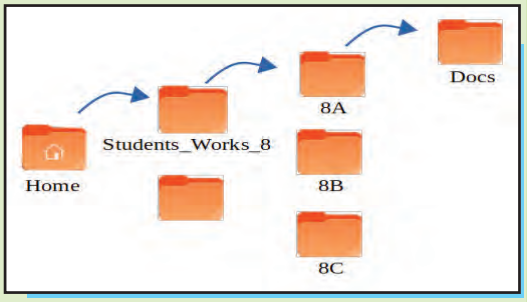
Folders and sub folders

Each and every work we do in a computer is saved as a file. Thus we will have a number of files on the various works we have done. It is important to arrange and save these files properly for future use. It can be done with the help of ***Folders***. We can create a folder as follows:

- Place the mouse pointer on the empty space where you want to create a folder.
- Right click the mouse.
- Then select ***New Folder***.
- Name the folder in the new window and click ***Create***.
- The folder is ready now.



In the same way one can also make sub folders (folders within a folder). This helps us to categorise and save different files on the same toFig. Refer Fig.1.6. Create a folder, Students_Works_8 in the ***Home*** folder. Inside this folder, create a folder by the name of your class and a folder named ***Docs***.



Now, let's try to save the file that we were working with. We can do this by clicking on the tool  in the ***LibreOffice Writer*** window. We can see our folders listed on the right side in the window that pops up (Refer Fig.1.6).

Then, place the mouse pointer on the required folder and ***double click*** on it. Likewise, by double

clicking on the folder, you can open your class folder and other sub folders.

To save a file:

First, decide where to save the file. Here, we have to save the file in the sub folder ***Docs*** in the class folder in ***Students_Works_8*** which is present in the ***Home*** folder.

If we want to save on the Desktop, refer to Fig.1.6 and identify the icon to be clicked. (Desktop is where we open all the software windows. It is not a good practice to save files on the ***Desktop***.)

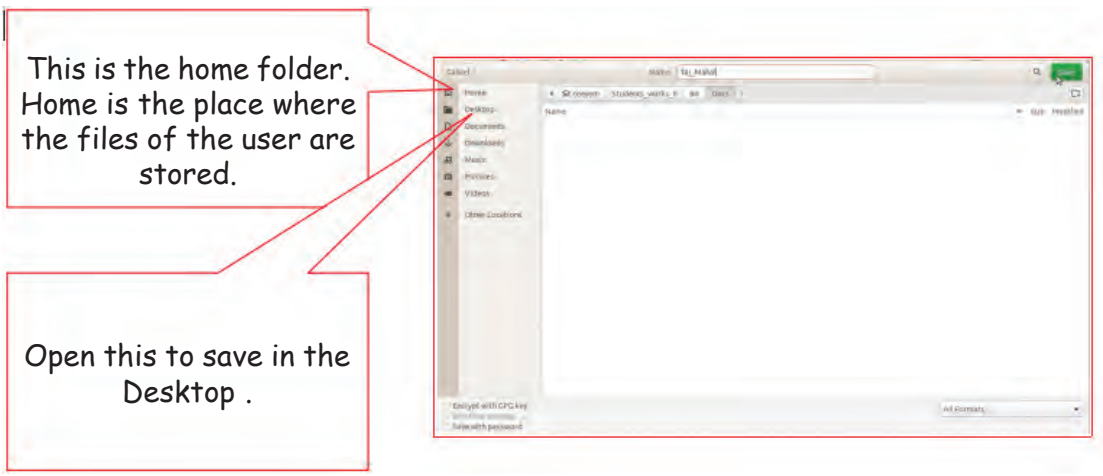


Fig. 1.6 Window to save file

What should be the name of the file to be saved? We save files to use them at a later time. So, when we name a file, it would be better to name it based on the content. It would be better to name the file using a single word. Shall we name this file ***Taj_Mahal***?

Now, click on the ***Save*** button.

Let's beautify the characters

We have added all the lines of the poem in our page. Does the computer understand that this is the heading?

For this, select the sentence. And from the ***Style box*** in the tool bar, choose ***Heading1***. Observe what changes happen to the heading.

.....

See how we can make the heading attractive?

Colour	:	Blue
Size	:	30
Style	:	Bold
Font	:	Free Sans

See some of the tools that we can make use of in *LibreOffice Writer*.

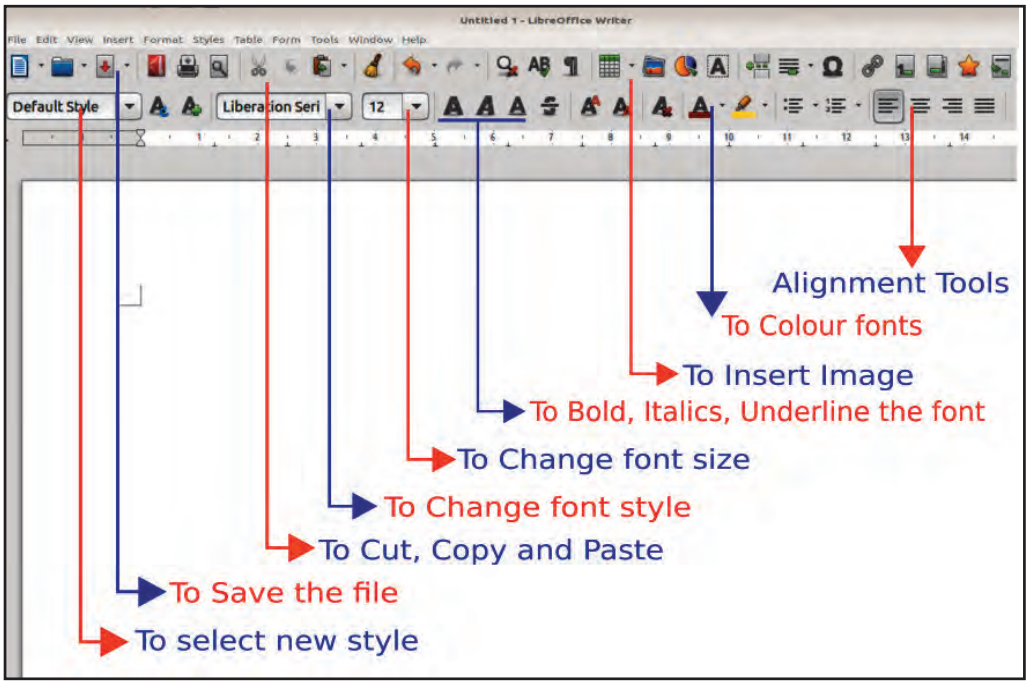


Fig.1.7 LibreOffice Writer window

Which tools are to be selected for the above activities? Fill in the table below.

Character	What/How much?	How to do?
Colour	Blue	
Size		
Style		
Font		

Table 1.2 Character formatting

Activity 1.3 - Paragraph formatting

We have already discussed how to split the input text into different paragraphs. ***Paragraph Formatting*** helps us to:

A few English fonts

Elegante
Liberation Serif
BABEL Unicode
Delphine
Bitstream Charter
URW Gothic L
Century Schoolbook I
Steve
DejaVu Sans
DejaVu Serif
Domestic Manners
Nimbus Roman No9 L
URW Chancery L

- adjust the spacing between lines.
- adjust the spacing before and after a paragraph.
- give borders
- give background colours, designs etc. and make our text attractive

Select the text in a paragraph. Then click on ***Paragraph*** in the ***Format*** menu.

The window that opens is given in the picture below. You can give the required measurement in the boxes you see here.

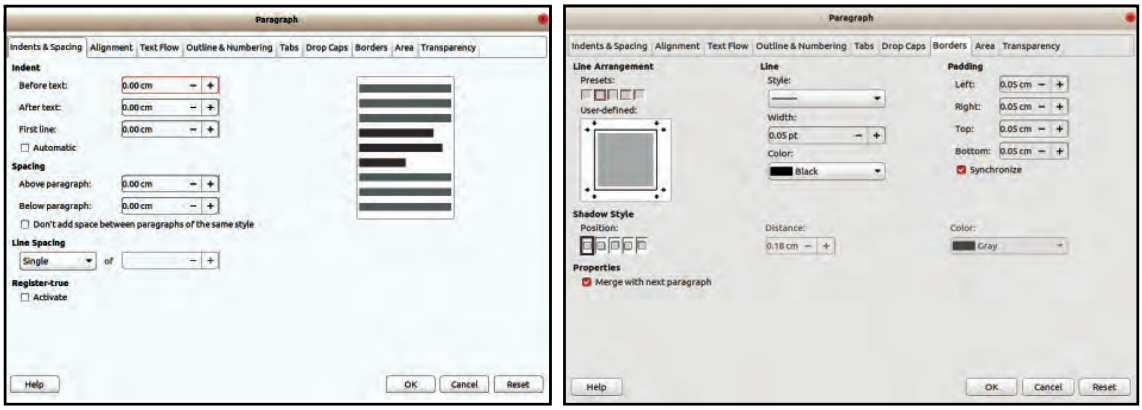


Fig.1.8 Paragraph formatting window

Refer to the picture and identify how to make the changes required and fill in the columns in the table overleaf.

Activity	Required change	How to make the change
Border of the first paragraph	Above & Below	Select the first paragraph. Select ***Borders*** in ***Format - Paragraph*** window. Click on the icon to give a border to the paragraph.
Colour of the border	Blue	
The spacing of the second paragraph from the left margin. This is called indent.		

Spacing above each paragraph		
Spacing below each paragraph		
Spacing between lines	Single	

Table 1.3 Paragraph formatting

Inserting pictures

Certain pictures are stored in the ***Images*** folder in the ***School_Resources*** folder in the ***Home*** of your computer. Identify the pictures we need to use in our page. These pictures can be included. Identify the tool used to insert images from Fig.1.7. Click on this tool and find out what happens.

In the ***Image*** folder of ***School_Resources***, there is a picture named ***TajAndTears.jpg***. How can we include this picture in our page? Note down the steps.

- .....
- .....
- .....
- Select ***TajAndTears.jpg*** and click ***Open***.

Save again

The file that we are working with was saved earlier. But we have made some changes in this file after saving it. Will these changes automatically be saved in the previous file?

No, we have to save it again. But now what happens when the tool/icon is clicked? Can we explain why the window that asks where to save the file and with what name, doesn't appear?

If you have to save the same file within a different name, what will you do?

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

Arrange the text in your file into paragraphs as in Table 1.3. Include pictures and make the characters attractive. Do not forget to save your file.

Using only the keyboard...

Some tasks can be done with the keyboard alone. We had earlier done the Copy-Paste activity using the Edit menu. Let's examine this once again.

- Select the text to be copied.
- Press and hold the Ctrl key and then press C to copy the text.
- Press and hold the Ctrl key and then press V to paste it.

Certain shortcuts are listed below. Complete the table below.

Activity	Shortcut	Activity	Shortcut
To copy	Ctrl + C	To save	
To cut		To find a word in the text	
To paste the matter that has been cut or copied		To make the selected text bold.	

Table 1.4 Keyboard shortcuts

Out from the computer

The data taken out from a computer is called 'output'. What would be the output of the text that we have processed?

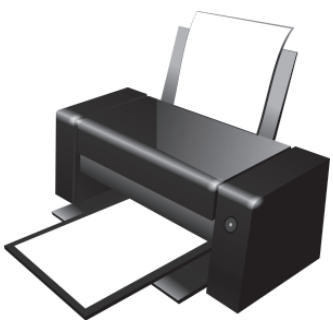


Fig. 1.9 Printer

- While working with the text, we can see the display on the monitor. Therefore, the monitor is an output device.
- If we print this file, it is also an output. So, printer is a device to output our data.
- The file that we have saved itself is an output. It can

be stored in devices like CD (Compact Disc), or pendrive, or it can be sent as an email to another person.

Activity 1.4 - Machine reading

Open the file that we have saved earlier. Copy the text in it. Now, open the ***Gespeaker*** Software in your computer (***Applications → Sound and Video → Gespeaker***). Paste the copied text in this window and play it (Refer to Fig.1.10)

What form of output is received from the text now?

.....

(Don't forget to connect the speakers.)

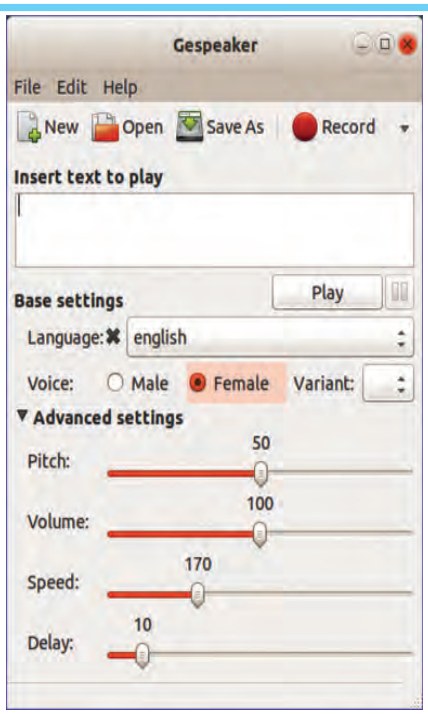


Fig. 1.10 GSpeaker Window

Let's Evaluate

1. Some computer accessories are listed below. Which of them are used for text input?

   a) Keyboard

   b) Speaker

   c) Scanner

   d) Camera

2. Which of the following is true about the question: What are workspaces used for?

   a) To copy and paste a content from one file to another.

   b) To cut and paste a text to another file.

   c) To operate more than one window simultaneously.

   d) To open various software at the same time.

3. When should we save a file we are working with?

a) After all the work with the file is over and when we are about to close it.

b) As soon as we open the software and start our work and then frequently save while working on it.

Extended activities

1. Look at the nursery rhyme given below:

There was a tree
The cutest little tree you ever did see
The tree was on the valley
And green grass grew
And green grass grew
And green grass grew around.
There was a branch
The branch was on the tree
The cutest little tree you ever did see
The tree was on the valley
And green grass grew
And green grass grew
And green grass grew around.

Can you guess what the next line of the song would be? Complete the poem by typing necessary lines and copy-paste the lines that are repeated. Replace the word 'green' with the word 'blue' in the text using 'Find and Replace'.

2. To copy a portion of a text from the word processor, we usually select the text by dragging the mouse from the beginning to the end of the text. There are some other ways also to select a text. Place the cursor on the text and do the activities given below and complete the table.

Activity	Result
One mouse click	No change in the position of the cursor.
Double click the mouse	
Click the mouse continuously for three times	

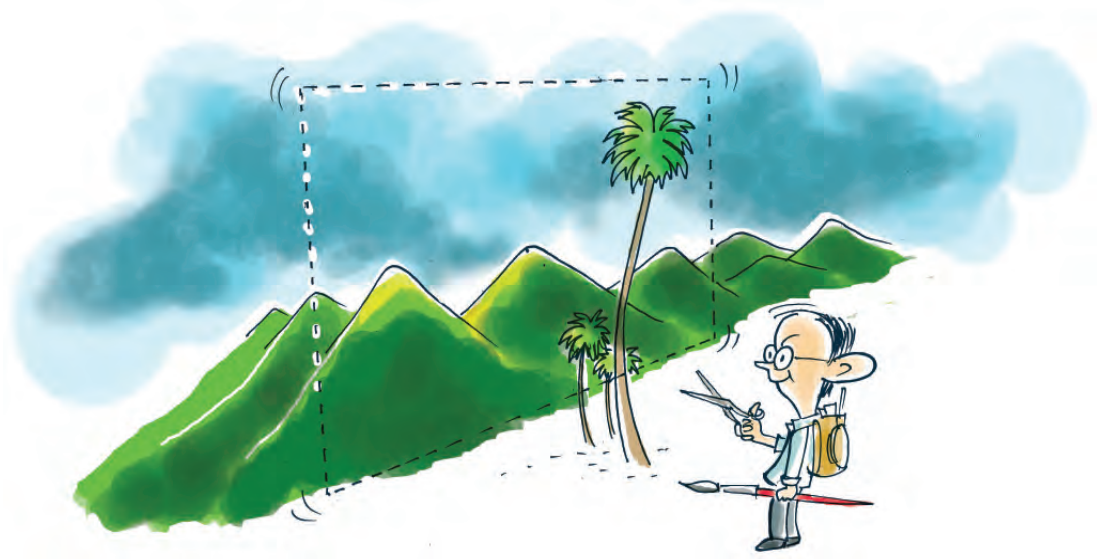
3. There are different ways to copy a portion of the text in a page and paste it elsewhere. You can use whichever method you are familiar with.

   Now, select the text to be copied and click the right button of the mouse on it. What are the steps to be followed? Write them down.

   .....

   .....

   .....



2 The Wonderland of Pictures

Hari happened to see an old family photo of his, while he was searching for a book last day. The photo attracted him very much. He desired to crop his childhood photo from it.

Don't such situations occur at times? Have you ever felt the need to crop a photo of yours and resize it with the help of a computer? This unit will help you to solve such issues.

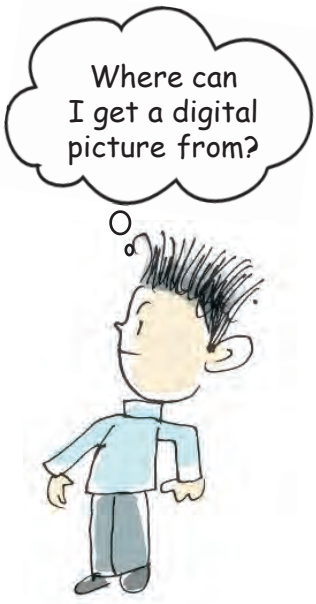
There is a project 'Earth and Man' in the unit 'In Search of Earth Secrets' in your Social Science textbook. You have to collect pictures, crop the relevant parts and resize some of them and include them while preparing the project in the computer. How can you collect the required pictures? There are several methods by which you can do it.

Activity 2.1 - Let's get a picture

- Capture a photo using a digital camera and copy it in the computer.
- Scan a picture from a book or a newspaper and save it in your computer.
- Draw the picture in the computer.

Discuss and prepare a write-up on the various methods of preparing digital pictures.

Certain pictures that can be used in projects are included in the 'Image_editing' folder in 'School_Resources' for Std. VIII. Open the folder and double click on one of the pictures. Did the picture open? It must have opened in ***Image Viewer*** software.



What must be done to view the next picture in this folder? Should we have to close the current picture for that? Check by pressing the right arrow key in the keyboard. Is there any other option for this? Find out.

- We can zoom the picture.
- Make it rotate (Place the mouse pointer at the bottom of image).
- .....

Watch the picture (Fig.2.1) opened in the Image Viwer. Have you noticed the Properties window in the picture? The size (measurement) of the picture is given. It shows 1628 x 1083 pixels. (If the Properties window doesn't appear, click ☰ in the ***titlebar*** and tick the ***Side pane***). Often it is essential to have knowledge about the measurements (dimensions) while handling pictures in computer.

Fig. 2.1 - A picture opened in Image Viewer

Imagine that you have to cut the portion of the ploughed soil, bullocks and the plough man from the picture, to use it in the project work. We have to reduce the size of the picture too. How can we do these activities? There are a good number of software available in our computer to perform the above mentioned tasks.

GIMP (GNU Image Manipulation Program**)**

GIMP is a graphic editor software used for editing digital pictures and photographs. This free software was released in 1996. In the beginning it was known as 'General Image Manipulation Program'. Spencer Kimball and Peter Mattis, two research scholars of California University, started GIMP as a research project. It became a part of GNU Project in 1997 and was renamed as 'GNU Image Manipulation Program'.

- GIMP
- Inkscape
- XPaint
- MyPaint
- Pencil

These are some of such software. Open each of them and see how it works.

Let's perform the above said activities using ***GIMP***. First, open an image in ***GIMP***.

Activity 2.2 - Let's open a picture in GIMP

Open ***GIMP*** and click '***Open***' in ***File*** menu. Pictures can also be opened in ***GIMP*** by right clicking on the picture and selecting GNU Image Manipulation Program from '***Open with other Application***'.

Now, let's cut the parts of the picture we need to use in the project. If we edit and save the picture opened in ***GIMP***, the original picture will be lost. To avoid this let's make a duplicate of the picture and do the editing on it.

Activity 2.3 - Let's prepare a duplicate image

Click on '***Duplicate***' in the Image menu. Press and hold 'Ctrl' and then press 'D' on the keyboard. How can we identify the original picture from the duplicate one? 'Untitled' will be displayed in the title bar of the duplicate image. The changes made in the duplicate image will not affect the original image.

Activity 2.4 - Let's edit an image

Let's cut the part of the image we need. How can we cut an image using the ***Crop*** Tool  ?

- Select the ***Crop*** Tool.
- Drag the mouse and mark the part we need to cut.
- Press the ***ENTER*** key in the keyboard.

Did you get the part of the picture you needed?

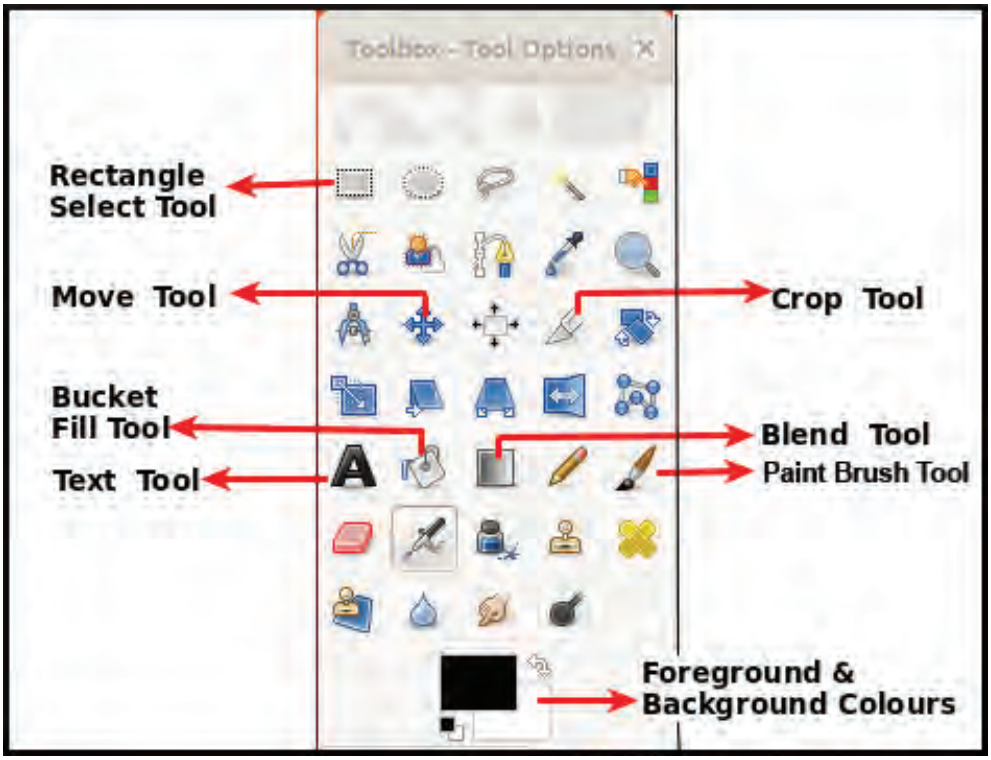


Fig. 2.2 - GIMP toolbox

Activity 2.5 - Let's resize an image

Facilities for resizing an image are available in ***GIMP***. To resize an image:

- Select ***Scale Image*** from ***Image*** menu.
- Enter the ***width*** and ***height*** in the columns provided.

The height will be automatically adjusted according to the width. (There is a Link which links the height and the width.) Then click on the Scale button. The size will be changed. How can we fix the width and the height as we like? Click on the '***Link***'. It becomes '***Unlinked***'. Now, you can arrange the width and the height as you like.

Now, let's save the image we have edited. Where can it be saved? You have already made a folder in your class folder in 'Home', haven't you? Open it and make another folder named '***Images***' in it. Save this image in it. Don't forget to name the file.

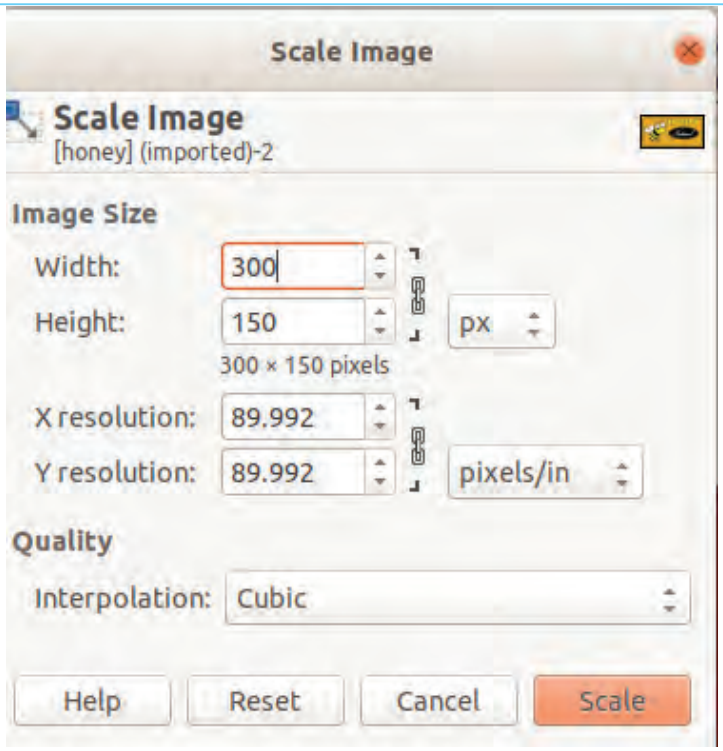


Fig. 2.3 - Scale Image window

Activity 2.6 - Let's identify file formats

Let's analyse the files saved in the folder. You can see the extension .xcf after the file names you have given. This is to indicate the type of the file. .xcf is the indication of a file created in ***GIMP***.

Activity 2.7 - Let's export an image created in GIMP

Open an image created in ***GIMP***. Does it open in Image Viewer like the other images? It's opened in ***GIMP*** itself. Why is it so? It's only a project file. It can be used only when it is converted into an image format. 'Export' is used to change a file from one format to another and save it. How can we export a file?

- Click '***Export As***' from ***File*** Menu.
- Choose the location to save the file.
- Name the file.
- Click on '***Select File Type***' and choose the file type, i.e., PNG image, JPEG image, TIFF image etc. Now, you can see file extension after the file name.

- Click on the '*Export*' button.

Analyse different types of files in your computer and identify their file formats. There are different files in the folder 'Examples' in 'School_Resources' folder for Std. VIII. Don't you see file formats in each of these files? Open each of them and identify the file types.

Identify the file formats given below and complete the table. (Table 2.1)

File formats: jpg, mp3, png, wav, mp4, ods, odt, mpg, avi

File	Format
Image	
Sound	
Video	
Spreadsheet	
Word processor	

Table 2.1 : File and format

You have already collected the pictures to be included in the project report. Now, let's prepare a cover page for your project report. (Fig.2.4)

Project file

It may not be possible for us to complete all the editing of a picture at a stretch using the GIMP software. We will have to open the file many times and make necessary changes. Hence we keep them as Project File. We will export them as picture, only when all the editing works on it are finished. When we edit videos using video editing software, we keep them as Project Files. We can continue editing only when the file is saved as Project File.

Wilber

Wilber is the official mascot of GIMP. This was created by Tuomas Kuosmanen from Finland.

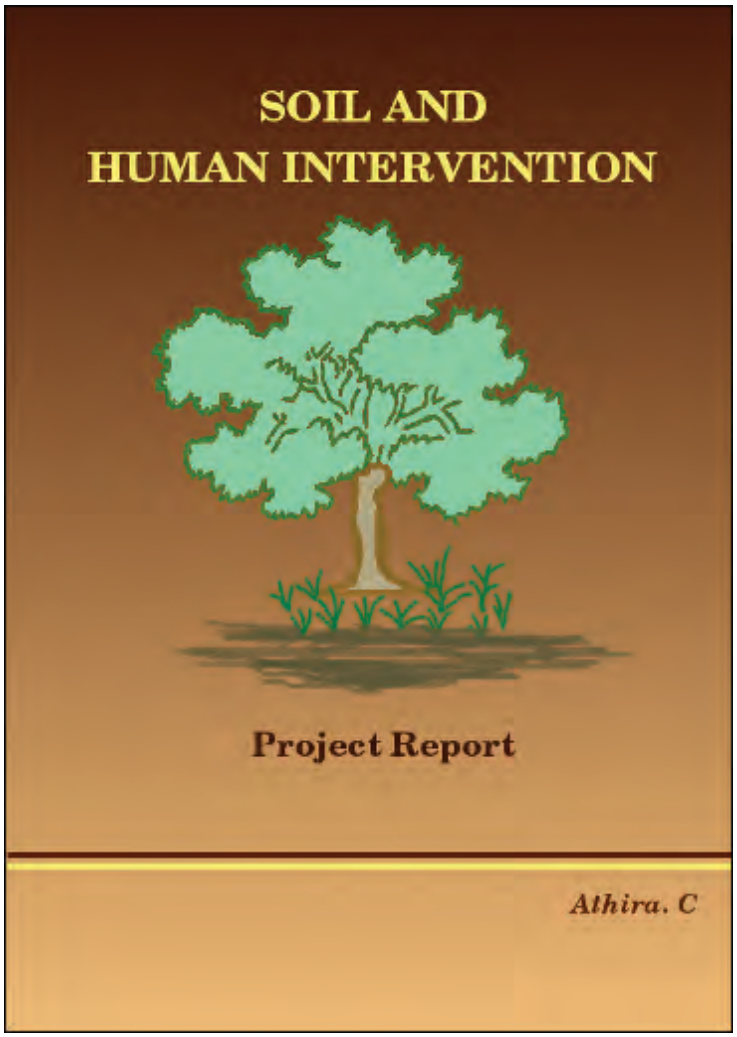


Fig. 2.4 Cover page

Activity 2.8 - Let's prepare a cover page

Open ***GIMP*** first and make a new canvas. How can we make a new canvas in ***GIMP***? Do the following activities.

- Click on the '***New***' button in the '***File***' menu.
- You will get a new window. Here you can select the template you like. You can also set the canvas by typing the required width and height. (We prepared the project report in A4 format. Therefore you can select A4 from the templates given to prepare the cover page).
- Click on the ***OK*** button.

Now, you have got a new canvas. It's time to give background colour to it. As shown in the picture (Fig.2.4) you can mix colours using ***Blend*** Tool  to make the background more attractive and colourful.

Give colour to background

- Click on '***Foreground & background colors***' and select suitable colours from it.
- Select ***Blend*** Tool.
- Click on the canvas and drag.

You have got the background coloured. Now, click on different points in the canvas and drag. What changes can you see? You can see the background coloured in different ways.

If you want to give a single colour to the background, you can use '***Bucket Fill***' tool  .

Add a text

Text Tool  can be used to add text. Click on the '***Text*** tool' button. Select a suitable font, font size and font colour from the '***Tool Options***' (Fig.2.5) menu.

Click on the canvas and type the text you need to add. '***Move*** Tool'  can be used to arrange the typed text in its original position. Click on the '***Move*** Tool' button and then on the typed text. Then, drag the mouse pointer. Did you feel any difficulty to re-arrange the text? You can re-arrange the text when the mouse pointer touches the text. A mark  appears on it. If you click and drag the text, it can be moved.Type the text and arrange it in proper positions.

Draw a picture

Shall we draw a picture and add it in the cover page (Fig.2.4) '***Paintbrush*** Tool'  can be used for this

Peter Mattis

Spencer Kimball

GIMP was created by Peter Mattis and Spencer Kimball, the American computer programmers, as a part of their research project, when they were students of the University of California.

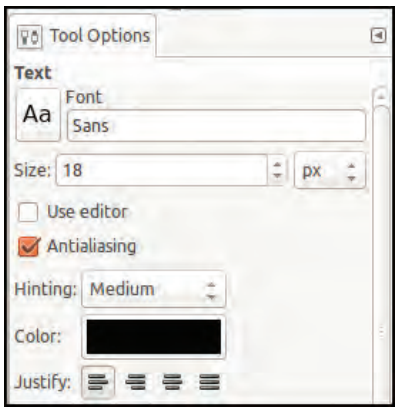


Fig. 2.5 Tool Options window

purpose. Select the suitable colour from '***Foreground & background colors***' . Click on the 'Tool Options' button and adjust the size of the brush you need. Now, draw and add a picture and make the cover page more beautiful.

Try to draw a straight line using the '***Brush*** Tool'. Don't you feel a little difficulty to do this? Press the ***Shift*** key in the keyboard and try the '***Brush*** Tool' again. Is it easy now?

Activity 2.9 - Let's make the heading more attractive

Attractive titles can be prepared with the help of 'Logo' in ***GIMP***. Let's see how a title can be prepared.

- Click on ***File*** → ***Create*** → ***Logos***
- Select the Logos type you like.
- Type the title in the window and click on the ***OK*** button (Fig.2.6).

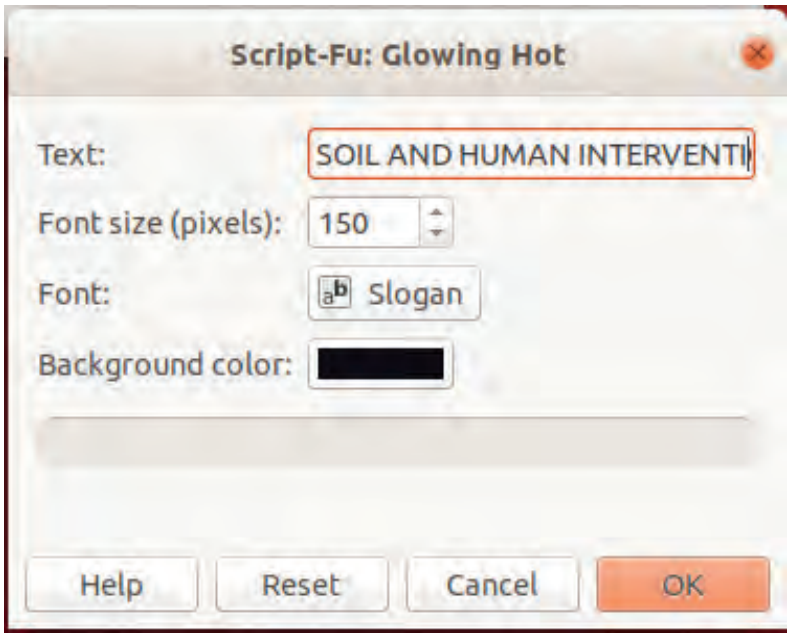
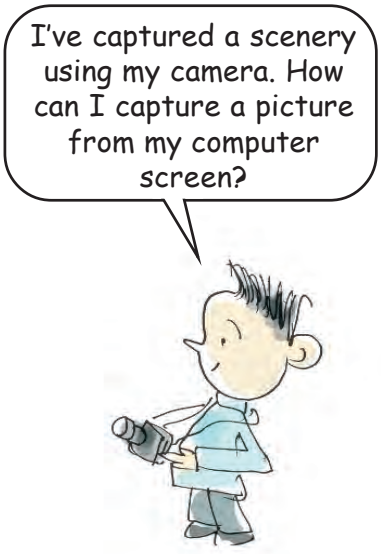


Fig. 2.6 - Logo window

You have prepared an attractive title. Export this title and convert it into a picture. You will learn how to use logo in ***GIMP***, in the higher classes.

Activity 2.10 - Let's prepare a screenshot

Screenshot facility is used to save everything you see on the screen, as a picture. How can we do this?



- Display on the screen the portions we need to screenshot.
- Press the Print screen key (***PrtSc***) on the keyboard.

Didn't you get the screenshot? Now, save it. When you are making a screenshot, you get the picture of everything on the screen. If you want to get the screenshot of a window opened exclusively, press Alt key and PrtSc key together.

There are many other ways to prepare screenshots. We can make screenshots using ***GIMP*** software also. Using ***GIMP***, it is easy to select a particular part of the screen and take the screenshot.

- Open ***GIMP*** and select ***screenshot*** from '***Create***' in '***File***' menu.
- Give necessary details in the window opened (Fig.2.7). (Whether to include the full screen or a particular portion, a window or a particular portion of a window, whether mouse pointer to be included, time of capturing etc).
- Click on '***Snap***' button.
- If you have to capture a particular portion of the screen, click and drag to mark the part on the screen.
- Save the screenshot.

Screenshots can also be created using 'Screenshot', 'Spectacle', etc available in the Accessories menu in the computer. Take screenshots using these facilities and save them.

Photo editing in mobile phones

Photo editing can be done in mobile phones also. Different facilities to resize a photo, crop it and add text to it are available in smart phones. Photo editing softwares for smart phones are easily available today.

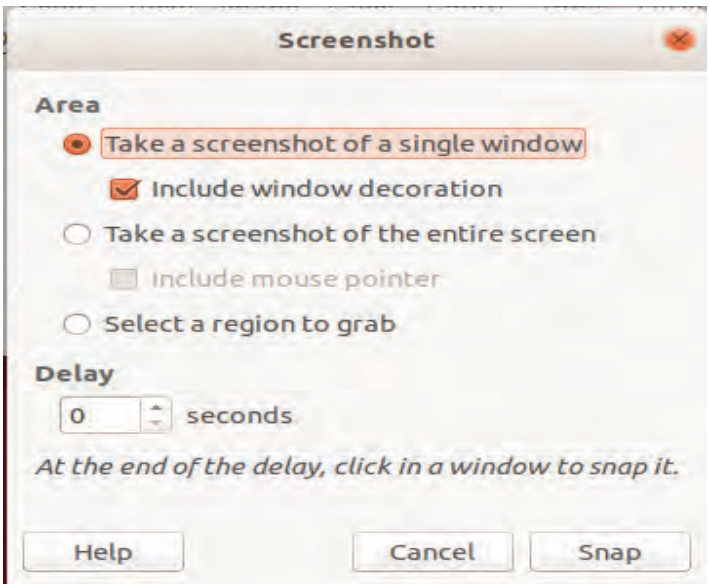


Fig. 2.7 - Screenshot window

Let's Evaluate

1. Which shortcut method is suitable for making the duplicate of a picture opened in ***GIMP***?

   a) Ctrl +A

   b) Ctrl + B

   c) Ctrl + C

   d) Ctrl + D

2. Which tool is used in ***GIMP*** to cut a part of a picture?

   a) Clone Tool

   b) Move Tool

   c) Crop Tool

   d) Brush Tool

3. Match the following

File	File Format
Picture file	odp
Movie file	mp3
Spreadsheet file	jpg
Presentation file	mp4
Audio file	odt
Word Processor file	ods

Extended activities

1. Prepare a logo 'Keep Your Footwear Outside' in ***GIMP*** to paste it outside the school computer lab and export it.
2. Download a picture suitable for making a new year greeting card from the internet, with the help of your teacher. Open the picture in ***GIMP*** and crop the part you need. Resize and export it.
3. Open the 'Logo' window in ***GIMP***. Take its screenshot using Spactacle and save it.

3 Can You Type 'അമ്മ' in the Computer?

'മണിനാദം പോൽ മധുരം നമ്മുടെ
മലനാട്ടിൻ മൊഴി മലയാളം"

These lines are composed by the famous poet Sri O N V Kurup about the beauty of our language. Can we type this in Malayalam and store it in our computer? Some of us write stories or poems in Malayalam. How is it possible to save them in computers?

This is an extract from the Malayalam dictionary 'Shabdatharavaly' (ശബ്ദതാരാവലി) which was printed using metallic type foundry. In olden days, printing books in Malayalam was extremely difficult. There are over 500 different combinations of letters and symbols in Malayalam. Each of them needed separate moulds. Arranging these moulds to form the text was also not an easy task. Imagine the difficulty if a particular letter cluster appears many times in a page! For example 'ക്ക'. Think of the trouble of including the word 'ധൃഷ്ടദ്യുമ്നൻ' many times in a page! The task is not that easy...!

Let's type in Malayalam

Normally, when we type using a keyboard, we find English letters on the computer. How can we change the keyboard layout to type Malayalam letters? Refer to Fig.3.1.

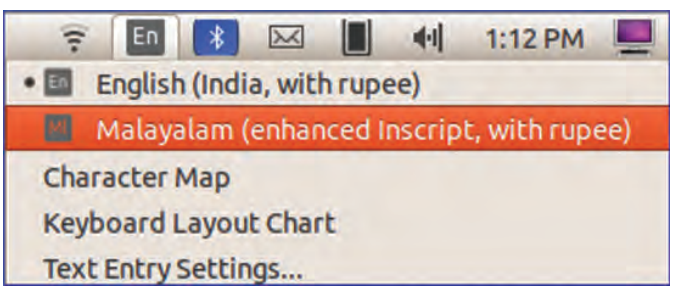


Fig. 3.1 Dropdown menu of En icon

- Click on the icon En that is seen on the top right position on the Desktop.
- Choose ***Malayalam*** from the drop down menu.

Now, the keyboard is ready to input Malayalam letters.

Open the word processor and try to type the poem given above. Can you do it easily and accurately? In order to type fast, we should have a knowledge about the Malayalam keyboard layout.

Inscript key layout

The order in which keys are arranged in a keyboard is called keyboard layout. This is based on the nature of the language and the flexibility of our fingers. Fig.3.2 shows the ***Inscript Key*** layout developed by C-DAC, a central government agency for typing various Indian languages.

Refer to the picture and observe the layout. What are your findings?

The letters in Malayalam can broadly be classified into two - ***Vowels*** (സ്വരാക്ഷരങ്ങൾ) and ***Consonants*** (വ്യഞ്ജനാക്ഷരങ്ങൾ).

Fig. 3.2 Keyboard layout

The keys are arranged in such a manner that all the vowels (except 'ള') are typed using the left hand.

Most of the consonants are typed using the right hand.

Now, position your fingers correctly, as explained in the first unit and complete the following table.

Finger	Normally		
	When Shift key is pressed		
Right hand, Middle finger	,	ക	ഗ
	ഷ	ഖ	ഘ
Right hand, Ring finger			
Right hand, Little finger			
Right hand, Little finger extended			
Right hand, Index finger	സ	ര	ഹ
	ശ	റ	ങ

Right hand, Index finger extended			
Left hand, Middle finger			
Left hand, Index finger			
Left hand, Index finger extended			
Left hand, Ring finger			
Left hand, Little finger			
Left hand, Litter finger extended			
Thumb	Space bar		

Table 3.1 Fingering

Study the table given below and understand how combinations are made to form different letters.

ക ാ → കാ	ക ് ക → ക്ക
ത ൊ → തൊ	ക ് ത → ക്ത
സ ോ → സോ	ത ് യ → ത്യ
ന ൈ → നൈ	മ ് പ → മ്പ

Table 3.2 Combination of letters and symbols

Desktop Dictionary

Sometimes we find it difficult to understand the meaning of some words. Usually in such circumstances, we seek the help of a dictionary.

A dictionary named ***Theeram*** is installed in your computer which gives meanings and usages of words. It gives the English meaning of a Malayalam word or the Malayalam meaning of an English word.

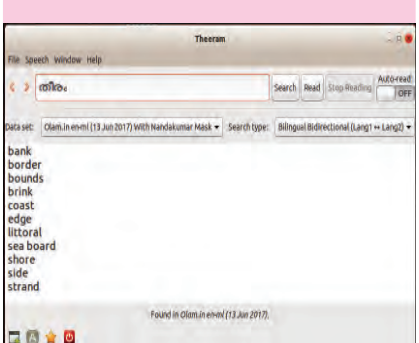


Fig. 3.3 Theeram in Dictionary

Activity 3.1 Lets type the words

Type the words give below. Make sure the keyboard layout is Malayalam.

- കര, തട, കട, പത, തകര, പരത
- കരി, ചിരുത, പടരുക, ചേരുക, ചോതി
- സിതാര, മികവ്, കവല, കടുവ, നവനീതം
- അയല, ആമ, ഇല, ഈട്, ഉടമ, ഊമ, ഒരുമ, ഓടുക
- ഔത, കിരീടം, പുതുമ, പൂവ്, കൊടി, കോഴി, തൈമാവ്
- കാക്ക, സ്വന്തം, മൂക്കുത്തി, ചന്ദ്രകാന്തം, സൗന്ദര്യം
- പരമ്പര, പങ്കായം, സഞ്ചാരി, പരിശ്രമം, ആഹ്ലാദം
- ദുഃഖം, ഋതു, തൃഷ്ണ, പാറ്റ, എന്റെ, തന്റേടം

Don't forget to save the file. In which language are you going to name the file?

Let's now type some more words. For example അവൻ, മൺപാത്രം etc.

There are special keys to type ***chillaksharangal***. See the table given below :

ചില്ലക്ഷരങ്ങൾ	
ർ	| \ ർ
ൻ	V ൻ ന
ൾ	* ൾ 8
ൺ	X ൺ
ൽ	> ൽ .

Try to type more words :

അവൻ, അവർ, അവൾ, മൺപാത, വിൽപത്രം

To type സഹ്ല? How is it when you type സോഫ്റ്റ്വെയർ?

These are not Malayalam words. The letters should not be combined as the combination letters in Malayalam. To make these letters stand apart, we make use of another key  .

Thus,

സഹ്  ല → സഹ്ല

സോഫ്റ്റ്  വെയർ → സോഫ്റ്റ്വെയർ

The ***KTouch*** software that we used as English typing tutor can be used for learning Malayalam typing too. Open this software after changing the keyboard layout to Malayalam. We get the lessons to practise Malayalam typing. Seek the help of your teacher to learn how new lessons can be included for practice in this software.

Other Desktop Dictionaries

There are two other dictionaries namely ***Golden Dict*** and ***Artha*** which helps us to find the meanings & usages of English words.

Golden Dict is a multilingual dictionary. It gives us the English, Malayalam, Hindi and Urdu meaning of a word.

Activity 3.2 Let's type a poem

Type this poem in word processor. Give the heading 'കുഞ്ഞനുറുമ്പും കുഴിയാനയും'. Also insert a picture. Select the lines of the poem and change the font to 'Raghu Malayalam'.

We have already learnt how to make changes in a text according to our requirement. Set the page as given here.

ASCII and Unicode

The letters and symbols that we input to a computer have to be converted to a format that can be understood by the computer. This process is called 'encoding'. Initially, this encoding could be done only for 256 characters including the letters and some symbols.

This encoding is called ASCII (American Standard Code for Information Interchange).

Under such circumstances it was not possible to use the letters of other languages like Malayalam. To overcome this difficulty, a solution was to convert English letters to Malayalam using a software. ISM developed by C-DAC is one such software. Though the font is visible as Malayalam letters, it is being encoded as English letters. This was a drawback of this software. It was difficult to search and find out a certain word from the input data.

As technology advanced, this problem was also solved. Unicode technique, which helps us to encode more characters, came into use from 1996. Thus Malayalam also found its place in the encoding technique. The letters and fonts of Malayalam could thus directly be input into the computer. This was a drastic change for Non-English languages.

Thus we can:

- Type Malayalam words in Malayalam font itself.
- Malayalam words can be used in the internet. Browse the web using Malayalam words.
- Include information in data banks like Aadhar, Voters list etc. in Malayalam. You can search and find names and other details from these data banks.
- If relevant software and font is available, the files created in one computer can be opened and read on other computers, tablet PCs or even on mobile phones.
- Texts can be read using machine. A text written in one language can be translated to another language using software.

Reading text using machine

If we input a text in a language other than English, we can hear it with the help of a software, provided the speaker is connected. How can we do this? Copy the poem typed earlier and paste it in Gespeaker software. Adjust the speed and pitch of the output and click the 'play' button. One can listen to how the software reads the text. Those who have visual problems and are not able to read from the monitor will surely find this software a blessing.

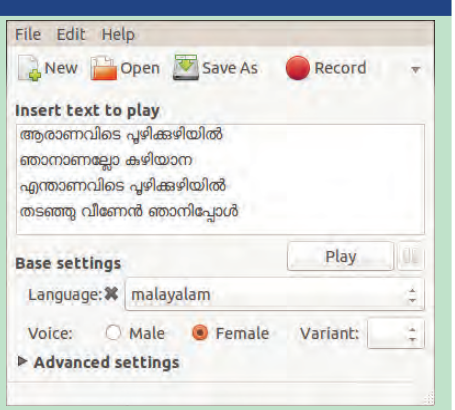


Fig. 3.4 Text in Gespeaker window

Malayalam fonts

The style of writing of each person is different from that of another. The style of letters used in a computer is called font. For example, some common fonts of English alphabet are ***Liberation Serif, Liberation Sans*** etc. Similarly there are various fonts in Malayalam too. Find out the different Malayalam fonts in your computer and complete the table.

Malayalam fonts	
Rachana	Raghu Malayalam
Chilanka	Aruna
Meera	

Table 3.3 Different Malayalam fonts

Malayalam character styles

മറ്റുള്ള ഭാഷകൾ കേവലം ധാത്രിമാർ
മർത്യനു പെറ്റമ്മ തൻഭാഷ താൻ - രചന

മറ്റുള്ള ഭാഷകൾ കേവലം ധാത്രിമാർ
മർത്യനു പെറ്റമ്മ തൻഭാഷ താൻ - ചിലങ്ക

മറ്റുള്ള ഭാഷകൾ കേവലം ധാത്രിമാർ
മർത്യനു പെറ്റമ്മ തൻഭാഷ താൻ - രഘു മലയാളം

മറ്റുള്ള ഭാഷകൾ കേവലം ധാത്രിമാർ
മർത്യനു പെറ്റമ്മ തൻഭാഷ താൻ - അരുണ

മറ്റുള്ള ഭാഷകൾ കേവലം ധാത്രിമാർ
മർത്യനു പെറ്റമ്മ തൻഭാഷ താൻ - സുറുമ

Change the font of the text that we have typed earlier. What differences do you notice when these changes are made?

Activity 3.3 Let's add Hindi language

Input of other languages

After switching over to Malayalam typing, Malayalam found its place in Unicode technique, other Indian languages also found their place in it. Now, let's examine how we can type in Hindi.

We must make some arrangements in our computer to type Hindi in it. Refer to Fig.3.5.

The input languages available in our present system are seen in Input Sources (Fig.3.6). Practice the following steps to add a new language, for example Hindi.

- Click on ***Text Entry Settings*** inthe ***Desktop panel.***

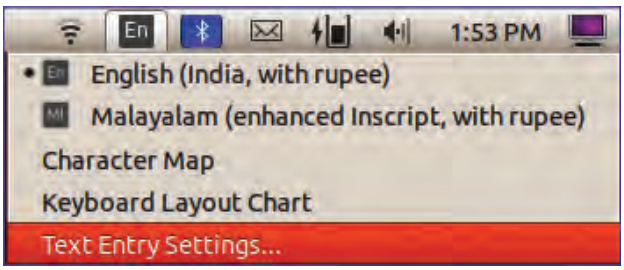


Fig. 3.5 Text entry settimg window - Step 1

- When you click the + icon in the Region & language window, ***Add Input Source*** window will appear. Now click on the more icon, scroll down and select the ***Other*** .

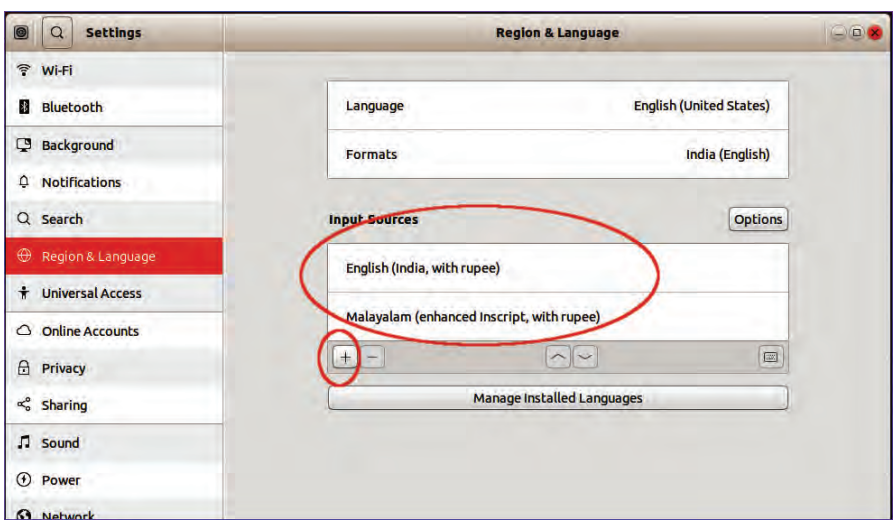


Fig. 3.6 Text entry settimg window - Step 2

- From the list of languages select ***Indian*** and click ***Add***.

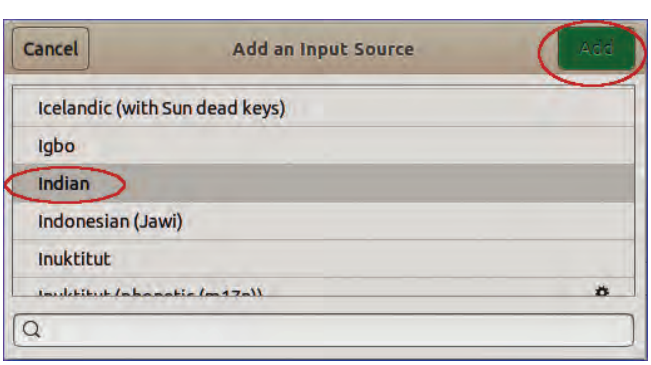


Fig. 3.7 Text entry settimg window - Step 3

Activity 3.4 Let's type Hindi letters

Change the keyboard layout to Hindi. Try to type your name on the word processor. Are the keys the same

as the Malayalam letters. Prepare a similar table as Table 3.1 on the use of fingers in Hindi layout.

You need some extra symbols in Hindi than in Malayalam. Don't forget to include these in the table.

The text given below is a portion from your Hindi Reader. Type these lines using the font ***Gargi***.

खुश्बू से और रंगों से
एक फूल बोला - मैं इधर हूँ ।
गानों से और लहरियों से
चिडिया बोलि - मैं इधर हूँ ।

Let's Evaluate

1. Which among the following keyboard layout helps us to type Indian languages including Malayalam?

   a) Inscript b) ISM

   c) C-DAC d) Rachana

2. The following table was prepared by Arun. He wanted to categorise the fonts used to type Malayalam & Hindi. He made certain mistakes while preparing the table. Correct them.

Malayalam	**Hindi**
Gargi	Anjali
Meera	Samanata
Kalimathi	Suruma

3. We have learnt how to add a new language to our keyboard layout. Suppose we no longer need this language so added. How can we remove it? Take the system settings window and write down the steps to remove a language.

Extended activities

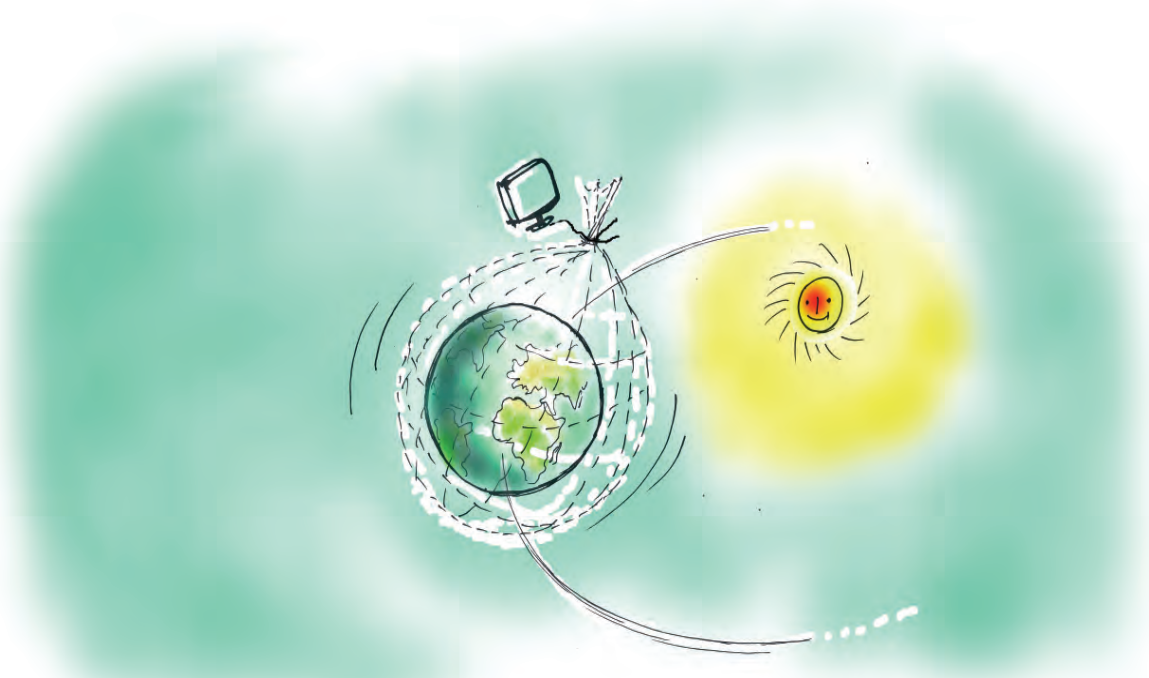
1. A diary written by Appu has been saved in the sub folder ***Diary*** in the folder ***School_Resources*** for 8th Standard in a jumbled order. Using the cut and paste tools, arrange the sentences in the correct order. Give the heading ***Appu's Diary***.

സ്കൂളിൽ ഇന്ന് ഉദ്ഘടനം വിതരണം ചെയ്യുന്ന ചുമതല ഞങ്ങളുടെ ബഞ്ചിനായിരുന്നു.
രാത്രി 10.00 മണിയായി. ഇപ്പോഴും മഴ പെയ്യുന്നുണ്ട്. ഉറങ്ങാൻ കിടക്കാം.
ദിവ്യ ടീച്ചർ പറഞ്ഞ കഥ വളരെ നന്നായിരുന്നു. സൂത്രക്കാരൻ കുറുക്കനെ ഞങ്ങൾക്ക് ഇഷ്ടമായി.
ഇന്നു രാവിലെ തന്നെ മഴയായിരുന്നു. ഞാൻ 6 മണിക്കു തന്നെ എഴുന്നേറ്റു.
ഹോം വർക്കുകളെല്ലാം ചെയ്തു തീർത്തു. കണക്കുകളെല്ലാം വളരെ എളുപ്പമായിരുന്നു.
4.30 നാണ് സ്ക്കൂളിൽ നിന്ന് തിരികെ വന്നത്. ആമിയും ഒപ്പമുണ്ടായിരുന്നു.
9.30 ന് സ്ക്കൂളിൽ പോയി. വിനു കാത്തു നിന്നിരുന്നു.
പല്ലു തേപ്പും കുളിയുമെല്ലാം പെട്ടന്നു കഴിഞ്ഞു. പിന്നെ ഞാൻ
ഇന്ന് മലയാളം ടീച്ചർ ലീവായിരുന്നു. അതിനു പകരം ദിവ്യ ടീച്ചർ ക്ലാസിൽ വന്നു.
അതുകഴിഞ്ഞ് ആമിയുടെ കണക്കുകൾ ചെയ്യാൻ ഞാൻ സഹായിച്ചു.

2. Type the given poem and give a suitable heading.

കുന്നിടിച്ചു നിരത്തുന്ന യന്ത്രമേ
മണ്ണു മാന്തിയെടുക്കുന്ന കൈകളിൽ
പന്തുപോലൊന്നു കിട്ടിയാൽ നിർത്തണേ,
ഒന്ന് കൂക്കി വിളിച്ചറിയിക്കണേ,
പണ്ടു ഞങ്ങൾ കുഴിച്ചിട്ടതാണെടോ
പന്തു കായ്ക്കും മരമായ് വളർത്തുവാൻ.

Try to find out the name of the poet with the help of the Internet. For this, copy the first line and paste it in the address bar of the search engine.



4 The Amazing World @ your Fingertips

Let's know the mysteries of life in the little chamber

You have studied the lesson **Life's Mysteries in Little Chambers** in your Basic Science textbook, haven't you? Do you know that M.J. Schleiden, who discovered that the body of plants is made up of cells, was a lawyer? Robert Brown who discovered the nucleus of a cell, was a doctor. There are cells which are known in the name of Theodor Schwann who discovered that the animal body is made up of cells. There are so many interesting facts like this in connection with the study of cells. Don't you feel it good to know more about such facts?

What will we usually do for this? We seek the help of our teachers. We read books from the library. Along with these, we can rely on computers and Internet to collect information. Within seconds, the computer will gather a lot of information for you on any subject with the help of Internet. How does it work?

History of Internet

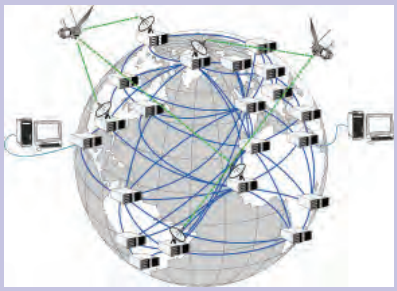


Fig.4.1 Structure of Internet - Diagram

The advanced research project agency under American Defence Department designed a computer network connecting computers at four centres named ARPANET (Advanced Research Projects Agency Network) for communication purpose on 2nd January 1969. This is the beginning of the Internet. Later it is expanded as the Internet that we see now by including many institutions and countries in this network. India also joined in the global network on August 15, 1995.

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

There are computers in different parts of the world which store a lot of information on various topics. These computers are linked to one another and they function as a network. Those computers which are connected to these networks can share the information stored in it. If we connect the computers in our school to this network, we can also access the information stored in them. But don't think that the information on the Internet is fully dependable and correct.

Computer networks

- We have computer networks connecting computers at different locations around the world for various kinds of services. There exists mega computer networks connecting these type of different networks.
- This mega computer network spreading all over the world and the facilities given by it is generally called **Internet**.

We get a lot of services through the Internet. Among them are:

- Special facilities to learn lessons using Internet (E-learning)..
- The World Wide Web which helps in the communication of information (WWW).

- E-mails to make correspondences easy.
- Video chat for face to face conversation.
- E-governance for effective execution of Government service and for speedy access of these services to the public.
- E-commerce for buying goods from all over the world.
- Social networking sites that help us to build friendships to share opinions independantly between people all over the world.

Further, advanced facilities and techniques are developed in this field day by day.

Now, let's examine how information communication, one of the major facilities on the Internet, is helpful to us.

Internet cannot be switched off...!

The working of the Internet which is world wide, cannot be stopped even for a day by anybody. This is because, the Internet is not controlled from a single centre. Since the Internet is a network of thousands of networks spread all over the world, even if one network fails all the others will remain unaffected.

Activity 4.1 Searching for information...

You are instructed to find out additional information, images etc. about the cell from the Internet in the first chapter **Life's Mysteries in Little Chambers** in your Basic Science textbook (Fig. 4.2). How can we gather information from the Internet? What are the prerequisites needed for this?

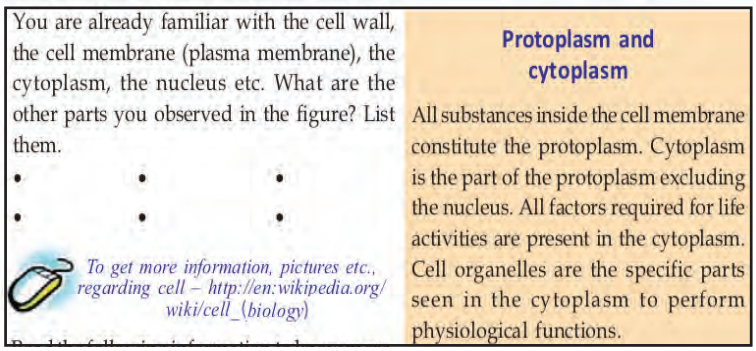


Fig.4.2 Lessons in Basic Science

1. Our computer should be connected to the Internet.
2. We should know where the information is stored in the Internet.
3. We need a browser software which helps to transfer information to our computer.

Web Browsers

Information from the Internet is displayed in the form of webpages. The software which make this available are called web browser. Firefox developed by Mozilla project, Web (epiphany) by GNOME project, Chrome (Chromium) by Google, Internet Explorer and Edge by Microsoft etc. are examples of web browsers.

You might have noticed the link in the textbook https://en.wikipedia.org/wiki/Cell_(biology) given in your textbook. What does it mean? This is the address of the web page where the information about cell is stored. It is called the **website address**.

Find out more information about cells on the Internet based on the points given below:

- Open Firefox web browser in your computer.
- Type https://en.wikipedia.org/wiki/Cell_(biology) in the address bar of the Firefox window (where we can see 'Search' or 'Enter address') and press Enter key.
- Now, the information about cells included in Wikipedia, the online encyclopedia, will be visible on the monitor (Fig. 4.3).

Let's note down the required additional information from this page.

- Did you see 'Languages' on the panel on the left side of Wikipedia? Go through the list of languages given there. You can get information about cells in all these languages.

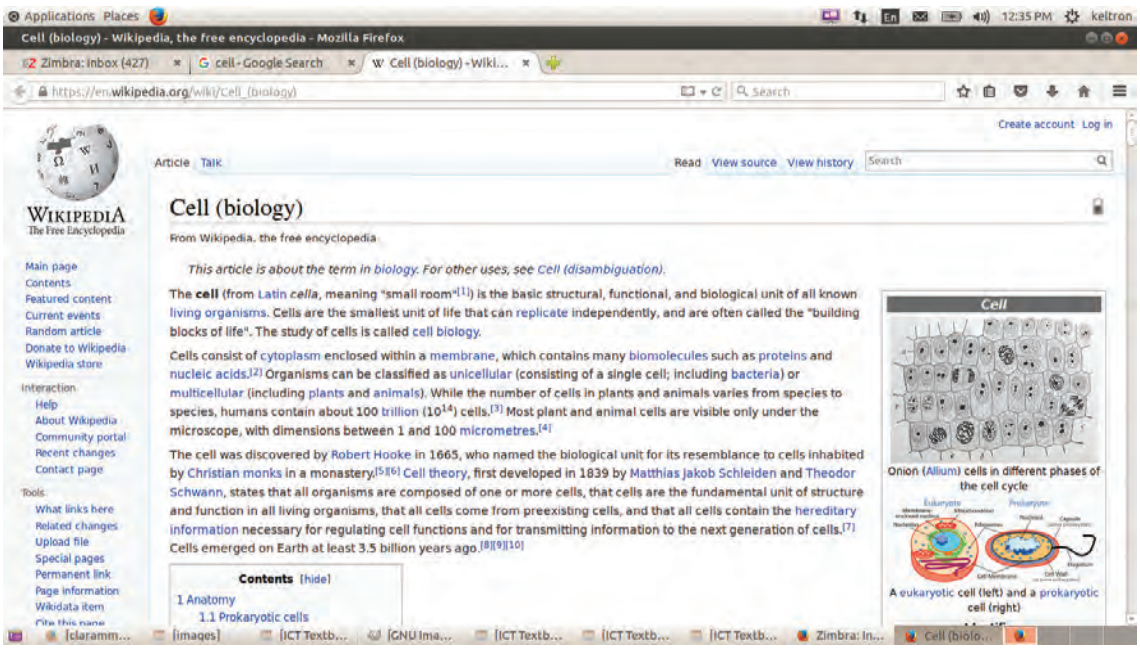


Fig.4.3 Wikipedia page about cell

- Click on 'Malayalam' in the list of languages. Now information about cells will appear in Malayalam.

You are able to visit a website if you get its web address. We can see web addresses of various institutions, newspapers, eminent persons etc. if we go through periodicals, books or other media. For example, www.kerala.gov.in is the address of the website that contains official information about Government of Kerala.

Collect various web addresses of popular newspapers and institutions and visit their websites.

The first part of the names of the websites which you visited is www. It is the abbreviated form of World Wide Web.

World Wide Web

- World Wide Web is an important service which enables information communications through the Internet.
- World Wide Web is a collection of crores of data stored in computers all around the world.
- In World Wide Web, enormous amount of data, which are useful or not useful, are stored in web pages as documents, images, videos, sounds etc. which are mutually linked as well as not linked.
- Information from World Wide Web is available on any computer connected to the Internet.

Activity 4.2 Searching for images...

As instructed in your Basic Science textbook, we have already found out some additional information. But, what should we do if we need different kinds of images of cells?

Web pages and website address

We can gather the required information from the Internet only if we know the name in which it is stored in the Internet. The information stored in the Internet has a specific address. It is called **website address**.

The collection of web pages which contains a variety of information which are mutually linked is called **websites**.

Website address is also called URL (Uniform Resource Locator).

Web portal

There are websites which act as ways to enter various websites related to a particular subject. These types of sites are called web portals. www.kerala.gov.in is a portal through which we can enter different sites of the Government of Kerala.

Some website addresses for you...

You can visit these website addresses:

www.education.kerala.gov.in

www.prd.kerala.gov.in

www.kite.kerala.gov.in

http://india.gov.in

www.samagra.itschool.gov.in

www.kstmuseum.com

For this, we should know the addresses of websites in which the images of cells are stored, as we have discussed earlier.

If the website address is not known, Internet provides some other facilities to find out the information. These facilities are called Search Engines.

These search engines help us to find out without delay exclusively the required information, pictures etc. from the huge information repository in World Wide Web.

www.google.com, www.bing.com, www.duck duckgo.com, www.yahoo.com etc. are some of the search engines available on the Internet.

Based on the provided stages of activity, collect different images of cells through search engines and save in your folder.

- Open the web browser and type the address of a search engine in the address bar (eg. www.google.com).
- While opening Google search engine, a window as shown in the Fig.4.4 will appear.

Fig.4.4 Google search window

Some Search Engines

Baidu	- China	Fireball	- Germany
Biglobe	- Japan	Walla	- Israel

Ward Cunningham

Jimmy Wales

Larry Sanger

Wikipedia

Wikipedia is an online encyclopedia. The word Wikipedia is derived from the terms Wiki and Encyclopedia. It is a joint venture for making a free and complete encyclopedia in all languages. This project works with the support of a voluntary organisation, Wikimedia Foundation. The content of Wikipedia is always independent and free of cost. The articles in the Wikipedia are prepared by service-minded users all over the world who are working voluntarily and collaboratively.

An American, named Ward Cunningham is the person who initiated the concept of Wiki and developed the software. Using the software Wiki Wiki Web developed by him in 1994, the website www.c2.com is established on 25th March 1995. Wiki means websites which give freedom and facility to add, delete and modify any information by any user. Since adding information in Wiki is very easy, Wiki became a fine means for collaborative writing. The word Wiki is also used to denote software which provide facility for making notes, articles and other writings through a collaborative effort.

Jimmy Wales and Larry Sanger started the project Wikipedia on 15th January 2001. According to 2015 statistics, Wikipedia has editions in more than 280 languages. The English edition was produced under their leadership. Wikipedia has editions in 20 Indian languages including Malayalam.

- Type the word ***cell*** (search word) in the search box of the search engine window. (For getting information from Internet, it is enough to search by giving a related search word).

- Now, the list of websites which contain the information about cells will appear (Fig.4.5). To get images of cells from this, click on ***Images*** seen just below the search box.

Tim Berners Lee

Sir Timothy John Tim Berners Lee is the founder of World Wide Web. Lee, who started the method of sharing information through mutually linked hypertext documents, put forward the concept of World Wide Web. He also designed a web browser that makes the web pages visible. He is the director of World Wide Web Consortium (W3C) which monitors the growth of the web. Lee is also the founder of World Wide Web Foundation.

He was born on June 8, 1955 in Britain.

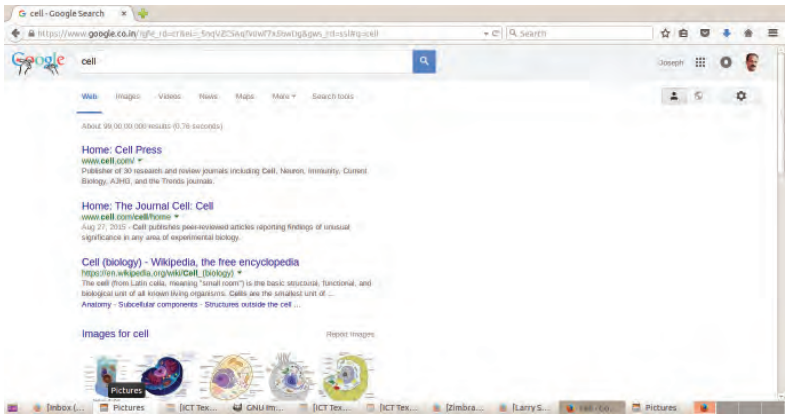


Fig.4.5 Google search list

- You have seen various pictures being displayed while clicking on ***Images***.
- You can see cells of different categories (Human, Plant, Animal, etc.) in the first row (Fig.4.6). You may click on the category in which the required pictures are found.

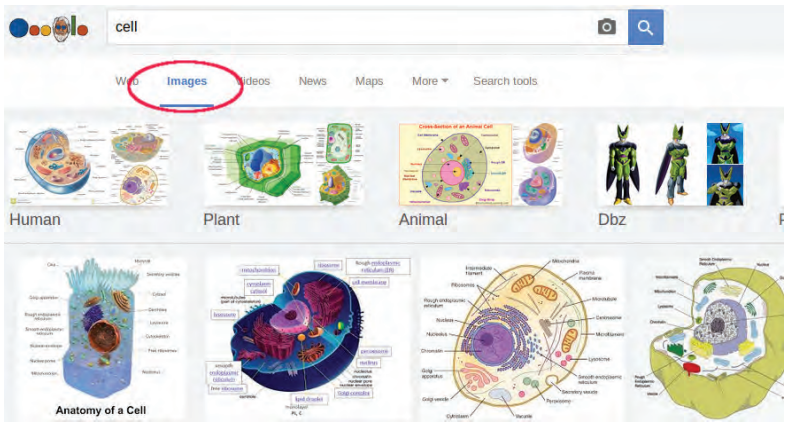


Fig.4.6 Pictures of cells in different categories

Can all the images seen on the Internet be copied and used?

Some websites give us the right to copy the pictures, but some others do not. Certain others give us the right on certain conditions. While we collect pictures to be used after modification, we should download only those which offer us copyright.

Google also provides the facility to search for pictures which do not have copyright.

- If you click on the search tools below the search box, usage rights menu will appear as shown in the Fig. 4.7.

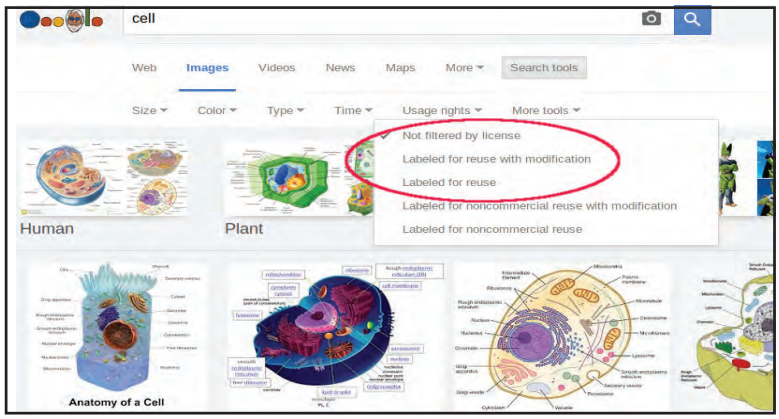


Fig.4.7 Page in which usage rights are displayed

- Select 'Labelled for reuse with modification' from the list displayed while clicking 'usage rights'. Now, we can access pictures which are free to use or modify.
- Click on the required picture and open it. Then right click on the mouse and select 'Save Image As' from the menu and save the picture for further use.

Activity 4.3 Find the meanings of words

You might have come across various situations where you had to refer to dictionaries to get the meanings of words while learning lessons in English and Hindi.

Various online dictionaries in different languages are available at our fingertips in this era of information communication technology. We shall familiarise ourselves with some of the free language dictionaries.

- Visit the websites - http://ml.wiktionary.org, www.olam.in. Note down the difficult words that

Marc Andreessen

Marc Andreessen developed a graphical browser which can handle images and sound apart from characters in the Internet. He developed the browser Netscape navigator. He was born in the year 1971 in Iowa State in America.

Copyright and Copyleft

The information, pictures, movies, sounds etc. available on the Internet are prepared as a result of the effort of different people. There may be some restrictions to use it on our own. Some of them have an exclusive right to the person who developed it based on the copyright law. But some are free for everyone to use. So while we search and use information from the Internet, we must be aware whether it is free to use or not. If it is not free, we have to procure permission from the person or institution concerned to use it.

Vinton G Cerf

Vinton Cerf, who was the director of ARPANET project (the prototype of the Internet) is known as the father of the Internet. He played an important role in developing TCP/IP (Transmission Control Protocol/ Internet Protocol) which is the basic standard for transferring information on the Internet. He was born at New Haven in America in the year 1943.

you come across in your English Reader, find their meanings and write them down. Refer to other dictionaries and check the meaning.

- These websites contain the meanings of not only English words but also Malayalam words. This is prepared using the information gathered from various Malayalam dictionaries. It expands constantly with the joint effort of a number of language loving volunteers across the state.
- Facilities for translating the meanings of words and sentences to English and Indian languages like Malayalam, Hindi, Tamil, Kannada, Telugu etc. and to foreign languages are available on the Internet.

Can we use these online dictionaries without a computer or an Internet connection? There are solutions to this too in this generation of tablets and smart phones. Offline versions of such dictionaries are now available as mobile apps in mobile phones and tablets.

Shopping can be done sitting at home

We usually buy rice, vegetables and other things by going to shops. Do you know that these things can be bought without going to shops?

There are many commercial sites on the Internet. The trade using these commercial sites is called **Online Shopping.** We can order the required goods by giving our postal address in these shopping sites. We can pay the cost of the goods by various methods. The goods will be delivered to the given address by post/courier service. Things are very easy, aren't they? There are websites which provide such facilities. Find out those important sites with the help of your teacher.

While using the Internet...!

- While visiting websites, get the correct web address and type it in the browser without mistakes.
- Sometimes, errors may occur while typing the web address. You may be led to wrong websites or may be cheated since there are people who utilise these errors for such purposes.

Mobile Apps for anything and everything....

In addition to finding the meaning of words, we can use smart phones for many other day to day activities like reading the news, performing banking transactions, finding routes, reserving tickets, finding the bus and train timings etc. Mobile Applications (App) are now available to help us. Apps became popular because they are easily available in mobile phones as Internet enabled services.

Android Play Store of Google, App Store of Apple, Windows Phone Store of Microsoft etc. help to install Apps easily.

While using Mobile Phones....

- Using mobile phone while driving will lead to accidents. If you see someone using it while driving, remind them of this danger.
- Taking photos and sharing them with an aim to defame persons or institutions are offences. Remember that taking photos without one's permission is also wrong.
- Messages which offer gifts, lottery etc. have chances of cyber spoofing. Don't react to such messages.
- Creating false and fake messages which cause defamation to others or stand against national interest or generate rivalry among caste/religion/class is an offence. Storing such message in mobile phones, sharing them etc. are also offences.

Internet of Things (IoT)

Are the electrical equipments at home switched off? Is the valve of the gas cylinder closed? Is the door closed? At times, you might be worried by such thoughts. Sometimes, you would be relieved only when you check it going back home. Now, electronic equipments at home will observe all these things. They will take care of these things which we have forgotten. Mobile apps and other facilities are available for these purposes. In short, phones/tabs will become multipurpose devices in the near future. Internet of Things (IoT) means observing and controlling equipments connected to the Internet like this.

Cyber Crimes

Cyber world is a term that generally refers to the use of the modern information communication devices like computer, Internet, mobile phone etc. All activities done using the information communication devices like mobile phones, computer, Internet, camera etc. which are against the law or which causes harm or defamation to persons, institutions, technical facilities etc. are considered as cyber crimes. You will study more about this in the higher classes.

Role of Technology in Disaster Management

The flood of 2018 is one of the major disasters that Kerala has ever witnessed. Can't early predictions of such disasters mitigate the intensity of the same to some extent? Computers can be used for analysing the data from weather forecasting satellite and radars. We can co-ordinate the disaster management activities using such data.

The information regarding the climatic conditions in different areas is available in the website of the Indian Meteorological Department. It is responsibility of Kerala State Disaster Management Authority (KSDMA) to co-ordinate the disaster management activities in Kerala. More details are available in the website sdma.kerala.gov.in

Websites for information on climatic changes :

Indian Meteorological Department	- imd.gov.in
Kerala Meteorological Department	- imdtvm.gov.in
National Disaster Management Athority	- ndma.gov.in
National Disaster Management Study Centre	- ndma.gov.in

Let's Evaluate

1. The facility that controls the information repository on the Internet is:

   (a) E-Commerce (b) E-Governance

   (c) World Wide Web (c) E-Mail

2. ..... is a web browser.

   (a) Mozilla Firefox

   (b) Gimp

   (c) GeoGebra

   (d) GCompris

3. The Internet is:

   (a) Network of computers

   (b) World Wide Web

(c) The mega computer network spread all over the world and the facilities provided by it.

(d) Information communication through computer networks.

4. The facility which helps to find out information, pictures, etc. by searcing the Internet is:

(a) World Wide Web

(b) Browser

(c) Search Engine

(d) Wikipedia

5. The trade using the facilities on the Internet is:

(a) E-mail

(b) E-Governance

(c) E-Commerce

(d) Chat

6. The website which can be used free of cost for collecting information:

(a) www.wikipedia.org

(b) www.bbc.com

(c) www.cnn.com

(d) www.rose.com

Extended activities

1. Prepare a note identifying the various services available through the Internet.
2. Examine the Malayalam dailies and collect their website addresses and visit their Internet editions.
3. Collect images of pyramids in Egypt from the Internet and save them in your folder.
4. Collect the details of various types of soil from the Internet, copy them to the word processor and save them.
5. Find out the Malayalam meanings of the new words in your English and Hindi textbooks by using the online dictionaries in the respective languages.

5 My Own Computer Game

Don't you like computer games? There are a number of computer games in your computer which are very helpful for learning and recreation. Are you familiar with ***Educational suite GCompris***, ***Potato Guy*** etc.? Do you know how these games are prepared?

A few games and animations have been included in the folder School_Resources/Standard_8/Games_and_Animations in your computer. Try to play these games with the help of your teacher. The window of an interesting game in this folder is given in Fig. 5.1. This game is prepared using the software ***Scratch*** which is included in your computer.

What should we do to prepare a computer game like this? You can see the following features in this game.

- A car racing track is given in the background and a car which can be moved along the track is included.
- The car can be moved using the Arrow keys on the keyboard.
- Instructions are given to stop the game when the car moves out of the track.

You can do all these using ***Scratch*** software. Let's do these activities in the given order.

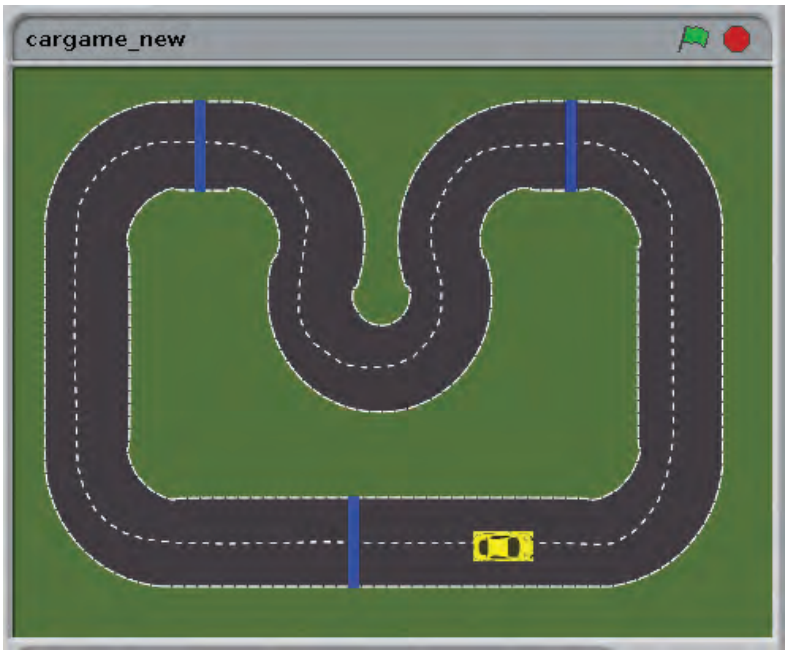


Fig. 5.1 Car game screen

Scratch: *Scratch* is a software used to create animations, cartoons and games easily.

Stage: *Stage* is the background appearing when we open the ***scratch*** window. The background will most often be white. You can change the background colour as you like.

Sprite: The characters on the background of a ***Scratch*** window are known as Sprite. Usually a cat appears as a ***sprite*** when the ***Scratch*** window is opened. The software provides facilities to make alternations in ***sprite***.

Activity 5.1 Edit 'Stage and 'Sprite'

Open ***Scratch*** software and edit the ***Sprite*** adding a car in it. Include a car racing track as the background. (You can select the picture of a car racing track and a car from the ***Images*** folder in the ***School_Resources*** of your computer. You can also add pictures drawn using ***GIMP*** Software)

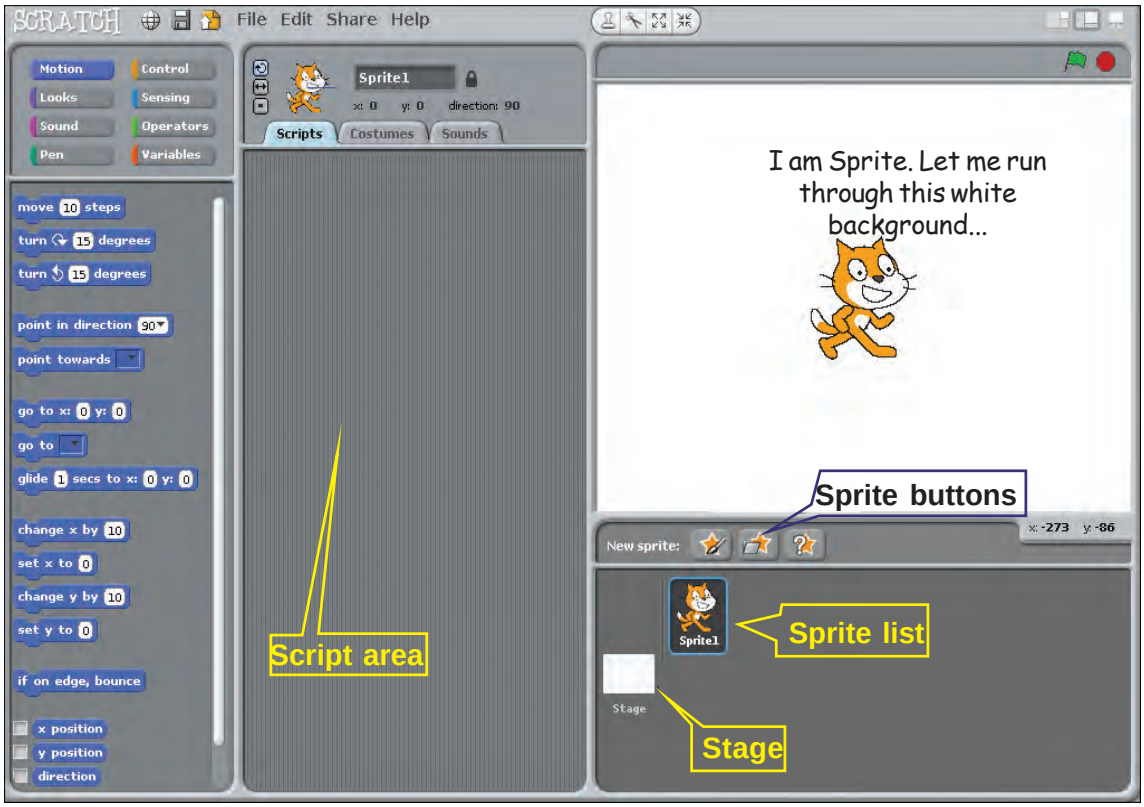


Fig. 5.2 Scratch main window

Order of activity

- Open ***Scratch*** software.
- **To add new Sprite:** When we open the ***Scratch*** window, usually a cat appears as the Sprite. Facilities to alter the Sprite and add new pictures are provided in the ***Scratch*** window. For this, you can use the ***New Sprite*** buttons given above the ***Sprite*** List. (See Fig. 5.2 and Table 5.1 for help).

New Sprite	Use
Paint new Sprite	To draw and import New Sprite
Choose new Sprite from File	To include pictures from Costumes Gallery or computer as sprite.
Get surprise Sprite	To include pictures as sprite from costumes gallery in computer.

Table 5.1 Usage of tools

Delete Sprite : The already included ***Sprite*** can be removed by selecting the delete option from the menu, after right clicking ***Sprite***.

To change the background/stage : White background is usually seen when the Scratch window is opened (Fig. 5.2). To change the background, click on ***Stage*** in the ***Scratch*** window. Now, you can see the tab ***Costumes*** in the ***Script area*** changing to ***Backgrounds*** (Fig. 5.3). ***Background1*** will appear in the ***Script area*** when you click on the ***Background*** tab. Click on the ***Edit*** button to change the background. ***Paint Editor*** window will appear (Fig. 5.3) on the screen.

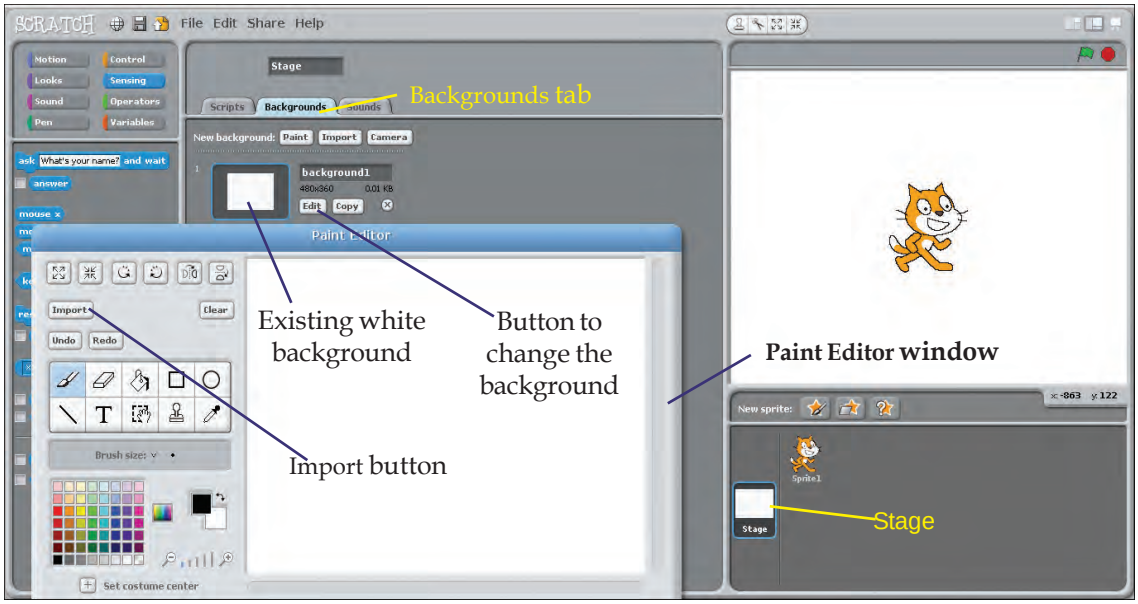


Fig. 5.3 Changes made in the Sprite window for changing the background

- New background picture can be included using the ***Import*** button in the ***Paint Editor*** window.

Open ***Scratch*** software according to the instructions given above and include the background given in Fig. 5.1 (car racing track) and the ***Sprite*** (car). Make a sub folder named ***Program*** in your folder. After completing the activity, save the file in the sub folder.

Activity 5.2 Animate the Sprite

You have noticed a car racing track given as a ***stage*** and a car as a ***sprite*** in Fig. 5.1. After the preparation of the stage and the ***sprite***, let's make the car move using the keyboard.

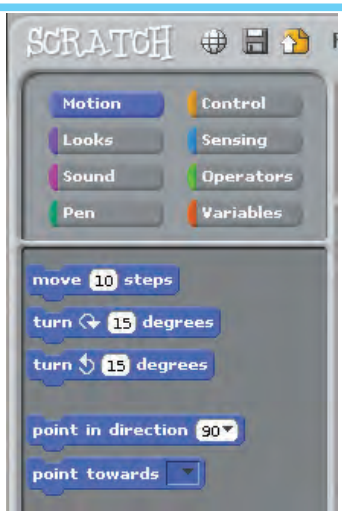


Fig. 5.4 Block pallet

Extended Activity

Open 'Scratch' Software and include an aquarium as the background/stage. Add fish as characters in the background.

You may make use of the ***Block Pallet*** given in the ***Scratch*** to animate and move the ***Sprite***. To make the ***Sprite*** move using the keyboard, use the ***Motion***, ***Control*** and ***Sensing*** tabs in the ***Block Pallet*** and follow the instructions.

Game Instructions (Block Pallet)

Programming instructions in the ***Scratch*** Software are included in the ***Block Pallet***. They are given in the tabs: Motion, Control, Looks, Sensing, Sound, Operators, Pen, Variables etc. (Fig. 5.4). Fig. 5.4 contains instructions in the Motion tab. The common features of the instructions of each tab are given below.

Motion: To move the ***Sprites*** in the ***Scratch Stage*** in different ways.

Control: To control the movements of the ***Sprites***. Use the instructions in this tab to decide when and how long the ***Sprite*** should move.

Looks: The size, interaction, whether to hide or show the ***Sprites*** etc. are arranged in this tab.

Sensing: To control the movements of the ***Sprites*** according to the instructions given in the keyboard or the colour of the monitor.

Sound: To control the audio of the ***Sprites***.

Operators: The instructions to solve mathematical problems and to compare them are included in this tab.

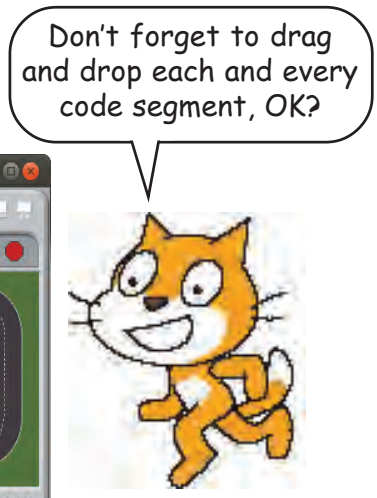
Pen: To draw figures on the ***Scratch*** screen.

Variables: To include variables in the project. For example, we have to include variables to decide the score of the game.

The car in the ***Scratch*** stage will move forward when the ***Up Arrow*** key is pressed. Press ***Down Arrow*** key to move the car backward, the ***Right Arrow*** key to turn it to right and the ***Left Arrow*** key to turn left. To perform

these actions, arrange the instructions as given below, in the Script Area .

To move the ***Sprite*** forward using the ***Up Arrow*** key, arrange the necessary code segments in the ***Block Pallet***, as shown in Fig. 5.5. All these code segments are available in the various tabs in the ***Block Pallet***. You can make use of Table 5.2 for help.



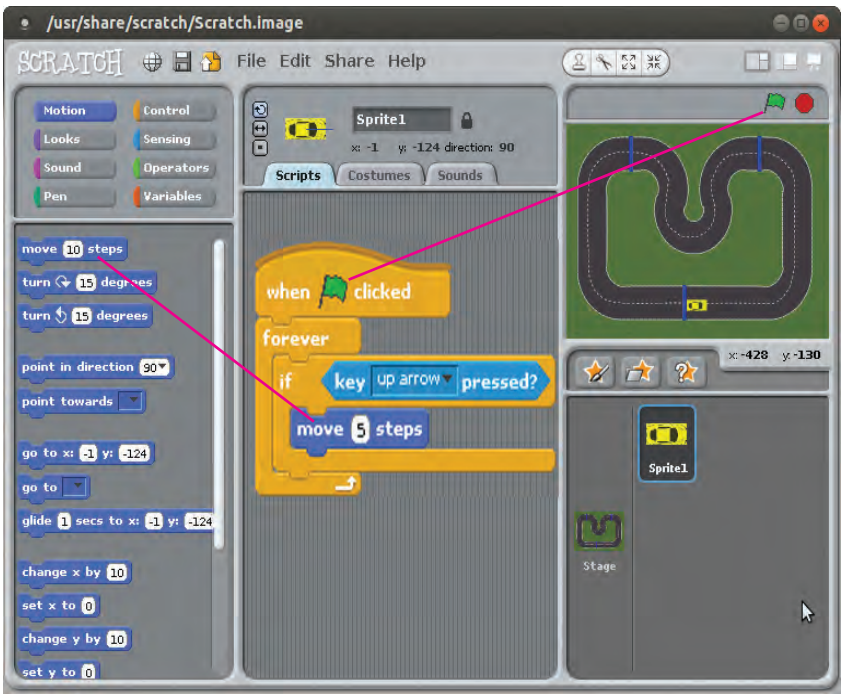
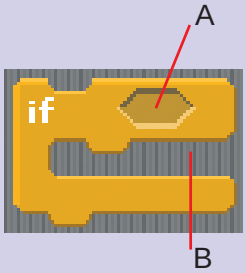


Fig. 5.5 Instructions arranged in the window which help us to make the car moving, using 'Up Arrow' key

No.	Code segment	Group/ Type	Use
1		Sensing	To give instructions using keyboard (to sense it)
2		Motion	To move the car 5 steps forward. To change the value of the rounded part using the letter 'A'.
3		Control	To activate a set of codes on certain occasions. This code segment is used to move the car forward when we use the ***Up Arrow*** key. For this, include first code segment in part 'A' and the second code segment in part 'B'.

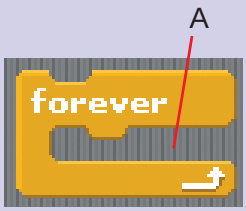
4		Control	It is used to continue the activity till the game ends. In the given example, the ***Sprite*** moves forward when the ***Up Arrow*** key is used till the game ends. See how the third code segment is included in part 'A'.
5		Control	To start the game when we click on ***Start Button*** in the ***Scratch*** window.

Table 5.2 Code segments and use

You have prepared the instructions to make the *Sprite* move forward using the ***Up Arrow*** key as given in Fig. 5.5. Now, click on the ***Start*** button in the *Scratch* window and play the game. You can also make the car move to both sides and backwards. How can the codes be prepared for these movements?

Script Segment	Use
The car moves backwards when the ***Down Arrow*** key is pressed.	
The car turns left when the ***Left Arrow*** key is pressed.	
The car turns right when the ***Right Arrow*** key is pressed.	

Table 5.3 Script segment and use

Prepare the codes with the help of Table 5.3 and Fig. 5.6. Add them to the *Scratch* file already prepared.

Now, you have prepared the game as shown in Fig. 5.6, haven't you? Let's start the game using button. Then complete the Table 5.4.

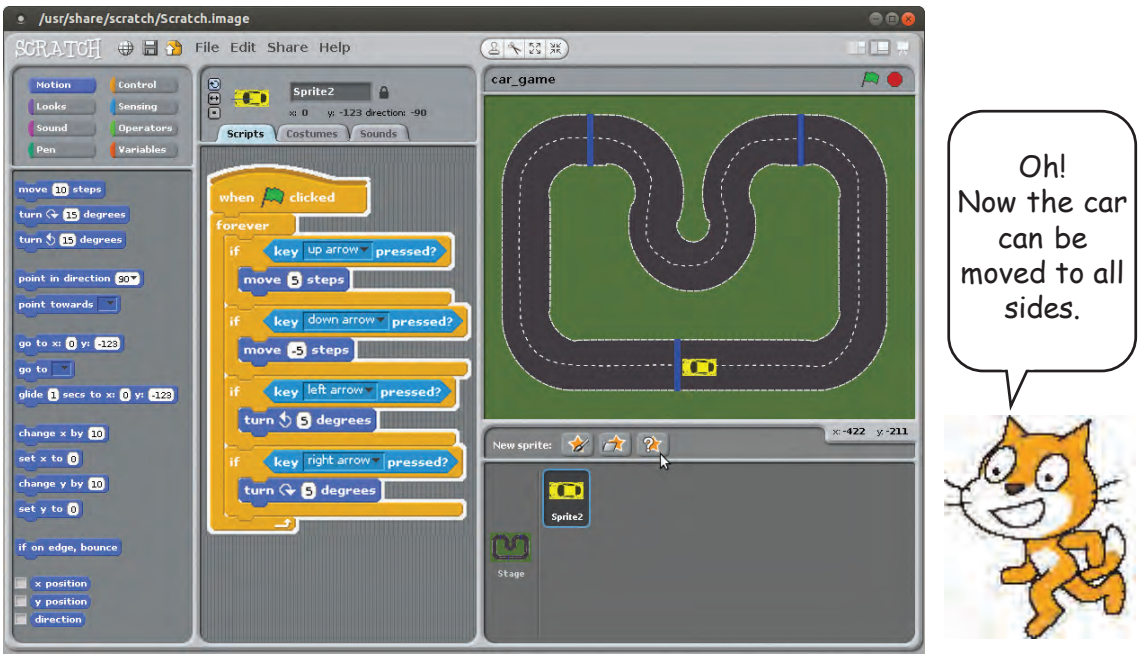


Fig. 5.6 Window set for the instructions to move the car in all directions.

Sl. No.	Code Segment	Group/ Type	Use
1	key down arrow pressed?		To inform the program that the Down Arrow key is pressed (If we make changes in the marked part, we will get the code segments 2, 3 and 4).
2	key right arrow pressed?		
3	key left arrow pressed?	Sensing	
4	key a pressed?		
5	move -5 steps		To move 5 steps backwards.
6	turn 5 degrees	Motion	To turn the car 5 degree left.
7	turn 5 degrees		
8	go to x: 0 y: -123		To bring back the car to the starting point, where the game started.
9	point in direction 90		To set the direction of the car towards right.

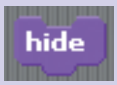
10			To give one second pause between two actions.
11			To hide the car temporarily.
12			To make the car visible again.

Table 5.4 Different code segments and their uses

Extended activity

Open the ***Scratch*** Software and include an aquarium as the stage/background. Include fish as characters on the stage and make them move using the keys on the keyboard.

Activity 5.3 When the car moves out of the track

You have prepared the code segments for moving the car through the track with the help of the arrow keys , haven't you? Add a segment to end the game, when the car moves out of the track. Bring the car back to the starting point.

You can use the techniques like ***Colour Sensing***, ***Show***, ***Hide*** etc. in the ***Sprite*** software. See the instructions arranged in Fig. 5.7. Add these instructions to the project prepared earlier and activate it. You can see that the game ends when the car runs out of the track and goes back to the starting point.

Scratch Online

The animations, game and other resources prepared using the ***Scratch*** software can be uploaded. You can also view the resources shared by other people. The website *https://scratch.mit.edu* and the online group *scratched.gse.harvard.edu* will help you to upload your files. This online group started in 2009 is known as ***ScratchEd***. You will share the animations and games you have prepared with the help of these sites, won't you?

Colour Sensing

Now, you are familiar with the instructions given to help the program to identify the pressings of the key. The instructions to identify the colours on the screen are also available in the ***Scratch*** software. These instructions are known as Colour Sensing code Segments. The code segment to recognize a colour touching another colour is shown in Fig. 5.7. This code can recognize when the colour of

the central part of the car touches the road outside the track. It is possible in the following way

- Drag the Colour Sensing Instruction into the section needed in the game code.

- First, click on the first (A) cell. Now, the mouse pointer will become the colour picking tool. Then, click on the black central part of the car. You can see that the 'A' cell has become black. Click on the 'B' cell and then click on the colour of cell out of track. The game ends when the colour of 'A' cell touches the colour of the 'B' cell. Play the game.

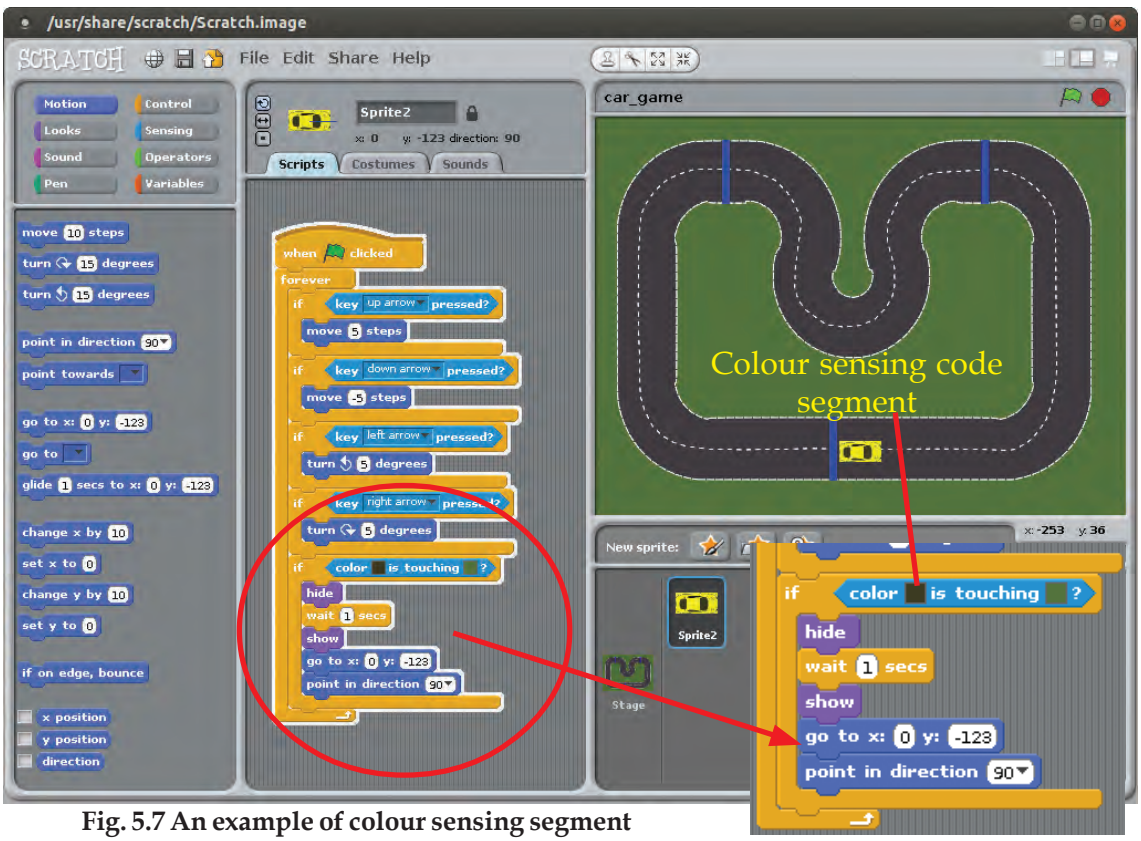


Fig. 5.7 An example of colour sensing segment

Activity 5.4 Changing costumes

You have prepared the car game, haven't you? Did you notice that the running car and the static car are of the same shape? Can the running car be made attractive

by making slight changes in its shape? For this, you have to create or include a new car using the ***Costumes*** tab. The steps to create Costumes are given below.

- Select sprite (car) and click on the tab ***Costumes.***
- The car present under the ***Costumes*** tab will be seen in the name ***car*** (Fig. 5.8).
- Press the Copy button shown below the car. A copy will be available under the name ***Car1***. (The second car in Fig.5.8 is created in this way).
- Press the Edit button below to make changes in ***Car1***. The ***Paint Editor*** window will appear. Changes can be made by using the tools in the editor. (See the three grey bubbles in ***Paint Editor*** in Fig. 5.8.) Then click on ***OK*** button.

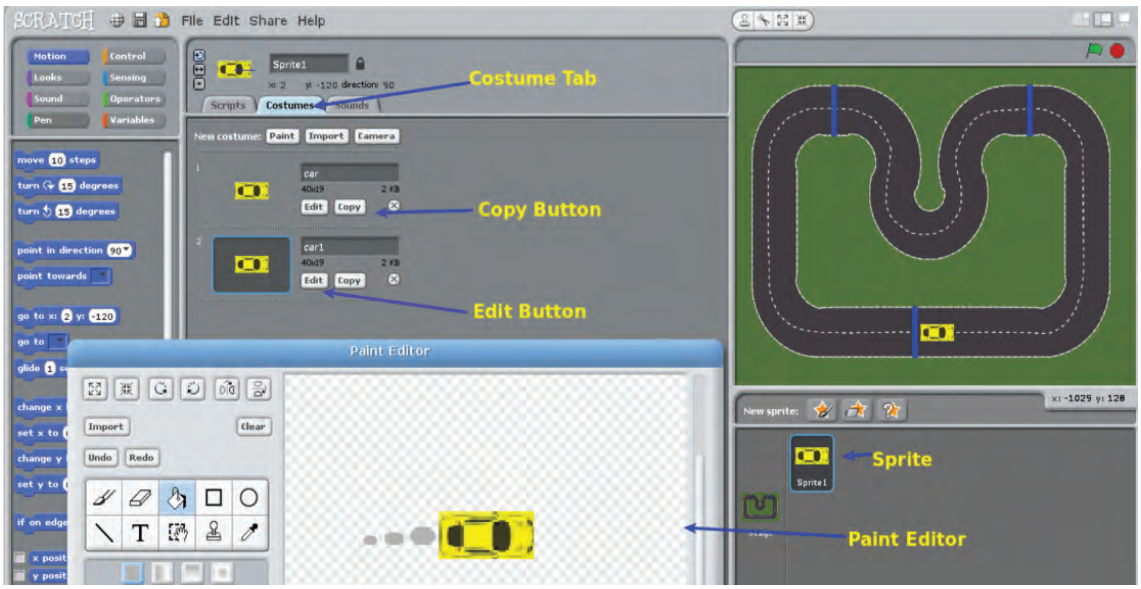


Fig. 5.8 Paint Editor window

Present code segment	Edited code segment
forever if key up arrow pressed? move 5 steps	if key up arrow pressed? switch to costume car1 move 5 steps wait 0.0009 secs switch to costume car

Fig. 5.5 Changing of a code segment

Steps to include the changed ***Sprite*** into the program are given below.

- The code segment used to make the car move forward is shown in the first cell in Fig. 5.5. You may change this as in the second column and add it in the existing program.

Now, play the game. You can see cars in different shapes when in motion and stationary.

You can make more changes in the program of this game. Scoring, using more than one car etc. are some of the possibilities. Try it.

Not only games, but all the software you use in your computer are developed with the help of different programming languages. ***Writer, Gimp, Calc*** etc. are developed using different programming languages. Don't you want to prepare games and animations like these? The car game we have prepared can be a beginning.

Programming language

All the softwares including the 'games' in the computer are created with the help of different programming languages. Python, C++ etc. are examples of programming languages. But these languages are not easy to use, because the instructions should be learnt byheart. If we can make a program without learning the instructions, how easy it would it be! This is also possible. Visual programming language helps us to do this. ***Scratch*** is one such programming language.

Let's Evaluate

1. Which of the given instructions can be used to turn the car 30 degrees right?

   a) 

   b) 

   c) 

   d) 

2. How can the background/stage of ***Scratch*** software be changed?

   a) Select ***Sprite*** and click on ***Backgrounds*** tab to change the stage.

   b) Select ***Stage*** and click on ***Backgrounds*** tab to change the stage.

   c) Select ***Sprite*** and click on ***Costumes*** tab to change the stage.

   d) Select ***Stage*** and click on ***Costumes*** tab to change the stage.

3. Which one of the following tab includes instructions to move the *Sprite*?

   a) Motion b) Control

   c) Sensing d) Looks

4. How can you change the *Sprite* in 'Scratch' software?

   a) Select *Sprite* and click on *Backgrounds* tab

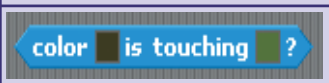
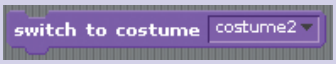
   b) Select 'Stage' and click on *Backgrounds* tab

   c) Select *Sprite* and click on *Costume* tab.

   d) Select 'Stage' and click on *Costume* tab.

Follow-up activities

- Complete the table given below.

Sl. No.	Code Segment	Group/ Type	Use
1			
2			
3			
4			

- When *Scratch* software is opened you can see the cat (*Sprite*). Prepare instructions to move the cat to all the four directions.

- Include the pictures like Ballerina-a, Ballerina-b as *Costume Sprite*. You can get these pictures from the *People* section of *Scratch Costumes*. Now, prepare and activate the instructions to get 'Ballerina-a' when the key 'A' is pressed and 'Ballerina-b' when the key 'B' is pressed.

- Some codes are there in the table given in the next page. Complete the table.

Scratch instructions	Similar codes
	If (Down arrow key is pressed) Backwards (5 steps)
	
	

Extended activities

1. Select pictures from ***Costumes Gallery*** of ***Scratch*** software. Using these pictures, prepare an animation in which a bat flies in front of a house.
2. Prepare the animation in which an aeroplane flies in the sky.
3. Prepare the animation of a person dancing. Select and use pictures from ***Sprite Gallery*** of ***Scratch*** software.
4. Include another car in the car game that you have already prepared. The new car should function when the keys ***W, A, S, D*** are used.

Notes

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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