

TECHNOFUN

COMPUTER LITERACY CLASS VI



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.



(Nagendra Goyal)
Deputy Commissioner

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(Nagendra Goyal)
Deputy Commissioner

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SYLLABUS

CLASS 6

Quarter - APRIL to JUNE

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		7.6	Uploading file/folder to google Drive
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Project		Projects –in Python	

1. Programming:- What and how??

Aryan :- It was fun learning scratch last few years.

Gowri :- Yes, Mam told us that scratch was taught to introduce basic programming concepts to us.



Aryan :- Is it? That was programming. I used to imagine a programming as some complex mathematical stuff in English (difficult to understand syntax).

Gowri:- Yes, and you might have pictured a male, who does not speaks or interact with anyone and can hack.

Aryan :- Yes.. Yes

Gowri :- These all are misconceptions many people have about programming or programmers.

Aryan :- Ok. Is it not all true.

Gowri :- Not at all. Let me tell you some facts. Firstly, you know that who was the first programmer of the world. She was Ada Lovelace, a woman. Moreover, Grace Murray Hopper, was a woman who developed the first compiler for programming language.

Aryan :- Oh.. is it.

Gowri :- And you need not be genius or mathematician to code. If you know basic maths and have patience, interest and determinant you can code. Rest you know practice makes a person perfect.

Aryan :- Yes indeed. Thank you for telling me facts. Now I am more interested in learning to code. I know now it's not boring and nerdy. And you told that first compiler was developed by a woman. What is a compiler.

Gowri :- Whatever step by step instructions you give to computer, it is given in an easy English like language. But computer understands language of only 0 and 1. That is called as binary language. So compiler converts our step by step instructions to computer language of 0 and 1.

And now let me tell you what coding is. Coding is instructing computer to do something through step by step instructions and to reach a specific outcome.



Aryan :- As in what we used to do in scratch in script area.

Gowri :- Yes, That was coding. We can do coding in many languages. Like, I talk to you in Hindi or English as you understand these languages. Similarly, to give instructions to computer we need to learn its language. Here we will be starting with python.

Aryan :- Do you have any tips to help me code before I start.

Gowri :- Yes, First thing is you should be patient and read the question atleast 2-3 times or more till you are comfortable. Then go through it manually and write down the simplified steps in English and thereon you can convert it into programming language. You should be willing to make mistakes and not be discouraged by it, as no one can code without errors. Not even big programmers.

For example, if I tell you to make a sandwich.



Aryan :- But I do not know how to make it.

Gowri :- Exactly, so it seems difficult to you. But let me simplify this in step by step instructions.

1. Go to kitchen.
2. Open fridge.
3. Take out bread and tomato and cheese slice.
4. Take one plate and knife.
5. Wash the tomato and wipe dry.
6. Cut slices of tomato
7. Take one slice of bread on plate.
8. Arrange slices of tomato on the bread slice on plate.
9. Stack cheese slice on it.
10. Keep second slice of bread.
11. Sandwich is ready.



Aryan :- You made this difficult task so easy by defining in simplified steps. Moreover, you were very accurate and even pointed out small details in these steps.

Gowri :- Yes **Aryan**, We have to give all instructions to computer too as if we miss out on any we will not get the desired result. Computer do not have its own IQ or intelligence to fill gaps if we have in our instructions. It will just do what we tell him to.

Aryan :- Ok, Now I understand.

Gowri :- Yes, Now before learning to code why do not you write step by step instructions for following scenarios.

Aryan :- Why not. I can try and I know I can do it because I am determined.

Gowri :- Good. So scenarios are

1. Making Maggie noodles.
2. To find perimeter of top of our book.
3. To do surya namaskar

Aryan and **Gowri** looked up videos and questions to improve their problem solving.

Aryan:- Hey **Gowri**, Its fun to work and I think I can solve many other daily problems easily as I can now see things analytically and one day may be I will make ROBOT.

Gowri :- Surely, You can. Infact, one of our KVS teacher has made humanoid. Let me introduce her to you.

Shalu is the Indian Artificially Intelligent Humanoid Robot developed by Kendriya Vidyalaya Computer Science Teacher, Mr. Dinesh Kunwar Patel. As per DD News; Shalu is the **first robot in the world that can speak 9 Indian and 38 foreign languages.**

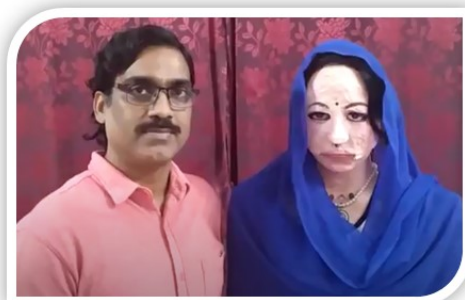


Figure: Robot Shalu and her creator Mr. Dinesh Kunwar Patel.

Aryan - I am not sure what humanoid robots are?

Gowri - Humanoid robots are robots that look and behave just like a human with the help of Artificial Intelligence.

Aryan - Does Shalu understand what we are asking her?

Gowri - Indeed, Shalu does it with the help of Artificial Intelligence. Shalu can listen to our questions and understand what we are asking. She uses the knowledge she has collected from the internet to answer our questions verbally, all with the help of Artificial Intelligence.

Aryan - Artificial Intelligence? What does that mean? □

Gowri - Artificial Intelligence (AI) is a technology with which scientists are putting human-like intelligence in machines like robots. These intelligent machines show behavior similar to a human and can make decisions on their own.

Aryan - So, Shalu is Artificially Intelligent? 😊

Gowri - Yes!, Shalu can make many decisions on her own, from understanding the meaning of asked questions, to finding the correct and suitable answer response. Even Mr. Dinesh is unable to predict what she will reply. Her other activities like laughing, showing anger and irritation, making jokes just like us, are examples of the behavior of artificially intelligent robots.

Aryan - Gowri, I am attracted to Robotics very much. Can you tell me more about Robot Shalu?

Gowri - Of course!. Robot Shalu can recognize people and remember them just like us. She is capable to answer many academic questions including math problems too. The motive of Mr. Dinesh to develop her is to deploy her as a robot teacher in schools to teach us in the class and answer all of our questions. He hopes that students will study with interest along with having fun.

Aryan - Oh □, so in the future, only robots will be teaching us?

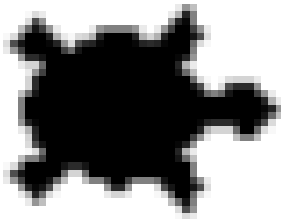
Gowri - No dear, you are wrong, Nobody can replace and become the substitute of our teachers. Robot Shalu will support the teachers in their work and ease their burden in classrooms of delivering lecture-based PowerPoint presentations, taking quizzes, etc.

Aryan - Okay! 😊 I am excited about the future when humanoid robots will help us and make our day-to-day life easier.

Gowri - Me too 😊. But better to learn to make one. Now, let's start with Python.

2. Python Turtle

- 2.1 Know Python turtle library
- 2.2 Getting started with turtle
- 2.3 Understanding screen and turtle(pen)
- 2.4 Introduction to programming with turtle
 - 2.4.1 Directions
 - 2.4.2 Shortened versions of directions
 - 2.4.3 Home and quadrants
- 2.5 Drawing polygons
 - 2.5.1 Triangle
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 - 2.5.3 Rectangle
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 - 2.5.5 Hexagon
- 2.6 Drawing circle and dot
- 2.7 Filling the image with some color and outline color
- 2.8 Changing the turtle shape
- 2.9 Understanding speed of the turtle and different parameters in pen function
- 2.10 Cloning the turtle



2.1 Know Python Turtle Library

Aryan and **Gowri** were discussing about different drawing they had made in Tux Paint.



Gowri:- Hey **Aryan** .. I really wish to prepare a pattern for myself using programming... it will be good to start formulating my programming skills..What do you say?

Aryan :- **Gowri**..it will be very difficult..We will need lot of time for it..and who knows if it does not work.

Gowri :- What is there to loose **Aryan**. Moreover, it does not take much time with Python Turtle to make patterns.

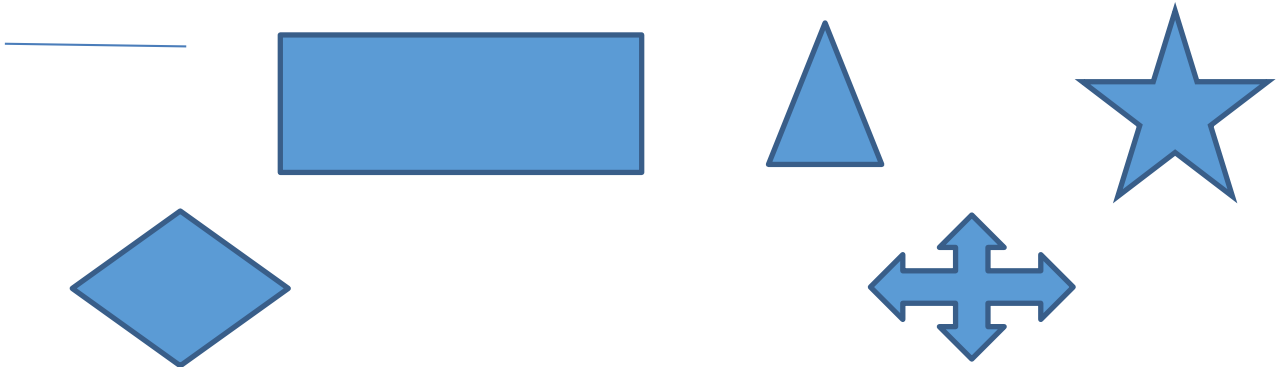
Aryan :- Turtle? As in that we saw in zoo also lives in Computer !!! And you are telling it can draw shapes and patterns by moving ..as per my wish?




Gowri:- I am talking about Turtle, that is, a library in Python (A programming language) not a reptile of zoo, you naïve child. A library is a set of functions that we may use in our program to make programming easier. May be you will learn Python programs one day if you choose do be a computer programmer in future. **Aryan** do you

know.. Whatever work a computer does for us is due to the coding of the softwares by these intelligent people called programmers.

With Python turtle library we can draw and create shapes and images of our choice. For example :



2.2 Getting started with turtle

Gowri:- ..This turtle  that we have seen in zoo becomes ➤ when it gives instructions in computer and it has a big store of ink and colors in its stomach 😊..You and our little friends may find it already present in your computers if you have Python 3.0 (programming language) or later version installed or simply download Python from <https://python.org/download>

Aryan :- How do we start working on it ?

Gowri:- Open the site I just told above.. and download Python if you don't have. Open Python IDLE then *turtle* gets ready to listen to your instructions.

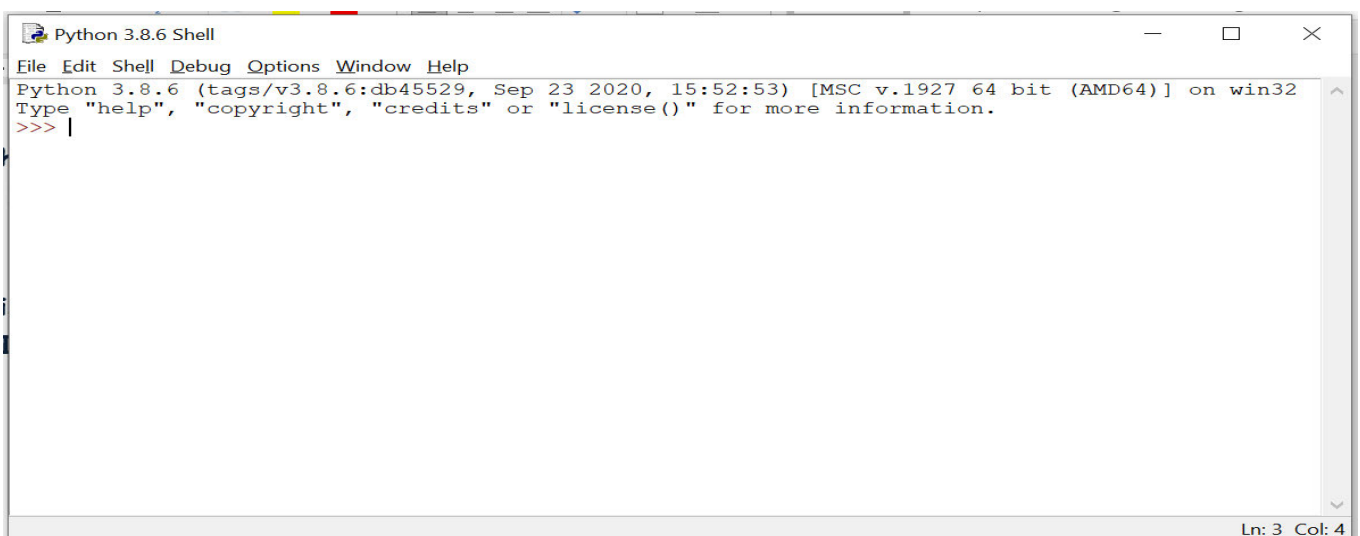


Fig. 2.1 Python IDLE Screen on Starting

This is the actual screen where I need to write my instructions. Click on file and then select new file.


Gowri:- The Turtle is just amazing.. remember ..I told you its stomach is a store.. It has everything you need to draw in its stomach and when it moves , the lines, shapes, colors etc. come from its stomach and Voila !!!..magic gets created for you..Let's enjoy the company of this turtle in computers..

2.3 Understanding screen and turtle(pen)

Gowri:- In the file that we just opened for drawing a shape with the help of turtle.. we need to write a few commands to prepare our canvas and pen for drawing.

The CODING AREA is the place where we write the instructions for drawing shapes

The SCREEN AREA is the place where we actually see the shape (output) that we draw using instructions

Turtle  that we see in the middle of SCREEN AREA(canvas) is actually the PEN ..movement of this pen in different directions helps us to draw rectangles, triangles, squares , circles , stars etc.

Aryan:- *It seems very interesting. .Please show me how to draw these using this pen shaped turtle..now I am also loving this idea of yours..It is really SUPER COOL boy!*

Gowri:- you need to write :

- `import turtle` - > to start the working of turtle
- `scr=turtle.Screen()` - > to prepare the screen or canvas for drawing
- `pen=turtle.Turtle()` - > to get the pen ready for drawing

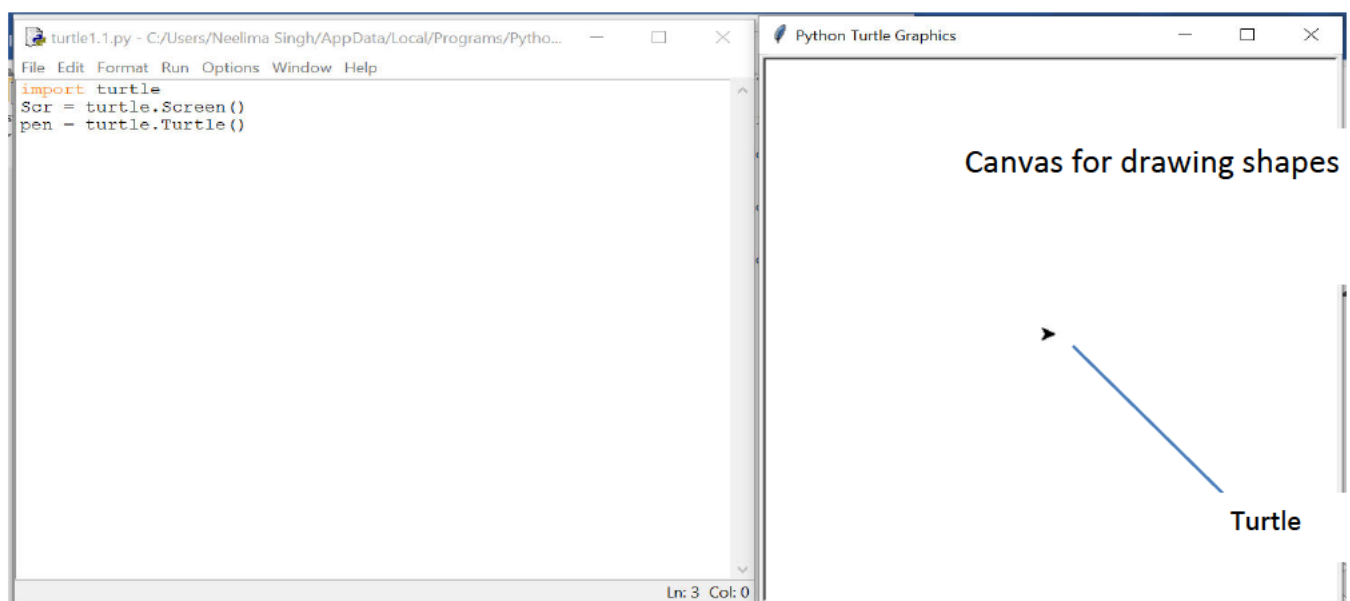


Fig 2.2 : Coding screen and output screen (Canvas with turtle)

2.4 Introduction to programming with turtle

Gowri:- if I ask you to draw a line in notebook what do you do?

Aryan :- Hey ..It is not funny I know..I will take a blank paper and a pen..then make a line in any direction ..as simple as that..



Gowri :- Wow.. it really is as simple as that..See I show you ..the CANVAS/SCREEN is your paper..turtle pen is your onscreen pen..commands that you will give will make the line

Now when I say turtle it means the PEN. The turtle can move up or down , but when it moves up or down it just moves..no line is drawn.. Now let us understand the directions first.

2.4.1 Understanding directions

Gowri :- There are four directions that a turtle can move in :

- Forward
- Backward
- Left
- Right

The turtle moves in Forward or Backward direction that it is facing. You may change the direction by using Left or Right to an angle degree.

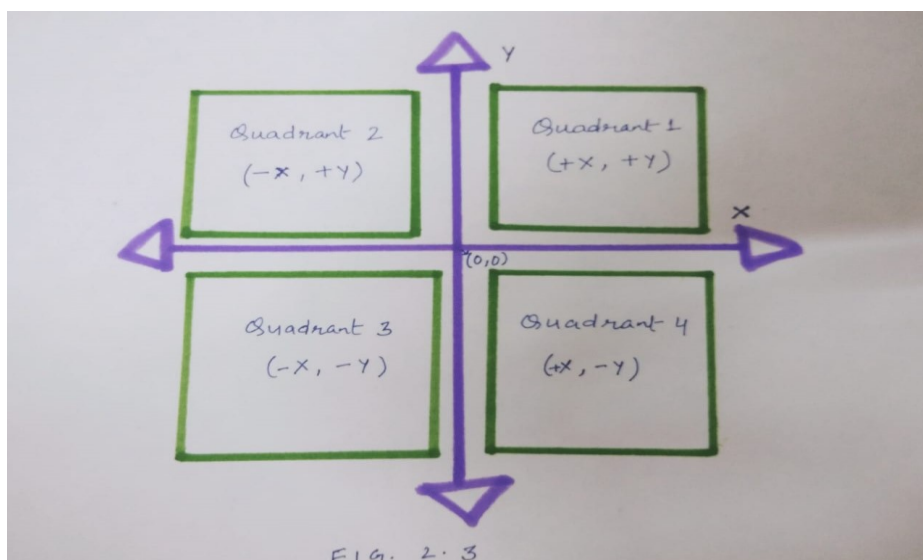


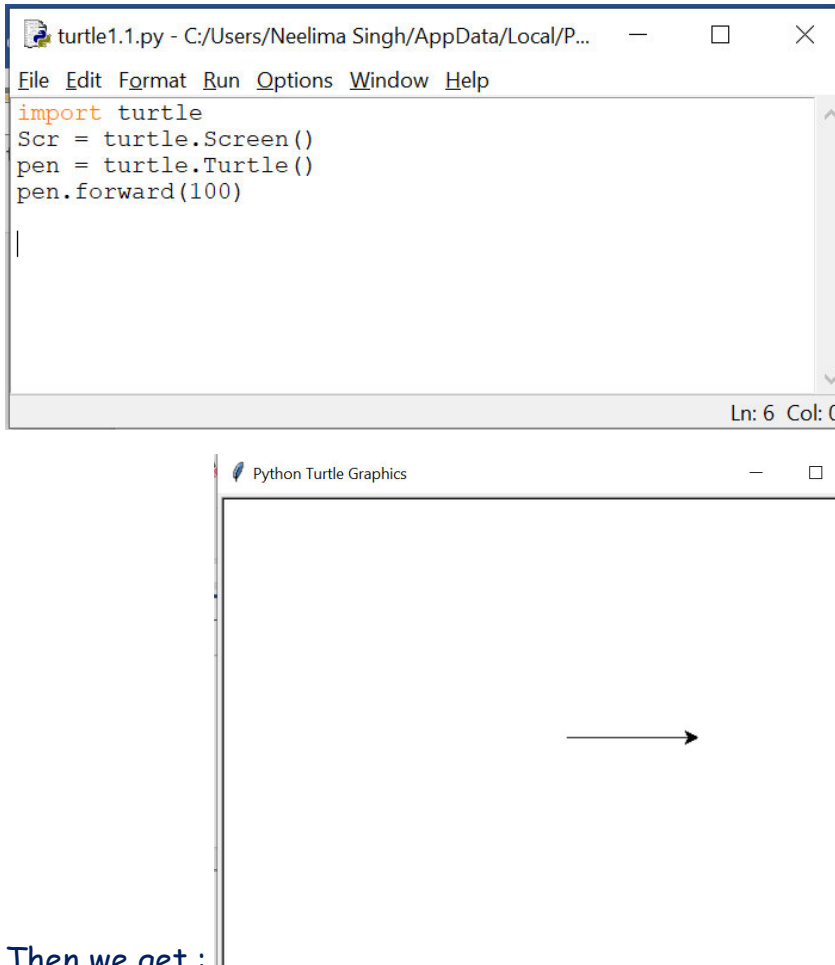
Fig 2.3

Please look at this direction fig and you will understand how to go about it.

Now let us see one simple example:

If you type these lines as program code:

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Then we get :

Gowri:- I told the turtle to move 100 points(pixels) in the direction it was facing so it drew first line...

Now I explain how you move and change direction using turtle on drawing board i.e. Canvas..

- Turtle.forward(n) - To move the turtle forward by given points
e.g. turtle.forward(100)
- Turtle.backward(n) - To move the turtle backward by given points
e.g. turtle.backward(100)
- Turtle.left(degree) - To change the direction of turtle to left by given angle degree
e.g. turtle.Left (90)
- Turtle.right(degree) - To change the direction of turtle to right by given angle degree
e.g. turtle.Right (90)

2.4.2 Shortened versions of directions:

Aryan:- Do I need to right forward/backward/left/right only whenever I need to make a shape or is there any shortcut way too??

Gowri:- Ohh..Sorry I forgot to tell you.. you may use following shortened forms of the above commands.. they will produce the same result..

- T.fd(n) - instead of turtle.forward(n)
e.g. t.fd(100)
- T.bk(n) - instead of turtle.backward(n)
e.g. t.bk(100)
- T.lt(degree) - instead of turtle.left(degree)
e.g. t.lt(90)
- T.rt(degree) - instead of turtle.right(degree)
e.g. t.rt(90)

Gowri:- You now can write your codes using any of the methods that you like ..

2.4.3 Home and quadrants:

Aryan:- I want to learn the figure about quadrants in detail ..please help.

Gowri:- (0,0) is the starting position of the turtle when you open the Python Turtle software. It is also known as **home position**.

From the fig. 2.3 we see that there are four quadrants ..means four parts ..x means horizontal and y means vertical ..If we move up then y increases and if we move down then y decreases. Similarly if we move right x increases and if we move left y decreases. This is in relation to Home position of the turtle.

2.5 Drawing Polygons:

A command tells the turtle to do exactly what we want, so it is an instruction.

Aryan:- .. I have understood the commands for moving the turtle and changing directions.. I can show you by drawing various geometrical figures.. shall I?

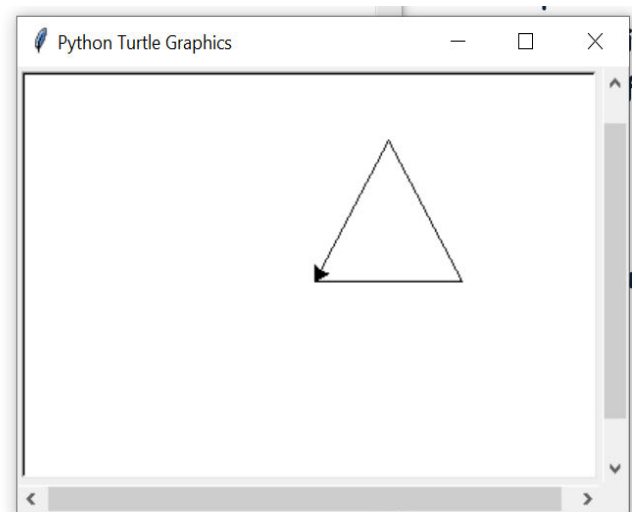
Gowri:- Yes dear ..go ahead and show me please..

2.5.1 Drawing a Triangle:

```

turtle1.1.py - C:\Users\Neelima Singh\AppData\Local\...
File Edit Format Run Options Window Help
import turtle
Scr = turtle.Screen()
pen = turtle.Turtle()
pen.forward(100)
pen.left(120)
pen.forward(100)
pen.left(120)
pen.forward(100)
Ln: 10 Col: 0

```



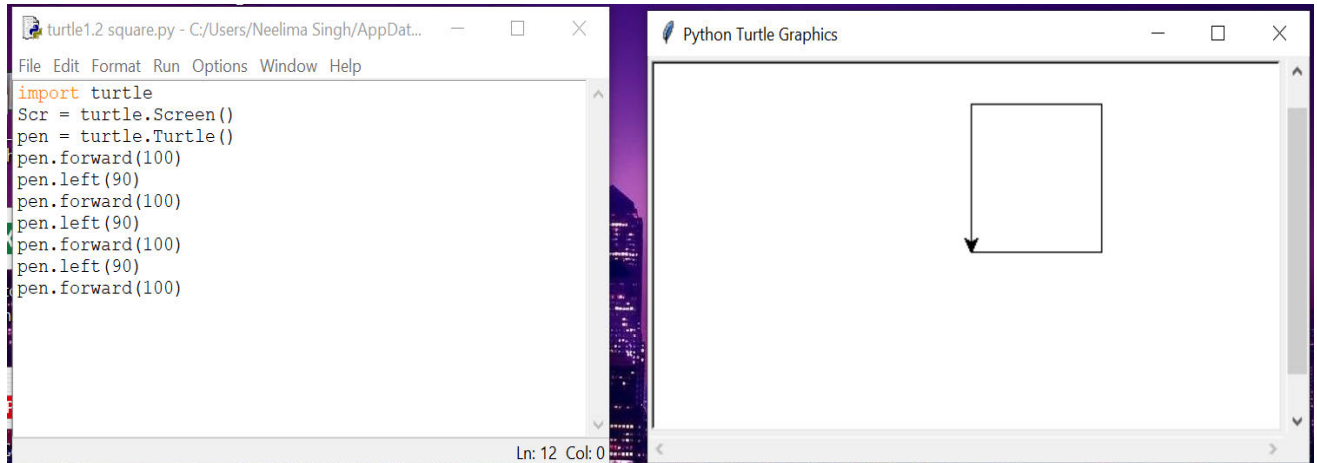
Aryan:- Look **Gowri**..I wrote pen. forward(100) to move the pen 100 points in forward directions of turtle, then I changed its face towards left by 120 degree then moved forward again by 100 points then turned again to left by 120 degrees and then forward by 100 points and I was able to draw the triangle in one go.. Wow.. I am happy I made my first complete figure.. triangle..

Gowri:- Great Aryan.. Looks Kooool..

Aryan:- Thanks Gowri for introducing me to coding.. You are my very own Turtle Code Jr. Teacher

2.5.2 Drawing a Square

Aryan:- I can draw a simple square also by using these commands , please let me continue..



Gowri:- I think you are becoming quite an expert Aryan. I am happy for you..Yeah it is right ..We just need to change the direction at 90 degree and move 100 pixels forward ..for as many times as the sides of a square.. forward will have the same value each time as sides of a square are equal..great going ..

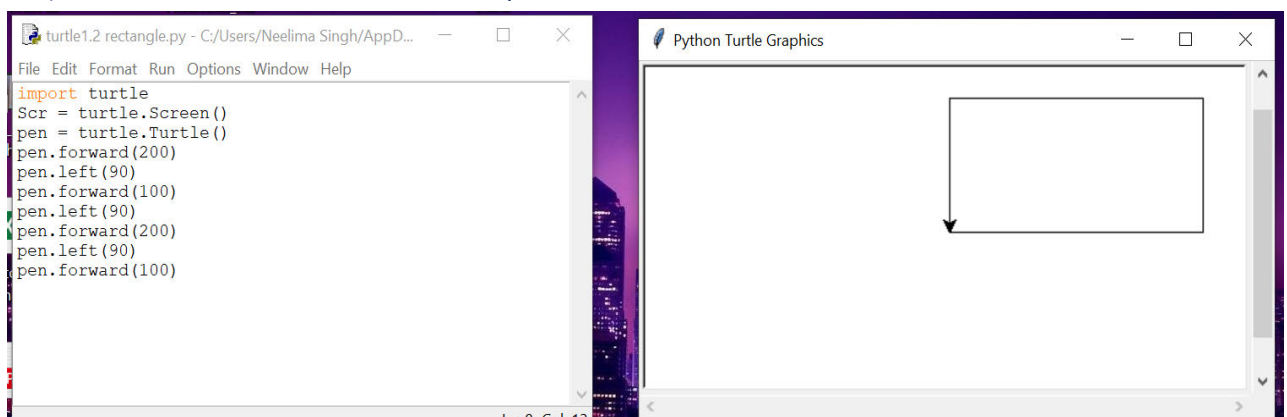
Aryan:- I could see the turtle actually start and move in the given direction and then making a complete square..it was fun..

2.5.3 Drawing a Rectangle:

Gowri:- can you try drawing a rectangle now.. think what changes do we need to do in the code of square..I am giving you a hint:

Opposite sides of a rectangle are equal and all sides are not equal...Come on..Tickle your brain cells..You can do it..

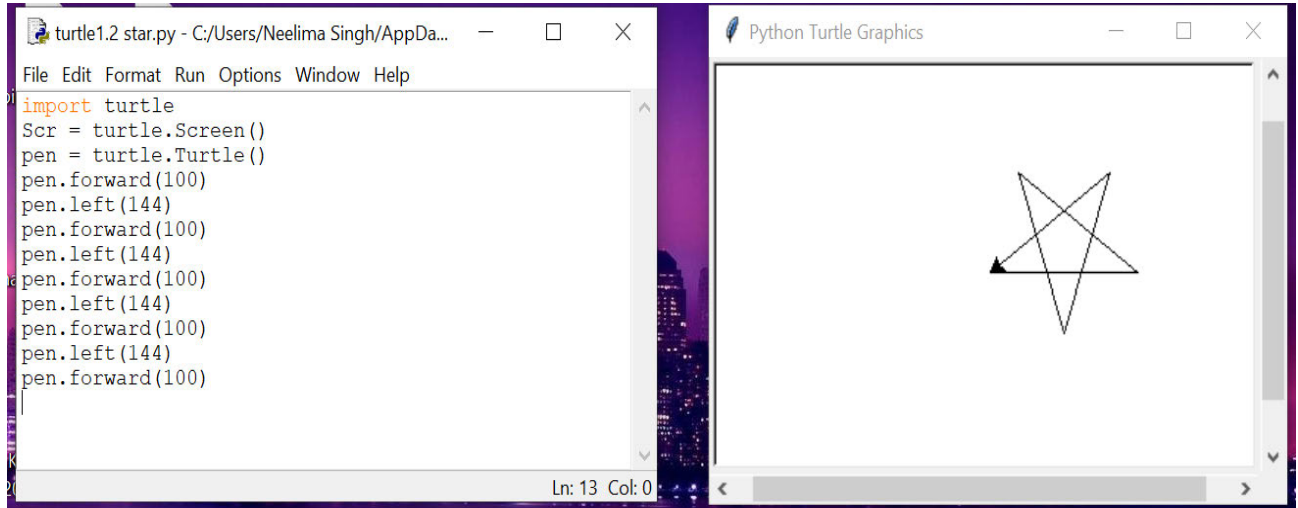
Aryan :-OK ..Let me think and try..



I did it... I just worked on the hint that you gave..

2.5.4 Drawing a Star:

Gowri:- ..for all the hard work and shapes that you have drawn so far , I want to give you a star..Here comes your STAR student:



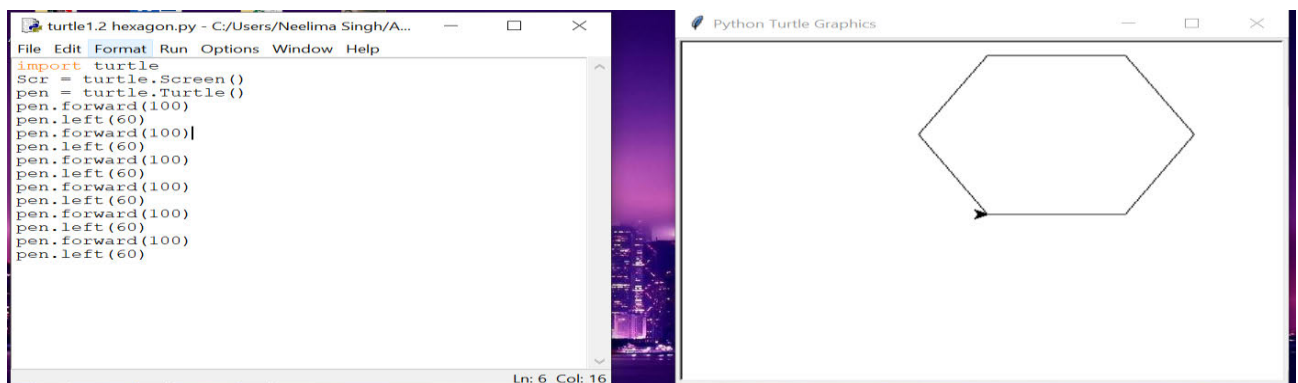
Now..just observe the angle and I have used the same commands

2.5.5 Drawing a Hexagon:

Aryan:- OK.. I got it Gowri..I understood how you changed the angles to make this star..I can make a hexagon also by using this concept..please let me do..

Gowri:- Sure Aryan..go ahead and create whatever you want if you understood it well you will be able to make one without any problems..

Aryan:- I did it .. I did it.. I am so happy .. I am learning without any problem.. Initially I thought coding will be tough but actually it is not if you understand the concept well..Look at my code and hexagon that I created..



Gowri:- Instead of writing it in repetition for 6 times ..you may use a for loop..It is used for repetitive execution of code means if you need to write some commands again and again , you may put those commands in a for loop.

➤ E.g. for i in range(6):

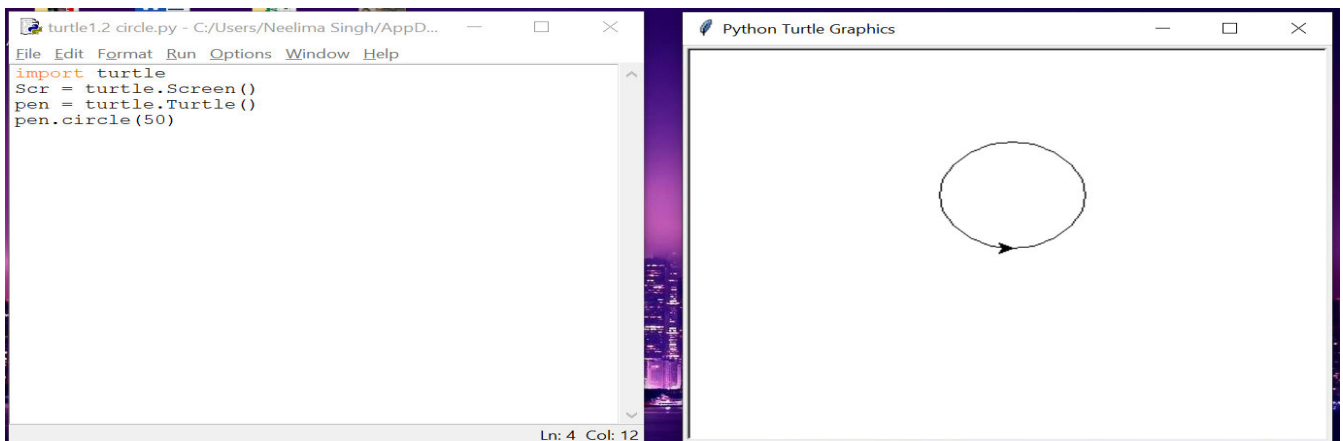
- `pen.forward(100)`
 - `pen.left(6)`
- It will also produce the same result of making the hexagon
- `range(n)` is a library function which takes a no. which actually means the total steps for which a command/commands are to be repeated. When I gave 6 it means total six steps/times (starting from 0 to 5, both inclusive)

2.6 Drawing circle and dot:

We can also draw circle in Python turtle by using `turtle.circle(r)`, here `r` means the radius of the circle. radius is taken as the total pixels/points starting from home position of the turtle.

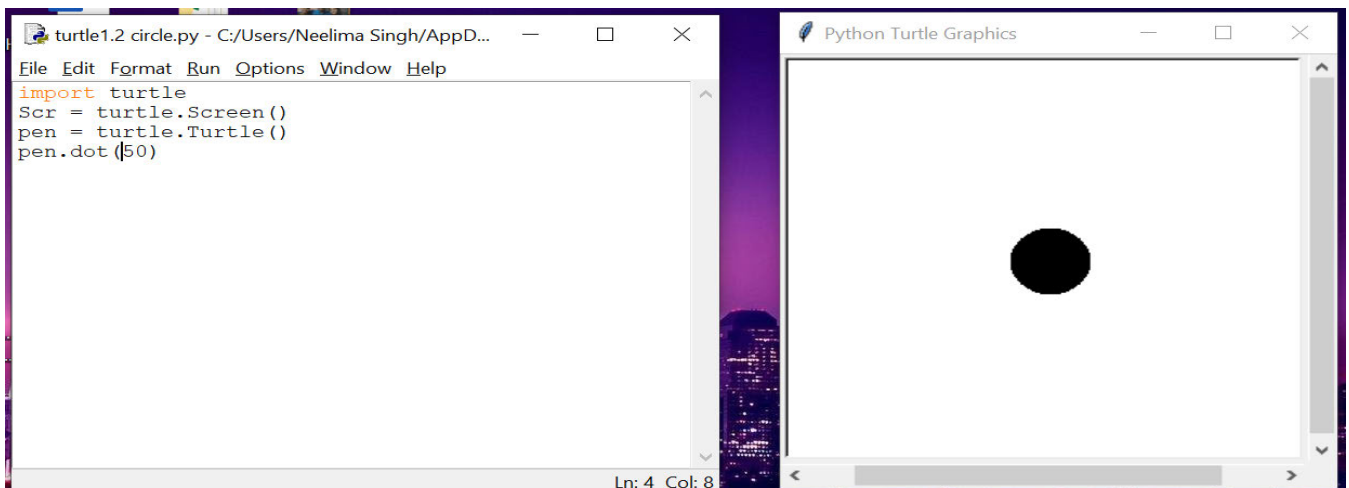
Gowri:- Would you like to make a circle with radius 50 points..

Aryan:- OK ..I will..



Look **Gowri**..I am done with this shape too

Gowri :- You can create a filled circle by just changing circle with dot..e.g. `turtle.dot(50)`..It will look something like this:



As simple as that..

- You may increase/decrease the size of circle/dot by changing the radius.
- A dot is nothing but a filled-in circle
- Unlike circle the no. within function dot is DIAMETER of the circle

Great work so far!! You have learnt to make basic shapes with your turtle pen on your canvas. Now let us add more fun to this coding thing.. I will now tell you how you may change the outline/pen colour and fill your shape with colour of your choice..

2.7 Filling the image with some colour and outline colour:

By default, when you open the turtle the background screen is of white colour , we can change the background of the screen or drawing board as you have understood by using:

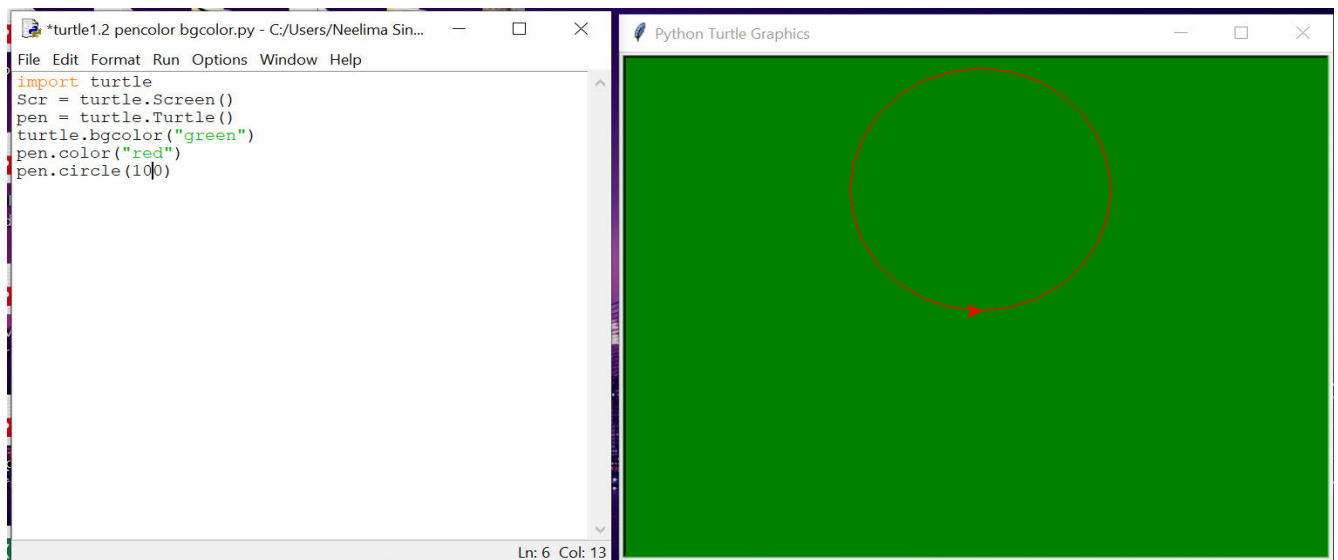
`Turtle.bgcolor("name of the colour")`

e.g. `turtle.bgcolor("green")`

To change the outline colour of the shape we can use :

`pen.color("name of the colour")`

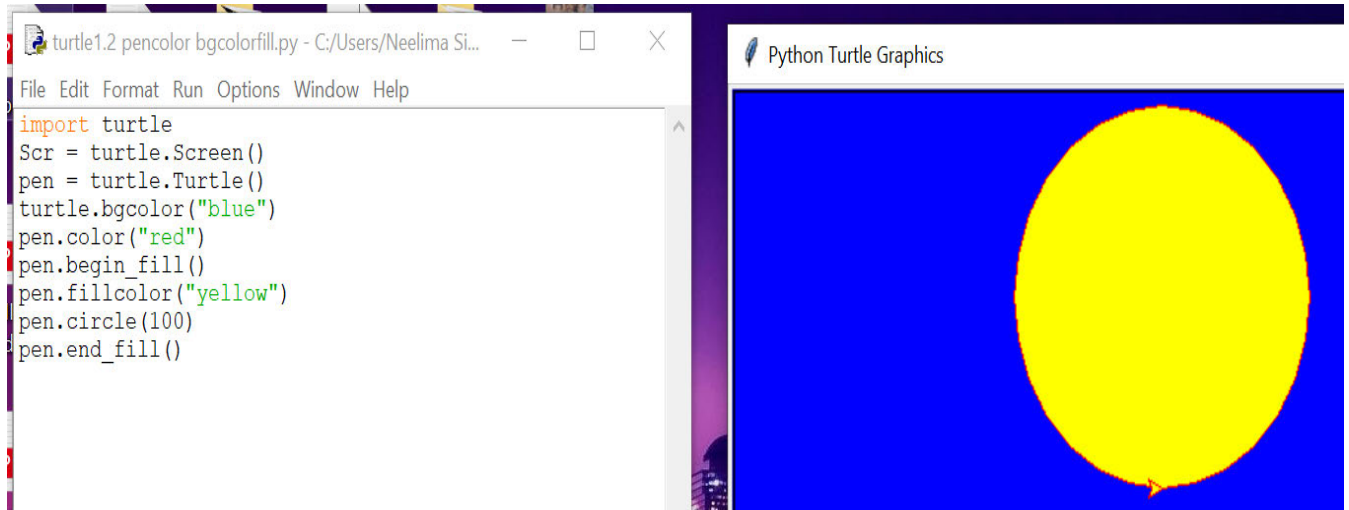
e.g. `turtle.pencolor("red")`



Gowri:- see I have changed the background colour to green and pen colour of the shape to red.

Look at the code carefully and you will know how I did it..

You can use `pen.begin_fill()` before drawing a closed figure and close it by `pen.end_fill()` after drawing the figure ..It creates a shape by filling it with solid colour. You have to give colour of your choice after `begin_fill()`



`Pen.fillcolor("name of the colour")` can be used to give the color for filling in the closed shape.

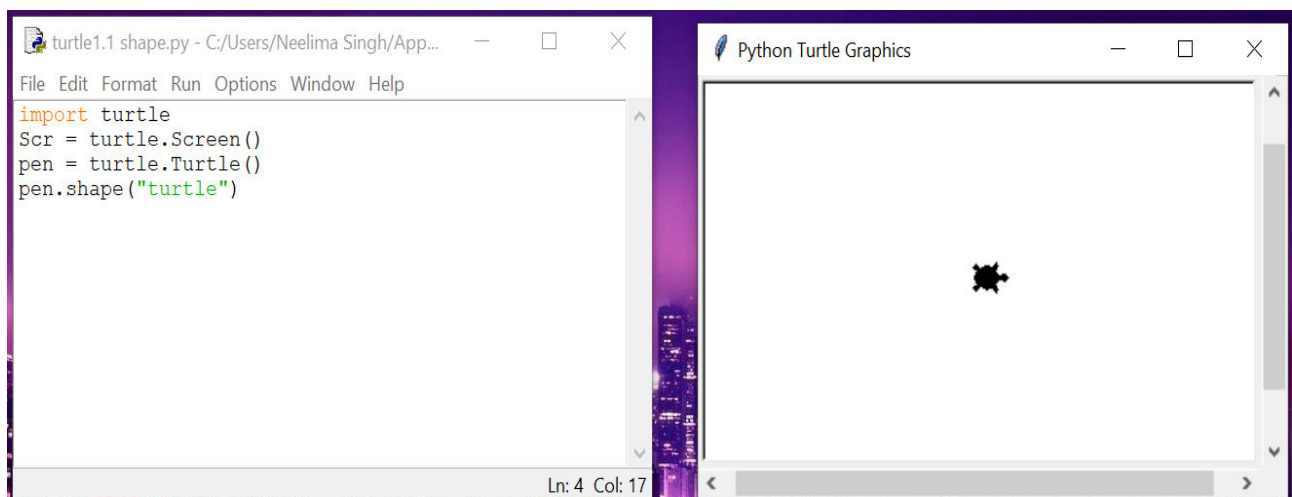
See the above figure ..I have used `begin_fill()`, `fillcolor()`, `end_fill()` and the shape i.e. `circle()`

The code has given me a circle filled with yellow color having red outline and blue background of canvas.

2.8 Changing the turtle shape:

Aryan:- I thought pen turtle will be like a real turtle animal in looks but it is actually an arrow in shape..

Gowri:- I have one more surprise for you here..Yes you guessed it right ..You can have the shape of pen as real turtle ..



Is it not something that you were imagining??

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You can change the pen turtle to these shapes of your choice:

- ✓ turtle
- ✓ arrow
- ✓ circle
- ✓ square
- ✓ triangle

by using `turtle.shape("shape name")`

e.g. In above program name of my turtle(pen) is pen so I have used `pen.shape("turtle")`

- *Original shape of the turtle is referred to as classic , so to get back the original shape we may use :*
 - `turtle.shape("classic")`

2.9 Understanding speed of the turtle and different parameters in pen function:

Let me tell you something more interesting.. the turtle pen speed can also be changed if you think it is moving slow/fast..

`Turtle.speed(n)` - To increase/decrease the speed of the turtle while drawing

The n given in bracket can be any number between 0 and 10 where 0 means the slowest speed and 10 means the highest speed.

Gowri:-Try this code and feel the difference in speed of the turtle.

```
import turtle
Scr = turtle.Screen()
pen = turtle.Turtle()
pen.shape("turtle")
pen.speed(1)
pen.fd(100)
pen.rt(90)
pen.speed(5)
pen.fd(100)
pen.rt(90)
pen.speed(10)
pen.fd(100)
```

Hope you found it interesting..?

Aryan:- Well... I think by now you have become familiar with most of the working of the turtle environment, canvas, pen and drawing shapes ..filling them with any color etc. So , let me ask you something :

Suppose you want to do following with your turtle:

- Change pen color to red
- Change fill color to green
- Change pen size to 10 (width of outline)
- Change pen speed to 4

Gowri:- Can you write the code??

Aryan:- Yes..I can.. It will be :

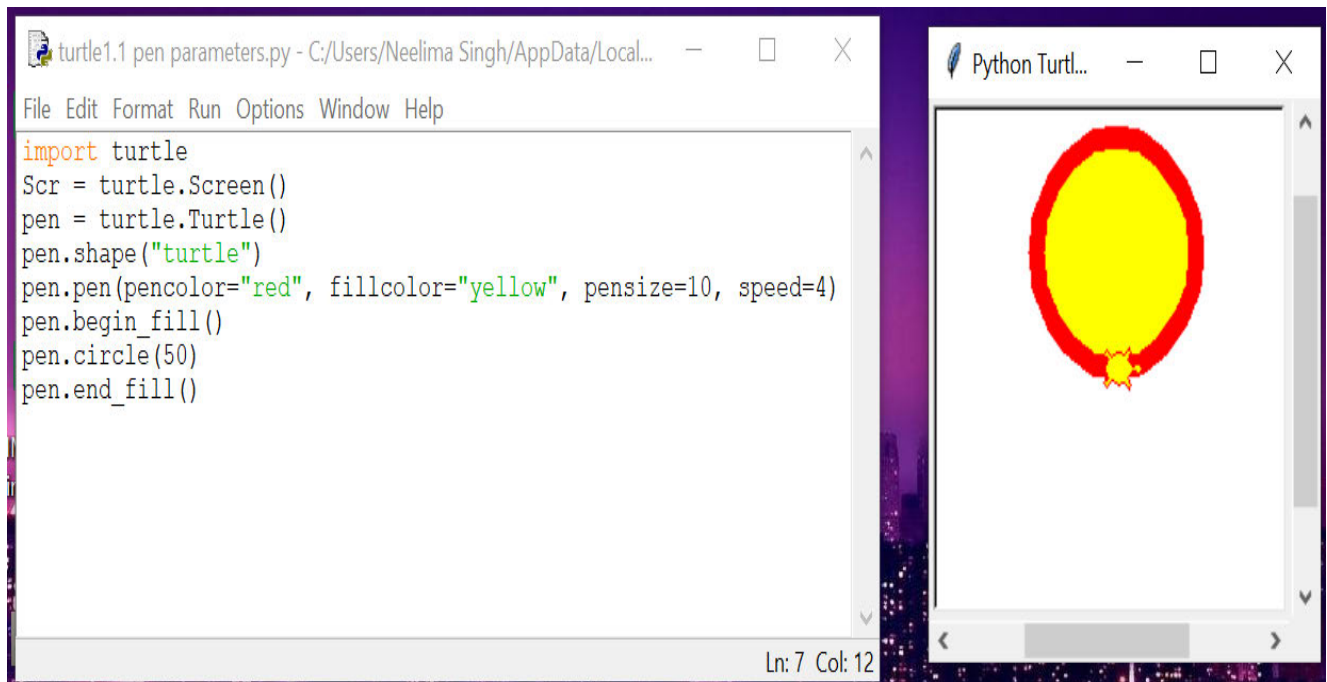
```
Turtle.pencolor("red")
Turtle.fillcolor("green")
Turtle.pensize(10)
Turtle.speed(4)
```

Am I correct??

Gowri:- Yes..but you can use just one line of code instead of these all ..by using
`Turtle.pen(pencolor="red", fillcolor="green", pensize=10, speed=4)`

Aryan:- Sorry ..I am not able to understand it..

Gowri:- No issues..I will give an example to make things more clear to you..



Observe the pen size and other things that are written in bracket and compare them with the result that is here..It is very easy to do.

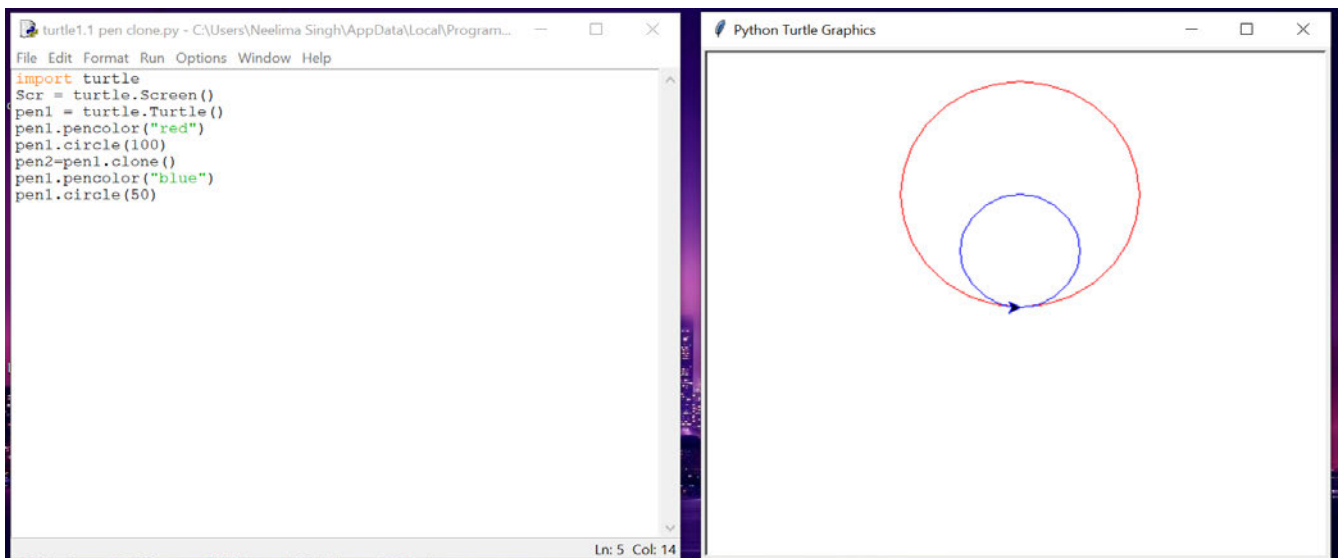
2.10 Cloning the turtle:

We can create clone (similar copy) of a turtle by using clone() function - it creates an exactly same copy of the pen at the same position. It can be used when we want to have two or more copies of the turtle on the same drawing screen.

e.g. in the above example pen is our turtle, If I need to have another turtle by the name pen1 then I can use

```
pen1=pen.clone()
```

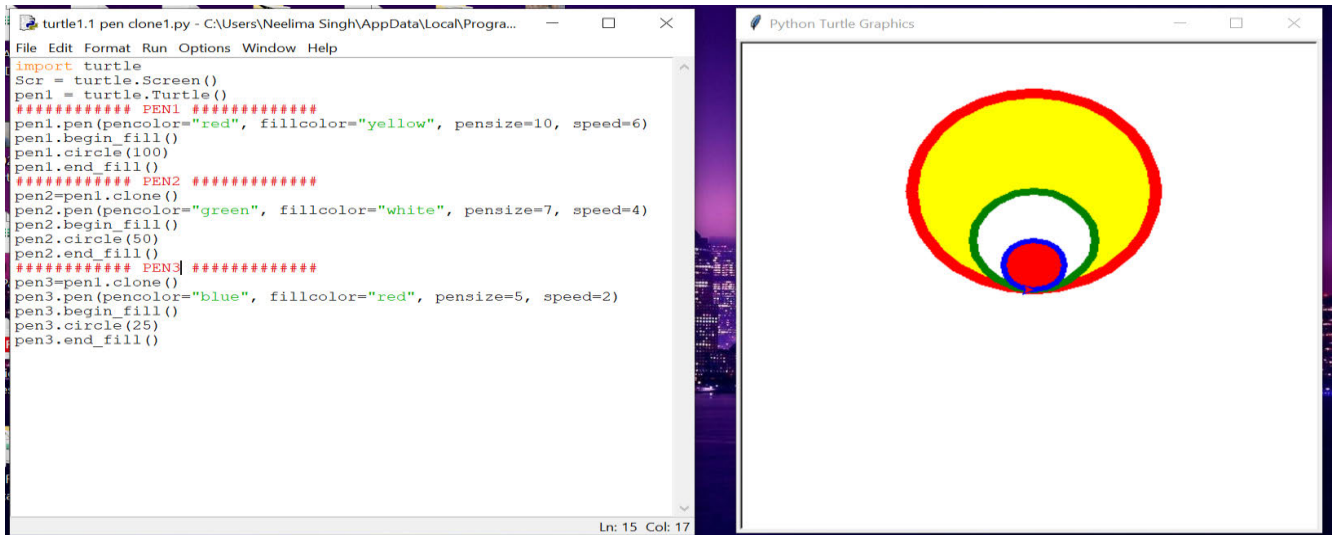
We can use two or more clones of the turtle with different colors to create beautiful patterns ..let me show you how:



In this example I have created first turtle by naming it pen1 and pencolor as red, then I cloned it in pen2 (another turtle is created) and changed its pencolor to blue. While drawing the circles with both I just changed the radius and see I have got a beautiful pattern..

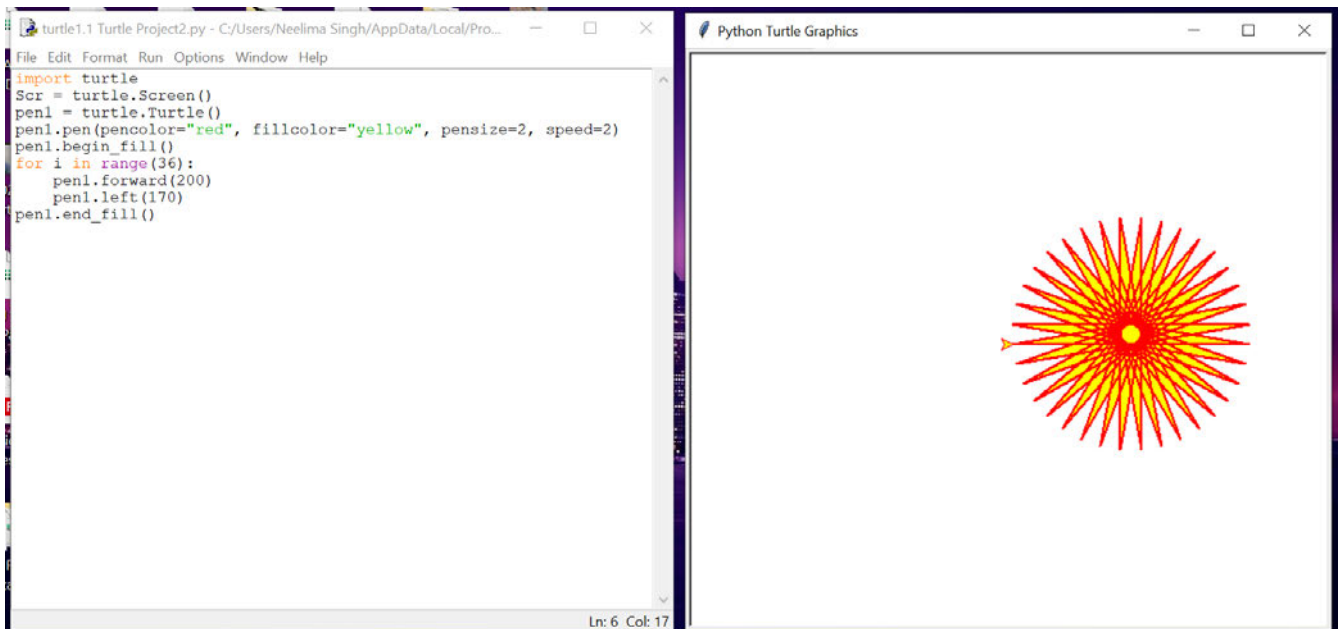
SMALL PROJECT 1:

- ✓ We can use the pen() function with different parameters for creating pen1 with some size and fillcolor and some other for pen2/pen3



This is the beautiful pattern can be created by three different turtles created using cloning and then changing their pen and fill colors.

SMALL PROJECT 2:



Exercise

Something to Know

A. Answer the following questions:

1. What do you mean by term Canvas of Python turtle graphics?
2. Why do we use turtle?
3. Why do you require to set up Python turtle screen?
4. What is home position? How many quadrants are there in python turtle screen?
5. How do you change the direction of turtle?

B. Fill in the blanks:

1. There are quadrants in Python turtle.
2. A is a set of instructions to make a shape.
3. `pen.fd(100)` will move the turtle 100 In forward direction.
4. Is the default shape of turtle.
5. and are used to turn the face of the turtle.

C. Match the following:

A	B
a. Canvas is	1. Home
b. <code>import</code>	2. Used for giving different parameters for defining the behaviour of pen
c. The default position of turtle	3. Used for repetitively running the commands
d. <code>Pen1.pen()</code>	4. Python turtle drawing area
e. <code>for</code>	5. Used for including Python turtle library for using the functions of turtle

D. Select the correct answer for each question:

1. `pen.circle(n)` has n as :
a. side b. radius c. diameter d. None
2. Which of the following is not a valid command in turtle graphics?
a. `fd()` b. `bd()` c. `lt()` d. `rt()`
3. You can use `pen.dot(n)` for drawing a ?
a. dot b. filled circle c. circle d. none of these
4. `pen.clone()` is used to -
a. create a different pen b. define a pen c. copy a pen d. both a and c
5. What is the highest value we can give in `pen.speed()`?
a. 4 b. 1 c. 10 d. 5

E. State True or False.

1. By default face of the turtle is downwards.
2. We can define more than one turtle on a screen of turtle graphics.

3. We cannot change the outline color of pen.
4. We can fill the shape with any color of our choice.
5. `pen.forward(100)` is same as `pen.fd(100)`.

Something to Do:

1. We can position the turtle to any x,y location. Use the following command to go to any coordinate wrt home.

```
>>> turtle.goto(x,y)
```

e.g. `turtle.goto(10,20)`

2. `Turtle.up()` can be used to stop all drawing on the screen, cursor can still be placed at any location. Drawing will resume when you call `turtle.down()` again

`Turtle.clear()` can be used to clear the entire screen area. Try it as the last command.

3. ADVANCE IMPRESS

- 3.1 Workspace Views
- 3.2 Insert Audio
- 3.3 Insert Video
- 3.4 Grouping / Ungrouping Objects
- 3.5 Working with tables

Gowri and Aryan were working on presentation

3.1 WORKSPACE VIEWS



Aryan, Do you remember what workspace is.

Hmm, Workspace provides us space where we write our text, insert images in our slides



Gowri :- Yes Aryan. You are correct. To see Workspace work we have four different views in impress. Let us learn them one by one.

You will find workspace views in view menu option on standard toolbar.

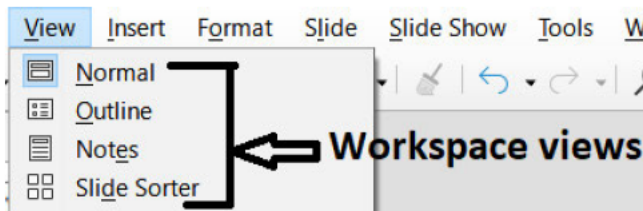


Fig 3.1

These views help us to see slides in such a way either can see extra information related to slide or can see all slides together.

Normal View: By default, slides are shown in this view. This view is used to design, format the slides. Also, you add text, insert images in your slide in this view mostly.

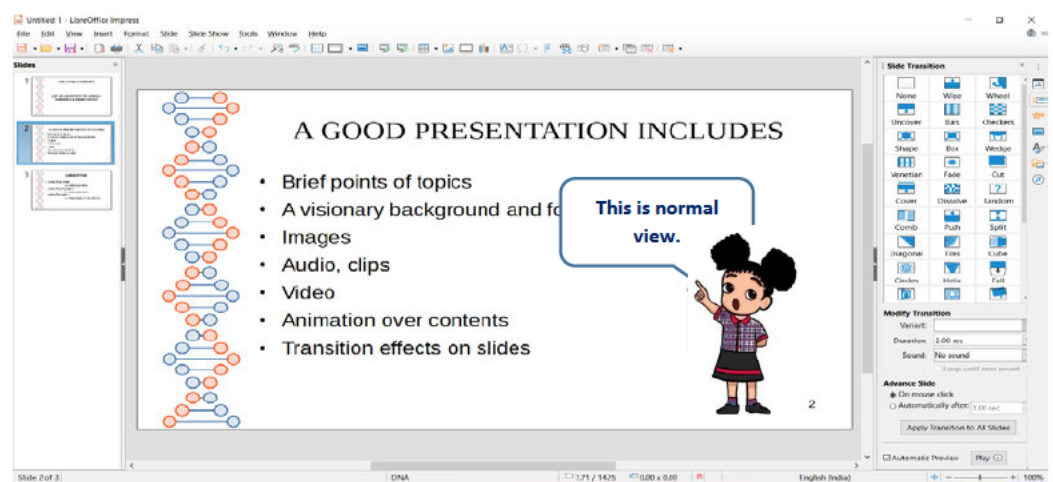


Fig 3.2

Outline View: In this view, only the text included in all the slides can be seen in sequence. This view shows the outline of the slides.

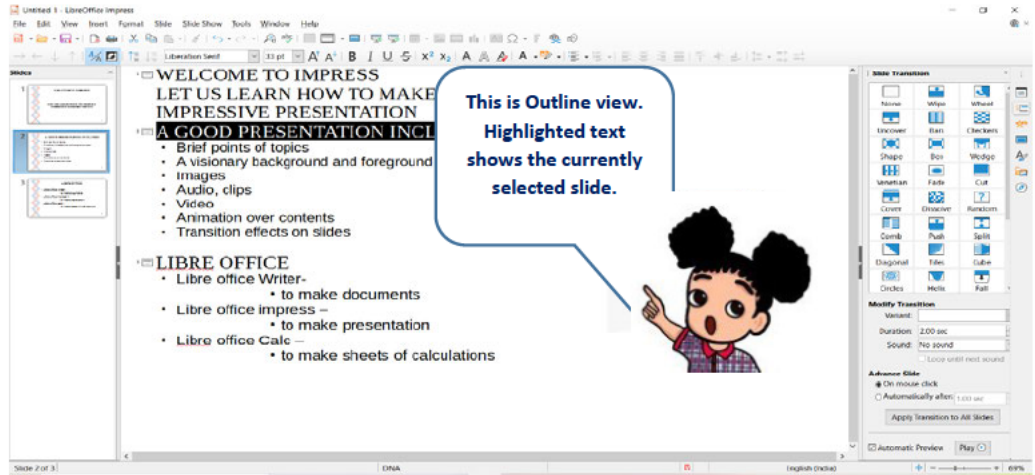


Fig 3.3

Notes View: Sometimes you need some key points or can say notes about your content which can be used as reference points for the presenter (you). These points can be added with slides in notes view. These notes are not visible to audience during presentation.

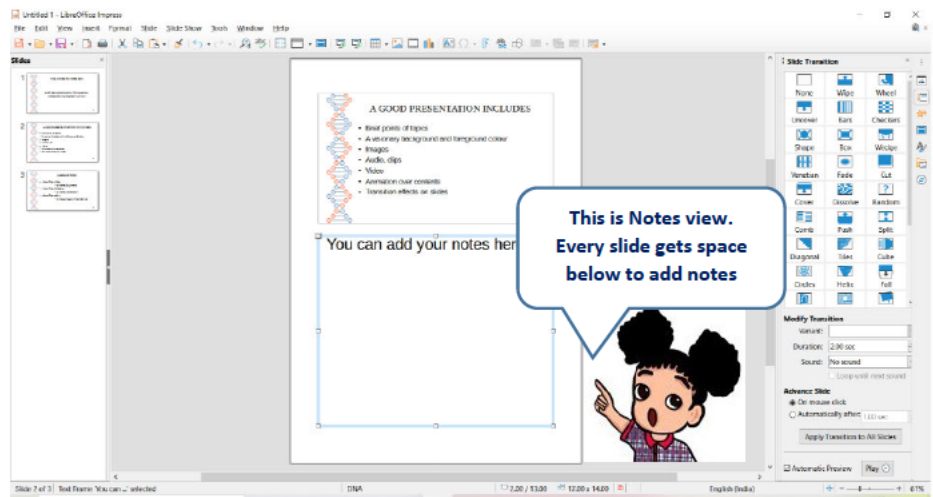


Fig 3.4

Slide Sorter View: This view is used to see all slides together in form of thumbnails. All slides look like icons. You can change their sequence there. Even you can add, duplicate, delete slide in slide sorter view. You can just see the contents.

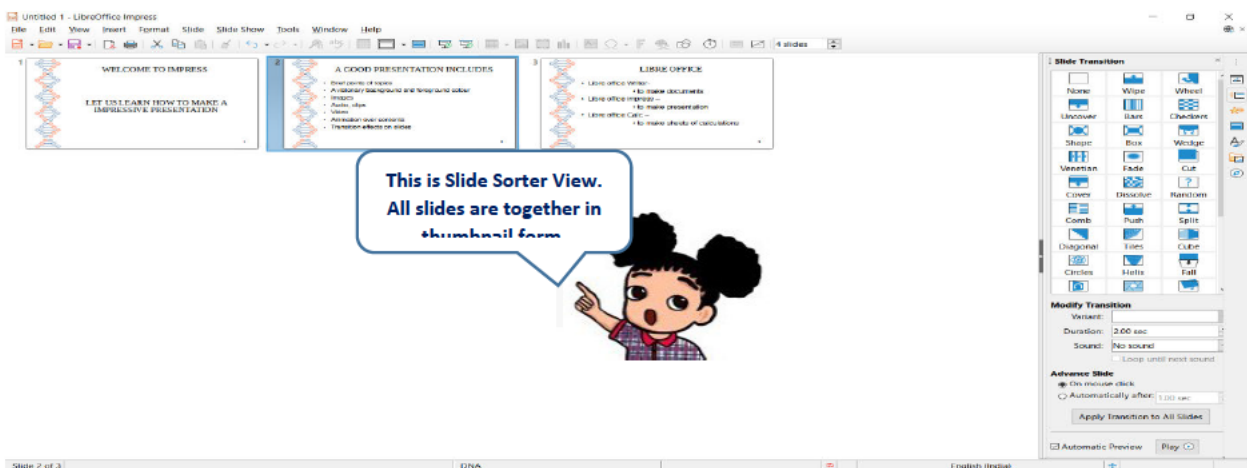


Fig 3.5

Try Now- Insert a new slide in your presentation. Then see slide sorter view. Now try to add contents in newly inserted slide. Is it possible? Observe.

3.2 INSERT AUDIO & 3.3 INSERT VIDEO

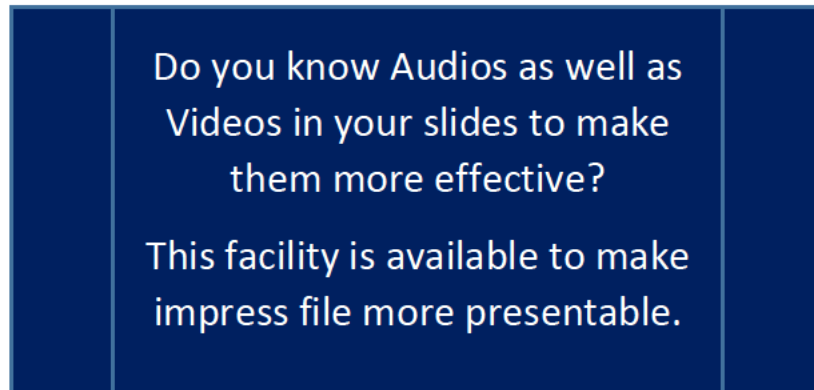
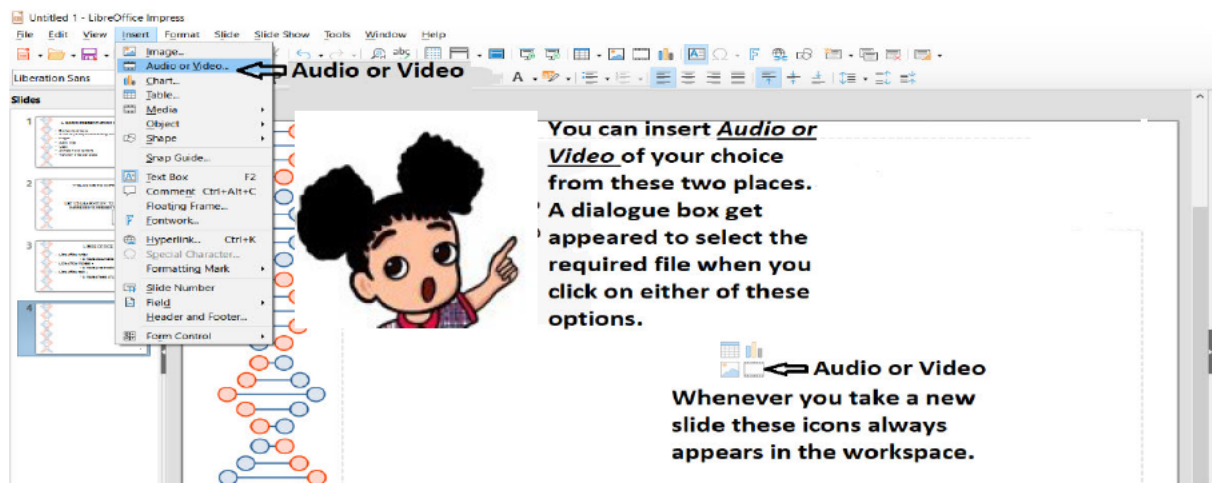


Fig 3.6



As in Fig 3.6, you have to click on either insert->Audio or Video or can click on icon in workspace.

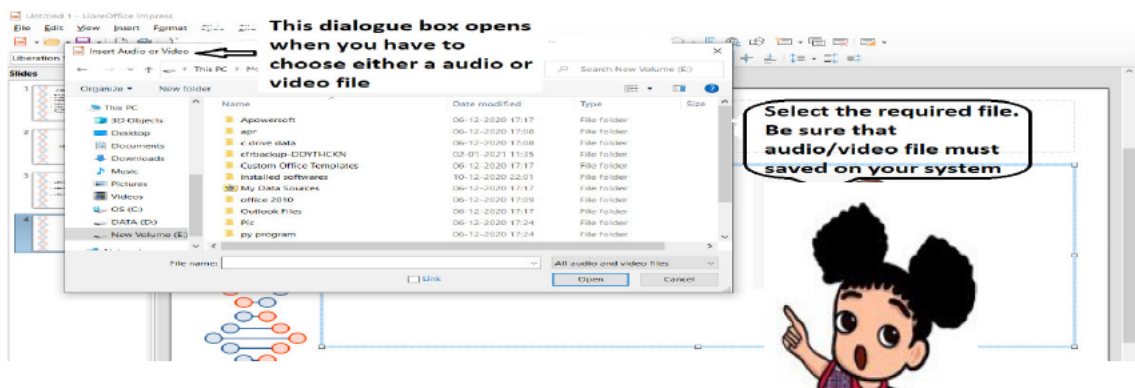


Fig 3.7

A dialogue box gets **opened** as shown in Fig 3.7 to choose the required file from your system.

Try Now- Take a new file. Then make 5 different looking slides using different master pages. After saving it now add one more slide and observe what options are you getting in Recently used.

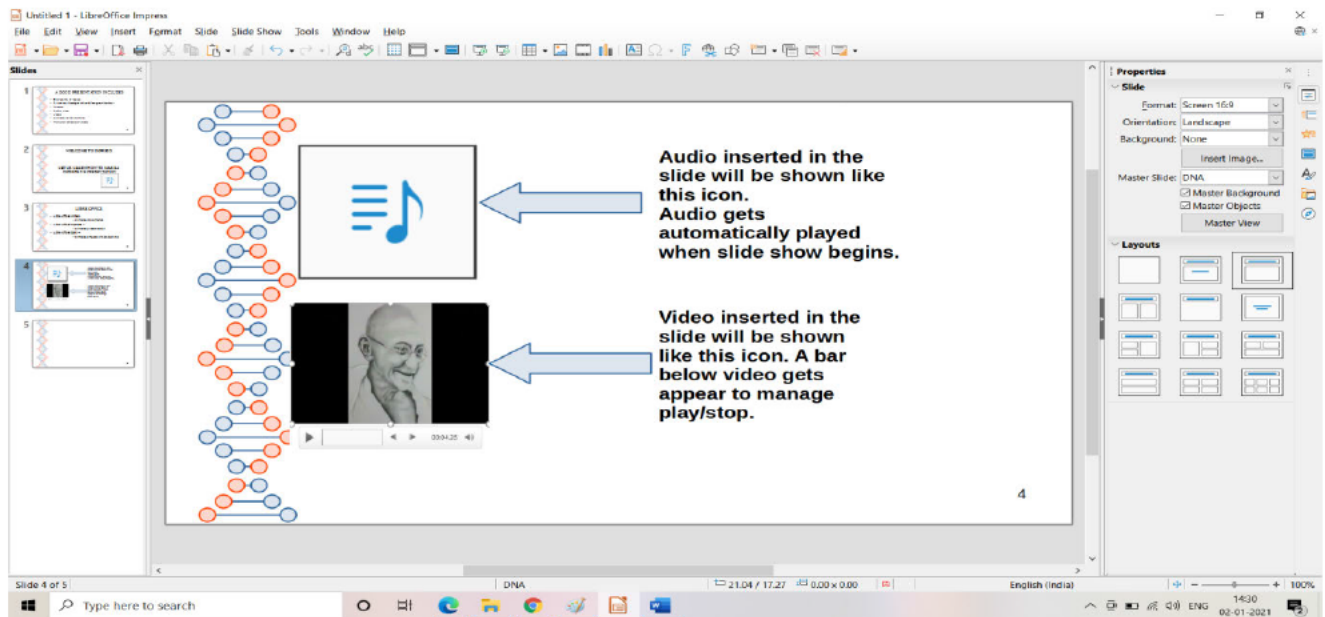


Fig 3.8

Try Now- Observe the difference between playing an Audio and a video in your slide. Can you control playing of Audio as of Video?

1.4 GROUPING / UNGROUPING OBJECTS

Aryan and Gowri are not comfortable to work with more than one shapes. They need something which help them to treat all shapes together as a single one. Impress gives facility to convert multiple objects in a single one using "group".

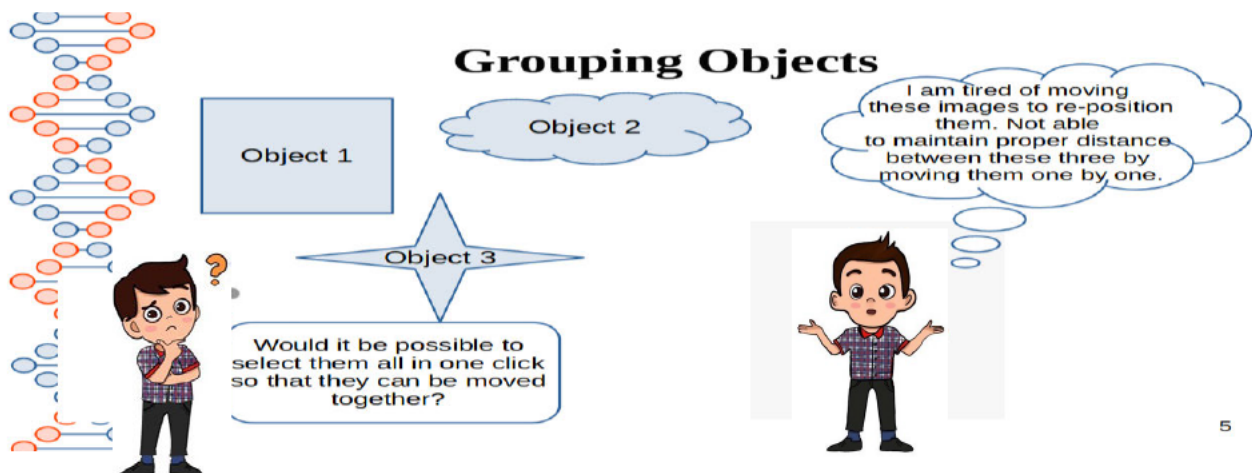


Fig 3.9

Grouping: To make objects treated like a single object so that they can be move, resize or rotate simultaneously. To make group of multiple objects steps are following.

- Select all shapes or objects you want to group. To select all shapes at once follow any of following
 - press Ctrl+A
 - on standard toolbar click edit -> select all
 - select any of the shape. Hold shift key on keyboard and continue to click on another shapes. All get selected on click.
- Click format -> Group -> Group or press Ctrl+Shift+G
- All shapes are grouped together. Now you can apply select, move, resize, rotate over all shapes.

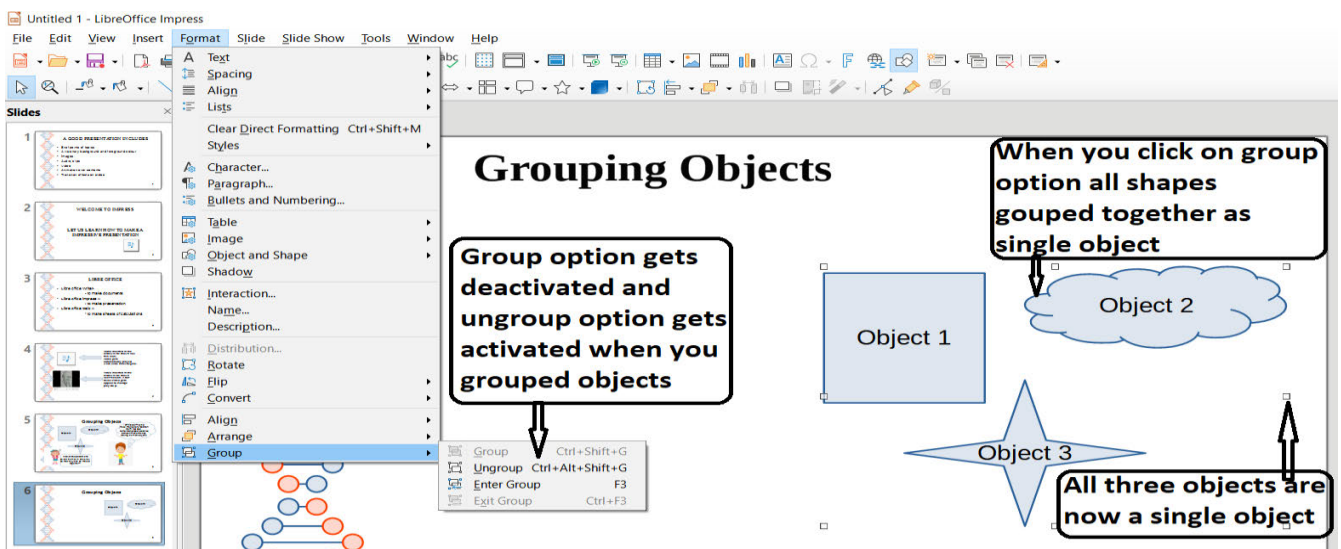


Fig 3.10

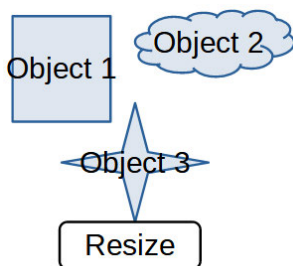


Fig 3.11

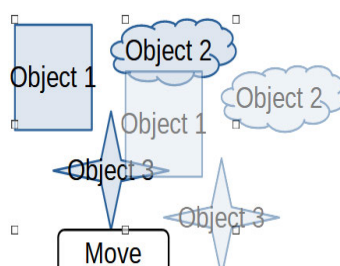


Fig 3.12

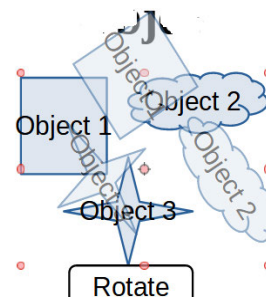


Fig 3.13

All effects get applied over all shapes simultaneously.

To **ungroup shapes**, click format-> Group -> Ungroup or Ctrl+Alt+Shift+G. All shapes get separated from each other.

Try Now- Apply Cut, Copy, paste over grouped shapes and observe. Are you successful?

3.5 WORKING WITH TABLES

Tables are the most convenient way to represent data. Following are the operations we can apply over tables.

Wow tables are here also. I will become so easy to manage our text in form of rows and columns

I will prepare my Time table of after school in impress using tables. Also a diet chart which will help me on focusing on my studies. I can show both together using slide sorter view. Yeah!!



Aryan :- Lets work on tables as in Writer.

Insert table: You can specify number of rows and columns for a table.

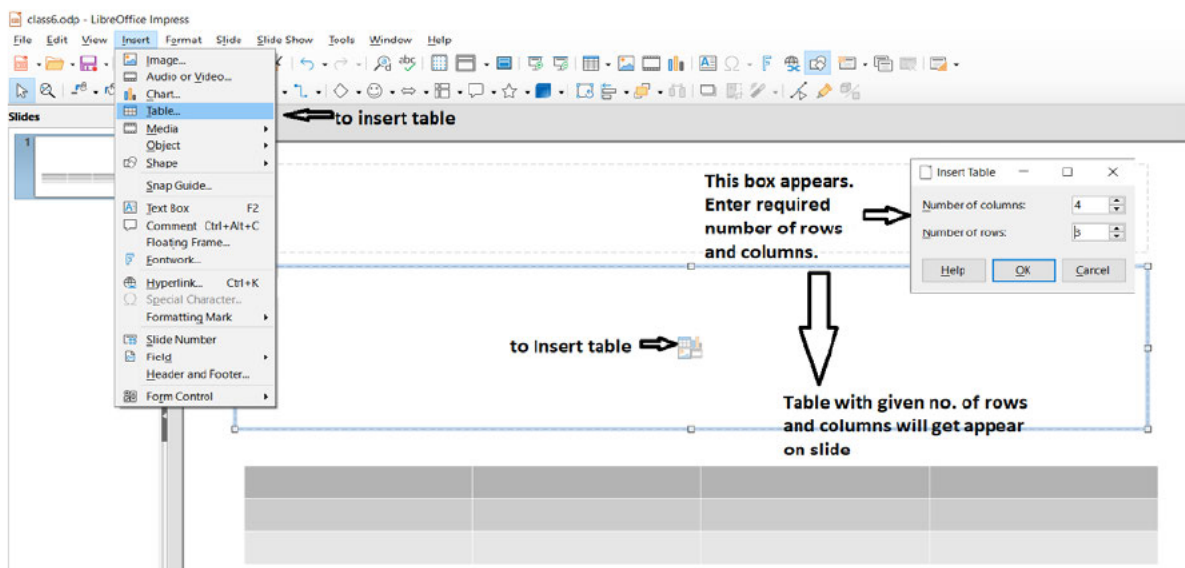


Fig 3.14

Delete Table: Just select the table and press delete.

Edit Text in table: Just click on the cell in which you want to enter text or image or audio or video and insert there.

Insert/Delete Row & Column: Keep cursor on required cell and click right mouse button. Options get appeared as shown in fig 3.15 and 3.16.

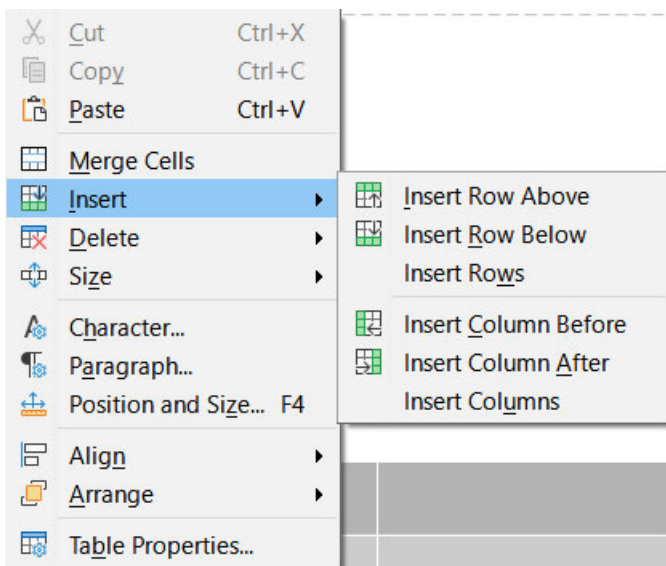


Fig 3.15

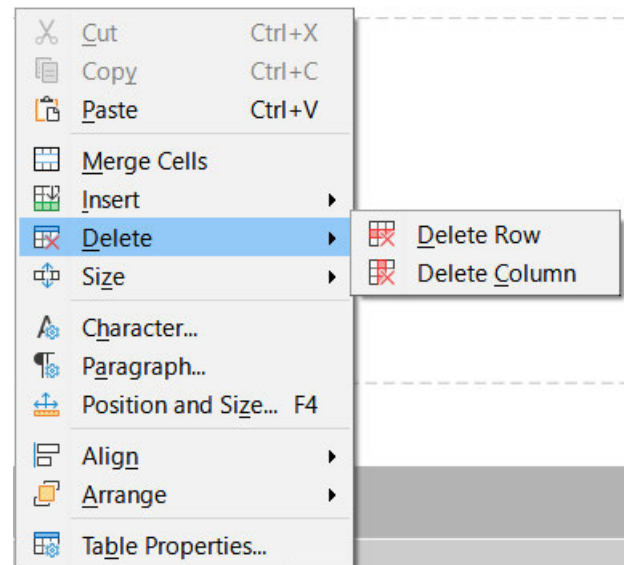


Fig 3.16

Merge / Split Cells: You can merge two or more column /rows. Same way merged cells can be split.

Table properties: To set font size, styles, colours of text of table, to set background and borders of table, click on right mouse button->table properties.

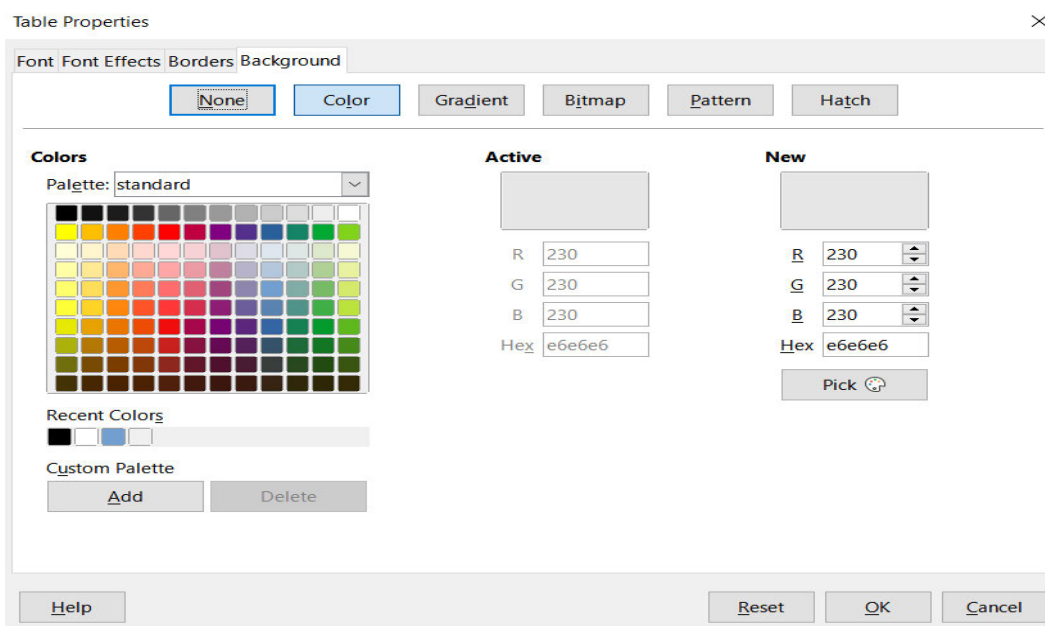


Fig 3.17

Try Now- Observe the difference between automatic slide move and a mouse click move. Which one you find better?

Let us revise we have learnt:

- Normal, Outline, Notes and Slide sorter are the workspace views available to review slides.
- Audio and Video are the best way a student can present his / her views in form of presentation.
- Insert -> Audio or Video -> choose file. So easy.
- Grouping makes multiple images to treated as single image and make it possible to rotate, resize, move them together.
- A table in which data is managed using rows and columns. Use Insert-> table.
- All table related operations like styles, background, borders, font, inserting rows columns, deleting are available in impress.

EXERCISE**SOMETHING TO KNOW****A. Answer the following questions.**

1. **Gowri** prepares a presentation on 'Woman empowerment' and have to present in annual function of her school. But she is very nervous because she is missing some points of details regarding topics she has included in her presentation. Can you suggest the option in Impress to keep these points along with slides?
2. What is the difference between Slide pane and Slide sorter view?
3. Write steps to insert a Video in your slide?
4. **Aryan** took a presentation from his friend. In one slide there were two images of their school. He needs one of the images. When he tried to copy one image, he was surprised that both were get selected by clicking on any of the image. He was not able to select the single pic. Help him in doing so.
5. Write any two options available in table properties.

B. Fill in the Blanks.

- i. A column can be inserted either _____ or _____ of selected column.
- ii. Ctrl+Shift+Alt+G is used to _____ the objects.
- iii. Merged cells can be _____ in to original form. (Split/copied)
- iv. By default view of slides are _____ View.
- v. Audio inserted in the slide can be listen in _____.

C. Match the following

a) Audience cannot see	p) Tables
b) Gradient is a part of	q) applied over text in table
c) holding shift key and clicking on shapes	r) Background of table
d) Best way to represent time table of anything	s) Notes in slide
e) Font effects in table properties	t) select all shapes together

D. Select the right option

1. Background of a table can be _____ type.

a. Pattern		b. None	
c. Hatch		d. All of these	

2. A Slide can hold

a. Audio		b. Shapes	
c. Video		d. All of above	

3. Shortcut for grouping of objects is

a. Ctrl+Shift+G		b. Ctrl+A	
c. Ctrl+Shift+Alt+G		d. None of above	

4. _____ is not a valid workspace view in impress.

a. Notes View		b. Outline View	
c. Slide Sorter View		d. Background view	

5. Rows in a table cannot be

a. Copy		b. Rotate	
c. Merge		d. Split	

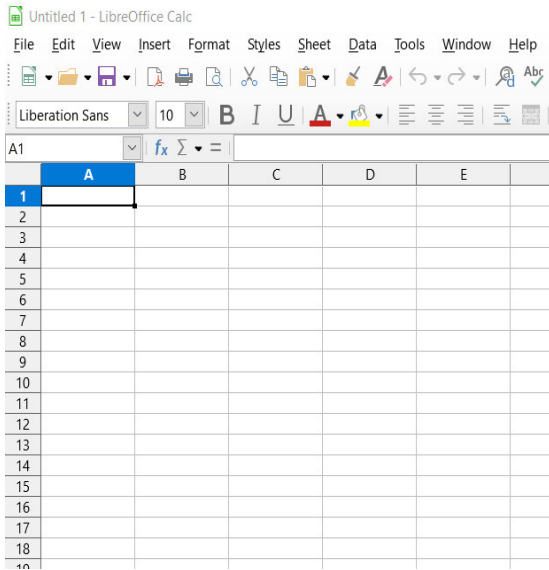
E. State whether following statements are True or False.

- A new row can only be inserted at the last of the table.
- Grouping can be applied over any number of shapes.
- Outline view does not show images included in slides.
- In impress it is not possible to change the number of rows and columns once created in a table.
- Video cannot be inserted in Slides in impress.

SOMETHING TO DO IN LAB

- Draw at least 5 shapes in a slide. Now copy these as single object in to another slide. Rotate them by 90°
- Insert a table in slide with 5 columns and 8 rows. Now add details of your seven friends like Roll no, first Name, Last name, Address, Favorite sport. Now change font colour to RED, Background as hash pattern.
- Write one thing you like about your friends in notes.

4. LIBREOFFICE CALC



4.1 Format Menu:

- 4.1.1 Cells
- 4.1.2 Rows
- 4.1.3 Columns
- 4.1.4 Merge Cells

4.2 Sheet Menu:

- 4.2.1 Insert cells
- 4.2.2 Insert rows
- 4.2.3 Insert columns
- 4.2.4 Delete cells
- 4.2.5 Delete rows
- 4.2.6 Delete columns
- 4.2.7 Insert sheet
- 4.2.8 Insert sheet at end
- 4.2.9 Insert sheet from file
- 4.2.10 Delete sheet
- 4.2.11 Clear cells
- 4.2.12 Rename sheet
- 4.2.13 Hide sheet/Show Sheet
- 4.2.14 Move or copy sheet

4.3 Data Menu:

- 4.3.1 Sort
- 4.3.2 Autofilter



Aryan :- Remember **Gowri**, We made table of foods liked by our classmates.

Gowri :- I do remember **Aryan** and we used options from View, insert and Format menu for various tasks.

Aryan :- yes **Gowri**, But what if I forgot to enter a name. Can I add a name in between the table.

Gowri :- Yes, you can add row and column in a table anywhere. You may also increase or decrease row/column width. We have different menus for that. Let me explain them to you.



4.1 Format Menu

The Format Menu is the fifth menu located on menu Bar. It has various options associated with it. It has various submenus associated with it. It has options to format cells, rows and columns.

4.1.1 Cells

We can do formatting of cells from this option:-

1. Select the Submenu Cells
2. Format-> Cells
3. In the figure given below, you can see that cells can be formatted.
4. The shortcut key is Ctrl+1.

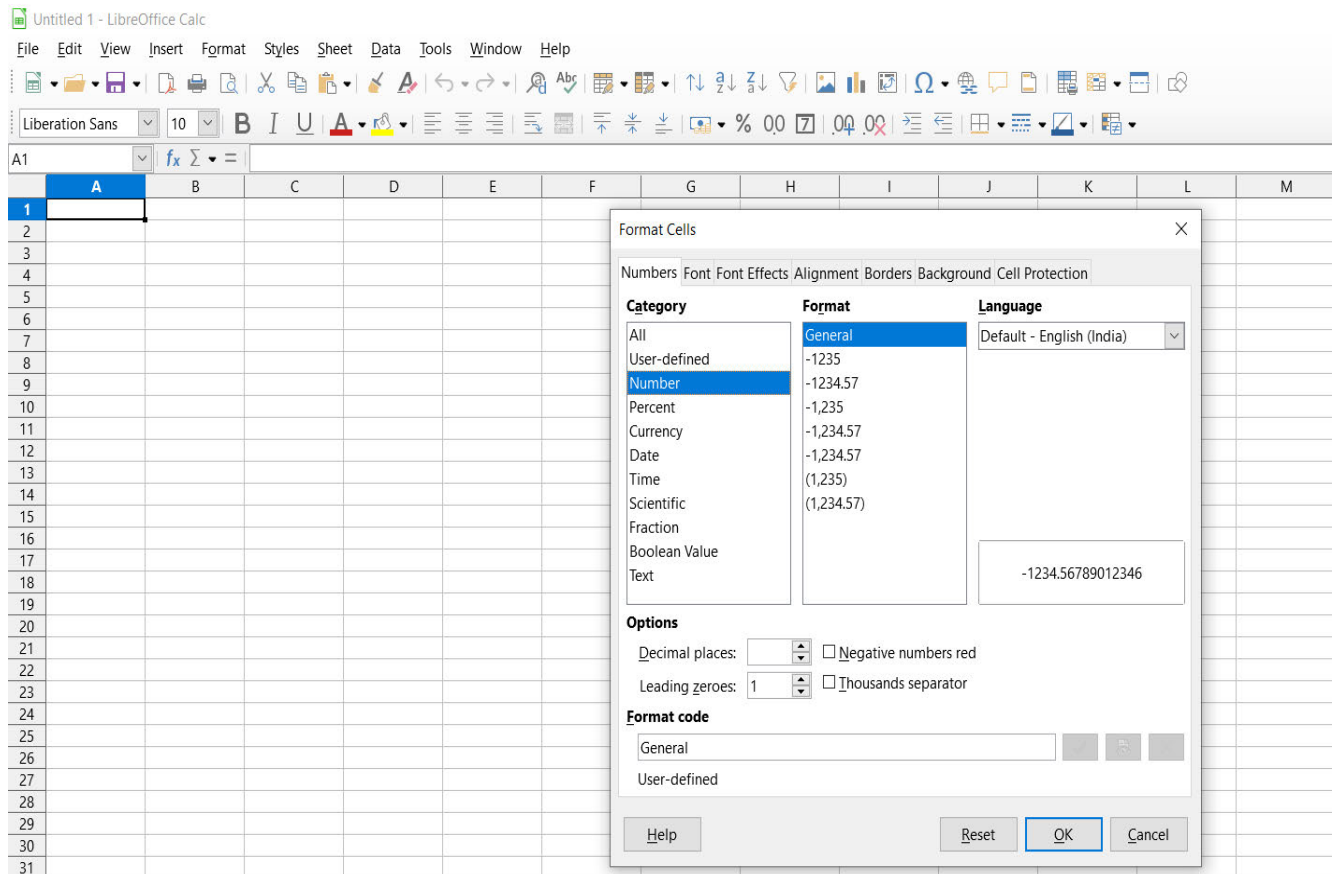


Fig 4.1

4.1.2 Rows

To change the height of the rows following are the steps :-

1. Select the Submenu Rows
2. Format-> Rows
3. In the figure given below, you can see that rows can be formatted.
4. The height of row can be changed.
5. The rows can be hidden or displayed.

We can also hide or show row from here.

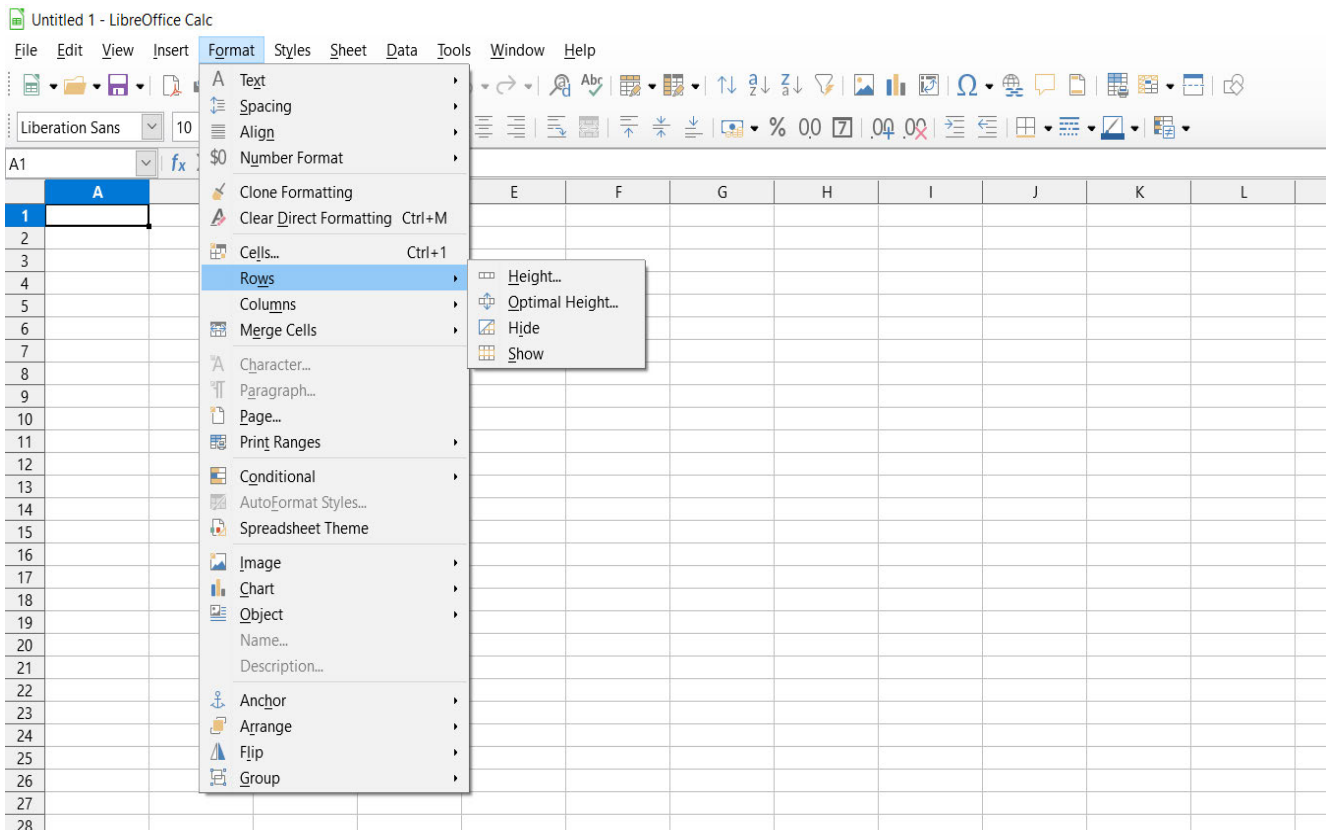


Fig 4.2

4.1.3 Columns

This option can be used to change width of the columns.

1. Select the Submenu Columns
2. Format-> Columns
3. In the figure given below, you can see that columns can be formatted.
4. The width of column can be changed.
5. The columns can be hidden or displayed.

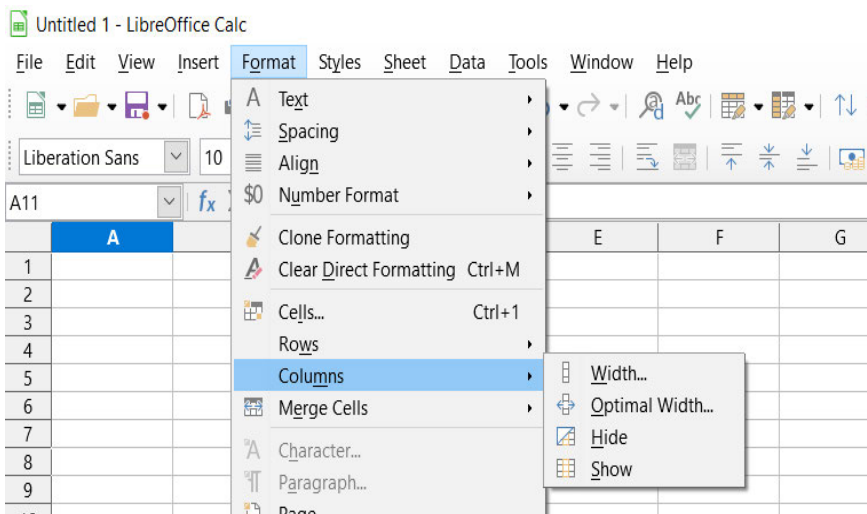


Fig 4.3

4.1.4 Merge Cells

Aryan was writing heading for his table. He wanted heading to cover more than one cell.

Gowri:- If you want any data to cover more than one cell, we use merge option

1. Firstly, select the cells you want to merge.
2. Select the Submenu merge Cells.
3. Format-> Merge Cells
4. In the figure given below, you can see that cells can be merged.
5. The other method is to select the button on formatting toolbar.

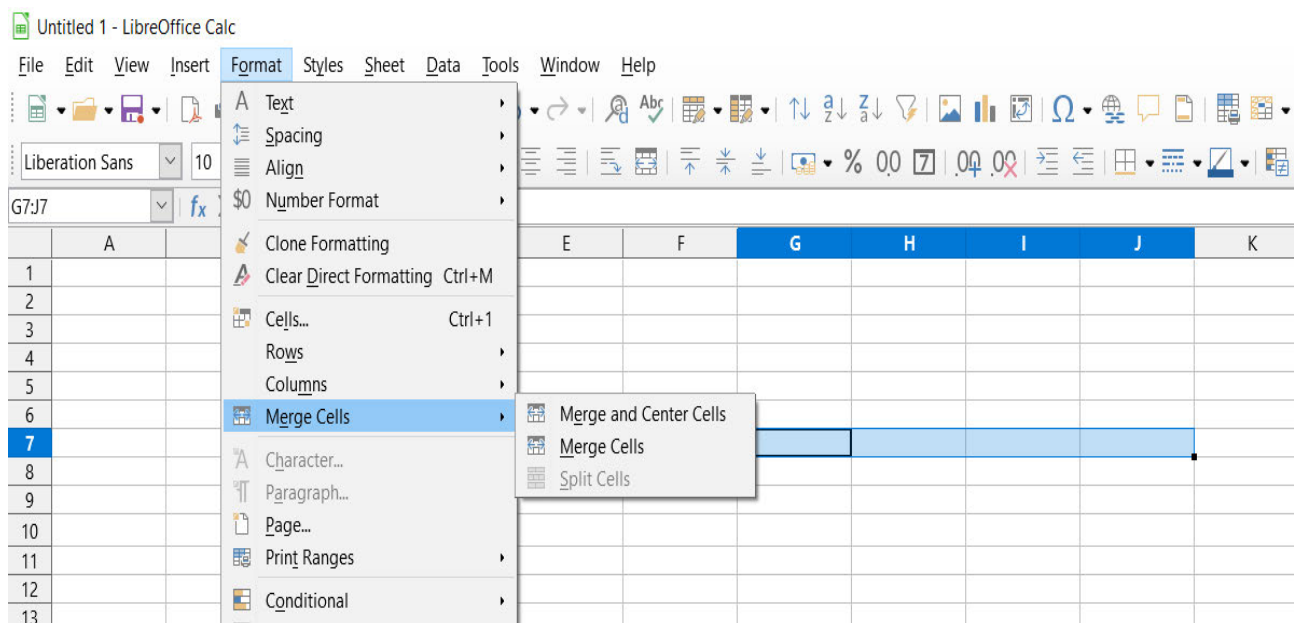


Fig 4.4

Aryan :- What if we miss on any column or row. Do we need to again make a new table.

Gowri :- No, we have option to add or delete any row or column or single cell in Sheet Menu.

4.2 Sheet Menu

4.2.1 Insert cells

1. Select the Submenu Insert cells
2. Sheet-> Insert cells
3. In the figure given below, you can see that cells can be inserted.
4. The shortcut key to insert cells is Ctrl++

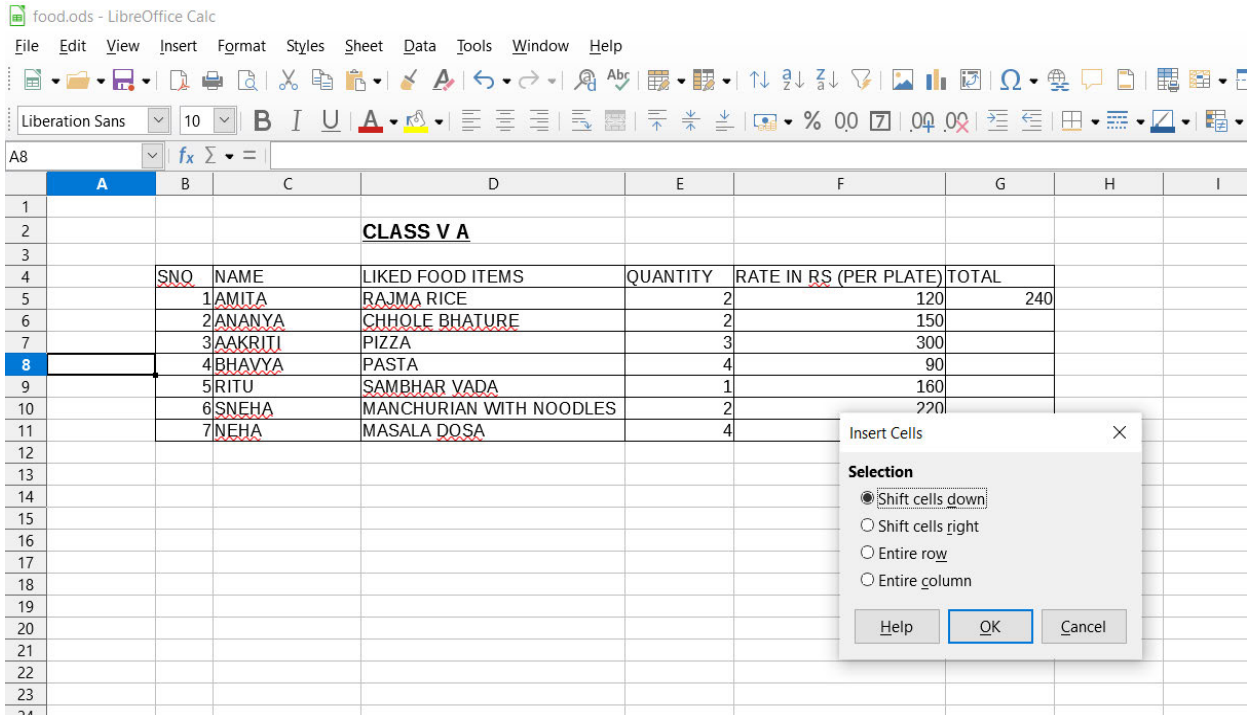


Fig 4.5

4.2.2 Insert rows

1. Select the Submenu Insert rows.
2. Sheet-> Insert rows
3. In the figure given below, you can see that rows can be inserted in a spreadsheet.

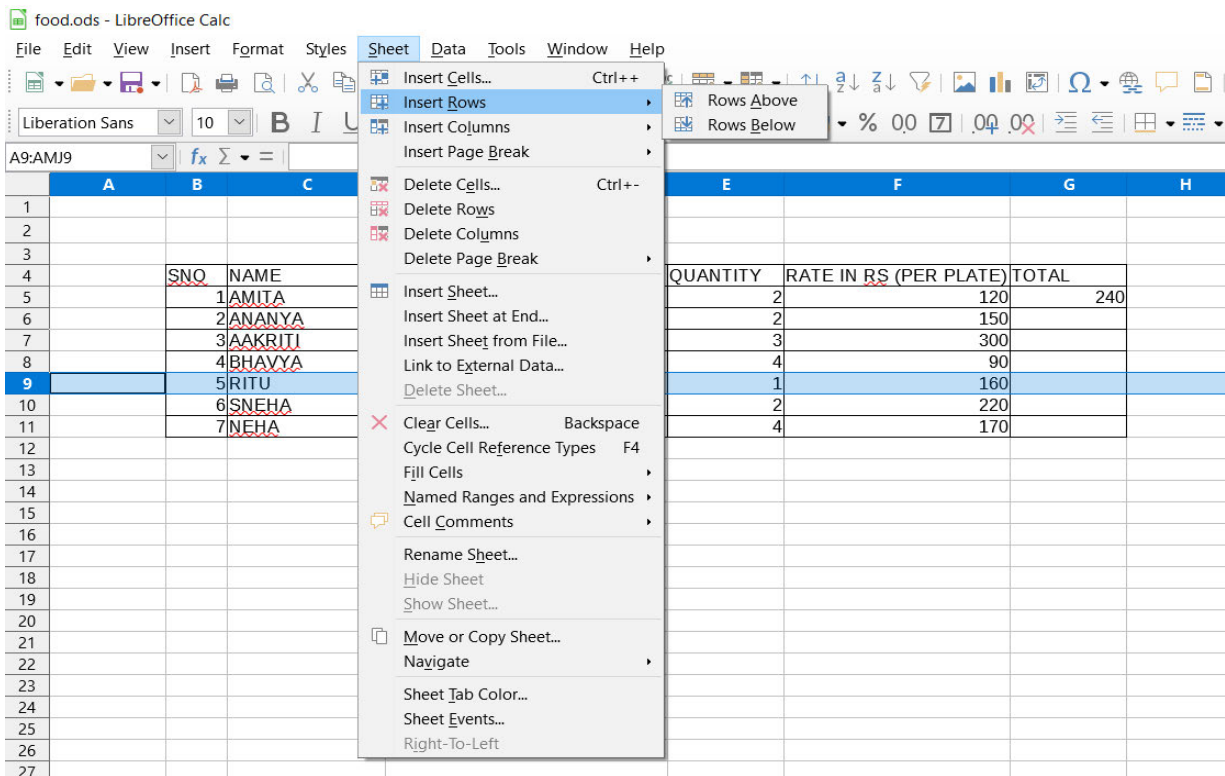


Fig 4.6

4.2.3 Insert columns

1. Select the Submenu Insert columns.
2. Sheet-> Insert columns.
3. In the figure given below, you can see that columns can be inserted in a spreadsheet.

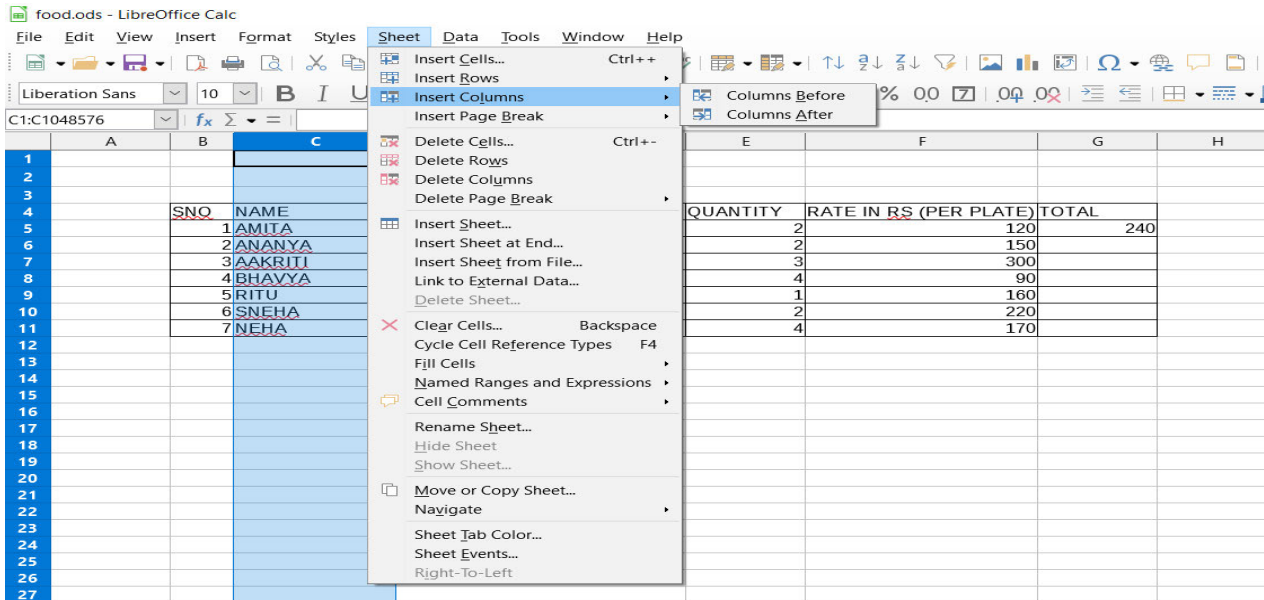


Fig 4.7

4.2.4 Delete cells

1. Select the cells you want to delete.
2. Select the Submenu Delete cells
3. Sheet-> Delete cells
4. In the figure given below, you can see that cells can be deleted.
5. The shortcut key to insert cells is Ctrl+-..

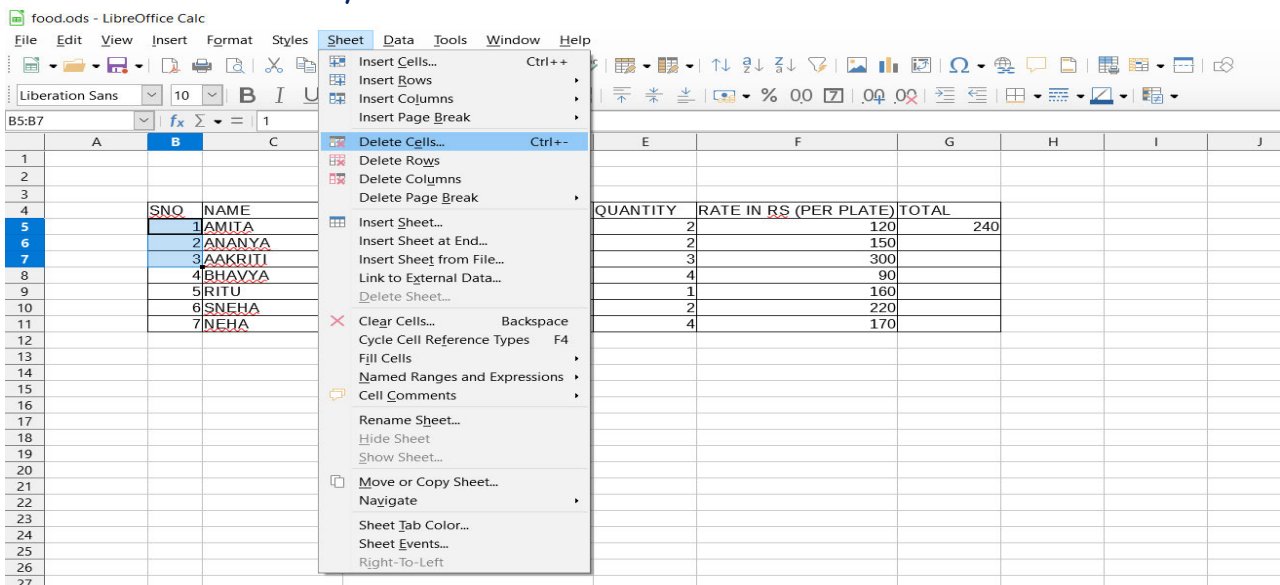


Fig 4.8

4.2.5 Delete rows

1. Select the rows you want to delete.
2. Select the Submenu Delete rows
3. Sheet-> Delete rows
4. In the figure given below, you can see that rows can be deleted in a spreadsheet.

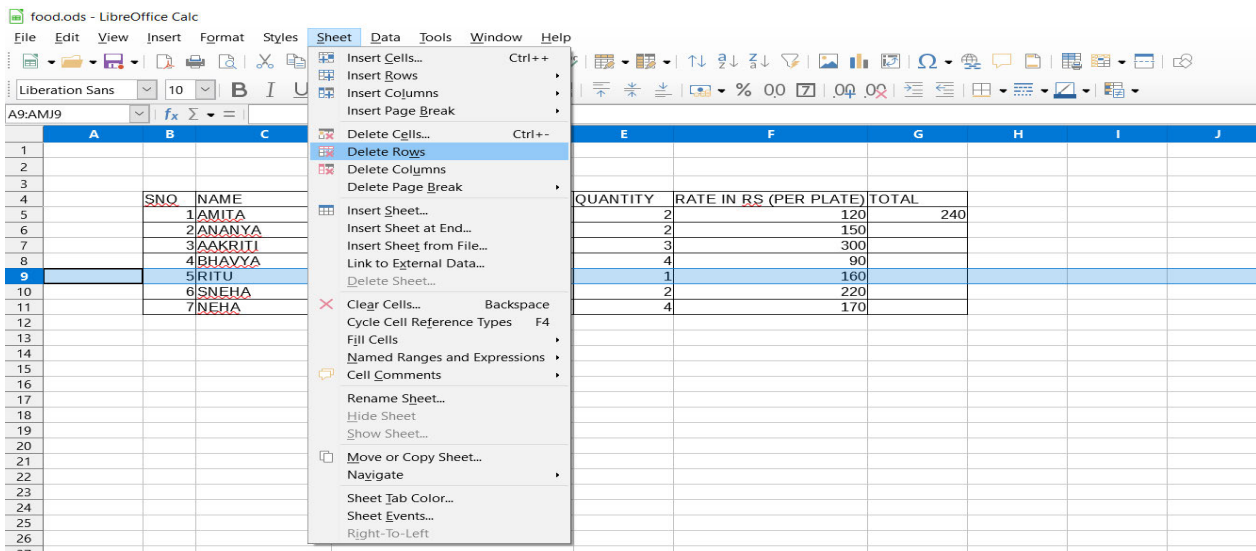


Fig 4.9

4.2.6 Delete columns

1. Select the columns you want to delete.
2. Select the Submenu Delete columns
3. Sheet-> Delete columns
4. In the figure given below, you can see that columns can be deleted in a spreadsheet.

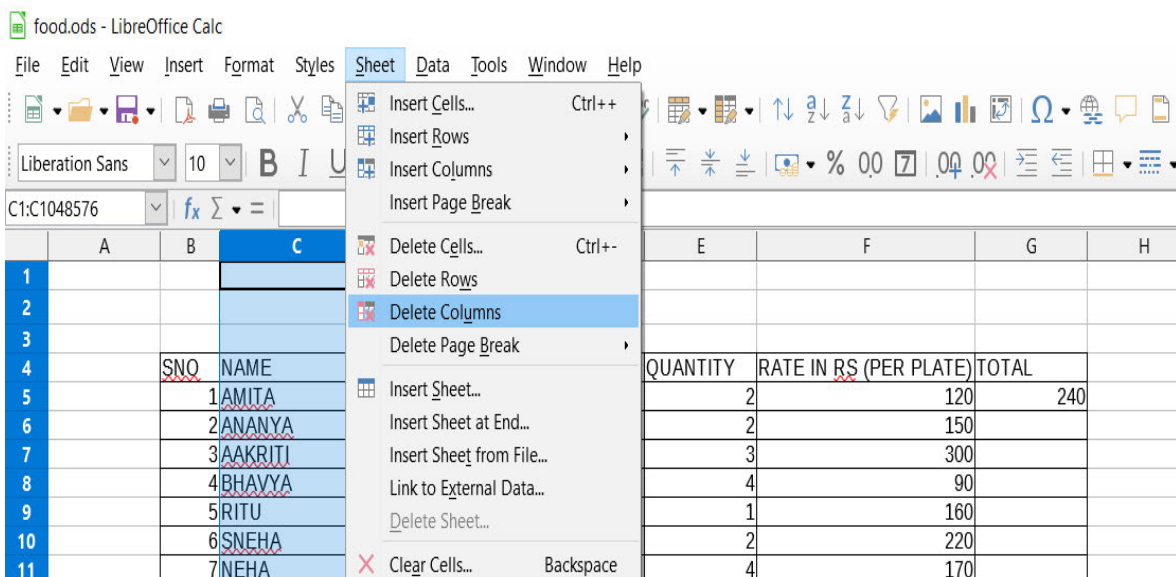


Fig 4.10

4.2.7 Insert sheet

You may also add a new sheet in calc.

1. Select the Submenu insert sheet
2. Sheet-> Insert sheet
3. In the fig. 4.11, you can see that a sheet can be inserted.
4. As shown in fig 4.12, a dialog box to insert sheet appears.
5. Here sheet can be inserted before or after current sheet.
6. In this dialog box, you can specify the number of sheets you want to insert as well as the name of the sheet.
7. The alternate way is to right click on the insert sheet tab in the bottom of the spreadsheet and same dialog box appears.

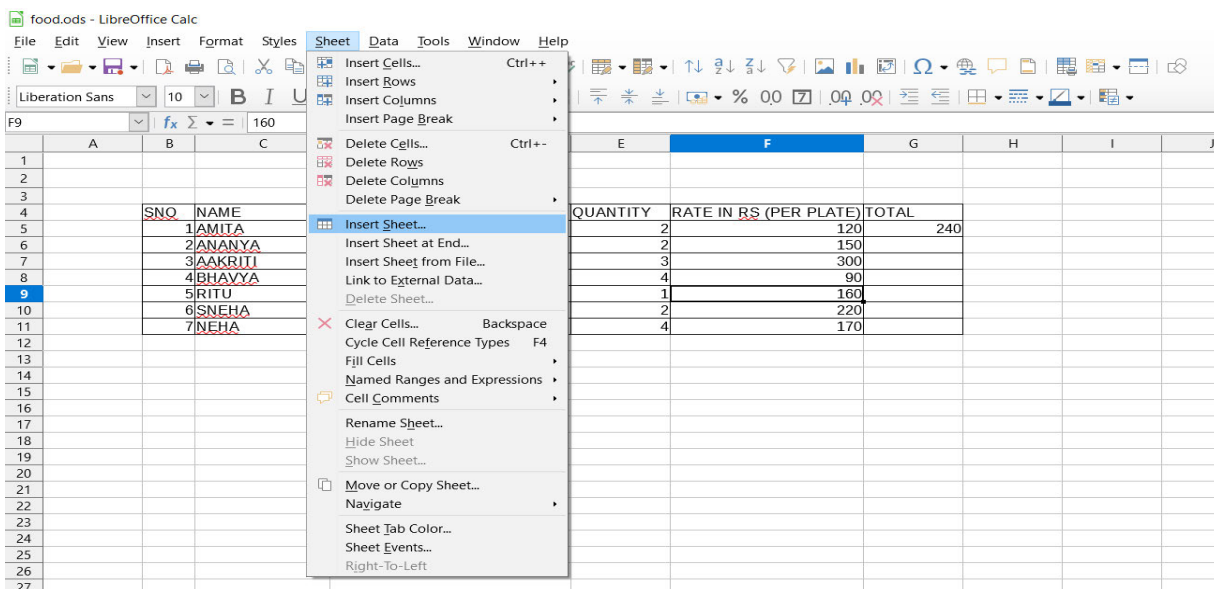


Fig 4.11

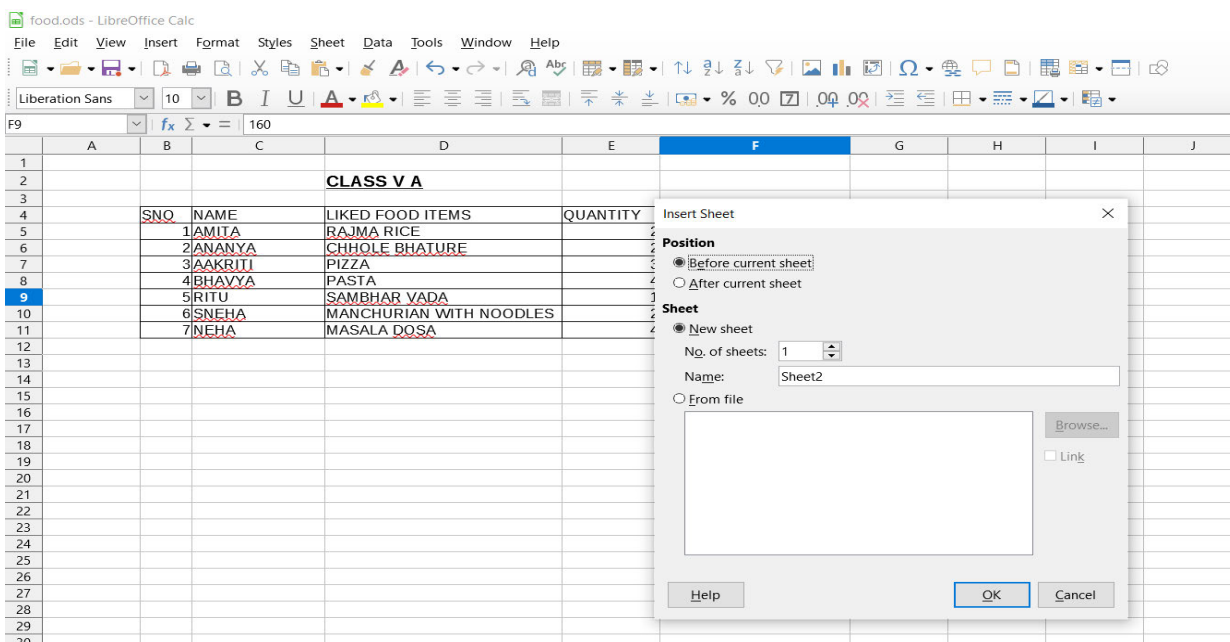


Fig 4.12

4.2.8 Insert sheet at the end

1. Select the Submenu insert sheet at the end
2. Sheet-> Insert sheet at the end
3. In the fig. 4.13, you can see that a sheet can be inserted at the end.
4. As shown in fig 4.14, a dialog box to append sheet appears.
5. Here sheet can be inserted at the end.
6. The alternate way is to right click on the insert sheet tab in the bottom of the spreadsheet and same dialog box appears.

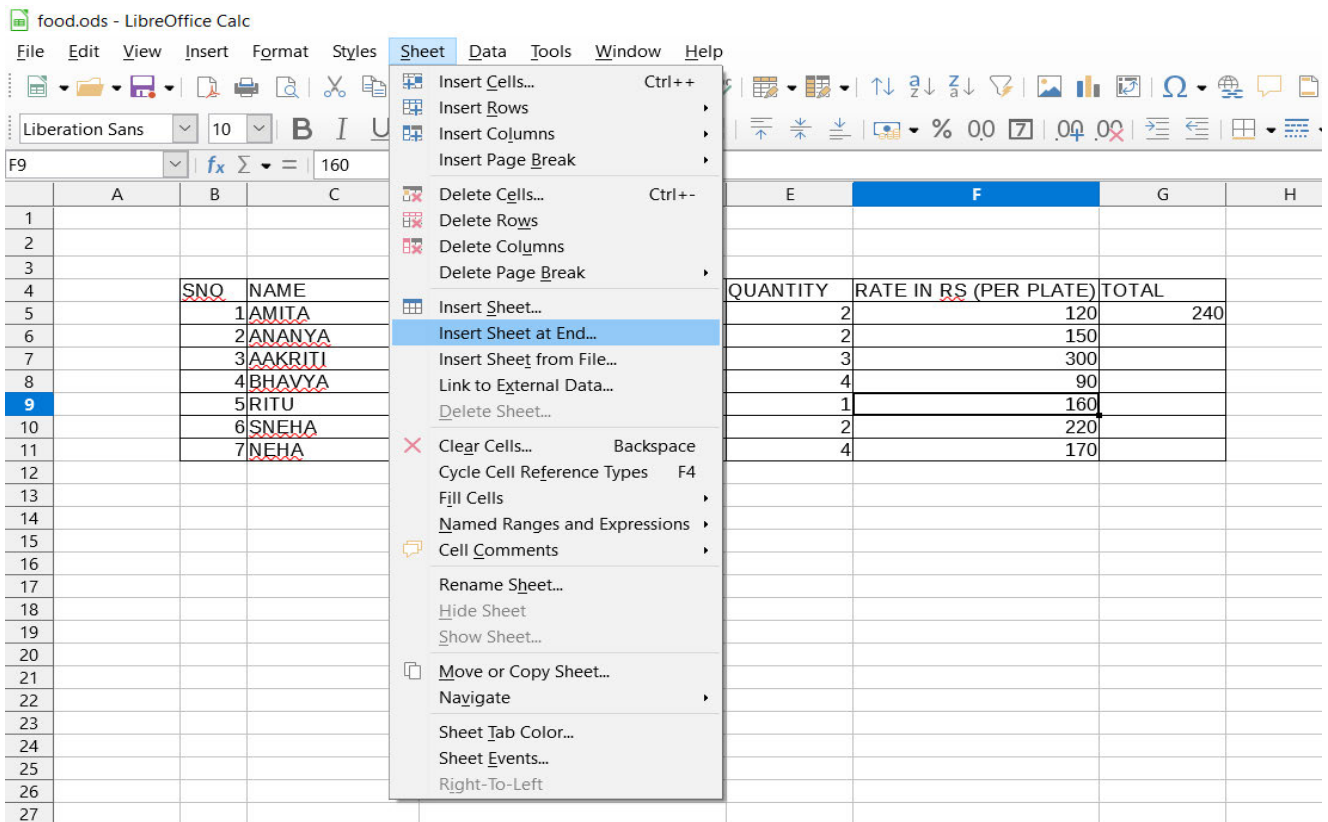


Fig 4.13

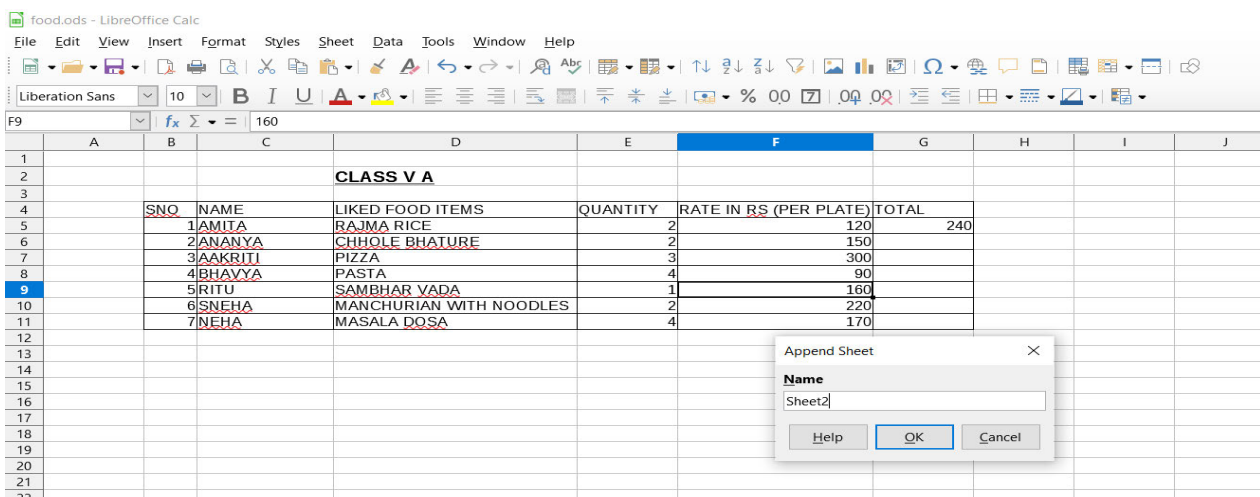


Fig 4.14

4.2.9 Insert sheet from file

Steps to add an already existing sheet from another file to your file.

1. Select the Submenu insert sheet from file
2. Sheet-> Insert sheet from file.
3. In the fig. 4.15, you can see that a dialog box appears.
4. After that a dialog box to insert sheet from another file appears.
5. Then sheet to be inserted is selected.
6. The alternate way is to right click on the sheet tab in the bottom of the spreadsheet and same dialog box appears.

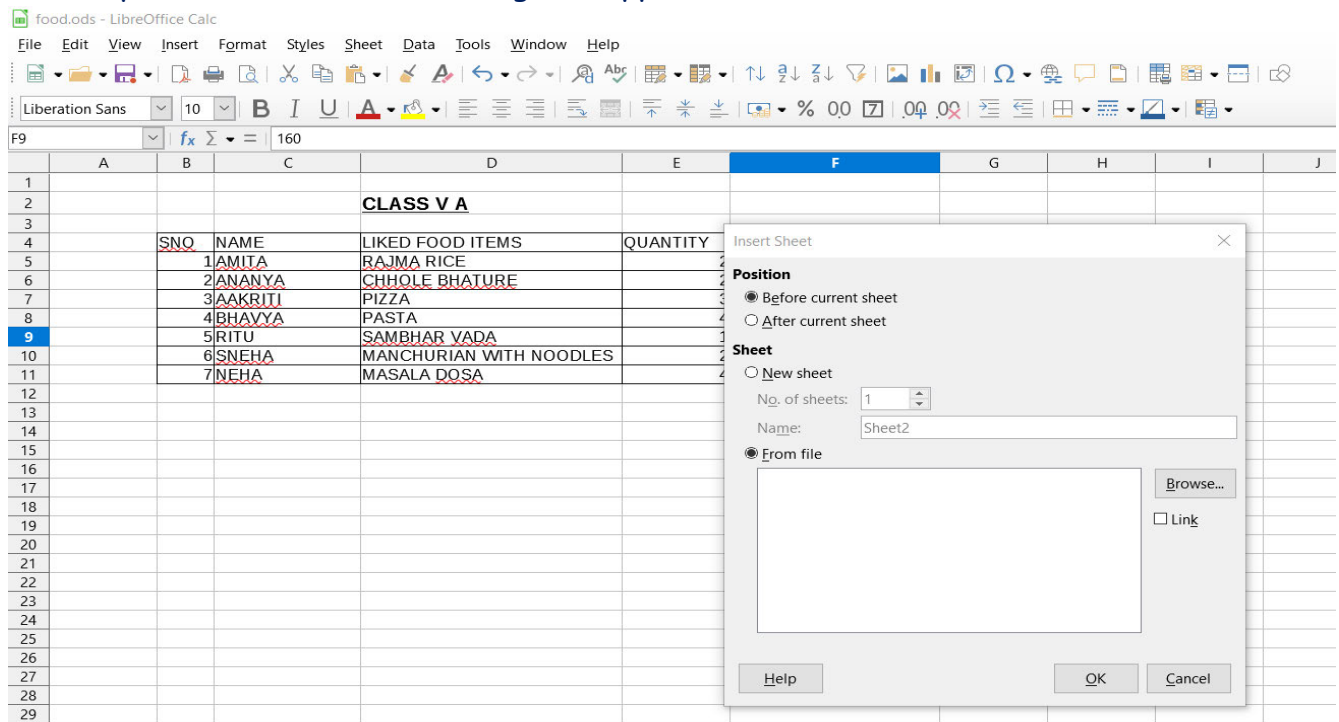


Fig 4.15

4.2.10 Delete sheet

1. Select the Submenu delete sheet from file
2. Sheet-> Delete sheet.
3. In the fig. 4.16, you can see the option to delete sheet.
4. After that a dialog box to delete sheet appears, as shown in fig. 4.17.
5. Then current sheet is deleted.
6. The alternate way is to right click on the sheet tab in the bottom of the spreadsheet, select delete sheet option from there and same dialog box appears.

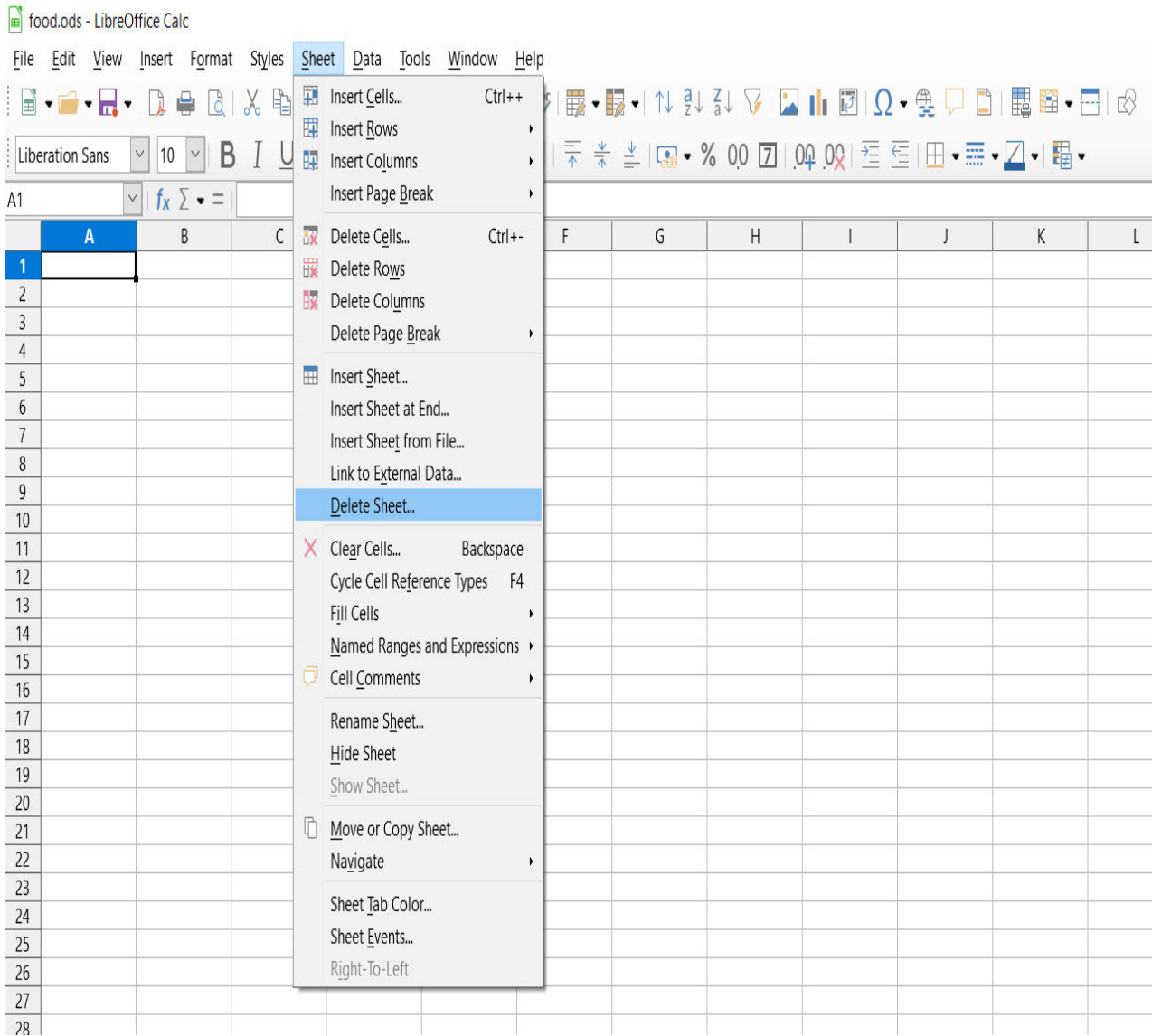


Fig 4.16

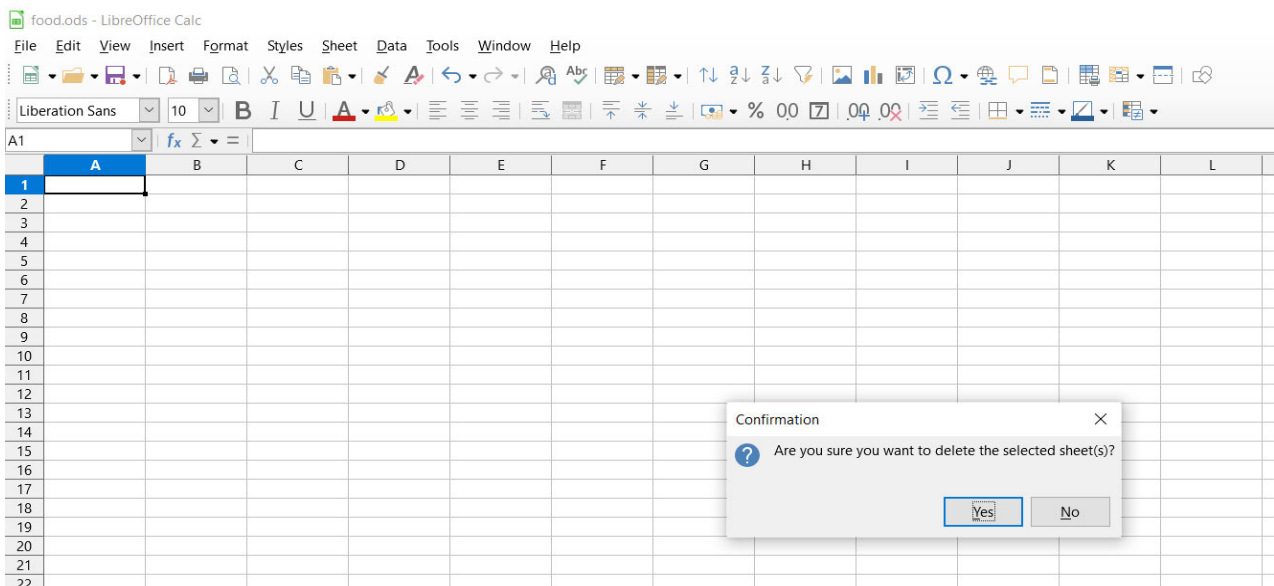


Fig 4.17

4.2.11 Clear cells

Steps to clear the cells on which you were working.

1. Select the Submenu clear cells
2. Sheet-> Clear cells.
3. In the fig. 4.18, you can see the option to clear cells.
4. After that a dialog box to clear cells appears, as shown in fig. 4.19.
5. Then current cells are cleared.
6. The shortcut key to clear cells is Backspace.

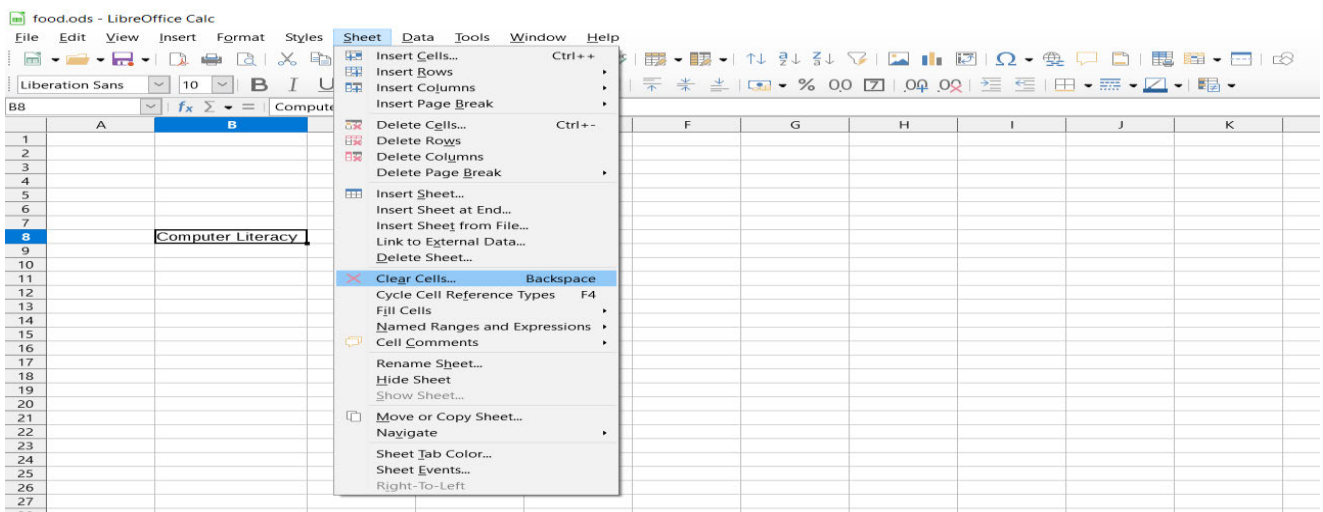


Fig 4.18

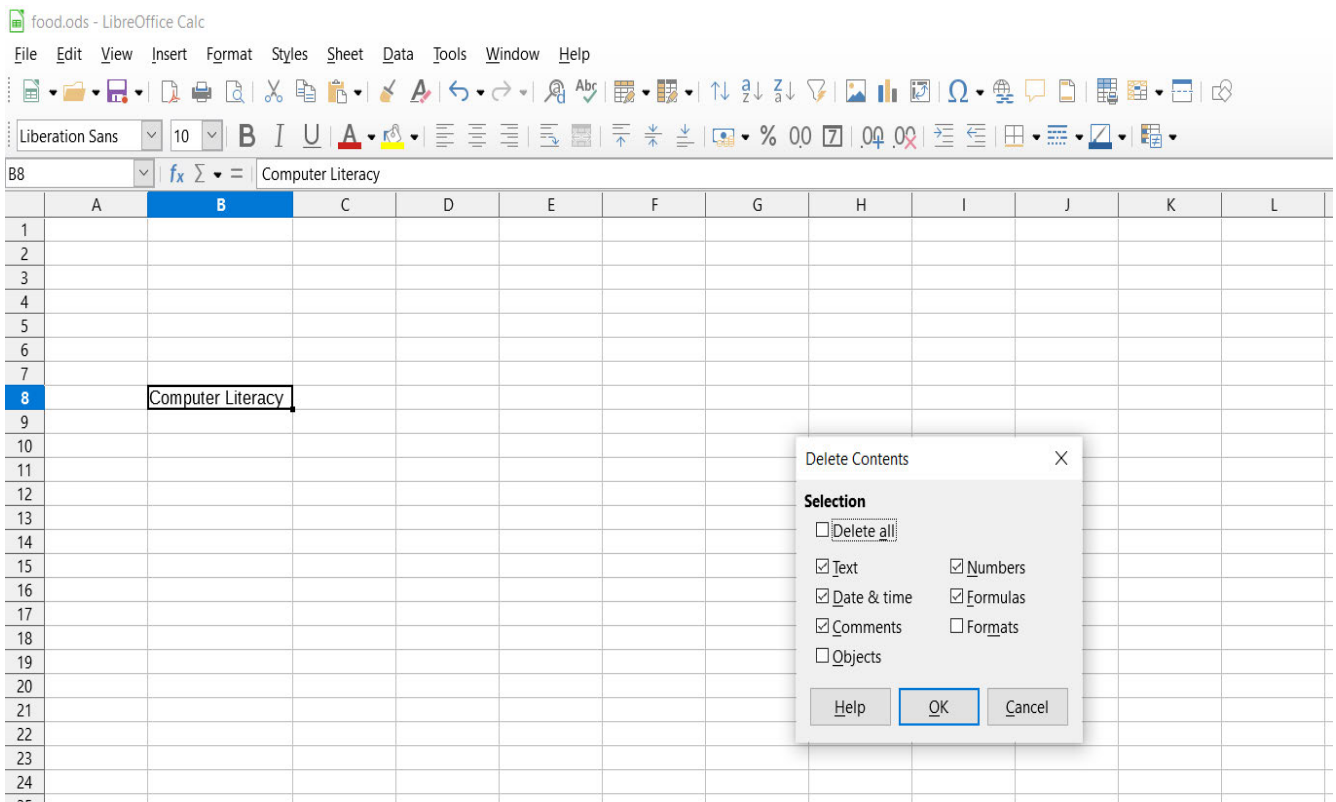


Fig 4.19

4.2.12 Rename sheet



Aryan :- I want to rename the current sheet on which I am working.

Gowri:- Yes, Its better to give meaningful name to sheet so as we know what type of data is in it. You can do it by following the steps below:



1. Select the Submenu Rename sheet from file
2. Sheet-> Rename sheet.
3. In the fig. 4.20, you can see an option to rename sheet.
4. After that a dialog box to rename sheet appears, as shown in fig. 4.21.
5. Then current sheet is renamed.
6. The alternate way is to right click on the sheet tab in the bottom of the spreadsheet, select rename sheet option from there and same dialog box appears.

The screenshot shows the LibreOffice Calc interface. The 'Sheet' menu is open, and 'Rename Sheet...' is highlighted. The spreadsheet data is as follows:

SNO	NAME	QUANTITY	RATE IN RS (PER PLATE)	TOTAL
1	AMITA	2	120	240
2	ANANYA	2	150	
3	AAKRITI	3	300	
4	BHAVYA	4	90	
5	RITU	1	160	
6	SNEHA	2	220	
7	NEHA	4	170	

Fig 4.20

food.ods - LibreOffice Calc

File Edit View Insert Format Styles Sheet Data Tools Window Help

Liberation Sans 10 B I U A

F9 fx Σ = 160

	A	B	C	D	E	F	G	H	I	J
1										
2				CLASS V A						
3										
4		<u>SNO</u>	<u>NAME</u>	<u>LIKED FOOD ITEMS</u>	<u>QUANTITY</u>	<u>RATE IN RS (PER PLATE)</u>	<u>TOTAL</u>			
5		1	AMITA	RAJMA RICE	2	120	240			
6		2	ANANYA	CHHOLE BHATURE	2	150				
7		3	AAKRITI	PIZZA	3	300				
8		4	BHAVYA	PASTA	4	90				
9		5	RITU	SAMBHAR VADA	1	160				
10		6	SNEHA	MANCHURIAN WITH NOODLES	2	220				
11		7	NEHA	MASALA DOSA	4	170				
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

Rename Sheet X

Name

Sheet1

Help OK Cancel

Fig 4.21

4.2.13 Hide sheet/ Show Sheet

It is also possible to hide the current sheet on which you are working.

1. Select the Submenu Hide sheet.
2. Sheet-> Hide sheet.
3. In the fig. 4.22, you can see an option to hide sheet.
4. Then current sheet is hidden.
5. In the fig. 4.23, you can see an option to show sheet and a dialog box occurs to show hidden sheet.
6. The alternate way is to right click on the sheet tab in the bottom of the spreadsheet, select hide sheet/show sheet option from there and same dialog box appears.

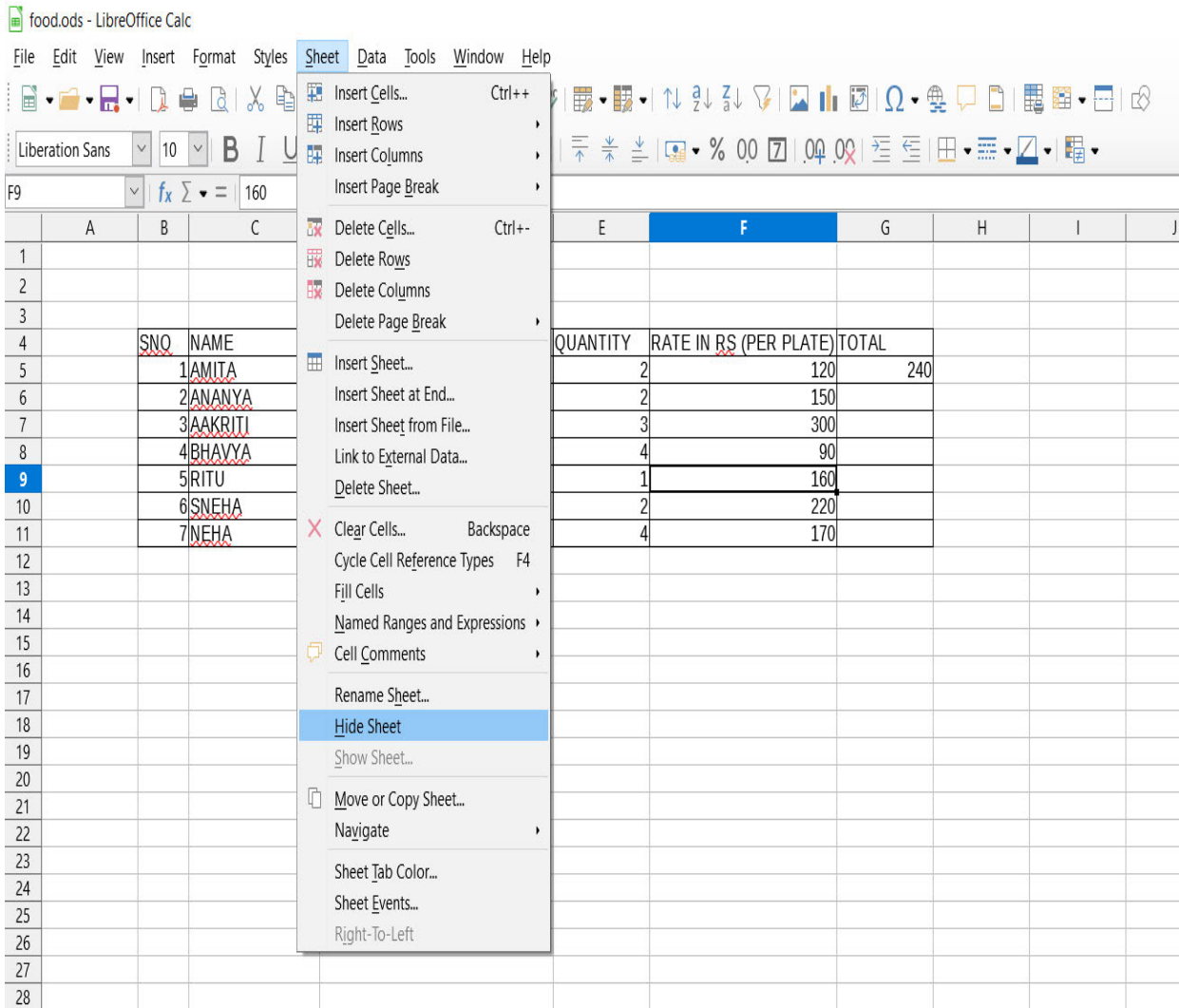


Fig 4.22

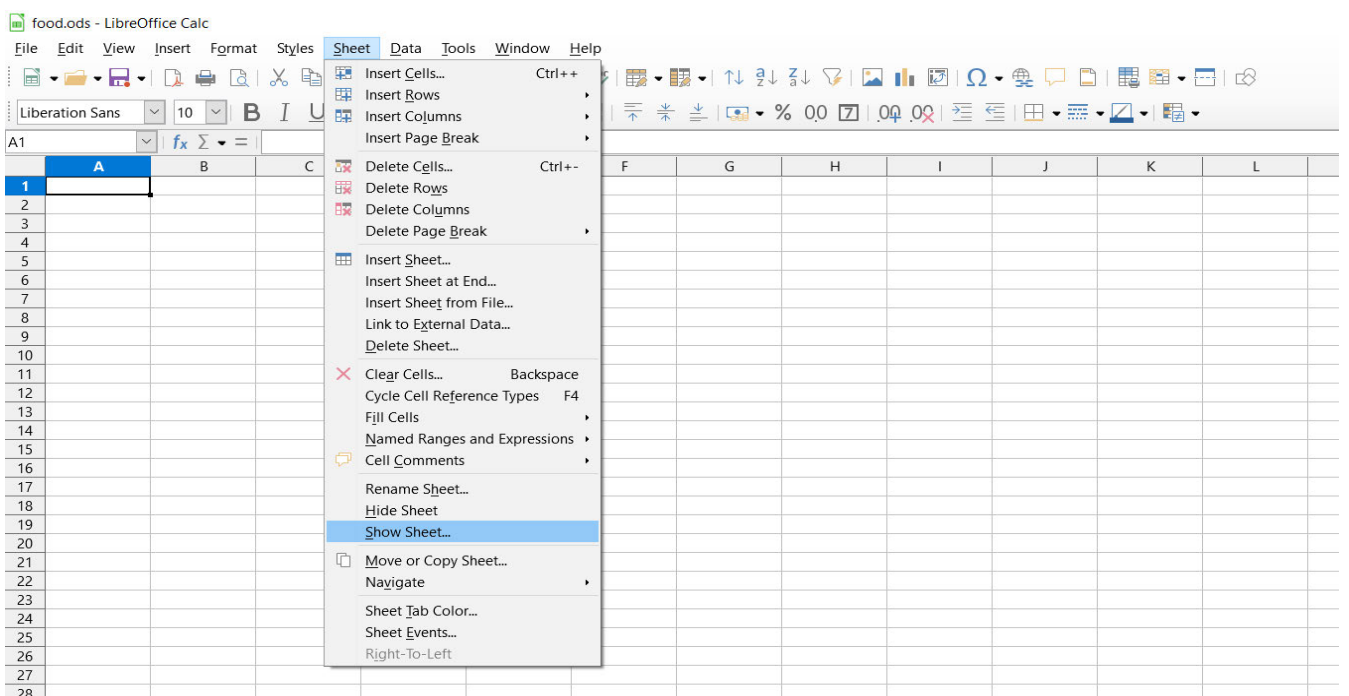


Fig 4.23

4.2.14 Move or copy sheet

Steps to move or copy the current sheet

1. Select the Submenu Move or Copy sheet.
2. Sheet-> Move or Copy sheet.
3. In the fig. 4.24, you can see an option to Move or Copy sheet.
4. Then current sheet can be moved or copied.
5. In the fig. 4.25, you can see an option to move or copy sheet and a dialog box occurs to move or copy sheet.
6. The alternate way is to right click on the sheet tab in the bottom of the spreadsheet, select move or copy sheet option from there and same dialog box appears.

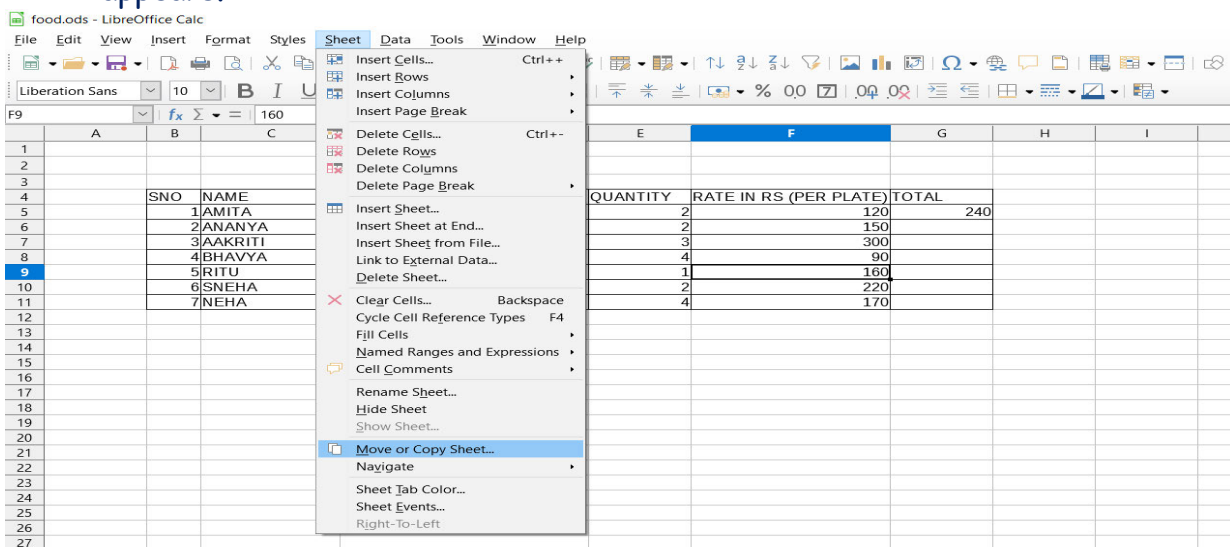


Fig 4.24

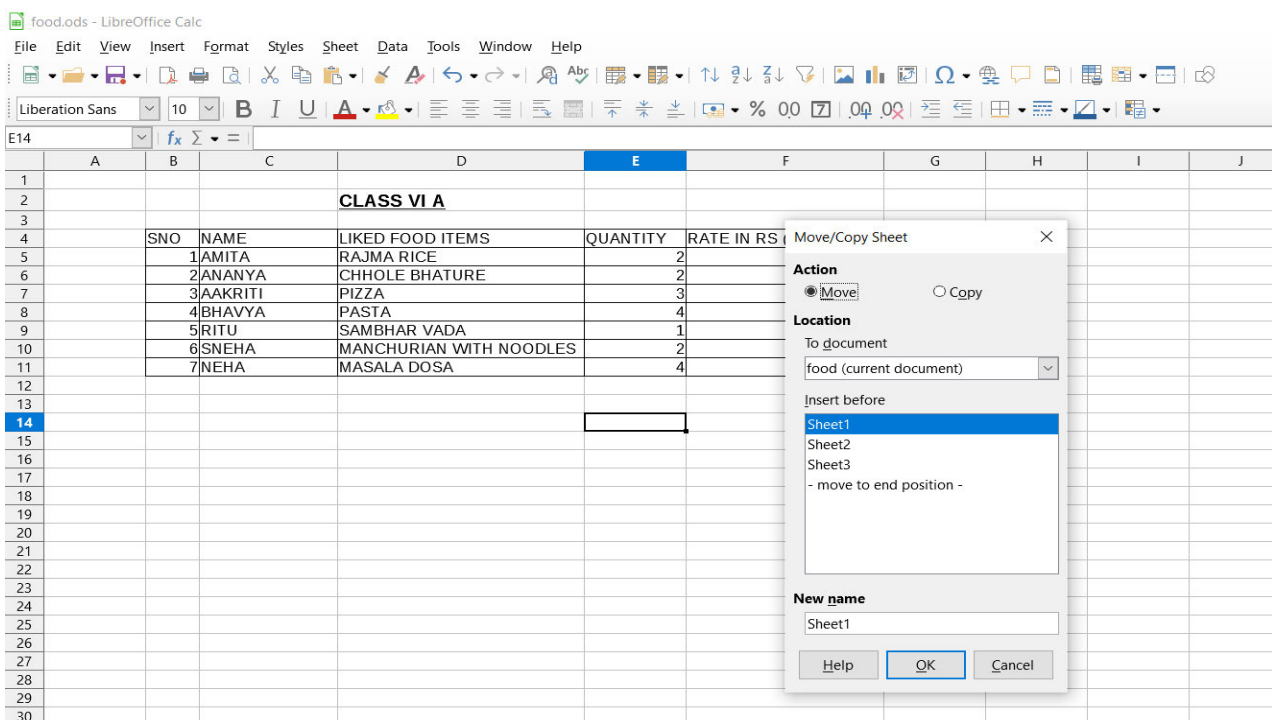


Fig 4.25

4.3 Data Menu

Data menu has certain options such as sorting in ascending or descending order and AutoFilter etc.

4.3.1 Sort

Aryan :- Can I arrange the data in table in alphabetical order of name..

Gowri :- yes, you can arrange it in any order by any column.

1. Select the Submenu Sort.
2. Data-> Sort.
3. In the fig. 4.26, you can see an option to sort the data.
4. Then select the option to sort the data.
5. In the fig. 4.27, you can see dialog box to sort the data.

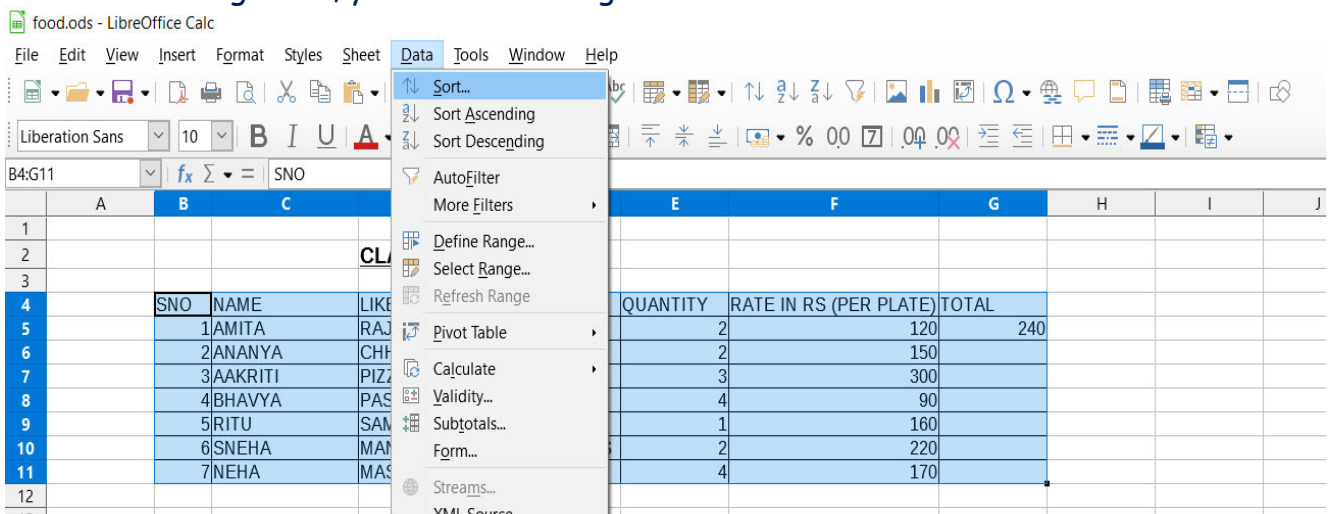


Fig 4.26

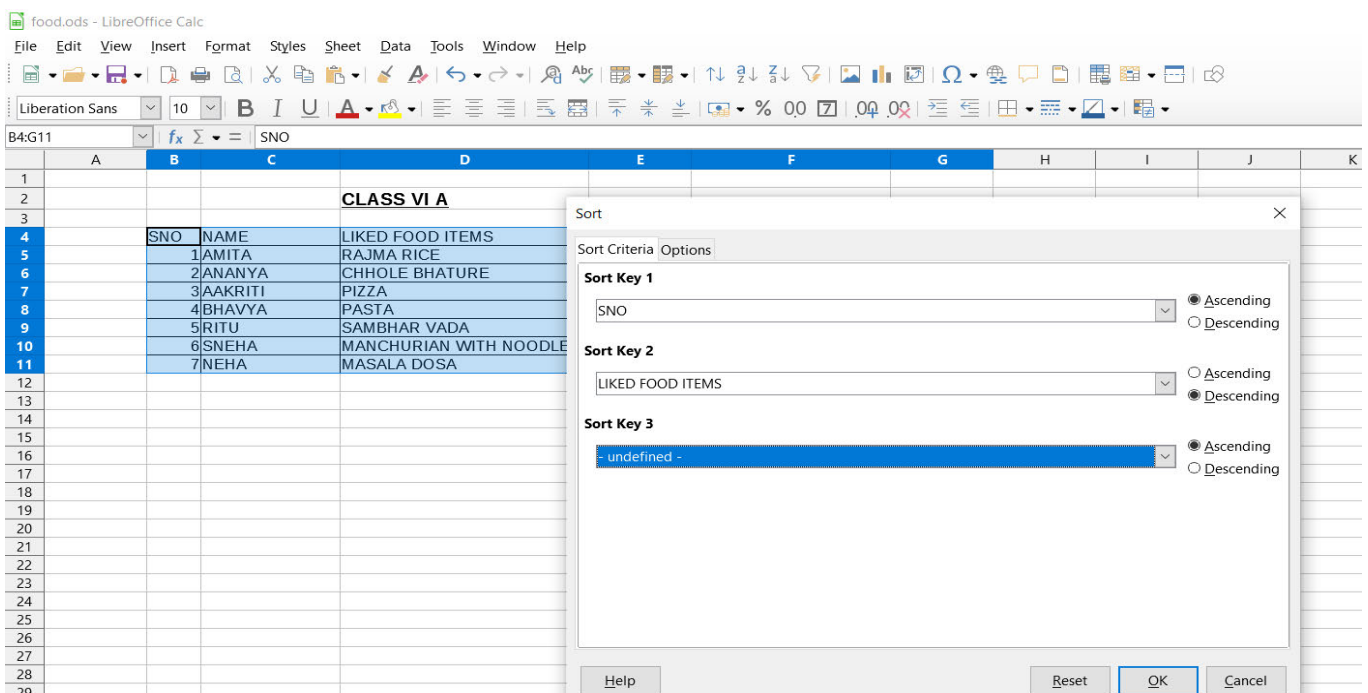


Fig 4.27

Sort ascending

1. Select the Submenu Sort ascending.
2. Data-> Sort ascending.
3. In the fig. 4.28, you can see an option to sort the data in ascending order.
4. Then select the option to sort the data in ascending order.
5. Then data is sorted in ascending order.

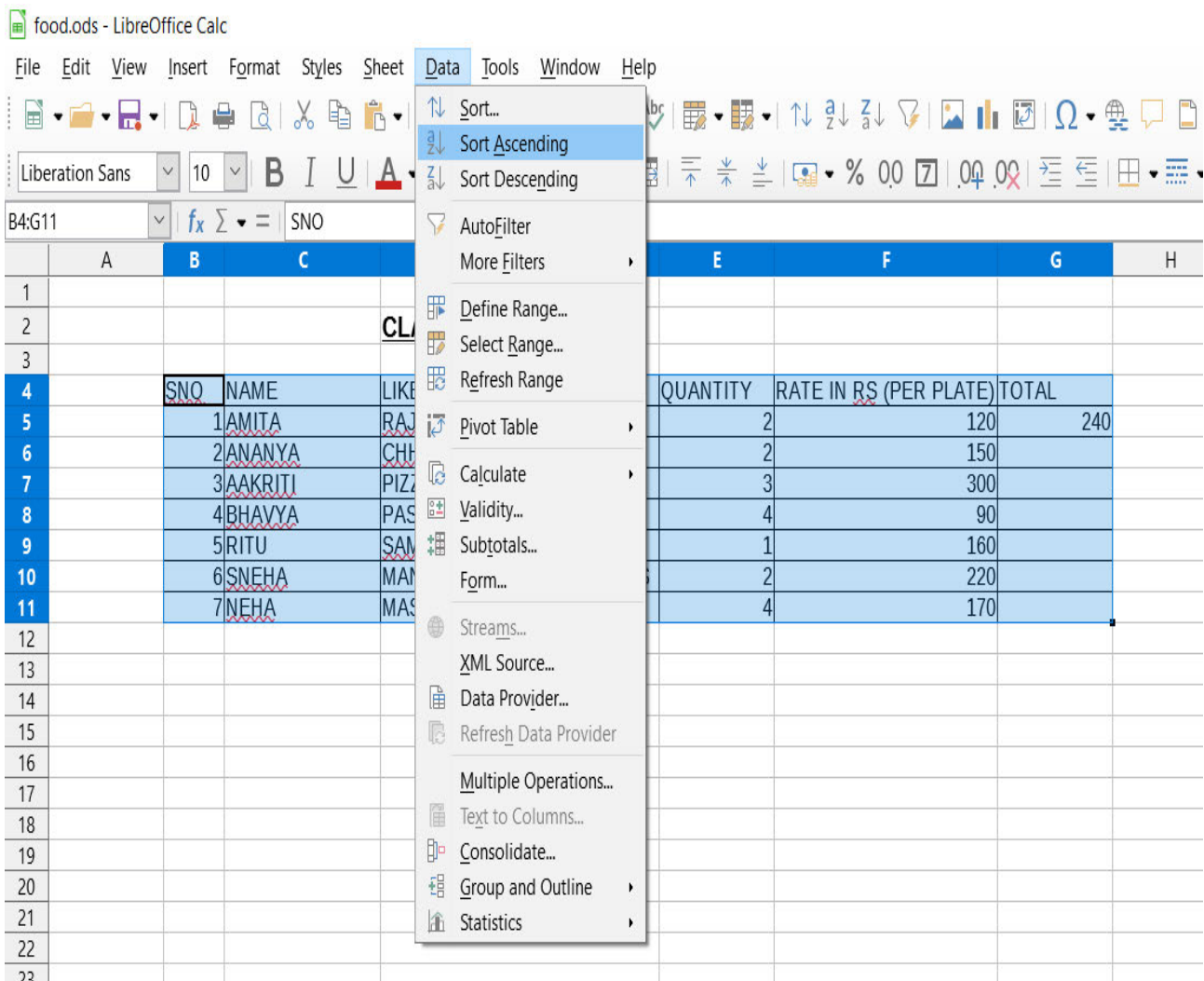


Fig 4.28

Sort descending

1. Select the Submenu Sort descending.
2. Data-> Sort descending.
3. In the fig. 4.29, you can see an option to sort the data in descending order.
4. Then select the option to sort the data in descending order.
5. Then data is sorted in descending order.

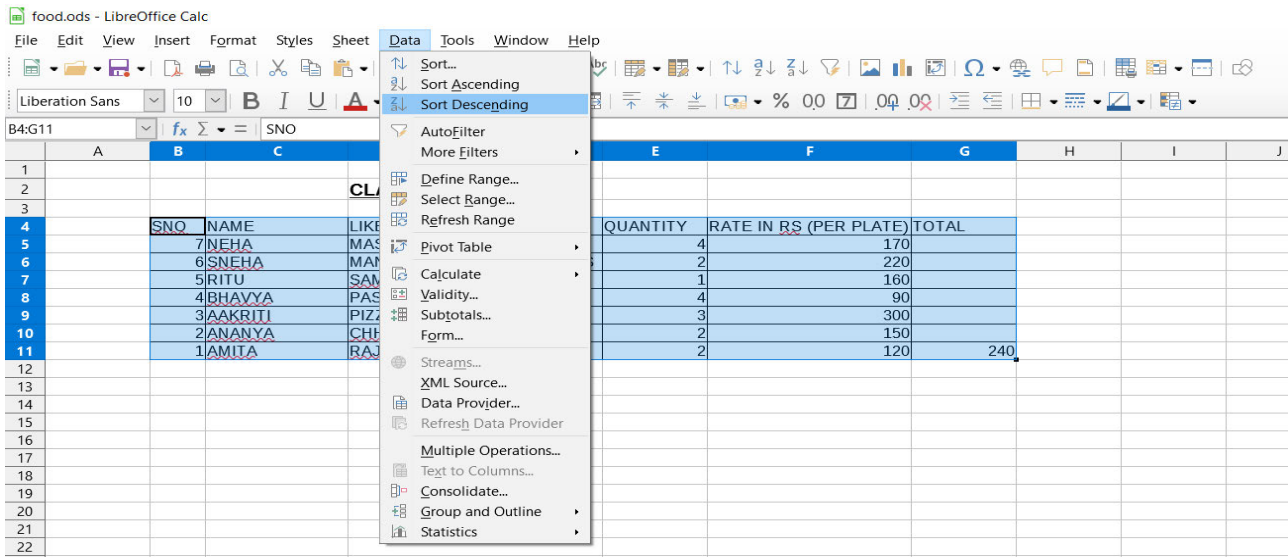


Fig 4.29

4.3.2 AutoFilter

Aryan:- I want to display records of students who like pizza and pasta

Gowri :- You can put filters on the data by selecting the Submenu AutoFilter to view some selected data. It then hides other data.

1. Data-> AutoFilter.
2. In the fig. 4.30, you can see an option to apply filter on the data.
3. Then select the option to auto filter the data.
4. Then filter is applied on all fields as shown in Fig 4.31. Then few records/rows can be selected based on a certain criterion.

Aryan selected pasta and pizza from drop down of liked food item cell.

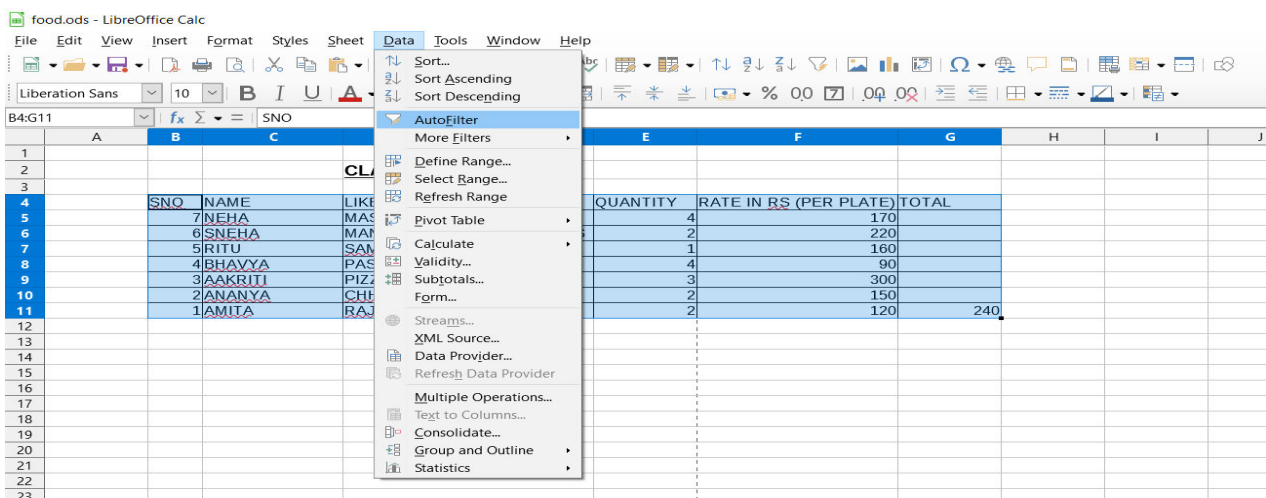


Fig 4.30

food.ods - LibreOffice Calc

File Edit View Insert Format Styles Sheet Data Tools Window Help

Liberation Sans 10 B I U A

B4:G11 fx Σ = SNO

	A	B	C	D	E	F	G	H	I	J
1										
2				CLASS VI A						
3										
4		SNO	NAME	LIKED FOOD ITEMS	QUANTITY	RATE IN RS (PER PLAT)	TOTAL			
5		7	NEHA	MASALA DOSA	4		170			
6		6	SNEHA	MANCHURIAN WITH NOODLES	2		220			
7		5	RITU	SAMBHAR VADA	1		160			
8		4	BHAVYA	PASTA	4		90			
9		3	AAKRITI	PIZZA	3		300			
10		2	ANANYA	CHHOLE BHATURE	2		150			
11		1	AMITA	RAJMA RICE	2		120	240		
12										
13										
14										
15										

Fig 4.31

Exercise Something To Know

Q I. State True or false:

1. The Sort option is in Insert menu.
2. The AutoFilter option is in Data menu.
3. The shortcut key to clear cells is Backspace.
4. The rename sheet is in Data Menu.
5. Sorting on data can be done in ascending or descending order.

Q II. Match the following:-

Column A

1. Format cells
2. Insert cells
3. clear cells
4. Delete cells
5. Data

Column B

- Sort
- Ctrl+-
- Ctrl+1
- Backspace
- Ctrl++

Q III. Fill in the blanks:-

1. The _____ ascending feature is used to arrange data in ascending order
2. The _____ feature is used select rows based on a specific criteria.
3. The _____ feature is used to display hidden sheet.
4. The insert rows option is present in _____ menu.
5. The merge cells option is present in _____ menu.

QIV. Answer the questions based on CCT: -

1. A wants to see only specific rows based on a condition in the spreadsheet. Which feature of LibreOffice Calc is required to do this task?
2. B wants to sort the data in descending order of marks so that first three toppers come on top in a spreadsheet. Which feature of LibreOffice Calc will be used by him?
3. A wants to combine cells of data given in a spreadsheet. Which feature of LibreOffice Calc will be used by her to do it?
4. B wants to insert a new sheet in the end of the existing spreadsheet. Write the steps to do it?
5. Name the menu which has the option to change row height and column width.

5. FUNDAMENTAL OF COMPUTER

5.1 HISTORY OF COMPUTER

5.2 COMPUTER GENERATIONS

5.3 COMPUTER LANGUAGES



GOWRI:- Aryan.. What are you thinking so deeply.

ARYAN: Hello Gowri, I was thinking that this computer that we are working on. How did it develop? Was it always like this?

GOWRI: No Aryan. Let me tell you about the **HISTORY OF COMPUTERS**. The computer you see today was not like this before. It took many years to make the computer as it is today. Let us look at the history and generations of the computers.

ARYAN: Really, I am eager to know ?

GOWRI: Ok , today I will tell you about the History of computers

In the starting fingers, toes, stones, sticks were used for counting. Then it became difficult to do bigger and complex calculations.



5.1 History of computers

- **ABACUS:** So, first calculating device ABACUS was invented about 5000 years ago by Chinese to do simple addition and subtraction.

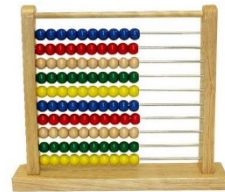


Fig. 5.1

- **NAPIER'S BONES:** In 1617, John Napier invented calculating device NAPIER'S BONES. It was meant for simple calculations like addition, subtraction, multiplication. Later on, it was improved to perform division and to find square root.

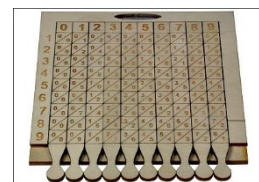


Fig. 5.2

- **PASCALINE:** In 1642, Blaise Pascal a French mathematician invented the first mechanical computing machine known as PASCALINE. It consisted of a box with movable gears.

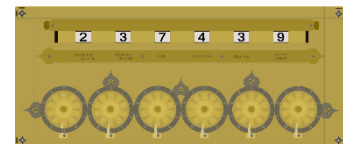


Fig. 5.3

- **STEP RECKONER:** In 1692, the more advanced calculating machine named STEP RECKONER was developed by Gottfried Wilhelm(von) Leibniz. It can do addition, subtraction, multiplication and division.
- **BABBAGE'S ANALYTICAL ENGINE :** In 1833, a mathematics professor of Cambridge University, England, CHARLES BABBAGE developed Analytical Engine. It has five key features: Input, storage, processor, control unit and output.

CHARLES BABBAGE is known as father of computer. Because all these features are found in today's computers.

- **TABULATING MACHINE:** In 1890, an army engineer known as Herman Hollerith invented a tabulating machine. Actually it was used in census of the USA. And after success of Tabulating Machine that company later became very famous as IBM.



MARK-1: In 1944, Prof. Howard Aiken invented the first electro-mechanical computer named as MARK-1.

Fig 5.7

- **ENIAC and UNIVAC:** ENIAC was the first successful Electronic digital computer built by John Mauchly and John Presper Eckert in 1946.

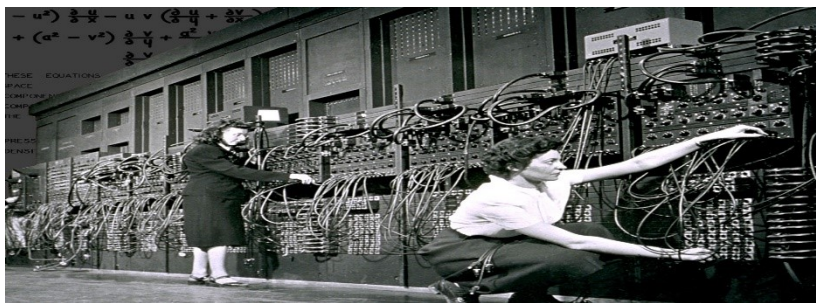


Fig 5.8

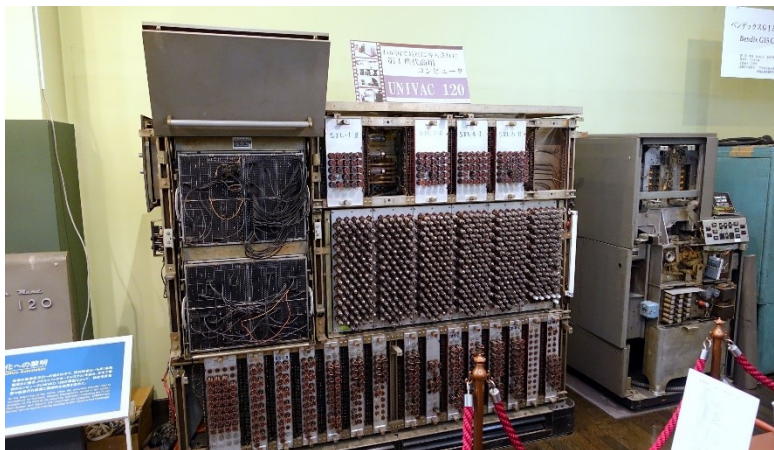


Fig 5.9

- **UNIVAC:** And in 1951, they developed another computer UNIVAC which could handle both numeric and textual information.

- **Personal computer:** In 1981, IBM introduced first personal Computer (PC). And in 1984, Apple introduced Macintosh.



Fig. 5.10



ARYAN: Interesting, so in this way we reached to what we are having today "Personal Computer". You have not told me full form of ENIAC AND UNIVAC.

GOWRI: Oh sorry, I forgot. The full form is:

ENIAC: Electronic Numerical Integrator And Computer .

UNIVAC: Universal Automatic Computer.



ARYAN: Thank you so much for this information, What we are going to learn next?

GOWRI: Next we are going to learn about Generations of computers.

ARYAN: Generations??? Do computer also have generations.

GOWRI: Yes, as we all have generations in our family like grandparents, parents and children. Computer also has its different generations. In computer a Generation means remarkable growth and development in computer technology.

5.2 Generations of computers

ARYAN: I am excited to know about these generations.

GOWRI: Let us discuss it in detail with the help of following table.

There are five generations of computers:

Table 1.1

Generation	Period	Technology	Example
FIRST GENERATION	Started in 1946.	1. Vacuum tube 2. They use machine language	ENIAC, UNIVAC
SECOND GENERATION	In late 1950s	1. They use Transistors 2. They used Assembly language	IBM140, MA RK III
THIRD GENERATION	In mid 1960s	1. They used Integrated Circuits. 2. They used High level languages like Fortran, Cobol	IBM-360, CDC
FOURTH GENERATION	Started in 1971	2. They used Microprocessor 3. They used high-level languages like C, C++ , java. 4. Internet was developed in fourth generation.	IBM 370, Intel 4004
FIFTH GENERATION	STILL IN DEVELOPMENT	1. They use super large scale integrated chips. 2. They are intended to work with natural language. 3. They will have Artificial Intelligence(AI)	Robots

5.3 Languages of computer

ARYAN: OK, what are the languages you talked about during generations?

GOWRI: These are computer languages. The language which can be understood by the computers. These languages are classified as:

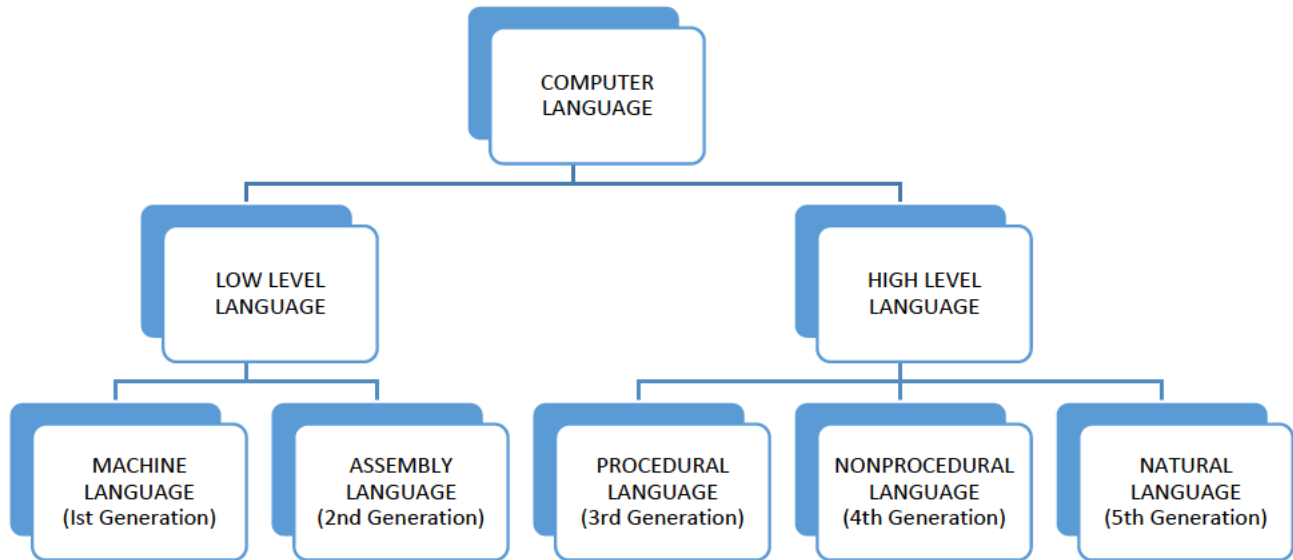


Fig. 5.11

ARYAN: Thank you for all the information about history and languages of computer.

GOWRI: You are welcome.

EXERCISE SOMETHING TO KNOW

A. Answer in one word or one line.

1. Which is the first calculating device?
2. Vacuum tubes is replaced by Transistors in which generation?
3. What is full form of ENIAC?
4. Which Generation of computers are based in AI?
5. Who is father of computer?

B. Fill in the Blanks

1. Second Generation computers used _____ language.
2. The _____ generation computer use microprocessor.
3. _____ introduced first personal Computer (PC).
4. _____ invented calculating device NAPIER'S BONES.
5. The first electro-mechanical computer named as _____

C. Match the Following.

1. Macintosh	a) UNIVAC
2. Cobol	b) Apple
3. Herman Hollerith	c) Robots
4. Artificial Intelligence	d) High level language
5. Vacuum Tubes	e) Tabulating Machine

D. State True or False

1. Earlier bones, stones were used for calculation.
2. Fourth generation computers use vacuum tubes.
3. MARK-I was first electro-mechanical computer.
4. UNIVAC was developed in 1942.
5. Charles Babbage developed Analytical engine.

SOMETHING TO DO

Make following table in your notebook and write Inventors and year.

	INVENTORS	YEAR
Pascaline		
Analytical		
MARK-1		
ENIAC		
TABULATING MACHINE		
ABACUS		
STEP RECKONER		

6. ADVANCE WRITER

- 6.1 Use of Templates
- 6.2 Work with Objects
 - 6.2.1 Images
 - 6.2.2 Shapes
 - 6.2.3 Formulas
 - 6.2.4 Page numbers
 - 6.2.5 Special characters
- 6.3 Formatting Shapes and images
- 6.4 Printing a document

6.1 USE OF TEMPLATE



Do you remember templates?

Yes, We did them in impress. They are built in formats



You are right, but in writer we do it differently. Let me tell me explain.

Template is the file which have pre-defined formats of documents. These serve as a starting point to work in workspace. We can use these formats either as it is or can update as per our need.

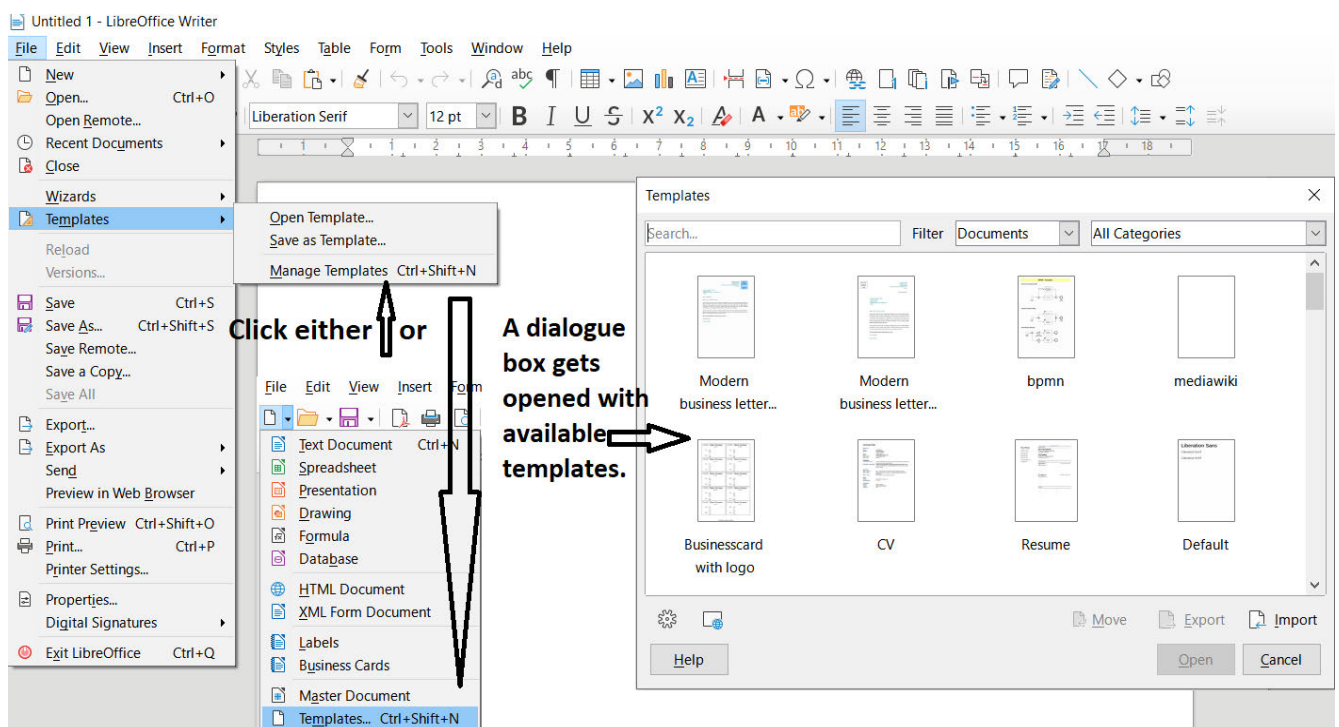


Fig 6.1

Choose the template as per your requirement and start working.

You can design your own template and can use it further by saving your document as template. Click File -> Templates -> save as template

Try Now- make a template and save it with same name as one of the available templates in writer. What you observe?

6.2 WORK WITH OBJECTS

The objects you can insert in your document are

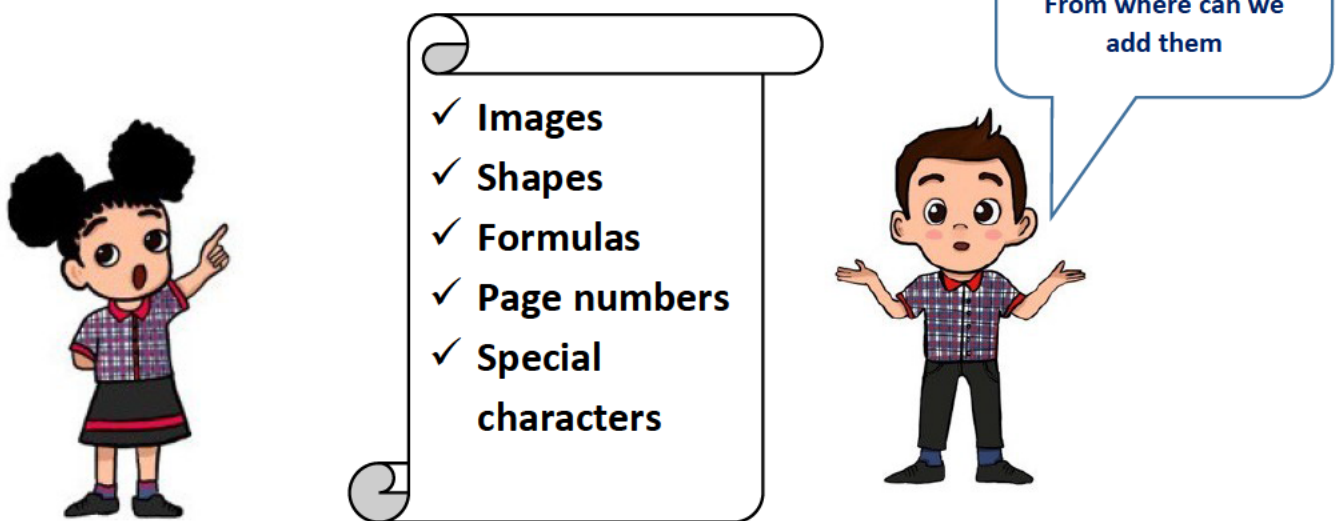
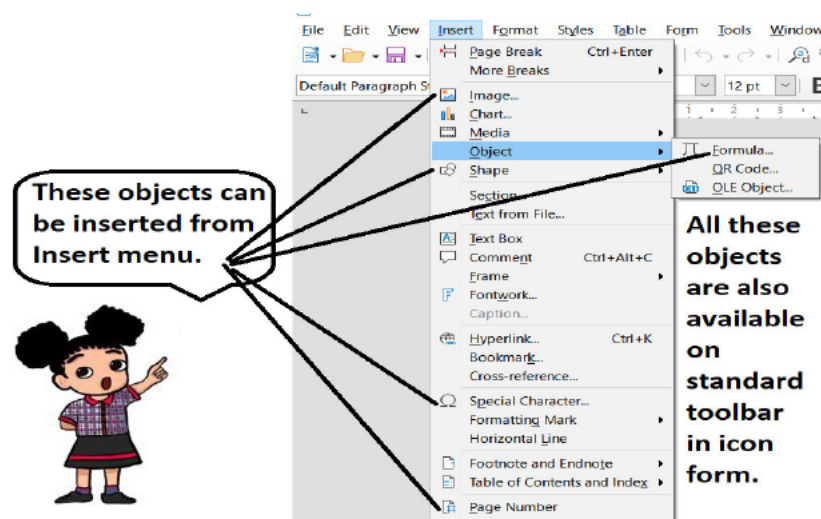


Fig 6.2



6.2.1 Images: This option will open the location of files of your system. You can choose as per your choice.

6.2.2 Shapes: Different categories of shapes are available in writer as shown in fig 6.3.

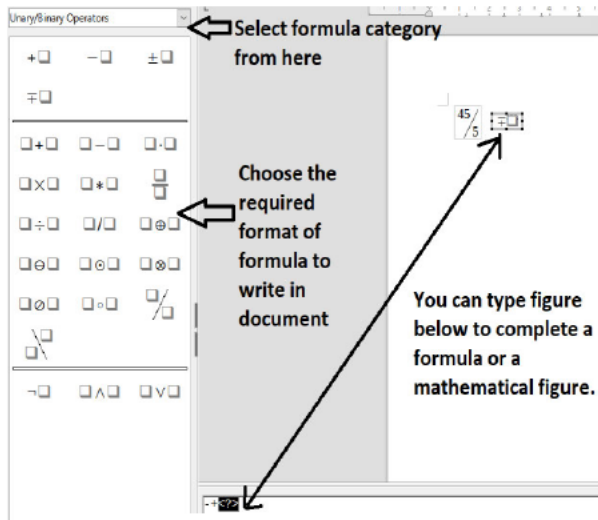


Fig 6.3

6.2.3 Formulas: To prepare mathematical and scientific documents you may need to insert one or more formulas. Click formulas and window appears as shown in fig 6.4.



Fig 6.4

6.2.4 Page numbers: This option insert the current page number at the cursor position in the page.

6.2.5 Special Characters: Various special characters are available in writer which can be inserted in document from box as shown in fig 6.5. Scroll down for more characters.

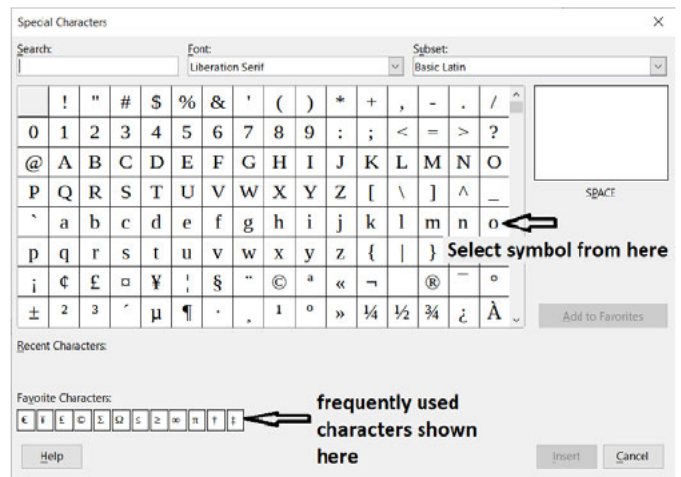


Fig 6.5

Try Now- Can you find the square root symbol in writer?

6.3 FORMATTING SHAPES AND IMAGES

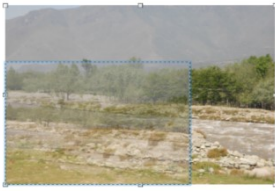


We had some options to move, resize and rotate shapes and images in impress. Do we have all of them in writer.

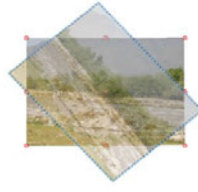
Why not. Go ahead and try them all.



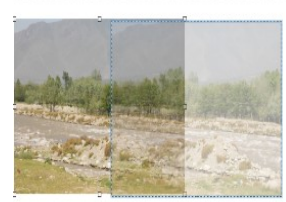
You are already aware with the formatting of images and shapes. You can Move, resize and rotate your shapes and images.



Resize
Fig 6.6



Rotate
Fig 6.7



Move
Fig 6.8

Steps are as following:

- I. Insert the required image or shape in your document.
- II. Select the image / shape. Selection handle gets appeared.
- III. Put the cursor on appropriate selection handle and apply the required formatting as shown in above fig 6.6, 6.7, 6.8.

Try Now- Are the selection handles during selection of image and during rotation remains same? Observe.

6.4 PRINTING A DOCUMENT




Now, you are ready to print your document.

text etc.

You can print the document you have prepared along with all the objects you have used in your documents like images, shapes,

To print a document steps are as following.

Click on File -> Print option or press Ctrl + P.

- i. A dialogue box gets appeared as shown in fig 6.9.
- ii. Select the printer attached with your system.
- iii. Select other options like page numbers, no of copies
- iv. After all settings click print. You will get the hard copy of your document.
- v.  icon on the standard toolbar will help you to take print of all pages of your document directly without going for any settings.

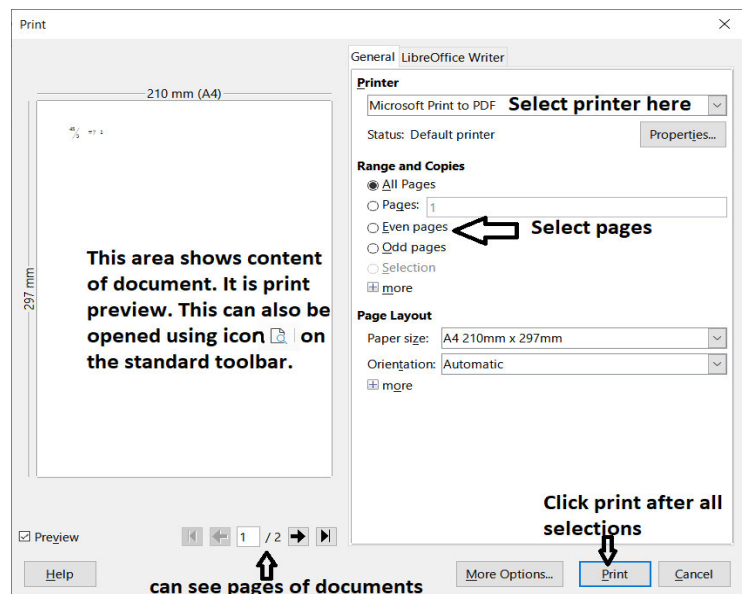


Fig 6.9

Try Now- Give background colour to your page. Now give print command. How is your printout?

Let us Revise:

- Templates are the sample fill in the blank documents which can be updated.
- Images can be inserted from any file.
- Shapes are pre-defined in writer.
- Formulas are used to make mathematical and scientific expressions.
- Page numbers are used to insert page no in current page at cursor location.
- Special characters provide various symbols.
- An image and shape can be resized, rotate, moved.
- Ctrl+P is the shortcut to print a document.

Exercise

Something to know

A. Answer the following questions.

1. Write any two advantages of template?
2. Aryan inserted the following image in her document. She felt it is not in proper view. What can be the solution?
3. Explain page number option.
4. How templates can be useful to write an invitation of a birthday party to a friend?
5. Anita has to prepare her assignment of mathematics.



She is not able to type the expression $5 \neq 6 = 6$. Suggest her the way to complete this.

B. Fill in the Blanks.

- i. On selecting the image / shape _____ gets appeared.
- ii. Ctrl+P is used to take _____ of document.
- iii. Used characters in document are represented in _____ in special characters.
- iv. Formatting of image includes _____ of image. (insert / resize)
- v. Shapes are available in _____ menu.


C. Match the following

a) shapes and images can be	p) Special characters
b) Formula is available in	q) save as template
c) ¥ sign can be inserted through	r) Print Preview

d) to make your current document as sample for future	s) rotate and resize
e) to see how document will look after printing	t) Objects option

D. Select the right option

1. You can insert _____ in your document.

a. table	<input type="checkbox"/>	b. H ₂ O	<input type="checkbox"/>
c. 	<input type="checkbox"/>	d. all of these	<input type="checkbox"/>

2. An image cannot be _____ in writer.

a. reverse	<input type="checkbox"/>	b. copy	<input type="checkbox"/>
c. rotate	<input type="checkbox"/>	d. resize	<input type="checkbox"/>

3. Pre-defined formats in writer are known as _____

a. File	<input type="checkbox"/>	b. shapes	<input type="checkbox"/>
c. Templates	<input type="checkbox"/>	d. All of these	<input type="checkbox"/>

4. _____ option is not available in formulas.

a. operators	<input type="checkbox"/>	b. list	<input type="checkbox"/>
c. functions	<input type="checkbox"/>	d. brackets	<input type="checkbox"/>

5. Print can be taken _____.

a. of all pages	<input type="checkbox"/>	b. of even numbered pages	<input type="checkbox"/>
c. of odd numbered pages	<input type="checkbox"/>	d. All of these	<input type="checkbox"/>

E. State whether following statements are True or False.

- We cannot take print out of selected pages.
- Page number option inserts page number at every page in one click.
- Formulas are used to write mathematical expressions in writer.
- Favorite characters in special characters represents most frequently used symbols in document.
- Templates can be chosen from the file copied from other system .

SOMETHING TO DO IN LAB

- 1) Prepare a document. Insert at least three shapes and two images of your choice.
- 2) Resize the image you have entered to larger size.
- 3) Prepare a document and type features of writer. Insert page number in every page.
- 4) Save the above document as template.

7. USE OF INTERNET



7.1 History of Internet

7.2 Intranet & Internet

7.3 Requirement of Internet

7.4 Application of Internet

7.5 Downloading file from google drive

7.6 Uploading file/folder to google Drive

7.7 Blog

Introduction

We live in the age of the internet. It has become popular and an important part of our life. The Internet was not invented overnight; it took a lot of time to work in this world. The internet is the integrated work of many scientists, programmers and engineers etc.

7.1 History of Internet

ARPANET stands for Advanced Research Projects Agency Network, experimental computer network that was the forerunner of the Internet. The Advanced Research Projects Agency (ARPA), an arm of the USA army gave the money to the development of the Advanced Research Projects Agency Network (ARPANET) in the late 1960s.

1981: The National Science Foundation got a grant to establish the network among the university campus.

1990: Tim Berners-Lee develops Hyper Text Markup Language (HTML).

1991: European Council for Nuclear Research introduces the World Wide Web in public domain.

1992: The first multimedia (audio & video) file is distributed over the Internet. The phrase "surfing the Internet" is popularized.

2016: Google introduce Google Assistant, voice-based personal assistant software. Google introduce Amazon's Alexa, Siri from Apple, and Cortana from Microsoft.

7.2 Difference between internet and Intranet

Internet:

The Internet is used to connect different networks of computers simultaneously. It is a network and publicly anyone can access it. On the internet, there are multiple users and it provides an unlimited information to the users through sharing.

Intranet:

Intranet is the type of internet which is used privately. Intranet is a private network therefore all can't access intranet. In intranet, there are a limited number of users and it provides a limited access to its users as it is administered by system admin.

7.3 Requirement of Internet

The requirement for connecting the Internet are computer/smart phone, an Internet line and the modem (inbuilt in mobile) for that Internet line. Other than these devices, software programs such as Internet browsers, email clients, Usenet clients and other special applications are needed in order to access the Internet.

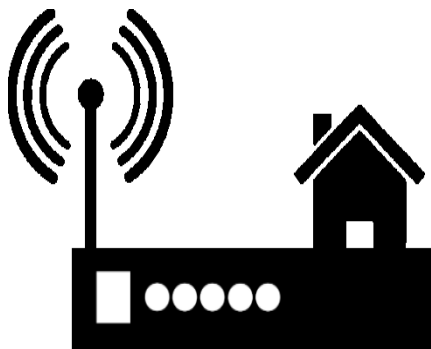


Fig. 7.1: Requirements for Internet

1. Computer : Machine used to send and receive electronic documents via internet
2. Modem (Modulator & Demodulator): Device that transmits analog signal through telephone lines.
3. Telephone lines/Cable Lines: used to transmit signals from one computer to another with the help of modem.
4. Internet Service Provider (ISP): ISP provides an Internet connection e.g. MTNL, Airtel, Vodafone, Jio or any local broadband service provider.
5. Web Browser: Software program used to navigate the Internet. e.g. Google Chrome, Microsoft Edge, Mozilla Firefox, Opera etc.

7.4 Application of Internet

The internet is treated as one of the biggest inventions. It has a large number of uses.



Fig. 7.2: Internet Applications

1. Communication :

Communication means to share the information, ideas, or simply words over the World Wide Web, or the Internet.

2. Education :

The Internet in Education has been incredibly useful as it facilitates both information and communication. Students can view free video lectures online and refer to encyclopedias and study material in multimedia formats; teachers can make their lessons interesting by incorporating online-based projects in their study plans.

3. Business :

Companies are collecting the information by tracking the browsing history of user and show various offers to customer. New and innovative online business models are coming. Everyone is searching for online business ideas. Persons are working from their home for companies around the world. Business information is faster than ever. The internet is the backbone of the online business.

4. Entertainment :

Entertainment is one other sector that has gained a lot from the internet. These days, more people consume most of their entertainment over the web rather than having to go to traditional entertainment avenues such as theatres. Movies, music and games etc.

5. Medicine :

Internet is also used for getting medicines online. We can order medicines by uploading the Doctor's prescription and may also get some discount over online medicine order.

7.5 Downloading file from google drive

Step 1: Log in on google your drive account by <https://drive.google.com/>

Step 2: Click a file to download.

Step 3: Next right-click and click Download.

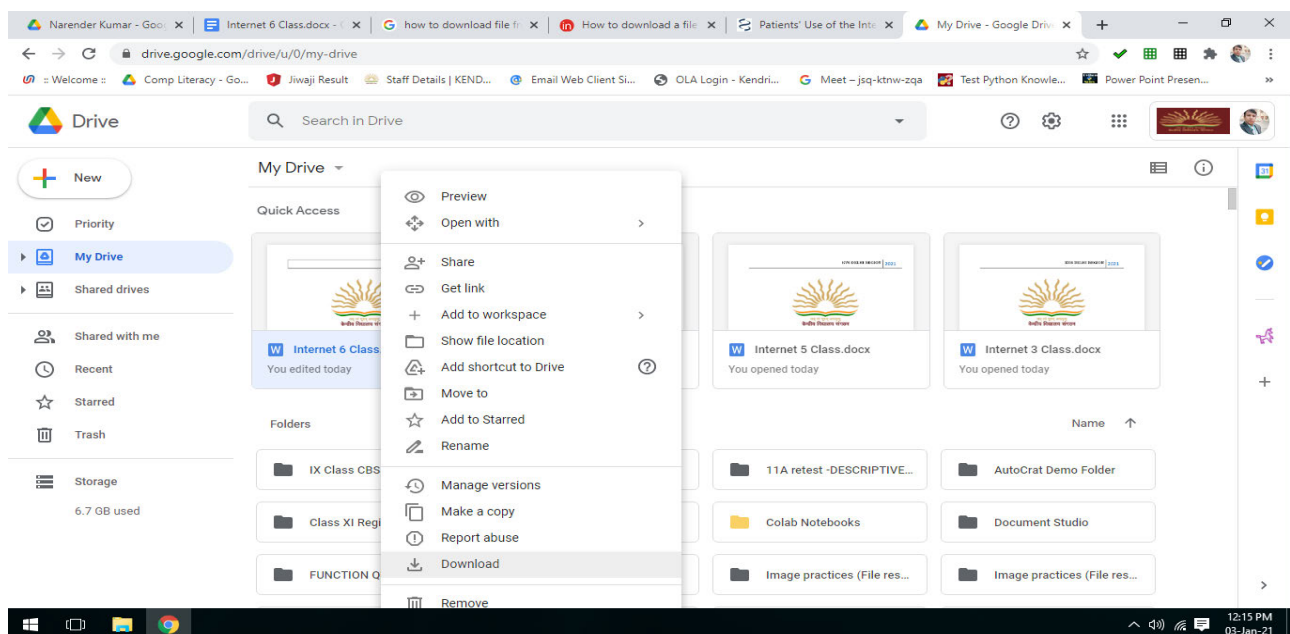


Fig. 7.3: Uploading a file

7.6 Uploading file to google Drive

You may upload, view, share, and edit files with Google Drive. When you upload any file to Google Drive, it will take up space in your google Drive account, even if you upload to a folder owned by someone else.

Types of files

Documents
Images
Audio
Video

Note: Maximum limit of upload data is 750GB a day as per based on your google account services.

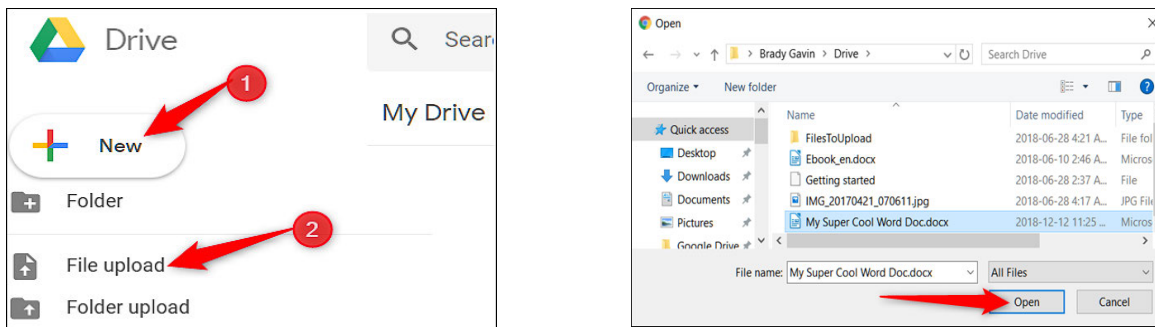


Fig. 7.4: Uploading file/folder to Google Drive

Method 1:

Step 1: Log in on your google drive account by <https://drive.google.com/>
Step 2: At the top left, click New and then File Upload or Folder Upload.
Step 3: Choose the file or folder you want to upload.

Method 2:

Drag files into Google Drive

Step 1: Log in on your google drive account by <https://drive.google.com/>

Step 2: Open or create a folder.

Step 3: To upload files and folders directly, select file or folder from your system drag and drop into the Google Drive folder.

7.7 Website Blogging

Blog

A blog is nothing but web site only which may be part of a website. Blogs are maintained by an individual or by group with entries of comments, descriptions of events, or other material such as images or video. Entries of blog displayed in reverse-chronological order.

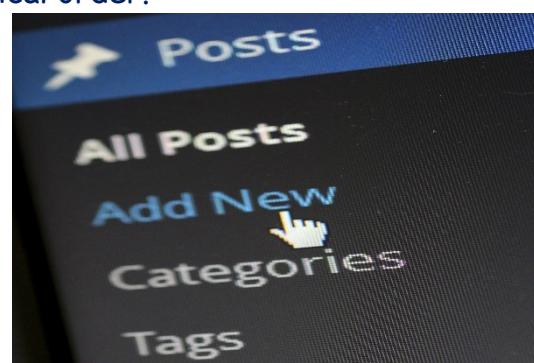


Fig. 7.5: Blog

- ☺ How to Make a Free Blog with WordPress?
- ☺ The very first step you should take is to strategize a little about your blog:
 - ☺ What is it going to be about?
 - ☺ Who is your intended audience?
 - ☺ What type of content are you going to post?
 - ☺ These will lead you to other details. For example, are you going to post every day? If so, you should make sure your blogging system has good mobile support. You may need to update something on the go.

Step 1: Select Start Your Website on the WordPress main page.

Step 2: Sign up for a free WordPress.com account. You have to enter an email ID that hasn't been used for a WordPress account.

<https://wordpress.com/start/user>

Step 3: Pick a username in the second text box. This should be unique and suggestion also displayed.

And choose a complex password that's difficult to break.

After filling the details, click on Create your account.

You can create blog fast by using your google/apple account by continuing .

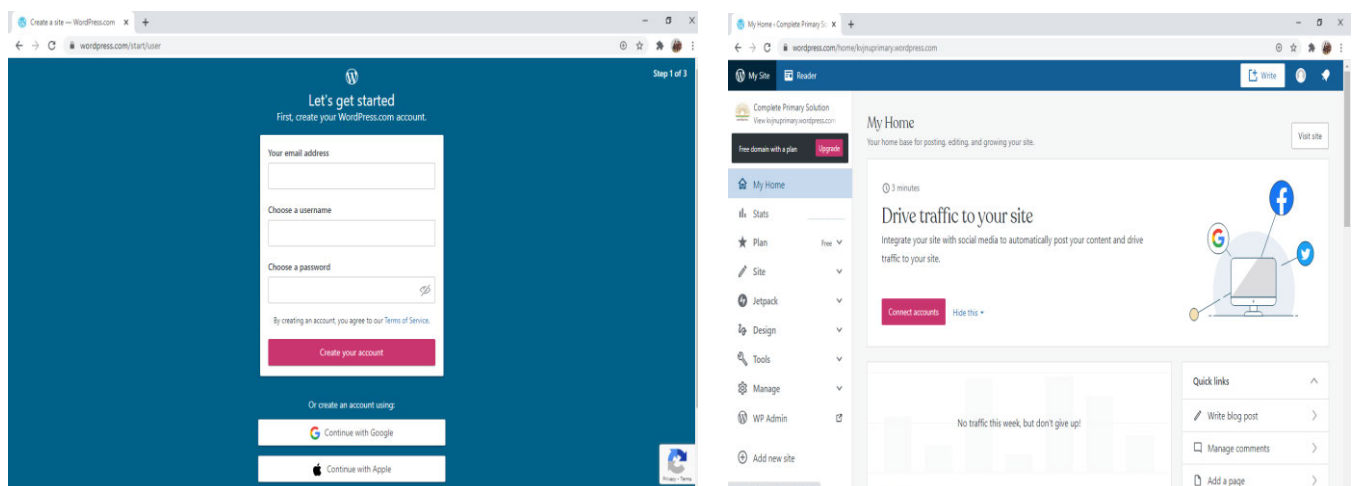
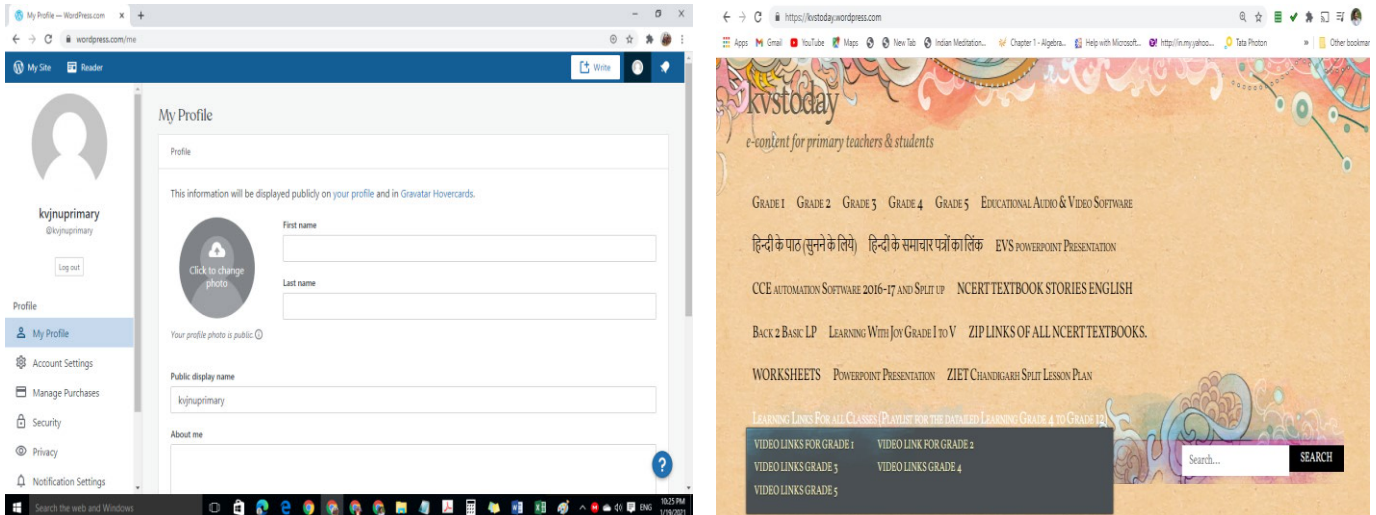


Fig. 7.6: Blog creation



Step 4: Now, you need to enter your blog information. Input interesting blog name for your blog in the first text box. This name of your blog is the attractive point of your blog. Make it reflect your blog interesting and unique.

To answer What will your site be about, enter words or phrases separated by commas. For example, home, kids, family, travel etc.

Step 5: Choose an address for your blog. Free WordPress blogs end with home. Blog, so the blog name you select precedes that URL and is what your viewers see when they visit on your blog. Enter whatever you want to use as your blog's URL. After the search box many top-level domain names are given but you have to select only one. Select the free option domain name with the Select button, and then click Start with Free on the following page to see your new blog.

After creation of your blog, it is verified by the email link that comes in your email by Blog website. Click on verify button, you will be greeted with a welcoming email and a few "getting started" steps WordPress recommends.

The window you see below is the primary display where you work on your blog. This is place for manage your blog's pages, media, comments etc.

Exercise Something to know

A. Answer the following questions.

1. What is ARPANET?
2. Differentiate between Intranet & Internet.
3. Write the requirements for the Internet.
4. Write any two applications on the Internet.
5. Why it is important to upload files on Google Drive.

B. Fill in the Blanks

1. ARPANET was designed in late _____ year.
2. _____ is the type of internet which is used privately.
3. The Device convert Analog signals into digital & Vice versa is _____
4. _____ provides the Internet connection to their Customer.
5. _____ are usually maintained by an individual with regular entries.

C. Match the Following:

1. ISP	a) Email, Video conferencing etc.
2. Modem	b) To download a file from Google drive to your system
3. Downloading	c) Internet Service Providers
4. Application of Internet	d) Modulator and Demodulator

D. Select the correct answer for each question :

1. ARPANET was _____.
(a) School Group (b) US defence project (c) Google Project (d) Science
2. Entries are commonly displayed in reverse-chronological order called _____.
(a) Google (b) Microsoft (c) Yahoo (d) Blog
3. _____ is used to access websites and hypertext data.
(a) ISP (b) Web browser (c) Webpage (d) Email
4. Which is not an application of the Internet?
(a) Physical Test
(b) Entertainment
(c) Business
(d) Communication

E. State True or False

1. By Video conferencing we can share Text, Voice and Video.
2. The first audio and video are distributed over the Internet in 1992
3. We cannot earn money by creating a blog.
4. Modem is not essential for Internet connection.
5. We can upload documents, Video, Audio files on Google Drive.

SOMETHING TO DO

1. Find the Intranet connection near you.
2. Create a blog of your interest on wordpress.com and make it interacting.

APPENDIX

ANSWERS

Chapter 2 - Python Turtle

A. Answer the following questions:

1. Canvas of Python turtle graphics means the screen of the Python turtle which is created for displaying the graphical images.
2. We use turtle to make shapes of various dimensions, colors and fills.
3. We require to set up Python turtle screen so that a drawing area or canvas on computer is started where our figures will be drawn.
4. Home position means the starting position of the turtle pen. It is the coordinate 0,0 in reference to the four quadrants that we have for the canvas. There are four quadrants in the Python turtle screen.
5. We change the direction of turtle by using turtle.rt(n) , turtle.lt(n).

B. Fill in the blanks:

1. Four
2. Program
3. Points
4. Classic
5. left and right

B. Match the following:

- A - 4
- B - 5
- C - 1
- D - 2
- E - 3

D. Select the correct answer for each question:

1. c. diameter
2. b. bd()
3. b. filled circle
4. d. both a and c
5. c. 10

E. State True or False.

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

Something to Do:

1. We can position the turtle to any x,y location. Use the following command to go to any coordinate wrt home.

```
>>>turtle.goto(x,y)
```

e.g. turtle.goto(10,20)

2. Turtle.up() can be used to stop all drawing on the screen, cursor can still be placed at any location. Drawing will resume when you call turtle.down() again
Turtle.clear() can be used to clear the entire screen area. Try it as the last command.

Chapter 3 - Impress

A. Answer the following questions

1. Notes View can be used to write points.
2. Slide pane shows thumbnail view of all slides along with normal view of selected slide. Whereas slide sorter view only shows thumbnails of all slides.
3. Click insert on standard toolbar -> Audio or Video -> choose file.
4. This happened because two images are grouped together. Select both, Click on format ->Group-> Ungroup.
5. font, border, background etc

B. Fill in the Blanks

- i. left, right ii. Ungroup iii. Split iv. Normal v. Slide show

C. Match the following

a) Audience cannot see	s) Notes in slide
b) Gradient is a part of	r) Background of table
c) holding shift key and clicking on shapes	t) select all shapes together
d) Best way to represent time table of anything	p) Tables
e) Font effects in table properties	q) applied over text in table

D. Select the right option

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

E. True/False

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

Chapter 4 - Calc

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

II Format cells	Ctrl+1
Insert cells	Ctrl++
Clear cells	Backspace
Delete cells	Ctrl+-
Data	Sort

- III 1. Sort
2. AutoFilter
3. Show sheet
4. Sheet
5. Format

- IV 1. AutoFilter
2. Sort descending
3. Merge cells
4. Select Sheet-> Insert sheet at the end
5. Format Menu

Chapter 5

A. Answer in one word or one line.

1. Abacus
2. Second Generation
3. Electronic Numerical Integrator And Computer
4. Fifth Generation
5. Charles Babbage

B. Fill in the Blanks

1. Assembly
2. fourth
3. IBM
4. John Napier
5. MARK-1.

C. Match the Following.

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

D. State True or False

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

Chapter 6 - Writer**A. Answer the following questions**

1. It saves time, it gives an idea to create a document or any two
2. Select the image. Click on rotate and Rotate the image.
3. This is used to insert page number anywhere in the document.
4. Use the template of invitation. Just write your friend's detail and party details and use.
5. Use insert->objects->formulas

B. Fill in the Blanks

- i. Selection handle, ii. print, iii. favourite characters iv. resize v. insert

C. Match the following

a) shapes and images can be	p) rotate and resize
b) Formula is available in	q) Objects option
c) ¥ sign can be inserted through	r) Special characters
d) to make your current document as sample for future	s) save as template
e) to see how document will look after printing	t) Print Preview

D. Select the right option

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

E. True/False

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

Chapter 7**A:**

1. Ans. ARPANET, in full Advanced Research Projects Agency Network, experimental computer network that was the forerunner of the Internet. The Advanced Research Projects Agency (ARPA), an arm of the U.S. Defense Department, funded the development of the Advanced Research Projects Agency Network (ARPANET) in the late 1960s.

2. Ans.
Internet:

The Internet is used to connect different networks of computers simultaneously. It is a public network therefore anyone can access the internet. On the internet, there are multiple users and it provides an unlimited number of information to the users.

Intranet:

Intranet is the type of internet which is used privately. It is a private network therefore anyone can't access intranet. In intranet, there are a limited number of users and it provides a limited number of information to its users.

3. Ans. To connect to the Internet you need the following four things:
- (i) A computer
 - (ii) A modem and telephone line (if you are using dial up access)
 - (iii) A data line of some sort (if you are not using dial up access)
 - (iv) An Internet browser (software) and software to connect you to the ISP
 - (v) An account with an Internet Service Provider (ISP) Souvenirs
4. Ans. The Internet has many important applications. Of the various services available via the Internet, the three most important are e-mail, web browsing, and peer-to-peer services.
- (i) Education
 - (ii) Entertainment
5. Ans. It is important to keep files on Google drive because it provides backup of our file if deleted , Protect Against Hackers and Malware. It's Easier to Share and Access Files.

B. Fill in the Blanks

1. 1960
2. Intranet
3. Modem
4. ISP
5. Blogs

C. Match the Following.

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

D. Select the correct answer for each question.

1. B
2. D
3. B

4. A

E. State True or False

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



तत् त्वं पूषन् अपावृणु
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