

TECHNOFUN

COMPUTER LITERACY CLASS V



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

ACKNOWLEDGEMENT

I hereby acknowledge the contribution and counsel of *Smt. Poonam Mallik*, Assistant Commissioner (KVS Delhi Region) as Chief Coordinator with Content Development Team and *Sh. Sanjit Kumar*, Assistant Commissioner (KVS Delhi Region), *Smt. Shilbala Singh*, Assistant Commissioner (KVS Delhi Region) for their regular support and inputs during various meetings.

I also acknowledge the efforts of *Mr. Pravin Kumar*, Administrative Officer (KVS Delhi Region) and *Ms. Shivani Suneja*, Finance Officer (KVS Delhi Region) for helping in Printing and Publishing.

I gratefully acknowledge the contribution and determination of *Ms Monika Batra*, Vice Principal, Kendriya Vidyalaya Janakpuri as Regional Coordinator and co-author and the authors - *Ms. Ashu Aneja*, PGT CS, KV Paschim Vihar, *Ms. Khushboo Aggarwal*, PGT CS, KV AGCR, *Ms. Kanchan Khurana*, PGT CS, KV Sainik Vihar, *Mr. Narender Kumar*, PGT CS Sec 8 R K Puram, *Ms. Kanika Aggarwal*, PGT CS KV Vigyan Vihar in content development.

The contributions of *Mr Rajnish* (VP), Kendriya Vidyalaya Delhi Cantt No 1 and *Ms Anuradha Sharma*, PRT, KV RKP are acknowledged for reviewing the manuscript of the series.

The untiring efforts of *Ms Monika Batra*, (VP), *Kendriya Vidyalaya Janakpuri*, *Mr. Avdhesh Kumar Lawania*, PRT, KV JNU, NCERT Br. for formatting, editing, compilation and final review is highly acknowledged.

Finally, with great pleasure, I acknowledge the contribution of *Master Ansh Kumar*, Class XII B (Session - 2020-21), KV Janak Puri for book cover and graphics (Gowri and Aryan).



(Nagendra Goyal)
Deputy Commissioner

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SYLLABUS

CLASS 5

Quarter - APRIL to JUNE

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		4.2	Difference between WWW & Internet
		4.3	Creating Google Account
		4.4	E-mail
		4.5	Safe Internet browsing tips
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			5.1.1 "Create clone of ..." block
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			5.5.1 "go to" block
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1. MAKING AN IMPRESSIVE PRESENTATION



- 1.1 Drawing Tools
- 1.2 Master Slides
- 1.3 Working with Slides
- 1.4 Slide Animation
- 1.5 Slide Transition

Gowri and Aryan are so excited to come to computer class in new session. They have learnt so much about libre office, Tux Paint and Scratch in previous classes and want to explore more. So they decided to reach out to their teacher who welcomed all students to New Class.

Teacher: - Welcome everyone to new class. Let us explore more in LibreOffice Impress. Let us start with exploring drawing tools. Please open drawing toolbar everyone.

1.1 DRAWING TOOLS

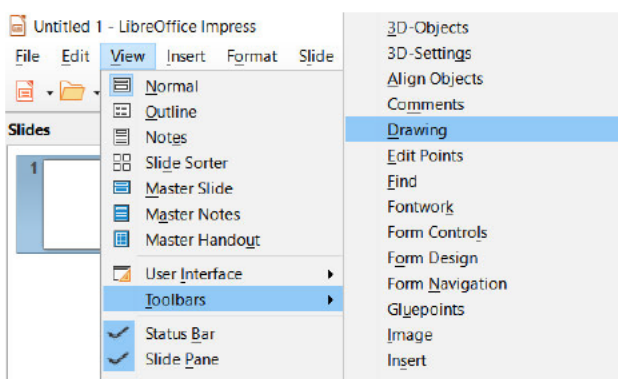


Fig 1.1

Aryan :- Have you opened the drawing toolbar.

Gowri :- You can open Drawing Toolbar by clicking View-> Toolbar -> Drawing as shown in Fig1.1.

Aryan - Here we have same options as in writer to draw circle, arrows, symbols etc.

Gowri :- Yes. Let us ask our teacher about all options.

Teacher then told them about the options in drawing toolbar as labeled below.

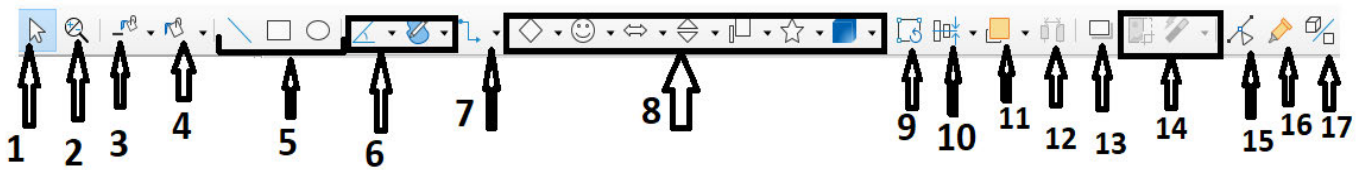


Fig 1.2

1. **Select:** This Option is used to select anything on the slide just as we select by clicking on it with mouse.
2. **Zoom & Pan:** This option will help you to Zoom out any object. With Pan you can easily see the zoom objects area by moving the screen.
3. **Line Colour:** To give colour to boundary lines of selected object.
4. **Fill Colour:** To fill the colour in selected object.
5. **Line, rectangle, ellipse:** To draw these shapes.
6. **Arrows & Curves:** These options (fig 1.3) provide you different types of arrows and curves shapes to draw.
7. **Connectors:** Used to connect two objects through glue points.

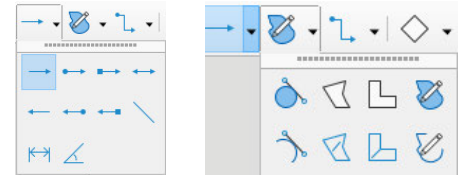


Fig 1.3

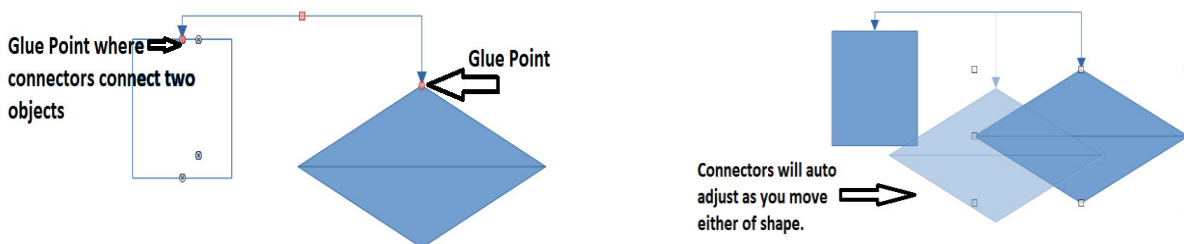


Fig 1.4

8. **Shapes to draw:** As available you can draw shapes.
9. **Rotate:** To rotate shapes.
10. **Align:** Alignments for the shapes. These work same as alignments for text we have used in previous class. See fig 1.5
11. **Arrange:** To arrange a shape in respect to other shapes like in back, in front etc. as shown in Fig 1.6



Fig 1.5

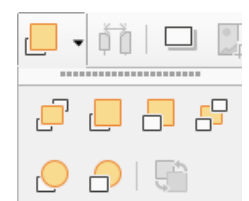


Fig 1.6

12. Distribution: To distribute the shapes.

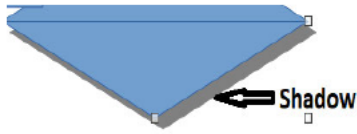


Fig 1.7

13. Shadow: To toggle shadow of selected object on / off.

14. Crop and Filter: These options are used over images only.

15. Points: To show selection points of a shape / image.

16. Show Glue points functions: When you click on this option a menu bar opens. This contains options to shift glue points of image.



17. Toggle Extrusions: This is used to move object in shapes like extrusions. A menu gets opened when you click on this. These options will help you to add 3D effects.

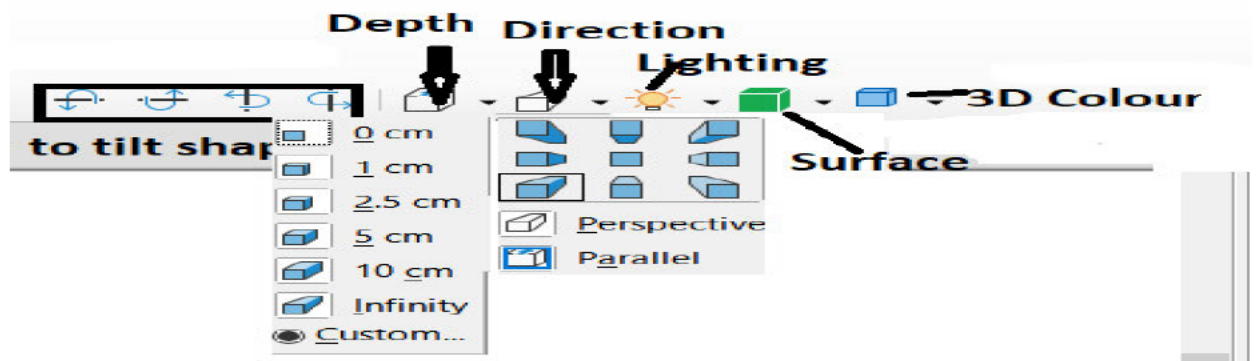


Fig 1.8

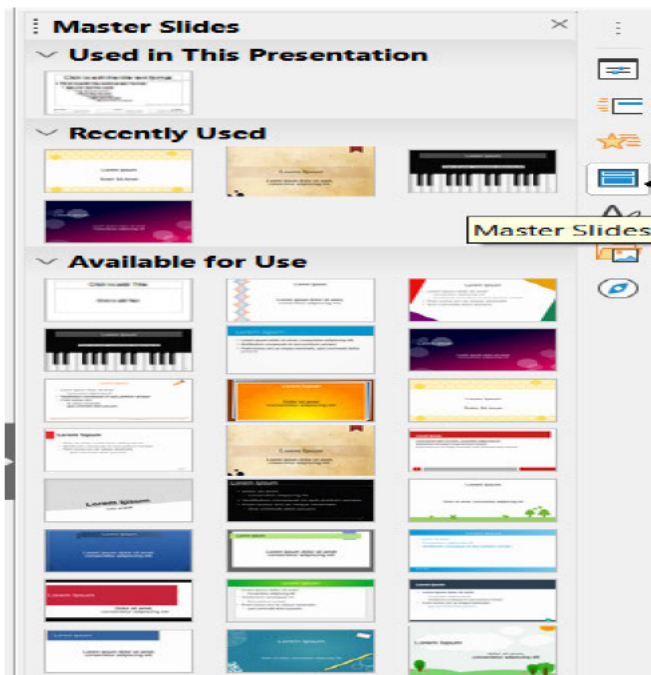
Try Now- Insert any two shapes in your slide. Then connect two shapes with a connector. Then apply direction extrusion. Observe the difference between two shapes

1.2 MASTER SLIDES



We can also use Master slide to make our presentation even more attractive

Master Slides contains Master Pages which work like background for your slides as themes



Click on master Slides in Task pane. All Master Pages will get opened.

These Master Slides help you to set the theme for your slides in the background.

Can be applied over all slides or you can choose different for each slide

Fig 1.9

Gowri and Aryan were very surprised and happy to see these themes. But they were confused about the three sections Master pages were divided.

Teacher then explained about three sections in Master Slides:



Used in this Presentation: This section contains the pages which you will use in your current presentation. As soon as you will select any master page it will be displayed in this section.

Recently Used: It shows you the pages which you have used in your previous presentations recently.

Available for use: This section shows all available Master Slides or Master pages in the Impress.

Examples of Master Slides

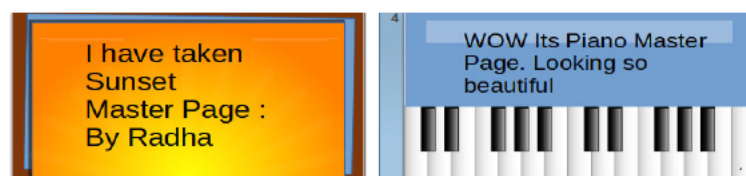


Fig 1.10

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 you are getting in recently used.

1.3 WORKING WITH SLIDES

Students, you have learnt how to apply various themes on slides. Also how to draw shapes and alter them. Let us learn some functions on slide.

Do you know we can apply move, rename and duplicate functions on slide?



1. Moving a Slide:

Position of a slide can be changed through Drag & Drop and

Cut & Paste method.

a) Drag and Drop

b) Cut & Paste:

Simply cut the slide you want to move using Ctrl+X and paste at new position by pressing Ctrl+V



Fig 1.11



Fig 1.12



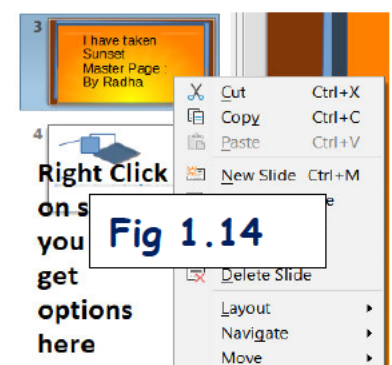
Fig 1.13

.Copy a Slide: You can make a copy of existing slide using any of following

a) **Copy & paste** - Ctrl+C and Ctrl+V you are very well familiar with these. Right! Just apply.

b) **Drag & drop** - Similar to as discussed above in figure 1.11, 1.12 & 1.13

c) **Duplicate Slide** - Right click on slide and click on duplicate slide.



- 2. Rename a Slide:** Right Click on slide and click on Rename. Type a new name for your slide. Default names are like Slide1, Slide2 so on.
- 3. Delete a Slide:** Either select slide and press delete on keyboard or right click and delete.

Try Now- Make a copy of one of your slides using drag and drop. Then change the name of that slide to "copied with drag method."

1.4 SLIDE ANIMATION



What if I want my picture in slide to come first and then the text.

You can do so. In fact, you can sequence them with animated effect.



When we apply special effects on the contents of slide to make them move in specific way during slide show, then it is known as Slide Animation.

1. First select the contents that you want to animate by clicking on them

2. Selected content will be displayed here.

3. Select any animation of your choice from the list below.

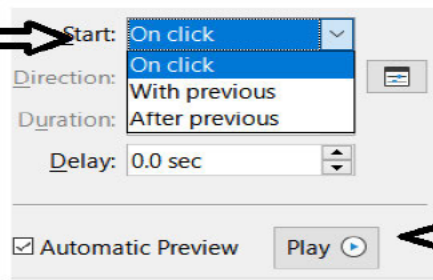
Fig 1.15.1

Fig 1.15.2



Make sure you are in Normal View. You can also find animation in format menu.

This shows options how you want your content to appear during slide show



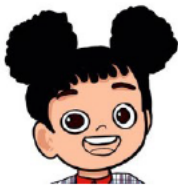
Can see preview of how content will actually appear during slide show

Fig 1.16



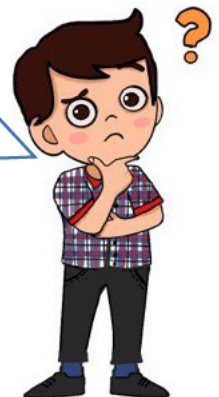
Try Now- apply animation on contents of a slide which you have copied recently. Now apply animation on contents of this slide. Observe during slide show the difference between animated slide and normal slide.

1.5 SLIDE TRANSITION



Hey Aryan, See my presentation. I have added transition from one slide to another. That is how one slide is removed from the screen and next slide comes or is displayed.

How did you do it? Do we call it slide transition? I saw one such option.



The visual effect of advancement of slides during the slide show is known as Slide Transition.

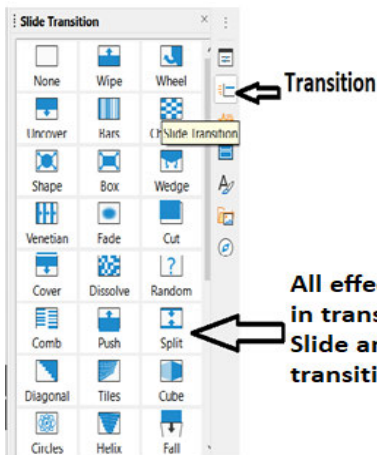
Aryan was very much surprised that so many options are available to make a slide beautiful and attractive.

He asked teacher to please tell from where we can apply transitions and how?

Teacher- Transitions are exactly same as on the content of slides. Only difference is that the transition is applied on a complete slide. Transition effects decide how a slide advances during slide show. see figure 1.17.1 & 1.17.2.

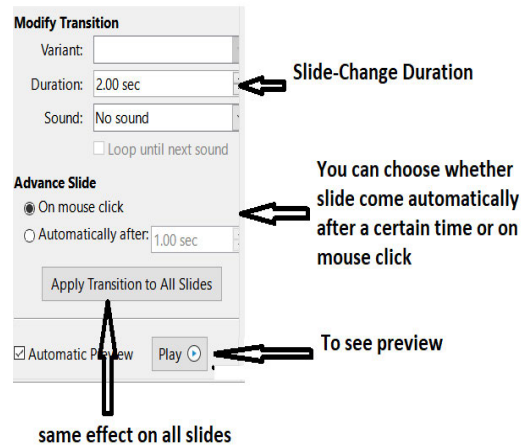


I found the slide transition option in view menu or we can press Ctrl + F5 to open side bar.



Transition

All effects are available in transition. Just select Slide and choose transition effect.



Slide-Change Duration

You can choose whether slide come automatically after a certain time or on mouse click

To see preview

same effect on all slides

Fig 1.17.1

Fig 1.17.2

Congratulations to ALL. An impressive presentation is ready for slide show.

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

Let us revise we have learnt:

- Drawing toolbar can be opened from view->toolbars->drawing.
- Shape related options are available like inserting shapes, give 3D like, Connecting two shapes etc.
- Master Slides are used to apply themes on the slides. These are also known as Master Pages.
- A Slide can be deleted, Renamed, moved, copied from slides pane.
- Slide animation are the effects applied over contents of a slide.
- Slide Transition are the effects of slide advancement.

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

- What is the difference between Slide Animation and Slide Transition?
- Mahesh has prepared a presentation to present in annual function of school. He does not want to click mouse every time to go to next slide. Could you help him so that no need of click would be there?
- Aarti wants to prepare the list of events going to be held in fun fair on Diwali. She prepares a slide having title, then two columns For headings name of events and duration in minutes. But on one slide only 6 event names can be entered. She needs one more slide to write but worried that she needs to repeat all settings of first slide in second? Can you help her in second slide same as that of first so that she has to do least efforts to prepare second slide?
- What is the purpose of Play button in animation & transition window?
- Write any two benefits of Master Slides.

B. Fill in the Blanks.

- i. Crop and Filter option is used over _____ only.
- ii. Default name of slide in a presentation in which already there are six slides will be _____ .
- iii. Through Zoom & Pan we can _____. (Zoom Out/ Zoom in)
- iv. Transitions are exactly same as that you have applied _____ on the content of slides
- v. _____ option is used to select anything on the slide.

C. Match the following

a) To move a slide	p) Templates, Master slides
b) Connectors connect the shapes	q) Pan is used
c) Line colour gives colour to	r) through glue points
d) to see zoom screen by scrolling	s) outline of objects
e) A presentation becomes more effective by using	t) Ctrl+X can be used

D. Select the right option

- i. To set themes / background of slides ____ can be useful.

a. Template		b. Master Pages	
c. Master Slide		d. All of these	

- ii. Default name is given to

a. a new file		b. a new slide	
c. both a & b		d. None of a & b	

- iii. Renaming a slide will change

a. Name of file		b. Layout of slide	
c. Name of slide		d. Title of slide	

- iv. Arrange option in drawing toolbar is used to arrange one shape

a. opposite to other shape		b. in front of other shape	
c. to the next page of other shape		d. All of above	

- v. Master Slides do not have _____ section

a. Used in this presentation		b. Used in last presentation	
c. Available for use		d. Recently Used	

E. State whether following statements are True or False.

- a) Slide transition can also be selected from slide option in menu bar.
- b) Once applied master pages cannot be changed.
- c) Master slides contains themes as of Templates.
- d) Drag & drop is used to change position only of a slide.
- e) Ctrl+X is not applicable over slide.

SOMETHING TO DO IN LAB

- 1) Draw at least five shapes in a slide. Connect them in order using five different connectors.
Try to move objects and observe the connectors.
- 2) Insert a new slide and draw an ellipse. Now try direction in ellipse using toggle extrusions.
- 3) Right click the above slide and make a duplicate slide of it. Insert three different curves in such a way that they make a closed figure. Rename this slide as "Curve slide".

2. LIBRE OFFICE CALC

2.1 View Menu

2.1.1 Toolbars

2.1.2 Formula bar

2.1.3 Status Bar

2.1.4 View Headers

2.2 Insert menu

2.2.1 Image

2.2.2 Chart

2.2.3 Shape

2.2.4 Function

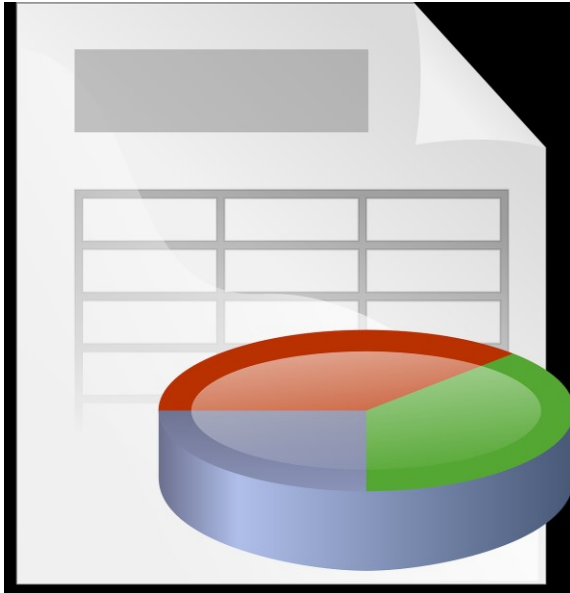
2.2.5 Textbox

2.2.6 Date and Time

2.3 Format Menu

2.3.1 Format Text

2.3.2 Align Text



Aryan:- Gowri, I was checking out my table we made last year for food liked by our friends. Can we do some formatting in it and explore it more.

Gowri :- Yes, Let me tell you about some other menus and different options associated with them. Let us work on a table with our classmates and details of food items liked by them. Check out the table again.

CLASS V A					
SNO	NAME	LIKED FOOD ITEMS	QUANTITY	RATE IN RS (PER PLATE)	TOTAL
1	AMITA	RAJMA RICE	2	120	240
2	ANANYA	CHHOLE BHATURE	2	150	
3	AAKRITI	PIZZA	3	300	
4	BHAVYA	PASTA	4	90	
5	RITU	SAMBHAR VADA	1	160	
6	SNEHA	MANCHURIAN WITH NOODLES	2	220	
7	NEHA	MASALA DOSA	4	170	



2.1 View Menu

The View Menu is the third menu located on menu Bar. It has various options associated with it. Each menu has various submenus associated with it. Let me tell you about some options as we may not be using all at this stage.

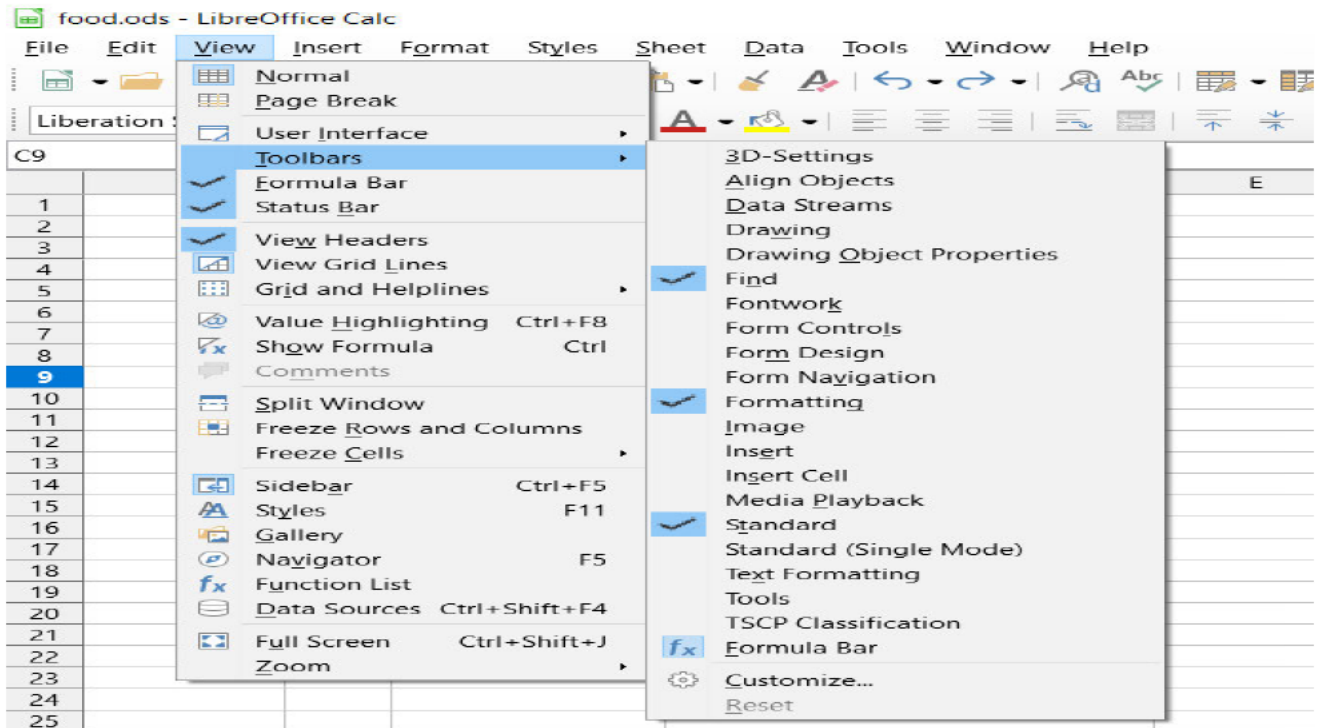


Fig 2.1

2.1.1 Toolbars

As you can see various toolbars on the spreadsheet. We may add or remove any more toolbar as per our need from here like drawing toolbar, text formatting toolbars etc.

2.1.2 Formula bar

I have marked the formula bar in fig 2.2. It has a name box to its left where name of the cell is written. For naming a cell we put first column name/header then row number/header. In given below image G5 is selected, meaning G column and 5th row. The formula is written on the input line. The formula starts with '=' sign.

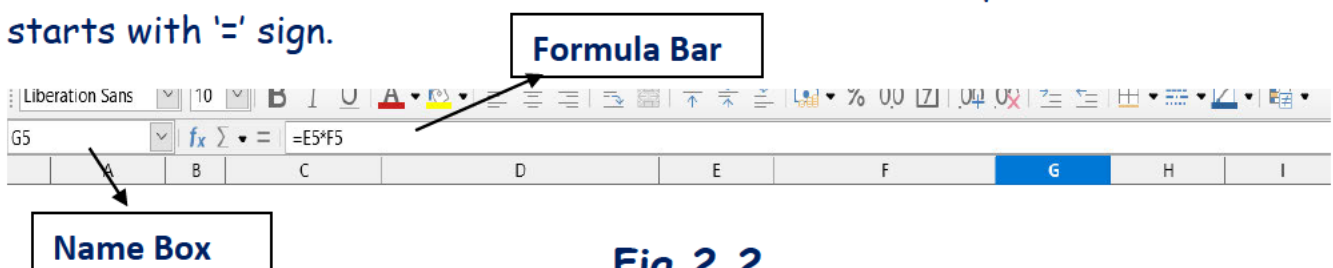


Fig 2.2

We can enter various formulas like for addition, multiplication etc. here. For example, in G5 here I have written E5*F5 meaning the value of E5 will be multiplied by F5 to give total cost, The benefit of using cell reference is that when we change the value in cell, the answer automatically changes.

2.1.3 Status

The status bar is situated at bottom of the window and shows status of the current sheet/file. We can also zoom in or out from here.

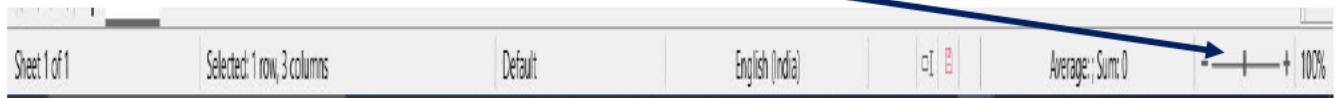


Fig 2.3

2.1.4 View Headers

This is to view column and row headers in LibreOffice Calc. This option of view menu is a toggle option (on/off). Toggle key that is used for turning a function on or off, or for switching between two functions. When it is on, the row and column headers are visible and when off, row and column headers disappear.

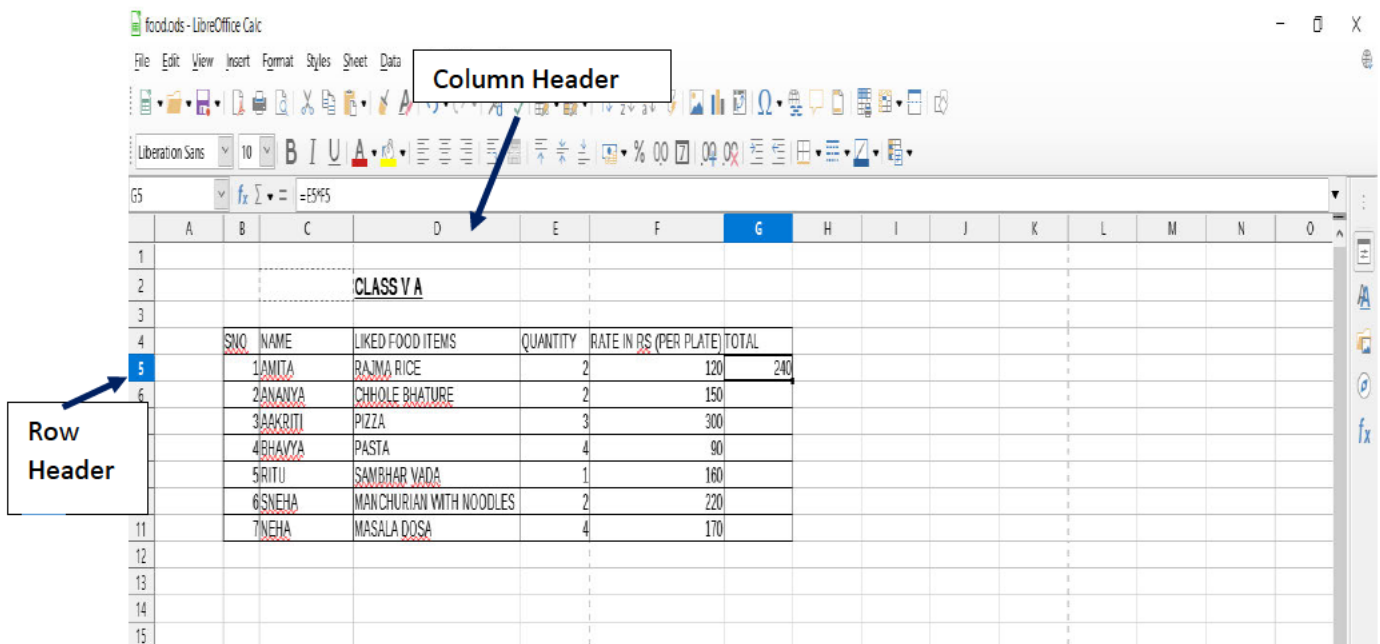


Fig 2.4

2.2 Insert menu

2.2.1 Image



Aryan :- Can I also insert image of various food items liked by our classmates.

Gowri: Yes, we can insert image from insert menu. Go to Insert Menu and Select the Submenu Image. It will then ask you to select image to insert. Why don't you try this.

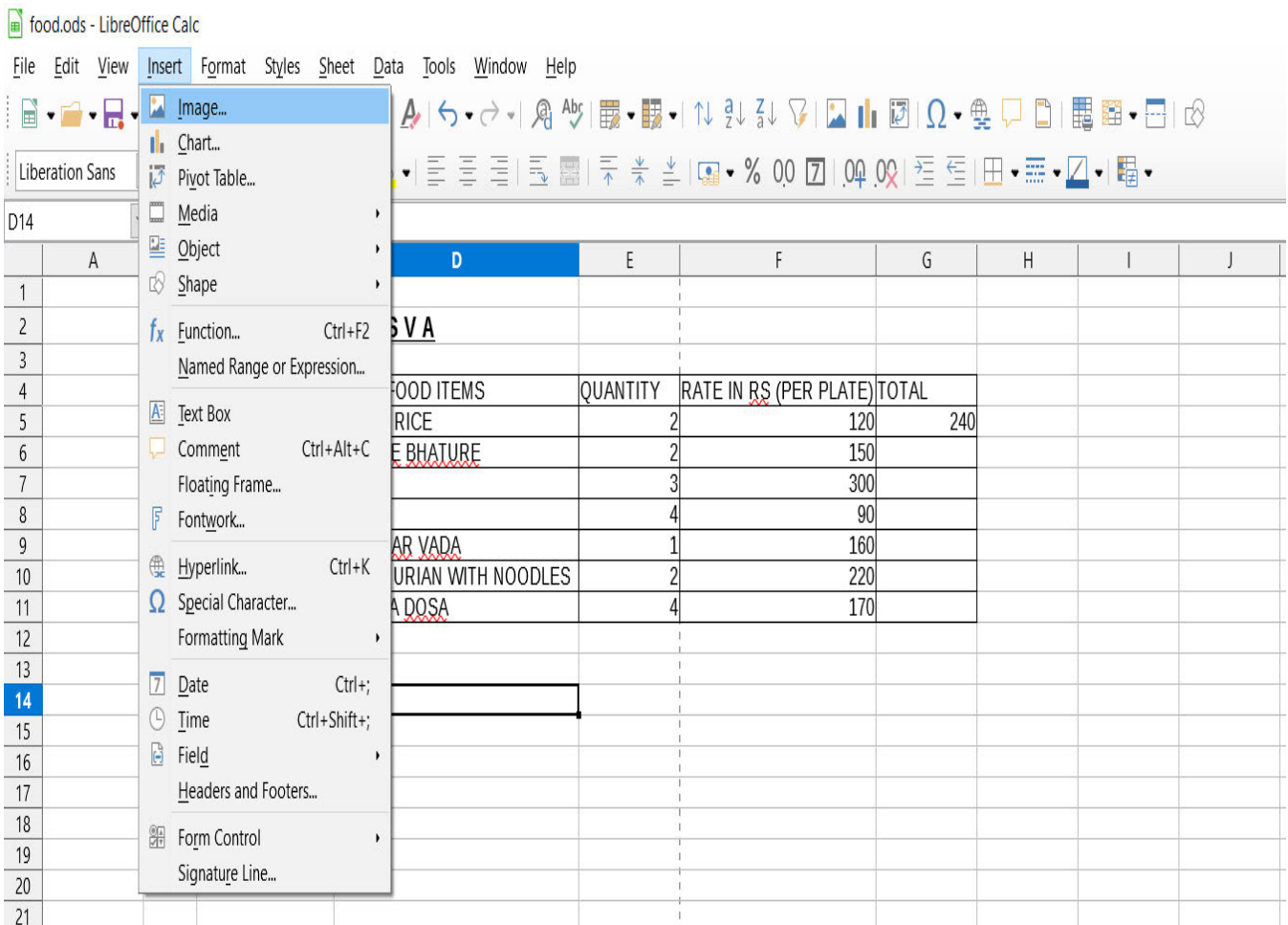


Fig 2.5

2.2.2 Chart

Gowri :- Do you know that we can represent data of table in visual form as in charts or graphs.

Aryan :- Yes, Through graphs we can see meaning behind numbers and see trends and comparisons easily. It is easier to understand as charts communicates information effectively. Please tell me how to do it.

Gowri:- Go to Insert Menu and select the Submenu Chart. In the figure given next, you can see that type of chart can be selected. Various shapes and 3D look can be selected. The last step is to click on Finish button.



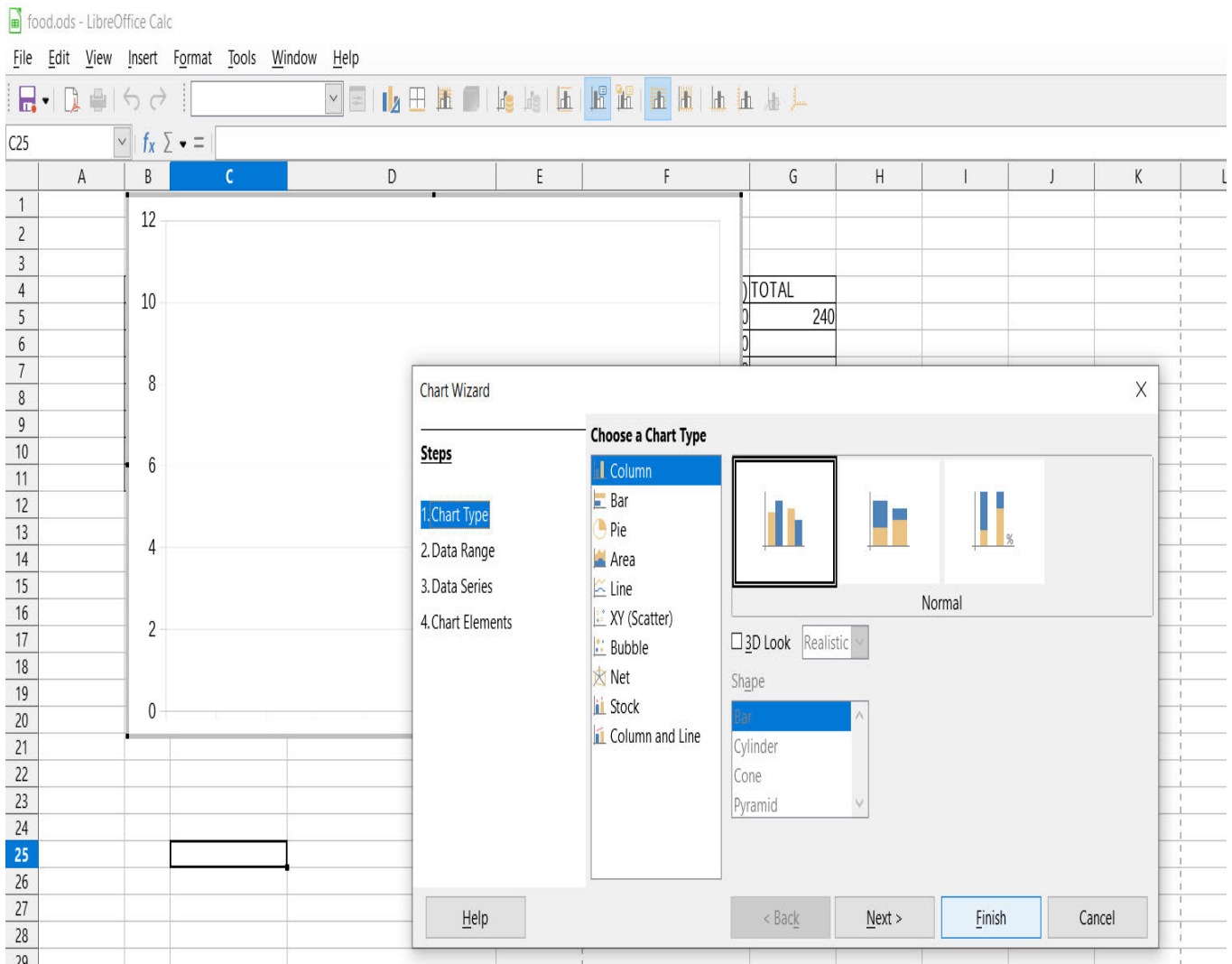


Fig 2.6

2.2.3 Shape



Aryan:- Tell me one thing, can we enter shapes (arrows, callouts, square etc.) like we did in writer and impress.

Gowri:- Yes, we have shape submenu for that in Insert menu as shown in the figure given below, you can see that various shapes can be inserted.



The shapes can be lines, basic shapes, block arrows, symbols, stars, banners, callouts and flowcharts etc.

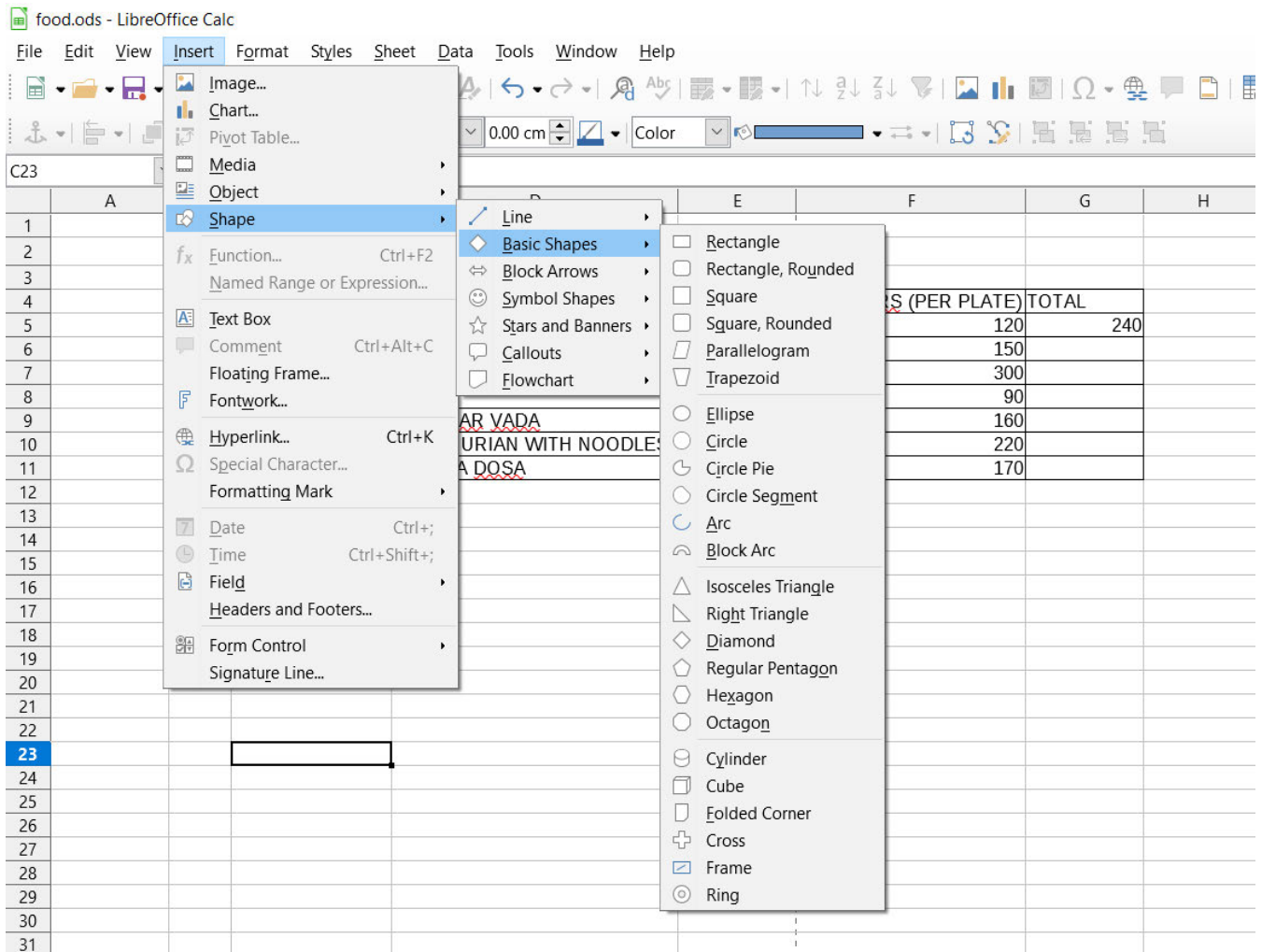


Fig 2.7

2.2.4 Function



Gowri:- There are various functions available to perform computation. For example sum function. Go to Insert Menu. Select the Submenu Function. Insert->

Function

In the figure given below, you can see that various functions can be inserted. The functions are displayed category wise. Alternatively, the function can be searched by name.

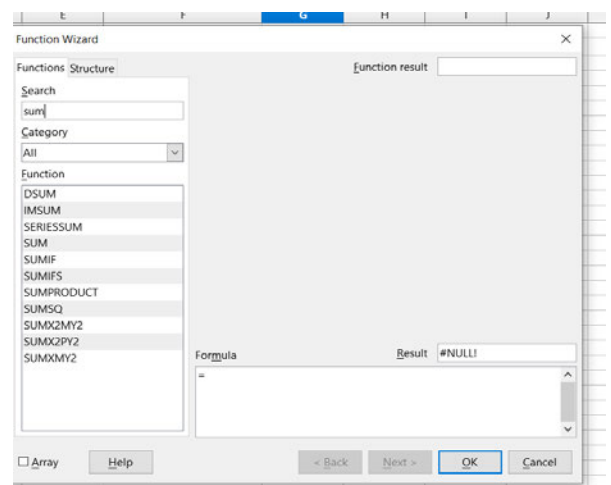
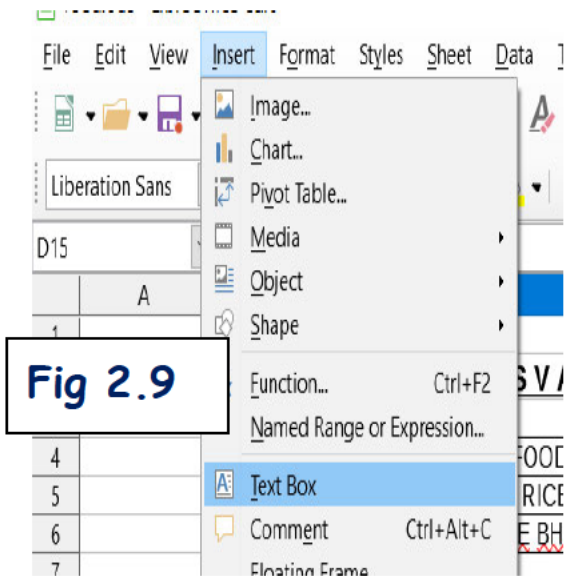


Fig 2.8



2.2.5 Textbox

Gowri:- Like shapes, you can also add textbox in your sheet. Go to Insert Menu. Select the Submenu textbox as in Fig 2.9. The cursor changes to crosshairs. Hold down the left mouse button and draw a text box.

2.2.6 Date and Time

Gowri:- We can enter current date and time as static value in cell by Insert -> Date. The shortcut key to insert date is Ctrl+; Time can be added as Insert -> Time. The shortcut key to insert date is Ctrl+Shift+; You can change the format of time by selecting Format Cells from Shortcut menu.

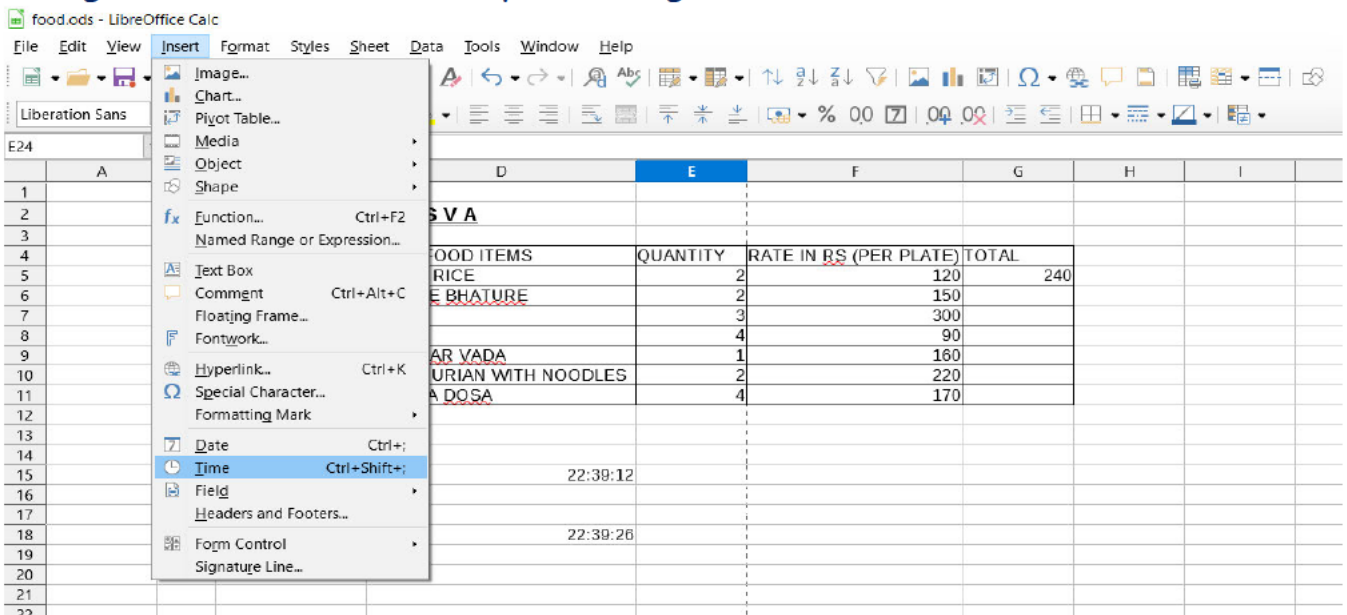


Fig 2.10

2.3 Format Menu

Format Text

Aryan: - Remember Gowri, we used to format our text in writer to bold, italic etc. Does calc has same features.

Gowri :- Yes dear, we have similar formatting styles here too

1. Go to Format Menu

2. Select the Submenu Text

3. You will see various styles such as Bold, Italic, Underline etc.

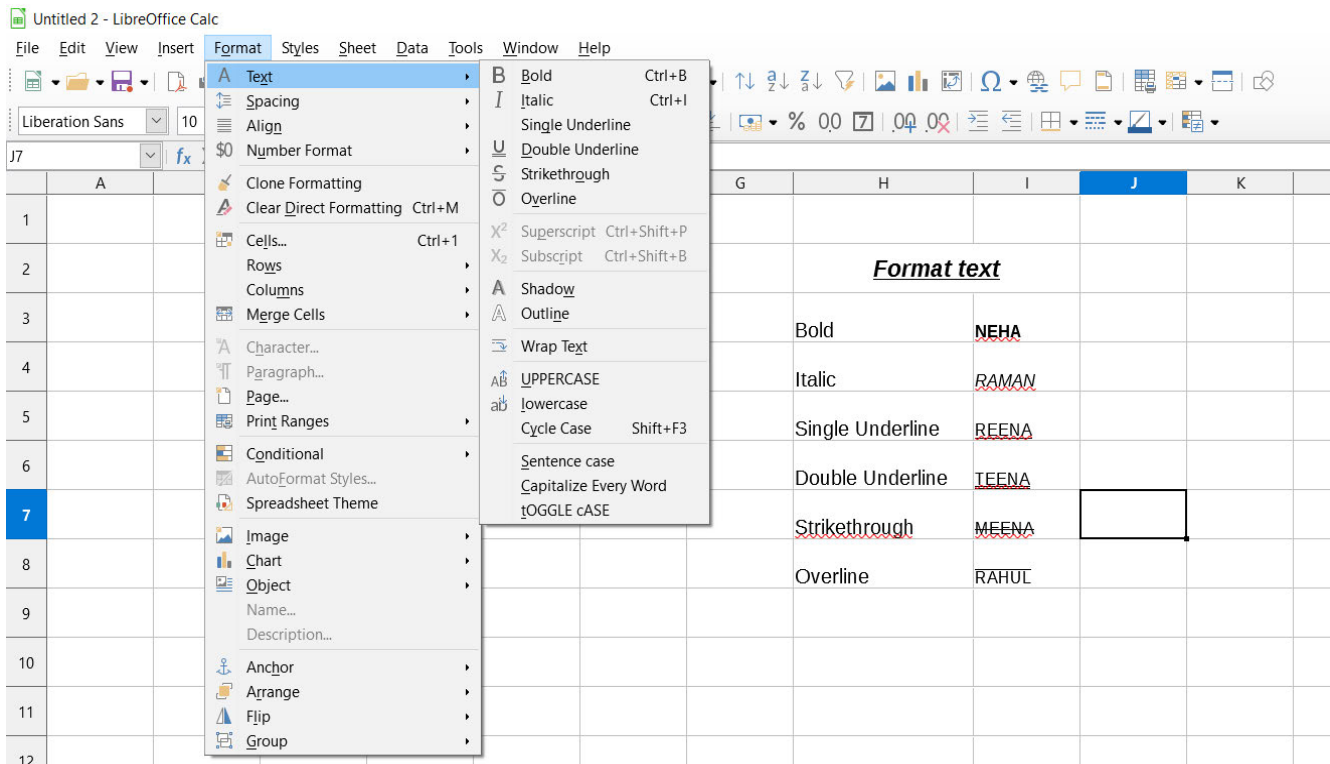


Fig 2.11

Aryan :- I Forgot the shortcuts for these. Can you please remind me again.

Gowri: - Yes, please.

Shortcut for **Bold** Ctrl + B

Shortcut for **Italics** Ctrl + I

Shortcut for **Single Underline** is Ctrl + U

Shortcut for **Double underline** Ctrl + D

You can also try **strikethrough** and **Overline** format also.



Align Text

The text can be aligned horizontally or vertically as shown in fig. 2.12. Text can be aligned horizontally in four ways. They are: -

1. Left
2. Centered

3. Right

4. Justified

Text can be aligned vertically in three ways. They are: -

1. Top

2. Center

3. Bottom

Try it out yourself and see the difference. Though you can refer to figure 2.12 for same.

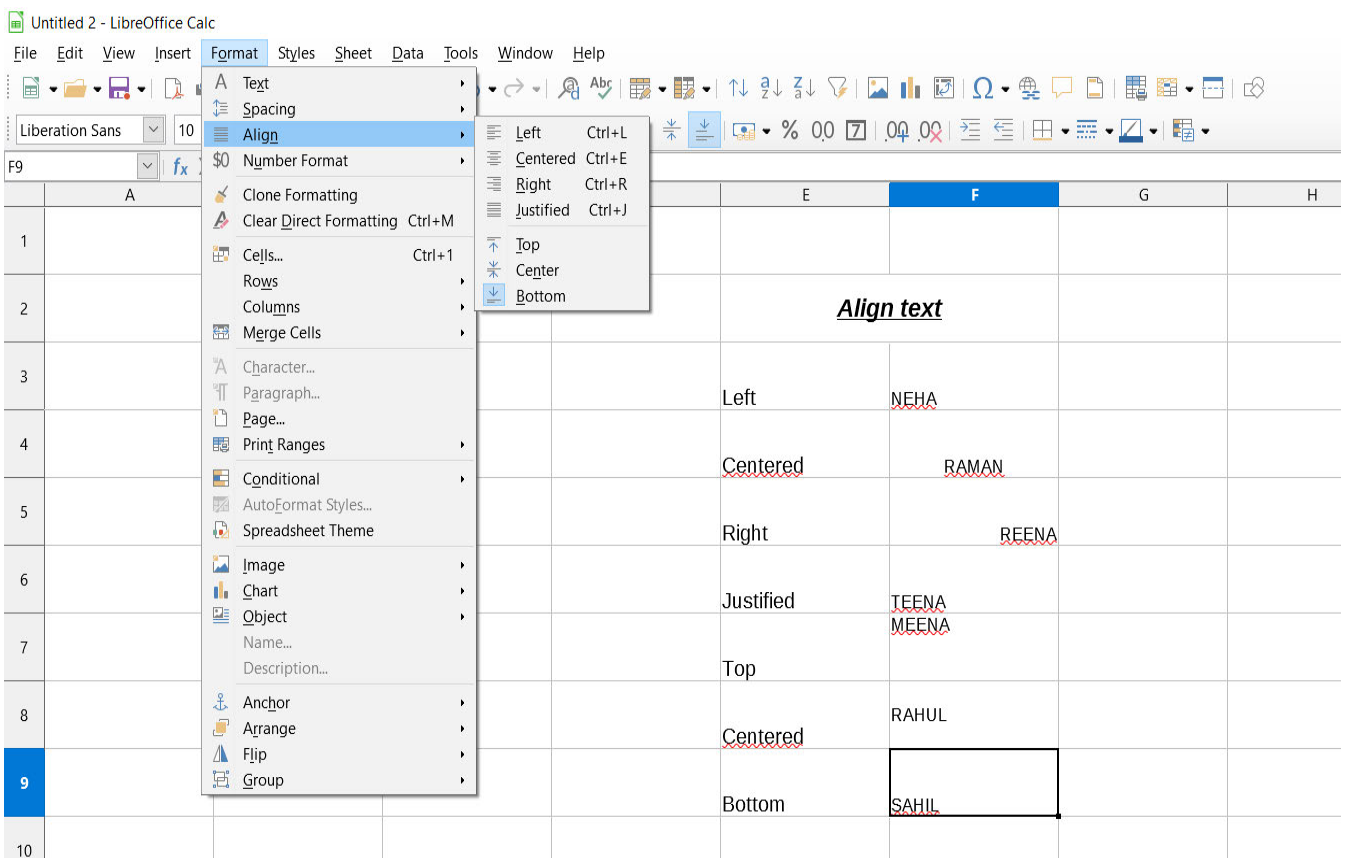


Fig 2.12

EXERCISE
SOMETHING TO KNOW

Q I. State True or false:

1. The Bold option is in Insert menu.
2. The Image option is in Insert menu.
3. The shortcut for alignment of text to right is Ctrl+R.
4. The formula bar is in Insert Menu.
5. Single Underline is in View menu.

Q II. Match the following:-

Column A	Column B
1. Left Align	Ctrl+R
2. Bold	Ctrl+L
3. Italic	Ctrl+B
4. Right Align	Ctrl+;
5. Insert date	Ctrl+I

Q III. Fill in the blanks:-

1. The shortcut for inserting time in a spreadsheet is _____.
2. The _____ feature is used to strike the text from middle of the text.
3. The shortcut to insert _____ in a spreadsheet is Ctrl+K.
4. The shortcut to insert _____ is Ctrl+F2.
5. There are _____ types of vertical alignment in LibreOffice Calc.

QIV. Answer the questions based on creative and critical thinking: -

1. Aryan wants to make the data bold in the spreadsheet. Which feature of LibreOffice Calc is required to do this task?
2. Gowri wants to underline the names of toppers in a spreadsheet. Which feature of LibreOffice Calc will be used by him?
3. Aryan wants to create a pie chart of data given in a spreadsheet. Which feature of LibreOffice Calc will be used by her to create it?
4. Gowri wants to align the text towards center of the cell in existing spreadsheet. Write the shortcut to open it?
5. Name the menu which has different toolbars present on it.

3. MORE WITH WRITER

3.1 Editing a Document

3.1.1 Go to a page

3.1.2 Non printing characters

3.2 Selecting Text

3.2.1 Selecting non - consecutive text

3.2.2 Selecting a vertical block

3.3 Spelling and Grammar

3.4 Using synonyms and thesaurus

3.5 Working with tables

3.1 EDITING A DOCUMENT

Hope you liked creating documents in previous class. Let us explore some more features of writer.

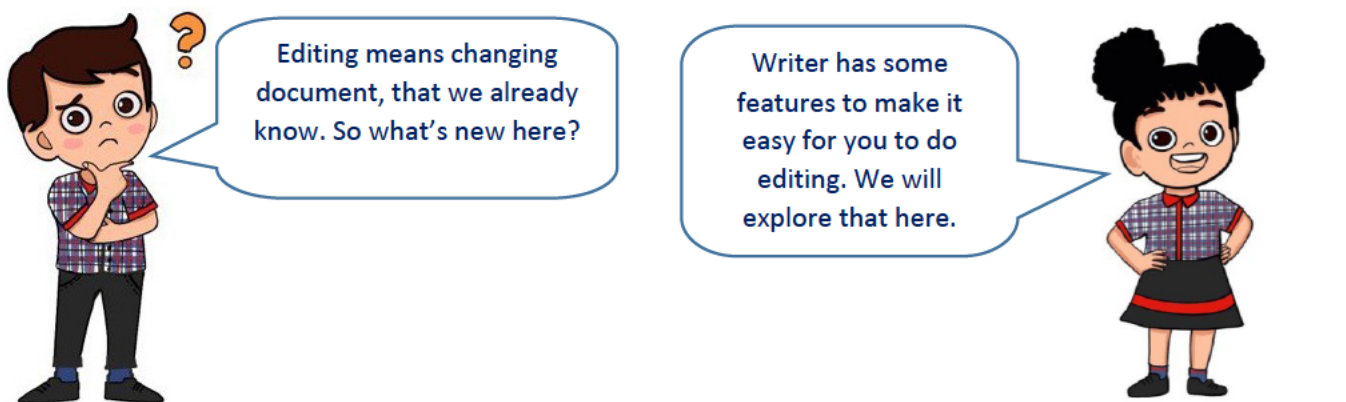
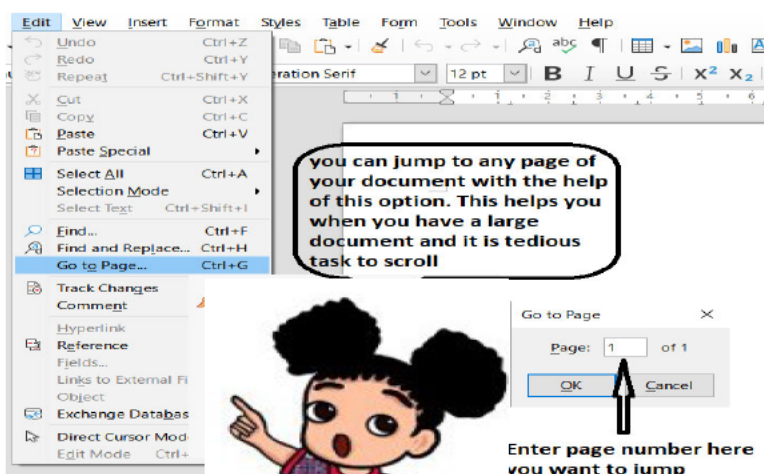


Fig 3.1

3.1.1 Go to a page:



Wow! Now I can jump to 6th page of my document without scrolling. It is so easy.



3.1.2 Non-Printing Characters:

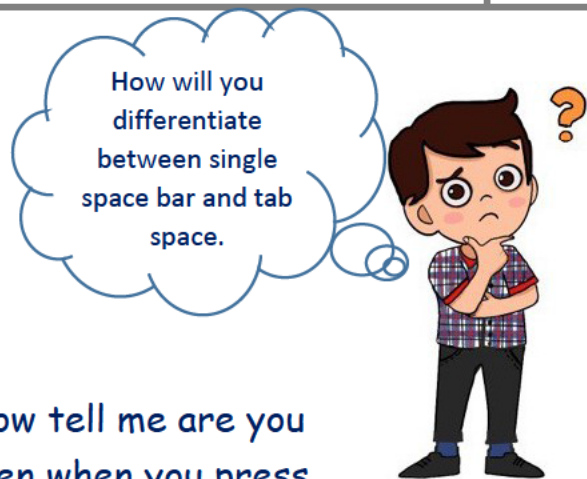
Teacher- Aryan can you tell me what happened when you press enter key from the keyboard?

Aryan- Mam, cursor shifts to next Row.

Teacher - Well that's correct Aryan. Now tell me are you able to see anything symbol on the screen when you press enter?

When you press keys like enter, Tab, Spacebar. These keys characters are known as non-printing characters.

To view these non-printing characters on the screen, you can toggle ¶ formatting mark available on standard toolbar or keyboard shortcut Ctrl+F10.



I·am·Enter·key·character¶
 I·am·tab·key·character·like·arrow → gkjgk¶
 bjb····nlknlk··¶
 j··········I·am·space·bar·like·a·dot·¶

Fig 3.2

Try Now- Can you take print of non-printing characters? Observe.

3.2 SELECTING TEXT



Selecting text is so easy. We do it to cut and copy text. Is there more to it.



What if you want to select first three words of any line or any random word?

3.2.1 Selecting Non-consecutive text: Following are the steps.

- ❖ Select the first piece of text.
- ❖ Hold Ctrl key on keyboard and select next piece of text.
- ❖ Repeat it as often as you needed.

3.2.2 Selecting a Vertical block: Steps are as in fig 3.3.

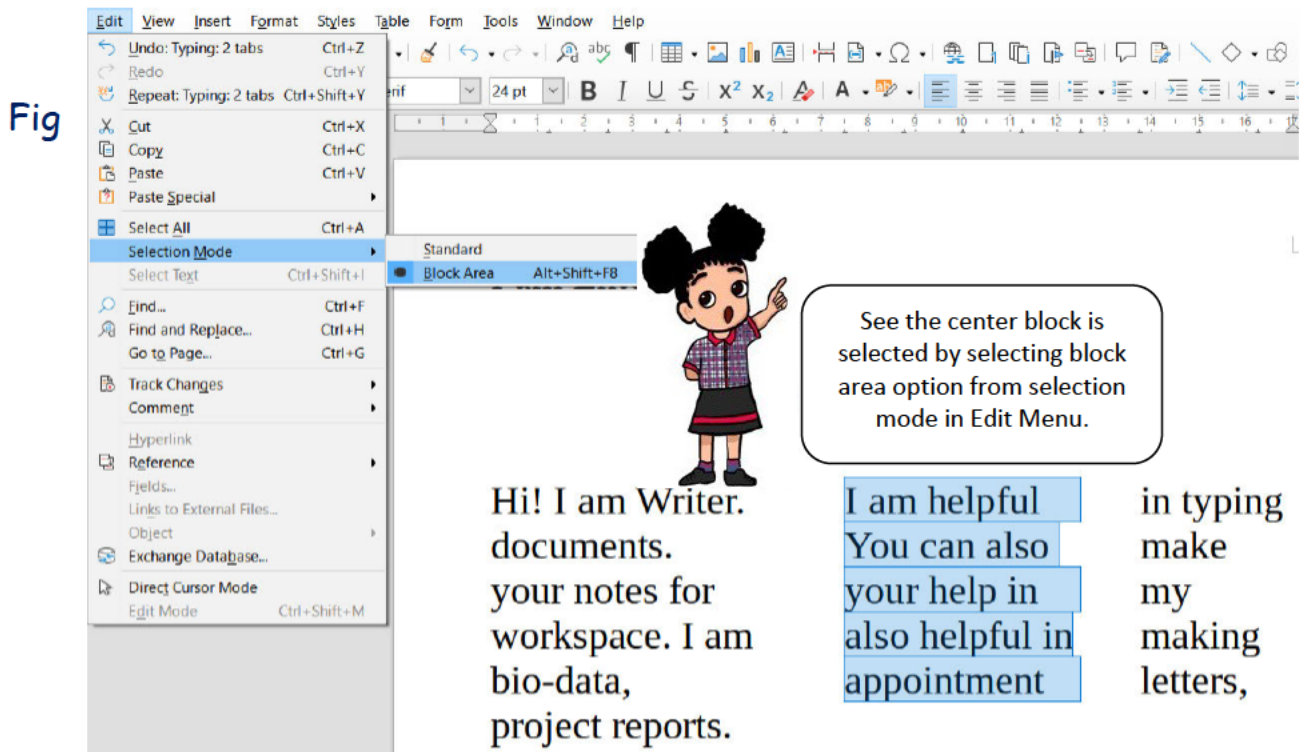


Fig. 3.3

Try Now- Can you select the non-consecutive text while block area option is active. Observe it.

3.3 SPELLING AND GRAMMAR



Spelling and grammar is as important in Writer as in your subjects. You take care of spellings

and the grammar you use in your lessons. Same way documents prepared in writer should also be error free in respect of spellings and grammar.

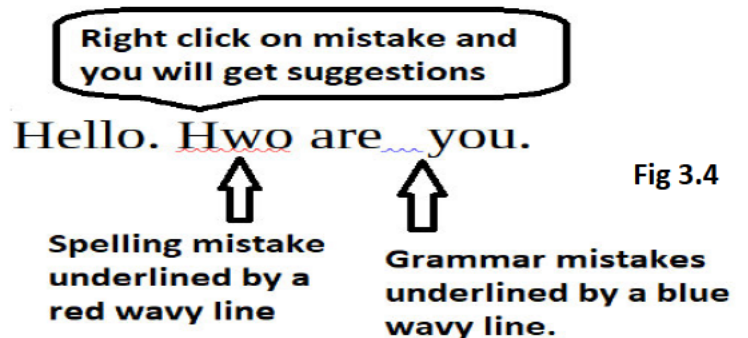


Fig 3.4

Writer provides you the facility to check the spellings of your words and grammar of your sentences.

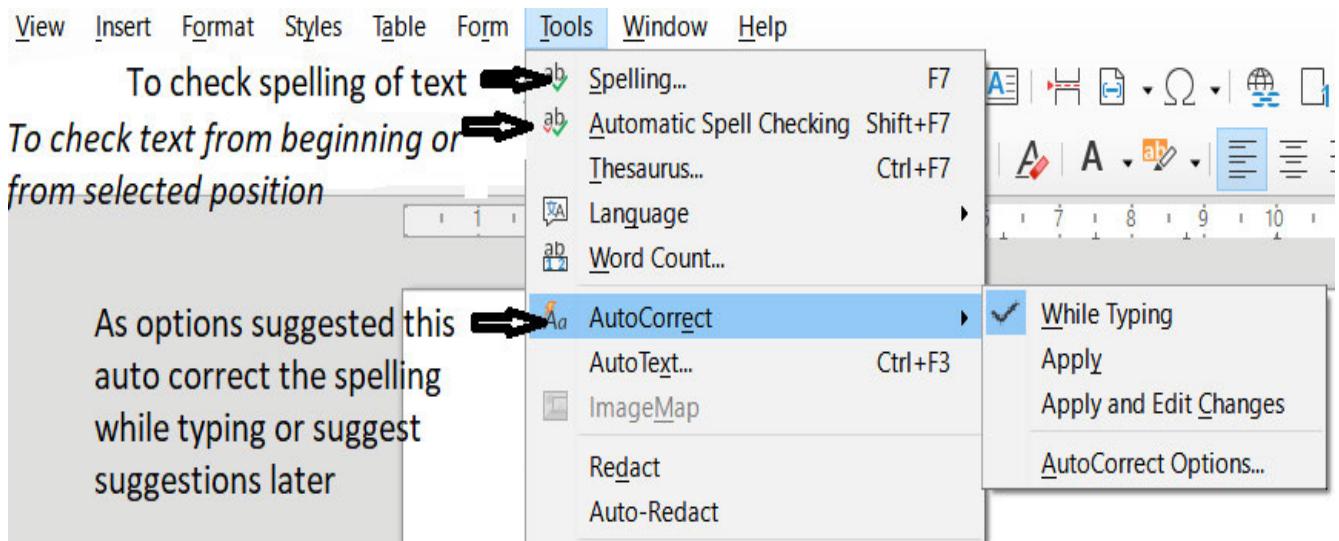



Fig 3.5

- ❖ Writer provides a grammar checker. It can be used in combination with spell check.
- ❖ Writer gives possible correct suggestions for mistakes saved in its dictionary.
- ❖ Automatic spell checker checks each word as it is typed and underlined mistakes as in fig 3.4
- ❖ Spelling and grammar option is available in Tools -> Spelling and Grammar or click on  Spelling and Grammar icon on standard toolbar. (Fig 3.5)
- ❖ A dialogue box appears as in fig 3.6.

Select the option as per your need.

Hello. Hwo are you.

Try Now- Type your name and observe, is it a correct word in Writer or showing as a mistake, if yes then try to correct it.

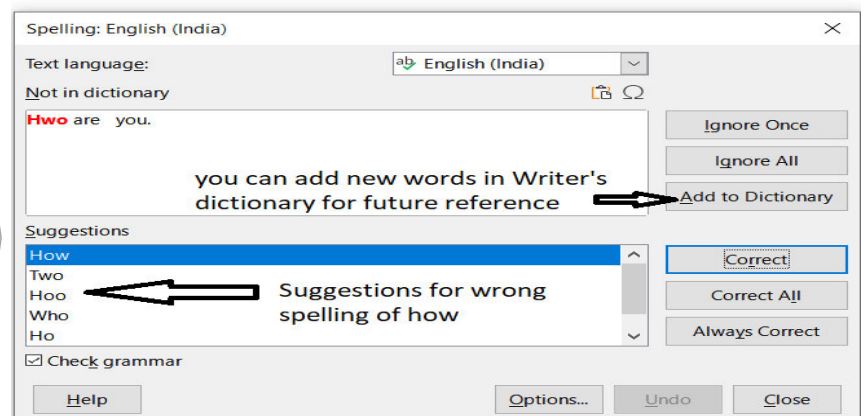


Fig 3.6

3.4 USING SYNONYMS AND THESAURUS



Could you please help me find words which I can use in place of Hello.

You want to search for synonyms. Writer has the option for same. Select and right click on the word as shown in fig below.



Fig 3.7 shows how to use synonym option. Thesaurus shows synonym word list in a dialogue box.

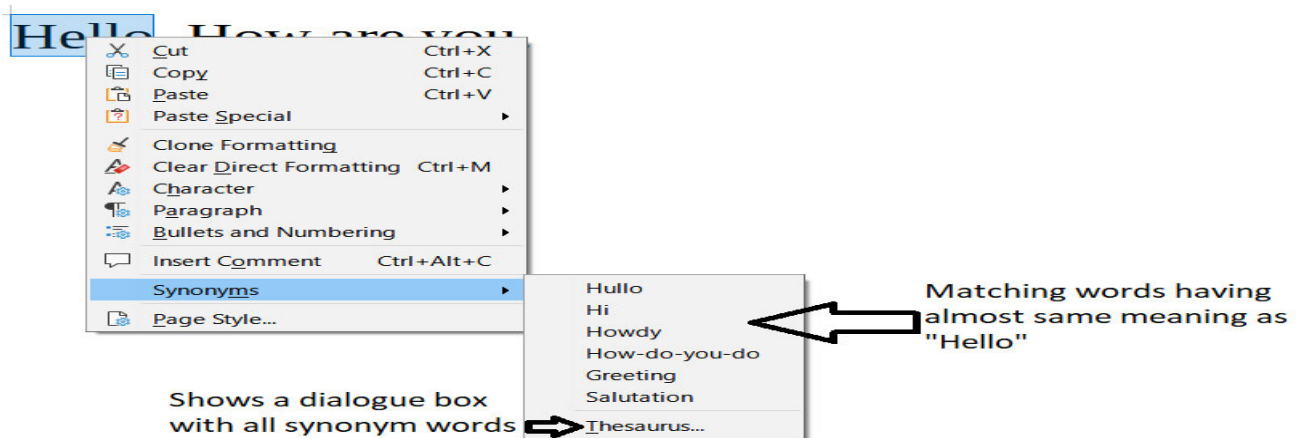


Fig 3.7

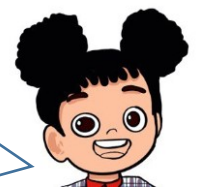
Try Now- Are you able to find synonym of your name.

3.5 WORKING WITH TABLES



I am facing problem in creating time table. I want to do it in table form.

You can use table option of writer to make a table.

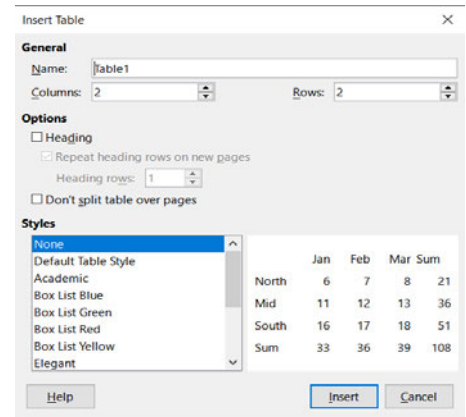


Tables are the best way to store any data in the form of rows and columns.

3.5.1 Create table: Click insert table in table option of menu bar. Dialogue box appears as shown in fig 3.8. Choose required number of rows, columns, table style and click insert. Table will appeared on the screen as shown in (Fig 3.8)

3.5.2 Select Cell / Row / Column: Just click cursor in a specified cell or drag mouse over required rows or columns to select or use select in table option as shown in fig 3.9.

3.5.2 Insert Row / Column: can insert a column or row in a table at any point using insert option in table as shown in fig 3.9.



3.5.3 Delete Row / Column: delete option in table menu to delete specified row or column as shown in fig 3.9.

Fig 3.8

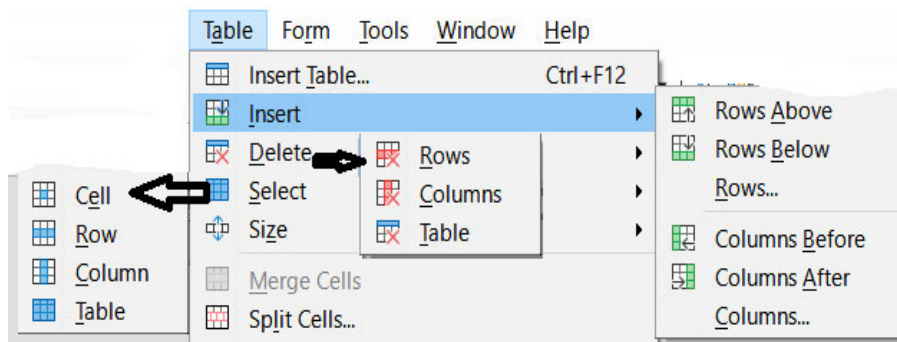


Fig 3.9

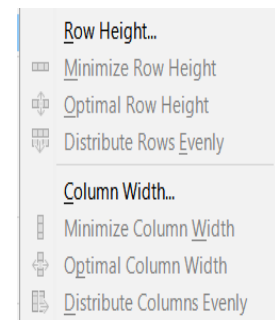


Fig 3.10

3.5.4 Size of Row / Column / Cell: use table -> size to set required size as shown in fig 3.10.

3.5.5 Merge Cells: Two or more cells can be merged in to a single cell. Just select required number of cells and click table->Merge Cells as shown in fig 3.11.

Col 4	Col 5	Col 4	Col 5
before merging		After merging	

Fig 3.11

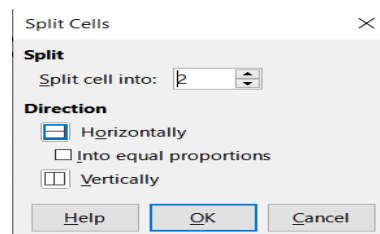


Fig 3.12

3.5.6 Split Cells: To divide a cell in to more than one cell, use table->Split Cells. Dialogue box appears as shown in figure 3.12.

Try Now- Besides table option in menu bar, observe other places in writer window from where you can use table options.

Let us revise we have learnt:

- You can jump to any page in your document using edit-> go to page
- You can display enter, spacebar, tab key on screen using non-printing characters.
- It is possible to select the non-consecutive text by holding Ctrl on keyboard and select random text using mouse.
- Vertical text selection is possible using selection mode.
- Spelling and grammar is like a boon to make a perfect document.
- Synonym of a word can be searched in clicking on the word writer by right clicking on any word.
- Store data in rows and columns using table. You can insert, delete, merge, split cells in a table.

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

- What is the difference between Synonyms and dictionary of writer?
- Mahesh has prepared a table for grocery items as below in table 1. But he wants to look his table1 like table2. Help him by suggesting options to achieve his target table.

Quantity	Vegetable		Quantity	Vegetable	
	Green	Salad		Green	Salad
1kg	Capsicum	Carrot	1kg	Capsicum	Carrot
500 Gm	Spinach	Cucumber	500 Gm	Spinach	Cucumber


Table 1**Table 2**

- Aarti has prepared a document in which she has mentioned names of some historical places. Her teacher asked her to highlight names of all places in her document. Aarti wants to highlight all places in one click. Help her in completing her task.
- What are non-printing characters?
- Write benefit of Auto correct in spelling check.

B. Fill in the Blanks.

- i. _____ is used to divide a cell in to more than one cell.
- ii. Non-consecutive text can be selected with the help of ____ key.
- iii. Shortcut for Block area option is _____ .
- iv. To consider your name as correct word in writer, you have to use _____ option.
- v. Selection mode option is available in _____ menu.

C. Match the following

a) Randomly selecting text on screen	p) Automatic spell checking
b) Add to dictionary helps	q) Synonym
c) Shift + F7	r) Ctrl+F10
d) Thesaurus is related to	s) to add a new word permanently.
e) to  toggle	t) by holding Ctrl key simultaneously.

D. Select the right option

- i. Go to page option can be used to jump to..... .

a. a file in c:/ drive	<input type="checkbox"/>	b. a page in a document	<input type="checkbox"/>
c. next paragraph	<input type="checkbox"/>	d. next line	<input type="checkbox"/>

- ii. Cell in a table cannot be split

a. Vertically	<input type="checkbox"/>	b. Horizontally	<input type="checkbox"/>
c. diagonally	<input type="checkbox"/>	d. All of above	<input type="checkbox"/>

- iii. -> represents ___ in non-printing characters

a. Spacebar	<input type="checkbox"/>	b. Enter	<input type="checkbox"/>
c. Ctrl	<input type="checkbox"/>	d. Tab	<input type="checkbox"/>

iv. _____ option is available in thesaurus dialogue box.

a. Cut		b. Ignore all	
c. delete		d. clear	

v. You can copy _____ objects.

a. table		b. style	
c. paragraph		d. All of these	

E. State whether following statements are True or False.

- F12 key is used to make a table.
- You can ignore the errors shown by the writer in your text.
- F7 is used to start spell check in document.
- You can toggle formatting mark available on standard toolbar or keyboard shortcut Ctrl+F10 to see non printing characters.
- You cannot check spelling of contents again once you finished whole document .

SOMETHING TO DO IN LAB

1) Type the paragraph below and correct errors if any found in the paragraph.

Between mandated online school and playdates via video chat, chances are you and your kids are spending a lot more time online in quarantine than ever before. For some, it may be the first time you've explored this new frontier with your little one.

- In the above types paragraph suggest the words you can use in place of kids and quarantine.
- Prepare a table of weekly schedule of breakfast, lunch and dinner of your home with time.

4. MORE ON INTERNET



- 4.1 WWW (World Wide Web)
- 4.2 Difference between WWW & Internet
- 4.3 Creating Google Account
- 4.4 E-mail
- 4.5 Safe Internet browsing tips

Aryan: - We have worked so much on internet during pandemic

and learnt a lot in our computer classes. But I came across a term "WWW". Do you know what it means?

Gowri :-Yes, let me explain about it.



Introduction

Today, the Internet is an independent, collaborative and cooperative facility accessible for millions of users worldwide.

4.1 World Wide Web

The World Wide Web (WWW) is a network of web pages found by their addresses. It was developed at the European physics lab CERN, home of the Hadron Collider, by Sir Tim Berners-Lee. The development of the webs from Berners-Lee's initial in 1989 to the final version with Robert Calliou in 1990.

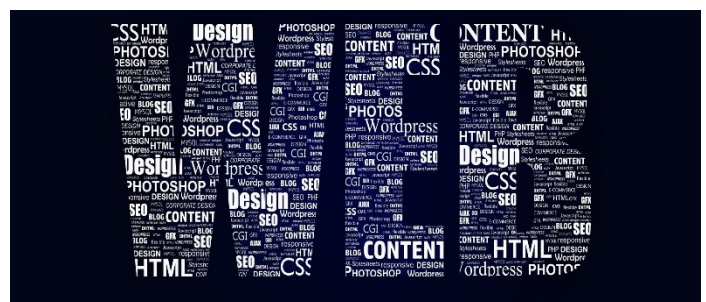


Fig. 4.1: WWW (World Wide Web)

4.2 Difference between Internet & WWW

The Internet is interconnection of network spread over globe. The Web is a service that supports it, such as browsers, emails, Online Services etc.

Internet	WWW
Internet is Massive network of networks	WWW is a way of accessing information over Internet
It does not use web browser	It uses web browser such as Chrome, IE etc.

4.3 Creating Google Account

Gowri :- Do you have any account on google. I have one. I use it for email, drive and many other things.

Aryan :- No, I don't have any account, Can you help me make an account. I would also like to explore it.

Gowri :- A Google account lets you log in on computers, smartphones and tablets using a single password. By using Google account, you can access some of free services of Google. For signing up on google, you should enter some information about yourself, like your name, DOB etc.

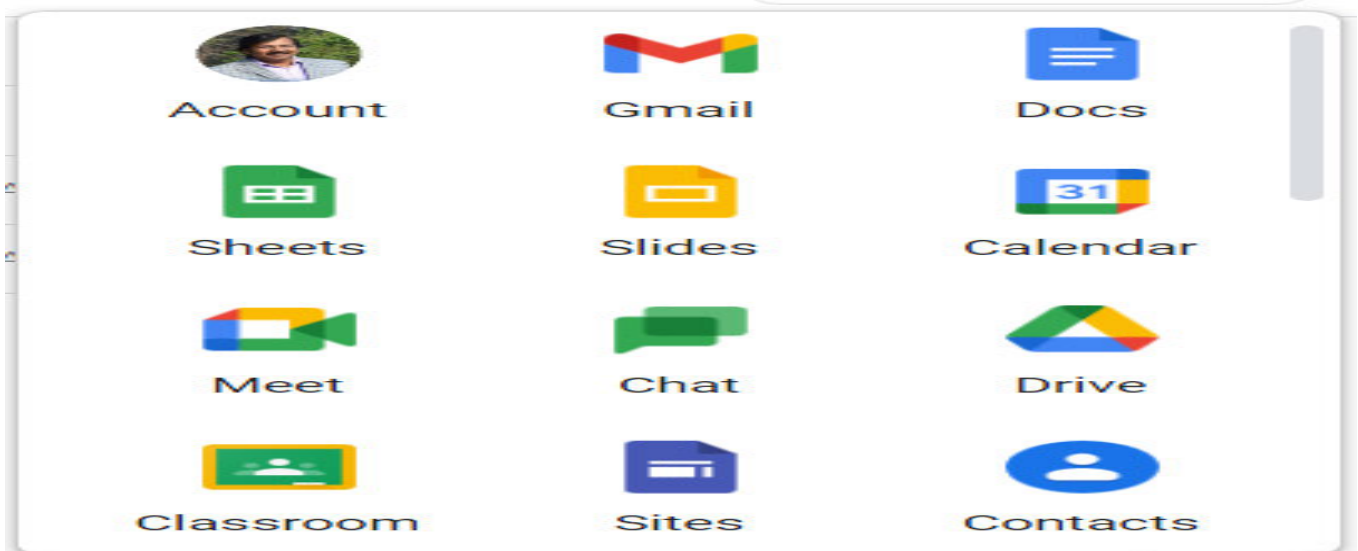


Fig. 4.2: Google Services

Let's learn how to make a Google Account

Step 1: Open any Google Webpage

Step 2: Click the Sign In button and then click Create account.



Step 3: Click on myself and click on Next button

Step 4: Enter desired Username and password and click on Next

Step 5: Enter mobile number to verify your account click on next

Step 6: Enter five digit Google code and select next

Step 7: Click on Yes I'm in and your Google account is created



Fig. 4.3: Creating Google Account

4.4 E-mail

Email stands for Electronic mail mostly used to send or receive the Message/Information with attachment in Electronic form. Email is very useful tool over the internet.



Fig. 4.4: Composing and sending an E-mail

Steps to send an E-mail

Step 1: First sign in to your Gmail account. The main dashboard (main page) of your Gmail account will be visible.

Step 2: Click on Compose 

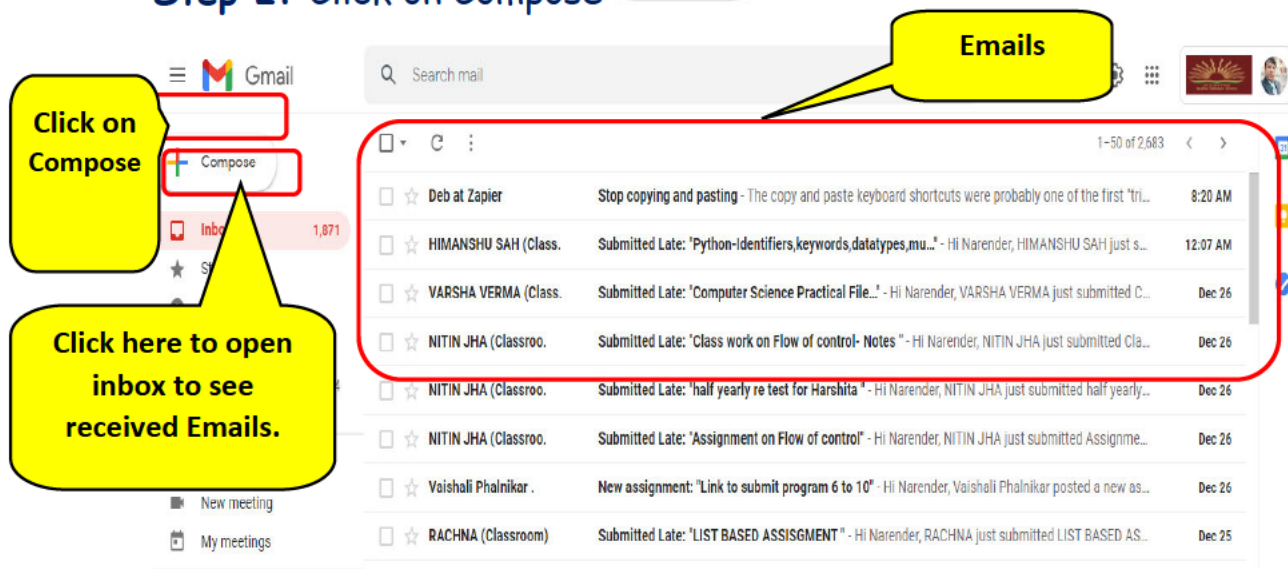


Fig. 4.5: Composing an E-mail

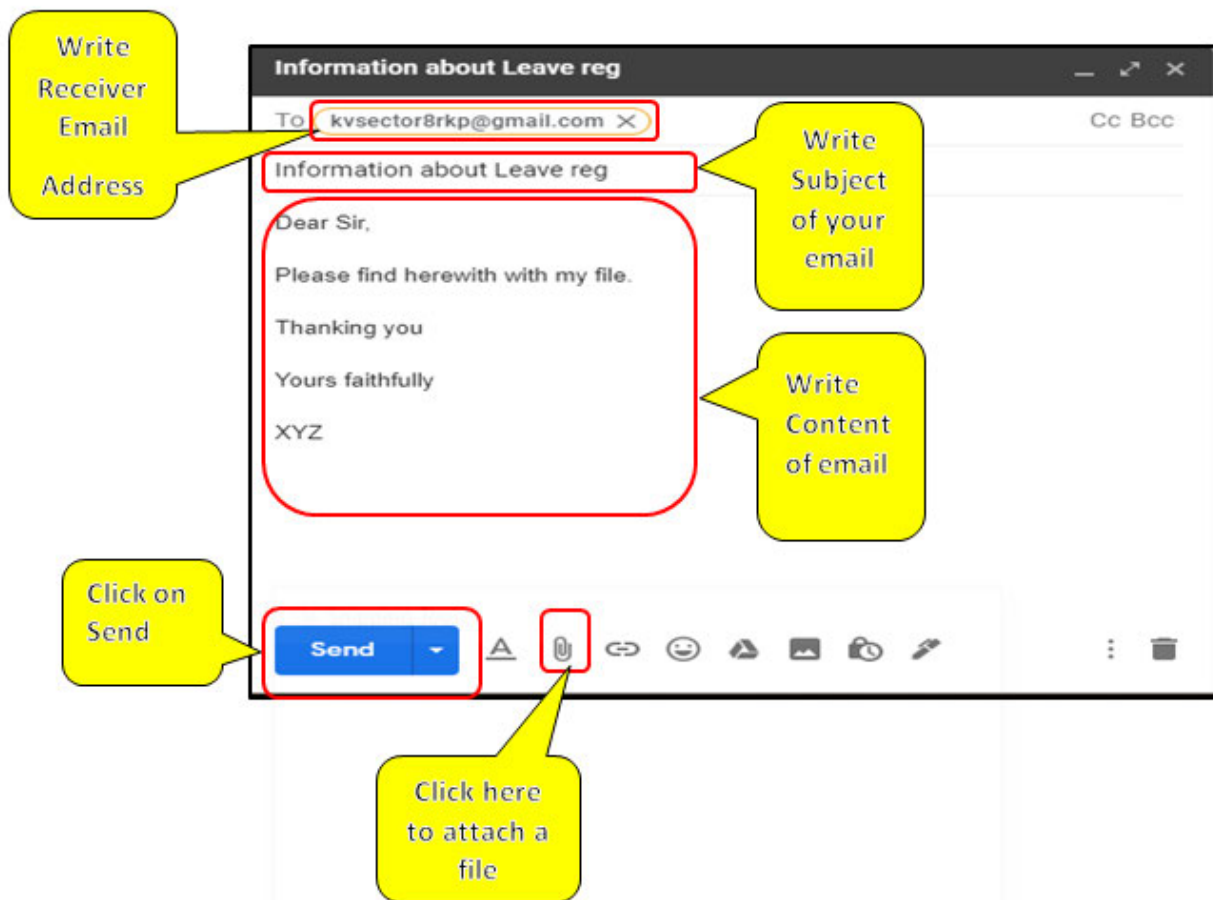


Fig. 4.6: Sending an E-mail

Step 3: A new window will pop up. In 'to' text box, type email ID of the recipient whom you want to send the mail.

Step 4: Write the subject and content of your email in the place labeled in Fig 4.6.

Step 5: If you want to attach a file then do it from attach  button

Step 6: Then click on send button. Your email will be sent.

You can see the sent e-mails in the Sent folder and draft e-mail (saved draft mails) in the Drafts folder.

Following are the steps to view, read, reply to and delete email message:

- ❖ Once log in, make sure you are on the Mail tab on the top left.
- ❖ To see your e-mail messages, click on Inbox button.
- ❖ To read, click on the message you want to open.
- ❖ To reply, click the Reply button at the top of an opened message.
- ❖ For reply from the Inbox view, right click a message and click Reply, or highlight a message and press R on the keyboard.

- ❖ To delete one or more messages, highlight them or select them using check box and press Delete on the keyboard or right-click them and choose Delete.

4.1 Safe Internet browsing tips

Gowri :- Now that you are working on internet, you should follow some safety measures. Without proper safety measures, you may be in trouble as you will be prone to data



theft, identity theft and computer damage.

Aryan :- Is it? Are we not safe on internet?

Gowri:- No, Many people are looking for vulnerable children and people to take advantage. If you are curious how to safely surf over the internet for both personal and professional use, it is important to follow safe internet browsing practices.

S	M	A	R	T
Stay Safe	Don't Meet Up	Accepting Files	Reliable ?	Tell Someone
Don't share your personal information to anybody you don't know.	Meeting someone you have only been in touch with online can be dangerous. Always check with adult you trust.	Accepting emails, files, etc. people you don't know can cause problems	Check information before you believe it. Is the person or website telling the truth	Tell your parents if someone or something makes you feel worried or uncomfortable.

Fig. 4.7: SMART TIPS

The following are the safe browsing tips:

- ❖ Install antivirus and antimalware
- ❖ Creating difficult, varied passwords that are impossible to guess.
- ❖ Making all social media accounts private.
- ❖ Deactivating auto fill.
- ❖ Properly Sign out of all the accounts in place of closing the tab or window.
- ❖ Safely open the spam emails and never open or download file from unknown sources.
- ❖ Safely access public Wi-Fi or hotspots especially free hotspot.

EXERCISE SOMETHING TO KNOW

A. Answer the following questions.

1. What is WWW? Explain it.
2. What is the difference between WWW & Internet?
3. Why is it important to create a Google Account?
4. What is e-mail?
5. Write some safe Internet browsing tips.

B. Fill in the Blanks

1. _____ is a Network of Millions of Interconnected Computers.
2. WWW stands for _____
3. _____ provides many online free services like email, YouTube etc.
4. _____ is used to exchange information over the internet.

C. Match the Following:

1. WWW	a) Google mail
2. Gmail	b) To secure our system
3. Password	c) Electronic mail
4. Email	d) World Wide Web

D. Select the correct answer for each question :

1. _____ invented the World Wide Web (WWW) in 1989.
(a) Sunder Pichai (b) Tim Berners-Lee (c) Google (d) Bill Gates
2. Which of the following is not email providers website
(a)Google (b) Microsoft (c) Yahoo (d) CBSE
3. _____ is required to read your email.
(a)Username & password (b) mobile no. (c) PAN card (d) house no.
4. Which is not a safe browsing tip?
(a) Logout from your email
(b) Sharing your password with others
(c) Deactivating auto fill
(d) Installing Antivirus

E. State True or False

1. WWW invented by Larry Page.
2. Internet is Massive network of networks
3. Google provides many online services.
4. We should take precautions when accessing public Wi-Fi or hotspots.

SOMETHING TO DO

1. Find some educational websites, address name using search engines.
2. Search some topics of Science by using search engines.

5. SCRATCH



- 5.1. Clone of the sprite block— “Control” block
 - 5.1.1 “create clone of ...” block
 - 5.1.2 “delete this clone” block
 - 5.1.3 “when I start as a clone” block
- 5.2. Show and hide block— “Looks” block
 - 5.2.1 “show” block
 - 5.2.2 “hide” block
- 5.3. Receive and Broadcast messages block— “Looks” block
 - 5.3.1 “when I receive...” block
 - 5.3.2 “broadcast...” block
 - 5.3.3 “broadcast... and wait” block
- 5.4. Turning the face of the sprite towards another sprite— “Motion” block
- 5.5. Moving the sprite to a particular position— “Motion” block
 - 5.5.1 “go to” block
 - 5.5.2 “go to x... y...” block
 - 5.5.3 “change x by...” block
 - 5.5.4 “change y by...” block
 - 5.5.5 “set x to...” block
 - 5.5.6 “set y to...” block
- 5.6. Pointing the sprite in a direction— “Motion” block
 - 5.6.1 “point in direction...” block
 - 5.6.2 “point towards...” block



Aryan: In the previous class, we had learnt how to code using conditions.

But you still need to teach me how to create clones of the sprites in this class. So, could you teach me this now?

Gowri: Yes dear, today I will definitely teach you that how the copies of the sprite can be created and destroyed automatically when required.

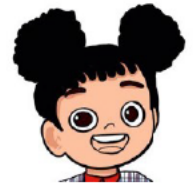
Let's take an example of a game & explain this concept.

Aryan: Wow! Game! I love to play games, but really could I make a game now?

Gowri: Yes! Sure **Aryan**, you can make this game.

Aryan: Which game will we make today?

Gowri: We will try to make a "Spaceship" Game. See Activity 5.1.



Activity -5.1:→ Create a small game of spaceship, where spaceship has 5 lives. In this game, planets are the targets and they are moving towards the spaceship to destroy it. A spaceship can fire the missiles when the space bar is pressed. Spaceship can also be moved with the help of left, right, up and down arrow keys. When a missile hits the planet, the planet is destroyed. Every destroyed planet will increase the scoreboard by one. When a planet hits the spaceship, one life of the spaceship is finished as well as the planet is destroyed. (see figure 5.1)

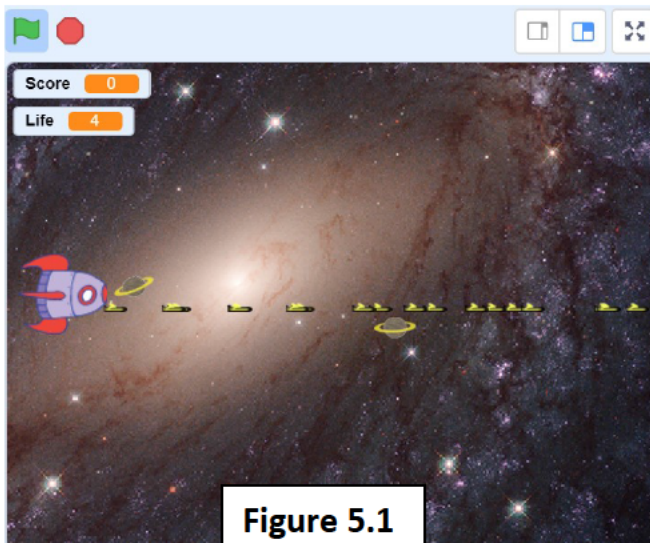


Figure 5.1

Aryan: Oh! wow, it's a wonderful game. It's looking amazing. I am excited to learn how to make it.

Gowri: Yes **Aryan**, sure. Let's see the steps given next.

→ **STEP-01**

First, we will add three sprites from "Choose a sprite" as follows: -

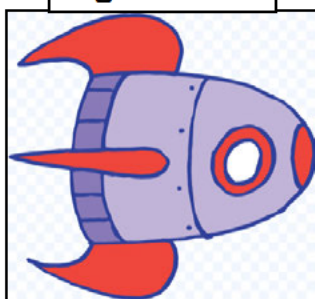
1. "rocketship" sprite and name it as "spaceship", and design its costume

(named as "rocketship-e2") using the "Costumes" tab as shown in figure 5.1.1. "planet2" sprite and name it as "planets" and design its two costumes (named as "Planet2", "Cloud") using "costumes tab" as shown in figure 5.1.2. 3.

draw a new sprite, which looks like as missile and also name the sprite as "missile", (looks

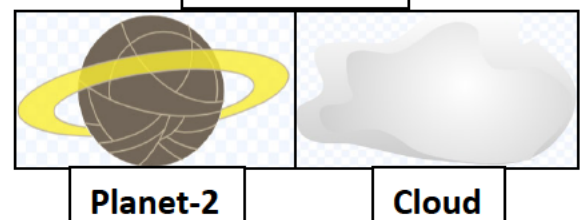


like→)



rocketship-e2

Figure 5.1.2



Planet-2

Cloud

→ **STEP-02**

Choose the background "Galaxy" from "Choose a backdrop" icon. Next, we will learn, how to create the clones of the sprite "planet" and sprite "missile" (as shown in figure 5.1).

5.1. Clone of the sprite— "Control" block

5.1.1 "create clone of ..." block: - This block is a "stack" block, which is used to create the clone of the sprite chosen from a list given in this block. This also means creating the same copy of the chosen sprite but their scripts are not copied.

5.1.2 "delete this clone" block: - This block is a "cap" block (This block ends the script), which is used to delete the clone or copy of sprite already created.

5.1.3 "when I start as a clone" block: - This is a "hat" block (This block starts the script), and it is used to do the tasks (written under it), when clone of the sprite is created.

Gowri: Steps to create and delete the clone of the sprite "planet" and "missile".

→ **STEP-03**

Choose the sprite "planets" and drag and drop the block "when flag click" in script area. In "forever" block after every 2.5 seconds, a clone of "planets" sprite is creating. (see figure 5.2)

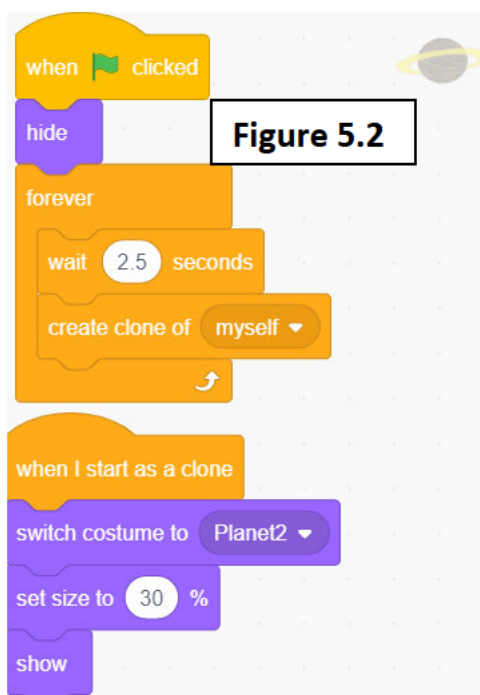


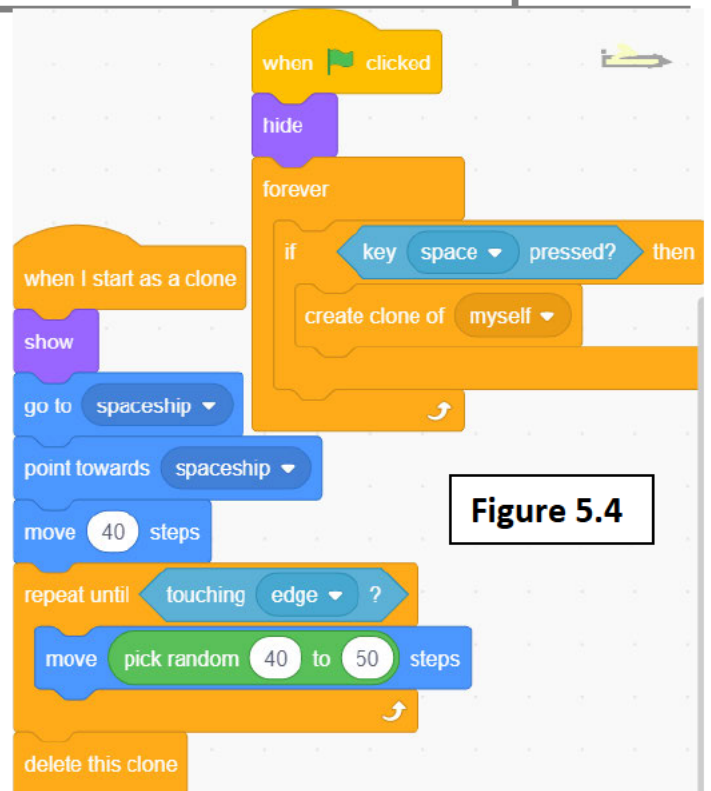
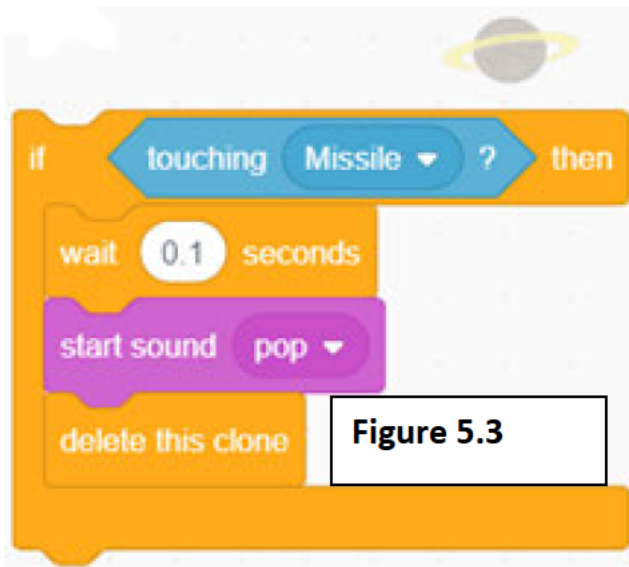
Figure 5.2

Aryan: Ok, that's so simple dear. Now, how can we delete this clone?

Gowri: Yes, as per game criterion, when planet hits the missile, then its clone gets finished. See the code in figure (5.3):

→ **STEP-04**

Now choose the sprite "missile" and drag & drop the block "when flag clicks" in the script area. Next do the coding in "forever" block. When space key is pressed, a clone of "missile" sprite is created. (see figure 5.4). When the sprite "missile" touches the edge of the stage, then it gets deleted. This code is shown in figure 5.4 in "repeat until" block.



EXERCISE

Something to know

Q: -1 You have seen how to create and delete the clone of the sprites in scratch. Write the name of block used for following tasks.

Action

Name of Block

- Create clone of the sprite

- Remove or delete the clone of the sprite

- To check whether the sprite is touching another sprite or not.

- To take decision based on condition

Q: -2 Under which block "create clone of..." block is available in scratch?

Q: -3 What is the meaning of "delete this clone" block?

Q: -4 What is the meaning of "create clone of..." block?

Q: -5 "create clone of..." block is a _____ block.

Task to do/something to do

- Add two sprites in your Project. And make a game of your own choice by creating clones of the sprite, as you wish.
- Write the script for showing a birthday party scene with balloon sprite and other sprites and creating clones of balloon sprite.



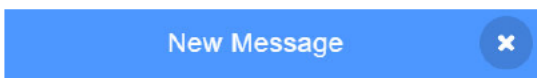
Aryan: Ok, thanks dear. I have understood, how to create and destroy clone of the sprites, as per our requirement. But what are these "hide" and "show" blocks in Figure (5.2 and 5.4)? Please explain this also.

Gowri: Sure

5.2 Show and hide— "Looks" block:

5.2.1. "show" block: - This is a "stack" block and is used to show the sprite, when it is required.

5.2.2. "hide" block: - This is a "stack" block and it is used to hide the sprite, when it is required.



New message name:



choose any message from the given lists.

5.3.2. "broadcast..." block: - This block is a "stack" block and is used to broadcast or send the particular message. This block has a dropdown list, from where you can choose a message name or can also create a new message and give a name for message as per your choice. (see figure 5.5)

5.3.3. "broadcast... and wait" block: - This block is a "stack" block and it is used to broadcast or send the particular message same as above and can also create a new message, but after that it will wait for some specified number of seconds.

Gowri: So, in previous coding (figure 5.2 and 5.4), the sprite "planet" is hidden when "flag" is clicked means when game is started, it is not showing instantly and same with the missile. It will appear when clone of this sprite is created.



Aryan: Ok dear Gowri, I have understood it now. Then what is the need of learn this concept of broadcast message and receive message. Could you teach me this block also in detail?

Gowri: Yes dear, Sure! When there is a situation, where a sprite is hidden and we need to show it in any other sprites script or code then, we cannot show this sprite directly, rather we need to broadcast the message there and then

show the sprite when receives the message. Let's learn this concept with the help of an activity.

Activity -5.2: → Create a small story of a fairy and a human being, in which fairy with her magic stick, makes the human being invisible as per his request or wish.

→ STEP-01

First, we will add three sprites from "Choose a sprite" as follows: - 1. "fairy" sprite 2. Any person e.g. "Elf" and 3. "Magic wand".

→ STEP-02

Choose the sprite "fairy", "Elf" and "Magic wand" one by one and do following coding on them.

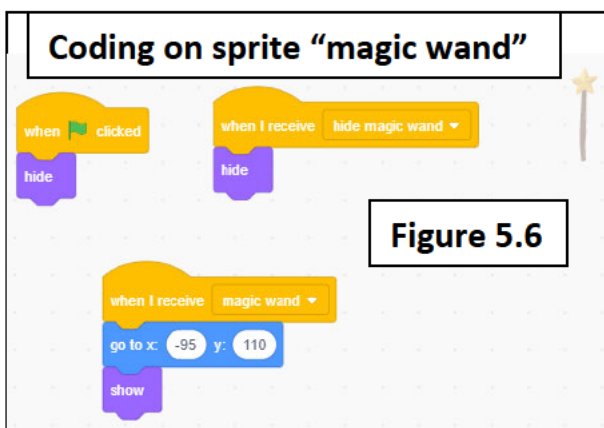
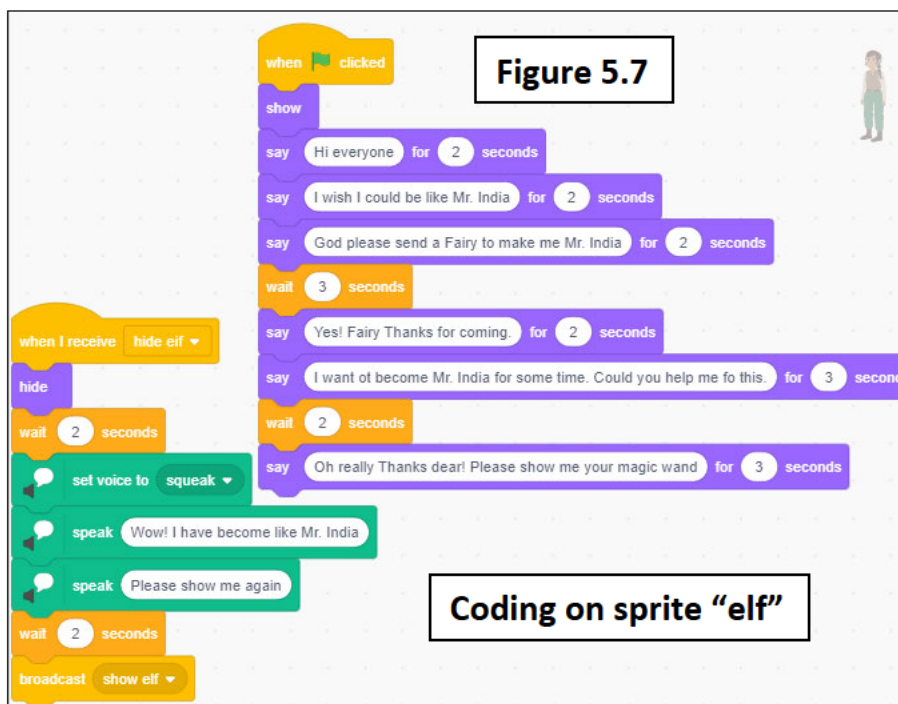


Figure 5.6



Coding on sprite "elf"

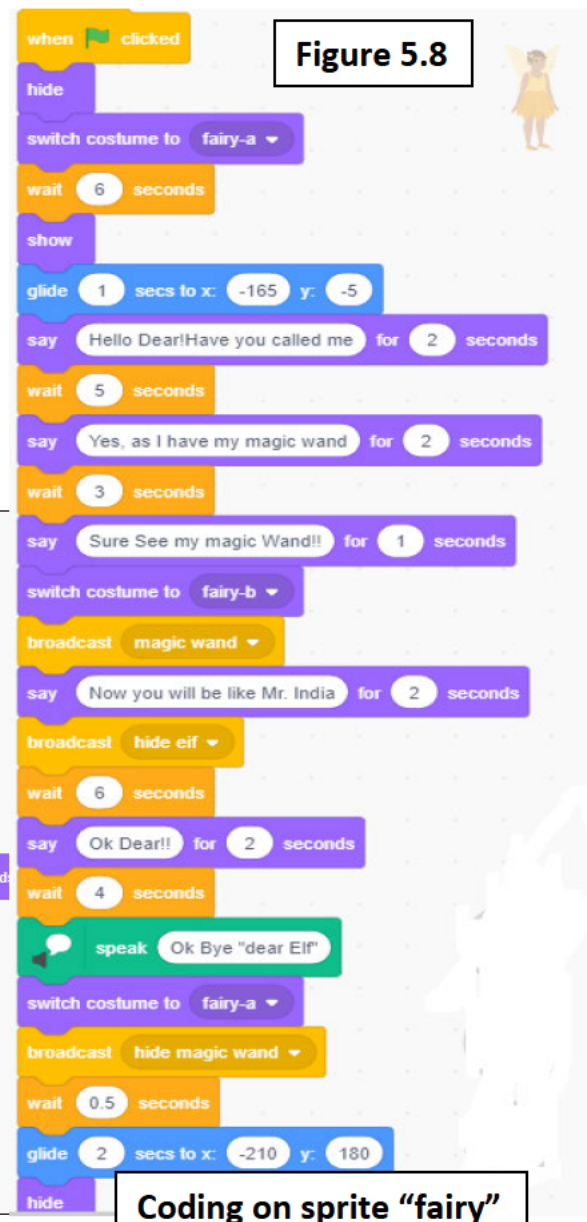
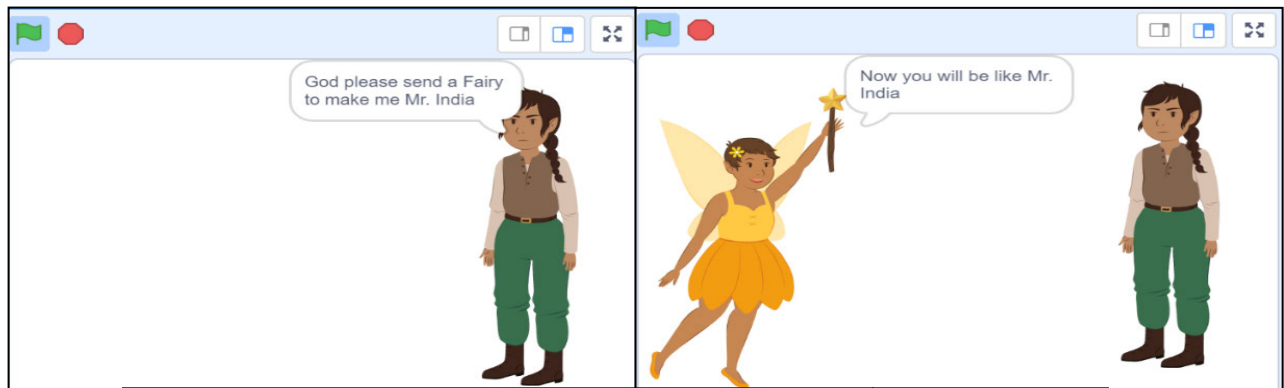


Figure 5.8

Coding on sprite "fairy"



Glimpse of show and hide in the story

Figure 5.9

Aryan: OK! I have understood now, I have tried the activity given above, but could you please tell me how the sprites are facing towards each other, as all the "person" sprites are facing right side in scratch.

Gowri: Yes, sure dear! It's very simple and easy. First we will learn turning the face of the sprite towards another sprite and later we will learn "goto x and y" block. Let's learn them now.

5.4 Turning the face of the sprite towards another sprite —"Motion" block: -

- **STEP-01** Add the sprite from people tab of "Choose sprite" window.
- **STEP-02** Place the sprite, where you want.
- **STEP-03** Then for turning the face of the sprite towards first, click on the sprite and then click on Costume tab given below "menu bar". Choose option "flip horizontally" to change the face of the sprite.
- **STEP-04** Then click on "code" tab to bring the script area back.

Aryan: Thanks, dear for telling this. but please tell me that what is this "go to" block and "point in direction block" used in the coding of game of "spaceship" (figure 5.4).

Gowri: Yes, sure dear! We will definitely learn now what are these "goto" block and "point in direction" block. Let's learn now these following blocks: -

5.5 Moving the sprite to a particular position— "Motion" block: All these blocks are "stack" blocks.

5.5.1 "go to..." block: -This block has drop down menu, having following options: -

5.5.1.1 "go to random position": - This block is used to move the sprite at random position. It also behaves like "glide" block with random position.

5.5.1.2 "go to mouse pointer": - This block is used to move the sprite towards the position of the mouse pointer.

5.5.1.3 "go to sprite-name": - This block is used to move the sprite to the location of sprite, whose name is chosen from the drop-down list. All the sprites names present in our project will appear in the drop-down list.

5.5.2 "go to x ... y...": - "go to x...y..." block is used to move the sprite at (x, y) position.

5.5.3 "change x by...": - This block is used to change only the x value of the sprite by a specific value. It moves the sprite for specific steps horizontally only.

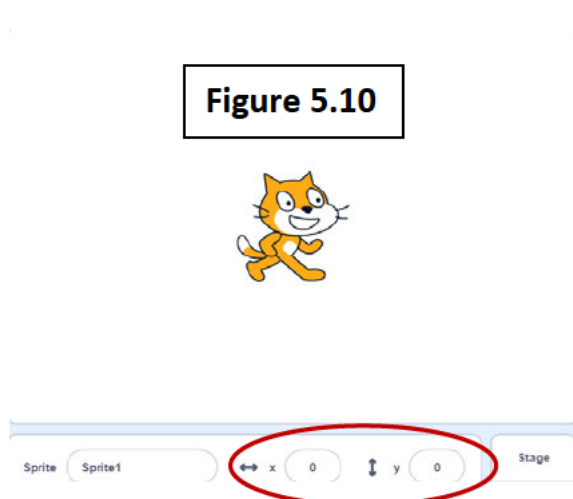
5.5.4 "change y by...": - This block is used to change only the y value of the sprite by a specific value. It moves the sprite for specific steps vertically only.

5.5.5 "set x to...": - This block is used to change only the x value of the sprite with a specific value. It moves the sprite horizontally to particular position.

5.5.6 "set y to...": - This block is used to change only the y value of the sprite with a specific value. It moves the sprite horizontally to particular position.

Example is: -

- Position of the sprite at (0,0) location (center of stage), as shown in Figure 5.10.
- Position of the sprite at (100,50) location in stage, as shown in Figure 5.11.



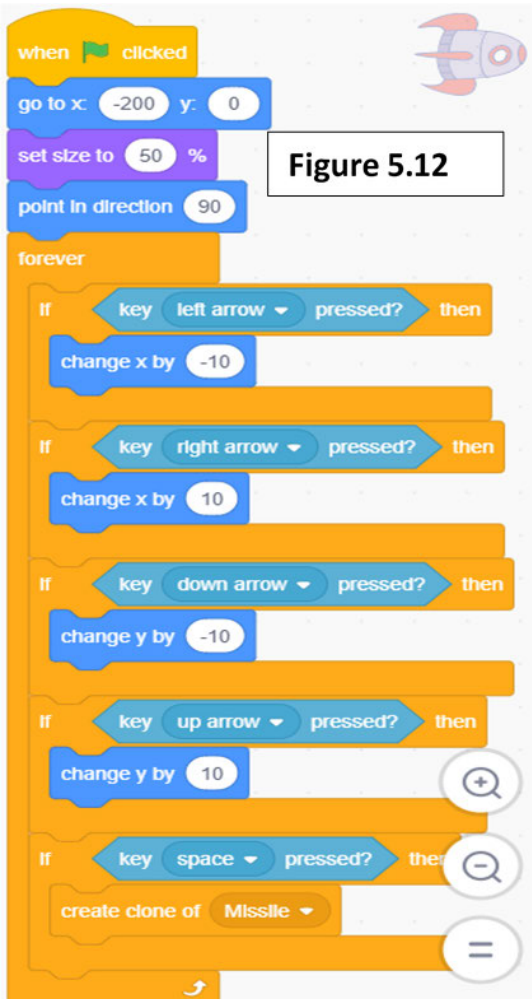


Figure 5.12

Now come back to our game project again.

→ STEP-05

In the figure 5.4, in "goto..." block "spaceship" option is to be chosen to move the sprite "missile" to the position of the sprite "spaceship". Then "point in direction" block is used and after that "move 40 steps" block is used to move the sprite "missile" till edge of the sprite "spaceship". So that it looks, as missile are coming out of the spaceship nozzle.

→ STEP-06

Now, choose the sprite "spaceship" and do the following code on it (see figure 5.12). First Set the position of the sprite "spaceship" at left side with position value as -200 and y position value as 0 using "goto x... y..." block. Also set the size of the spaceship to the 50% of its actual size. Now do coding in "forever" block, to move the sprite "spaceship" left, right, up and down as per key pressed. If the left arrow key

press, the sprite will move horizontally in backward direction (left side) by the block "change x to -10". The sprite will move horizontally in forward direction (right side) by the block "change x to 10" block. The sprite will move vertically in upward direction by the block "change y to 10" block. The sprite will move vertically in downward direction by the block "change y to -10" block.

Aryan: OK! I understood now how to move the sprite horizontally and vertically and how the missile will move towards the spaceship, when its clone appears on the stage. Ok! then what is this "point in direction" block and "key pressed?" block.

Gowri: Aryan, "point in direction" block turns the direction of the sprite towards left, right, up, down or towards any other sprite. And "key pressed?" block is used to check which key is pressed by us. Lets see "point in direction" block first.

5.6 Pointing the sprite in a direction— “Motion” block:

5.6.1 “point in direction...” block :-> This is a “stack” block.

This block changes the direction of the sprite towards left, right, up and down. (shown in figure 5.14 and the block itself is shown in figure 5.13)

- i) 90° :-> means the direction of the sprite is towards right.
- ii) -90° :-> means the direction of the sprite is towards the left.
- iii) 0° :-> means the direction of the sprite is towards up.
- iv) 180° :-> means the direction of the sprite is towards down.

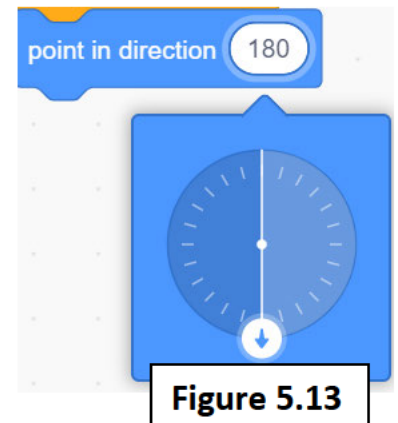


Figure 5.13

5.6.2 “point towards...” block:-> This is a “stack” block and has a dropdown menu having two options: -

5.6.2.1 “point towards mouse pointer” block:-> This block points the direction of the sprite towards mouse pointer.

5.6.2.2 “point towards sprite-name” block:-> This block points the direction of the sprite towards another sprite that we will choose.

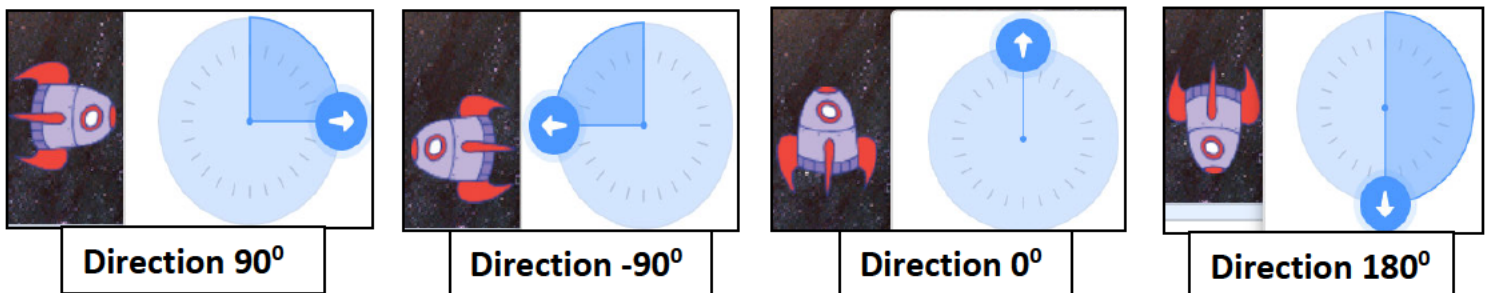


Figure 5.14

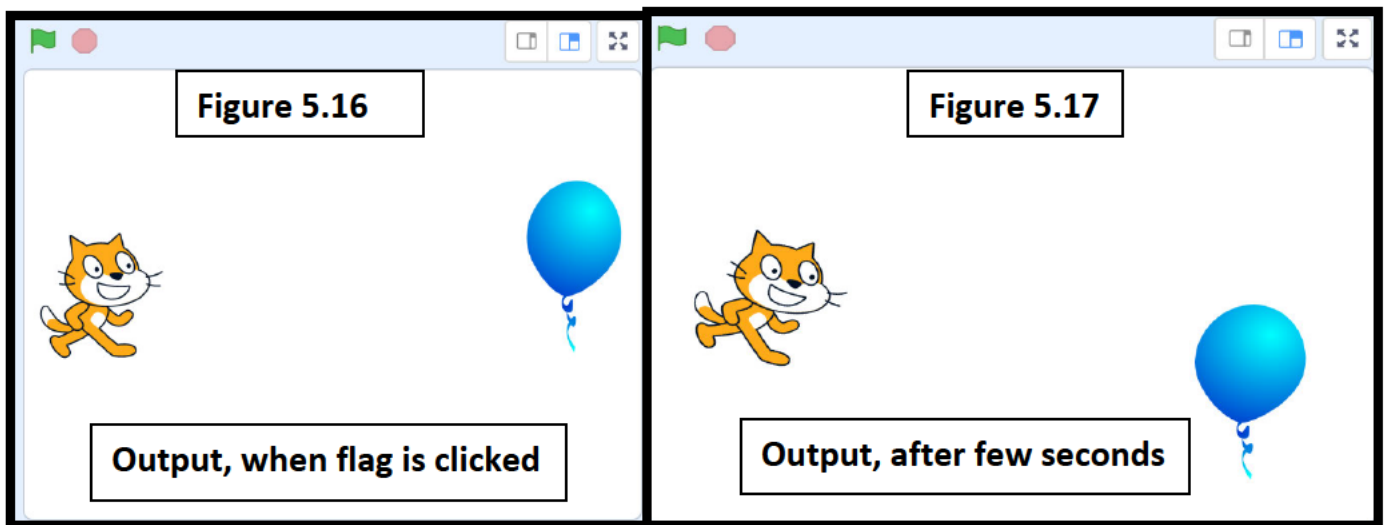
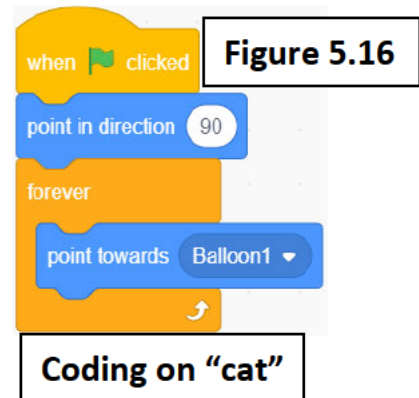
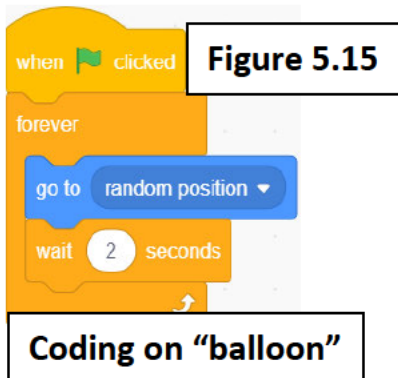
Let's understand with help of an activity.

Activity -5.3:→ Add two sprites cat and balloon and place the sprite “cat” in the stage at left position and point towards right and place the sprite “balloon” at right position, when flag clicked. After every 2 seconds the sprite “balloon” moves to random position and the sprite “cat” turns its face towards “balloon” sprite.

Ans: → **STEP-01**

“Cat” sprite is already added, now add balloon sprite from “Choose a sprite” icon also.

→ **STEP-02** Choose the sprite "cat" and "balloon" one by one and do the following coding on their script areas: -



Aryan: Thanks, dear! That was a very nice activity. I understood this concept very well now.

Exercise

Something To Know

A. Answer the questions given below:

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

Action	Name of Block
A. To move the sprite to a random position.	_____
B. To broadcast a message and then wait for 3seconds.	_____
C. To turn the sprite towards down side	_____
D. To move the sprite by 5 more steps vertically.	_____
E. To set the position of the sprite to (-100,50) position.	_____
F. To check whether the sprite has received any message or not.	_____

Q: -2 Under which block "delete clone of..." block is available in scratch?

Q: -3 What is the meaning of "set x to..." block?

Q: -4 What is the meaning of "point towards..." block?

Q: -5 "show" block is used for _____.

Q: -6 Explain "broadcast message" block.

B. Fill in the blanks given below: -

1. _____ block, is used to turn the sprite in direction of another sprite.
2. "go to mouse-pointer" block is under _____ block.
3. _____ block is used to hide the sprite when it is required.
4. "when I receive...?" block is used for _____.
5. "when I start as a clone" block is a _____ block.
6. _____ option in "Costumes" tab is used to turn the face of the sprite.

C. Write the name of "type of block" for following blocks:

Name of the block	Type of Block
1. "when I receive..."	_____
2. "go to random position"	_____
3. "broadcast message"	_____
4. "when I start as a clone"	_____
5. "if... then block"	_____
6. "delete clone of"	_____

Task to do/something to do

- Create a game of your own choice using different sprites and create clone and delete them.
- Create a project in scratch showing fruits moving here and there and creating clone of them and snake is eating them and finishing its clone.

6. SCRATCH



- 6.1. Blocks using keyboard and mouse
 - 6.1.1 "key... pressed?"— "Sensing" block
 - 6.1.2 "mouse down?"— "Sensing" block
 - 6.1.3 "when...key pressed"— "Events" block
 - 6.1.4 "when this sprite clicked"— "Events" block
- 6.2. Create variables and changing their values— "Variables" block
 - 6.2.1 "Make a variable" button
 - 6.2.2 "set ... to..." block
 - 6.2.3 "change by" block
 - 6.2.4 "show variable..." block
 - 6.2.5 "hide variable..." block
 - 6.2.6 "my variable..." block
- 6.3. "if on edge, bounce" — "Motion" block
 - 6.3.1 Arithmetic operators— "Operators" block
 - 6.3.2 Relational operators— "Operators" block
 - 6.3.3 Logical operators— "Operators" block
 - 6.3.4 More operators— "Operators" block
- 6.4 Operations— "Operators" block



Aryan: In the previous chapter, we have learnt how to create and destroy the clone of a sprite, when required. Also, we have learnt how to move the sprite to a particular position and turn it in a particular direction. So, what are we going to learn today.

Gowri: Sure dear, today I will definitely tell you about how to use keyboard as well as mouse click in our script.

Aryan: Oh, wow! With the keyboard, we will also learn mouse clicks in our script. I am very much excited to learn it now.

Gowri: Before we start, please tell me how many arrow keys are available on the keyboard.

Aryan: I know this dear, there are 4 arrow keys available on the keyboard. Left arrow key (←), right arrow key (→), up arrow key (↑) and down arrow key (↓). Is it right **Gowri**?



Gowri: That's right! Dear. So many other keys are also available on keyboard like "space key", all 26 alphabetical keys (a to z), 10 numeric keys (0 to 9), Enter key, Ctrl key, function keys etc.

But the keys of the keyboard, on which checking can be done is categorized as follows: -

"space key", 2. "alphabetical keys" 3. "numeric keys" 4. left arrow key (←), 5. right arrow key (→), 6. up arrow key (↑) 7. down arrow key (↓) 8. any

Aryan: What is this "any" key?

Gowri: If on the keyboard, you want to check that any key is pressed then you will choose "any" option.

Aryan: Which block can used to use the keys of keyboard in our script.

Gowri: Let me tell you how to use keyboard in our script. We have some blocks for this: -

6.1. Blocks using keyboard and mouse: - The block of instructions which uses keyboards and mouse are given below: -

6.1.1 "key... pressed?"— "Sensing" block: - This block is a "boolean" block (which returns output as true or false), which has a dropdown menu. You can choose any key from list given in this dropdown list (8 type of keys options are available, as discussed above). This block is used to check, whether this chosen key is pressed or not.

6.1.2 "mouse down?"— "Sensing" block: - This block is also a "boolean" block. This block is used to check, whether mouse is clicked or not.

6.1.3 "when... key pressed"— "Events" block: - This is a "hat" block, which has a dropdown menu. You can choose any key from list given in this dropdown list. This block is used to execute the specific block of instructions written under it, when that chosen key is pressed.

6.1.4 “when this sprite clicked”– “Events” block: - This is a “hat” block, which is used to execute the specific block of instructions written under it, when that sprite is clicked.

Let's learn it with help of activities. (See activity 6.1 and 6.2)

Activity -6.1:→ Add a sprite (any bird) in your project and fly it with spreading its wings continuously until space is pressed. Means when space key is pressed then the sprite stops flying.

Ans: → STEP-01

Add a sprite “bat” (from “animals” tab) in scratch and click on the “Events” block, and drag “when flag clicked” block in the script area.

→ **STEP-02**

Choose the sprite “bat” and do the coding in the “forever” block for flying as well as changing its costume (for spreading the wings) continuously (shown in figure 6.1).

→ **STEP-03**

“When space key is pressed” block in script area and then drag

“stop all” block inside it. (shown in figure 6.1).

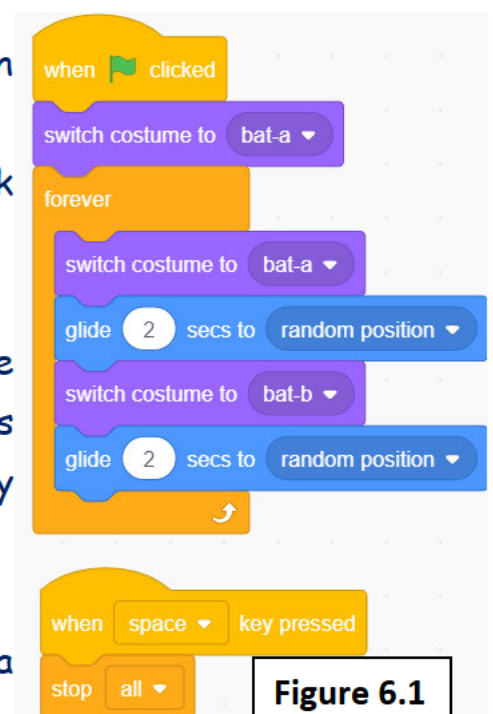


Figure 6.1

Activity -6.2:→ Add a sprite in your project and when press “right” arrow key, move it 10 steps forward and when press “left” arrow key, move it 10 steps backward. when press “down” arrow key, turn it right 30 degrees. when press “up” arrow key, turn it left 30 degrees. When press “space” key, move it 20 steps forward.

Ans: → STEP-01

Open the scratch and the sprite, “cat” is already added there.

Then click on "Events" block, drag "when flag clicked" block in the script area.

→ **STEP-02**

Choose the sprite "cat" and do the coding (as shown in figure 6.2).

Aryan: Oh wow! I understood now how to use the keyboard and mouse to do some specific tasks in the scratch. I liked it very much.

Gowri: Let me also tell you how to move the sprite "spaceship" using keyboard keys and create a clone of the sprite "missile" when "space" key is pressed.

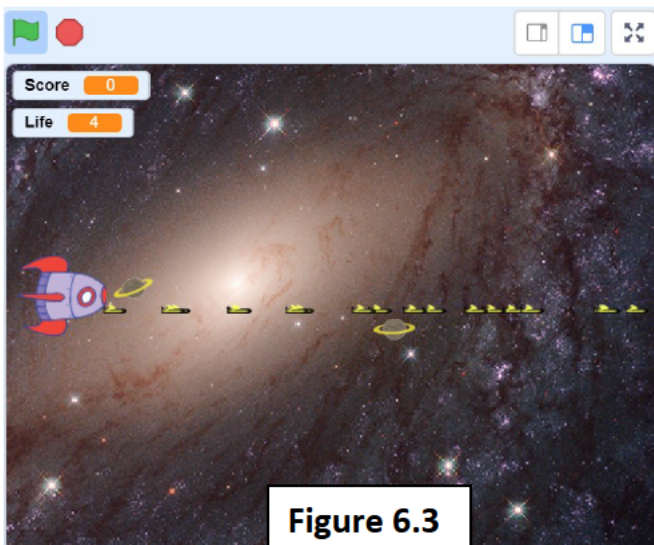


Figure 6.3

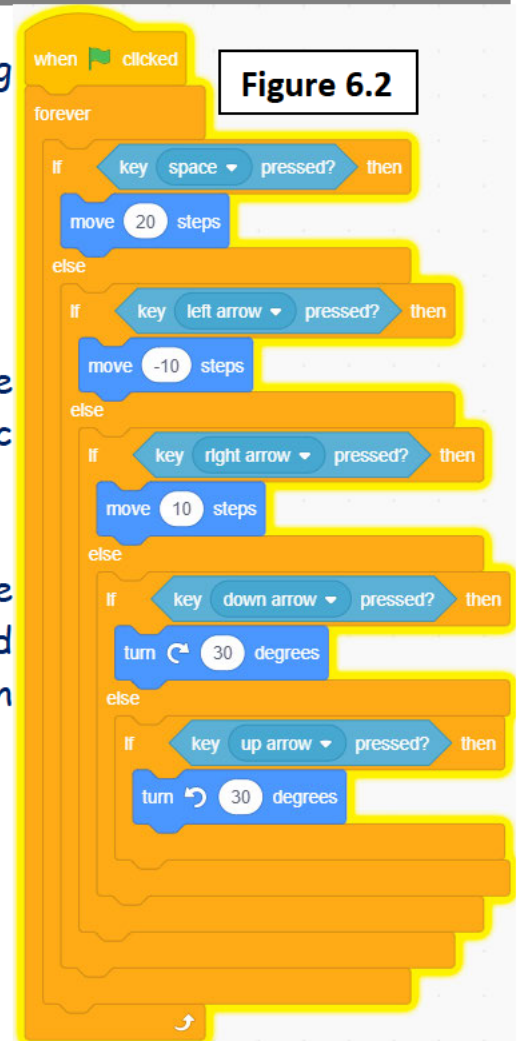


Figure 6.2

Aryan: Can you, please tell me the activity of "spaceship" game again, so that I can understand the concept very clearly.

Gowri: yes, see the activity again, given below: (See Activity 6.3).

Activity -6.3: → Create a small game of spaceship, where spaceship has 5 lives. In this game, planets are the targets and they are moving towards the spaceship in order to destroy it. A spaceship can fire the missiles when the space key is pressed. Spaceship can also be moved with the help of left, right, up and down arrow keys. When a missile hits the planet then the planet is destroyed. Every destroyed planet will increase the scoreboard by one. When a planet hits the spaceship, then one life of the spaceship is finished as well as the planet is destroyed. (see figure 6.3)

Gowri: See the coding on the sprite "spaceship" in figure (6.4) where "Key pressed?" block is used and then chose the options "left arrow", "right arrow", "up arrow" and "down arrow" one by one in different "if... Then..." block. The coding on the sprite "missile" is shown in figure (6.5) where "Key pressed?" block is used in "if... Then..." block and then choose "space key" option.

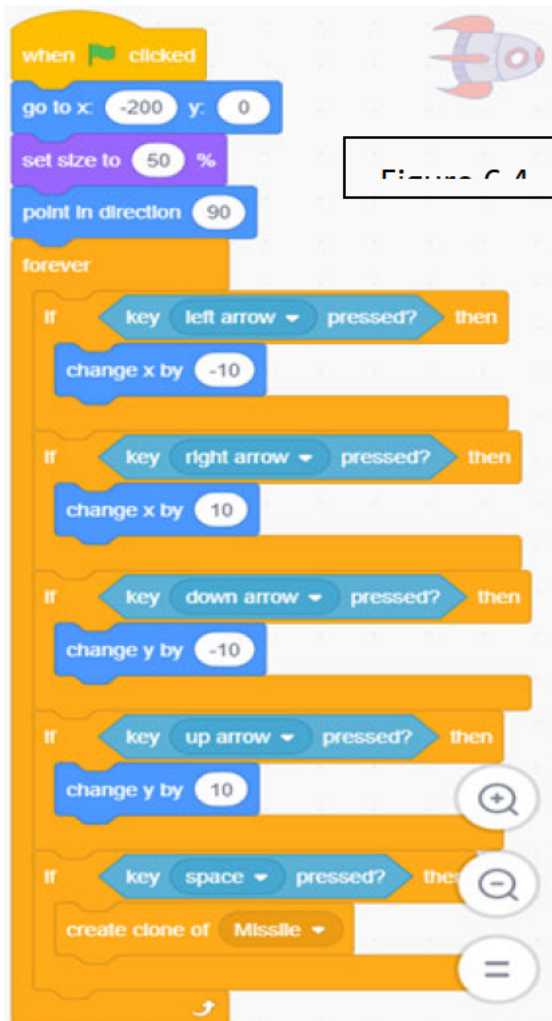


Figure 6.4

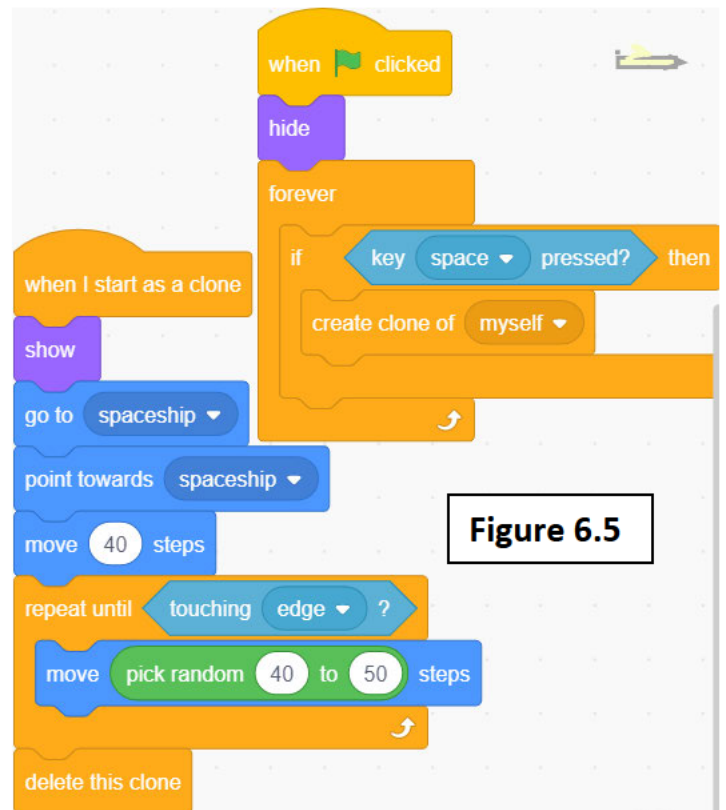


Figure 6.5

Task to do/something to do

- Add two persons as sprites in your Project, facing each other and move towards each other 5 steps when space key is pressed.
- Write the script for creating a clone of itself when sprite is clicked and delete its clones when down arrow is pressed.

Aryan: Oh wow! I have understood now, but please tell me how to calculate the score in the project and how life of the "spaceship" will be decreased, each time when it hits the planet.

Gowri: Yes, dear, we can do that, with the help of variables.

Aryan: Variables? What are these variables, dear? It's a new word for me.

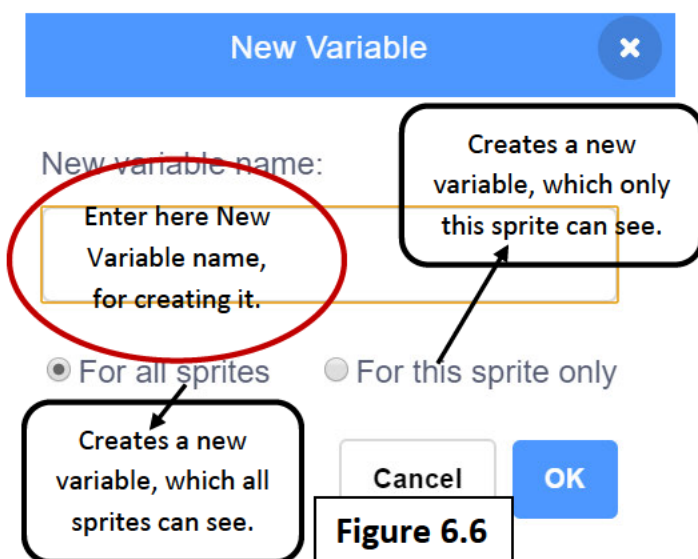
Gowri: Yes, sure dear! I know, it's a new word for you. I will explain now its meaning to you. Variable means varying and varying means changing. So a variable is a name, which stores some value and its value can be changed at any time.

Aryan: Please tell me more about it also with the help of examples.

Gowri: Yes Sure! Dear, we can learn this topic by following block.

6.2. Create variables and changing their values—Variables block: -

6.2.1 "Make a variable" button: - This is a button in Variables block and is



used to create a variable with a name given by us. A variable when created, can be used then only one of the sprites can use that variable or all the sprites can use it. When we click on "Make a variable" button, then a window appears as shown in figure 6.6 having more details to learn it). E.g. create two variables named "score" and "life". "score" variable is used to count, number of times "missiles" hits the

planet and destroys it. "life" variable is used to count, number of times planets hit the "spaceship" and decreases its life, which is decided as 5 as per the game criterion.

Gowri: we can also store any value in this variable.

Aryan: How can we give values to this variable and also change its value?

Gowri: Yes dear! Let's learn it now.

6.2.2 "set... to..." block: - This block is a "stack" block and used to give some value to the variable. This block has a drop-down menu, which has 4 options: -

6.2.2.1 "my variable": - This is an already created variable in scratch, and can be used anywhere in scratch.

6.2.2.2 "rename variable": - This option is used to change the name of the variable created by us.

6.2.2.3 "Delete the...variable": - This option is used to delete the variable created by us.

6.2.2.4 "Names of variables created by us": - This option is used to change the value of the variable created by us to a specific value. E.g. "Set score to 0" will give the value 0 to the "score" variable.

6.2.3 "change... by..." block: - This block is also a "stack" block, and is used to change (increase or decrease) the value of the variable by some specific value. E.g., "change score by 1", will increase the value of this variable by 1.

6.2.4 "show variable..." block: - This block is also a "stack" block, and is used to show the variable and its value on the stage, when required.

6.2.5 "hide variable..." block: - This block is also a "stack" block, and is used to hide the variable and its value on the stage, when not required.

6.2.6 "my variable" block: - This is a "reporter" block and round in shape. This block returns the value of "my variable" variable created already in scratch. Same like that other blocks are also created for all the variables created by us in our scratch project.

Aryan: What is this "reporter" block now? I have heard to this name for the first time in scratch.

Gowri: Yes dear! These are the blocks, which are designed to fit in the input area of other blocks and gives or returns the value of that variable or block.

Aryan: Ok dear, that's interesting, now please tell me the script to calculate the score of the game and code to decrease the life of the "spaceship" when "planet" hits the "spaceship".

Gowri: Yes, let's learn this with the activity given below: -

Activity -6.4: → Calculate the score in the game created above. Increase the value of the score variable, when the sprite "missile" hits the sprite "planet" and also delete its clone. Also set the life of the sprite "spaceship" as 5 and decrease its value, when the sprite "planet" hits the sprite "spaceship".

Ans: → **STEP-01**

Choose the sprite "planet" and create two variables named as "score" and "life".

→ **STEP-02**

Two new reporter blocks named "score" and "life" are also created with "variable" block (shown in figure 6.7) and now set the value of the variable "score" to 0 and variable "life" to 5

by dragging "set... to..." block under "when flag clicked" block. When this

sprite hits the sprite "missile", then change the value of variable "score" by 1. Also change the value of the variable "life" by -1 to decrease its value, when this sprite hits the sprite "spaceship". See the coding for the sprite "planet" as shown in figure 6.8.

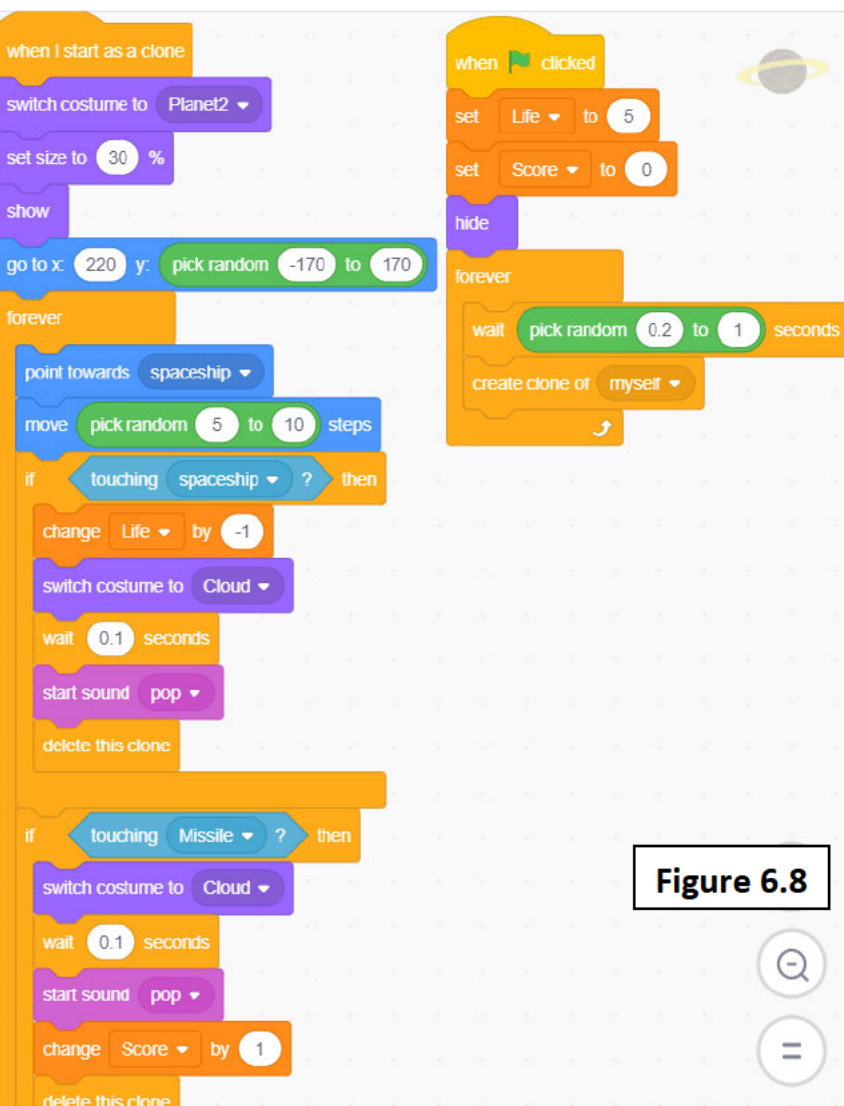


Figure 6.7

When this sprite hits the sprite "spaceship", then change the value of variable "score" by 1. Also change the value of the variable "life" by -1 to decrease its value, when this sprite hits the sprite "spaceship". See the coding for the sprite "planet" as shown in figure 6.8.

Aryan: Wow! it's very interesting game now, but I have seen new blocks named "pick random" block and "if on edge, bounce" block. What are these blocks dear? Please explain them.

Gowri: Yes dear, sure first we will discuss "if on edge, bounce" block.

Figure 6.8

6.3. "if on edge, bounce" block— "Motion" block: -

This block is a "stack" block which means the sprite will bounce or jump when it touches the edge or boundary of the output stage and sprit can also change its direction while jumping.

Gowri: Now we will see the "pick random" block, as this block is present in "operator" block. There are so many types of blocks present in the "Operators" block in the scratch. Let's discuss them now.

6.4. Various Operations—Operators block: -

6.4.1 Arithmetic operators— "Operators" block: - There are 4 types of arithmetic operators present in "Operators" block. All these blocks are "reporter" blocks, means gives or returns some output.

6.4.1.1 "+" Block: - This block is used to add two values, given on the left side and right side of "+" operator.

6.4.1.2 "-" block: - This block is used to subtract two values, given on the left side and right side of "-" operator.

6.4.1.3 "*" block: - It is used to multiply two values, given on left side and right side of "*" operator.

6.4.1.4 "/" block: - it is used to divide two values, given on the left side and right side of "/" operator.

6.4.2 Relational operators— "Operators" block: - There are 3 types of relational operators present in "Operators" block. All these blocks are "boolean" blocks, which checks the values gives output in true or false.

6.4.2.1 ">" block: - This block is used to check whether the left-side value is greater than the right-side value or not.

6.4.2.2 "<" block: - This block is used to check whether the left-side value is less than the right-side value or not.

6.4.2.3 "=" block: - This block is used to check whether the left-side value is equal to the right-side value or not.

6.4.3 Logical operators— "Operators" block: - There are 3 types of logical operators present in "Operators" block. All these blocks are "boolean" blocks, which gives output in True or False.

6.4.3.1 "and" block: - This block returns true when the left-side value and right-side value of "and" operator, both are true. E.g. pen and pencil means both pen and pencil.

6.4.3.2 "or" block: - This block returns true when any one of the left-side value or right-side value of "or" operator, is true. E.g. pen or pencil means any one pen or pencil.

6.4.3.3 "not" block: - This block returns true when the value of the variable is false otherwise true.

6.4.4 More Operators— "Operators" block: -

6.4.4.1 "pick random... to ...": - This block is a "reporter" block and used to choose and return any random value from start value to end value.

6.4.4.2 "join..." block: - This block is a "reporter" block and used to join two strings or messages.

6.4.4.3 "letter ... of ..." block: - This block is a "reporter" block and used to extract the letter from message given in right side starting from the position mentioned in the block by us.

6.4.4.4 "length of ..." block: - This block is a "reporter" block and used to find the length of string or message given.

6.4.4.5 "... contains ...?" block: - This block is a "boolean" block and used to check whether a letter written on the right-side is contained or present in a message or string given on the left-side.

6.4.4.6 "mod" block: - This block is a "reporter" block and used to find the remainder of two numbers by dividing left-side value with right-side value.

6.4.4.7 "round" block: - This block is a "reporter" block and used to calculate the "round off" value of the number given in the specified space.

6.4.4.8 "abs of ..." block: - This block is a "reporter" block and used to calculate the absolute value of a number given in the specified space, which gives the positive value of a specified number.

Let's understand some concepts by activity given below: -

Activity -6.5: → Insert the sprite "cat" in scratch and calculate the mod of any two numbers. If the result is equal to zero then the sprite "cat" plays sound otherwise change the color of the sprite "cat".

Ans: → **STEP-01**

open the scratch and the sprite "cat" is already present there.



→ **STEP-02**

Drag and drop the "when flag clicked" block from "Events" block and then do the following coding as shown in figure (6.9)

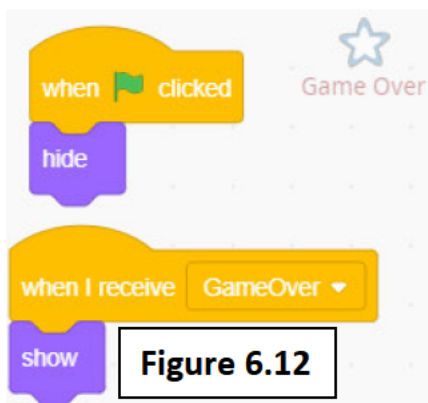
→ **STEP-03**

Drag and drop the "mod" block, inside the "if-block". (shown in figure 6.9)

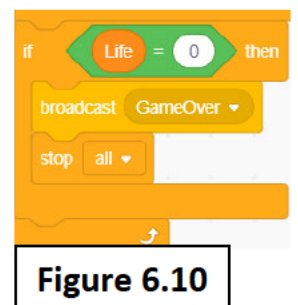
Aryan: Please explain these operators in our "spaceship" game.

Gowri: Dear **Aryan**, in our game of "spaceship", three times "pic random. to ..." block is used, for following reasons: -

- 1) "wait pick random 0.2 to 1" block means, to generate a clone of sprite "planet" at a random interval of time between 0.2 to 1.
- 2) In "go to x 220 y pick random -170 to 170" block means that every time, this sprite clone will appear in the stage at 220 position horizontally means from right side, but vertically can be any position from -170 to 170 position.
- 3) "move pick random 5 to 10 steps" block means moving the sprite "planet" towards the sprite "spaceship" random number of steps from 5 to 10. It means the speed of moving the sprite will be different for every clone.



Aryan: How to finish the game when the life of the sprite "spaceship" finished? This coding is not shown in figure 6.8. Please explain this also.



Gowri: Yes sure! Dear. Now we will learn how to stop the game when the "life" of the sprite has finished and the value of variable "life" will become zero. Do this coding inside the "forever" block. (see figure 6.10)

Let's now learn to finish the game. Add a new sprite "star" and change its costume using "Costumes" tab, (see figure 6.11) and also change its name as "GameOver" and then do the coding on this sprite. (see figure 6.12) This sprite will be visible, only when game is over.

Aryan: Wow! I am feeling very happy to learn how to make a game? Thanks, dear, you have explained me very interesting concepts about "scratch"?

Gowri: Yes dear, Bye **Aryan!** Have a good day.

Aryan: Ok bye Gowri. Have a nice day!



Exercise Something To Do

A. Answer the questions given below:

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

- | Action | Name of Block |
|---|---------------|
| a. To check whether the mouse is pressed or not? _____ | _____ |
| b. To increase the value a variable by 2. _____ | _____ |
| c. To jump the sprite, when it touches the boundary of the stage.
_____ | _____ |
| d. To check whether the value of variable is greater than 50 or not.
_____ | _____ |
| e. To join two strings passed in that block. _____ | _____ |
| f. To check whether the up-arrow key is pressed or not _____ | _____ |

Q: -2 Under which block "if on edge, bounce..." block is available in scratch?

Q: -3 What is the meaning of "set...to..." block under "Variables" block?

Q: -4 What is the meaning of "when... key pressed" block?

Q: -5 "show variable" block is used for _____.

Q:- 6 Explain different logical operators available under "Operators" block.

B. Fill in the blanks given below: -

1. _____ block, is used to add two number values.
2. "abs of..." block is under _____ block.
3. _____ block is used to hide the variable when it is not required.
4. "when this sprite clicked" block is used for _____.
5. "when I start as a clone" block is a _____ block.
6. _____ is the variable, which is already created in scratch.

C. Write the name of "type of block" for following blocks:

Name of the block	Type of Block
1. "when this sprite is clicked"	_____
2. "my variable"	_____
3. "key pressed?"	_____
4. "... >..."	_____
5. "make a variable"	_____
6. "hide variable..."	_____
7. "pic random... to..."	_____

Something To Do

1. Create a game of your own choice using different sprites and blocks and variables teach till now.
2. Create a story in the scratch showing different backgrounds and music.
3. Use scratch, and make a project of your own choice.

PROJECT IN SCRATCH

Gowri: As we have learned so many blocks and features of scratch in this class and the previous classes as well, Let's make a project using a bowl and an egg.

Aryan: Oh wow, that's great.

Gowri: First, we will understand the game purpose and its rule. See Project 2.1.

Project 2.1 → Add two sprites an "egg" and a "bowl" in your project. Clones of a sprite "egg" will be generated in random time from top side of the stage and falling in downward direction continuously. When the sprite "egg" touches the sprite "bowl", bowl collects it and scoreboard is increased by 1. You can also move the bowl left or right by Left arrow key or right arrow key of the keyboard. But when the sprite "egg" touches the edge of the stage, it gets crashed and life of the game is decreased by one. When it is repeated 5 times, egg falls down and the game will be over.

Gowri: Let's discuss its solution now.

→ **STEP-01**

Add three sprites from "choose a sprite" icon as given below: -

1. Sprite "Bowl" named as "Bowl" and design its new costume (named as "bowl-b") using "Costumes" tab as shown in figure 2.1. this new costume is looking like egg is inside the bowl.
2. Sprite "Egg" named as "Egg" and click on "Costumes" tab and keep its costume (named as "egg-b") and remove all other costumes present in it, as shown in figure 2.1. this costume will appear whenever egg is crashed.
3. Sprite "Penguin2" named as "GameOver" and design its new costume (named as "penguin2-b") using "Costumes" tab as shown in figure 2.1. this new costume will be used when game is over.

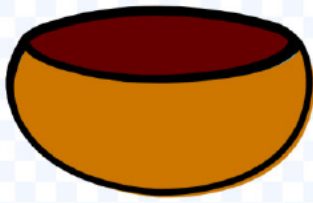
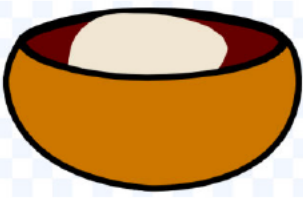



				 Game Over
Sprite "Bowl" costume: "bowl-a"	Sprite "Bowl" costume: "bowl-b"	Sprite "Egg" costume: "egg-a"	Sprite "Egg" costume: "egg-b"	Sprite "Penguin2" costume: "penguin2-b"

Figure 2.1

Figure 2.2

```

when I start as a clone
  show
  repeat until touching edge ? or touching Bowl ?
    change y by -10
  if touching edge ? then
    switch costume to egg-b
    change Remaining Miss by -1
    wait 1 seconds
  if Remaining Miss = 0 then
    broadcast GameOver
    stop all
  delete this clone

when clicked
  set Remaining Miss to 5
  hide
  switch costume to egg-a
  point in direction 90
  forever
    go to x: pick random -210 to 210 y: 155
    create clone of myself
    wait pick random 1 to 3 seconds
  
```

Figure 2.3

```

when clicked
  show
  switch costume to bowl-a
  switch backdrop to Bench With View
  set Score to 0
  set size to 120 %
  go to x: -100 y: -110
  forever
    if touching Egg ? then
      switch costume to bowl-a2
      reset timer
      change Score by 1
      start sound pop
    if costume number = 2 and timer > 1 then
      switch costume to bowl-a
    if key left arrow pressed? and x position > -200 then
      change x by -15
    else
      if key right arrow pressed? and x position < 200 then
        change x by 15
  
```

→STEP-02

Choose the sprite "Egg" and do following coding on it. (Figure 2.2)

→ STEP-03

Choose the sprite "Bowl" and do following coding on it. (Figure 2.3)

→ STEP-04

Choose the sprite "Gameover" and do following coding on it. (Figure 2.4)

Figure 2.4

```

when clicked
  hide

when I receive GameOver
  switch backdrop to Desert
  show
  play sound Chirp until done
  
```

Gowri: Glimpse of Game at different time is shown in figure 2.5



Aryan: Thanks, Gowri, for explaining this to me. I have understood it now. This will help me a lot in making more working projects, games and stories.

APPENDIX- I ANSWERS

Chapter 1 - Impress

A. Answer the following questions

1. Slide Animation is applied over contents of slide whereas Slide transition is applied over complete slide.
2. He can set time in automatic after to move slides.
3. Duplicate slide or copy slide
4. It is used to see preview of effects applied.
5. work as template, save time, can be updated at any time

B. Fill in the Blanks

- i. Images, ii. Slide7, iii. Zoom out , iv. animation, v. Select

C. Match the following

a) To move a slide	t) Ctrl+X can be used
b) Connectors connect the shapes	r) through glue points
c) Line colour gives colour to	s) outline of objects
d) to see zoom screen by scrolling	q) Pan is used
e) A presentation becomes more effective by using	p) Templates, Master slides

D. Select the right option

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

E. True/False

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

Chapter 2 :- Libre office Calc

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

II. Left Align-	Ctrl+L
Bold-	Ctrl+B
Italic-	Ctrl+I
Right Align-	Ctrl+R
Insert date-	Ctrl+;

- III 1. Ctrl+Shift+;
2. Strikethrough
3. hyperlink
4. function
5. three

- IV 1. Format-> Text-> Bold (Ctrl+B)
2. Format-> Text-> Single Underline
3. Insert -> Chart-> Pie
4. Ctrl+E
5. View Menu

Chapter 3 :- More with writer


A. Answer the following questions

1. Synonyms shows the words having the same meaning as of selected text where as dictionary shows the words which seems similar to selected text in spelling.
2. Use merge cells options to merge cells horizontally and vertically.
3. Select all places name using Ctrl key and mouse. Then highlight them in one click.
4. Those characters which are not visible on the screen when pressed from keyboard. For example, spacebar
5. Autocorrect correct the spellings of the words during typing itself. We get suggestions instantly using auto correct.

B. Fill in the Blanks

- i. Split cells, ii. Ctrl, iii. Alt+Shift+F8 iv. Add to dictionary, v. Edit

C. Match the following

a) Randomly selecting text on screen	t) by holding Ctrl key simultaneously.
b) Add to dictionary helps	s) to add a new word permanently.
c) Shift + F7	p) Automatic spell checking
d) Thesaurus is related to	q) Synonym.
e) to  toggle	r) Ctrl+F10

D. Select the right option

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

E. True/False

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

Chapter 4:- More on Internet

A:

1. Ans. World Wide Web, which is also known as a Web, is a collection of websites or web pages stored in web servers and connected to local computers through the internet. These websites contain text pages, digital images, audios, videos, etc...
2. Ans. The Internet is a comprehensive network of computers and was conceptualized during 1969 by the ARPA or Advanced Research Projects Agency. The World Wide Web is much newer compared to the Internet and was initialized during the 1990s. The World Wide Web is a collection of web pages following the http protocol that can be accessed via the Internet from any part of the world.
3. Ans. A Google account lets you log in on computers, smartphones and tablets using a single password. Google synchronises all your data from across all your devices, so things like email, photos and documents can be accessible wherever you are.

4. Ans. Email stands for Electronic Mail. E-mail is defined as the transmission of messages on the Internet.

5. Ans. Some of Internet safety browsing tips :

- Installing antivirus and antimalware
- Creating difficult, varied passwords that are impossible to guess.
- Making all social media accounts private.
- Deactivating auto fill.

B. Fill in the Blanks

1. Internet
2. World Wide Web
3. Google
4. Email

C. Match the Following.

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

D. Select the correct answer for each question.

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

E. True or False

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

Chapter 5 - Scratch

Q: -1 You have seen how to create and delete the clone of the sprites in scratch. Write the name of block used for following tasks.

Name of Block

- a. "create clone of..."

- b. "delete this clone"
- c. "touching...?"
- d. "if..then.."

Q: -2 Ans: - "Control" block.

Q: -3 Ans: - This block is a "cap" block (This block ends the script), which is used to delete the clone or copy of sprite already created.

Q: -4 Ans: - This block is a "stack" block, which is used to create the clone of the sprite chosen from a list given in this block. This also means creating the same copy of the chosen sprite but their scripts are not copied.

Q: -5 Ans: - "stack" block.

A. Answer the questions given below:

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

Name of Block

- a. "goto random position"
- b. "broadcast... and wait"
- c. "point in direction 180°"
- d. "change y by 5"
- e. "goto x -100 y 50"
- f. "when I receive...?"

Q: -2 Ans: - "Control" block.

Q: -3 Ans: - This block is used to change only the x value of the sprite with a specific value. It moves the sprite horizontally to particular position.

Q: -4 Ans: - This is a "stack" block and has a dropdown menu having two options: -

- a. "point towards mouse pointer" block:-> This block points the direction of the sprite towards mouse pointer.
- b. "point towards sprite-name" block:-> This block points the direction of the sprite towards another sprite that we will choose.

Q: -5 Ans: - This is a "stack" block and it is used to show the sprite, when required.

Q:- 6 Ans: - This block is a "stack" block and it is used to broadcast or send the particular message. This block has a dropdown list, from where you can choose a message name or can also create a new message and can also set the name of message as per your choice.

B. Fill in the blanks given below: -

1. "point towards..." block, is used to turn the sprite in direction of another sprite.
2. "goto mouse-pointer" block is under "Motion" block.
3. "hide" block is used to hide the sprite when it is required.
4. "when I receive...?" block is used for **doing some specific task when the sprite receives the message, sent by same sprite or any other sprite.**
5. "when I start as a clone" block is a "hat" block.
6. "flip horizontal" option in costume tab is used to turn the face of the sprite.

C. Write the name of "type of block" for following blocks:

Name of the block	Type of Block
1. "when I receive..."	"hat" block
2. "go to random position"	"stack" block
3. "broadcast message"	"stack" block
4. "when I start as a clone"	"hat" block
5. "if.. then block"	"c-block" block
6. "delete clone of"	"cap" block

Chapter 6 - Scratch**A. Answer the questions given below:**

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

Name of Block

- a. "mouse down?"
- b. "Change.... by..."
- c. "if on edge, bounce..."
- d. "... > ..."
- e. "join..."
- f. "when up key pressed"

Q: -2 Ans: - "Motion" block

Q: -3 Ans: - This block is a "stack" block and used to give some value to the variable. This block has a drop-down menu, which has 4 options: -

- a. **my variable:** - This is an already created variable in scratch, and can be used anywhere in scratch.
- b. **Rename variable:** - This option is used to change the name of the variable created by us.
- c. **Delete the "... variable:** - This option is used to delete the variable created by us.
- d. **Names of variables created by us:** - This option is used to change the value of the variable created by us to a specific value. E.g. "set score to 0" block will give the value 0 to "score" variable.

Q: -4 Ans: - This is a "hat" block, which has a dropdown menu. We can choose any key from list given in this dropdown list. This block is used to execute the specific block of instructions written under it, when that chosen key is pressed.

Q: -5 Ans: - This block is a "stack" block, and is used to show the variable and its value on the stage, when required.

Q:- 6 Ans: - There are three Logical Operators in "**Operators**" block. These blocks are "boolean" blocks, which gives output in True or False. These are: -

- a. **"and"** block: - This block returns true when the left-side value and right-side value of "and" operator, both are true. E.g. pen and pencil means both pen and pencil.
- b. **"or"** block: - This block returns true when any one of the left-side value or right-side value of "or" operator, is true. E.g. pen or pencil means any one pen or pencil.
- c. **"not"** block: - This block returns true when the value of the variable is false otherwise true.

B. Fill in the blanks given below: -

1. "... + ..." block, is used to add two number values.
2. "abs of..." block is under "**Operators**" block.
3. **"hide"** block is used to hide the variable when it is not required.
4. "when this sprite clicked" block is used for **checking whether the sprite is clicked or not**.
5. "when I start as a clone" block is a **"hat"** block.
6. **"my variable"** is the variable, which is already created in scratch.

C. Write the name of "type of block" for following blocks:

- | Name of the block | Type of Block |
|----------------------------------|--------------------|
| 1. "when this sprite is clicked" | "hat" block |

- | | |
|--------------------------|------------------|
| 2. "my variable" | "reporter" block |
| 3. "key pressed?" | "boolean" block |
| 4. "... >..." | "boolean" block |
| 5. "make a variable" | "button" |
| 6. "hide variable..." | "stack" block |
| 7. "pic random... to..." | "reporter block" |



तत् त्वं पूषन् अपावृणु
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