

# TECHNOFUN

COMPUTER LITERACY CLASS III



तत् त्वं पूषन् अपावृणु  
केन्द्रीय विद्यालय संगठन

## **A Note from Deputy Commissioner, KVS Delhi Region**

It is an established fact that the computer education in school plays an important role in overall development of students. Computer with an internet access is the most powerful weapon, which opens the doorway of all information, knowledge and skill available in this universe. However, there was a definite syllabus but in the absence of any study material transaction of the computer literacy as a subject was limited to the imagination of the teacher.

With the advent of new era of artificial intelligence, it is need of the time to introduce technology and coding at an early stage to students, in a uniformed and standard way. In our endeavour to help students become better equipped and confident, we have taken the initiative to develop syllabi and textbooks which touch all the paradigm of teaching ICT in well directed manner.

This book series for class 3 to 8 has been developed with efforts of many teachers and contributions from academicians of KVS Delhi Region. It is based on detailed computer literacy syllabus as per CCE(RTE) and all applications taught are based on free and open source software.

The lesson is based on interaction between two students from primary classes to encourage auto didacticism and to teach them how to think and improve problem solving. We have focused on content and skills to lay a strong foundation for learning computers.

The accomplishment of this venture depends on the cooperation of all principals and teachers who will encourage children, guide them and help them at different steps and give them infrastructure and proper guidance to use this Book.

Comments on the book and suggestions for next edition are most welcome and may be sent to [support@kvsrodelhi.in](mailto:support@kvsrodelhi.in).



**(Nagendra Goyal)**  
**Deputy Commissioner**

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**(Nagendra Goyal)**  
**Deputy Commissioner**

**THIS BOOK, OR ANY PART THEREOF, MAY NOT BE REPRODUCED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF OWNER.**

## **CLASS 3**

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# SYLLABUS

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## PROLOGUE

### Some when



School reopened for new session. **Gowri** and **Aryan** were happy to be back to school. They were excited to share their learning during the break after final exams.

**Gowri** :- Do you know we will have computer classes in class 3 that also 2 periods each week.

**Aryan** :- Yes, I am so thrilled. Online classes have taught us so much and thanks to technology we didn't miss on our learning during pandemic.

**Gowri** :- Yes, But do you know that we can do so much on computers apart from just attending classes. Like music, calculation, drawing and making projects/assignments. I have learnt so much about these things.

**Aryan**: - Is it? Will you share your learning with me?



**Gowri** :- Why not. I would love to share. Before that let me tell you little about computer.

As you know, now a days computer is used in almost all the fields like Home, Education, Government, Hospital, Hotels, and Games etc. But what is a computer?

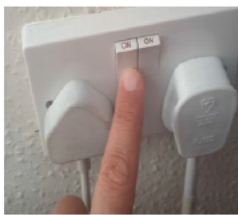
Computer is an Electronic Device which takes raw data as an input, processes it and gives us the desired output. It is a collection of Hardware, Software and Human ware (user).

**Gowri** :- Before we proceed let me show you how to switch on the computer.

## Starting and shutting down of Computer System:

### How to Start a Computer System?

Step 1:	Step 2:	Step 3:	Step 4:
Switch on the power supply	If you have UPS, switch it on.	Locate the power button on CPU and press it softly	Press power button on monitor to switch it on.



Step 1:



Step 2:



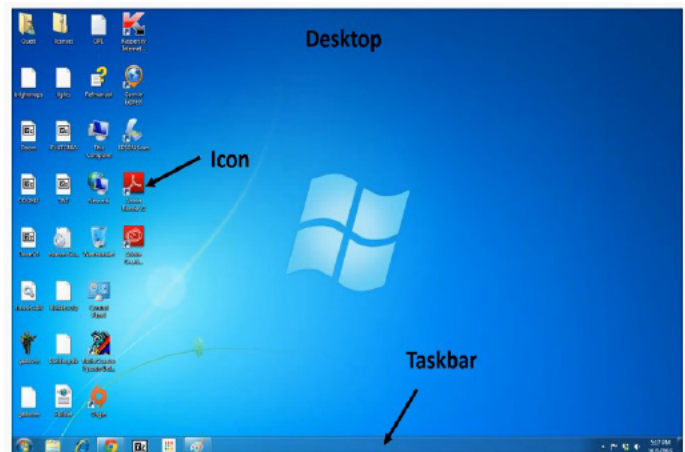
Step 3:



Step 4:

After starting computer, you will get following screen on monitor. It is called as Desktop. Small pictures on desktop are called as icons.

The bar at the bottom of the screen is called taskbar; it shows currently running or active applications.



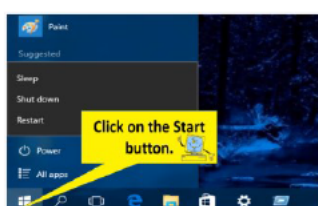
**Aryan** :- I have seen in our e-class, our teacher shut down the computer when not in use to save electricity.

**Gowri** :- Yes, the way we switch off our classroom's light and fans when we go to resource room or games to save electricity, in the similar way we should shut down the computer when not in use. Let me show you how to do it.

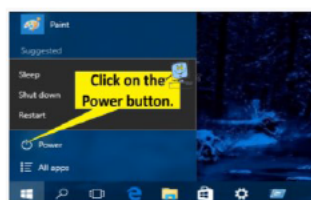


### How to shut down a Computer System?

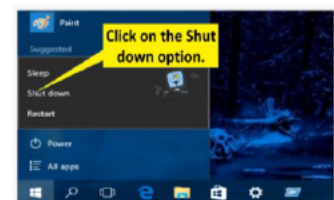
#### Step 1:



#### Step 2:

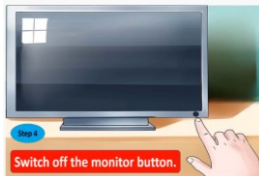


#### Step 3:



**Gowri :- Before switching off the power supply, we need to wait for the light on power button to go off, for computer to completely shut down.**

**Step 4:**



**Step 5:**



**Step 6:**



### Shutting Down Computer

**Aryan :-** Thank you **Gowri**, I will take care to properly to switch on and shut down the computer.

**Gowri :-** You are welcome **Aryan**, but it is not only computers we should take care of. Technology is helpful, but we should not use it for prolonged periods as it has its possible health concerns too.

**Aryan :-** What you mean is that long screen use is harmful.

**Gowri :-** Yes, physical health as in problems with arms, wrist, back and eyes and may lead to poorer sleep quality effecting mental health too.

**Aryan :-** How can we take care of ourselves.

**Gowri :-** First thing is to find a correct height for desk and chair so as screen is at your eye level and sit with your back straight. Keep on taking small break to keep blood flowing and to rest your eyes by covering it with your palm. Blink often. Follow 20-20-20 rule. Every 20 minutes, look up from your computer screen, locate an object that is 20 feet away and stare it for 20 seconds. Splash your eyes with water every hour and do some eye exercises and stretches.

**Aryan :-** Can you tell me some exercises.

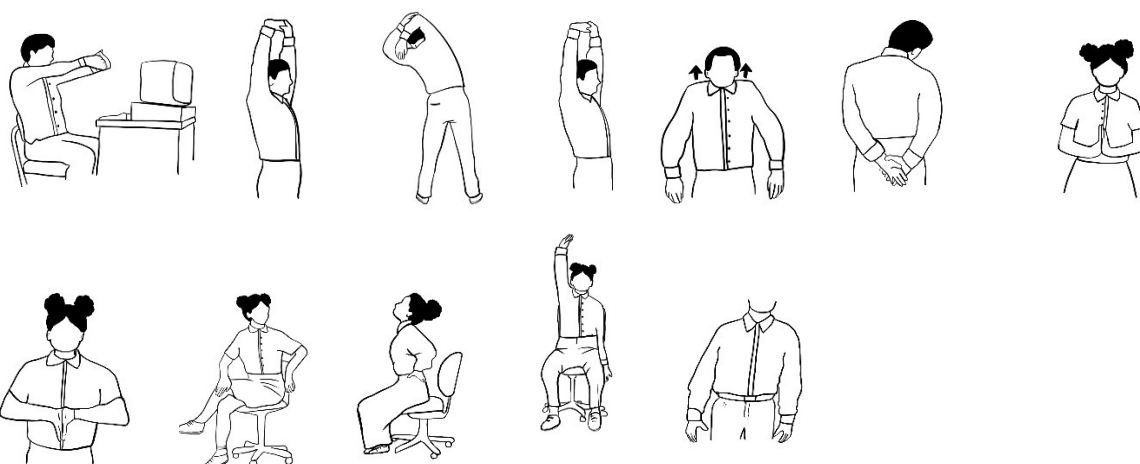
**Gowri :-** Yes, There are some stretches you can do But remember that only stretch till it is comfortable and without pain. Hold it for 10 seconds and do not bounce back. Keep breathing. Following are some stretches.

- Deep Breathing - Through your nose breathe in slowly. Hold your breath for 3-4 seconds & then exhale the air through your mouth. Continue to this exercise for 8 cycles.
- Head & Neck Exercise - Inhale air and turn your head from neck slowly towards right and look your right shoulder, keep looking your shoulder

for 3 seconds. Slowly exhale & come back. Similarly do the same for left side. Continue for 4 cycles.

- Shoulder Roll - Raise your shoulders up and down. Then using a wide circular motion, roll your shoulders 5 times forward & 5 times backward. Continue for 4 cycles.
- Upper Back Stretch - Fold arms in front of you. Raise to shoulder height, then push your elbows straight back. Hold a few seconds till comfortable. Repeat 5 to 10 times.
- Lower Back Stretch - Slowly bend your upper body between your knees, while sitting. Hold for a few seconds, then sit up and relax.
- Wrist exercise - Hold your arms straight out in front of your body. Raise and lower your hands- bending at the wrist, to stretch the muscles in your forearm. Repeat several times.
- Hand and Finger rest - Make a tight fist with your hands. Hold for a second. Then spread your fingers as far apart as you can. Hold for five seconds. Repeat.
- Leg Lifts - While sitting in a chair, grasp the shin of one leg and pull slowly toward your chest. Hold for five seconds. Then do the other leg. Repeat several times.

Let's try these.



And you will be fit always. Just ensure use of technology in controlled manner and do not compromise on physical activity time. Take out time to go out and play too.

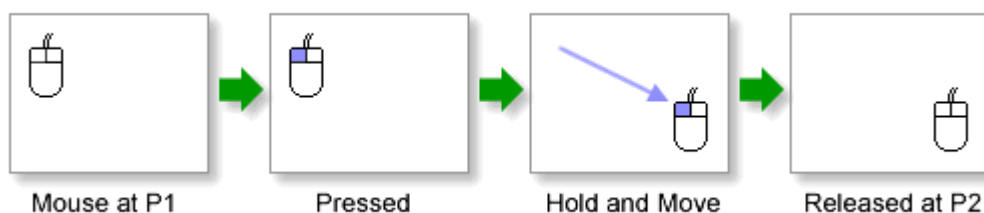
Now tell me, do you know how to work with mouse on computer?

**Aryan** :- Yes, I know a little but it would be great if you could explain it to me.

**Gowri** :- Hmm, I think before starting digital drawing, let me tell you little basics of working with mouse. There are two buttons on mouse. When you click the left one it's called left click. When you click on right, it's called right click. And when you click left button twice it's called double click. And there is one more function of mouse. It is called dragging.

**Aryan**: - What is dragging and how is it done?

**Gowri**: - Dragging is used to move any object. You left click on the object and without releasing it move the mouse to new location and then leave the click.



**Aryan**: - I have understood the basics and I am eager to learn.

**Gowri**: - I can see how enthusiastic you are. But before I go forward, please note....

I will be with you in your journey to be computer expert. I would be delighted to answer all your questions, and of our readers (Some where we will take help of our teacher). Though I myself in search for some answers, and I hope you will help me with it. If together we are not able to find answers please discuss between your class mates or ask your teacher, parent. Sometimes, you may have to try things out yourself on computer to understand the concept better. Remember, the more you work on computer, better you will learn..... And do complete the activities and work given in the book, as those are intended for you to practice and become through with the concept.

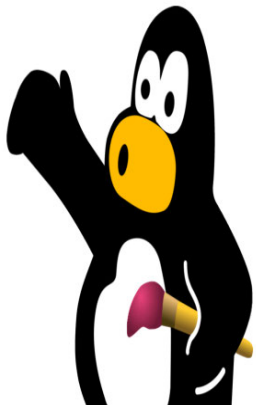
# 1. TUX PAINT

- 1.1 Introduction to Tux Paint
- 1.2 Starting Tux Paint
- 1.3 Tux Paint Windows Interface
  - 1.3.1 Canvas
  - 1.3.2 Toolbar
  - 1.3.3 Color Palette
  - 1.3.4 Selector
  - 1.3.5 Help/Information Area
- 1.4 Creating a New Drawing &
- 1.5 Saving & Opening A Drawing
- 1.6 Eraser Tool
- 1.7 Closing Tux Paint



Tux  
Paint

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Version: 0.9.24 - 2020-10-18



## INTRODUCTION

Aryan and Gowri were in classroom with students of their class waiting for mam to show their project work.

Aryan :- Gowri, Look I made this drawing for project submission.

Gowri :- Wow Aryan, it's beautiful. I too have made but mine is digital.

Aryan :- What do you mean by digital drawing?

Gowri :- It means I have made it on my computer.

Aryan :- I also want to learn to draw on computer. Will you teach me?



Gowri :- Yes, Let me show you how to make digital drawing, but before that you need software for it. We have many software installed on our computer for various purposes. Tux Paint is one such software which is used to make interactive drawing. If you don't have you can download it from

<http://www.tuxpaint.org/download/windows/>. Installation steps are given in Appendix II.



## 1.1 Introduction to Tux Paint

Tux Paint is drawing software which is used to make interactive drawing. It has an easy interface with some sound effect while working on it. Logo of Tux Paint Software is Penguin as shown in figure.

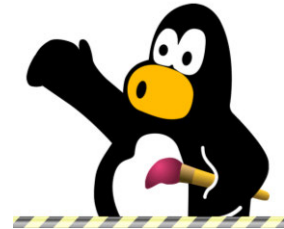


Fig. 1.1: Tux Paint Logo

## 1.2 Starting Tux Paint



**Aryan** :- How do I open Tux Paint?

**Gowri** :- Search Tux Paint icon (penguin logo as in Fig 1.1) and double click on it and Tux paint window. After opening Tux paint you will get the above interface. The pink labels denote the names of the components marked.

names of the components marked.

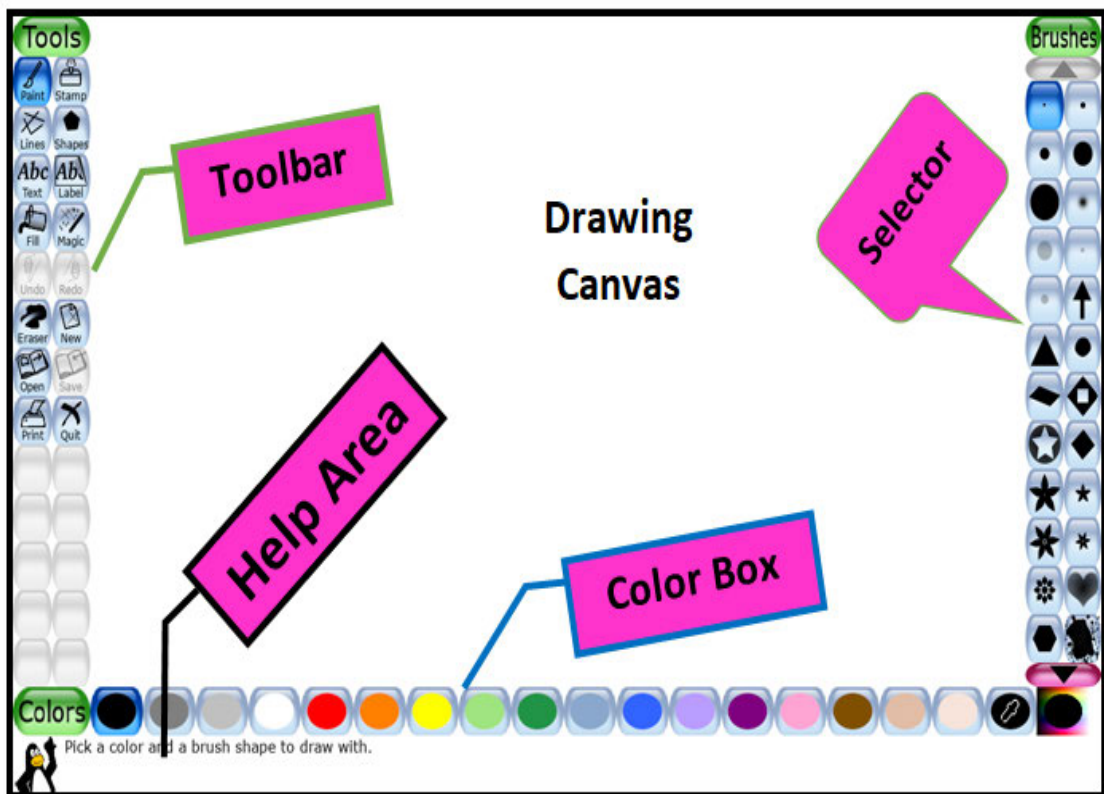


Fig. 1.2: Components of Main screen Windows of Tux Paint

## 1.3 Tux Paint window Interface

**Gowri** :- Let's learn about different components of Tux paint windows.

### 1.3.1 Drawing Area/Canvas

It is the area or a canvas where you can make your drawing.

### 1.3.2 Toolbar

It is a toolbox which contains various tools like new, painting, erasing, saving and opening drawing. You also get various tools for drawing which are explained later.

### 1.3.3 Color Box /Palette

It is the palette from where you can select your choice colors.

### 1.3.4 Selector

It is the pan to select different options available with the tool.

### 1.3.5 Help/Information Area

It is the bottom part of Tux paint windows which shows the information about selected Tool.

**Aryan** :- Ok, I will remember the names of components to understand easily when you mention them.

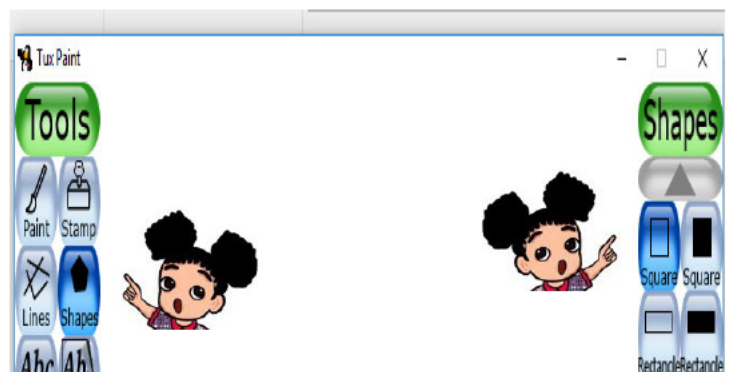
**Gowri** :- Yes, Now let's start to draw in it.

## 1.4 CREATING A NEW DRAWING & DRAWING TOOL

When you open tux paint it shows a blank white canvas for you to draw in.

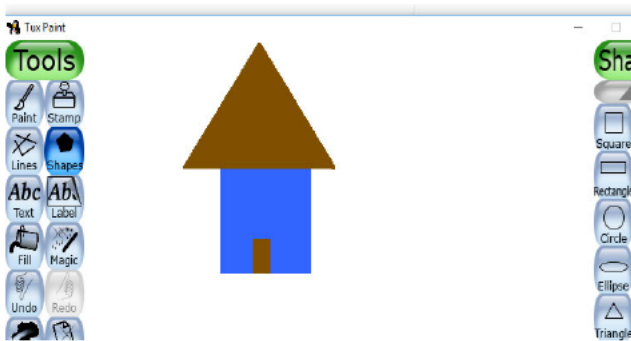
**Aryan** :- I want to draw a house. Please tell me how to do it.

**Gowri**:- Yes, it's very easy... First select shapes in tools bar and then select Square from under shapes component. There are 2 squares. One represents the unfilled and other filled. If you use filled than your square will come filled with colour you have selected from color palette.





Drag the shape as required and draw on canvas. Please note that the cursor in the canvas area is the center of the shape which means that shapes expand from center to all sides.



You may practice drawing 2 - 3 squares. After that you can use triangle to make top and rectangle to make door.



**Aryan :-** Oh, it's so beautiful.

**Gowri :-** Yes, it is. There are many inbuilt patterns of brushes we can use to enhance image. Click on Paint or lines and then under brushes you can select any pattern. Here I have selected flower pattern after selecting orange colour from colors pane. As marked with red arrows.



**Aryan:-** Yes, It is looking so good. How did you draw green stems?

**Gowri :-** I have used free hand drawing from under paint. The patterns under lines tool and paint tool are same. The only difference is that paint is free hand tool and lines give straight lines.

**Aryan :-** This is so nice. Let me try different brush patterns and practice making drawings.

**Gowri :-** Yes, and before you make new drawing, remember to save this one. Let me tell you how to do it.



## 1.5 SAVING & OPENING A DRAWING

It is very important to save your drawing on the computer so that you can see it again. Tux paint provides a save tool in the Toolbar. After completing your drawing, click on the save tool to save it. Tux paint saves your file with thumbnail so it's not required for any file name.

### Opening a Drawing

After saving your file, we can open the saved file by using the open tool. Click on the open tool, here you can see the already saved drawing. Click on the drawing which you want to open.



### Using an inbuilt picture

There are also many inbuilt pictures in Tux Paint. Click new and select any inbuilt picture by moving the arrow up or down as background.

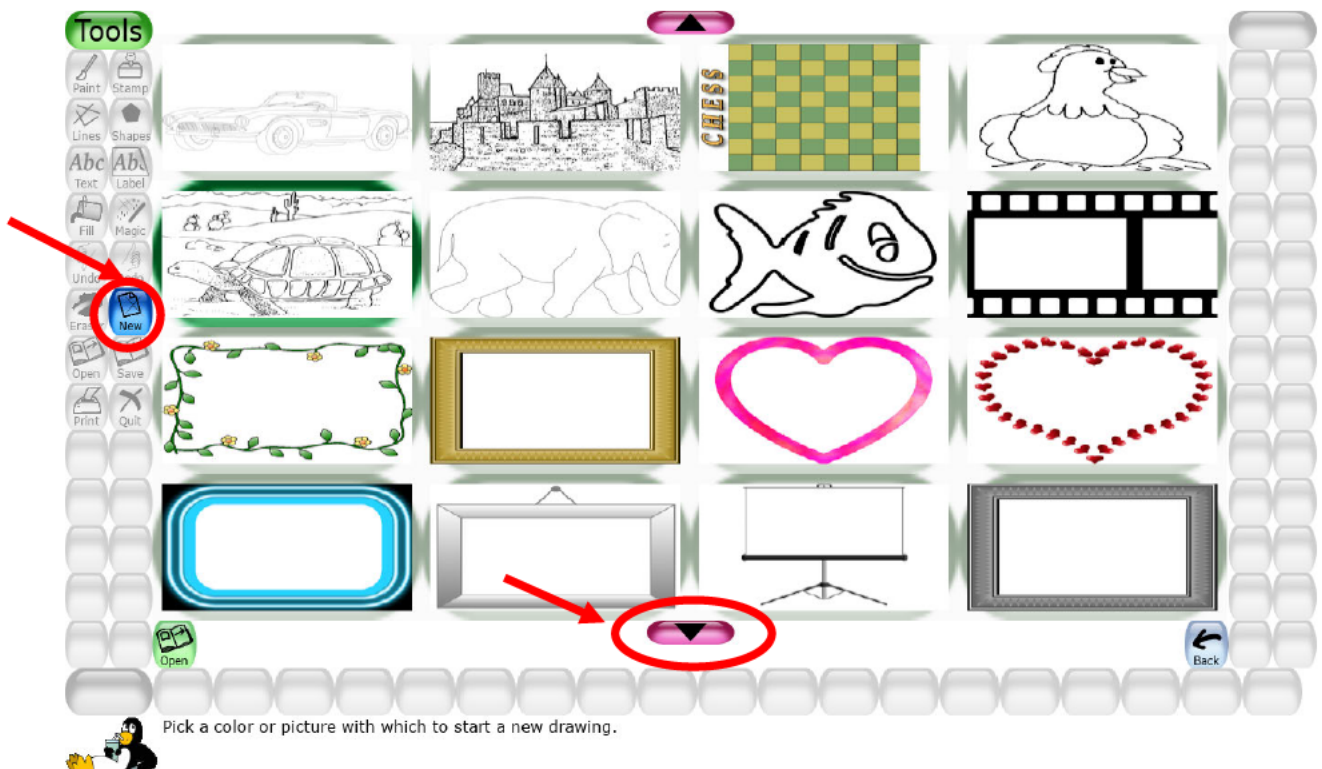


Fig. 1.3: Creating New Drawing

### 1.6 ERASER TOOL



If you have made some error in drawing and want to erase it, you can use eraser tool by clicking on Eraser Tool.

Press and hold the left mouse button and move over the drawing to erase it.

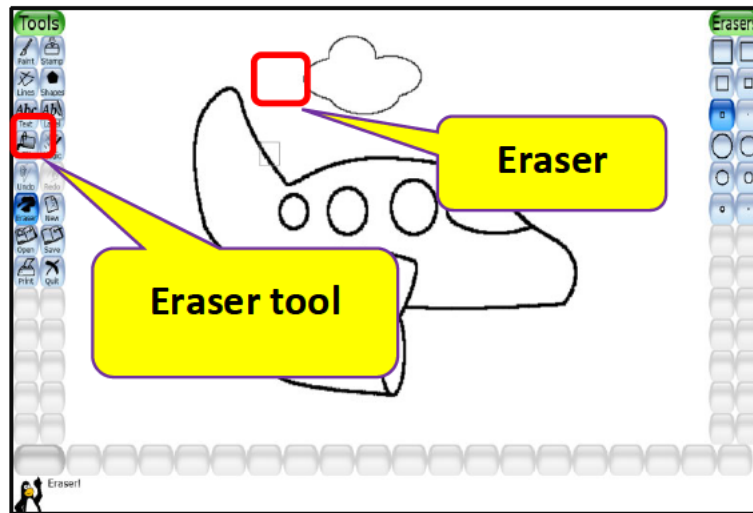


Fig. 1.4: Eraser Tool

### 1.7 CLOSING TUX PAINT

You should close applications you are not working on at the moment. Let me tell you how to close the Tux paint.

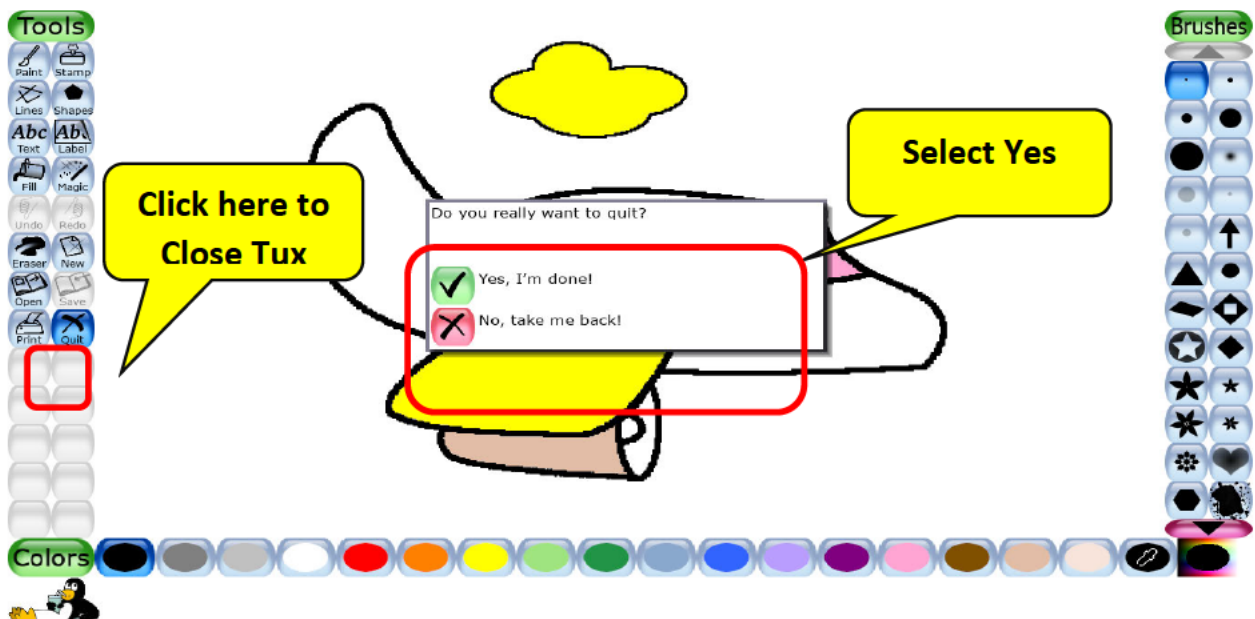
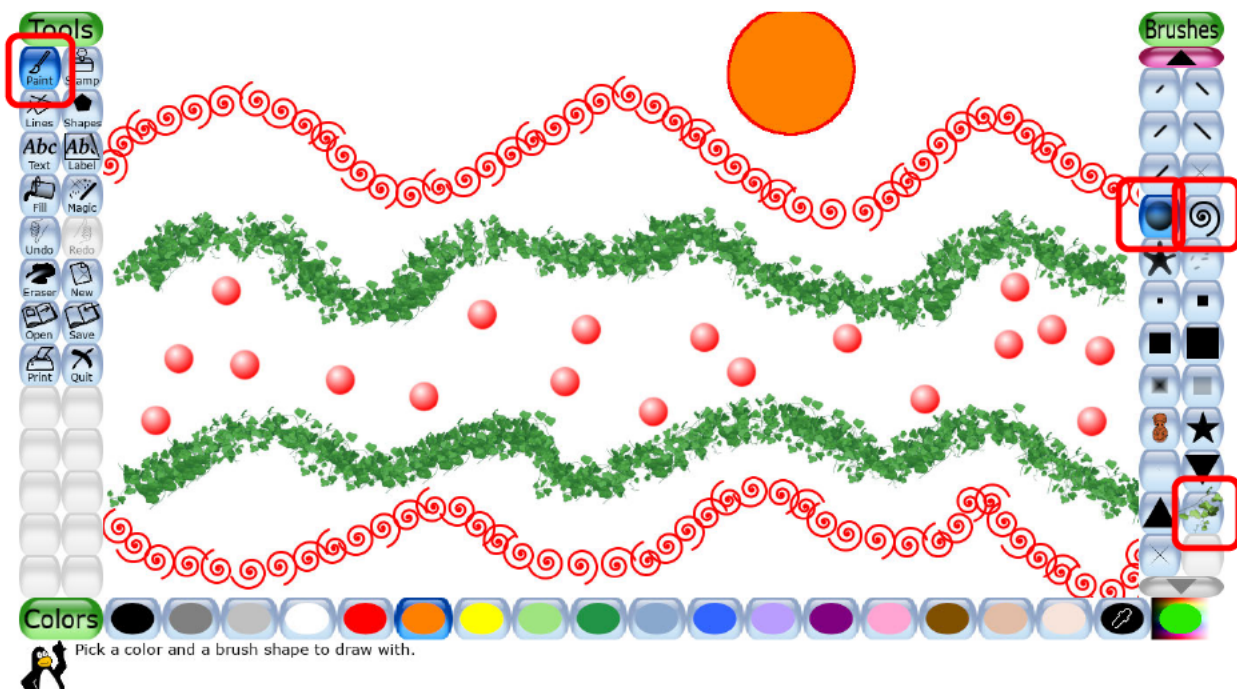









Fig. 1.5: Quit option

- ❖ Click on Quit button on toolbox or press ESC key from keyboard
- ❖ It shows a message: Do you really want to quit? YES, I'm done or No, Take me back.
- ❖ Select yes I' m done! Option for Exit.
- ❖ Then it will show a message to save your drawing. Click on save option.
- ❖ Tux paint window closed.

### Project:      Draw the following pattern



- Step 1:** Select Paint Tool  and select the Spirals  from the selector.
- Step 2:** Choose Red color from the palette.
- Step 3:** Select a point on the drawing screen and click 7-8 times for pattern.
- Step 4:** Select Paint Tool  again and select the grass  from the selector.
- Step 5:** Choose Green color from the palette.
- Step 6:** Select a point on the drawing screen and click 7-8 times for pattern.
- Step 7:** Select Paint Tool  again and select the Ball  from the selector.
- Step 8:** Select a point on the drawing screen and click 7-8 times for pattern.
- Step 9:** Select Shape tool  then select filled circle shape choose orange color and draw a circle.
- Step 10:** Save the file by clicking on the Save Button.

## EXERCISE SOMETHING TO KNOW






### A. Answer the following questions.

1. What is a computer?
2. Why is it important to shut down the computer System?
3. What is Tux Paint?
4. What are various components of Tux paint windows?
5. How to save a drawing in Tux paint?

### B. Fill in the Blanks

1. \_\_\_\_\_ is an Electronic device used in many fields.
2. We should click on \_\_\_\_\_ to shutdown Computers.
3. \_\_\_\_\_ is award winning software.
4. \_\_\_\_\_ is the area where select tool description is given.
5. The tool which is used to erase the drawing \_\_\_\_\_.

### C. Match the Following.

1. Paint tool	a) 
2. Stamp tool	b) 
3. Lines tool	c) 
4. Shape tool	d) 
5. Save	e) 

### D. Select the correct answer for each question.

1. To start a computer first, we should switch on  
(a) UPS button (b) Start Button (c) Power button (d) Monitor button
2. To open a drawing we should click on  
(a) Save tool (b) Quit tool (c) shape tool (d) Open tool

**3. Toolbar does not contains following tool**

(a) Selector (b) Save Tool (c) Quit Tool (d) Stamp tool

**4. To erase a drawing, which tool you will select**

(a) Stamp tool (b) Erase Tool (c) Save tool (d) Selector tool

**5. Which tool is selected by default, when we open Tux Paint?**

(a) Paint Tool (b) Lines Tool (c) Stamp Tool (d) Save tool

**E. State True or False**

1. Computer is electronic device.
2. We should not shut down our computer system.
3. Clicking on save will erased you current drawing.
4. The working of Paint tool and Lines tool is same.
5. Logo of Tux Paint is Penguin.

### **SOMETHING TO DO**

1. Go to the lab and start working on the computer.
2. Turn off the computer.
3. Make an interactive School bus drawing by using tux paint.
4. Find out other drawing software.

## 2 :- BASIC COMPONENTS OF COMPUTER



- 2.1 Basic Components of computer
- 2.2 Hardware and Software
- 2.3 Do's and Dont's while working in computer lab.
- 2.4 Comparison of Human Being with Computer.
  - 2.4.1 Strengths of Computer
  - 2.4.2 Weakness of Computer
- 2.5 Applications of computer.

### INTRODUCTION

**Aryan** :- It is so much fun to work with computers. I was explaining it to my mother as to how it is so useful. Then my mother asked me a question, "Is our fully automatic washing machine a computer?"



**Gowri** :- I wouldn't call it a computer. A computer is general



purpose whereas a dedicated embedded system such as a washing machine or microwave usually contains a microcontroller not a microprocessor. But before we go there, let me tell you basic components of computer.

### 2.1 BASIC COMPONENTS OF COMPUTER

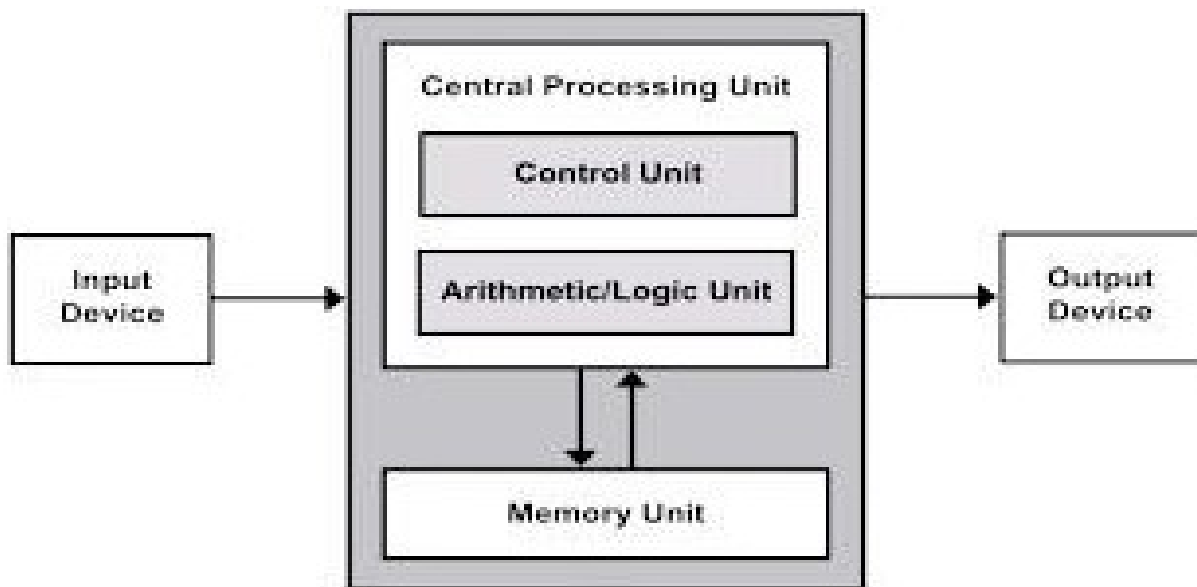
#### Main Components of Computer :-

Every Computer has four basic Components:

- Input Device
- CPU
- Output Device
- Memory Unit

**INPUT DEVICE:** These components are used to give input to the computer like keyboard, mouse etc.

- **CPU (Central Processing Unit):** After taking input from input devices, CPU of computer process the input and produces output. It is like brain of the computer and controls all other parts too.



**Fig. 2.1 Components of Computer**

- **OUTPUT DEVICE:** These components display the result produced by CPU to the user like printer, monitor etc.
- **MEMORY UNIT:** This component is used to store the data.

## **2.2 HARDWARE AND SOFTWARE**

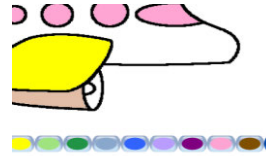
- **HARDWARE:** Hardware is a term used for all the devices used in or with your computer like monitor, keyboard, mouse etc. The parts you can touch.



**Fig.2.2Hardware**



- **SOFTWARE:** Software are the programs you run on computer like TUX Paint, Windows etc.



**Fig.2.3 Software**

## **2.3 DO'S AND DONT'S WHILE WORKING IN COMPUTER LAB**

- Don't push each other while moving to computer lab.
- Don't touch the computer cables as it can be harmful for you.
- Keys of keyboard should be pressed gently.
- Don't keep your books, pencils or other things on CPU, monitor etc.
- Don't change Computer Settings without permission of teacher.
- Don't eat anything in Computer Lab.
- Use internet only after taking permission from teacher and only for academic purpose.
- Always shut down your computer properly.



## **2.4 COMPARISON OF HUMAN BEING WITH COMPUTER**

### **2.4.1 STRENGTH OF COMPUTER**

- **ACCURATE:** Computer can perform all calculations more accurately
- **SPEED:** Speed of computer to do calculations is very fast
- **STORAGE:** Computer can store large amount of data
- **RELIABILITY:** Computers are more reliable than human.
- **VERSATILE:** Computer can do variety of operations on same set of data.

### **2.4.2 WEAKNESS OF COMPUTER**

- **Zero IQ:** Computer has no IQ level.
- **No decision making:** Computer cannot make any decision by itself.
- **Electricity:** Computer needs electricity to work.

## 2.5 APPLICATIONS OF COMPUTER



1. With the help of computer, you can type a document, create presentations for your school projects.
2. Computer can be used for entertainment like listening music, watching movies etc.
3. You can search information on internet or send e-mail using computer.
4. At hospital it is used to store medical information and record of patients.
5. At bank, computer is used to keep records of accounts of customer.
6. At school, computer is used for teaching and learning.
7. At railways or Airports, Computer is used to keep record of passengers, to book tickets or to cancel tickets.

### EXERCISE SOMETHING TO KNOW

A. Answer the following questions.

1. What are the different components of computer?
2. Why computer is called versatile in nature?
3. What are disadvantages of computer?

4. Write any four applications of computer.
5. Difference between hardware and software.

**B. Fill in the Blanks**

1. At school computer is used for \_\_\_\_\_ and \_\_\_\_\_.
2. Speed of computer is very \_\_\_\_\_.
3. \_\_\_\_\_ is used to store the data in computer.
4. There are \_\_\_\_\_ main components of computer.
5. Always \_\_\_\_\_ your computer before leaving the lab.

**C. Match the Following.**

1. software	a) brain of computer
2. Airport	b) monitor
3. CPU	c) Tux paint
4. hardware	d) internet
5. E-mail	e) reservation

**D. One-word Answer.**

1. Name one input device. \_\_\_\_\_
2. Name one software you use in computer lab. \_\_\_\_\_
3. Full form of CPU \_\_\_\_\_
4. Name one output device. \_\_\_\_\_
5. Place Where the computer is used for keeping records of patients. \_\_\_\_\_

**E. State True or False**

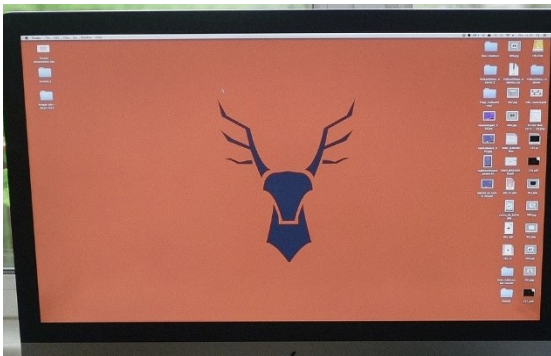
1. Input unit is used to display the result.
2. We should not shut down our computer system.
3. Computer can make decision by itself
4. Computer is more accurate than human being.
5. We can touch the hardware part of computer

**SOMETHING TO DO**

- Find five other areas where computer is used, paste the pictures in your notebook and also write its use.

## 3. DESKTOP AND COMPUTER PERIPHERALS

- 3.1 What is Desktop?
- 3.2 Icons of Desktop
- 3.3 Desktop background
- 3.4 Start Button and Taskbar
- 3.5 This PC and Recycle Bin
- 3.6 Input Devices
  - 3.6.1 Keyboard
  - 3.6.2 Mouse
  - 3.6.3 Touch screen
- 3.7 Output Devices
  - 3.7.1 Speaker
  - 3.7.2 Printer
  - 3.7.3 Monitor
- 3.8 Identifying Keys on Keyboard
- 3.9 CPU
- 3.10 UPS



### 3.1 What is Desktop?

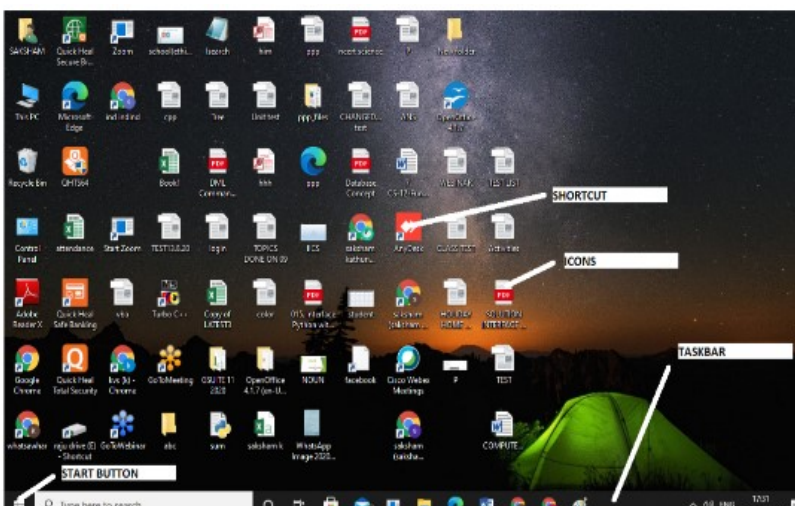


Fig. 3.1 Desktop

Aryan:- Hey, we have learnt so much about computer, its components, advantages and disadvantages but still I am unclear about its Desktop. Can you please tell me again?



**Gowri:-** Yes, when we switch on the computer, the first screen we see is called DESKTOP. It is helpful to store commonly used files, folders and application shortcuts on your desktop and small pictures are **ICONS**.



**Aryan:** I do not like this background image. Its too dark. Can I change it?

**Gowri :** Yes you can **change background image**. Just follow the steps:

1. Right click on an empty space on the desktop and click on Personalize. (see Fig 3.2)

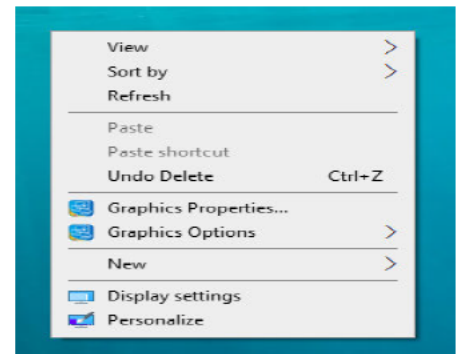


Fig. 3.2

2. Click on Background
3. Choose picture from list or Browse the picture on your computer as shown in Fig 3.3

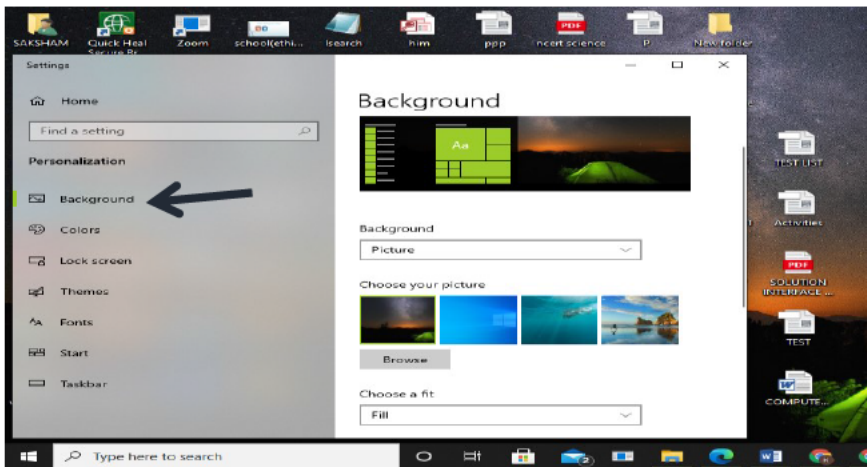


Fig. 3.3



**Aryan:** What is **START BUTTON**?

**Gowri:** When **START BUTTON** is clicked, it will display files and folders in the computer, search option to search anything in computer. It also gives option to Shut down.

**Aryan:** I have seen two icons on almost all the computers 'This PC' and 'Recycle Bin', Please tell me about these two.

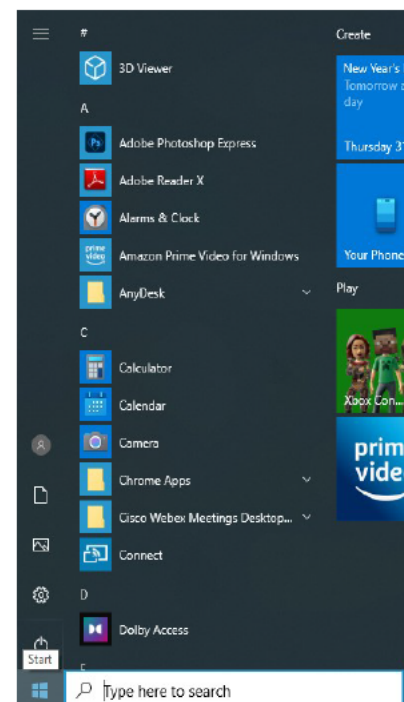


Fig. 3.4

**Gowri:** **This PC:** This icon is available on Desktop Screen. It shows all the disk drives and the hardware connected to this computer.



to this



**Recycle Bin:** The Recycle bin is just like a dustbin. It contains all the deleted files and whenever a file is further needed it may be recovered, it is done by simply pressing restore button in the recycle bin.



**Aryan:** Thank you for telling me all about the Desktop. Now I want to know about the Devices which are attached to computer.

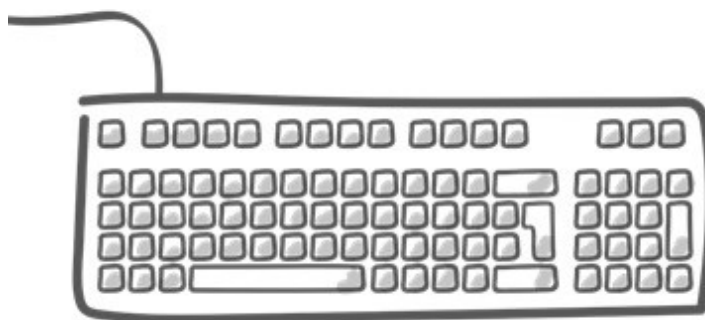
**Gowri:** OK, first of all I want to tell you what these devices are called which are attached to the computer. These devices are called as **PERIPHERALS**.



And these devices are of two types: INPUT devices and OUTPUT devices.

➤ **INPUT Devices:** These devices are used for transferring data we enter to the computer and there are many devices which can be used to enter the data. Some of input devices are:

### 1. Keyboard



**Fig 3.6**

It is used to type letter, numbers & select symbols into a computer.

### 2. Mouse

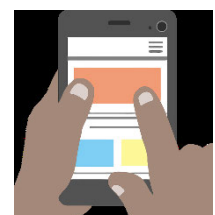


**Fig 3.7**

It is a pointing device, used to move items on the screen.

### 3. Touch Screen

It is a **display screen** (as for a computer) on which the user selects options by **touching the screen**.



**Fig 3.8**

- **OUTPUT Devices:** These devices are used to transfer data out of the computer in the form of text, images, sounds, or other media.  
Some of output devices are:

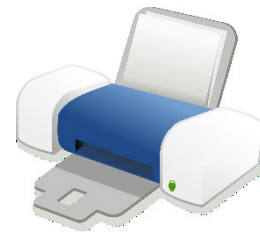
**1. Speaker:**



**Fig 3.9**

It is used for sound output from computer

**2. Printer:**



**Fig 3.10**

It is used to take printout from computer

**3. Monitor:**



It displays whatever you type Or draw on computer.

**Fig 3.11**

**Aryan:** OK, now I understood about Peripherals. But why there are so many keys on a keyboard, what are their use?

**Gowri:** OK, now I will tell you about the functions of these keys.



**Fig 3.12**

- **Alphabetical keys:** There are 26 alphabet keys A, B, C.....Z on the keyboard. When we press these keys, that alphabet in small case will be displayed on the screen.
- **Numerical Keys:** There are 10 numeric keys 0..9 on the keyboard.
- **Enter Key:** This key is used to finish a line and move to a next new line on the page.
- **Ctrl key:** This key is used in conjunction with other keys to perform special operations like Ctrl+C to copy, Ctrl+V to paste etc.
- **Shift Key:** This is a modifier key on a keyboard, used to alternate case of characters. When used with lower case the type Upper case character and vice versa.
- **Alt Key:** This key enables alternate uses of other keys. e.g. if we press 'F' on keyboard it will type F character but if we press 'Alt+F' then file menu will be opened.
- **Space Bar:** This key is used to insert the space between two word. It is the longest key on the keyboard
- **Arrow Keys:** -These are used to move the cursor position in all directions (left, right, up and down) in the page
- **Caps Lock:** This key is used to type letter in a capitals.
- **Tab key:** This key moves the cursor to the next tab stop.
- **Function Keys:** Each of these key have a different job to perform. These functions are different in different programs.

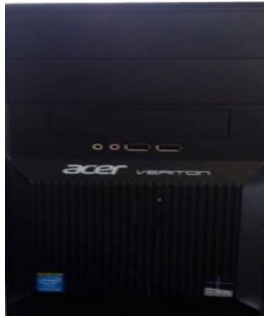


Aryan: You have discussed about all the devices, but still I don't know about this black box to which keyboard, mouse, monitor are connected. What is this?

Gowri: This black box is CPU. We discussed a little about this in the previous chapter, now I tell you in detail. **It is that part of computer which controls all the other parts of computer**

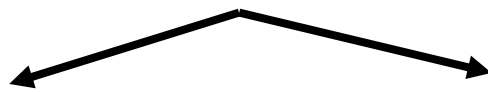






**Fig. 3.13**

CPU is further divided into two parts:



**CU (Control Unit)**

It controls the processing of computer.

**ALU (Arithmetic Logical Unit)**

It handles both arithmetic and logical operations.

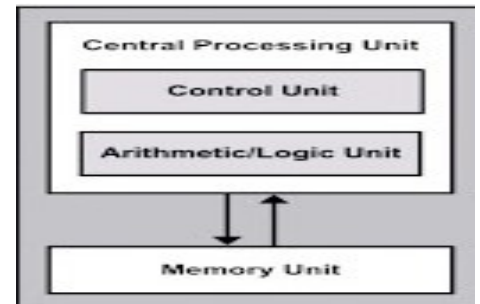
**Aryan:** What is other box which we switch on before CPU.?

**Gowri :** This is called UPS.

It's full form is Uninterruptible Power Supply. It provides battery backup when the electrical power fails for some time.



**Fig. 3.15**



**Fig 3.14**

**EXERCISE**

**SOMETHING TO KNOW**

**A. Answer the following questions.**

1. What is the use of Ctrl key on keyboard?
2. List any two input and output devices?
3. What is ICON?
4. What are the steps to change Desktop background?
5. What is CPU. Explain its parts?

**B. Fill in the Blanks**

1. \_\_\_\_\_ is the first screen when we switch on the computer.
2. Printer can give the output on \_\_\_\_\_
3. \_\_\_\_\_ provides battery backup when the electrical power fails.

4. \_\_\_\_\_ is used to finish a line and move to a next new line.
5. \_\_\_\_\_ is a pointing device.

**C. Match the Following.**

1. Input device	a) 
2. UPS	b) 
3. Brain of computer	c) 
4. Takes printout	d) 
5. Recycle bin	e) 

**D. Answer in one word.**

1. Full form of UPS \_\_\_\_\_.
2. It controls the processing of computer \_\_\_\_\_.
3. This key is used to type letter in capitals \_\_\_\_\_.
4. This device is used for sound output \_\_\_\_\_.
5. Devices that are attached to the computer are called \_\_\_\_\_.

**E. State True or False**

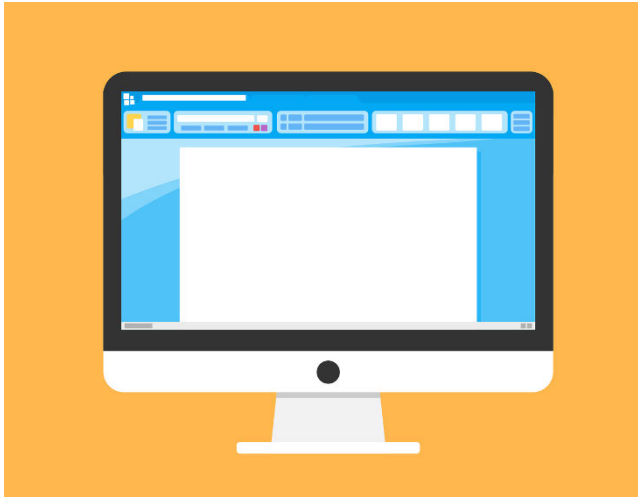
1. We cannot restore files from Recycle Bin.
2. Taskbar displays files and folders in the computer.
3. ALU performs arithmetic and logical operations.
4. Icon is a small graphic representation of a program or file or application shortcuts
5. Shift key is used to insert the space between two words.

**SOMETHING TO DO**

1. Go to the lab and switch on the computer.
2. Change the background of your desktop after showing it to your teacher.
3. Click on This PC icon on Desktop and see the files on your computer.

# 4 LIBREOFFICE DOCUMENT WRITER

- 4.1 Introduction to Document Writer
- 4.2 Getting started with Document Writer



## 4.2.1 Title Bar

## 4.2.2 Menu Bar

## 4.2.3 Standard Tool Bar

## 4.2.4 Formatting Tool Bar

## 4.2.5 Side Bar

## 4.2.6 Status Bar

## 4.2.7 Context Menu

## 4.3 Exploring Writer

### 4.3.1 Creating new document

### 4.3.2 Saving a document

### 4.3.3 Opening an existing Document

### 4.3.4 Closing a document

### 4.3.5 Closing Libre Office

## 4.4 Formatting text using formatting toolbar

## 4.5 Editing Text - Selecting Text, Cut, Copy, Paste, Undo, Redo

## 4.6 Find and Replace text

## 4.7 Bullets and Numbering

## 4.8 Viewing a document- Normal, web and Full

## 4.1 Introduction to Document Writer

**Aryan:** - Gowri, yesterday we make a list of activities we did in summer vacations. I want to make digital file but I don't know which application I can use to do it.



**Gowri:** - You can use any text editor. Let me tell you all about word processing.

**Aryan:** - What is Word Processing?

**Gowri:** - When we use a computer to create, edit and format Text it is called word processing. You can create digital document using it.

**Aryan:** - What do you mean by a document?

**Gowri:** - A readable file stored in a computer can be termed as a document. An electronic copy of any reference material for a product, project, person, place etc.is called a document.

**Aryan:** - How do we create a document digitally?

**Gowri:** - An electronic document is created using a word processor Software.

**Some Examples of word processors are**

Microsoft word, LibreOffice Document Writer, Google Docs, Pages for iOS Lets ask our teacher about them.



We can create many different types of documents in it. I have seen my brother doing it. Let's us ask our teacher about it and learn in class.

The teacher shows pictures of some of the documents to the students mentioned as below and ask them if they have seen such documents earlier or not.

# EXAMPLES OF VARIOUS TYPES OF DOCUMENTS



 <p><b>FORMAL LETTER</b></p> <p>A formal letter is used when you write to someone you do not know or the content is important. Examples include job applications and business letters. Plan out your letter and ask yourself:</p> <ul style="list-style-type: none"> <li>Why am I writing this letter?</li> <li>Who is my audience?</li> <li>What response do I want?</li> </ul> <p>The name and address of the person to whom you are writing.</p> <p>Your full address.</p> <p>Dear Mr. Taylor, Customer Service Manager, Taylor, Inc., 10000 Main Street, New York, NY 10001</p> <p>Dear Mr. Taylor, Re: Customer Service Complaint, Order Number 0988606</p> <p>I am writing to complain about the awful customer service that I received from your company over the last six weeks in relation to my order. I purchased a computer game on the 15th June, on a guaranteed five-day delivery service, promising plenty of time for delivery before my son's birthday in July.</p> <p>After six days, the game still hadn't arrived so I sent an email to find out what the delay was. Three days later, there was still no response, so I tried to contact you by phone. However, I was only able to get through to an answer phone message. The next day, I finally spoke to one of your customer service representatives, who assured me that my order had finally been dispatched and would be delivered on the 21st July, and to thank you for your patience.</p> <p>Much to my disappointment, six weeks after placing my order, I am still waiting for the computer game to arrive. The issue has caused an enormous amount of stress and is completely not acceptable from a reputable online retailer. I am offended by the lack of respect shown by your company and demand that a refund be issued immediately.</p> <p>I look forward to hearing from you.</p> <p>Yours sincerely, Mrs. Sarah Williams</p>	 <p><b>HOW MANY DAYS ARE IN A WEEK</b></p> <p>Q4</p> <p>THREE SIX FOUR</p>	 <p><b>Invited!</b></p> <p>SCHOOL SPORTS DAY</p>																																				
<p><b>LETTERS</b></p>	<p><b>QUIZ</b></p>	<p><b>INVITATION</b></p>																																				
 <p><b>MEMBERSHIP APPLICATION</b></p>	 <p><b>CHARLES GATES</b></p> <p><b>Educational Background</b></p> <ul style="list-style-type: none"> <li>University of California, Berkeley, B.S. in Computer Science, 2005</li> <li>Stanford University, M.S. in Computer Science, 2007</li> <li>MIT, Ph.D. in Computer Science, 2010</li> </ul> <p><b>Employment History</b></p> <ul style="list-style-type: none"> <li>Google, Software Engineer, 2005-2007</li> <li>Microsoft, Senior Software Engineer, 2007-2010</li> <li>Facebook, Product Manager, 2010-2012</li> <li>Twitter, Director of Engineering, 2012-2015</li> <li>LinkedIn, Chief Technology Officer, 2015-Present</li> </ul> <p><b>Skills and Professional Certifications</b></p> <ul style="list-style-type: none"> <li>Python, JavaScript, Java, C++</li> <li>Machine Learning, Data Analysis, System Design</li> <li>Project Management, Leadership</li> </ul> <p><b>References</b></p> <p>John Doe, CEO, Google: "Charles is a brilliant engineer and a great leader. He has a proven track record of delivering high-quality products and leading teams of talented individuals."</p>	 <p><b>Happy Teacher's Day</b></p> <p>THANK YOU TEACHER FOR GUIDING ME FOR SUPPORTING ME FOR MAKING LEARNING EASY FOR ME</p>																																				
<p><b>APPLICATION</b></p>	<p><b>RESUME</b></p>	<p><b>GREETING CARD</b></p>																																				
 <p><b>SATURN SHIPPING COMPANY</b></p> <p>Master Bill Page 1</p> <p>BOOKING NUMBER: 67842</p> <p>SALES LINE: 001</p> <p>DATE: 15/06/2024</p> <p>SHIP TO: New York, USA</p>	 <p><b>BROCHURES</b></p>	 <p><b>REPORT</b></p> <p>When can everyone meet to work on our project?</p>																																				
<p><b>BILL</b></p>	<p><b>BROCHURES</b></p>	<p><b>REPORT</b></p>																																				
 <p><b>ART WORK BY KIDS</b></p> <p>SELECTED WORK ART FEST</p> <p>CREATED BY NEHA</p>	 <p><b>पत्रिका</b></p> <p><b>News Letter</b></p> <p>पाठ्य सहगामी क्रियाएँ :- चहुमुखी विकास का प्रवेश द्वार ।</p> <p>साथ पढ़ें साथ बढ़ें केन्द्रीय विद्यालय प्रगति विहार लोधी रोड, नई दिल्ली</p>	 <p><b>TABLE OF CONTENTS</b></p> <table border="1"> <tbody> <tr> <td>4.1</td> <td>Introduction to Document Writer</td> </tr> <tr> <td>4.2</td> <td>Getting started with Document Writer</td> </tr> <tr> <td>4.2.1</td> <td>Title Bar</td> </tr> <tr> <td>4.2.2</td> <td>Menu Bar</td> </tr> <tr> <td>4.2.3</td> <td>ToolBars</td> </tr> <tr> <td>4.2.4</td> <td>Status Bar</td> </tr> <tr> <td>4.2.5</td> <td>Context Menu</td> </tr> <tr> <td>4.3</td> <td>Exploring Writer</td> </tr> <tr> <td>4.3.1</td> <td>Creating new document</td> </tr> <tr> <td>4.3.2</td> <td>Saving a document</td> </tr> <tr> <td>4.3.3</td> <td>Opening an existing Document</td> </tr> <tr> <td>4.3.4</td> <td>Closing a document</td> </tr> <tr> <td>4.3.5</td> <td>Closing LibreOffice</td> </tr> <tr> <td>4.4</td> <td>Writing Text - Font Size, Font Name, Font Style</td> </tr> <tr> <td>4.5</td> <td>Editing Text - Selecting Text, Cut, Copy, Paste, Undo, Redo</td> </tr> <tr> <td>4.6</td> <td>Find and Replace text</td> </tr> <tr> <td>4.7</td> <td>Bullets and Numbering</td> </tr> <tr> <td>4.8</td> <td>Viewing a document- Normal, web and Full screen</td> </tr> </tbody> </table>	4.1	Introduction to Document Writer	4.2	Getting started with Document Writer	4.2.1	Title Bar	4.2.2	Menu Bar	4.2.3	ToolBars	4.2.4	Status Bar	4.2.5	Context Menu	4.3	Exploring Writer	4.3.1	Creating new document	4.3.2	Saving a document	4.3.3	Opening an existing Document	4.3.4	Closing a document	4.3.5	Closing LibreOffice	4.4	Writing Text - Font Size, Font Name, Font Style	4.5	Editing Text - Selecting Text, Cut, Copy, Paste, Undo, Redo	4.6	Find and Replace text	4.7	Bullets and Numbering	4.8	Viewing a document- Normal, web and Full screen
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4.7	Bullets and Numbering																																					
4.8	Viewing a document- Normal, web and Full screen																																					
<p><b>COVER DESIGNS</b></p>	<p><b>PAGE NEWSLETTER</b></p>	<p><b>TABLE OF CONTENTS</b></p>																																				

Fig 4.1

**Aryan** says he loves greeting cards and Invitation cards.

**Gowri** recalls that she has seen a table of contents in her text books.

**Arush** talks about a bill seen at the grocery shop and a letter seen with his brother which he received from a friend.

**Teacher** appreciates the students for taking active participation in the class.



**Aryan** was very enthusiastic and asks the teachers to give demonstration so that they can learn and create their own documents.

Then teacher opens the LibreOffice document Writer software and starts explaining how to work with the software.



## 4.2 GETTING STARTED WITH DOCUMENT WRITER

### First look into the writer window

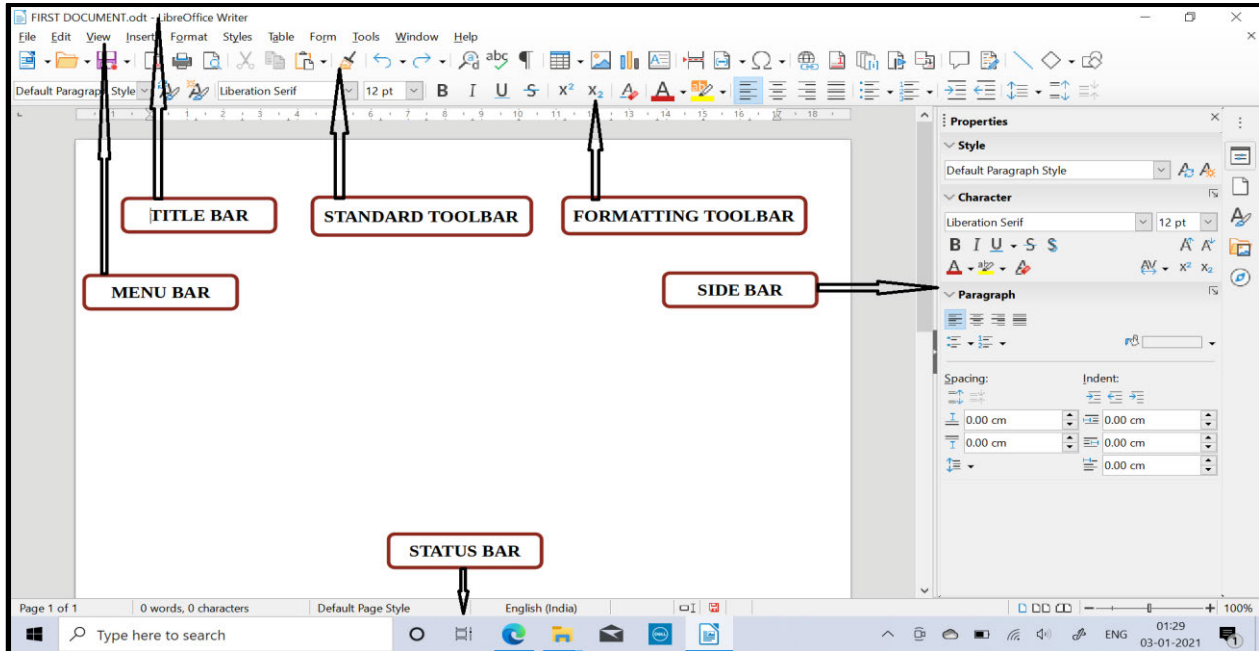


Fig 4.2

#### 4.2.1 Title Bar

- ✓ The Title bar is located at the top of the LibreOffice window
- ✓ The Title bar contains the full name of the document
- ✓ It also contains the file extension for the documents
- ✓ It contains the controls for closing, minimizing and maximizing the window

#### 4.2.2 Menu Bar

- ✓ Menu Bar is located on the top of writer window just after the Title Bar
- ✓ Menu Bar Contains Various Menus to perform common functions
- ✓ When we click on any of the menu options available, a dropdown sub-menu containing further information and related functions comes.

#### 4.2.3 Standard Toolbar

- ✓ It is the first toolbar which appears on the window docked just after the menu bar.
- ✓ Toolbars gives users the option to quickly access different features and tools available in the software.

- ✓ The standard toolbar contains the most required functions like new, open, save, print related to file operations along with some editing functions like cut, copy, paste, redo and undo.

#### **4.2.4 Formatting Toolbar**

- ✓ The formatting toolbar is located next to the standard toolbar and contains buttons for text formatting.
- ✓ The text formatting commands like font name, font style, font size, text alignment, bullets, numbering are some of the key functions available on this toolbar

#### **4.2.5 Side Bar**

- ✓ Like Toolbars, the Sidebar also provides quick access to the document's property settings, page settings, Styles Management, the various features of the media gallery, functions for document Navigation. We can switch between the different tab decks by selecting one of them from the tab bar or by clicking on the three vertically aligned dots

#### **4.2.6 Status Bar**

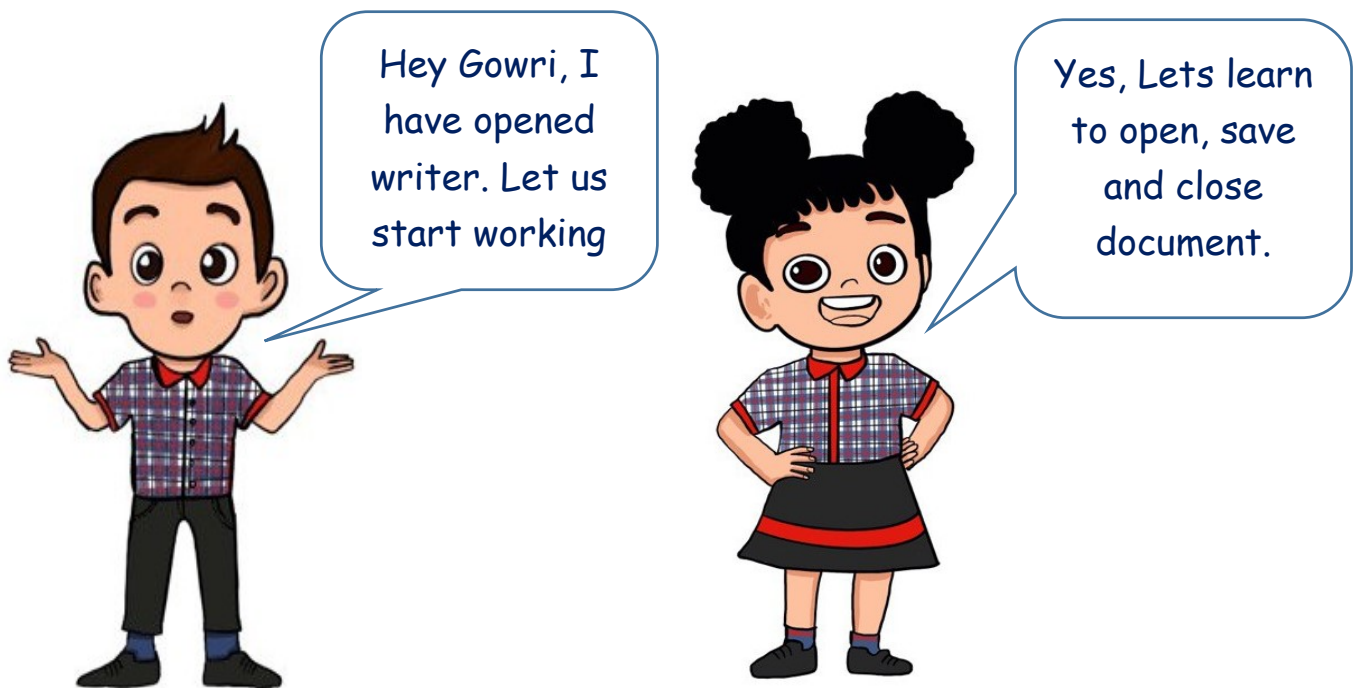
- ✓ The Status bar is located at the bottom of the LibreOffice writer window and contains information about the current document like page number, total number of words and characters, the page style and the language. It also contains the Zoom and View Layout

#### **4.2.7 The Context Menu**

- ✓ The menu which appears when we right click a graphic in LibreOffice is said to be a context menu. We get different menus depending on the graphic item on which mouse is placed before we right click on it.



## 4.3 Exploring Writer



### 4.3.1 Creating a document

We can create a new document by clicking on create icon on the standard toolbar as shown below

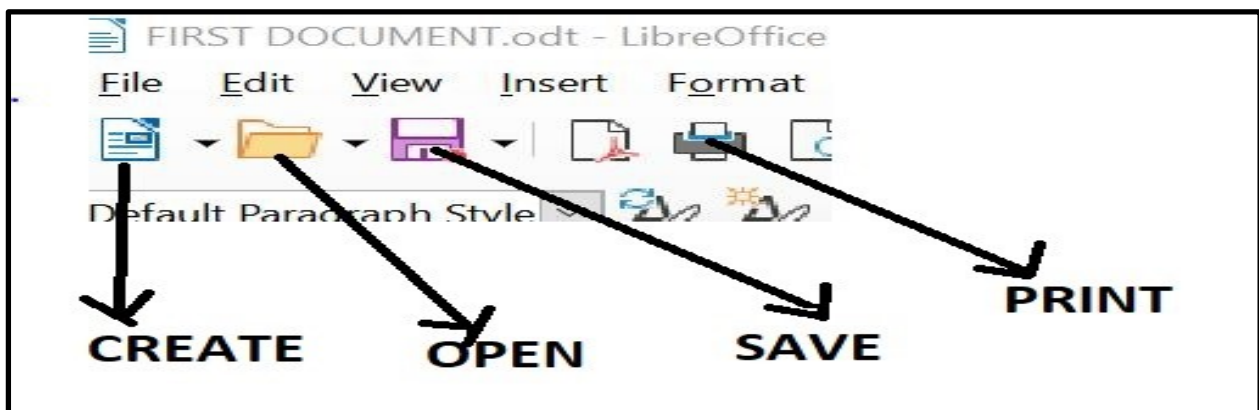


Fig 4.3

We can also create a new document by clicking on the File menu and selecting the new menu option as shown in fig 4.3 and further clicking on the Text Document from the sub menu.

Shortcut Key for creating a new document is **Ctrl+N**.

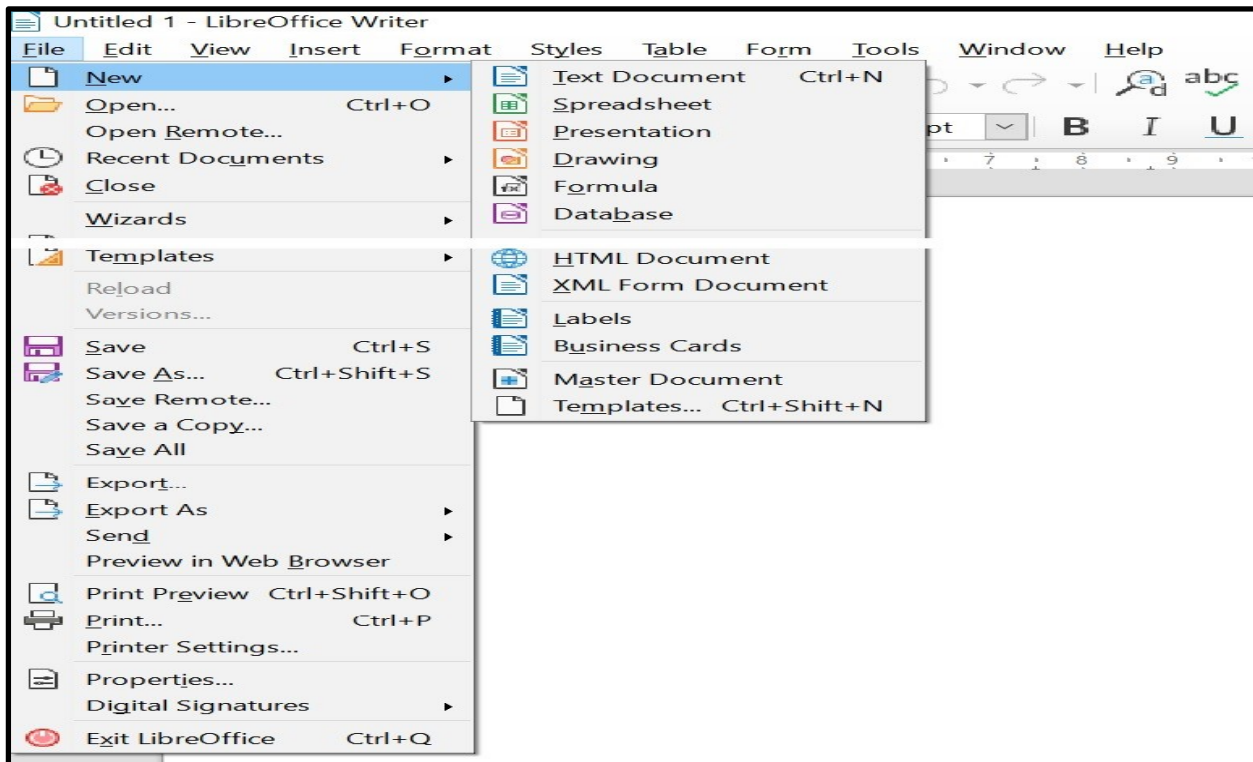



Fig 4.4

### 4.3.2 Saving A Document

Whenever we create a new document, we need to name the document and navigate to the location where we want to save the document for future reference.

The LibreOffice assigns a default name as **untitled1.odt** as soon as we create a new document. The name can be seen at the top left corner of the document on the Title bar. Here untitled1 is the name of the document and **odt** is the extension for the document writer file. **Odt stands for Open Document Text.**

It is always advisable to thoughtfully name the document as soon as we create the document and save it to a folder of our choice. Giving a meaningful name and storing it in an appropriate location helps us to search our documents at a later stage easily.

We can save a document by pressing save icon  on a standard toolbar or by choosing the save option from File menu or by simply using the shortcut key **Ctrl+S**. A window shown below will appear where we can provide a name and also can select a location where we would like to save the document.

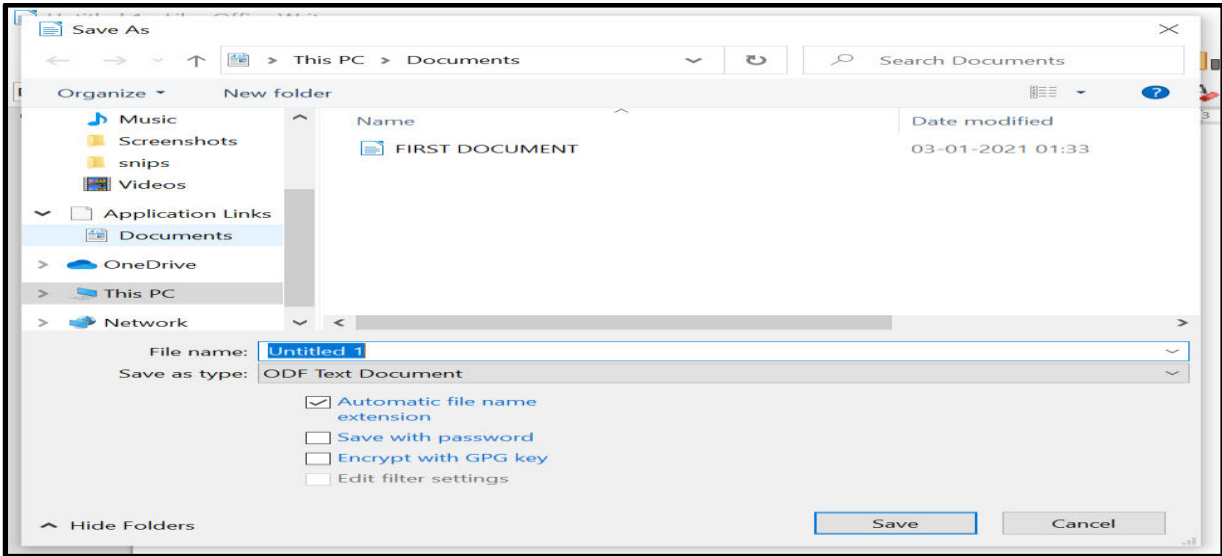


Fig 4.5

### 4.3.3 Open an Existing Document

The welcome screen provides the icons for existing documents when no document is open. We can click on an icon to open the document.

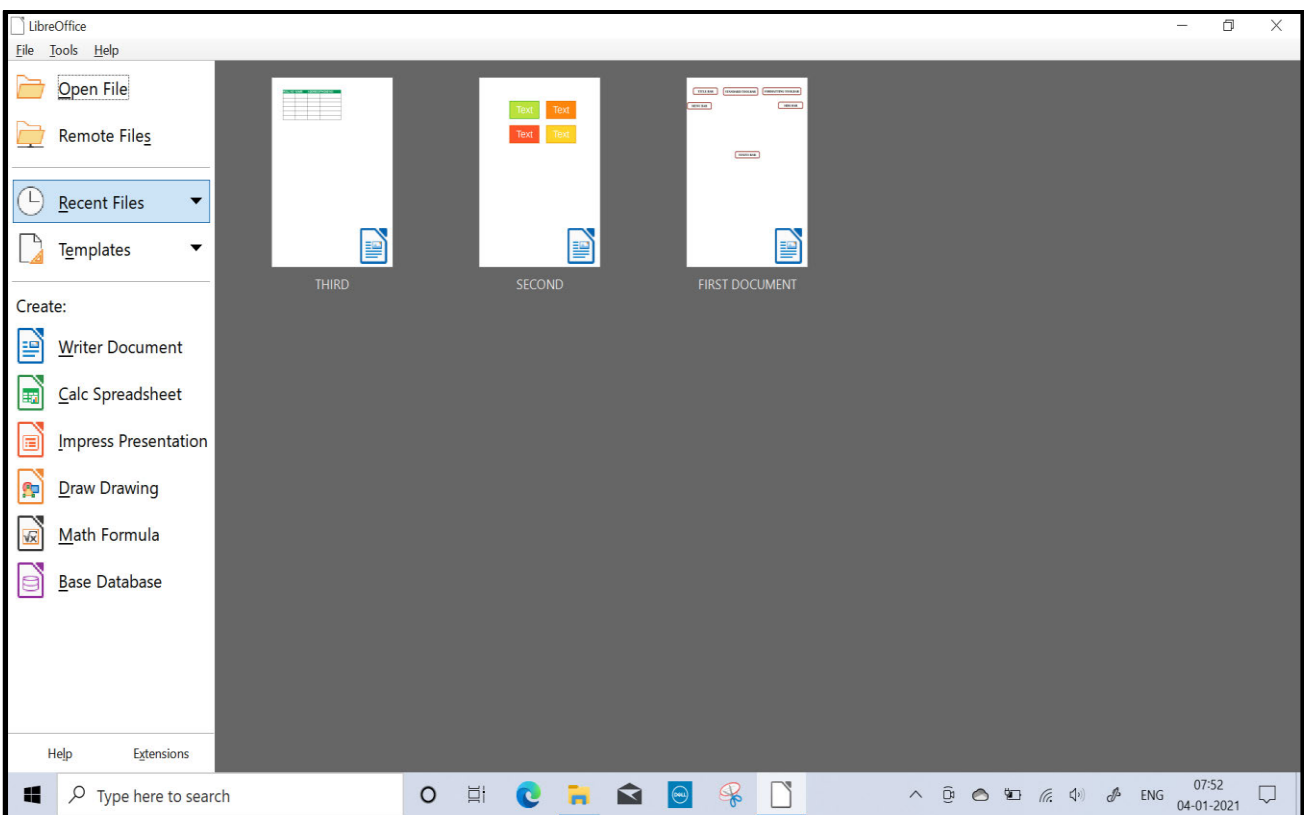


Fig 4.6

In document writer we can use **Ctrl+O** shortcut to open an existing document

Alternatively, we can use the open menu option item from File menu.

We can also use open  icon from the standard toolbar

#### 4.3.4 closing a document

We can close the document by simply clicking the X button on top right corner of the document or by selecting the close menu item from the File menu

#### 4.3.5 Closing LibreOffice

We can close LibreOffice by pressing the **Ctrl+Q** buttons. But remember to save the document before closing LibreOffice

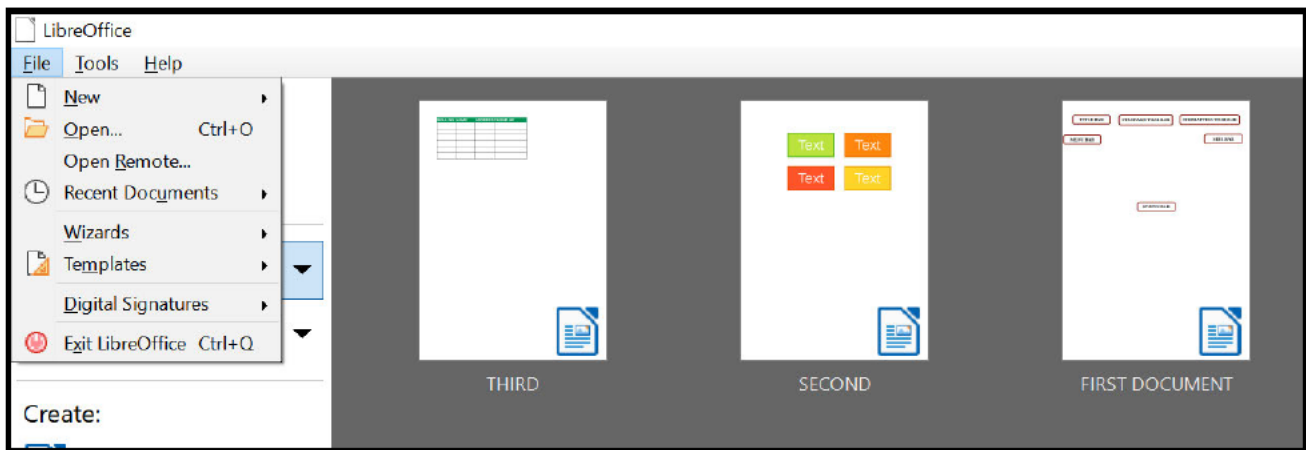


Fig 4.7

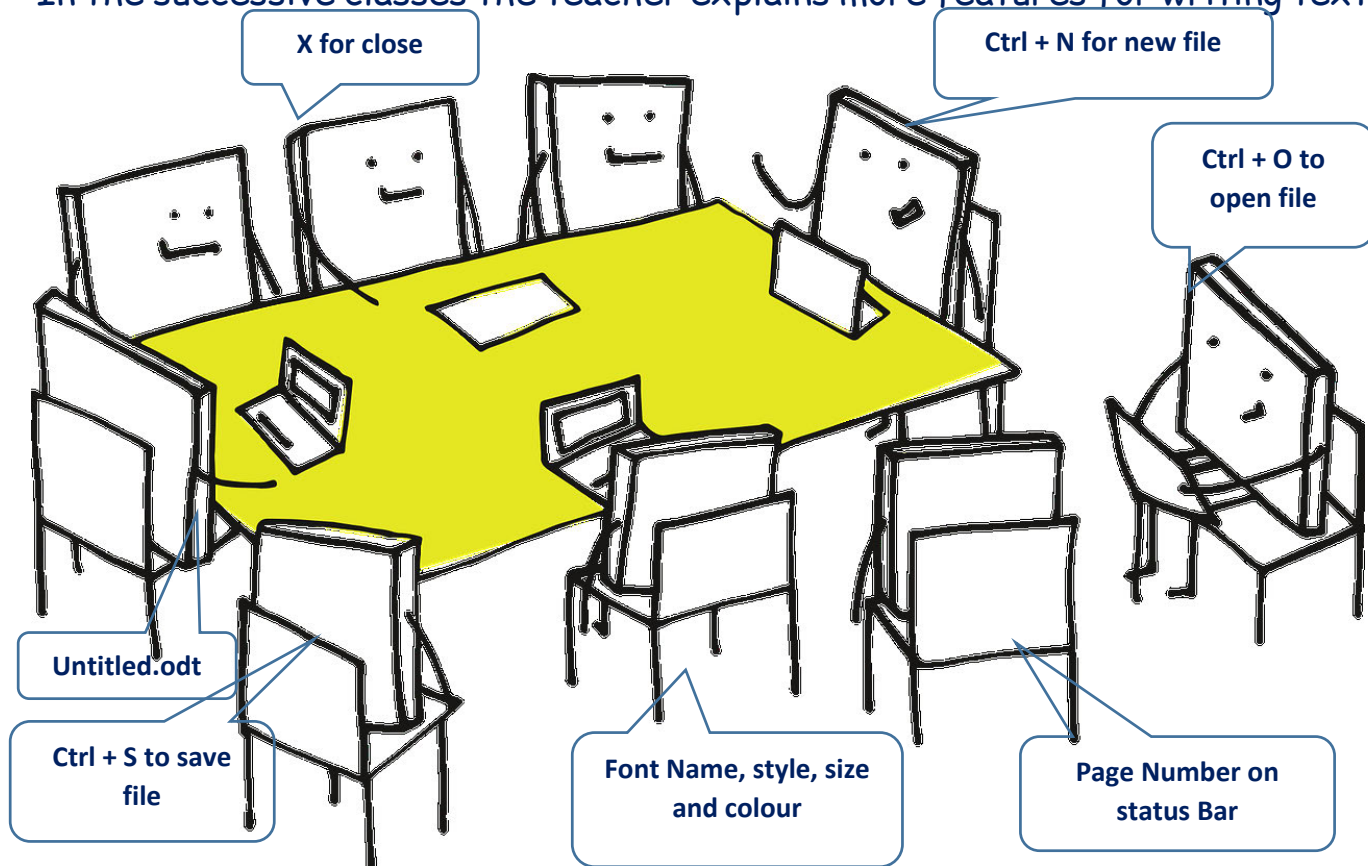
We can also see an Exit LibreOffice menu option under File menu when all LibreOffice applications are closed.



Now the teacher asks the students to do some hands-on practice and explore the software.

Students try to recall all the things discussed in the class do the practice. They were asking for teachers help when required. At the end they all were happy to see their documents with their names on it.

In the successive classes the teacher explains more features for writing text,



editing text, bullets and numbering. The teacher also talks about various layouts of a document.

#### 4.4 Formatting Text using Formatting toolbar



Let us learn some features to format our text to make it more attractive.



There is so much more in writer. WOW!!

The teacher gave the heading **FONTS**. Students starts wondering what this font could be. **Aryan** out of curiosity ask his teacher, what does Font means?

The teachers ask all the students to show their handwriting to the class and ask them what did they observe?

**Anu** says the size of text is different, **Priya** replies that space between the characters and spaces between lines is different.

**Arush** noticed that the students have used different colored pens for writing.

Gowri observed that some students join characters to form words and some do not do so.

Aryan anxiously look into others notebook and replies that some are using slanting lines to form characters, some are highlighting important words, some are underlining the headings.

- **Common text formatting**

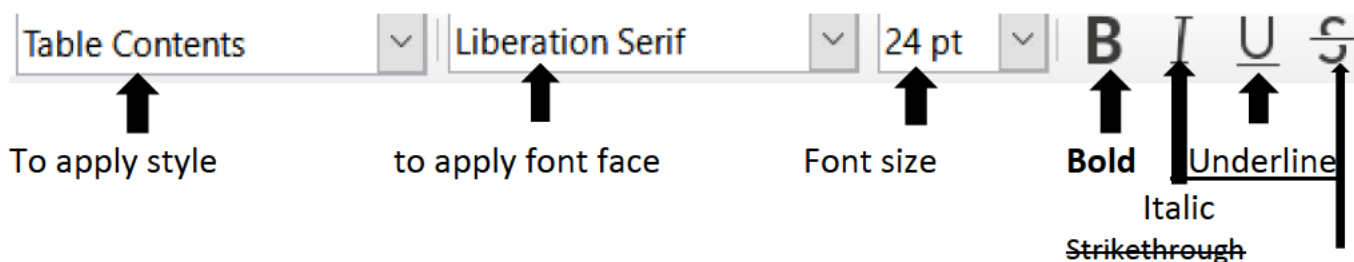


Fig 4.8

These options are the most commonly used text formatting. The teachers start explaining that font is nothing but the graphical representation of text we write on computer. A font is formed by combining various attributes like size, weight, slope and style to make it presentable and printable.

Finally, the teacher informs the students that they are going to learn about fonts, working with text, editing text, and creating wonderful documents.

While writing text into the document we can select the font style, font name and the font size to organize the content and to give it a visual appearance.

- **Superscript**  $X^2$  and **Subscript**  $X_2$ : Select the text and apply either of this.
- **Removing manual formatting:** Click on on formatting toolbar or press Ctrl + M. this will remove all formatting of the selected text.
- **Alignment:**

Align Left Ctrl + L	Align Centre Ctrl + E	Align Right Ctrl + R	Justified Ctrl + J
Text aligned at left side of the space	Text aligned in the center of the space.	Text aligned at right side of the space	Text aligned from both left and right side of the space

- **Changing text case:** to change text as per English language rules.

- UPPERCASE:** Convert selected text uppercase.
- lowercase:** Convert selected text lowercase.
- Cycle Case:** this is special case which works just like undo / redo option. It converts the text in a cycle of previously applied text cases.
- Sentence Case:** Makes first letter of sentence capital. Rest all in small case.
- Capitalize Every Word:** Makes first letter of every word in sentence capital.

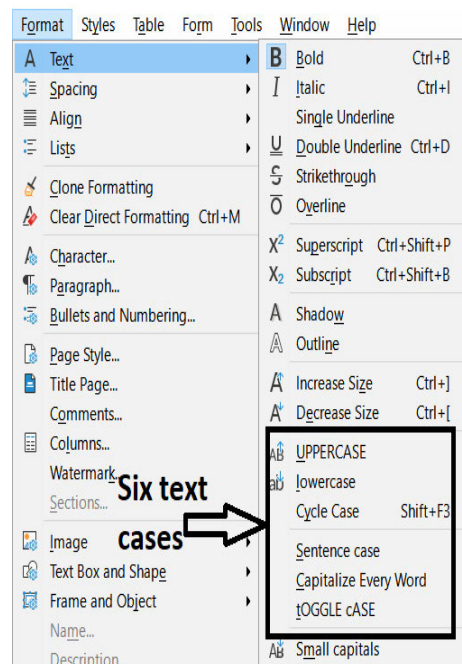


Fig 4.9

- TOGGLE cASE:** It makes every capital letter to small and every small letter to capital in selected text.

## 4.5 Editing The Text

We can quickly make changes into our document by using cut/copy and paste options.

- Cut is used to move a text.
- copy is used when we want to replicate the text.
- Cut/Copy is use to move the text to the Clipboard
- Paste is used to put the most recent text from the clipboard to the desired location.



Fig 4.10

Shortcut keys to Cut is **Ctrl+X**, Copy is **Ctrl+C** and for Paste is **Ctrl+V**

## 4.6 Find and Replace Text

We can search for a particular word or character in a document and replace it with another word or character using the Find and Replace menu option in the Edit menu.

We can even use the **Ctrl+H** shortcut to do the same.

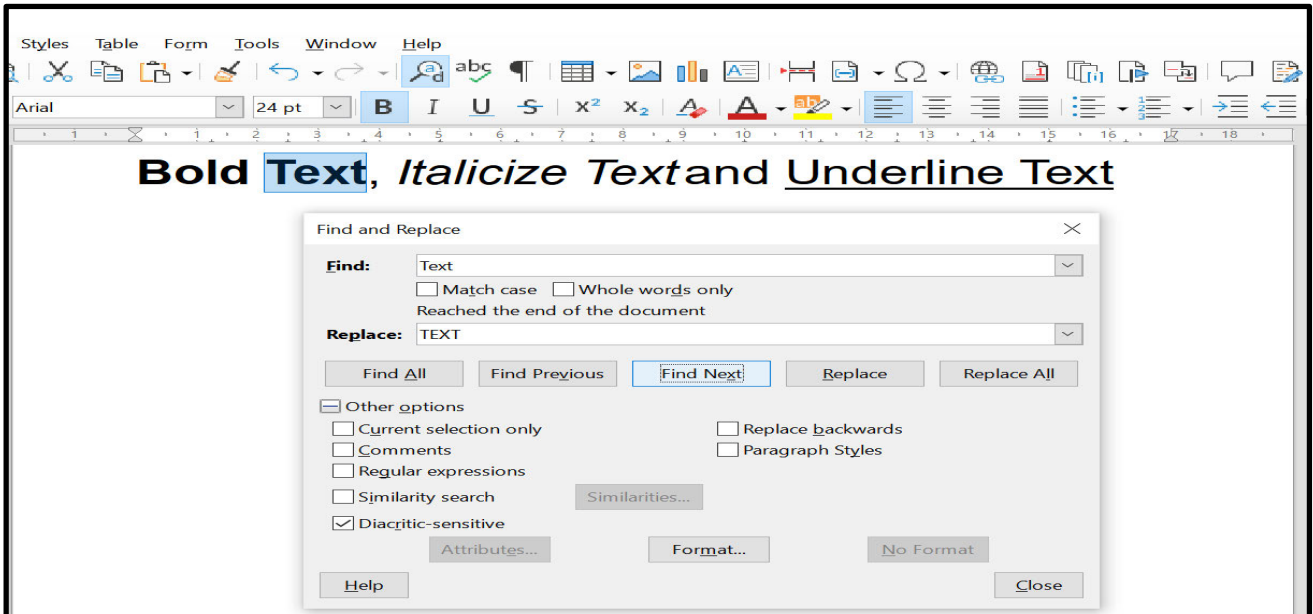


Fig 4.11

In the figure below we want to search for the word Text and replace it with the word TEXT. So, we need to enter the words at the appropriate place in the find and replace dialog box and then click on the Find next button. We can see the first occurrence of the word Text gets highlighted. We need to press the replace button to perform the replacement. We can press the replace all button to replace all occurrences of the word with a new word at once.

## 4.7 Bullets and Numbering



We can use bullets for the unordered list of items and numbering for ordered list in our document

### Use of Bullets

Vegetables we can eat in raw form

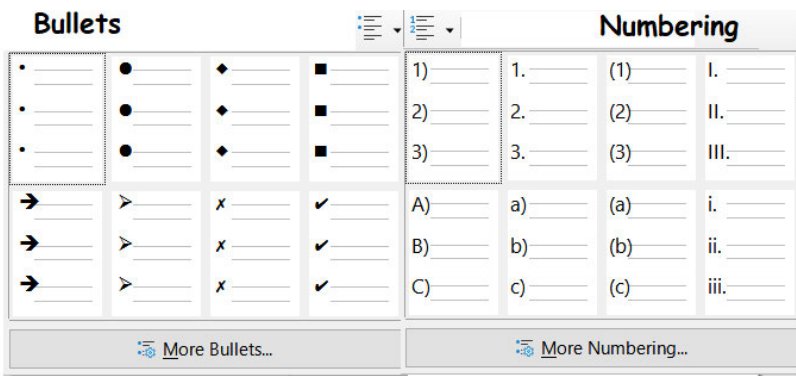
- Tomato
- Cucumber
- Carrot
- Radish
- Cabbage

### Use of Numbering

List of Colors in the Rainbow

1. Violet



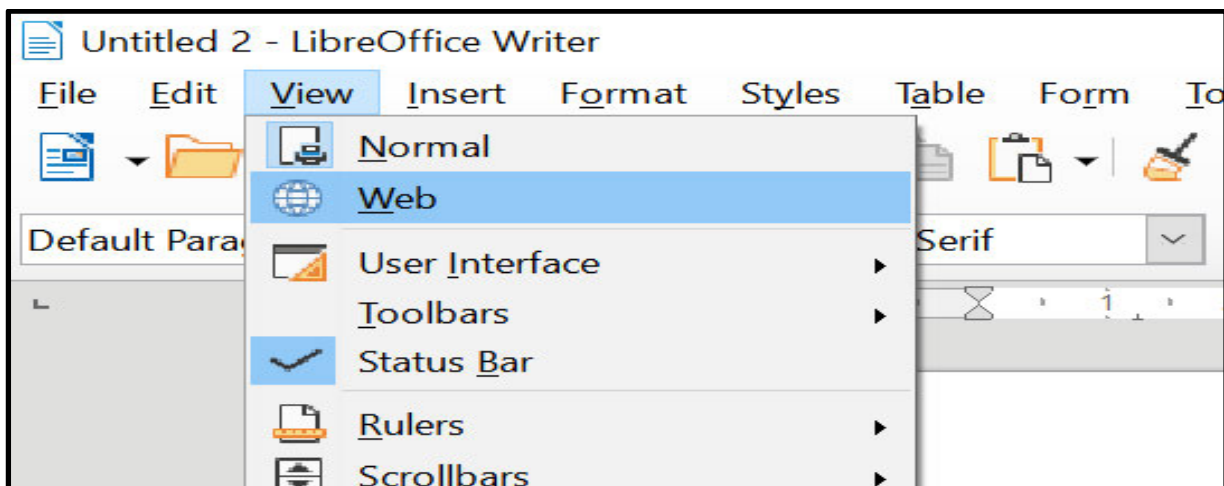


2. Indigo
3. Blue
4. Green
5. Yellow
6. Orange
7. Red

**Fig 4.12**

### 4.8 Viewing a document- Normal, web and Full screen

- There are three different types of views available in the writer - Normal, web layout and the Full Screen views. We can switch between them by selecting one of them from the View Menu.
- Normal or the Print layout is the default view in document writer.
- In Web layout, the layout icons are disabled in the status bar.
- In Full screen view, the document fills the entire screen and no toolbar gets displayed. To leave the full screen mode we can use the escape button



**Fig 4.13**

### Let us revise we have learnt:

- LibreOffice Writer is used to create documents.
- Writer files have extension .odt
- Contents written over pages.

- Toolbars contains icons which gives quick access to various functions and tools
- Standard toolbar gives options to create, open, save, print and close a document
- Formatting toolbar provides access to functions for writing and editing text
- Status bar provides the information of the current document like number of characters, number of words and number of pages
- Context menu appears when we right click on an item
- Formatting toolbar contains font name, type, size, bold, italic, underline, with the facilities of superscript, subscript and text cases.
- To create lists we can use bullets and numbering

## EXERCISE

### SOMETHING TO KNOW

#### A. Answer the following questions.

1. How cut option is different from copy option?
2. Kritika wants to write the names of the days of the week. What option she must use.
3. What does the title bar displays?
4. Anay wants to write  $A^2+B^2$ . Help him out to do so.
5. Name the three Layouts available in writer.

#### B. Fill in the Blanks.

- i. The default name given to a new document by LibreOffice automatically is \_\_\_\_\_.
- ii. When we use a computer to create, edit and format Text it is called \_\_\_\_\_.
- iii. Zoom Slider to adjust magnification is present on \_\_\_\_\_ bar.
- iv. We can Press \_\_\_\_\_ button to exit from full screen mode
- v. Text aligned from both left and right side of the space is known as \_\_\_\_\_ alignment.

**C. Match the following**

a) copy	p) Ctrl + H
b) paste	q) Ctrl + E
c) Centre Align	r) Ctrl + C
d) Find and replace	s) Ctrl + Q
e) Exit LibreOffice	t) Ctrl + V

**D. Select the right option**

i. Font Name can be changed from \_\_\_\_\_.

a. Status Bar	b. Standard Toolbar
c. Formatting Toolbar	d. Title Bar

ii. Maximize, Minimize and Resize options are available on \_\_\_\_\_

a. Standard Toolbar	Title Bar
c. Status Bar	Menu Bar

iii.  icon is used to

a. Open a file	b. Close a file
c. Create a file	d. Save a file

iv. File extension for a writer file is

a. .odf	b. .ods
c. .odt	d. .odp

v. When we right click a graphic item a dropdown menu appears and is called

a. Side menu	b. Help menu
c. Sub menu	d. Context menu

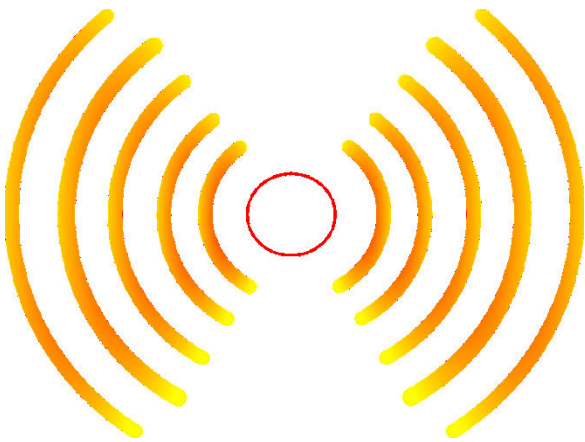
## QUESTIONS BASED ON CCT

- E. State whether following statements are True or False. (GIVE REASONS)
- a. We need to select the text before applying any formatting if we need to change its appearance.
  - b. Page Number appears on the Side Bar
  - c. Replace all helps to do all replacements at once.
  - d. We can use Ctrl + S to save a document
  - e. In Full screen view, the document fills the entire screen and all the toolbar gets displayed.

## **SOMETHING TO DO IN LAB**

1. Observe any five similarities between Writer and Impress. Make a slide in Impress and write similarities there.
2. Insert a picture in Writer. Rotate it Clockwise. Then copy this rotated image. Now open Impress and paste that picture in the slide. Now observe the following
  - Is the image copied?
  - Is the image in its original shape or in rotated shape?
3. Take at least five pictures and insert in one presentation one picture in one slide like insert in next slide to previous one. Now start slide show from the first slide and enjoy. Hope you like it.

## 5. INTERNET



5.1 Introduction to Internet

5.2 Webpage

5.3 Website

5.4 Web browser

5.5 Opening a website

5.6 Search Engines

### 5.1 Introduction to Internet

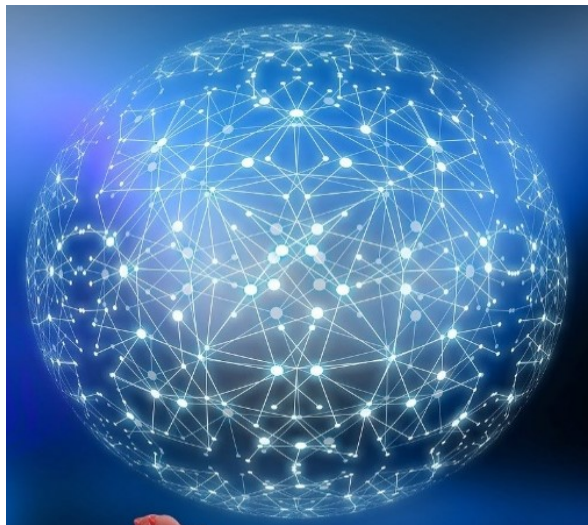


**Gowri** :- Aryan, do you know? How you are able to do video calling, sending messages within seconds, playing online games etc.?

**Aryan** :-Yes, I know through Internet. We also attended our online classes thanks to internet. But I do not know what it is.



**Gowri** :- The Internet is an interconnection of millions of computers by which we can share the information digitally. It is a global Network. The Internet is used in almost all the fields like Government, Education, Defense, Medical, Reservation etc.



**Fig. 5.1: Internet**

Let me tell you about different terms related to this.

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### 5.2 Webpage

A web page is a digital content page, which may contain text, images, videos, audios, games etc.



Fig. 5.2: Homepage KVS DELHI REGION

A website is a collection of related webpages. Webpages are connected through hyperlinks.

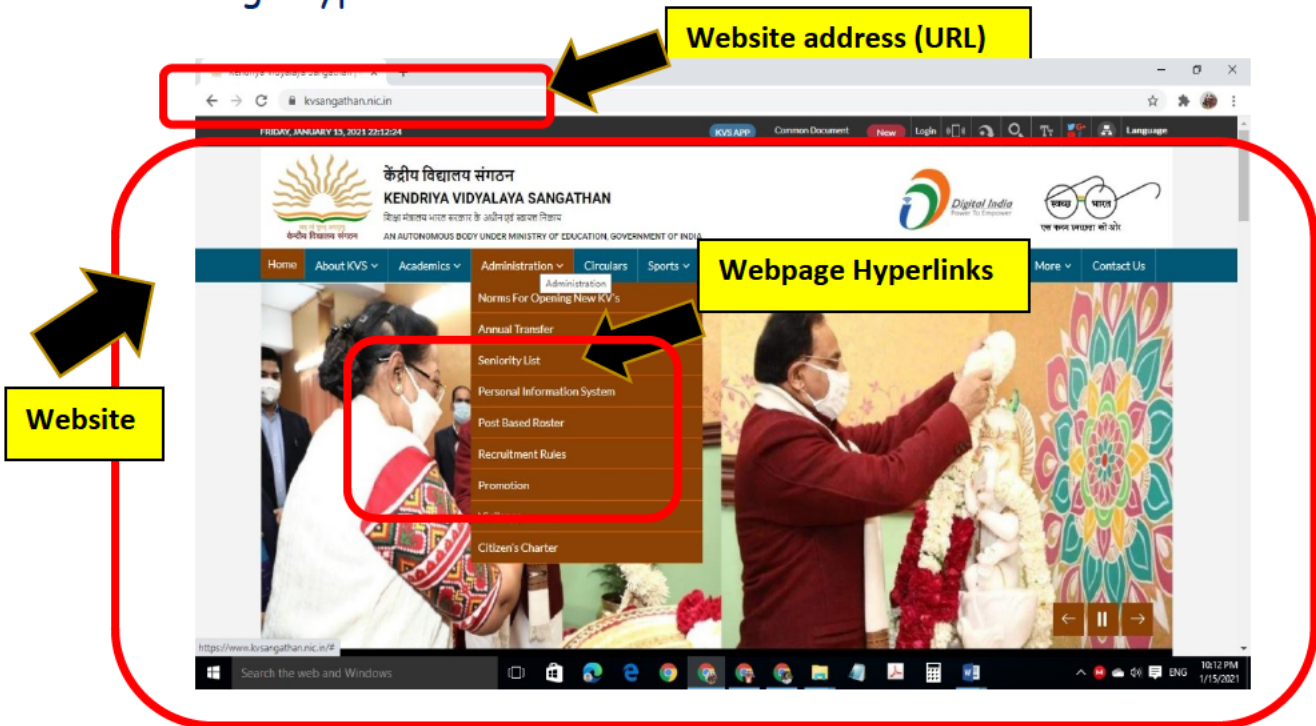


Fig. 5.3: Website KVS HQ

## 5.4 Web Browser

It is a software program to access websites, open the web pages and display the web contents. Different web browsers are used for desktop and mobile.

Most popular web browser used are as follows:



Fig.5.4: Desktop web browser



Fig.5.5: Mobile web browser

### Parts of web-browser

Different web-browsers have their different interfaces. A popularly used web browser is Google chrome. Let's see parts of chrome web browser.

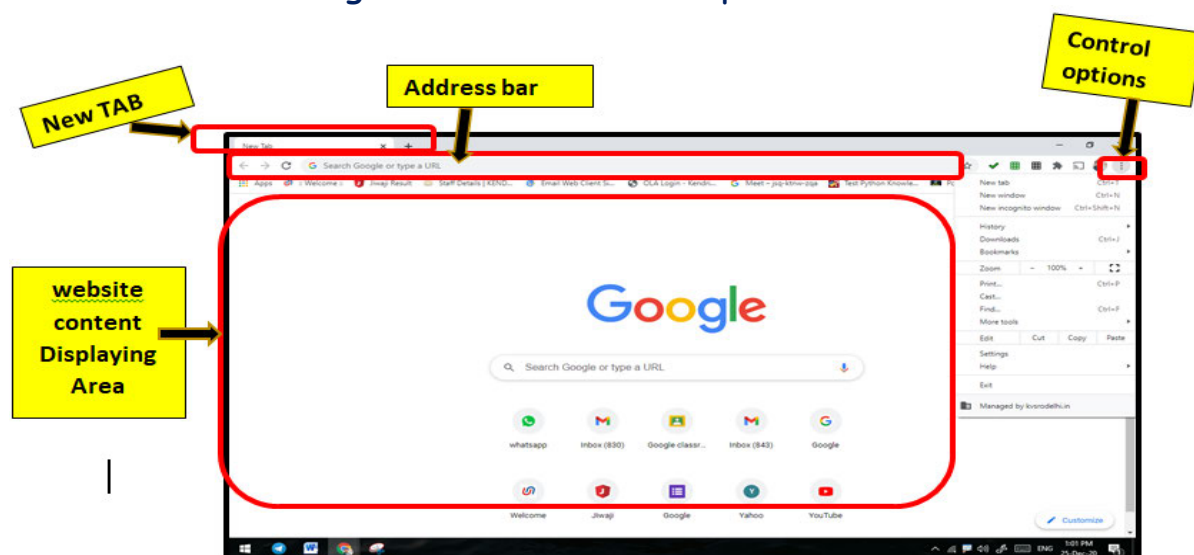


Fig. 5.6: Parts of Google Chrome web browser

**Address bar:** It is a place where we have to type a website address.

**Tab:** It is used to open new websites in the same browser.

**Control options:** It is used to customize the setting of Chrome

## 5.5. Opening a website

To send an item to a person physically, we require the address of a person, similarly to access a website, we require a web address of a website called Uniform Resource Locator (URL).

e.g. URL of Kendriya Vidyalaya Sangathan is:

<https://kvsangathan.nic.in/>

URL of Kendriya Vidyalaya Sangathan, Regional office Delhi is

<https://rodelhi.kvs.gov.in/>

### Steps to open a website:

**Step 1:** Open any of these  web browsers

**Step 2:** After opening web browser write correct web address in Address bar e.g. [www.google.com](http://www.google.com)

**Step 3:** Then Press Enter , you will get the website content on your screen

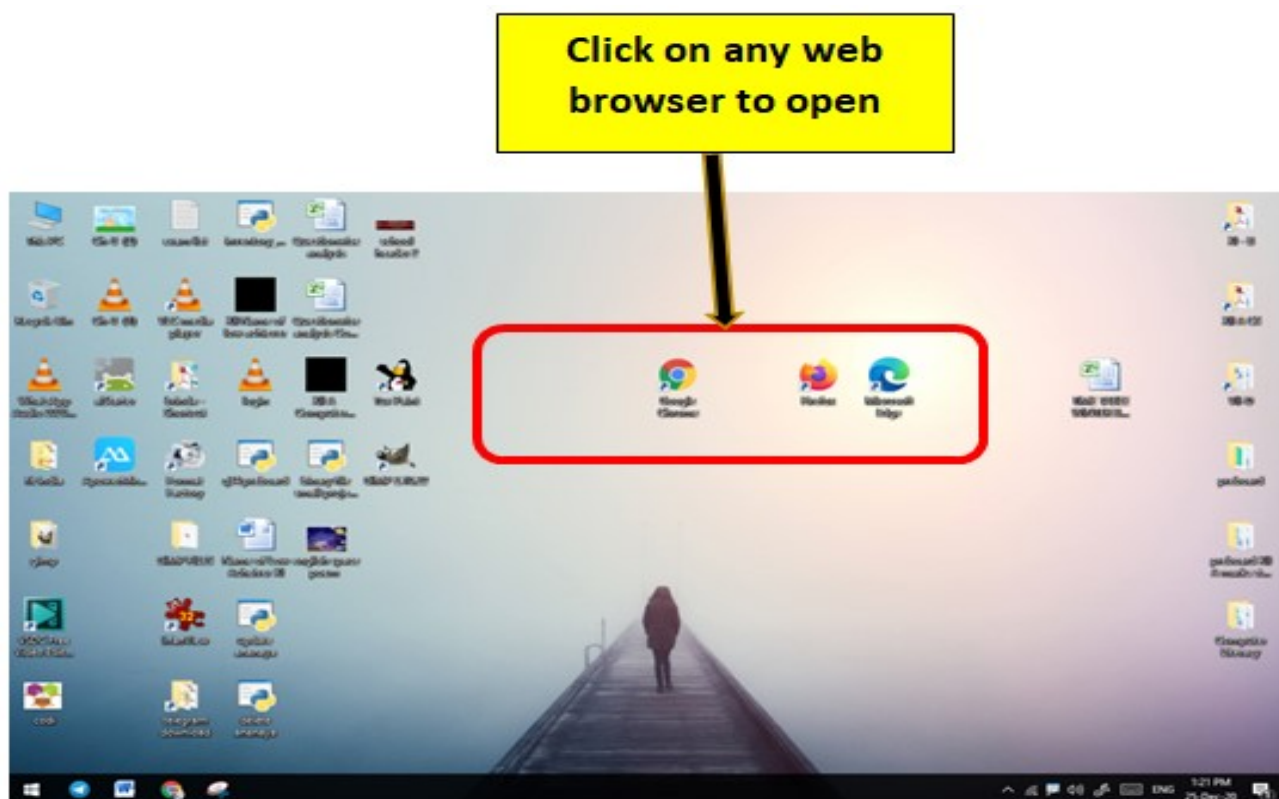


Fig. 5.7: Opening Web-Browser



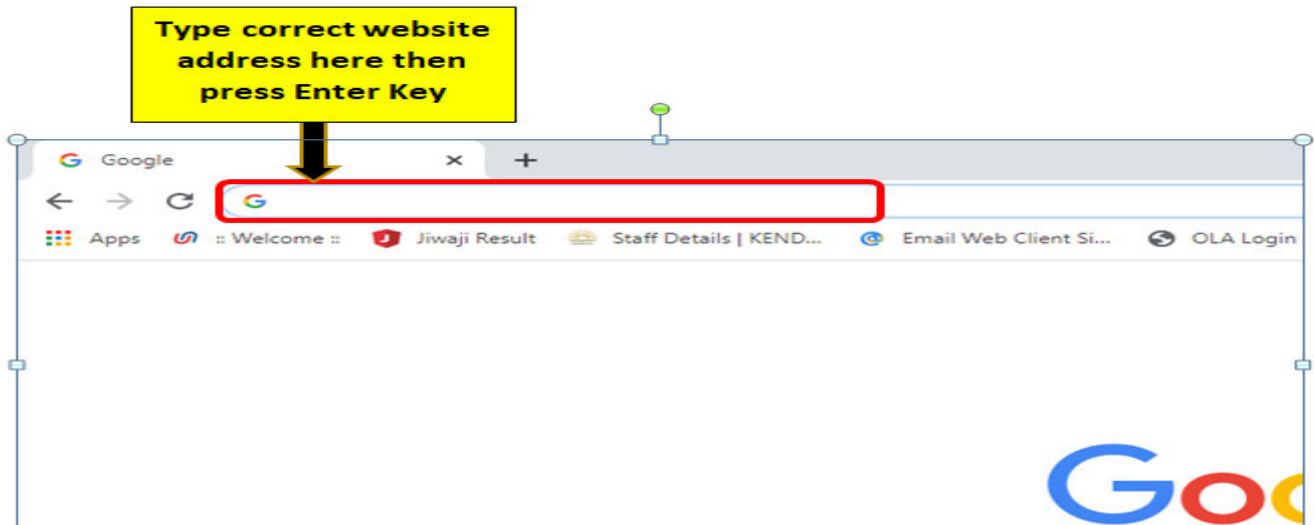


Fig. 5.8: Writing web address in Address toolbar

## 5.6 Search Engines

It is a website, which searches the websites for a particular word/topic given. Search Engines are used to search anything online, like education, jobs, shopping etc.

Top most Search engines are Google, yahoo, Duckduckgo, yandex etc.



Fig. 5.9: Search Engine examples

### How to search any topic on a website?

Steps to search a topic by search engine:

**Step 1:** Open any web  browser

**Step 2:** After opening web browser write name of any search engine website in address bar e.g. www.google.com

**Step 3:** Then Press Enter

**Step 4:** Write the topic to be searched in search box and press enter or click on search button

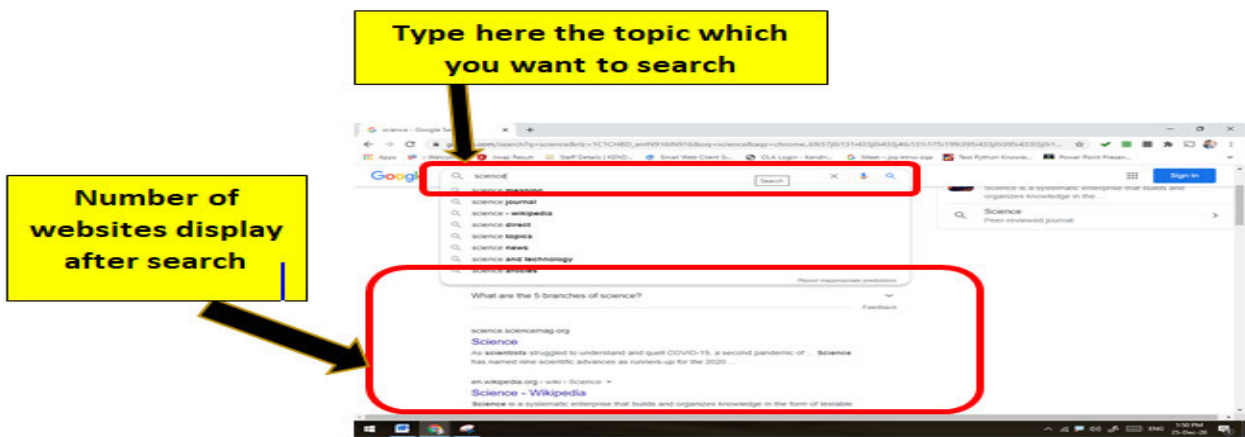


Fig. 5.10: Searching any topic

**Project: Search your school website address using a search engine.**

You must remember your school website address to know the latest information about the school. Let's find your school website address. Consider your school name is Kendriya Vidyalaya Sector-8, R K Puram.

**Step 1:** Open any web browser

**Step 2:** Open [www.google.com](http://www.google.com) search engine

**Step 3:** Type your school website, for example [rkpuramsector8.kvs.ac.in](http://rkpuramsector8.kvs.ac.in) search box and press enter or click on search button

Then you will see the number of websites after search then identify the correct website address of your school website like in this case <https://rkpuramsec8.kvs.ac.in/> is the web address K V sector-8, R K puram.

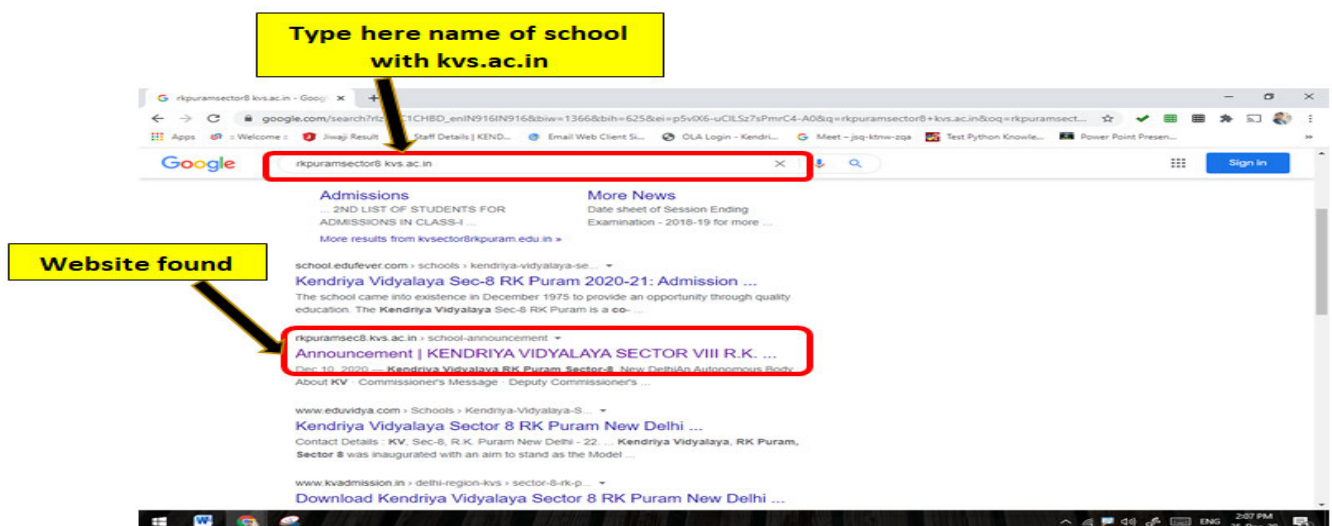


Fig. 5.11: Searching your school website address

## EXERCISE

### SOMETHING TO KNOW

#### A. Answer the following questions.

1. What is the Internet? Write any two applications of Internet.
2. Define Webpage.
3. What is a website? Write the names of two important educational websites.
4. Write different parts of a web-browser.
5. What is a Search Engine?

#### B. Fill in the Blanks

1. \_\_\_\_\_ is a Network of Millions of Interconnected Computers.
2. Website address is also known as \_\_\_\_\_
3. \_\_\_\_\_ is the place where we type the website address.
4. \_\_\_\_\_ is the top most search engine.
5. \_\_\_\_\_ is the software to access a website.

#### C. Match the Following:

1. URL	a) Mozilla Firefox
2. Search Engine	b) Uniform Resource Locator
3. New Tab	c) Google
4. Web Browser	d) To open a website

#### D. Select the correct answer for each question :

1. **The Software to open a website is**  
(a) Website      (b) Web browser      (c) Search Engine      (d) Address bar
2. **Out of the following is not a Search Engine**  
(a) Google      (b) Yandex      (c) Yahoo      (d) Windows
3. **The Webpages are interconnected in a website through**  
(a) Hyperlink      (b) Soft link      (c) Creation      (d) Webinar
4. **Out of following not a web browser**  
(a) Google Chrome      (b) Mozilla Firefox      (c) Edge      (d) Fetch

### **E. State True or False**

1. Internet Explorer is an example of web browser.
2. Bing is one of the search Engine
3. It is not important to write correct website address to access a website
4. Shortcut key to refresh a webpage is F4

### **SOMETHING TO DO**

1. Find some educational website address name using search engines.  
Search some topic of Science by using search engines.

## 6. SCRATCH



- 6.1. Scratch Introduction
- 6.2. How does it look and how to open it?
- 6.3. What is sprite and how to add it?
- 6.4. Drag & drop and Block of instructions
- 6.5. Move the sprite—Using blocks directly or by writing script
  - 6.5.1. Move the sprite forward.
  - 6.5.2. Move the sprite backward.
- 6.6. Turn the sprite—by dragging blocks in script window.

### 6.1. Scratch Introduction: -

**Gowri:** You are looking fresh in the morning. Is anything special dear Aryan.



**Aryan:** Yes, dear, as we had mass PT during assembly, this refreshes me a lot. We had to follow the instructions as given by the PT teacher for PT. I wish I could also give instructions and someone follows it.

**Gowri:** Instructions?? Yesterday our computer teacher also told us that we can give instructions to the computer.

**Aryan:** Does the computer also understand instructions?  
How do you give instructions to the computer?



**Gowri:** Yes, the computer understands the instructions. One such application is Scratch where we can give instructions in the form of blocks. We can make videos, stories and games through it. Let me show you how it looks.

### 6.2. How does it look and how to open it?



is the scratch icon on desktop, or we can open it also by double clicking on it. Website <http://scratch.mit.edu/>, is used to work online in scratch. Scratch is developed in MIT Media Lab.

\*\* (To download scratch software, see Annexure attached)

**Aryan:** How does it look, when it will open?

**Gowri:** When you open it, the following screen will come. This is a scratch window Fig 6.1.

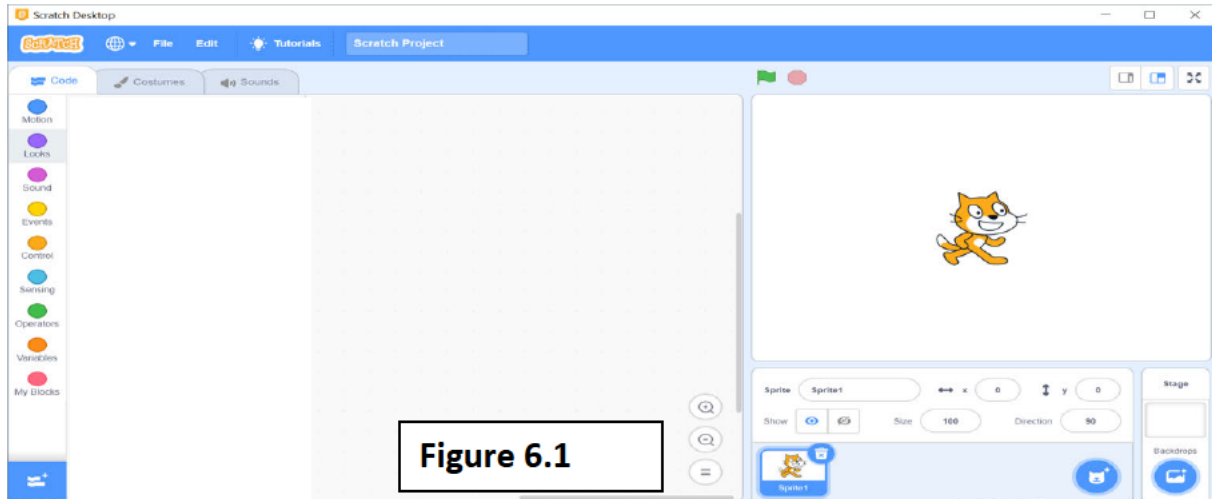



Figure 6.1

**6.3. What is sprite and how to add it?**

**Aryan:** Oh, this cat looks wonderful!!

**Gowri:** Yes, it is called a sprite. We can add more sprites too. Let me show you. (Fig 6.2)

**Aryan:** How can we add these two sprites in scratch?

**Gowri:** "Choose a sprite"  icon is used to add more sprites in scratch. A window will appear (as

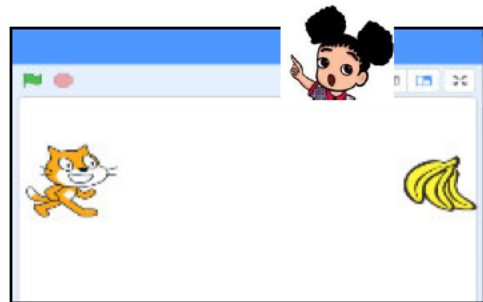


Figure 6.2

shown in Figure 6.3). You can see 10 tabs having so many sprites, which are available in this window. You can add any number of sprites in your project.

**Aryan:** Wow! So many sprites...

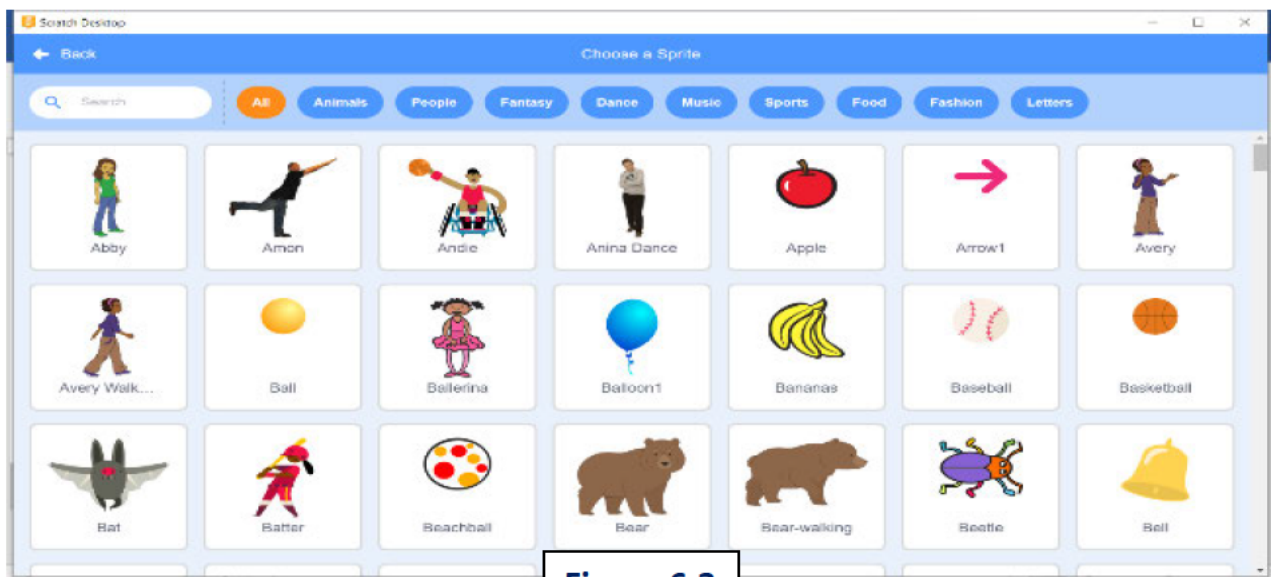


Figure 6.3

## Exercise

### Something to know: -

Q: -1 You have seen so many sprites in scratch. Write their names.....

- ☺ Sprite which can dance \_\_\_\_\_
- ☺ Animal sprites \_\_\_\_\_
- ☺ Sports sprites \_\_\_\_\_
- ☺ Food sprites \_\_\_\_\_

Q:-2 Draw the symbol of "Choose a sprite".

Q:-3 First sprite you see in scratch is.

Q:-4 From where we can choose or add sprites.

Q:-5 If you want to choose letters as sprites, which tab will be used?

### Something to do:-

- Add two sprites Cat and Banana in your Project. (As shown in Figure 6.2)
- Add two sprites of your own choice.
- Add any number of sprites of your own choice.

**Aryan:** Wow! It's very interesting dear. Can we also move the sprite "cat" or not? How can we do it?

**Gowri:** Yes, dear Aryan, surely, we can do it.

1. We can move the sprite by mouse also. Drag and drop the sprite by mouse, on the place where you want to move it on the stage. OR
2. We can also move the sprite, by giving instructions to the sprite using blocks of instructions.

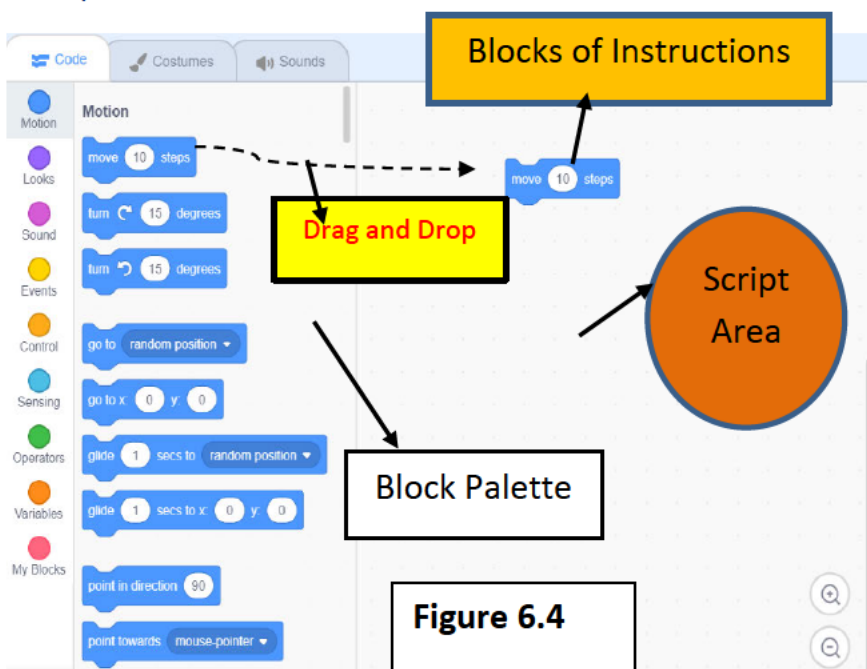


#### 6.4. Drag & Drop and Block of instructions: -

**Aryan:** Drag and Drop and Blocks of Instructions... Oh... What are these? Please tell me more about these two terms and also tell me how we can give instructions to sprite?



**Gowri:** Sure! Sure! Aryan. These are very simple terms. Let's understand them one by one.



1. **Drag** means left clicking the mouse and moving the sprite without leaving the mouse and **drop** means leaving the left button of the mouse where you want to move the sprite.
2. **Blocks of instructions** are already available in the block palette. By directly clicking on

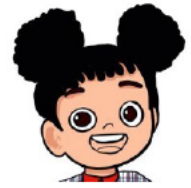
blocks or by drag and drop the blocks in the script area, we can give instructions to sprites to perform tasks like move, turn etc. (Figure 6.4)

#### 6.5. Move the sprite—using blocks directly or by writing script: -

**Aryan:** It sounds very interesting... I want to move the sprite towards Banana. I am very much excited to learn this. Please tell me the steps.



**Gowri:** Ok let's learn it, but for writing a script or code in the script area, we have to choose the sprite for which we are writing the script. (Figure 6.5) Let's learn the steps now: -



### Coding on Sprite "Cat"

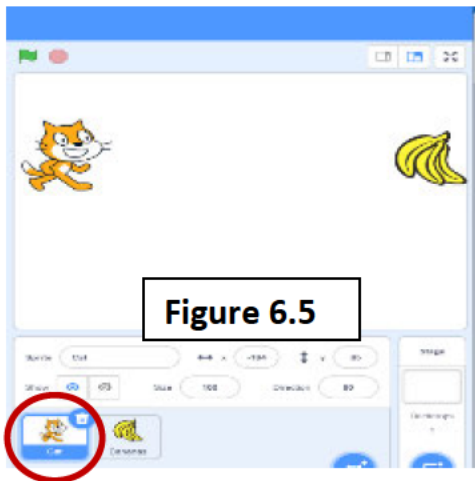


Figure 6.5

→ **STEP-01**

Add sprite "banana" and "cat" in the stage.


→ **STEP-02**

Choose cat sprite and then click on "**Motion**" Block, it shows different motion blocks of instructions in the "blocks palette".

→ **STEP-03**

Directly when we click on the block "move 10 steps", cat will move 10 steps ahead. You can also change 10 to any number.

OR

Drag and drop the block "move 10 steps"  in the script area and then change the number from 10 to any number. When we click on this block "move 10 steps", in the script area then also cat will move 10 steps or any no. of steps, as you want.

**Aryan:** Is it possible to move the cat forward as well as backward also?

**Gowri:** Yes dear, cat can move in forward as well as backward direction.

**6.5.1. Move the sprite Forward:** → +ve number: will move the cat in forward direction.


**6.5.2. Move the sprite backward:** → -ve number: will move the cat in backward direction.

Similar to move the sprite, we can also turn the sprite.

**6.6. Turn the sprite—using blocks directly or by writing script: -**

**Aryan:** Oh! Good, please tell the blocks which can turn the sprites?

**Gowri:** There are two blocks to turn the sprites. These are: -

1.  This block is used to turn the sprite for some degree left side.



2.  This block is used to turn the sprite for some degree right side.

You can change the value 15 to any number. Then the sprite will turn to that angle which you will write.

**Activity -6.2:** -Add a sprite cat and place it on the right side and move 20 steps towards the left and turn by 30° towards left side.

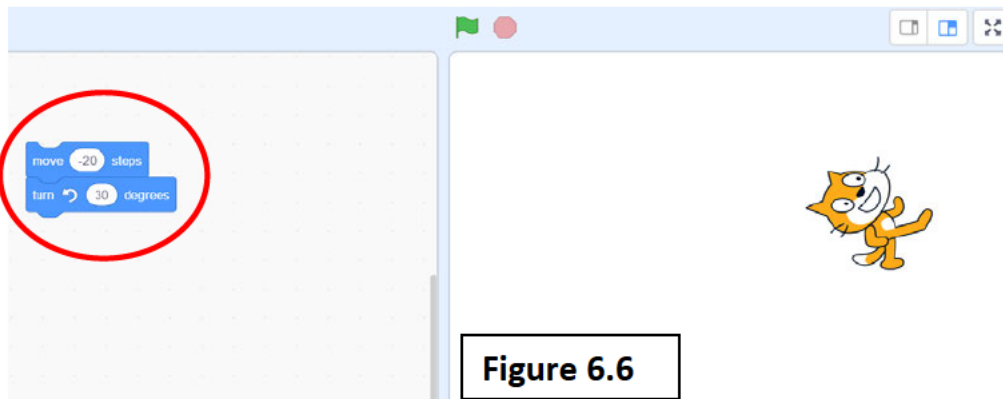


Figure 6.6

→ **STEP-01** Open the scratch and "Cat" sprite is already added. Then place the "cat" by the mouse on the right side.

→ **STEP-02** Click on "Motion" block, drag the block "move 10 steps" in the script area. Then change the number from 10 to -20(to move it backward).

→ **STEP-03** Then drag the block "turn left 15 degrees" in the script area. Then change the number from 15 to 30 and join with the previous block.


→ **STEP-04** When every time we click on this grouped block, the cat will move 20 steps backward and also turns left 30°.

**Aryan:** OK! But you have joined both of these blocks of instructions together. Is it possible?



**Gowri:** - Yes! any number blocks of instructions can be joined together in the script area for giving more than one instruction to the sprite at a time. The block has cuts above side and down side as well. It means any block can be added above side

and down side to this block. This is known as "stack"

block, means blocks can be added above this block as well  as below this block. "move... steps" block, "turn right... degrees" and "turn left... degrees" block, all are "stack" blocks.

## Exercise

### Something to know: -

#### A. Answer the questions given below: -

1. List any two blocks of instructions under "Motion" Block?
2. Can more than one block of instructions be joined together?
3. What is the drag and drop?
4. What are blocks of instructions?
5. What is a stack block? Name any block which is "stack" block.

#### B. Fill in the blanks given below: -

1. Scratch is developed in \_\_\_\_\_.
2. \_\_\_\_\_ sprite is added already when we will open scratch app.
3. "move \_\_\_\_\_ steps" block is used to move 20 steps backward.
4. "turn \_\_\_\_\_ degrees" block is used to turn  $45^{\circ}$  in right direction.
5. \_\_\_\_\_ is the website from where Scratch can be downloaded.

#### C. Write the script/code for the following tasks: -

1. To move the sprite 20 steps forward. \_\_\_\_\_
2. To turn the sprite left 40 degrees. \_\_\_\_\_
3. To move the sprite 45 steps backward. \_\_\_\_\_
4. To turn the sprite right side 20 degrees. \_\_\_\_\_
5. To move the sprite 50 steps backward as well as turn it left side 30 degrees. \_\_\_\_\_  
\_\_\_\_\_

## 7. SCRATCH

7.1. Blocks in scratch

7.2. "Flag" and "Stop" buttons in scratch

7.3. Changing the costume of the sprite—Looks Block:

7.3.1 "Switch costumes to" block

7.3.2 "next costume" block

7.4. Displaying messages and thinking messages—Looks Block

7.4.1 "Say Hello! for 2 seconds..."

7.4.2 "Say Hello!"

7.4.3 "Thinking hmm... for 2 seconds..."

7.4.4 "Think Hmm..."

7.5. How to save a project?

7.6. How to open a project?



### 7.1. Blocks in scratch: -



**Aryan:** We have learnt so much interesting in the previous chapter. But you have only told me about Motion block. Are there any other blocks also present in scratch?

**Gowri:** - Yes! There are 9 blocks present in scratch.

1. Motion Block
2. Looks Block
3. Sound Block
4. Events Block
5. Control Block
6. Sensing Block
7. Operators Block
8. Variables Block
9. My Blocks



Figure 7.1

We will visit them during the course.

### 7.2. "Flag" and "Stop" buttons in scratch: -

**Aryan:** Please tell me one more thing. What is the meaning of these symbols given on stage?



**Gowri:** Yes surely!! These are symbols of Flag and Stop.

1. **Flag:** - this button is used to run the script, which is written under "when flag clicked" block of "Events" block. This is known as "Hat" block as it can join more blocks in downward side only and also it has "hat" shape from top side and will be a top block in every script. It Looks like this: →

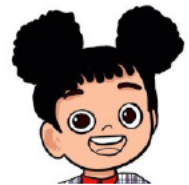


2. **Stop:** - this button is used to stop the script, which is written under the block "when flag clicked".

**Aryan:** Could you give me an example by using this block "when flag clicked" and also using any other block except "Motion" block.

**Gowri:** Yes, dear Aryan, now we will learn about "Looks" block.

Do you want to see the sprites dancing on stage?



**Aryan:** Wow!! That sounds so interesting. This scratch is very much wonderful. I am very interested to learn this.

**Gowri:** Let's learn that with this next topic and activity.

### 7.3. Changing the costume of the sprite— "Looks" Block:

**7.3.1 "Switch costumes to" block:** - This is also a "stack" block and used to change the costume of the sprite. This has a dropdown menu; you can choose any costume-name from dropdown list.

**7.3.2 "next costume" block:** - This is also a "stack" block and used to change the costume of the sprite. It automatically chooses next costume of the sprite from the list of costumes already given for that sprite.

Let's learn it with an activity now.

**Activity -7.1:** Add a dancing sprite and it will dance (means changes its costumes) when we click on Flag.

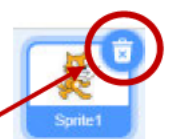
**Ans:** -

→ **STEP-01:** Open scratch, "Cat" sprite is already added in it.

→ **STEP-02:** Remove the sprite "cat" sprite using this delete symbol present on the sprite "cat" present in sprite list.

→ **STEP-03:** Add a new sprite by clicking on the "choose sprite" icon.

Then window appears as shown in figure 7.2.



→ **STEP-04:** Choose the "Dance" tab from the window shown above (Figure 7.2) and choose any sprite from the list. (E.g., Champ99)

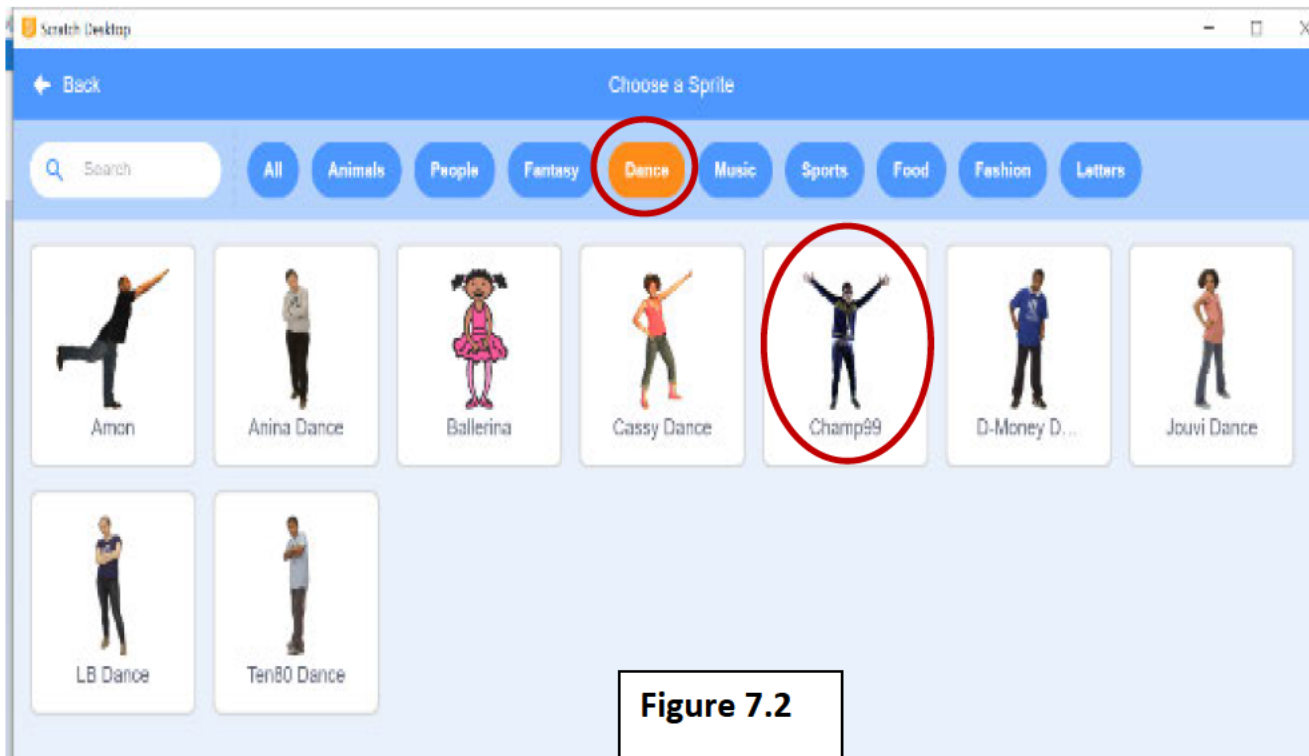


Figure 7.2

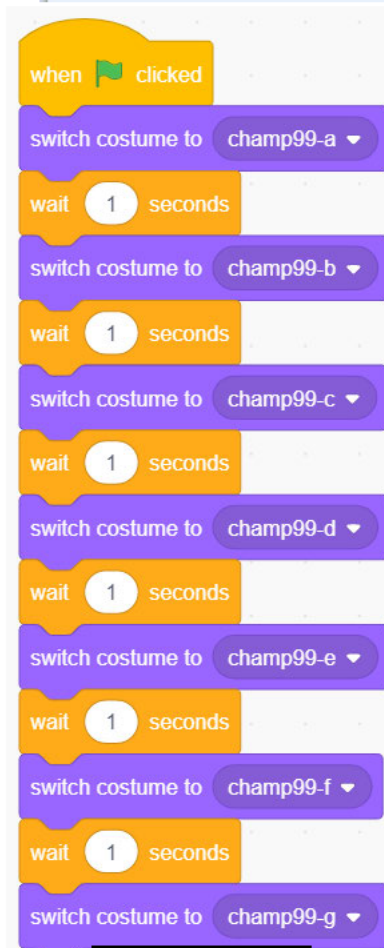


Figure 7.3

→ **STEP-05:** Drag "when flag clicked" block from "Events" block in the script area.

→ **STEP-06:** Drag "switch costumes to champ99-g" block from "Looks" block in the script area and changes costumes to champ99-a. And then drag "wait 1 seconds" block from "Control" block.

→ **STEP-07:** Drag "switch costumes to champ99-g" block again in the script area and change costumes to champ99-b. and then drag "wait 1 seconds" block again from "Control" block. And So on..., as many times as you want to do.



- Wait block is used to give pause for defined time between the scripts, as mentioned here, we had given wait for 1 second.

→ **STEP-08:** Then when we press the Flag button, all costumes will change one by one after 1 second, it is showing as the sprite is dancing.

**Aryan:** Wow dear **Gowri!** So many sprites and their costumes. That's very interesting and joyful. It's very interesting and simple to give instructions to sprites.

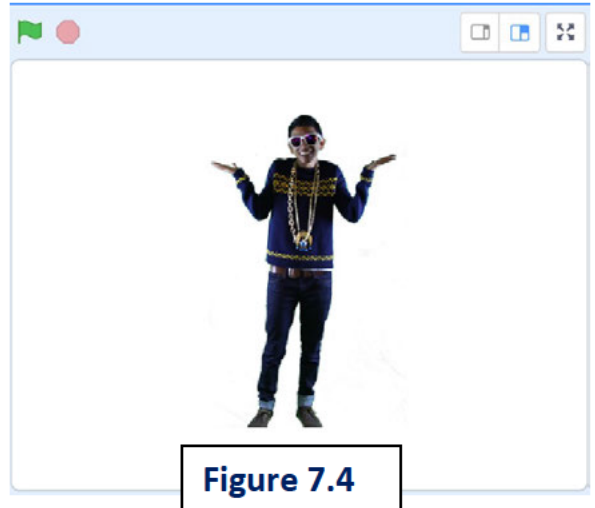


Figure 7.4

### Task to know/something to know

Q: -1 You have seen so many sprites in scratch. Write their names with their costumes names.

Sprite Tab	Sprite Name	Costumes Names
Dance	_____	_____
Animals	_____	_____
Sports	_____	_____
Food	_____	_____
Fashion	_____	_____

Q: -2 How many blocks are available in scratch?

Q: -3 What is the meaning of "switch costume to..." block?

Q: -4 Which symbol is used for executing the script written under the "when flag clicked" block?

Q: -5 "when flag clicked" block is present under which block?

Q: -6 What is "hat" block? Name any one block of "hat" block type.

### Task to do/something to do

- Add two sprites in your Project. And change their costumes after every 1 seconds one by one, not together at a time.
- Write the script for showing cat walk. (Hint: change the costume of cat.)
- Add any number of sprites of your own choice & change their costume at regular interval

**Aryan:** This is all very interesting like moving, turning and dancing the sprites



but could we also create any story in it by saying some dialogues or messages from scratch?

**Gowri:** Yes! From scratch we could create stories as well on our own. For this a sprite can say messages and also can say thinking messages as well. There are 4 options for this task, which are given below. Let's learn them now.

#### **7.4. Displaying messages and thinking messages— "Looks" Block: These all are "stack" blocks.**

1. **"say... for... seconds....":** - It is used to display a speech bubble for the selected sprite with the specified text for specified number of seconds.
2. **"say...":** - It is used to display a speech bubble for the selected sprite with the specified text, but the message will overlap with the next step or message and so, we could not see the message. So, we have to use the "wait for 1 seconds" block from the **"Control"** block after that, we can also change number 1 to any other number for waiting for that much seconds.
3. **"Think Hmm... for... seconds":** - It is used to display a thinking message by a sprite for some seconds, which you want.
4. **"Think Hmm...":** - It is used to print a thinking message by a sprite, but the message will overlap with the next step or message and so, we could not see the message. So, same as above we have to use the "wait for 1 seconds" block from the control block after that.

**Aryan:** Oh!! So many options. Ok, could you please explain these options with the help of creating any story or activity?

**Gowri:** Yes, surely, Next activity will show you the use of these options.





**Activity -7.2:** Add a sprite and it will display message "Hello!" when we will click on a flag.

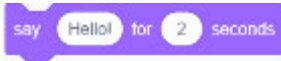
Ans: -

→ **STEP-01**

Open scratch, "Cat" sprite is already added in it.

→ **STEP-02**

Click on "Events" block, it shows different blocks in the Blocks Palette. Drag the block "when flag clicked" in the script area.

→ **STEP-03** Click on Looks Button, Drag  block in the script area. Now you can change "Hello" to any other message, if you want. This will display a written message for a few seconds. So, you can change value 2 to any other number for that number of seconds to wait for displaying written message.

→ **STEP-04**

Now click on Flag, it will display the message "Hello!" for 2 seconds.

**Aryan:** But where is the Story dear? You were saying we can create stories also with these options.



**Gowri:** In the next activity, you will learn how to create a story from scratch with the help of all these options that we have learned so far.

**Aryan:** That's good, I want to learn how to create a story with these options and I am very much excited to learn this.

**Gowri:** Ok! Then Let's start it.

**Activity -7.3:** Add two sprites and design an animated story with these sprites. When we click on the flag, both sprites will converse with each other related to their health. Also, one sprite will suggest some exercises to another sprite and give tips about how to stay fit and healthy.

Ans: -

→ **STEP-01**

Open scratch, "Cat" sprite is already added in it. Remove it with the delete button on it. Add two new sprites e.g. "Avery walk" and "Dorian" from "Choose

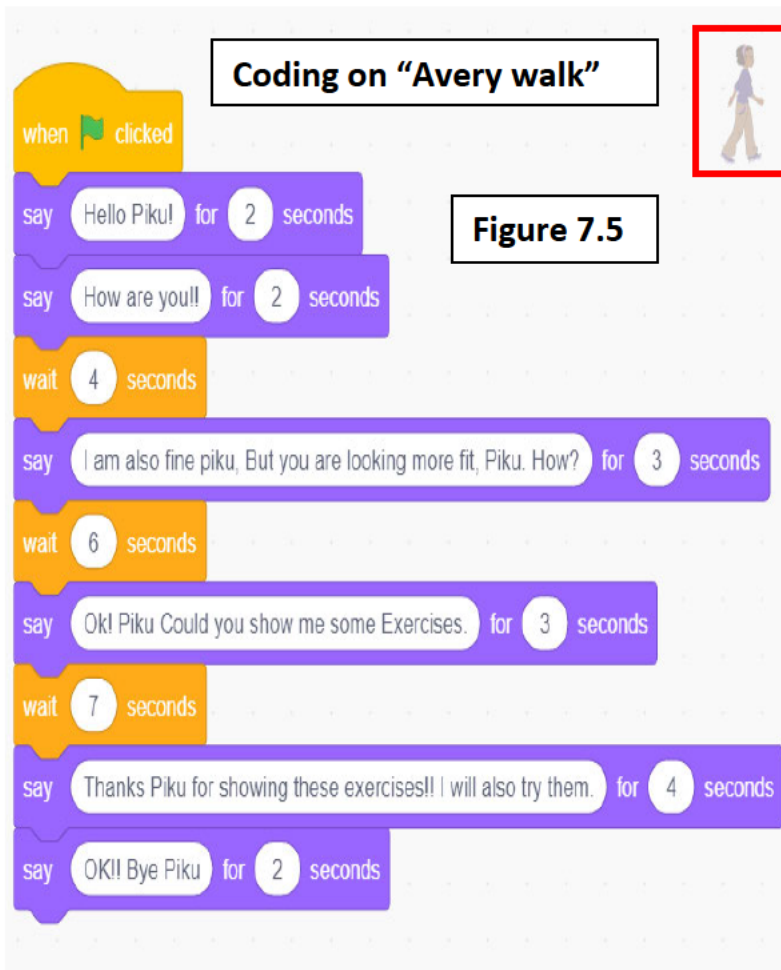
a sprite" icon.

→ **STEP-02**

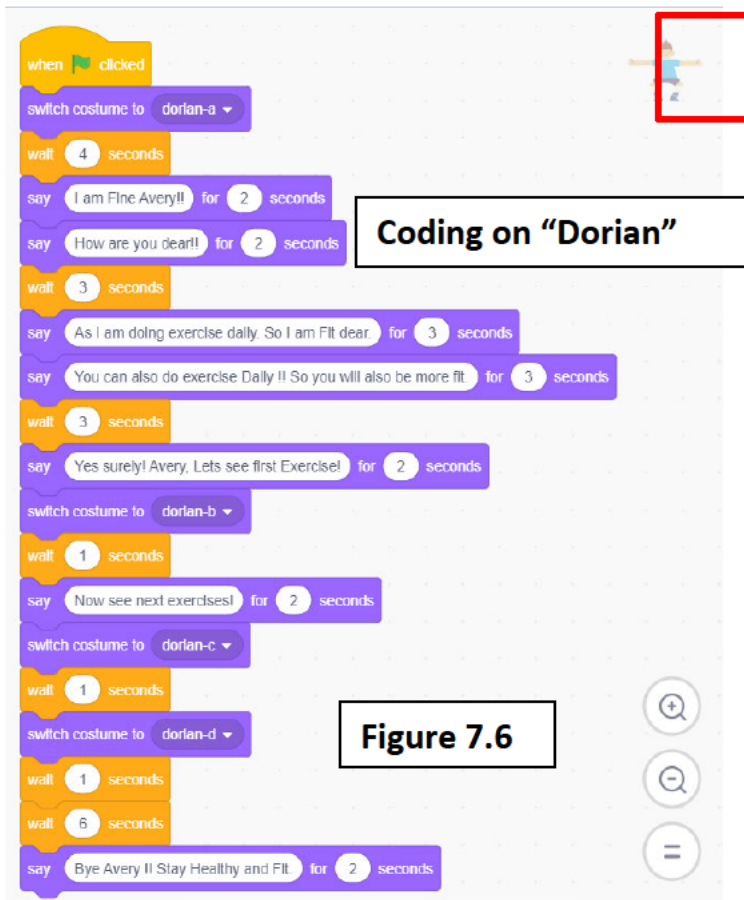
Click on "Events" block, and drag the block "when flag clicked" in the script area.

→ **STEP-03** Choose "Avery Walk" sprite and "Dorian" sprite one by one and write following scripts one by one in their script areas separately as shown in Figure 7.5 and Figure 7.6 respectively.

→ **STEP-04** When we click on flag now then "Avery Walk" sprite and "Dorian" sprite talk with each other related to their health and also Dorian does exercise one by one and also gives suggestions to Avery walk sprite.



- Create an animated story by your own by using blocks of instructions.
- Create a story assuming yourself and your friend as sprites and discuss about various animals or birds you see around.



Coding on "Dorian"

Figure 7.6

Aryan: It's a very good story, Oh wow! I can create stories with scratch now. Thanks Gowri, for giving such wonderful knowledge to me.

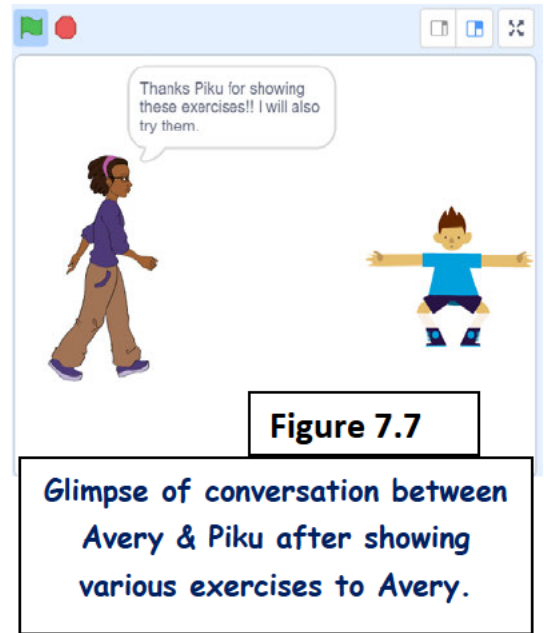


Figure 7.7

Glimpse of conversation between Avery & Piku after showing various exercises to Avery.

**Task to do/something to do**



Aryan: Please also tell me how to save this story project in scratch.

Gowri: Oh! Yes sure, It's also very simple dear. As you have saved the files in tux-paint or LibreOffice, same like that you can save files in scratch also.

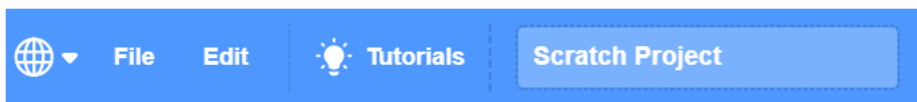


Figure 7.8



Let's learn this now. As

you have seen there are three menus in scratch window on top. These are: -

- 1. File menu
- 2. Edit menu
- 3. Tutorials (Shown in Figure 7.8)

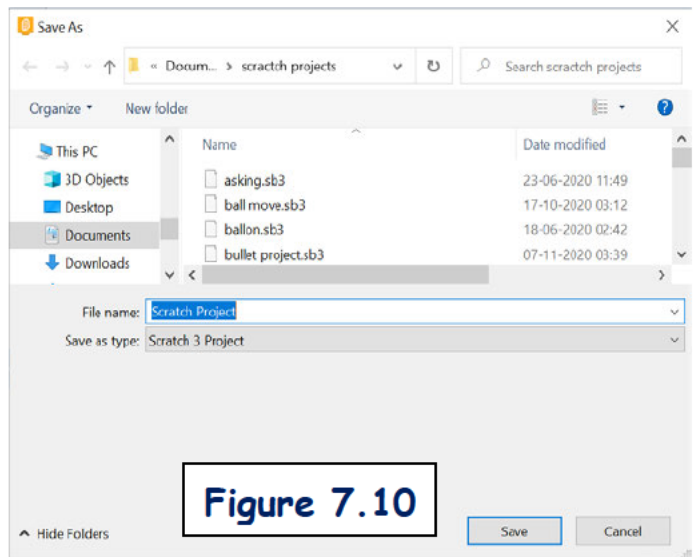
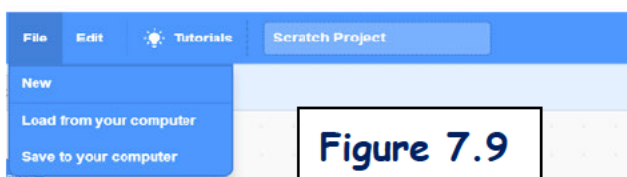
1. **File menu:** -> It is used to create new projects, save your projects and load your previous projects.

2. **Edit menu:** -> It is used to turn the turbo mode on or off.

3. **Tutorials menu:** -> It has all the video tutorials, where you may learn more scratch projects.

### 7.5. How to save a project: →

→**STEP-01:** - Click on the file menu and then click on "Save to your computer" option (figure 7.9) and then "Save As dialogue box" appears (Figure 7.10).



→**STEP-02:** - Choose folder "Scratch projects" to store project (Figure 7.10) and then give name of project in "file name" option of your own.

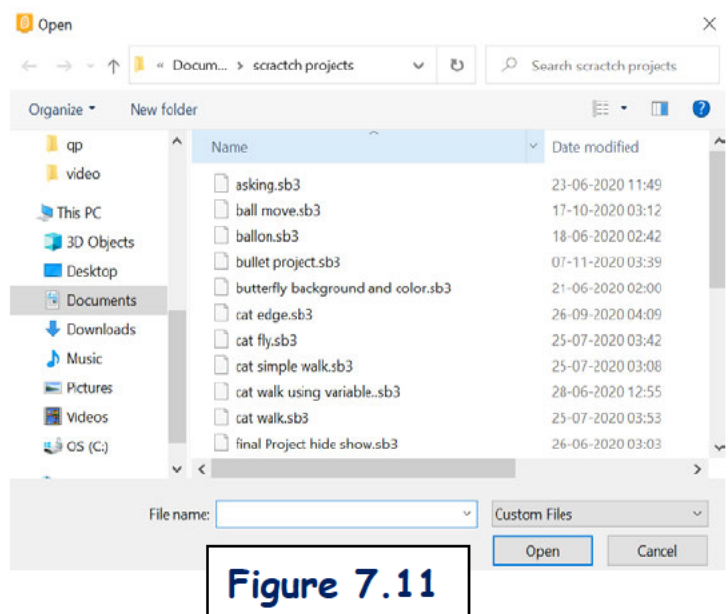
→**STEP-03:** - Click on "Save".

### 7.6. How to open a project: →

→**STEP-01:** - Click on the "File" menu and then click on "Load from your computer" option (figure 7.9) and then "Open dialogue box" appears (Figure 7.11).

→**STEP-02:** Choose folder ("scratch projects") and click on the filename or project-name to open the project, which you want to open. (Figure 7.11).

→**STEP-03:** - Click on "Open" button.



## **Exercise**

### **Something to know**

#### **A. Answer the questions given below: -**

1. What is the meaning of "think hmm...for...seconds" block?
2. How many blocks are available in scratch?
3. What is the meaning of "say...for... seconds" block?
4. Why is the "wait 1 seconds" block required after "say Hello!" block?
5. "wait 1 seconds" block is present under which block?
6. Which menu will be used to save a project in scratch?

#### **B. Fill in the blanks given below: -**

1. \_\_\_\_\_ option in the File menu is used to open a scratch project.
2. \_\_\_\_\_ symbol is used to remove the sprite from the sprite list.
3. \_\_\_\_\_ symbol is used to stop the script written under "when flag clicked block".
4. To change the costume of the sprite \_\_\_\_\_ block will be used.
5. \_\_\_\_\_ number of blocks are present in the scratch.

### **Task to do/something to do**

- Add 2 fruits (Banana and Apple) sprites in your project and create an animated story by talking with each other using "Say Hello!" Block.
- Add any 3 Sprites of animals' type and place them in left side. Each sprite moves 5 steps together, when flag is clicked also change their costumes along with.
- Create a story of your own for the topic you like most.

## 8. Scratch

- 8.1 Changing size and colors— “Looks” block
  - 8.1.1 “change size by...” block
  - 8.1.2 “set size to...” block
  - 8.1.3 “change color effect by...” block
  - 8.1.4 “set color effect to...” block
  - 8.1.5 “clear graphic effects” block
- 8.2 Choosing the background.
- 8.3 Changing Background in scratch—“Looks” block.
  - 8.3.1 “switch backdrop to...” block
  - 8.3.2 “next backdrop” block
- 8.4 “when backdrop switches to...”— “Events” block
- 8.5 “glide...secs to...” — “Motion” block
  - 8.5.1 “glide... secs to” block.
  - 8.5.2 “glide... secs to x... y...” block.



**Aryan:** We learnt how to create stories in previous chapters of scratch. But I had seen so many videos in the tutorial menu. Colors and sizes of the sprite were also changing. Please tell me how we do that now. I also want to learn this.



**Gowri:** Yes dear. Colors and sizes of sprites can also be changed. Let's learn today by 5 different options of “Looks” block and different activities related to it. These are following:-



**8.1 Changing size and colors— “Looks” Block:** - All these blocks are “stack” block.

- 8.1.1 “change size by...” block:** - This block is used to increase or decrease the size of the sprite.
- 8.1.2 “set size to...” block:** - This block is used to set the size of a sprite to a specific size, which you want.
- 8.1.3 “change color effect by...” block:** - This block is used to change the color of the sprite by changing the color code by any value.

**8.1.4 “set color effect to...” block:** - This block is used to set the color of sprite to a specific color code.

**8.1.5 “clear graphic effects” block:** - This block is used to clear the color effects applied before.

**Activity -8.1:** Add a sprite of your own choice and increase its size by 10 and also change its color by clicking on the sprite itself.

**Ans:** → **STEP-01**

Add a sprite Butterfly (from “animal” tab) in the scratch and remove the sprite “cat” (already added).

→ **STEP-02**

Click on the “Event” block, and drag the block “when this sprite clicked” in the script area.

→ **STEP-03**

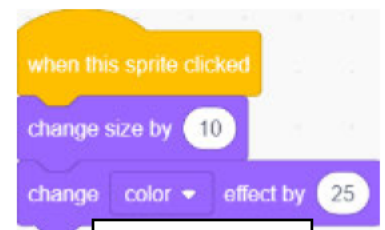
In “Looks” block we will drag the “change size by 10” block and join this block with the previous block added in step 2. This will increase the size of the sprite by 10.

→ **STEP-04**

In “Looks” block we will drag “change color effect by...” and join the block with above blocks. This will change the color of the butterfly every time by 25 values.

→ **STEP-05**

This will change the size and color of butterflies every time we click on a sprite.



**Figure 8.1**

### Task to know/something to know

**Q: -1** You have seen so many effects in scratch. Write their names to do the following tasks.

Action	Name of Block
➤ Change the color of the sprite	_____
➤ Increase the size of the sprite	_____
➤ Decrease the size of the sprite	_____
➤ Remove all the color effects from sprite	_____
➤ To set the color of the sprite to a specific color	_____

- Q: -2 Under which block "clear graphic effects" block available in scratch?
- Q: -3 What is the meaning of "set size to..." block?
- Q: -4 What is the meaning of "when sprite clicked" block?
- Q: -5 "change color effect by..." block is used for \_\_\_\_\_.

## Task to do/something to do

- Add the sprite in your Project. And change their color effects and its size after every 1 seconds, "when we click on flag".
- Write the script for showing cat walk with different sizes. (Hint: change the costume and sizes of cat.)
- Add any number of sprites of your own choice.



**Aryan:** Oh wow!! So many colors, but the background of the stage is not looking very interesting. I wish there should be trees in the pictures and then butterflies are flying on the leaves or trees and also. I wish I could do it also in the scratch, then it will be more interesting and joyful.

**Gowri:** Yes, dear! In scratch it is also possible to change the background. It is also possible that a sprite can fly randomly in scratch.

**Aryan:** Oh wow! That's very interesting. I want to learn this also. Please tell me the steps to do it.

**Gowri:** Yes, Let's start with choosing and changing the backgrounds first. Then after that we will learn how a sprite can fly. So, steps to choose a background are: -



### 8.2 Choosing the background: -

→ **STEP-01:** - Click on the "Choose a backdrop" icon on the bottom right side of the scratch window. Following window("choose a backdrop" will be appeared (Figure 8.2):

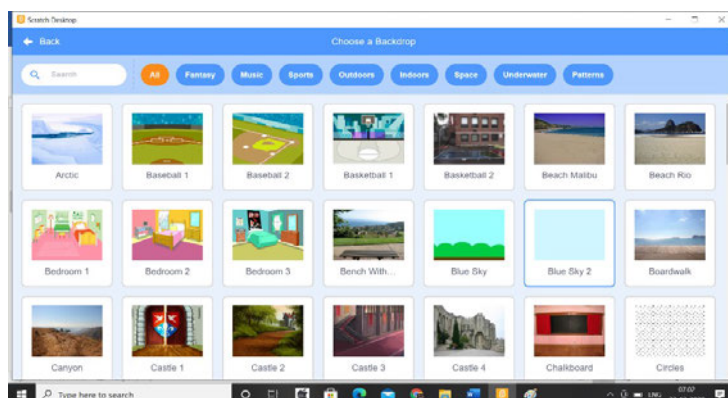


Figure 8.2

→ **STEP-02:** Total nine tabs are appearing in this window like (All, Fantasy, Music etc.) which are having so many backgrounds. Choose the



background from the list given in figure 8.2, example:- Choose Baseball 2 as background. Stage will be appeared as follows in (Figure 8.3):

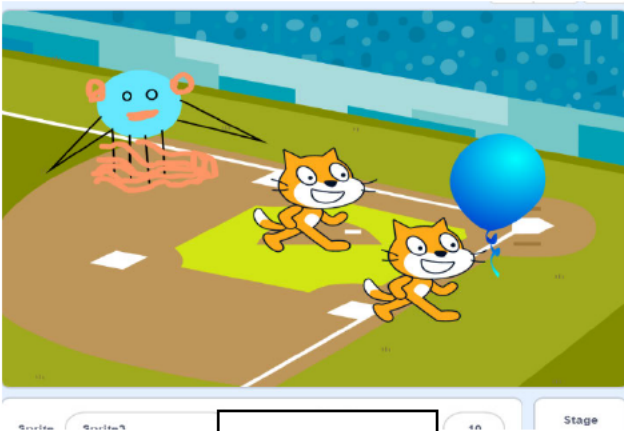


Figure 8.3

Aryan: Oh Wow! Could we also change the backgrounds as per our wish through scripting.



A: Yes! Of course, dear, we can do this. Let's learn this by next two options: -

**8.3 Changing Background in scratch— "Looks" Block:** - These blocks are "stack" blocks.

**8.3.1 "switch backdrop to..." block:** - It is used to change the background of stage to a specific background which is chosen already.

**8.3.2 "next backdrop" block:** - It is used to change the background to next background from the selected list of backgrounds.

Let's Learn this by an activity given next.

**Activity -8.2:**→ Add a sprite of your own choice and change the background of stage after 1 second to next background. Repeat the process 2 times.

**Ans:** → **STEP-01**

Add a sprite "ball" from a "Choose a sprite" icon from the "sports" tab and remove the already added sprite "cat" from sprite list.

→ **STEP-02** Click on "Events" block and drag "when flag clicked" block in the script area.

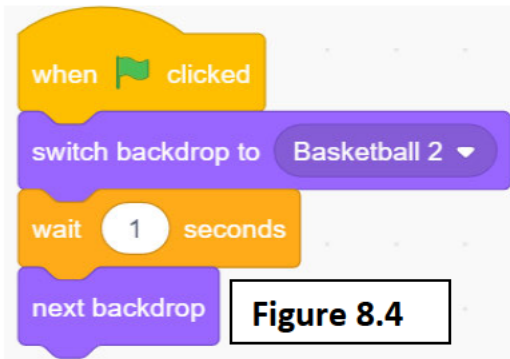
→ **STEP-03**

Choose any 2 backgrounds from the "choose a backdrop" icon. e.g., like Basketball-1 and Basketball 2.

→ **STEP-04**

From the "Looks" block we will drag the "switch backdrop to..." block and join the block with above. Now choose "Basketball 2" value for background. This will change the background of stag to "basketball 2" when we click on the flag.

But this will not be seen by us when we move to the next background. So, from the "Control" block, we will choose the "wait for 1 seconds" block to wait for a few seconds with this background before moving to the next background.



→ **STEP-05**

Again, from "Looks" block we will drag the "switch backdrop to..." block and join with the above block and then choose Basketball 1 value OR drag "next backdrop" block instead of above block.

So, now every time when you click on Flag, it will change the background 2 times.

#### 8.4 "when backdrop switches to..."—Events block: -

This block is a "hat" block and used to do specific tasks written below it, when a particular background changes. This block has a drop-down list, from there you can choose a particular background from the given list of backgrounds chosen by us.

#### Task to know/something to know

- Q: -1 Name the icon to choose the background of our own choice.
- Q: -2 Can we change the background of the stage as per our choice (T/F)?
- Q: -3 What is the meaning of "switch backdrop to..." block?
- Q: -4 \_\_\_\_\_ number of tabs are available in the "Choose a backdrop" window?
- Q: -5 To choose the next background in stage, you will choose \_\_\_\_\_ block.

#### Task to do/something to do

- Create a story of Jungle with different animals and their talk having different backgrounds.
- Create a scene having different water spices with a suitable background.

**Aryan:** I have created a scene having different water spices with background, but fishes and water spices are not floating in water. And also, birds are not flying in Jungle story. Please help me dear



Gowri and tell me the steps, how a sprite can fly and float in scratch?

**Gowri:** Yes! Of course, dear, we can learn this now. Let's learn this by next options:

**8.5 "glide... secs to..." block — "Motion" Block:** - All these blocks are "stack" block.

**8.5.1 "glide... secs to..." block:** - this block has a dropdown menu having two options: - i) random position ii) mouse-pointer.

**8.5.1.1 "glide...secs to random position":**-This block is used to fly the sprite at random positions on stage.

**8.5.1.2 "glide...secs to mouse-pointer":** - This block is used to fly the sprite in the direction of the mouse in stage.

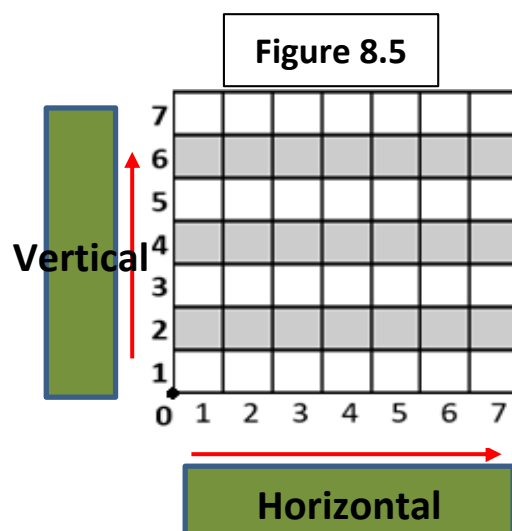
**8.5.2 "glide...secs to x... y..." block:** - This block is used to fly the sprite to a particular position which is also known as (x,y) position.

**Aryan:** Dear Gowri, (x,y) positions! I could not understand this (x, y) position. Please explain this to me.

**Gowri:** Yes! Of course, dear, we will learn this now with the help of an Activity 8.3.

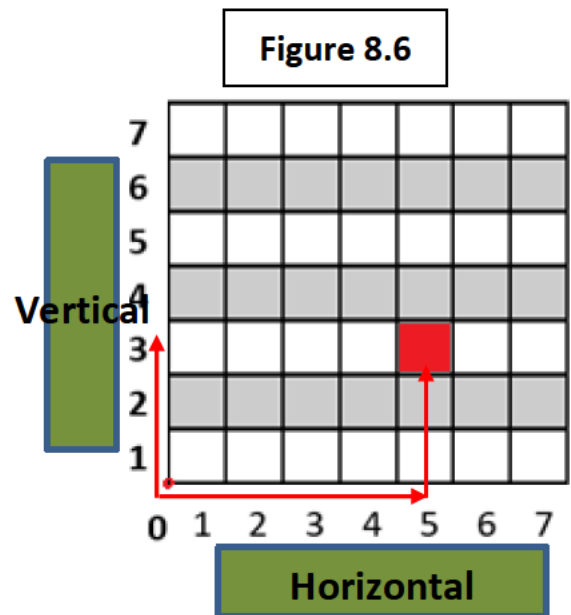
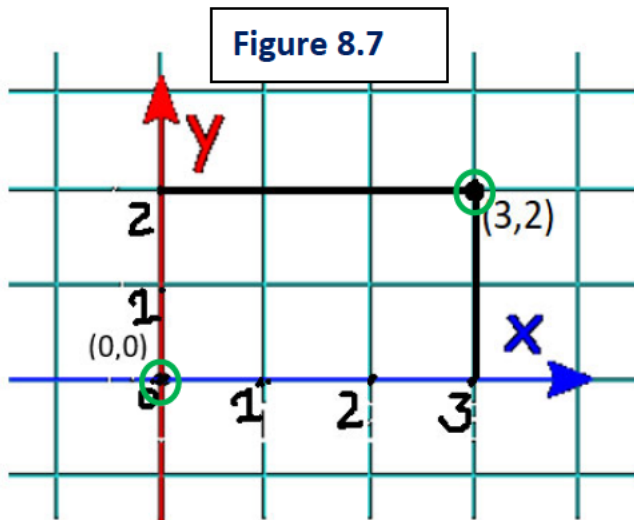


**Activity -8.3:** Make a square and divide it in 7X7 squares and mark them with numbers (1 to 7) from both sides (horizontal and vertical sides), as shown in Figure (8.5). Now fill the square which is 5 positions away from origin in horizontal direction and 3 positions away from origin in vertical direction (as shown in Figure 8.6).



**Two Axis (X and Y) are: -**

Horizontal side is known X-axis. And Vertical side is known as Y-axis. So their values will make (x,y) position.



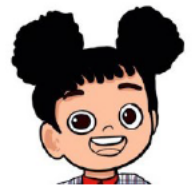
- i) X-axis as shown by "blue line" in Figure 8.7  
 ii) Y-axis as shown by "red line" in Figure 8.7

Two  $(x,y)$  positions are shown in figure 8.7 (Marked by green circle), which are given below:->

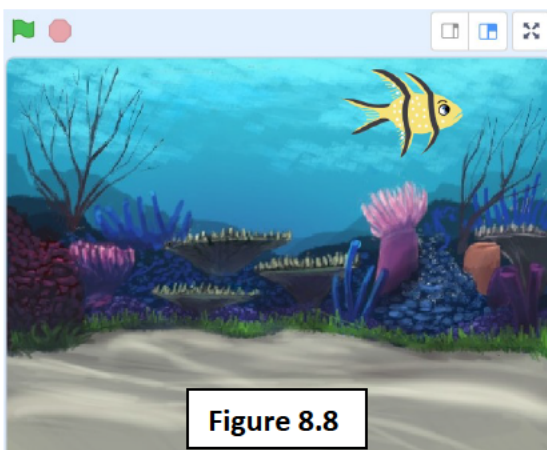
- i)  $(0,0)$  means  $\rightarrow x=0$  and  $y=0$ , It is also known as center of the stage in scratch.  
 ii)  $(3,2)$  means  $\rightarrow x=3$  and  $y=2$

**Aryan:** Ok! Maths activity. Wow I have also learnt this in maths also. Oh! I got it now. Please also show me the activity for flying the sprite or floating the sprite.

**Gowri:** Let's Learn this by an activity given next.



**Activity -8.4:** Add a sprite "Fish" and change the background of stage as ocean. And float the fish in the ocean. Repeat the process 4 times.



One glimpse of Fish floating in water.

**Ans:**

$\rightarrow$  **STEP-01**

Add a sprite "Fish" from "Choose a sprite" icon from the "Animals" tab and remove the already added "cat" sprite from the stage.

$\rightarrow$  **STEP-02** Choose a background from "Choose a backdrop icon" e.g. "Underwater 2" from "Underwater" tab in "Choose background" window. (Shown in Figure 8.8)

→ **STEP-03**

Click on the "Event" block and then drag "when flag clicked" block in the script area.

→ **STEP-04**

From "Motion" block choose "glide... secs to random position" block in the script area. And change the value 1 to any other number (say 5) to float the fish slowly to a random position.

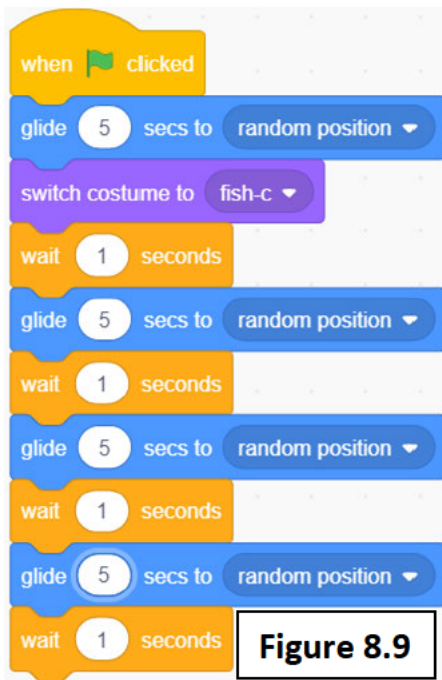


Figure 8.9

→ **STEP-05**

From "Looks" block choose "switch costume to..." block in the script area. And choose value to fish-c. (You can choose any other fish also of your own choice.)

→ **STEP-06**

From the "Control" block choose the "wait for 1 seconds" block in the script area, before floating again so that previous floating looks in a better way and not overlaps with the next one.

→ **STEP-07**

From "Motion" block choose "glide... secs to random position" block again in the script area. And change the value 1 to any other number (say

5) to float the fish slowly to a random position.

→ **STEP-08**

From the "Control" block choose the "wait for 1 seconds" block again in the script area, before floating again. Repeat the step 07 and 08 two more times to complete the process of floating 4 times.



When we click on Flag, Fishes float 4 times in water. (see coding in Figure 8.9).

**Aryan:** Wow that's very nice and interesting also. I am feeling happy to learn all this.

## **Exercise**

### **Something to know**

**A. Answer the questions given below: -**

1. What is the meaning of "glide... sec to random position" block?
2. How many blocks are available in scratch?
3. Which block is used to fly or float the sprite to a random position?
4. Under which block "switch backdrop to... "block is available?
5. Name the block uses to increase or decrease the size of the sprite?

**B. Fill in the blanks given below: -**

1. In \_\_\_\_\_ block, "switch backdrop to" block is available.
2. \_\_\_\_\_ symbol is used to choose a background of our own choice.
3. \_\_\_\_\_ symbol is used to change the color of the sprite.
4. "Clear graphics effect" will be used for \_\_\_\_\_.
5. \_\_\_\_\_ number of tabs are present in the "choose a backdrop" window.

### **Task to do/something to do**

- Create a story of your own for the topic you like most. Also change the background and sizes of the sprite in your story.
- Create a project in scratch showing color changes in the sprite, when flag is clicked.
- Create a story of birthday party having different food items. Give a message to viewers, about what to eat and what not to eat.

## 9. SCRATCH



- 9.1. "forever" block: —"Control" Block
- 9.2. Duplicate the sprite in stage window.
- 9.3. Draw a Sprite of your own choice.
- 9.4. Draw new costumes of Sprite
- 9.5. Draw new background.
- 9.6. Upload Sprite, upload costume and upload backgrounds

**Aryan:** We learnt how to create stories, dramas in previous chapters of scratch with different backgrounds, messages; floating and flying of the sprites and many more. But in the previous activity we learnt the script to float the fish in water. But in the script, we have written glide block 4 times then fish floats for 4 times only. Could it be possible for fish to float every time and this will not stop till the script runs.



**Gowri:** Yes Dear! It is possible in scratch to repeat the same script infinite times. For this following block will be used.

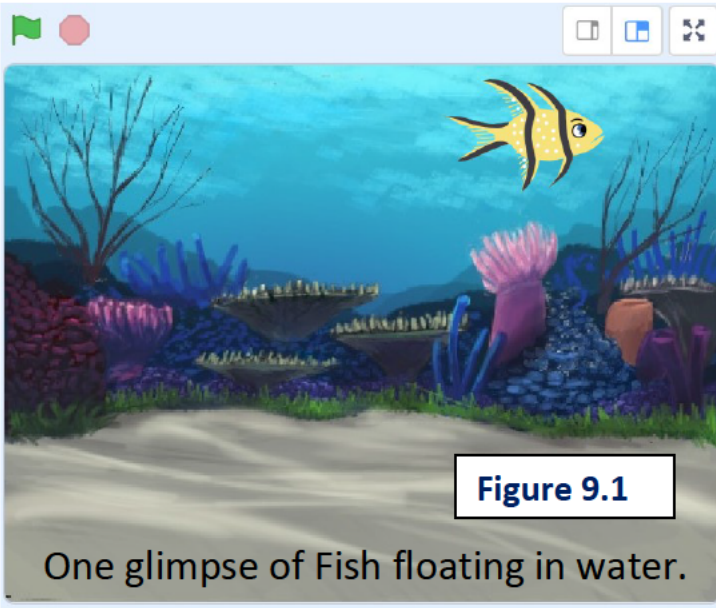


### 9.1. "forever" block: —control Block

"forever" block is also known as "C-block" and is used to repeat the blocks, written inside this block for infinite no. of times. "C-block" is the block, which is in the shape of "C", any number of block of instructions can be written inside them.

Let's understand this "forever" block with the same activity we did in the previous chapter of floating fish in water.

**Activity -9.1:** Add a sprite "Fish" and change the background of stage as ocean. And this time float the fish in ocean continuously rather than 4 times.



One glimpse of Fish floating in water.

Ans: → **STEP-01**

Add a sprite "Fish" from a "Choose a sprite" icon from the "Animals" tab and remove the already added "cat" sprite from the sprite list.

→ **STEP-02** Choose a background from "Choose a backdrop icon" e.g. "Underwater 2" from "Underwater" tab in "Choose background" window. (Shown in Figure 9.1)

→ **STEP-03**

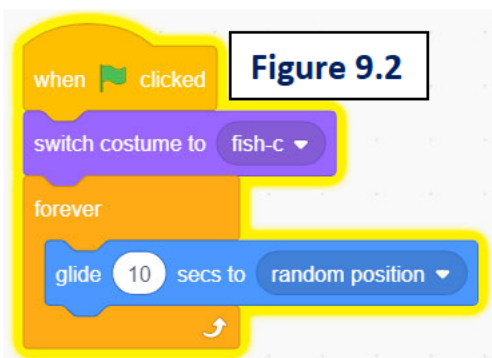
Click on the "Events" block and drag "when flag clicked" block in the script area.

→ **STEP-04**

From "Looks" block choose "switch costume to..." block in the script area. And choose value to fish-c. (You can choose any other fish also of your own choice.)

→ **STEP-05**

From the "Control" block choose "forever" block in the script area, to repeat the steps of floating of fish continuously means forever.



→ **STEP-06**

From "Motion" block choose "glide... secs to random position" block in the script area. And change the value 1 to any other number (say 10) to float the fish very much slowly and naturally in water to a random position. Also, there is no need to wait now, as we don't need to stop fish now.

→ **STEP-07**

When we click on the flag now, fish floats continuously or forever in water. (see coding in Figure 9.2).



### Task to know/something to know

Q: -1 Is it possible to repeat the same block of instructions continuously in scratch. (T/F)

Q: -2 Under which block "forever" block of instruction available in scratch?

Q: -3 What is the meaning of "forever" block?

Q: -4 Blocks which are written \_\_\_\_\_(inside/outside) the forever block, will be repeated forever.

### Task to do/something to do

- Add the sprite in your Project. And change their colour effects and its size continuously, "when we click on Flag".
- Write the script for showing cat walk continuously. (Hint: change the costume of cat with forever block).

**Aryan:** Oh, wow so amazing, fish is floating continuously and the script is also becoming less. I wish I could have the same sprite more than once means more than one fish in the stage floating continuously in water.



**Gowri:** Yes Dear! It is possible to have the same sprite more than once on the stage. This you can do in a very simple method by duplicating it. Let's learn it today.



### 9.2. Duplicate the Sprite in stage window: -

→ **STEP-01:** - Choose a sprite from the sprite list shown below in (Figure 9.3a), which you want to duplicate.

→ **STEP-02:** - **Right click** on the selected sprite, and a pulldown menu appears (As shown in figure 9.3b). Choose a duplicate option, selected sprite will be duplicated in the stage and as well as the script of the sprite. You can change the script later on, if you want on any sprite.

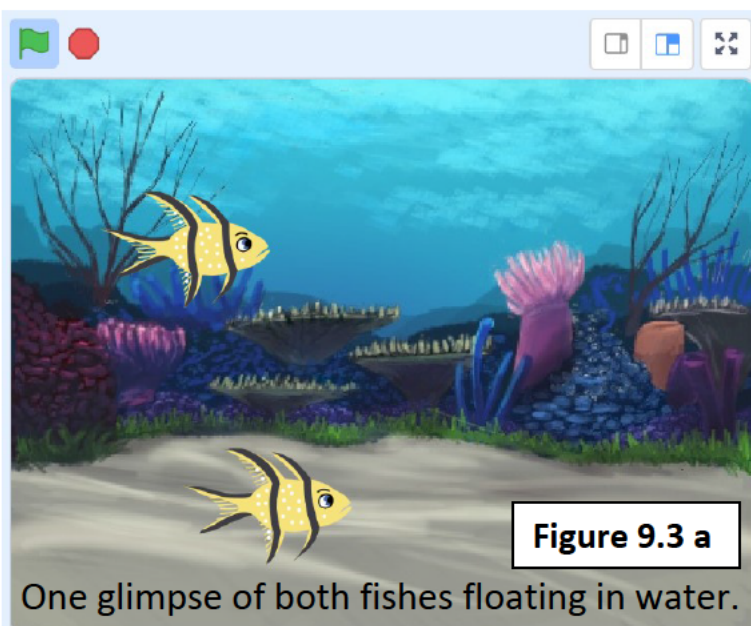


Figure 9.3 a

One glimpse of both fishes floating in water.

So, when we click on the flag now, both fishes float in water continuously or forever. (see script in Figure 9.2 will be the same on both fishes). Stage will

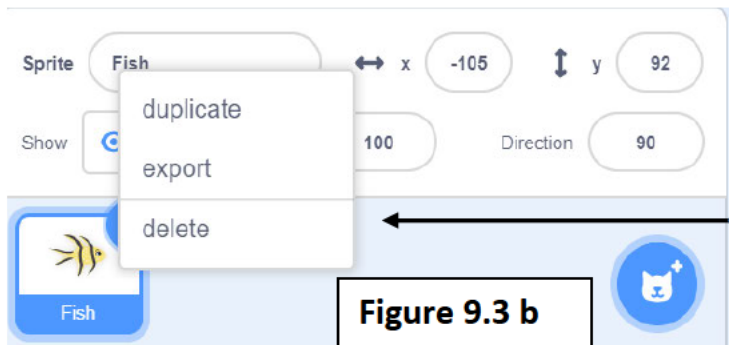


Figure 9.3 b

look like after duplicating in figure 9.3a

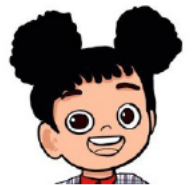
**Aryan:** Oh, Wow so interesting, without any coding, we can have so many

fishes floating in water continuously. Could it be possible to have the sprite in the stage drawn by me, if I don't want to add a sprite already present. As I want to draw the fish of my own.

**Gowri:** Yes dear, sure! As in Tux-paint you have done drawings, you can also draw the sprite here of your own choice.



**Aryan:** OK! Can you teach me the steps to draw a sprite?



**Gowri:** Yes sure! By doing the following activity we can learn how to draw a sprite?

**9.3. Draw a Sprite of your own choice:** - Let's learn it with an activity.

**Activity 9.2:** - Draw a sprite (Fish) of your own choice and add it and change the background of the stage as ocean. And also write the script to float the fish with changing its color effect by 30 continuously.

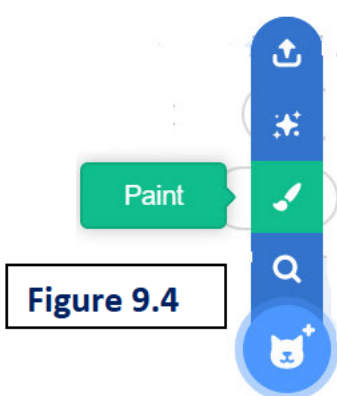


Figure 9.4

Ans:→**STEP-01:** - Hover pointer (means take mouse pointer over it rather than clicking on it) on "Choose sprite" icon and then a list of icons appears (shown in Figure 9.4).

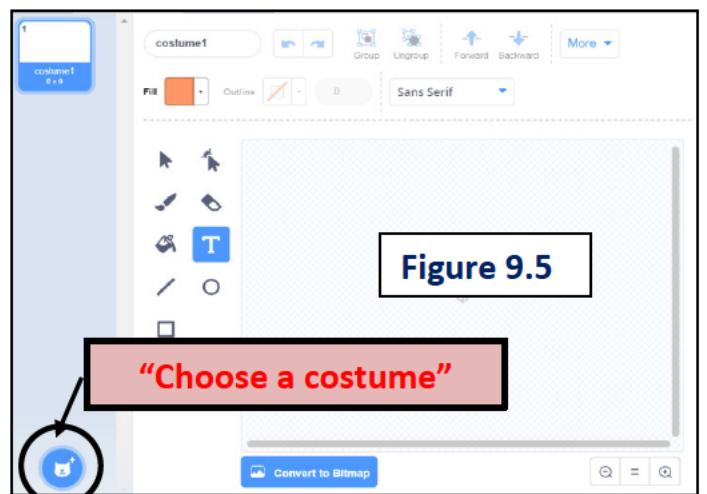
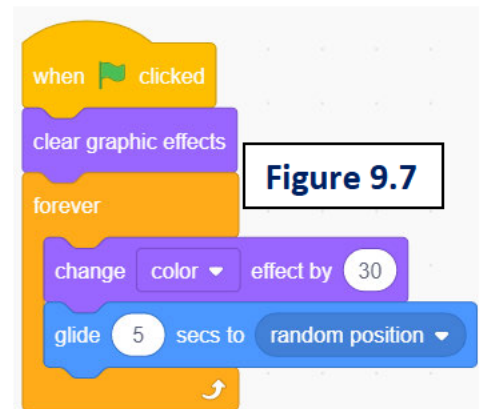
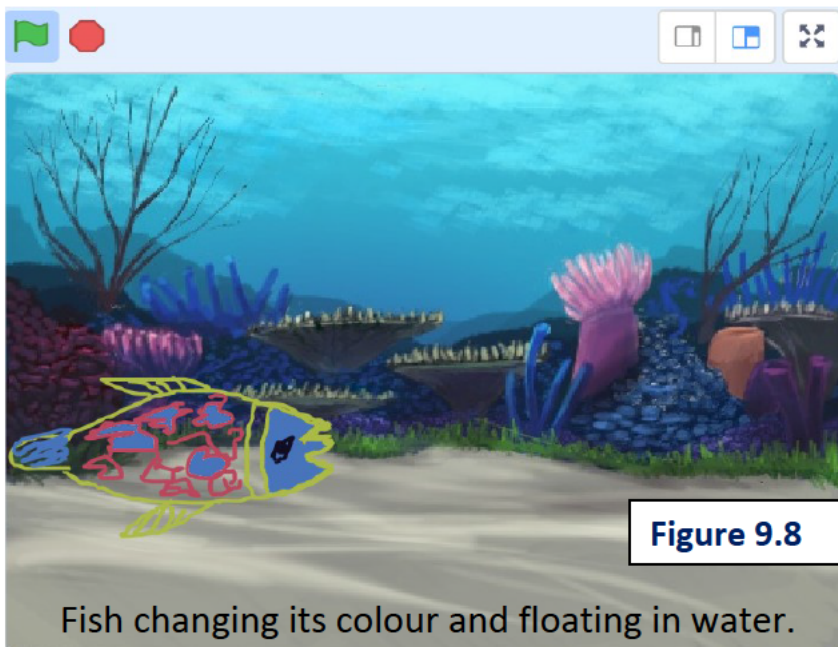


Figure 9.5



Figure 9.6

- STEP-02:** Then choose the paint option from the list of icons. The sprite window appears as shown in figure 9.5.
- STEP-03:** - Draw the sprite (Fish) of your own choice as shown in figure 9.6.
- STEP-04:** - click on the code tab in the top row and below menus. This new drawn sprite is automatically added to the sprite list.
- STEP-05:** - Do the coding after selecting the sprite, as shown in figure 9.7. When the flag is clicked, the Sprite drawn by you is floating continuously and changing its color effects also. See in figure 9.8, the colors of drawn fish are different from fish floating in water. It means colors are also changing automatically.



**Aryan:** Oh, wow so interesting, drawing a fish by myself and this fish is floating and changing its color, this all is looking like a dream coming true to me. I was thinking that I will draw an object and it floats in water automatically.

**Thanks! Gowri** for teaching me these wonderful things.

**Aryan:** Please tell me can I choose a sprite built-in and then customize it also by drawing.

**Gowri:** Yes dear, sure! You can also do it, but only you can only create new costumes and not new sprites from these sprites.

**9.4. Draw new costumes of Sprite:** - Let's learn it now.

→**STEP-01:** - In figure 9.5 there is an icon marked "Choose a costume" icon. This icon has options as shown in figure 9.9, when we hover the pointer on it.

→**STEP-02:** - Either choose (Lens option means search option) or click on this icon (choose a costume icon).

→**STEP-03:** - a window appears known as a sprite window. All tabs and sprites will appear here, choose a sprite of your own choice, that sprite will appear in the draw window and then make changes if you want to do so. By this method you can make any number of new costumes of already present sprites and with this option you can also create new costumes of newly drawn sprites also.

→**STEP-04:** -

For creating new costumes right click on particular costume and click on duplicate option from pulldown menu and then redesign new costume. See figures 9.10,9.11 and 9.12 of Jellyfish with original costume and in newly created costumes of jellyfish.

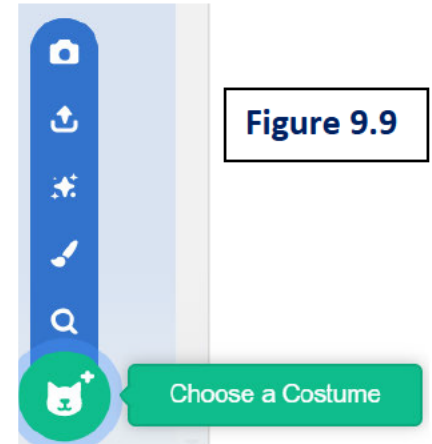


Figure 9.9

Original "Jellyfish-a"      New Costume designed "Jellyfish-a2"      One more new Costume designed "Jellyfish-a3"

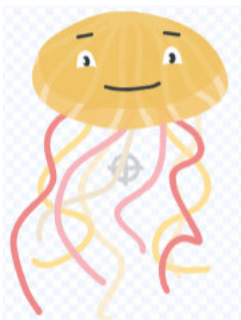


Figure 9.10

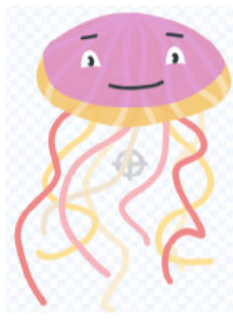


Figure 9.11



Figure 9.12

- Draw a sprite using colours lines, circles, rectangles, text and shape fill options, in your Project, as shown in figure 9.13 And change their colour effects and its size continuously, "when we click on Flag".
- Choose any sprite and design its 3 new costumes and change them after every 1 seconds.

### 9.5. Draw new background:

**Gowri:** As you know, you can draw new sprites and costumes, you can also draw a new background too. This is one more interesting thing I want to tell you now.

**Aryan:** What is it? Please tell me dear.

**Gowri:** You can upload the pictures to create a new sprite, even you can upload pictures for creating new costume and as well as for creating new background from upload symbol (shown in figure 9.14) from the list that appears when you hover the pointer over

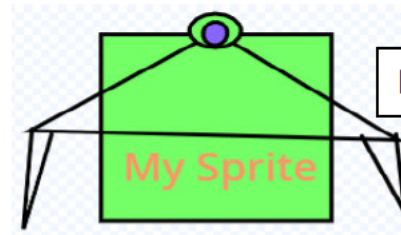


Figure 9.13

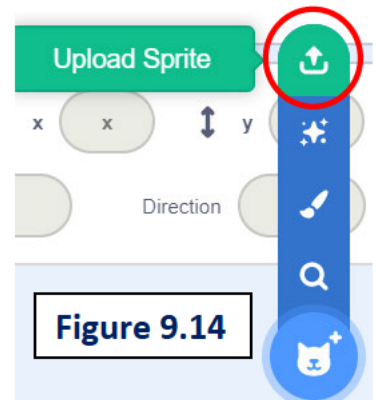


Figure 9.14

icons "Choose a sprite", "Choose a costume" or "Choose a backdrop" (shown in figure 9.14 one example of choose sprite icon)

**Aryan:** Oh Wow! How nice scratch is. I love to work on it and I am too happy to learn all these features. But I had not heard any sounds in our projects. It's like we are watching mine stories, or like we are watching the TV in mute form. So, what should we do to create sounds in our project?



**Gowri:** Yes dear. Like backgrounds, colors and sizes of sprites, sprites can also play sounds as well. But we will learn this in the next class.

**Aryan:** OK. That's good. It means it will be more interesting in the next class as well.

## Exercise

### Something to know

#### A. Answer the questions given below: -

1. Which option is used to create a new sprite the same as the previous sprite?
2. Name the option used to upload a picture to create it as a new sprite.
3. Which block is used to make a sprite fly or float continuously infinite times?
4. Under which block is the "forever" block?
5. Name the option used to draw a background of your own choice?

#### B. Fill in the blanks given below: -

1. When we right click on the sprite \_\_\_\_\_ menu appears.
2. \_\_\_\_\_ symbol is used to choose a costume of our own choice.
3. When \_\_\_\_\_ the cursor on the "Choose a sprite" icon, a list appears.
4. \_\_\_\_\_ option is used to create a new sprite same as the previous sprite.
5. \_\_\_\_\_ number of icons appears in the list, when we hover the cursor of "Choose a costume" icon.

### Task to do/something to do

- Create a story of your own for the topic you like most. Also fly the sprite continuously.
- Create a scene having different water spices with a suitable background and move these spices continuously.
- Create a story by creating sprite of your own, and upload a picture as background.
- Create a story by creating two sprites and also choose a background and these sprites are with each other about safety of animals. Also show one bird sprite flying here and there.

## 10. Scratch-Project

**Gowri:** As we have learned so many blocks and features of scratch in class 3. Let's make a project now using "pen" extension.



**Aryan:** Yes, I have learnt so many blocks in class 3 and I liked the scratch software very much. But what is this "Pen" extension? I haven't learnt this till now.



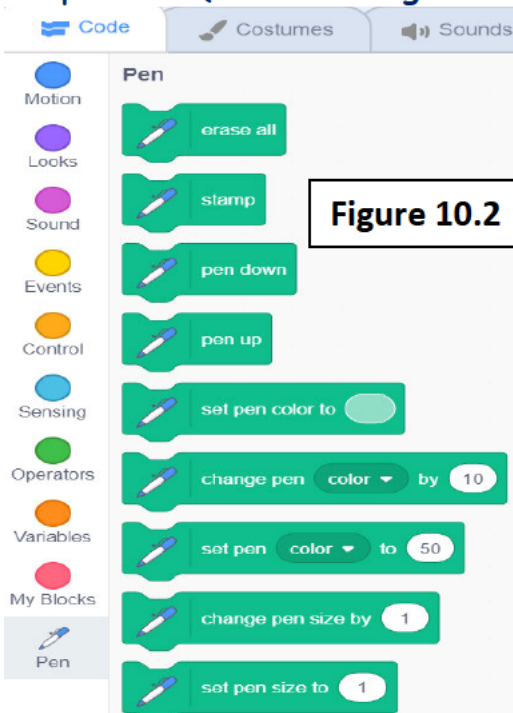
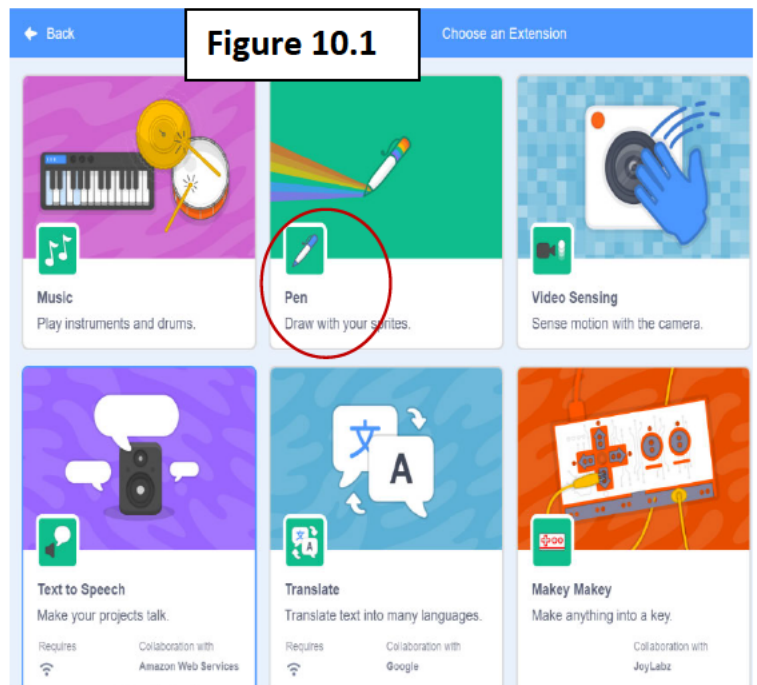
**Gowri:** Yes, dear Aryan. In this project we will learn this also. We will make a project using this "pen" extension and other blocks of scratch learnt so far.

**Aryan:** Ok dear Gowri, please tell me, what is this "Pen" extension? Also tell me how to use this extension.

**Gowri:** Sure! Sure! Let's understand this now: -

### 10.1. Add Extension" Pen: -

Click on "Add extension" icon in the left bottom side of scratch window, to add the extension in scratch project. Then choose "pen" option from "Choose an Extension" window (shown in Figure 10.1). Then all the blocks related to "pen" will be automatically added in block palette. (shown in Figure 10.2)



This "pen"

**Figure 10.2**

extension has following blocks and all these are "stack" blocks: -

**10.1.1. "pen down" block:** - This block is used to draw the figures or mark the pen on stage with the movement of mouse pointer or sprite.

**10.1.2. "pen up" block:** - This block is used to stop the marking of the pen on the stage with the movement of mouse pointer or sprite

**10.1.3. "set pen color to..." block:** - This block is used to set the color of pen with a specific color.

**10.1.4. "change pen... by..." block:** - This block has a drop-down menu and has the following options: -

**10.1.4.1 "color":** - This block is used to change the color of the pen by some specific value.

**10.1.4.2 "saturation":** - This block is used to change the saturation of the pen by some specific value.

**10.1.4.3 "brightness":** - This block is used to change the brightness of the pen by some specific value.

**10.1.4.4 "transparency":** - This block is used to change the transparency of the pen by some specific value.

**10.1.5. "set pen...to..." block:** - This block is used to set any one of the color, saturation, brightness or transparency of pen marks on the stage.

**10.1.6. "change pen size by..." block:** - This block is used to change the size of the pen by some value.

**10.1.6. "set pen size to..." block:** - This block is used to set the size of the pen with a specific value.

**10.1.7. "erase all" block:** - This block is used to erase all the pen marks from the stage.

Now, we will understand the project using "pen" extension. See Project 10.1.

**Project 10.1** → Add five sprites in your project in the form of a dot which performs following tasks: -

1. First sprite will draw a shape of "Rhombus".
2. Second sprite will draw a shape of "Rectangle"
3. Third sprite will draw a shape of "Hexagon".
4. Fourth sprite will draw a shape of "Triangle".
5. Fifth sprite will draw a shape of "Circle".

Gowri: Let's discuss its solution now.



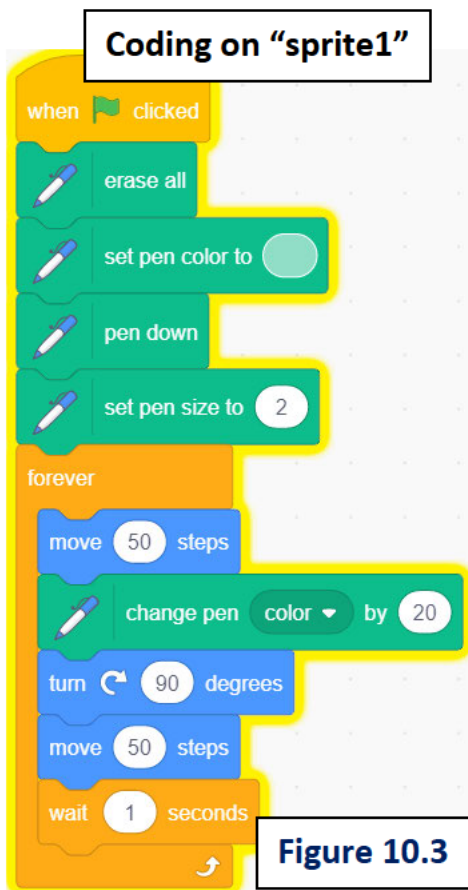


Figure 10.3

→ **STEP-01** Open the Scratch, the sprite "cat" is already added in it. Remove it and hover the pointer on "choose a sprite" icon and choose "paint" option from pull-up list. Draw one sprite using colors and circle in the shape like this: →

→ **STEP-02** 

Duplicate this sprite, by right click on the sprite and then choose the option "Duplicate" from list. Repeat the process 3 more times.

Now, you will have 5 sprites looking alike in your project. Name these sprites as sprite1, sprite2, sprite3, sprite4, sprite5. Set the direction of sprite1 as 45 and the direction of sprite1 as 0, all other sprites direction as 90. Set x and y of sprite1 as -155 and 55. Set x and y of sprite2 as -140 and 70. Set x and y of sprite3 as 125 and 90. Set x and y of

sprite4 as 205, -180. Set x and y of sprite1 as 70, -105.

→ **STEP-03**

Choose the sprite "sprite1" and do following coding on it. (Figure 10.3)

→ **STEP-04**

Choose the sprite "sprite2" and do following coding on it. (Figure 10.4)

→ **STEP-05**

Choose the sprite "sprite3" and do following coding on it. (Figure 10.5)

→ **STEP-06**

Choose the sprite "sprite4" and do following coding on it. (Figure 10.6)

→ **STEP-07**

Choose the sprite "sprite5" and do following coding on it. (Figure 10.7)

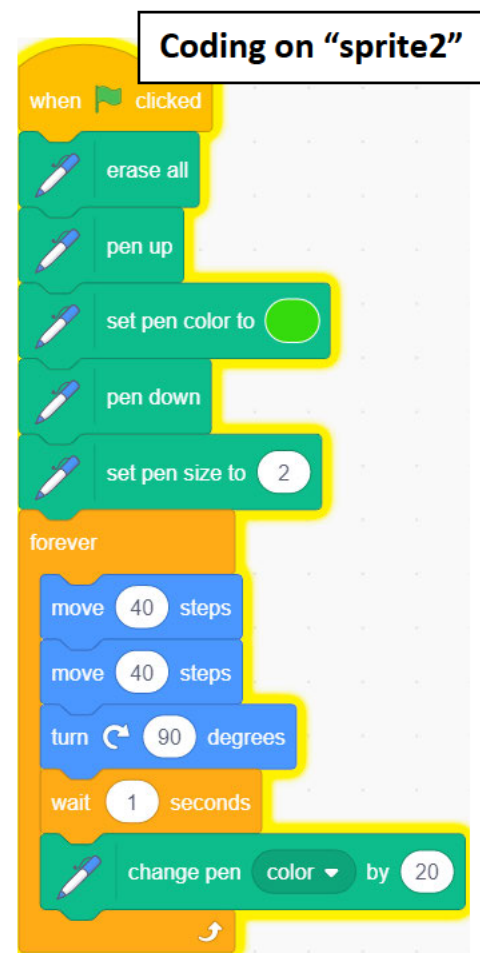


Figure 10.4

**Coding on "sprite3"**

```

when green flag clicked
  erase all
  pen up
  set pen color to red
  pen down
  set pen size to 2
  set pen transparency to 100
  forever loop
    change pen transparency by -20
    move 40 steps
    turn 60 degrees
    wait 1 seconds
  
```

Figure 10.5

**Coding on "sprite4"**

```

when green flag clicked
  erase all
  pen up
  set pen color to green
  pen down
  set pen size to 2
  set pen saturation to 0
  forover loop
    change pen saturation by 20
    move 70 steps
    turn 120 degrees
    wait 1 seconds
  
```

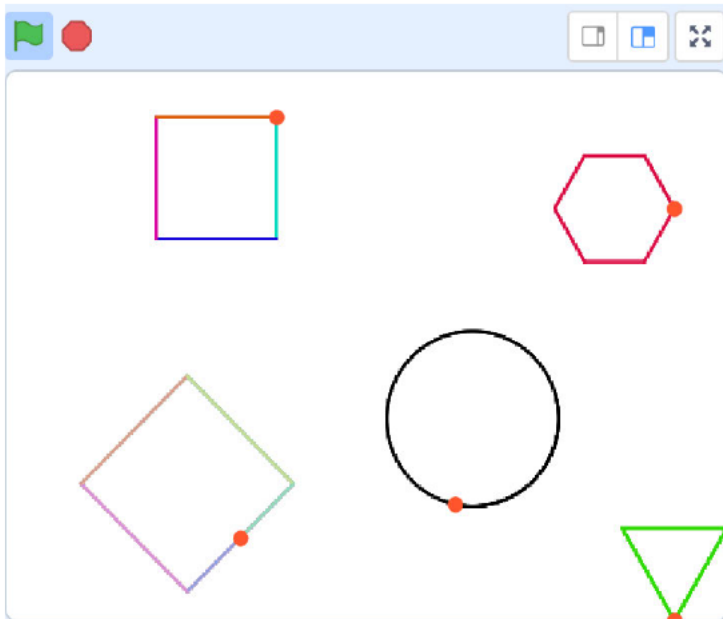
Figure 10.6

**Coding on "sprite5"**

```

when green flag clicked
  erase all
  pen up
  set pen color to green
  pen down
  set pen size to 2
  forever loop
    change pen brightness by -40
    move 1 steps
    turn 1 degrees
  
```

Figure 10.7



**Sprite1 is making the shape "rhombus"**  
**Sprite2 is making the shape "rectangle"**  
**Sprite3 is making the shape "hexagon"**  
**Sprite4 is making the shape "triangle"**  
**Sprite5 is making the shape "circle"**  
**continuously and slowly**

Gowri: Glimpses of the project at any time is shown in Figure 10.8.  
 Aryan: It's a very interesting project. I liked it very much. Thanks, Gowri, for teaching me this wonderful project.

## **APPENDIX-I**

### **ANSWERS**

#### **Chapter 1**

1. Ans. Computer is an Electronic Device which takes raw data as input, process it and gives desired output.
2. Ans. It is important to shut down our computer system, because it saves power and saves our files properly.
3. Ans. Tux paint is Award winning, free open source software for making an interactive drawing.
4. The Components of Tux Paint Windows are following :
  - (i) Toolbar
  - (ii) Help Area
  - (iii) Drawing canvas
  - (iv) Selector
  - (v) Color box/Palette
5. Ans. Click on Save Tool and Select the right button to save your drawing.

#### **F. Fill in the Blanks**

1. Computer
2. Start Button
3. Tux Paint
4. Help Area
5. Eraser

#### **G. Match the Following.**

- 1 ---- d
- 2 ---- e
- 3 ---- a
- 4 ---- b
- 5 ---- c

#### **H. Select the correct answer for each question.**

1. C
2. D
3. A
4. B
5. A

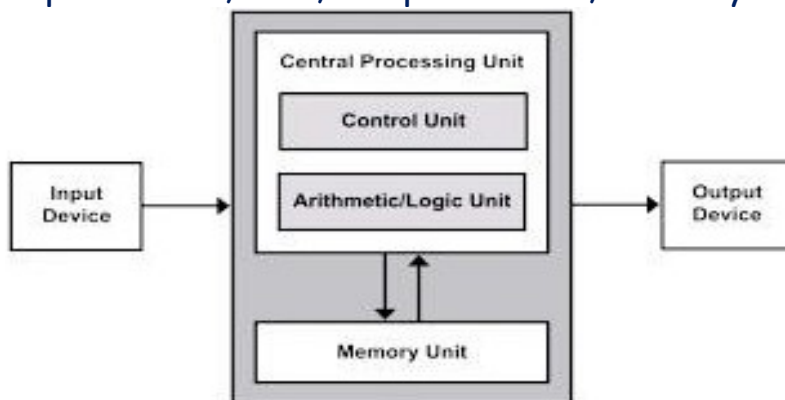
**I. State True or False**

1. True
2. False
3. False
4. False
5. True

## Chapter 2

**A. Answer the following questions.**

1. There are four basic components of computer.  
 Input device, CPU, Output Device, Memory



2. Computer is called versatile in nature because it can do variety of operations on same set of data.
3. Disadvantages of computer are:  
**Zero IQ:** Computer has no IQ level  
**No decision making:** Computer cannot make any decision by itself.  
**Electricity:** Computer needs electricity to work
4. Students can write any four applications learned in chapter.

HARDWARE	SOFTWARE
➤ Hardware are the devices used in or with your computer	➤ Software are the programs you run on computer

We can touch	We cannot touch
example: Monitor,CPU	Example : Tux Paint

5.

**B. Fill in the Blanks**

- 1.teaching, learning
- 2.fast
- 3.Memory
- 4.four
- 5.shut down

**C. Match the Following.**

1-c, 2-e, 3-a, 4-b, 5-d

**D. One-word Answer.**

1. Keyboard (or any other)
2. tux paint (or any other)
3. Central processing unit
4. Monitor (or any other)
5. Hospital

**E. State True or False**

FALSE, FALSE, FALSE, TRUE, TRUE

**Chapter 3**

**A. Answer the following questions.**

1. This key is used in conjunction with other keys to perform special operations like Ctrl+C to copy, Ctrl+V to paste etc.
2. Input: keyboard, mouse  
Output: monitor, printer
3. Icon is a small graphic representation of a program or file or application shortcuts that, when clicked on, will be run or opened.
4. 1. Right click on an empty space on the desktop and click on Personalize.  
2. Click on background  
3. Choose picture from list or Browse the picture on your computer

5.CPU is that part of computer which controls all the other parts of computer

CPU is further divided into two parts:

1. CU (Control Unit) : It controls the processing of computer
6. ALU (Arithmetic Logical Unit): It handles both arithmetic and logical operations.

**B. Fill in the Blanks**

- 1.DESKTOP    2.PAPER                      3.UPS                      4.ENTER KEY    5.MOUSE

**B. Match the Following.**

1-d,2-a, 3-e, 4-b, 5-c

**D. Answer in one word.**

1. Uninterruptible Power Supply
2. Control Unit
3. Caps Lock
4. Speaker
5. Peripherals

**E. State True or False**

- False,                      False ,                      True ,                      True ,                      False

## Chapter 4

**A. Answer the following questions**

1. Cut option move the selected text at new position whereas copy makes a duplicate copy of selected text.
2. Bulleted list
3. Name of the document
4. use superscript option on formatting toolbar
5. Normal, Web, Outline

**B. Fill in the Blanks**

i. Untitled1, ii. Digital documentation, iii. status, iv. Esc, v. Justify

**C. Match the following**

a) copy	r) Ctrl+ C
b) Paste	t) Ctrl + V
c) centre align	q) Ctrl+ E
d) Find and replace	p) Ctrl+ H
e) Exit LibreOffice	s) Ctrl+ Q

D. Select the right option

i. c ii. b iii. a iv. c v. d

E. True/False

a) True, b) False, c) True, d) True e) False

## Chapter 5

**A:**

1. Ans. The Internet is a global network of billions of computers and other electronic devices.

Application of Internet:

1. To Study online
2. Online Filling Jobs forms

2. Ans. A web page (or webpage) is a specific collection of information provided by a website and displayed to a user in a web browser.

3. Ans. A website is a collection of linked web pages (plus their associated resources) that share a unique web-address.

Two educational website address:

<https://cbse.nic.in/>

<https://ncert.nic.in/>

4. Ans. Parts of web browser

- 1) Address bar
- 2) Setting options
- 3) Web-Content Area
- 4) Status bar

5. Ans. A search engine is a website through which users can search internet content. e.g. Google, Yahoo & Bing etc.

**B. Fill in the Blanks**

1. Internet
2. Uniform Resource Locator
3. Address bar
4. Google
5. Web browser

**C. Match the Following.**

- 1 ---- b
- 2 ---- c
- 3 ---- d
- 4 ---- a

**D. Select the correct answer for each question.**

- 1. B
- 2. D
- 3. A
- 4. D

**E. State True or False**

- 1. True
- 2. True
- 3. False

False

## Chapter 6

**Q:-1** You have seen so many sprites in scratch. Write their names.....

Sprites which can dance	Champ99	Ten80 Dance	Cassy Dance
Animal sprites	Bear	cat	Elephant
Sports sprites	Basketball	Football	Tennis Ball
Food sprites	Cake	Donut	Bananas

**Q: -**  2

**Q: -3** Cat

**Q: -4** "Choose a sprite" icon

**Q: -5** Letters

**A. Answer the questions given below: -**

- 1. **Answer:** - "Move 10 steps"
- 2. **Answer:** - Yes, blocks can be joined together.
- 3. **Answer:** - Drag means left click the mouse and move the sprite without leave the mouse and drop means leaving the left button of the mouse where you want to move the sprite.
- 4. **Answer:** - Block of Instructions are the blocks, by which we can give instructions to sprites to perform tasks like move, turn etc.






5. **Answer:** - Stack block, are the blocks, which means any number of blocks can be added above this block as well as below this block.

**B. Fill in the blanks given below: -**

1. **Mit Media Lab.**
2. **Cat**
3. **Move —20 steps.**
4.  **45 degrees.**
5. <http://scratch.mit.edu/download>.

**C. Write the script for following: -**

1. **move 20 steps**
2. **turn  40 degrees**
3. **move 45 steps**
4. **turn  40 degrees**
5. **move 50 steps**  
**turn  40 degrees**

## Chapter 7

Q: -1 You have seen so many sprites in scratch. Write their names with their costumes names.

Sprite Tab	Sprite Name	Costumes Names		
Dance	champ99	champ99a	champ99b	champ99c
Animals	butterfly	butterfly1-a	butterfly1-b	butterfly1-c
Sports	dorian	dorian-a	dorian-b	dorian-c
Food	Food Truck	Food Truck-a	Food Truck-b	Food Truck-c
Fashion	hat	hat-a	hat-b	hat-c

Q: -2 **Answer:** - 9 (nine) blocks are available in scratch.

Q: -3 **Answer:** - This is also a stack block and used to change the costume of the sprite.

Q: -4 **Answer:** - Flag

Q: -5 **Answer:** - Events block.

Q: -6 **Answer:** - Hat block are the blocks, which means, more blocks can be joined in downward side only and also it has "hat" shape from top side. This block will be a top block in every script.

Example of Hat block is - "when flag clicked".

A. **Answer the questions given below: -**

1. Answer: - This block is used to display a message in a thinking bubble pullout from sprite for some seconds.
2. Answer: - Total 9 blocks are available in scratch.
3. Answer: - This block is used to display a message written by us in a bubble pulled out from sprite for some seconds.
4. Answer: - The message will overlap with the next step or message and we could not see the message when we use "Say Hello!" block. So, we have to use the "wait for 1 seconds" block from the control block.
5. Answer: - "Control" block.
6. Answer: - File menu.

B. **Fill in the blanks given below: -**

1. "Load from your computer"

2.  "Delete"

3.  "Stop"

4. "Switch costume to"

5. 9 (nine).

## Chapter 8

**Q: -1** You have seen so many effects in scratch. Write their names to do the following tasks.

Action	Name of Block
Change the color of the sprite	"change color effect by..."
Increase the size of the sprite	"set size to..." (give +ve value)
Decrease the size of the sprite	"set size to..." (give -ve value)
Remove all the color effects from sprite	"clear graphic effects"
To set the color of the sprite to a specific colour	"set color effect to..."

**Q: -2 Ans: -** "Looks" block

**Q: -3 Ans: -** This block of instruction is used to set the size of a sprite to a specific size, which you want.

**Q: -4 Ans: -** This block checks whether the sprite is clicked or not. If sprite is clicked then blocks written under it will be executed.

**Q: -5 Ans: -** This block is used to change the colour of the sprite by a value, which you want.

Q: -1 Ans: - "choose a backdrop" icon

Q: -2 Ans: - True

Q: -3 Ans: - This block is used to choose the specific background of stage from the list of backdrops, chosen by us already.

Q: -4 Ans: - Nine

Q: -5 Ans: - "next backdrop" block

Q: -6 Ans: - This block is a **hat block** and used to do specific tasks, when a particular background is chosen. This block has a drop-down list. We can choose a particular background from the given list of backgrounds, chosen by us already.

A. Answer the questions given below: -

1. Ans: - This block is used to fly the sprite to a random position on the stage in 1 second.

2. Ans: - In scratch, 9 blocks are available.

3. Ans: - "Glide... sec to random position" block is used to fly or float the sprite to a random position on the stage.

4. Ans: - "switch backdrop to..." block is available under "Looks" block.

5. Ans: - "set size to..." block is used to increase or decrease the size of the sprite.

B. Fill in the blanks given below: -

1. "Looks" block.



2. "choose a backdrop".

3. "Change color effect by..."

4. clearing the colour effects applied before.

5. Nine

## Chapter 9

Q: -1 Answer: - True

Q: -2 Answer: - "Control" block

Q: -3 Answer: - "forever" block is used to repeat the blocks for infinite number of times, written inside the block.

Q: -4 Answer: -inside

A. Answer the questions given below: -

1. Answer: - Duplicate the sprite.

2. Answer: - Upload sprite.

3. Answer: - "forever" block.

4. Answer: - "Control" block.

5. Answer: - "paint" option in "choose a background" icon.

B. Fill in the blanks given below: -

1. pull-down



2.

3. hover

4. "duplicate the sprite"

5. Five

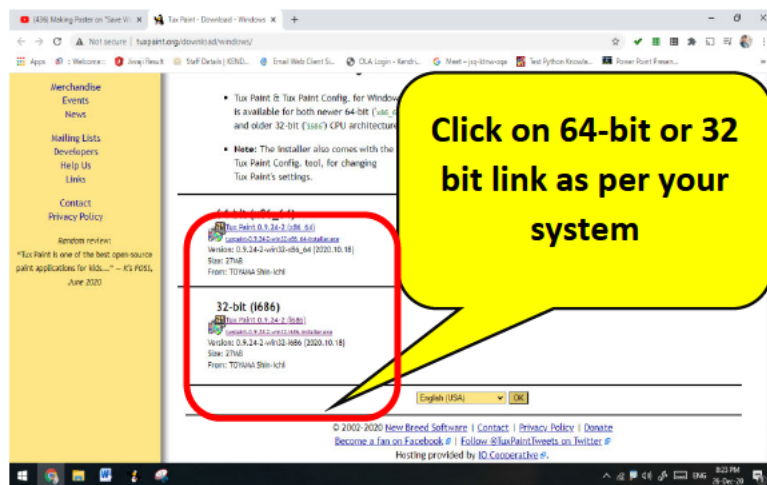
## Appendix - II

### How to Install Tux Paint in your computer System?

**Step 1:** Click on the following link to download from internet:

<http://www.tuxpaint.org/download/windows/>

**Step 2:**



**Step 3:** It will take 5 minutes in downloading (27 MB Software)

**Step 4:** Open downloaded file and Run it.

**Step 5:** Select English Language and click on OK.

**Step 6:** Select "I accept" option then click on the Next Button

**Step 7:** Select "all user" then click on Next

**Step 8:** Select Create shortcut on Desktop and click on Next

**Step 9:** Click on install button, It will install Tux Paint in your system

In addition to this software we have to install the stamps which we have to download separately following the link and install the stamps after download.

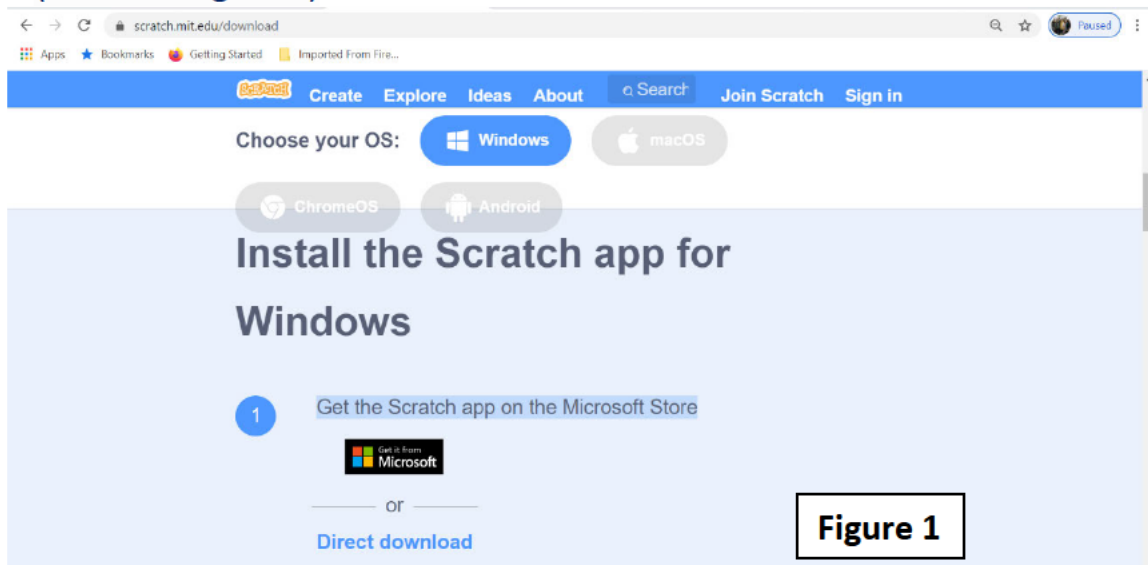
<https://excellmedia.dl.sourceforge.net/project/tuxpaint/tuxpaint-stamps/2020-05-29/tuxpaint-stamps-2020-05-29-win32-installer.exe>

## How to Install Scratch in your computer System?

**Offline installation of scratch: -**

**Step-01→**

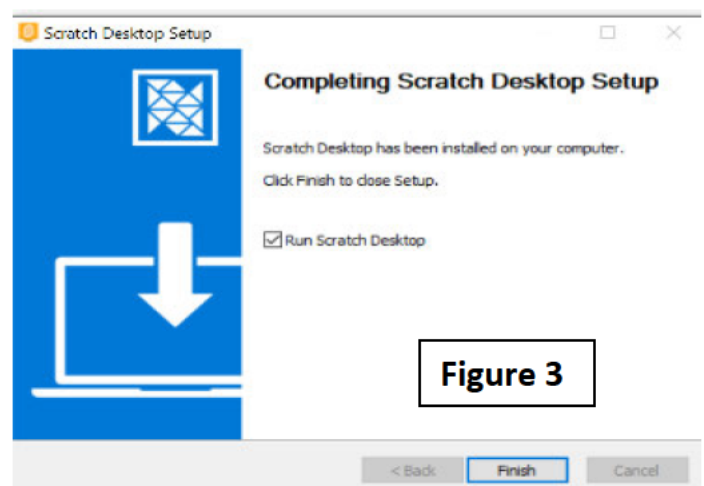
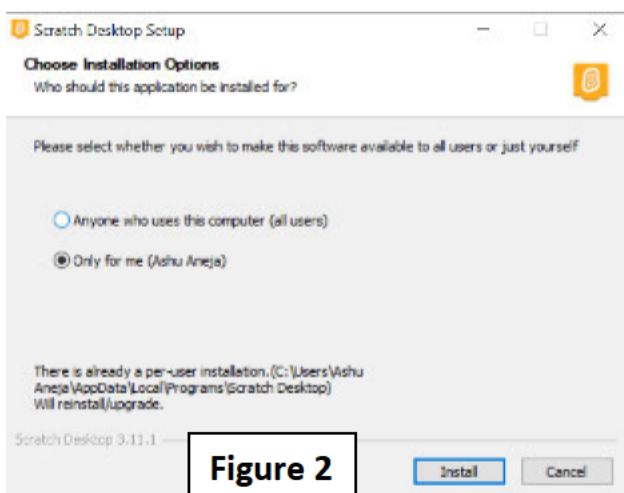
By opening URL <http://scratch.mit.edu/download>, Following window appear (shown in figure 1)



**Step-02→** Click on Direct download. A file will be downloaded in download folder.

**Step-03→** Open the file by double clicking on it.

**Step-04→** Run the .exe file. (Scratch Desktop Setup 3.11.1), a window appears (shown in figure 2)



**Step-05**→ Click on only for me and then Install button. Then scratch will be downloaded automatically, a window appears shows in (Figure 3).

**Step-06**→ Click on Finish, as shown in Figure 3.

**Step-07**→ Installation finishes now and

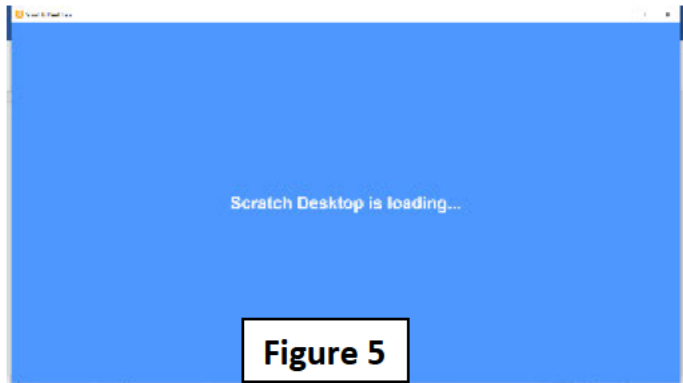


Figure 5

scratch Desktop software can be opened from start icon or double click the icon appears on desktop. (Shown in Figure 4)

**Step-08**→ When we open the scratch Desktop software, following figure (figure 5) appears and then after that figure 6 will appear known as "scratch window" and also their different components are marked in figure 6 also.

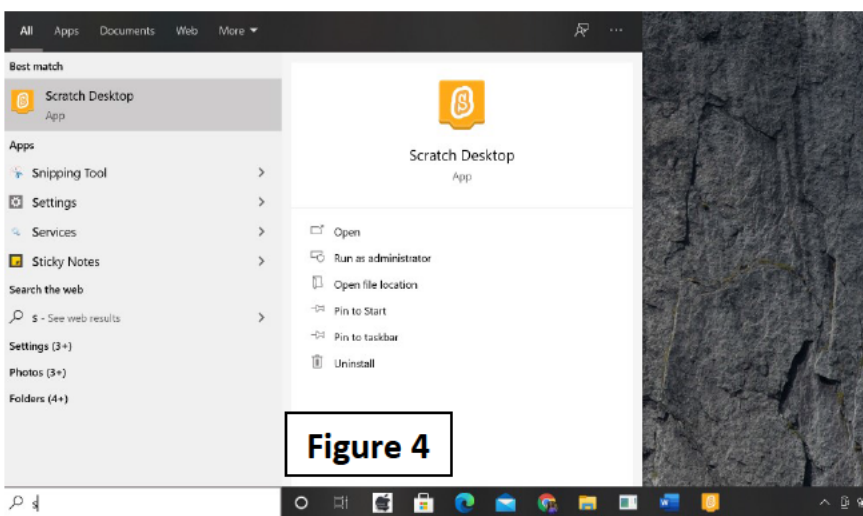


Figure 4

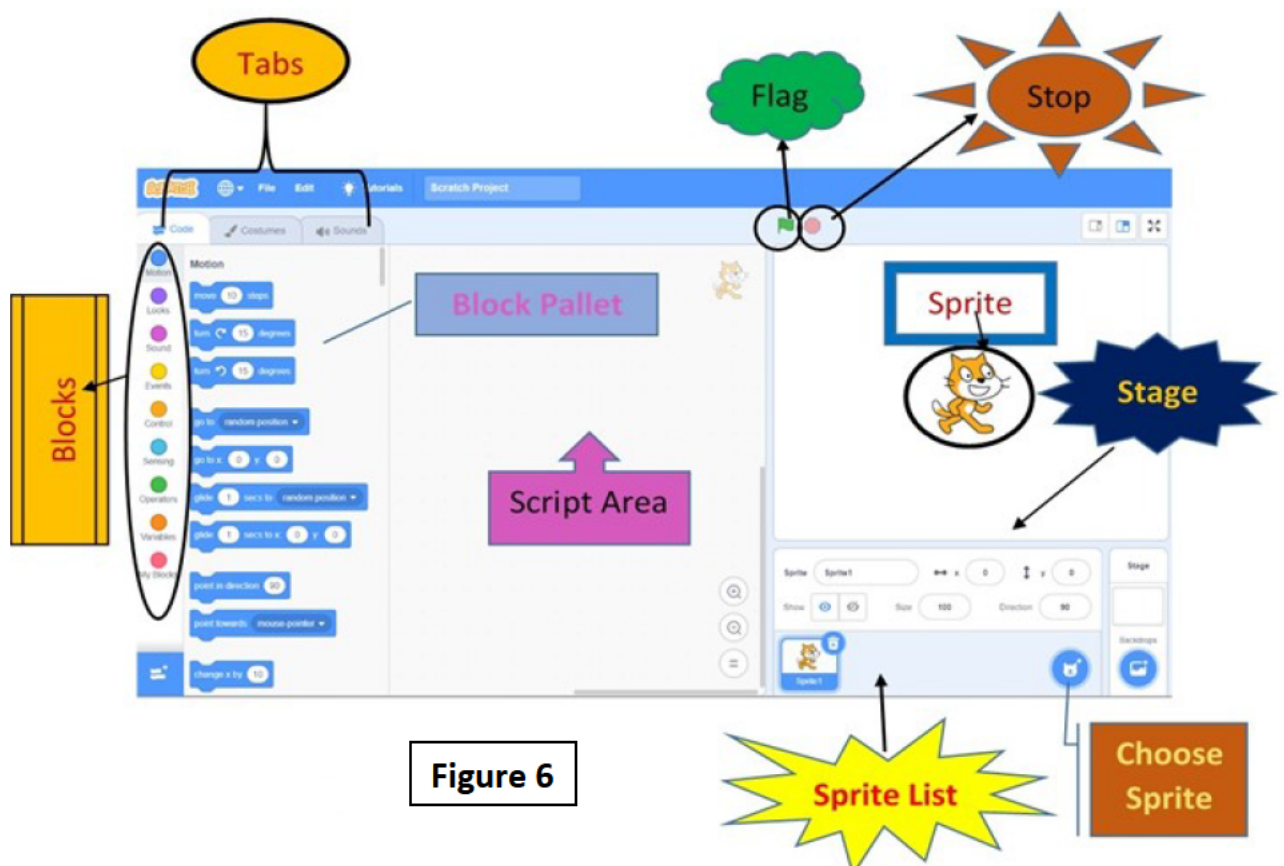
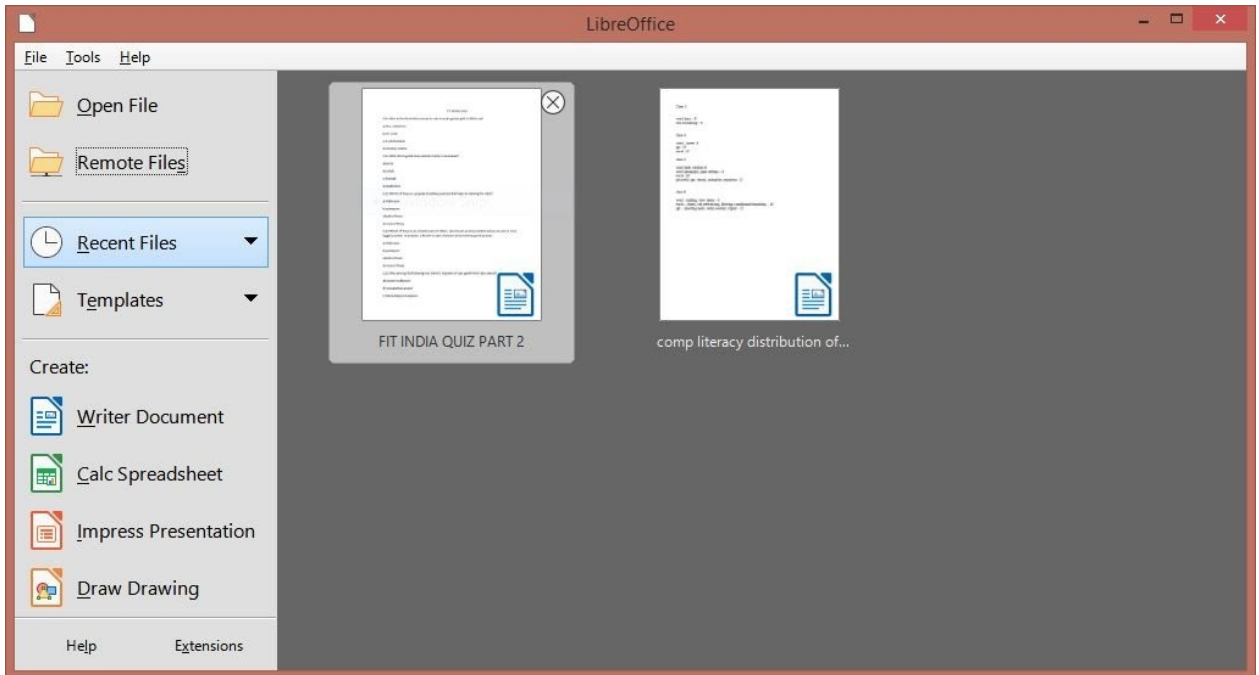


Figure 6

# INSTALLING LIBREOFFICE



Four major components of software libreoffice are

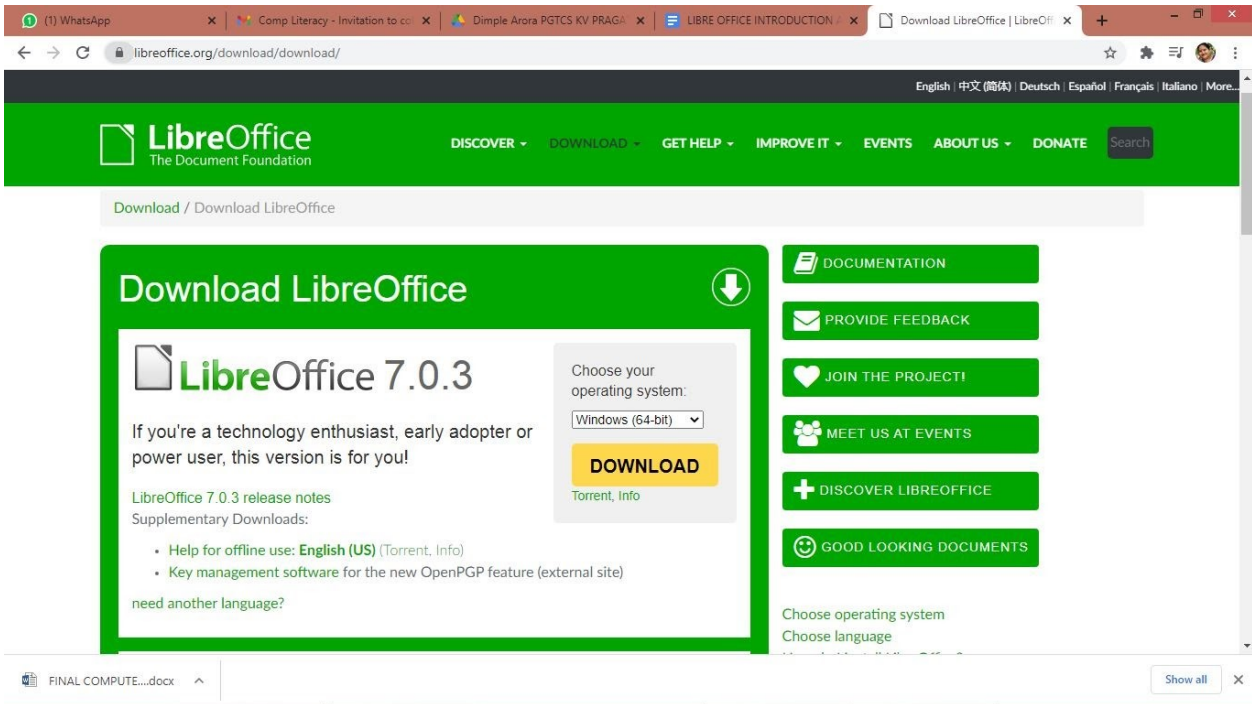
1. Writer Document - A word processing component used to create letters, brochures, books, newsletters, biodata, project reports, documents to store quick references to useful information.
2. Calc Spreadsheet - A tool for analysing data, creating charts and used for decision making.
3. Impress Presentation - A tool which provides multiple features to create effective multimedia presentations quickly.
4. Draw Drawing - Software enjoyed by kids to show their creativity and draw beautiful paintings.

## INSTALLING LIBREOFFICE

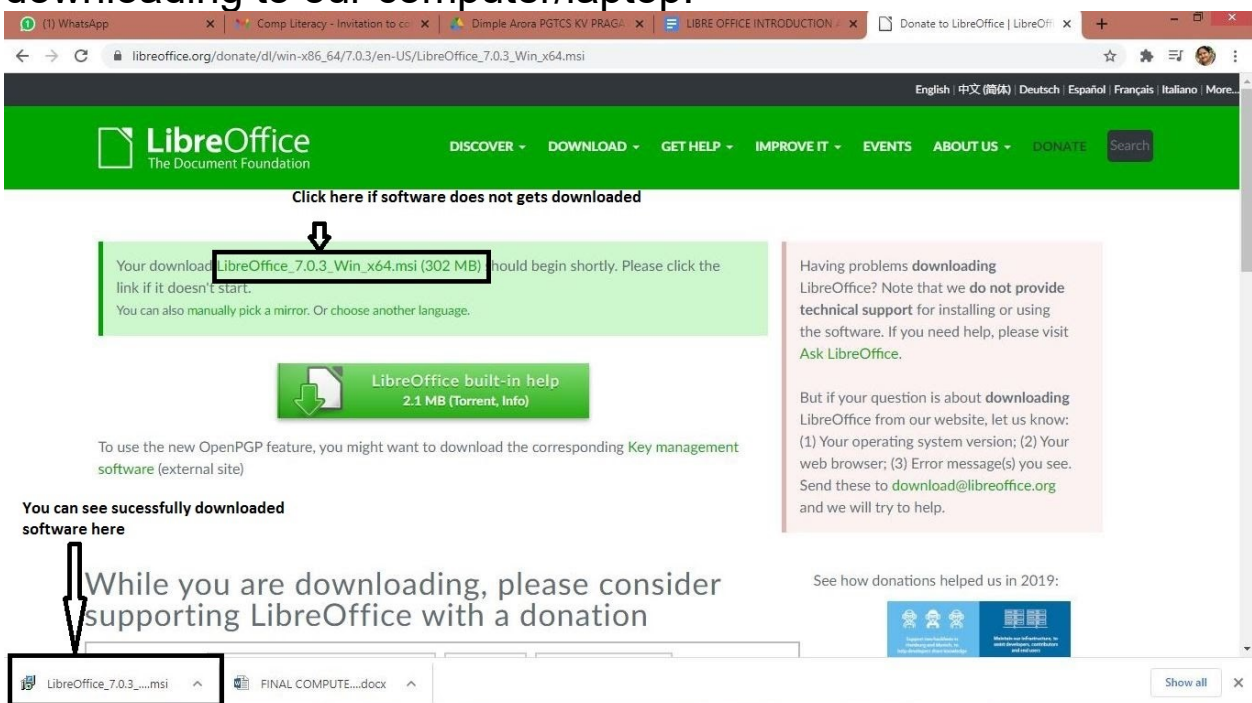
Step1- open the website using this link

<https://www.libreoffice.org/download/download/>

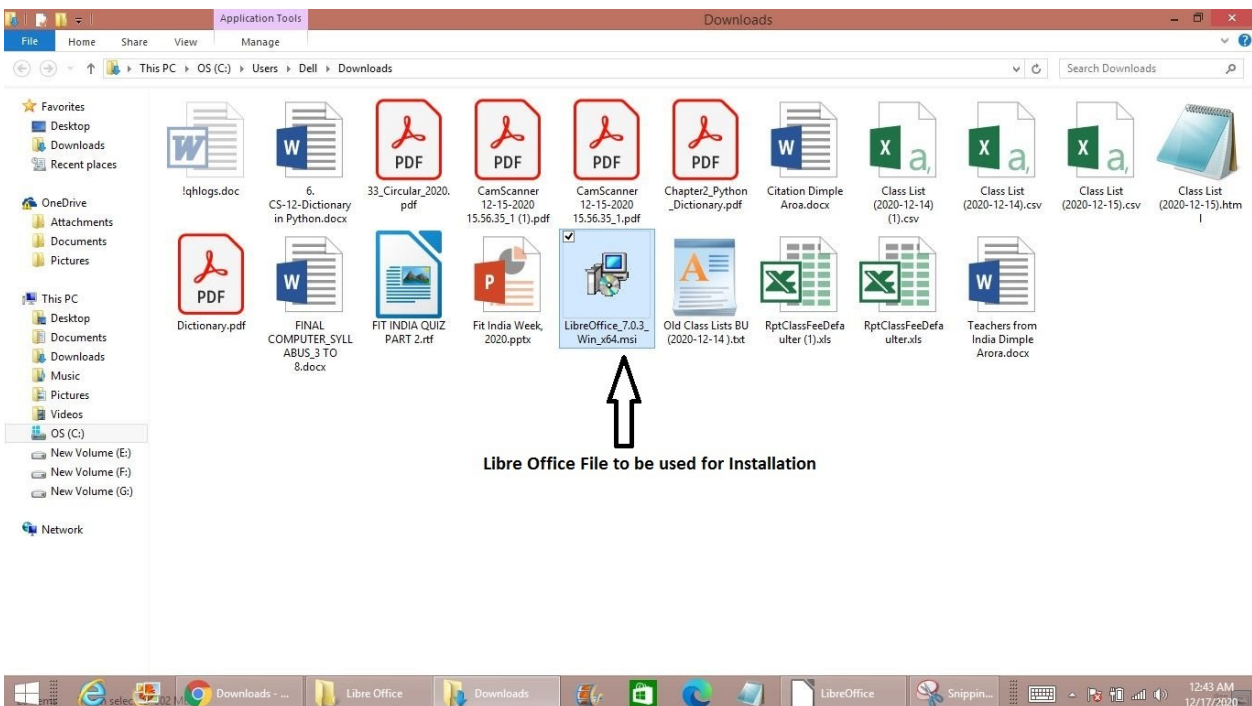
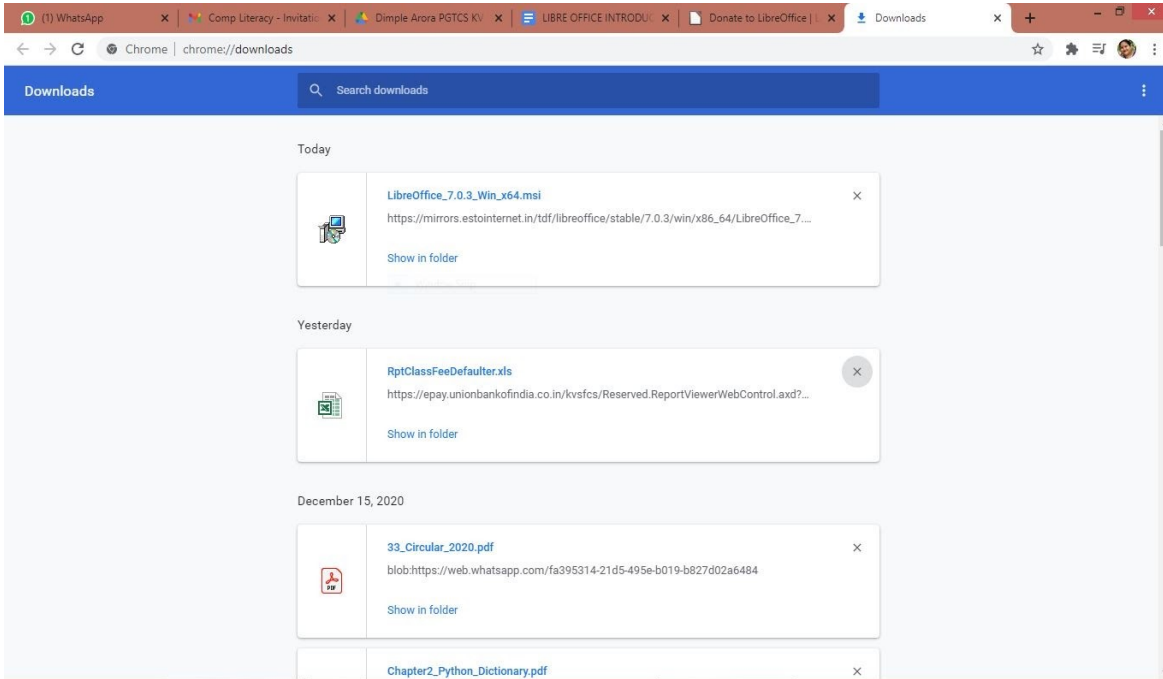




Step2 - You can see the latest version of the libreoffice suite. From this page we can select our operating system from the drop down menu and press the yellow **DOWNLOAD** button. Software starts downloading to our computer/laptop.



Step3 - Click on file downloaded or open the file LibreOffice\_7.0.3...msi from downloads



Step 4- Libreoffice installation begins. Keep pressing the next button and follow instructions to install the software





तत् त्वं पूषन् अपावृणु  
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