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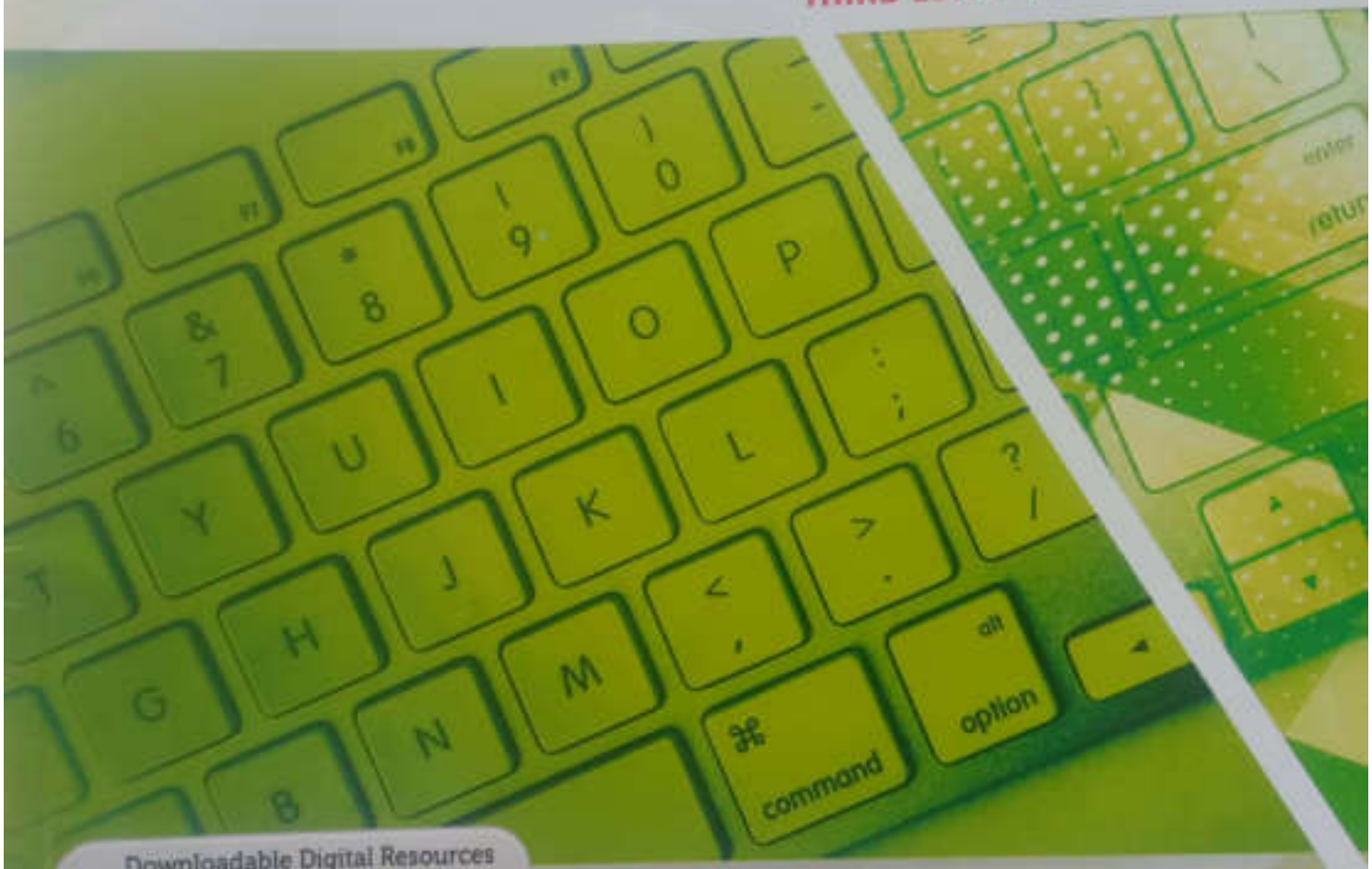
THIRD EDITION



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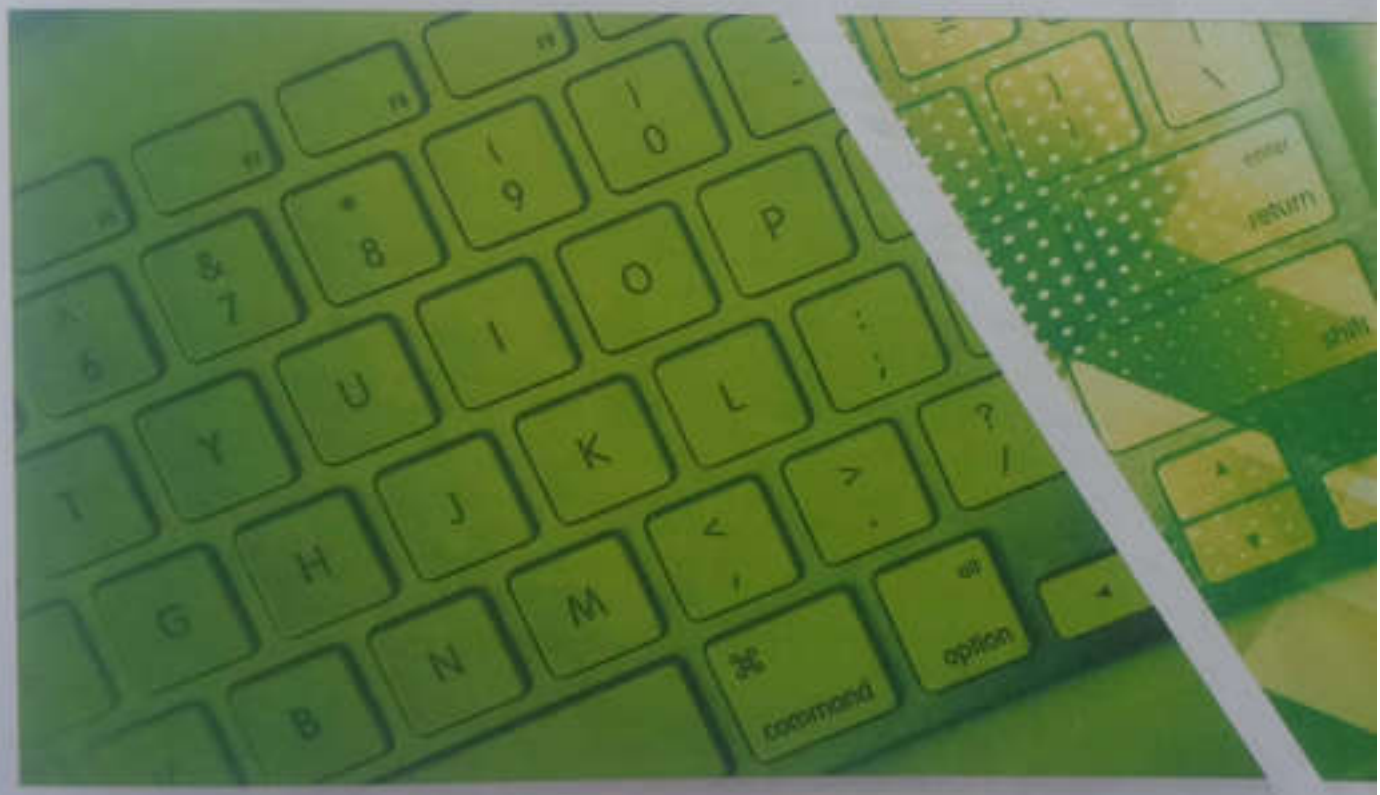

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Preface

Keyboard: Computer Science with Application Software (Third Edition): a series of eight books for Classes 1 to 8; is a concerted effort to impart knowledge about computers using an interesting and interactive approach. Computer science is a fascinating and wide-ranging subject with limitless opportunities for creativity and application. Today computers influence every facet of our lives. In the highly competitive world we live in, a basic working knowledge of computers is essential for success. There is, therefore, a great desire to introduce computer education to children at an early age. There should also be enough room for them to explore and create on their own.

This series introduces the subject in language that is simple and direct. Technical vocabulary is introduced where necessary and all such terms are defined at the end of each chapter. Comic strips, icons, engaging characters, and illustrations make the learning process an enjoyable experience.

The content is based on extensive feedback from teachers, and on the latest trends in computer education. Particular care has been taken to update facts and figures, and to include information about the latest devices in the market.

The focus of Books 1 to 5 is on learning the basics of computer science; on understanding MS Office 2013 and using KTurtle, as a programming language.

Books 6 to 8 move beyond elementary concepts and introduce Publisher 2013 (Flash Version CS3), HTML 5, Dreamweaver (Version CS3), Photoshop (CS3), Microsoft Small Basic, and Visual Basic (Version Microsoft Visual Basic 2013 Express). This edition also gives them the potential opportunity for hands-on experience of sound and video editing through the programmes, Audacity and Lightworks.

With a strong emphasis on developing 21st century computer skills: critical thinking, communication, collaboration, and creativity—this edition of *Keyboard: Computer Science with Application Software* will prove to be invaluable for students and teachers.

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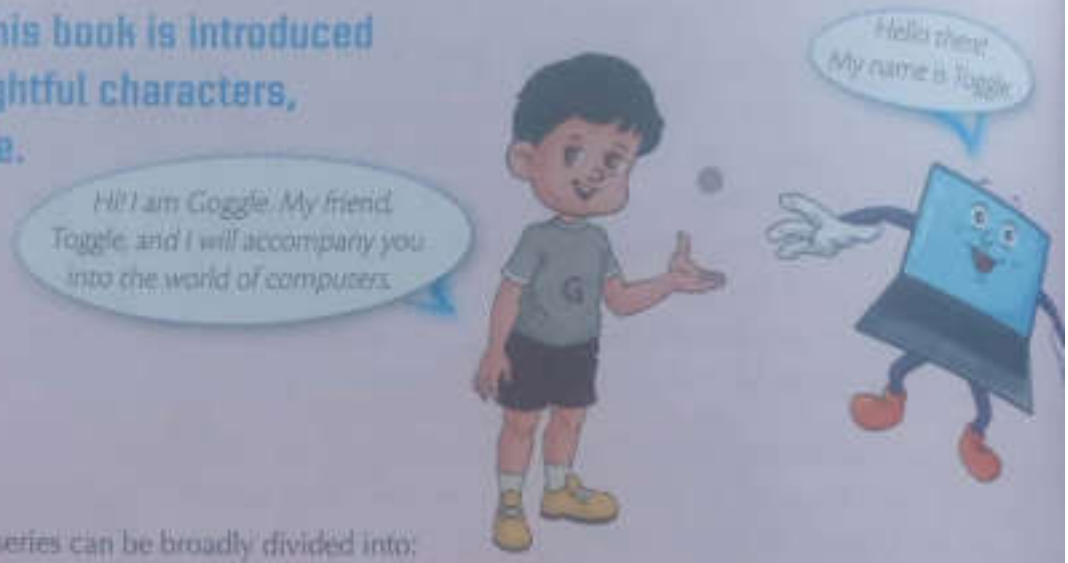
Key Features

Each chapter in this book is introduced through two delightful characters, Goggle and Toggle.

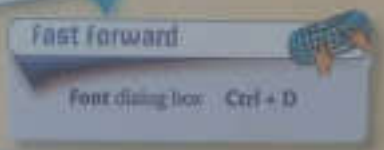


The key features in this series can be broadly divided into:

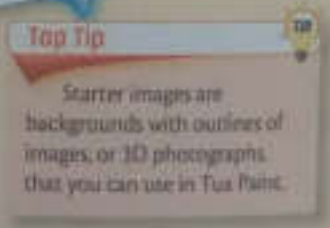
- LEARNING TOOLS
- ASSESSMENT TOOLS
- FOR TEACHERS the course includes teacher's notes within the Student's Books, comprehensive Teaching Guides, and an exciting new **downloadable digital resources.**

Learning Tools

Fast Forward *provides keyboard shortcuts for menu commands, to help users save time while performing routine operations.*

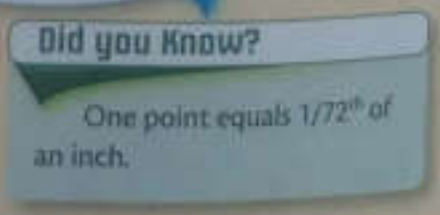


Top Tip *gives students useful tips on the options available for different operations.*



Practice Time *included after every major topic, provides situational exercises along with their solutions to reinforce learning.*

Did You Know? *provides interesting information on the topic being covered.*



Assessment Tools

Exercises
contain both objective and descriptive questions, and test learners on all aspects of conceptual theory covered in a chapter.

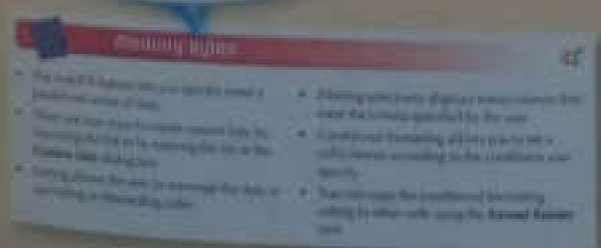
Group Project
encourages students to collaborate and exchange ideas on common project.

In the Lab
challenges students to apply the concepts learned to real-life situations.

Worksheets
unit-based and conforming to the continuous assessment recommendations of various boards.

Computer Manners *presents computer etiquette in a child-friendly manner using cartoon strips.*

Memory Bytes *summarises each chapter for a quick recapitulation of all the topics in that chapter.*



FOR TEACHERS

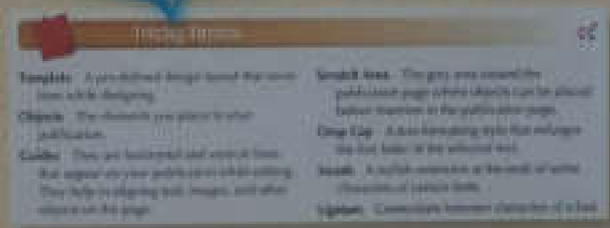
- **The downloadable teaching resource** is an exciting new digital teaching aid that offers reinforcement and assessment materials.
- The **Test Generator** is an innovative, easy-to-use assessment tool. It has been designed to aid teachers in creating a variety of test papers from an extensive pool of questions for effective evaluation.

The course is also supported by:

(a) **Teacher's Notes** within the Student's Books that provide important information and suggestions on creative approaches to a chapter or a topic.

(b) **Teaching Guides** that include lesson plans, the complete answer key to the Student's Books, worksheets, and test papers.

Tricky Terms *at the end of each chapter provides a list of important terms along with their definitions for easy recall.*



Contents

Chapter 1

Operating System

An operating system is a very important part of a computer. Before we talk about the operating system, let us understand what a computer is made up of.

In this Chapter

- What is a Computer made of?
- Operating System
- Types of Operating Systems
- Desktop and Icons

WHAT IS A COMPUTER MADE UP OF?

A computer is made up of hardware and software.

Hardware refers to the parts of a computer that you can touch or feel. The CPU, monitor, keyboard, mouse, printer, scanner, and microphone are examples of computer hardware. Input devices, the processing unit, storage devices, and output devices are all examples of computer hardware.

Software refers to a set of programs (a set of instructions given to a computer) that performs some tasks in a computer. Some of the popular software are MS Windows, MS Office, KTurtle, Adobe Flash, and Adobe Photoshop. When you start your computer, the operating system software also starts with it.

OPERATING SYSTEM

An operating system is a program that helps the computer hardware to work with other computer software. It helps a user to get an output from the computer. A computer is of no use without an operating system.

There are three steps to how a computer works (Fig 1.1).

Fig. 1.1 How a computer works

Different kinds of software take **inputs** from the user, pass them on to the CPU for **processing**, and then help to display the **result** or **output**. An operating system helps to make this exchange of input and output among the **input device**, the **software**, the CPU, and the **output device** possible.

TYPES OF OPERATING SYSTEMS

There are two types of operating systems—single-user and multi-user.

Single-User Operating System

A single-user operating system allows only one user to work on it at a time.

A few examples are Windows XP, Mac OS (Macintosh Operating System), Windows 7, Windows 8, etc. Single-user operating systems are usually meant for home use.

Multi-User Operating System

A multi-user operating system allows many people to use the same computer at the same time or at different times. Therefore, this main computer is attached to many other computers. A few examples of such an operating system are Windows Server 2012, UNIX, Linux, etc. Multi-user operating systems are used in offices and big organisations like hospitals and railway stations.

Microsoft Windows

Microsoft Windows is one of the most popular operating systems. When you switch on a computer, the Windows operating system gets loaded into the computer memory automatically. While loading, the picture of the Windows flag appears on the screen (Fig. 1.2). A few seconds later, a welcome message appears (Fig. 1.3).

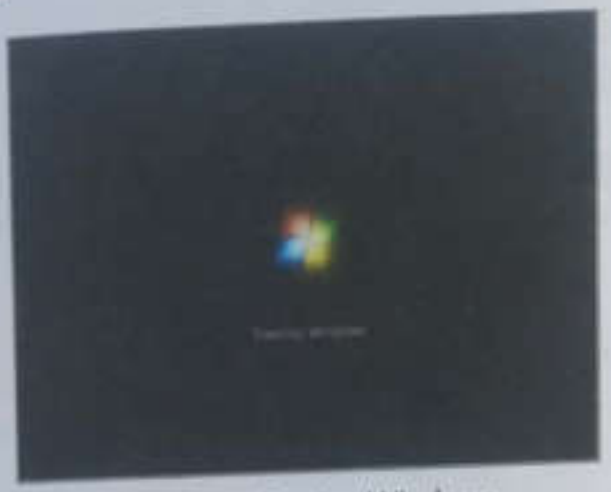


Fig. 1.2 Starting Windows

Fig. 1.3 Welcome message

DESKTOP AND ICONS

Shortly after the Windows welcome message appears, you will see a screen (similar to the screen given alongside) on the monitor with many small pictures on it. This screen is called the **desktop** and the small pictures are called **icons** (Fig. 1.4)

Fig. 1.4 Desktop with icons

Icons on the Desktop

The icons on the desktop may represent a file, a folder, or a program (or software). By double-clicking these icons, you can open them.

(a) A file (b) A folder (c) A Program

Fig. 1.5 Icons on a desktop

Figures 1.5(a), (b), and (c) show a Word file titled 'Magic World', a folder titled 'images', and the Word 2013 program, respectively.

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Files and Folders

Any piece of information stored in the computer is in the form of a file. A file in Windows is similar to a file used by you to store test papers, your certificates, and many other things. A file can contain data, programs, etc. There are different types of files like sound files, movie files, and document files.

Each file is represented by a different icon. Each file can also be given a name that is useful to identify the file; this is known as its **file name**.

A **folder** is used to store a group of files. The icon for a folder is  , which looks like a folder used for keeping papers. A folder can also contain other folders in it.

Taskbar

The **taskbar** is a long, horizontal bar at the bottom of the screen. It contains buttons with icons, which tell us what programs are open on the computer. For example, if the Adobe Photoshop, Adobe Reader, and Word 2013 programs are open, then the taskbar would appear as shown in Fig. 1.6.

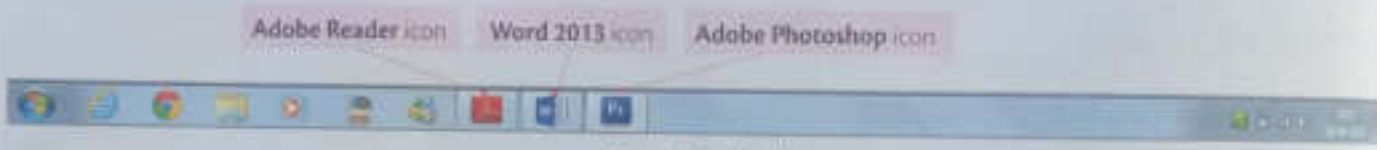

Fig. 1.6 Taskbar

Changing the Position of the Taskbar

You can change or move the position of the taskbar to any of the four sides on the screen.

Step 1: Move the mouse pointer to an empty space on the taskbar.

Step 2: Click and hold the mouse button.

Step 3: Drag the mouse pointer to the right of the computer screen.

Step 4: Release the mouse button.

The taskbar would have moved to the right of the computer screen (Fig. 1.7).

Fig. 1.7 Taskbar moved to the right side of the computer screen

Top Tip

If the taskbar is not moving, it may be locked.

To unlock the taskbar, follow the steps:

Step 1: Right-click an empty space on the taskbar; a context menu appears.

Step 2: Click **Lock the taskbar** check mark, so that the check mark disappears.

Fig. 1.8 **Start** menu

Start Button

You will see the **Start** button at the left corner of the taskbar (Fig. 1.8). It helps you open any program on your computer. Clicking the **Start** button displays a menu called the **Start** menu.

Right pane

Fast Forward

To open the **Start** menu, press the Windows logo key on the keyboard.

The **Start** menu is divided into two panes—the left pane and the right pane.

Left Pane of the Start Menu

- It shows a list of recently opened programs. Some of the programs have an ▶ symbol.
- Moving the mouse pointer to any of these symbols displays the recently opened files in that program (Fig. 1.9).
- Clicking **All Programs** displays the complete list of programs in alphabetical order followed by a list of folders, each of which may have more programs.

Recently opened files

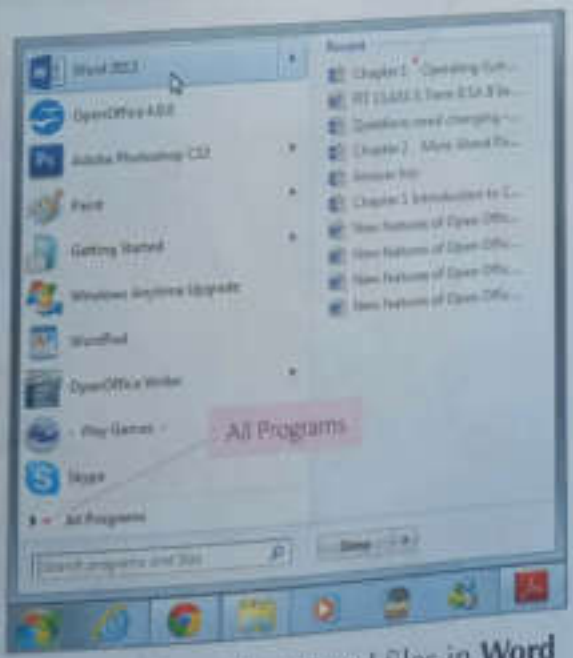

Fig. 1.9 Recently opened files in **Word 2013**

- Click, for example, **Accessories**. A list of programs in the folder appears. Click on any program to open it (Fig. 1.10).
- To get back to the programs you saw when you first opened the **Start** menu, click **Back** near the bottom of the menu.
- At the bottom of the left pane is the **Search** box (Fig. 1.10), which allows you to search for programs and files on your computer.

Right Pane of the Start Menu

The right pane provides access to commonly used folders, files, settings, and features. This is also the place from where you can turn off your computer by clicking the **Shut down** button.

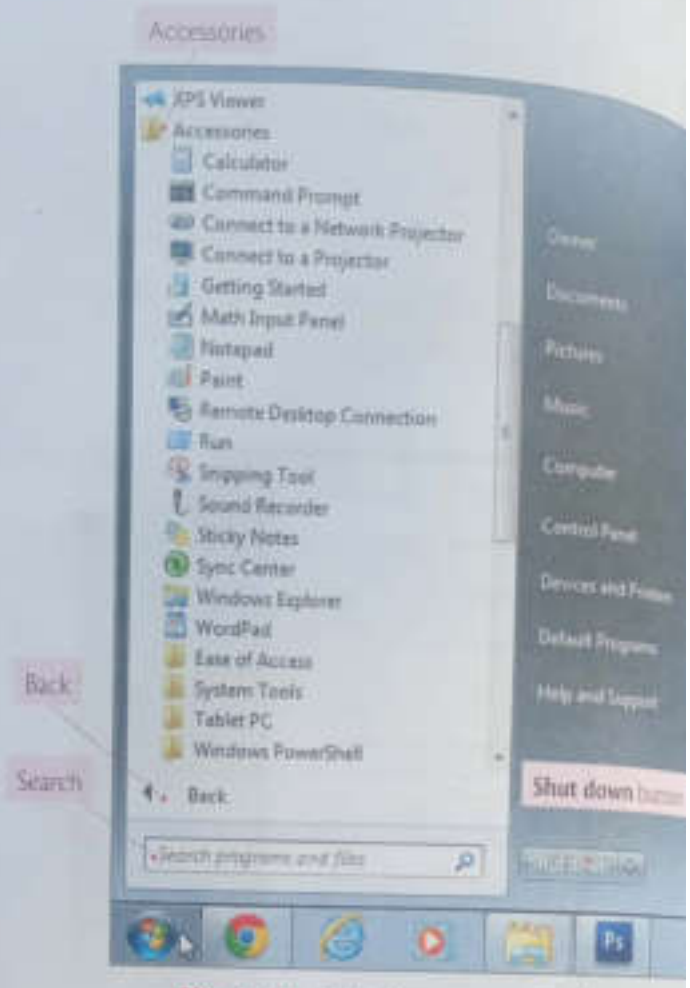

Fig. 1.10 List of programs in the **Accessories** folder

Computer Manners

Do not use a wet cloth to clean the monitor or any other part of the computer. Always use a clean, dry cloth to wipe off dust or dirt from any part of the computer.

Tricky Terms

Hardware Hardware refers to the parts of a computer that you can touch or feel.

Software Software refers to a set of programs (a set of instructions given to a computer) that perform some tasks in a computer.

Operating system a software that helps the computer hardware to work along with other computer software

Desktop the screen that appears after loading the Windows operating system

Icons small pictures on the desktop

File used to store any piece of information

Folder used to store a group of files

Taskbar the long horizontal bar at the bottom of the screen

Memory Bytes

- An operating system is a software that helps the user to work with the computer.
- Single-user operating systems are generally used at homes.
- Multi-user operating systems are used in offices and big organisations like banks and railway stations.
- Microsoft Windows is one of the most popular operating systems.
- Files, folders, or programs on the desktop can be opened by double-clicking them.
- The taskbar is the horizontal bar at the bottom of the desktop which has buttons and icons of programs open on the computer.
- The **Start** button, at the left corner of the taskbar, helps you open any program on your computer.

EXERCISES

Objective Type Questions

1. **Fill in the blanks with the correct words.**

Operating system **Single-user** **icons** **desktop** **folder**

a. A ..... is used to store a group of files.

b. ..... operating systems are generally used at homes.

c. The taskbar is a long, horizontal bar at the bottom of the ..... screen.

d. An ..... is a software that helps the user to work with the computer.

e. The small pictures on the desktop are called ..... .

2. **Choose the correct option.**

a. This software gets automatically loaded into the computer's memory when the computer is switched on.

i. Operating system ii. Desktop iii. Taskbar iv. none of these

b. Which of the following is a multi-user operating system?

i. UNIX ii. Windows 8 iii. both (a) and (b) iv. none of these

c. The Start menu is divided into how many panes?

i. One ii. Two iii. Three iv. Four

d. A folder can contain

i. Folder(s) ii. File(s) iii. both (i) and (ii) iv. none of these

e. Double-clicking the ..... mouse button can open any program on the desktop

i. Right ii. Left iii. both (i) and (ii) iv. none of these

Descriptive Type Questions

1. **Answer the following.**

a. What does the left pane of the Start menu show?

b. What is the difference between hardware and software?

c. How does an operating system help the computer to function?

d. Describe the properties of a desktop.

e. Why is it important to have different files and folders?

f. Outline the steps required to change the position of a taskbar.

g. Why might you not be able to move the taskbar? Offer a solution.

h. List the steps you will take to access Word 2013.

Application-Based Questions

a. Rahman's father has purchased a new computer to be used by Rahman at home.

i. Which type of operating system should he install—single-user or multi-user?

ii. Give one example of a popular operating system that he could install.

b. Observe the following figure and answer the questions given below:

i. Name any two folders shown in the figure.

ii. Label the parts (i) and (ii) in the figure.

THE LAB

1. Find out which operating system is loaded on the computer:
   a. in of your school's computer lab
   b. at your home.
2. Look at the desktop of a computer and then draw:
   a. any two icons on the desktop

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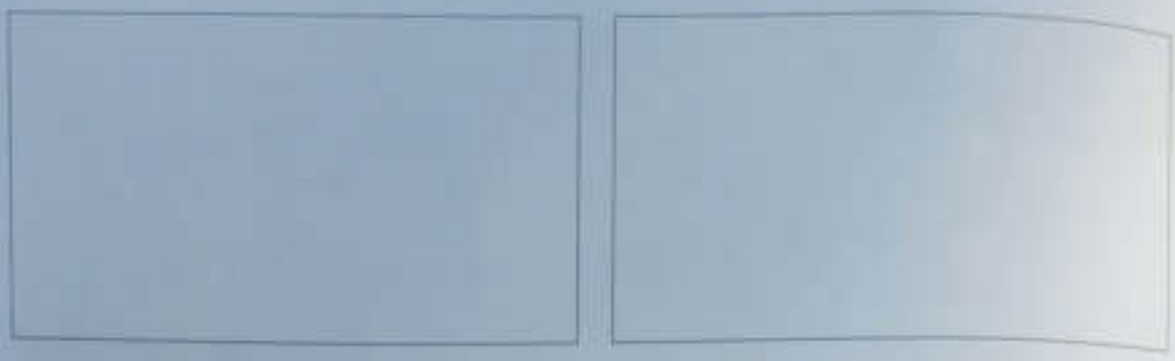
b. icons of a folder and of the recycle bin



3. Observe the desktop of your computer. Notice the position of the taskbar. Try to change the position of the taskbar and bring it back to the original position.
4. Get organised! Decide how you would like the icons to be displayed on your desktop. Try rearranging them in alphabetical order. Try moving them all to the left, to the right, to the top, and to the bottom of the screen. Which do you think will work best for you?

GROUP PROJECT

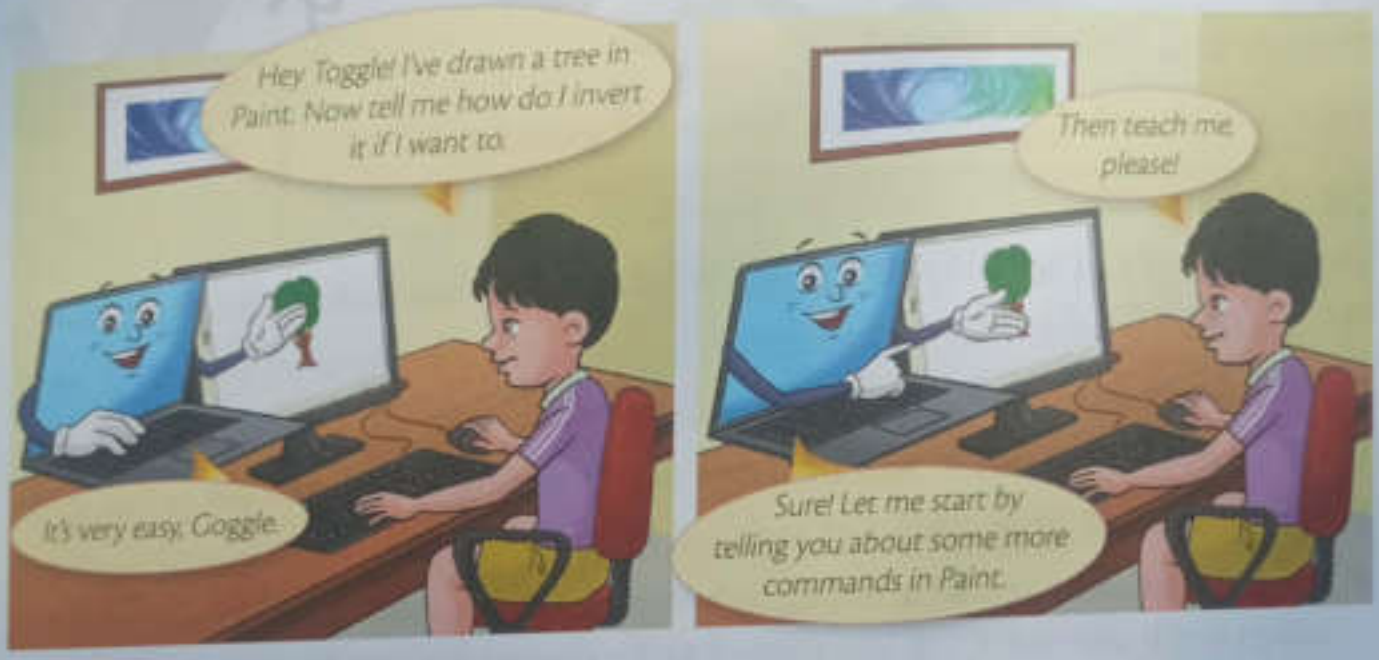
1. In groups of four, explore moving the taskbar to different sides of the screen. Which side do you prefer? (Check out the Top Tip on page 5 of this book, if your taskbar gets stuck.)
2. In turns, open the Start menu and choose a program to open and close. There is so much to explore! (If you get stuck, page 5 of this book will help.)

TEACHER'S NOTES

- Students may be told very briefly about the operating systems loaded in your school's computer lab.
- Students may be given a practical demonstration on how to start programs on a computer using (a) the start menu (b) program icons on the desktop.

Chapter 2

More About Paint



Paint is a very simple drawing program. Do you remember what you learnt about Paint in Class 2? In this chapter you will learn more about Paint and its commands.

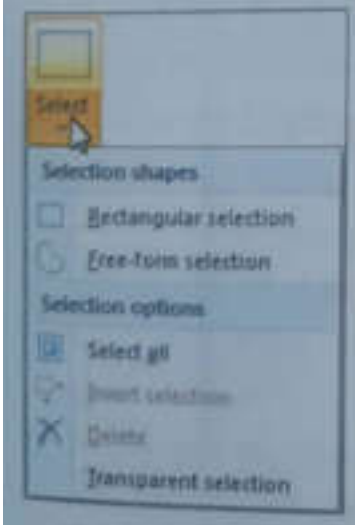


Fig. 2.1 **Select** tool

Let us first learn how to use the **Select** tool for selecting a part of a drawing.

1. Open the Paint window.
2. Click the **Home** tab if it is not already selected.
3. In the **Image** group on the **Home** tab, click the down arrow under the **Select** tool (Fig. 2.1). The menu that opens has the following choices:

In this Chapter

- Moving and Copying Objects
- Undo and Redo
- Rotate/Flip a Drawing
- Resize a Drawing
- Skew a Drawing
- Set Drawing as a Desktop Background
- Zoom In and Out

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- You can click **Rectangular selection** to select a rectangular area or click **Free-form selection** to select a free-form area. Then drag the pointer to select a part of the drawing.
- To select the whole picture, click **Select all**.
- To select everything in the picture except for the currently selected area, click **Invert selection**.
- To delete the selected object, click **Delete**.

Top Tip

When the Paint window is opened, you will see that the **Home** tab is already selected.

MOVING AND COPYING OBJECTS

You can move and copy objects using the options given below.

Cut and Paste

You can use the **Cut** option to cut the selected object and then paste it into another part of the drawing (Fig. 2.2). The steps are:

1. In the **Image** group on the **Home** tab, click **Select**.
2. Drag the mouse pointer to select the area of the drawing you want to cut.
3. In the **Clipboard** group, click **Cut** and then **Paste**.
4. The selected part is pasted at the top-left corner of the drawing area. Notice that the object is still selected. Click and move it to the desired position (Fig. 2.3).

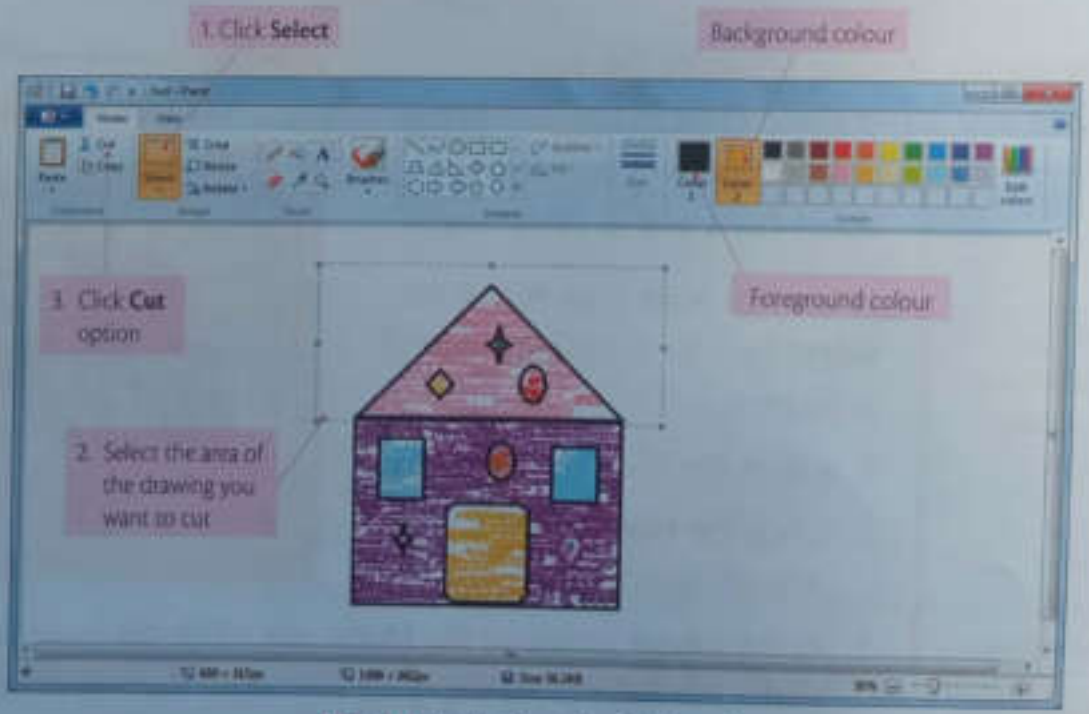


Fig. 2.2 Selecting the **Cut** option

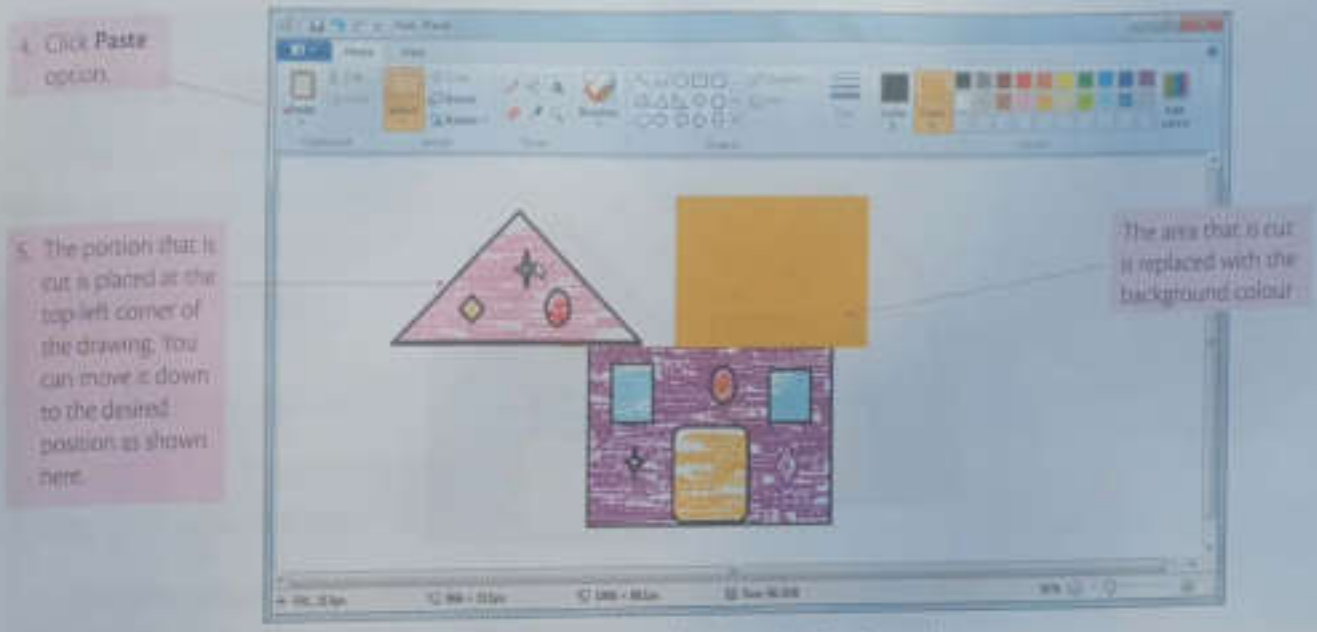


Fig. 2.3 Selecting the **Paste** option

Note: When you cut a selected part, the area that is cut is replaced with the background colour.

Copy and Paste

The **Copy** option (Fig. 2.4) is used to get a duplicate of the selected part of the drawing. The steps are:

1. In the **Image** group on the **Home** tab, click the **Select** option.
2. Drag the mouse pointer to select the drawing or a part of the drawing you want to copy.
3. In the **Clipboard** group, click **Copy**.
4. Now in the **Clipboard** group, click **Paste**.
5. A copy of the selected part will be placed at the top-left corner of the drawing area (Fig. 2.5).
6. Notice that the object is still selected. Click and move it to the desired position.

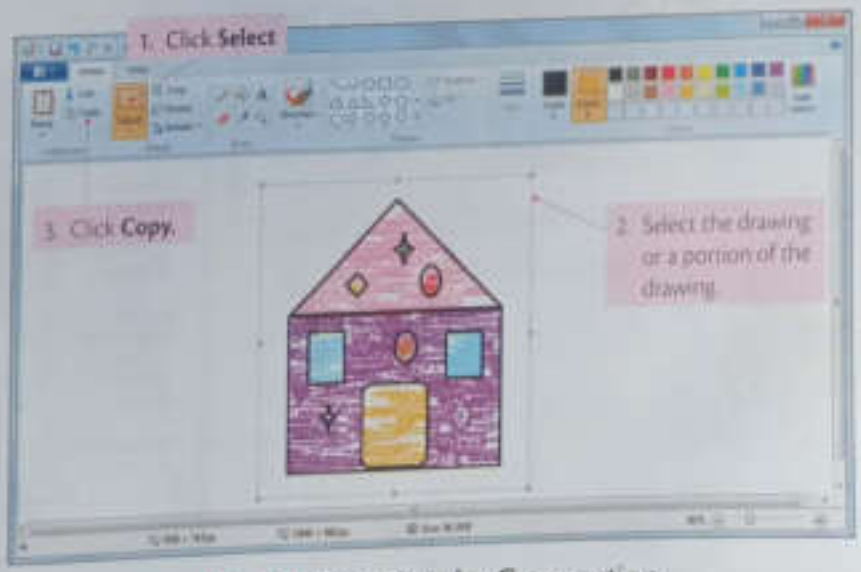


Fig. 2.4 Selecting the **Copy** option

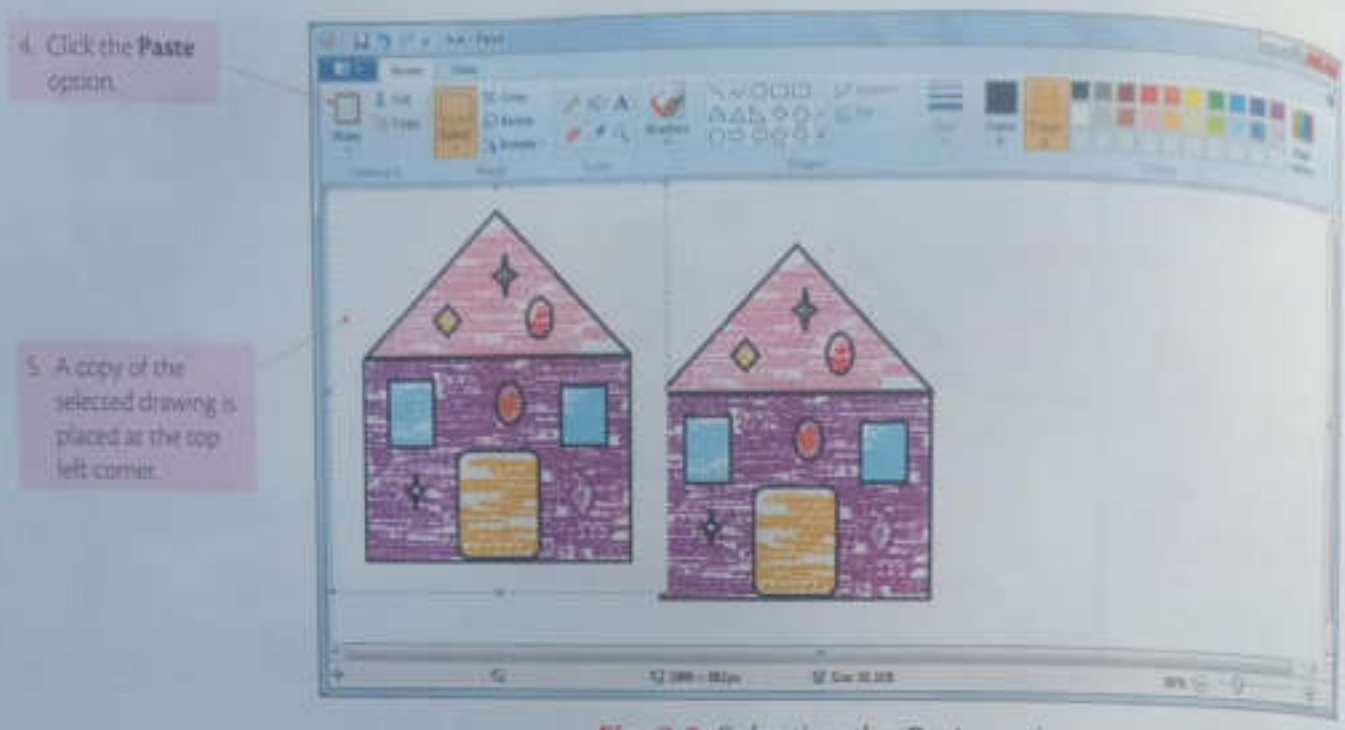


Fig. 2.5 Selecting the **Paste** option

Paste a Picture into Paint

You can also paste an existing picture file into Paint. The steps are:

1. In the **Clipboard** group, click the down arrow under **Paste** and then click the **Paste from** option (Fig. 2.6).
2. The **Paste From** dialog box appears (Fig. 2.7).
3. Find the picture you want to paste into Paint.
4. Select the picture by clicking on it once and then click the **Open** button. After you paste the picture file, you can also change its size.

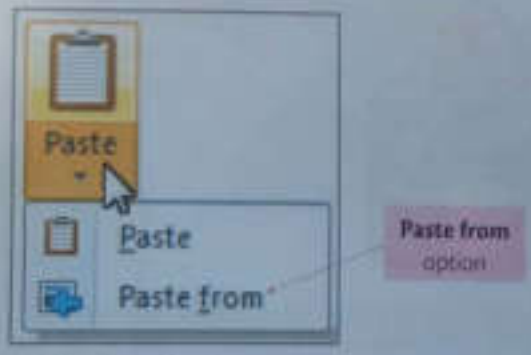


Fig. 2.6 **Paste** menu

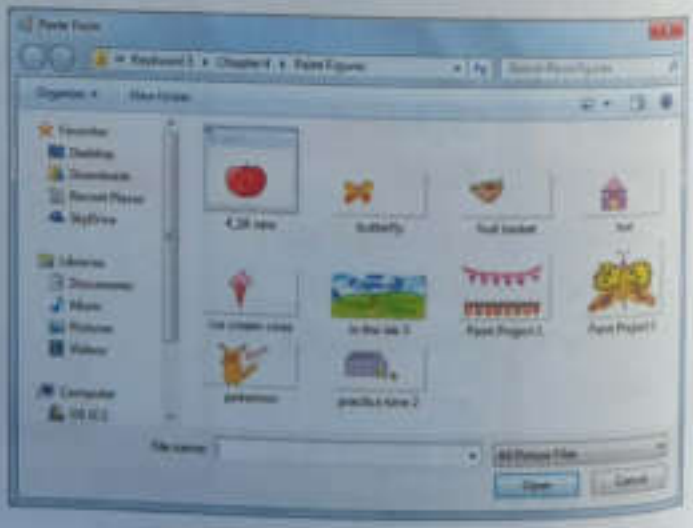
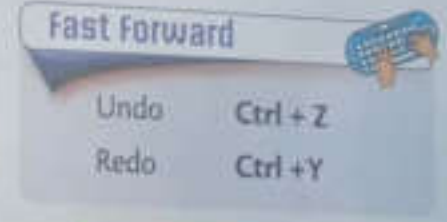


Fig. 2.7 **Paste From** dialog box

UNDO AND REDO

Undo and **Redo** buttons are available on the **Quick Access Toolbar** at the top left corner of the window (Fig. 2.8). The **Undo** command is used to reverse the last action performed, while the **Redo** command is used to reverse the effect of the **Undo** command.

Fig. 2.8 Quick Access Toolbar



ROTATE/FLIP A DRAWING

You can use the **Rotate** tool to change the angle of the whole, or a selected part, of the drawing. The steps are:

1. Select the drawing or a part of the drawing.
2. Click the **Home** tab.
3. In the **Image** group, click the **Rotate** option (Fig. 2.9).
4. Select the rotate direction if you want to rotate (Fig. 2.10), or select the flip direction if you want to flip the drawing (Fig. 2.11). Flipping will give you a mirror image of your drawing.

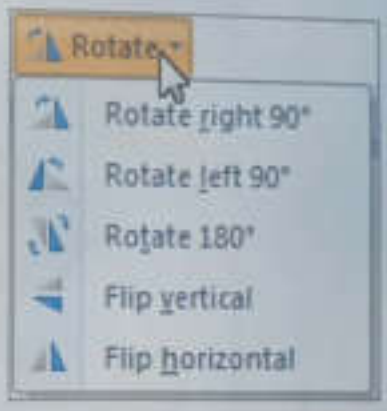


Fig. 2.9 **Rotate** menu

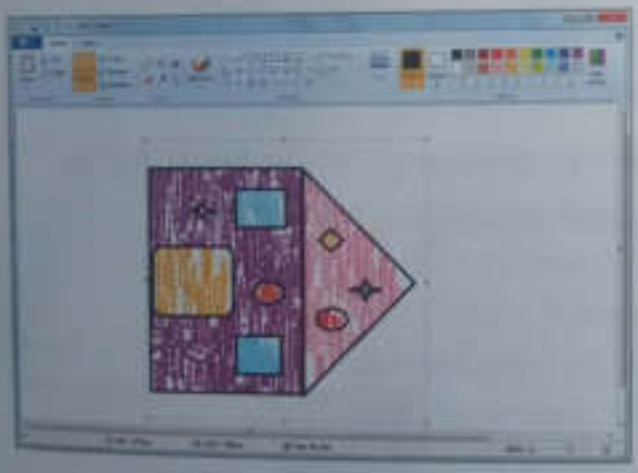


Fig. 2.10 Rotate right 90°

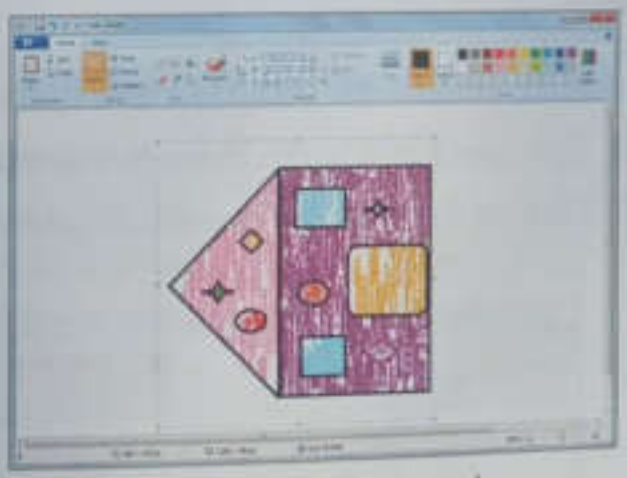


Fig. 2.11 Flip horizontal

RESIZE A DRAWING

You can use the **Resize** option to increase or decrease the size of a drawing or a part of the drawing. The steps are:

1. Click **Select** on the **Home** tab, and then drag the pointer to select your drawing or a part of the drawing.

2. In the **Image** group, click the **Resize** option.
3. The **Resize and Skew** dialog box appears (Fig. 2.12).
4. Select the **Maintain aspect ratio** check box.

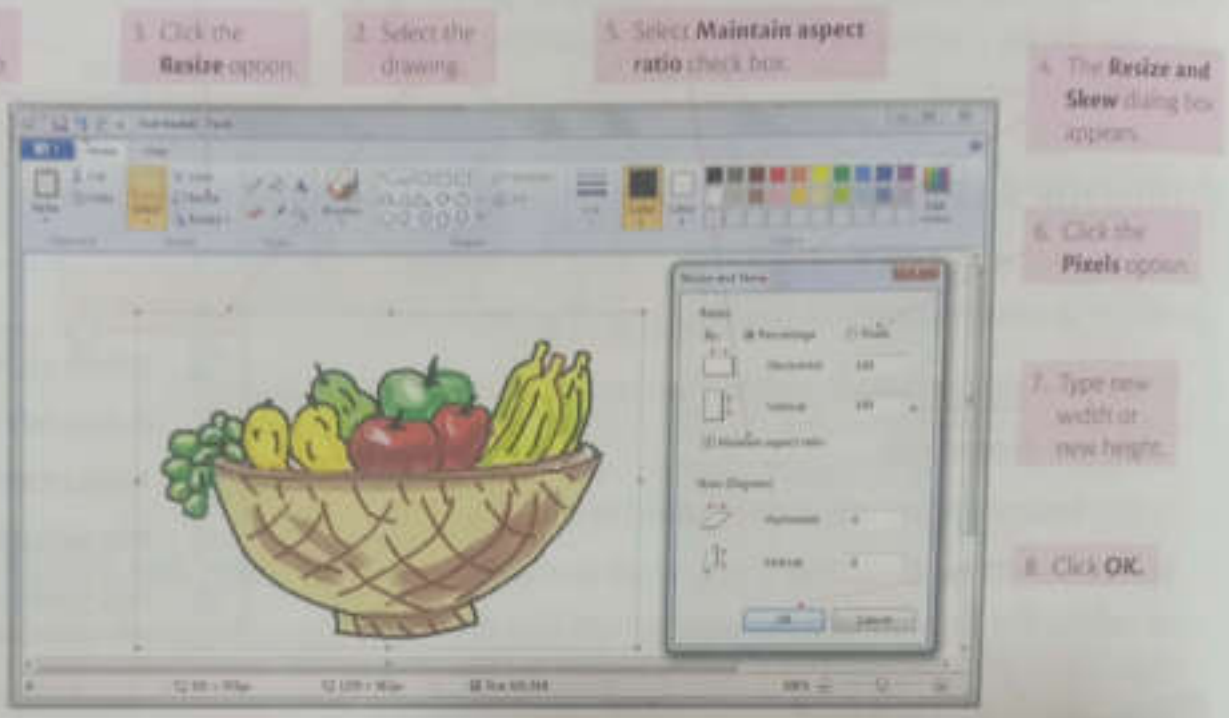


Fig. 2.12 **Resize and Skew** dialog box options

5. In the **Resize** area, click the **Pixels** option to set the new size.
6. Then type a new width in the **Horizontal** box or a new height in the **Vertical** box.
7. Click the **OK** button and you will get the resized drawing (Fig. 2.13).

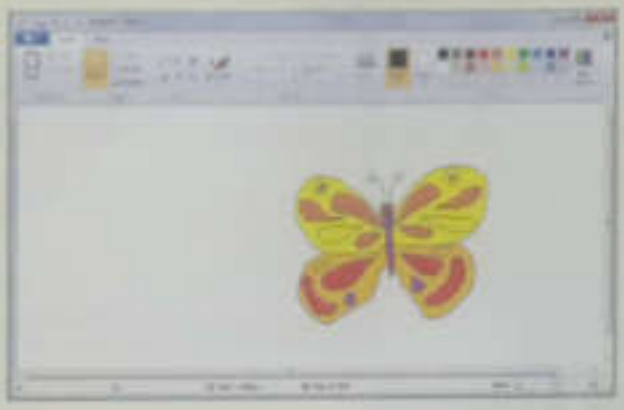
Fig. 2.13 Resized drawing

Top Tip

- A **pixel** is the smallest unit of an image or a picture.
- If the **Maintain aspect ratio** check box is selected, you only need to type the horizontal value or the vertical value. The other box in the **Resize** area will be updated automatically.

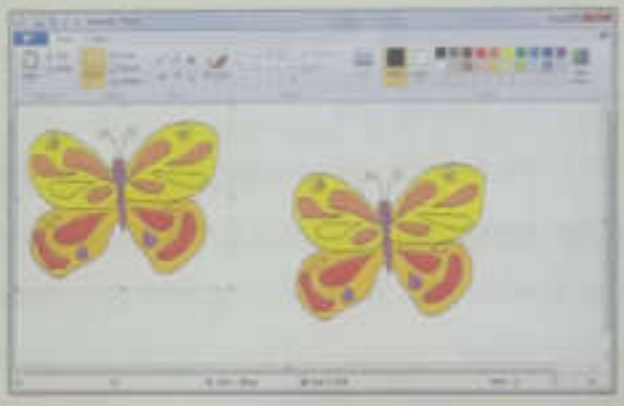
PRACTICE TIME

Momina has drawn a picture of a butterfly in Paint. Her teacher wants her to make a copy of the butterfly and then resize it to 100 pixels. She also wants her to flip the second butterfly vertically.



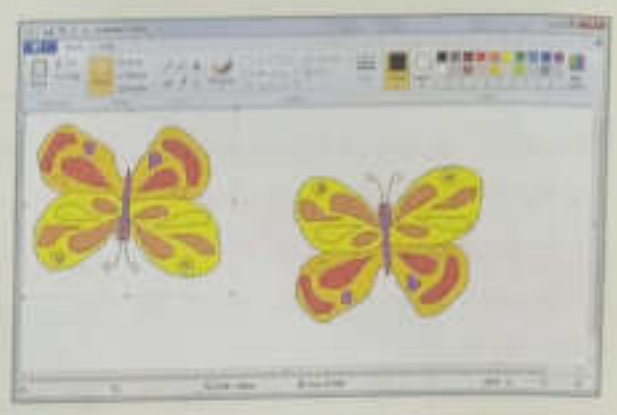
SOLUTION

1. To make a copy of the butterfly do as follows:
   a. Select the drawing.
   b. In the **Clipboard** group, click the **Copy** option.
   c. In the **Clipboard** group, click the **Paste** option.
   d. A copy of the image of the butterfly will be placed at the top-left corner of the drawing area.
   e. Notice that the new image of the butterfly is still selected. Click and move it to the desired position.



2. Let us now try to resize the butterfly image:
   a. Click the **Home** tab if it is not already selected.
   b. Click the **Select** option and then drag the pointer to select the butterfly image.
   c. In the **Image** group, click the **Resize** option.
   d. The **Resize and Skew** dialog box appears.
   e. Select the **Maintain aspect ratio** check box.
   f. In the **Resize** area, click the **Pixels** option.
   g. Then type 100 as the new width in the **Horizontal** box or 100 as the new height in the **Vertical** box.
   h. Click the **OK** button. The image will be resized to 100 pixels horizontally and vertically.
3. The steps to flip the butterfly vertically are:
   a. Select the second image of the butterfly.

b. Click the **Home** tab if it is not already selected.
c. In the **Image** group, select the **Rotate** option.
d. Select the **Flip vertical** option to flip the butterfly vertically.



SKEW A DRAWING

Fast Forward

Resize and Skew dialog box **CTRL+W**

The **Skew** command twists the drawing in the horizontal or vertical direction. The steps are:

1. Click the **Home** tab.
2. Click the **Select** option and drag the pointer to select the drawing.
3. In the **Image** group, click the **Resize** option.
4. The **Resize and Skew** dialog box appears.
5. In the **Skew** area, type the amount (in degrees) by which to skew the selected area of the drawing in the **Horizontal** or the **Vertical** box (Fig. 2.14).
6. Click the **OK** button and you will get the skewed drawing (Fig. 2.15).

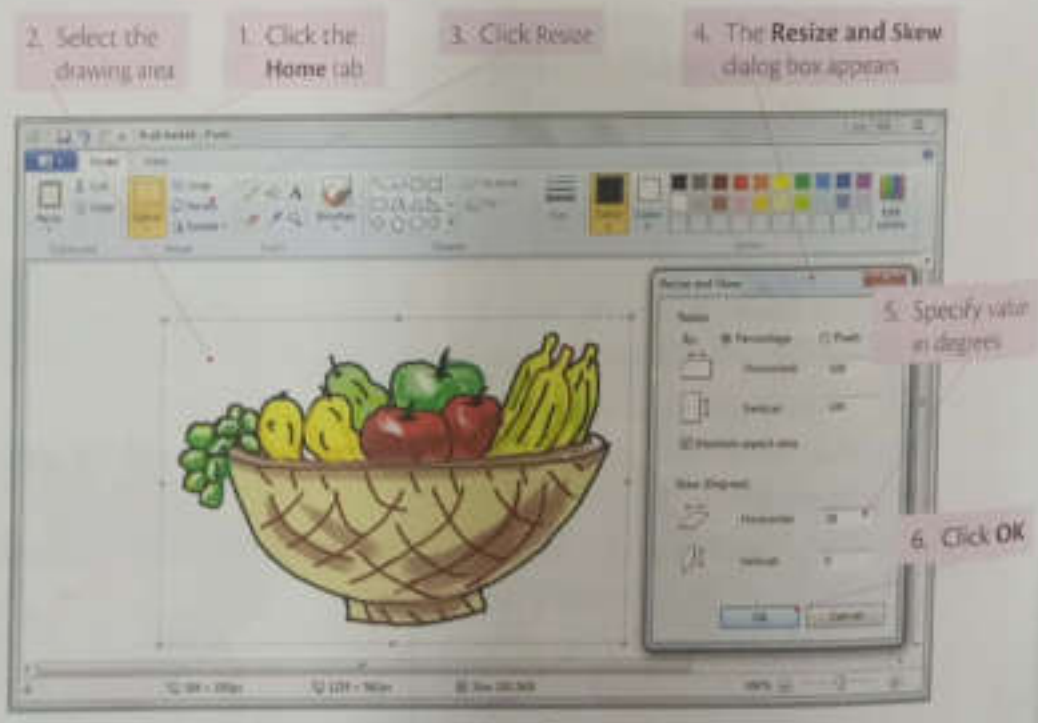


Fig. 2.14 Setting the **Skew** options

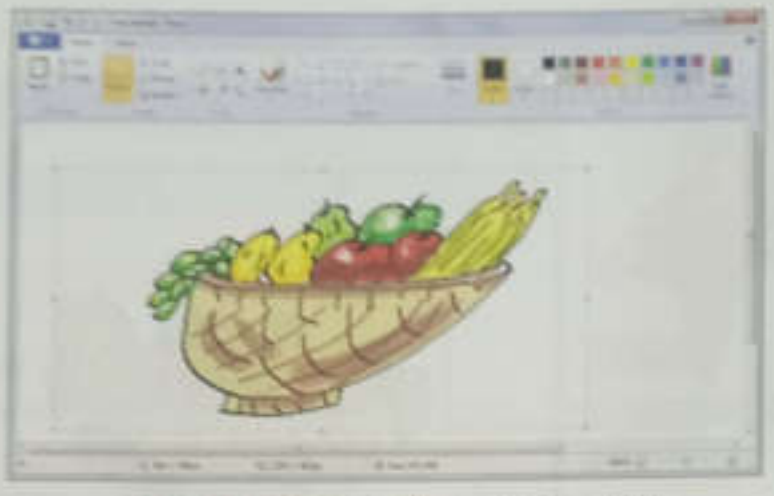


Fig. 2.15 Horizontally skewed drawing

SET DRAWING AS A DESKTOP BACKGROUND

The steps to set your drawing as the desktop background are:

Fig. 2.16(a) Setting a drawing as the desktop background

1. Click the **Paint** button and then point to **Set as desktop background** [Fig. 2.16(a)].
2. Select any one of the three options: **Fill**, **Tile,** or **Center**.

The results are displayed in Figures 2.16(b-d).

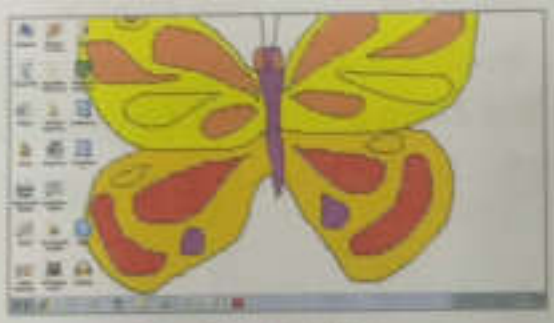


Fig. 2.16(b) **Fill** View

Fig. 2.16(c) **Tile** View

Fig. 2.16(d) **Center** View

Full Screen View

The steps to view your drawing in full screen are:

1. Click the **View** tab (Fig. 2.17).
2. In the **Display** group, click **Full screen**.

To exit **Full screen** and go back to the **Paint** window, click the drawing.

Fig. 2.17 The **View** tab

ZOOM IN AND OUT

You can use the **Zoom in** and the **Zoom out** options to see a larger or smaller view of your image (Fig. 2.17):

1. To see a larger view, first click the **View** tab. Then in the **Zoom** group, click **Zoom in**.
2. To see a smaller view, first click the **View** tab. Then, in the **Zoom** group, click **Zoom out**.
3. To view the actual size of the picture, click the **View** tab and in the **Zoom** group, click **100%**.

Top Tip

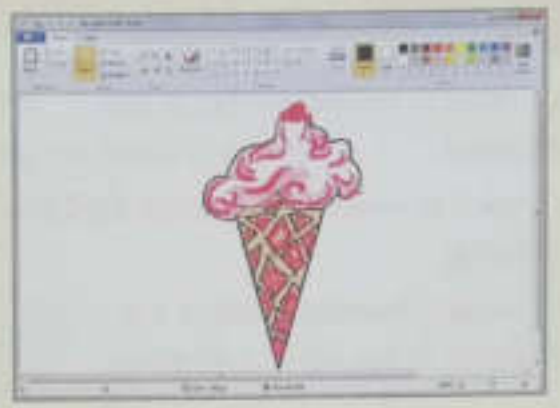
You can also click the **Zoom in** ⊕ or **Zoom out** ⊖ buttons on the zoom slider at the bottom of the **Paint** window to increase or decrease the zoom level.

PRACTICE TIME

Rahman likes to eat ice creams. He has drawn a picture of an ice cream in Paint.
Now his computer teacher wants him to try Paint commands to:

- Resize the drawing and reduce the size by 50 percent.
- Skew it horizontally by 60 degrees.
- Set the drawing as the desktop background where the image should be tiled to repeat and fill the entire screen.

- Zoom in to get a larger view of the ice-cream cone and then Zoom out on the drawing to get the full view of the drawing.



SOLUTION

1. Draw a picture of an ice cream cone as shown.
2. To resize and skew the drawing:
   a. Click the **Home** tab. Click the **Select** option and then drag the pointer to select the drawing.
   b. In the **Image** group, click the **Resize** option. The **Resize and Skew** dialog box appears. Select the **Maintain aspect ratio** check box.
   c. In the **Resize** area, click the **Percentage** option.
   d. Type 50 in the **Horizontal** or the **Vertical** box. Click the **OK** button.
   e. Now, in the **Skew** area, type the angle (in degrees), e.g., 60 by which to skew the selected area of the drawing in the **Horizontal** box. Click the **OK** button.
3. To set the drawing as the desktop background, click the **File button** and then point to **Set as desktop background**. Select the **Tile** option.
4. To increase the zoom level, click the **View** tab. In the **Zoom** group, click **Zoom in**.
5. To reduce the zoom level, click the **View** tab. In the **Zoom** group, click **Zoom out**.

Computer Manners

Always keep the computer room clean. Since your shoes may have dirt stuck to them, remember to take your shoes off before entering the computer room.

Tricky Terms

Undo used to reverse the last action performed

Redo used to reverse the effect of the Undo command

Skew twists a drawing in either the horizontal or the vertical direction

Zoom in shows a larger view of the image

Zoom out shows a smaller view of the image

Memory Bytes

- You can select a drawing or part of a drawing using the **Select** tool.
- The **Cut** option can be used to cut the selected part of a drawing.
- The **Copy** option is used to get a duplicate of the selected part of a drawing.
- The **Undo** command is used to reverse the last action performed, while the **Redo** command is used to reverse the effect of the **Undo** command.
- You can use the **Resize** option to increase or decrease the size of a drawing or a part of the drawing.
- You can use the **Rotate** tool to change the angle of the whole, or a selected part, of the drawing.
- The **Skew** command twists the drawing in the horizontal or vertical direction.
- You can use the **Zoom in** and the **Zoom out** options to see a larger or smaller view of your image, respectively.

EXERCISES

Objective Type Questions

1. Fill in the blanks with the correct words.

Zoom out **Select** **reverse** **Zoom in** **Cut**

a. The ..... option is used to cut the selected part of a drawing.

b. The ..... option shows a larger view of the image.

c. The ..... option shows a smaller view of the image.

d. The Undo command is used to ..... the last action performed.

e. You can select a part of a drawing using the ..... tool.

2. Write T for the true statement and F for the false one.

a. The **Flip** option is used to rotate a drawing.

b. You can set a drawing as a desktop background.

c. You can reverse the last action performed using the **Undo** command.

d. The keyboard shortcut for the Cut option is Ctrl + R.

e. You cannot change the size of a drawing.

Descriptive Type Questions

1. Answer the following.

a. What do you use the Paint software for?

b. What are the functions of the Cut and Paste tools?

c. What tool will you use to duplicate an image of a kite you have drawn? Outline the steps you will take to do so.

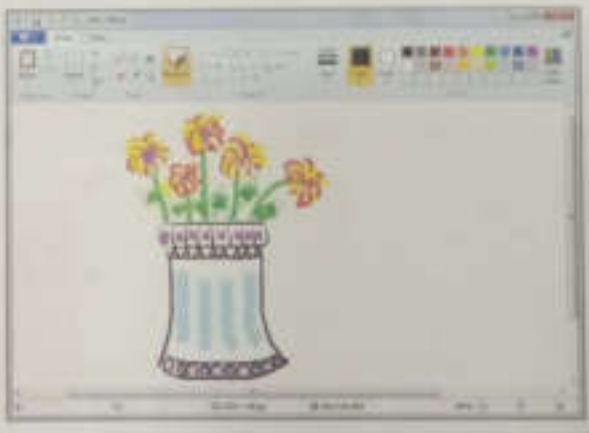
d. If you want to see how your picture may look without the flower you have also drawn, what button will you use?

e. Compare the uses of the Flip and Rotate tools. Which is easiest to use?

f. Assume that the tree you have drawn in Paint fills the entire screen. Your teacher has instructed that the tree should only fill half of the screen. Which tool will you use to make the tree smaller?

Application-Based Questions

a. Observe the figure alongside, and answer the questions.



i. Identify any two tools that have been used to draw this picture.

ii. Name the tab that is selected in the figure.

iii. What are the foreground and background colours selected in the figure?

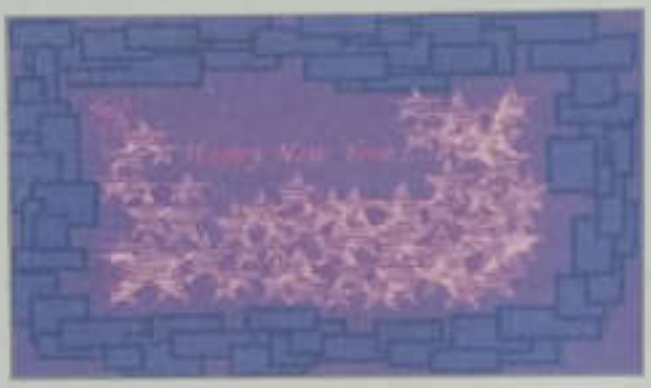
b. Ghazanfar has to draw the figure of a joker in Paint.

i. Which tab of the Paint window will he select to change the foreground and background colours?

ii. Identify and name any four tools from the following figure that can be used to draw the figure of a joker.

IN THE LAB

1. Atif has designed a New Year greeting card in Paint as shown below. Make a New Year greeting card of your own, using the various tools in Paint, for your teacher.



2. Hasan loves watching cartoon films. He has drawn 'Pokemon', his favourite cartoon character in Paint. Which is your favourite cartoon character? Draw your favourite cartoon character in Paint.

3. Kamila loves the rainy season. She has drawn a scene of the rainy season in Paint that you can see below. Can you draw the same in Paint? Or, you may draw a scene of **your** favourite season in Paint.

4. Tanya loves eating fruits. Her teacher wants her to draw her favourite fruit in Paint. She used tools in Paint to draw a picture of a mango. What is your favourite fruit? Use different tools in Paint to draw and colour the picture of your favourite fruit.
5. Now is your chance to show your lab partners how much you appreciate all their efforts on the computer. Design a 'Great Work Certificate' in Paint congratulating them for the great work they have done. Remember to use colour, well balanced text, and possibly use creative borders to complete the certificate. Make it as professional as possible!

GROUP PROJECT

As a group, your task is to produce an amazing piece of abstract art. Each member will create a different geometric shape. For example, he/she could make a triangle, and copy and flip it; or make a semi-circle, and copy and rotate it. Once done, the shapes can be filled with a variety of colours. Combine the shapes created by all members of the group to create an abstract art! Give your art work a suitable title and if possible get a printed copy, so you can proudly display your work near to your computer.

TEACHER'S NOTES

- Students could be encouraged to use their imagination and create designs of their own. They should be able to use different options like **Resize**, **Flip**, **Rotate**, and **Skew** comfortably. Demonstrate the use of these options to the students.
- Explain aspect ratio to the students and emphasize that we should select this option so that the resized picture will have the same aspect ratio as that of the original picture. (The aspect ratio of an image is the ratio of the width of the image to its height. If a graphic has an aspect ratio of 2:1, it means that the width is twice as large as the height.)

WORKSHEET—1

(Chapters 1 and 2)

1. **Re-arrange the given jumbled words to form words related to computers.**

   a. HERADAWR _____ d. SCION _____

   b. SETFORWA _____ e. BSKTAAR _____

   c. ETPDKSO _____

2. **Who am I?**

   a. I am used to store a group of files. _____

   b. I am a piece of information stored in the computer. _____

   c. I am the button present at the left corner of the taskbar. _____

   d. I am the tab present in a Paint window that has the **Cut** and the **Copy** options. _____

   e. I am the toolbar that has the **Undo** and the **Redo** buttons. _____

3. **Name the tool/option/button of the Paint window used to do the following.**

   a. Change the angle of the whole or a selected part of the drawing _____

   b. Increase or decrease the size of a drawing _____

   c. Twist the drawing in the horizontal or vertical direction _____

   d. Set a drawing as the desktop background _____

   e. Reduce the zoom level _____

4. **Group the following items under the correct header.**

   Keyboard, MS Windows, Scanner, Printer, MS Office

Hardware	Software

   a. How many items do you have under hardware? _____

   b. How many items do you have under software? _____

Chapter 3

Let's Learn KTurtle

Kturtle teaches you how to program in an easy way. You can draw figures, type text, and perform simple math calculations in KTurtle.

Just as you use a pencil to draw and write in your notebook, KTurtle uses a turtle for drawing. This turtle can draw only when you give it a **command**.

A **command** means an order or an instruction. The turtle carries out the instruction or command typed by you.

In this Chapter

- Starting KTurtle
- Entering Commands
- The Toolbar
- Saving an Image

STARTING KTURTLE

To start KTurtle, just click on the **KTurtle** icon on the **Desktop.**

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The KTurtle screen will be displayed (Fig. 3.1).

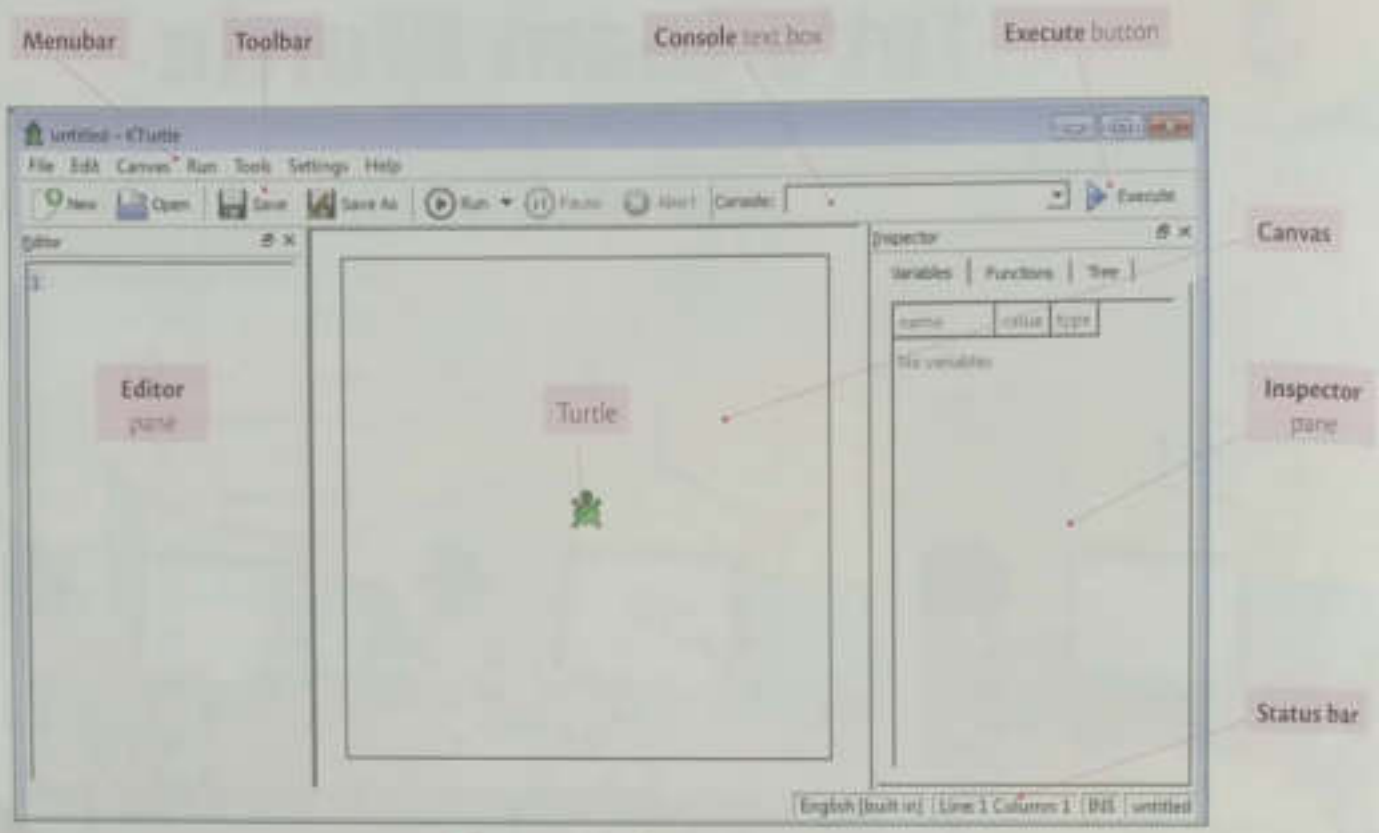

Fig. 3.1 KTurtle screen

The KTurtle screen is divided into three main parts:

- **Editor Pane**: It is present on the left of the screen where you type the commands.
- **Canvas**: It is the space in the middle of the screen where the turtle moves to make your drawing.
- **Inspector Pane**: It is present on the right of the screen which gives you information when your command is carried out.

Note: The Editor and Inspector panes can be **docked** to any of the borders of the main window. They can also be detached and placed anywhere on the desktop.

To 'dock' means to attach the panes to any side of the KTurtle window.

This can be done by placing the mouse on the title bar of the pane, pressing the left mouse button and then dragging it to one of the sides of the KTurtle window (Fig. 3.2).

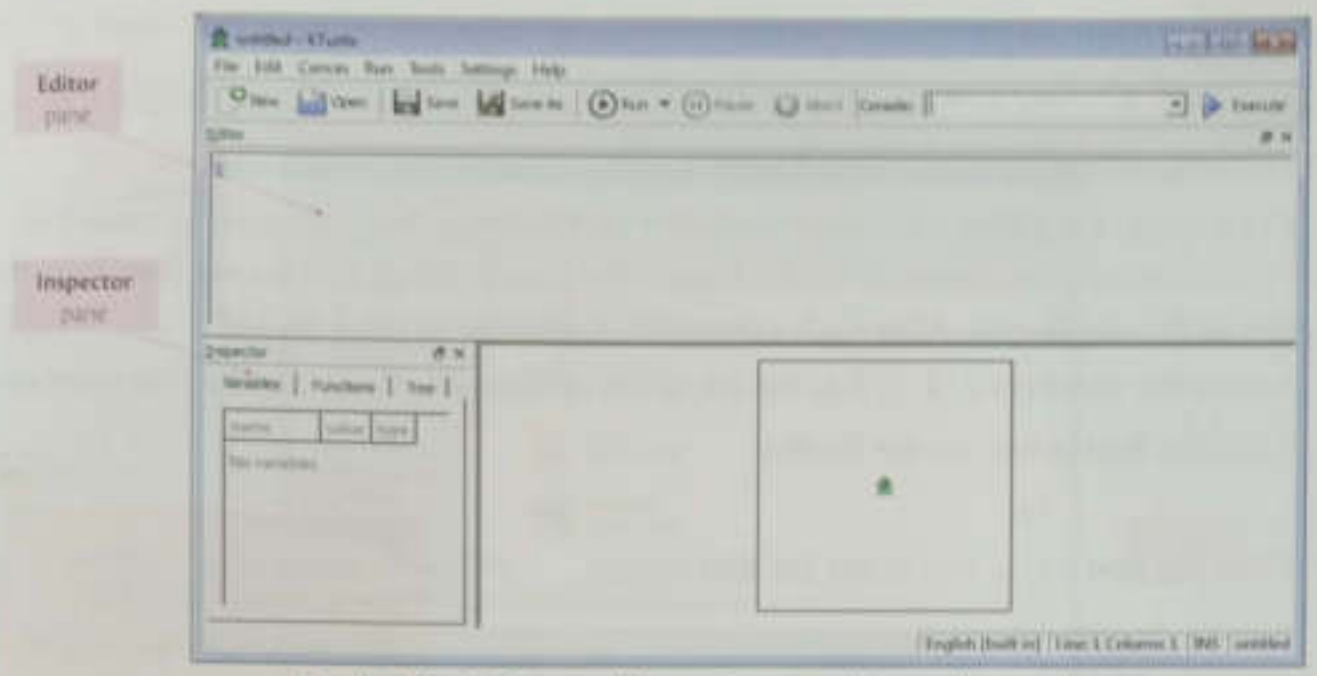

Fig. 3.2 The **Editor** and **Inspector** panes dragged to another corner

Besides these you will find the following on the screen:

- **Menu bar**: It is the bar on which all actions have been listed in menus. The actions are divided into the following groups: **File**, **Edit**, **Canvas**, **Run**, **Tools**, **Settings** and **Help**. The **File** menu is given in Fig. 3.3.
- **Toolbar**: This bar has buttons for the commonly used actions and allows you to quickly select any one of them. It also has the **Console** text box. Here you can enter a one-line command, and press the **ENTER** key or click the **Execute** button to run it.

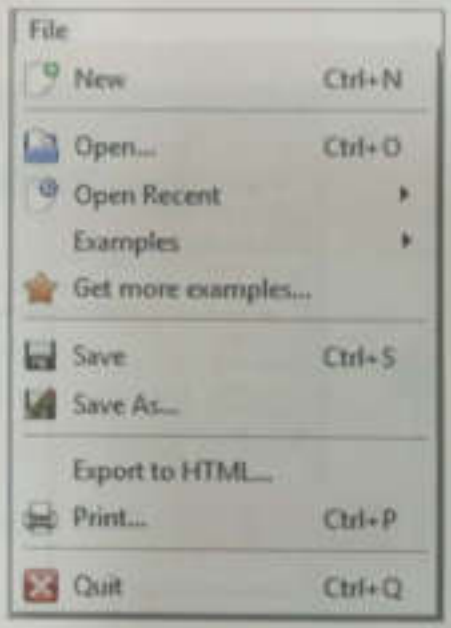

Fig 3.3 **File** menu on the **menubar**

Top Tip

The **Console** is used to test a command without modifying the contents of the **Editor** pane.

- **Status bar**: It is present at the bottom of the screen and gives you the state of KTurtle. On the left side it shows the last action performed. On the right side it shows the current location of the cursor (Line and Column number), and the current language being used for the commands.

ENTERING COMMANDS

Notice the cute turtle in the middle of the canvas? Let us now learn how to make it move by entering commands in the **Editor** pane:

1. Click inside the **Editor** pane after number 1 and type the first command as shown in Fig. 3.4. Now, press **Enter** on the keyboard. The cursor moves to the next line. Type the rest of the commands. After each command, remember to press **ENTER**.

   Notice the numbers 2, 3 ... 8 to the left of the commands. These are the line numbers.

2. Click the **Run** button on the Toolbar.

   Or

   Click the **Run** menu and select the **Run** option.

   Or

   Press the **F5** key on the keyboard.

3. A square is displayed on the canvas.

Top Tip

To see the turtle move, run each command after entering it, by using any of the three options listed.

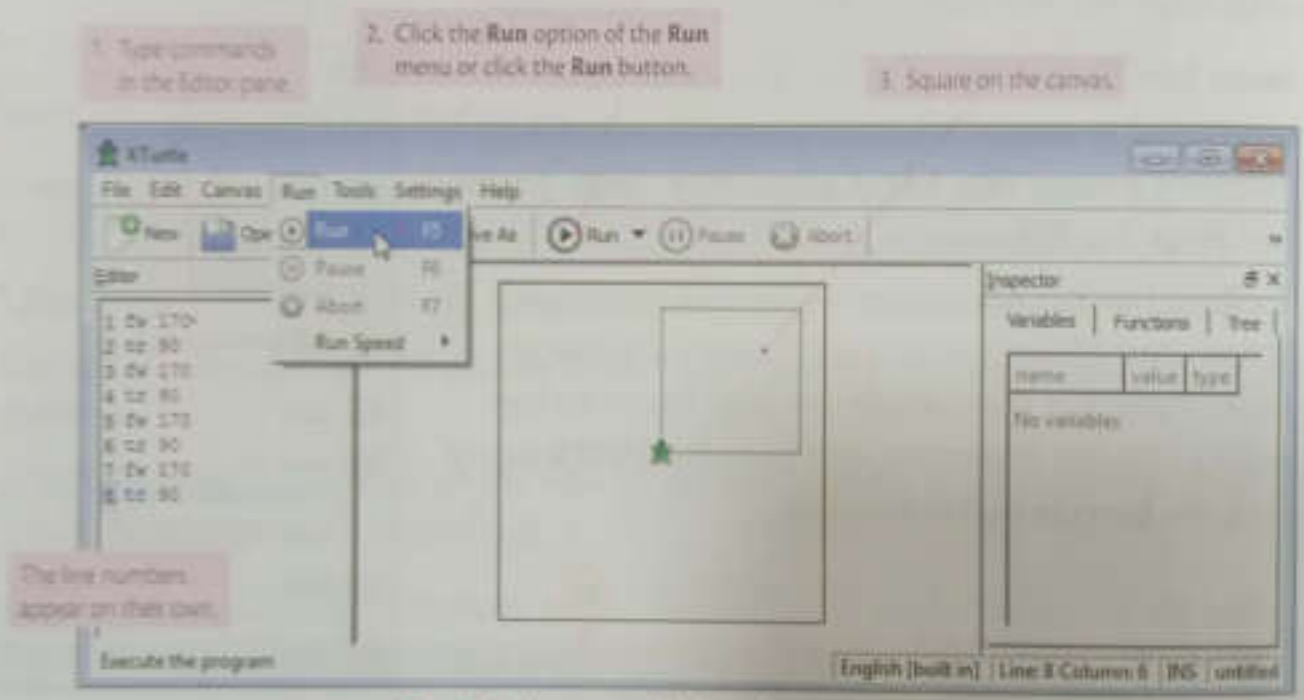

Fig. 3.4 A square displayed on the canvas

Now save this set of instructions or commands by the file name 'square'.

Saving a program

To save a program, do the following:

1. Click the **Save** button on the Toolbar (**or** Click **File ▸ Save As**)

2. The **Save As** dialog box appears (Fig. 3.5).
3. Select the drive and the folder, type the **File name** as square and click the **Save** button.

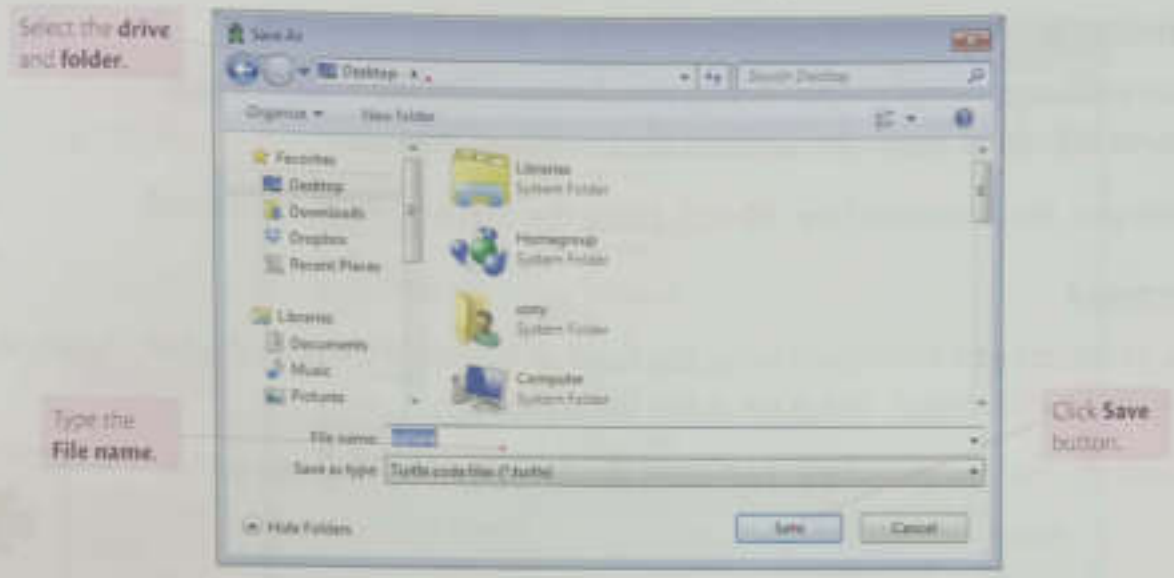

Fig. 3.5 **Save As** dialog box

You will notice that the saved program file has the extension **.turtle**.

Let us now understand what the function of each command is:

Top Tip

The **Save As** command is used to save the file with a different name, whereas the **Save** command is used to continue saving the file with the same name. However, when you are saving the file for the first time, both commands will open the **Save As** dialog box.

FW Command

The `fw` or `forward` command is used to move the turtle in the forward direction. You also need to type alongside, the number of steps you want the turtle to move.

For example, the command `forward 170` or `fw 170` will move the turtle forward by 170 steps and draw a straight line.

TR Command

The `tr` or `turnright` command turns the head of the turtle towards the right. You also have to add the number of degrees you want the turtle to turn by. While turning, the turtle rotates, but stays at the same position.

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For example, the command `turnright 90` or `tr 90` turns the turtle by 90 degrees to the right. Similarly, we have the `bw` command and the `tl` command.

BW Command

You can even command the turtle to go backwards! The `bw` or `backward` command is used to move the turtle in the backward direction.

For example, the command `bw 60` will move the turtle 60 steps backward.

TL Command

The `tl` or `turnleft` command turns the head of the turtle towards the left. Again, while turning, the turtle rotates, but stays at the same position.

For example, the command `tl 100` turns the turtle by 100 degrees to the left.

The commands `tr 360` or `tl 360` would make the turtle turn one complete circle and bring the turtle to the same point.

THE TOOLBAR

The **toolbar** appears just below the **menubar**. It contains buttons for the most commonly used commands such as **New, Open, Save, Run**, etc.

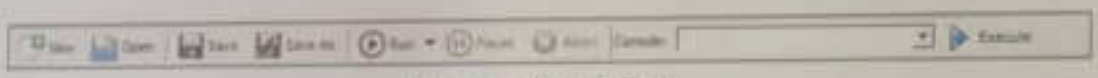


Fig. 3.6 The Toolbar

New Command

The **New** command is used to create a new file. Click the **New** button on the **toolbar** (Fig. 3.6) **(or** click on **File ▸ New** on the menubar**).**

It clears the **Editor** pane. Now you can type a different set of instructions.

Open Command

The **Open** command opens an already existing file.

1. Click the **Open** button on the **toolbar** (Fig. 3.6) **(or** on the menu bar click on **File ▸ Open)**
2. The **Open** dialog box appears (Fig. 3.7).

3. (a) Select the drive and the folder.
   (b) Select the file.

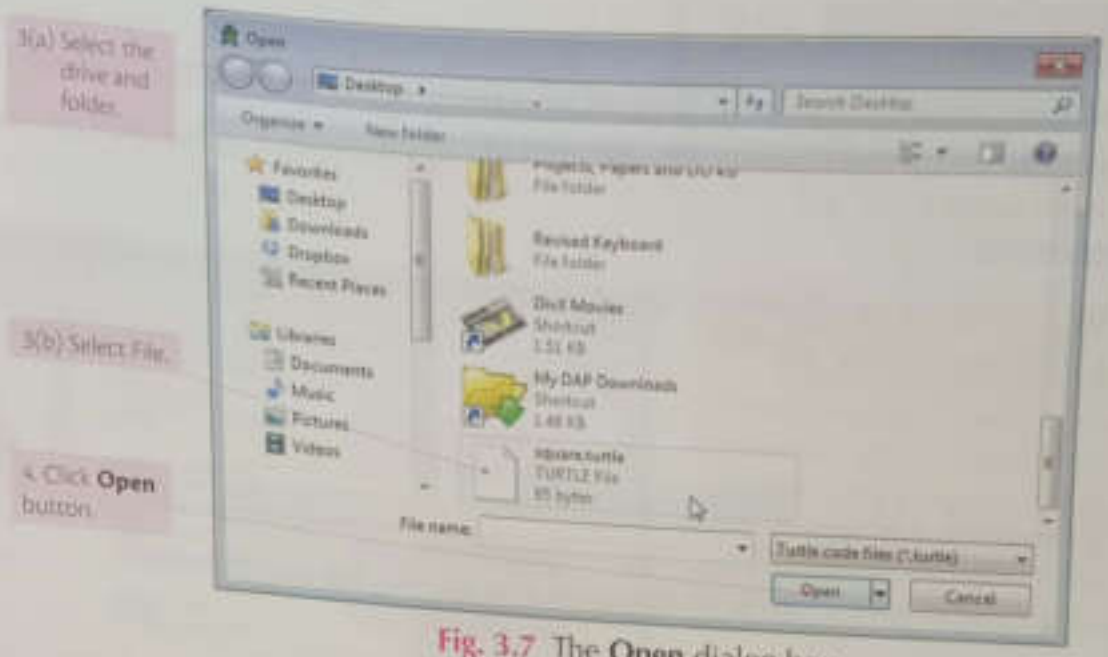


Fig. 3.7 The **Open** dialog box

4. Click the **Open** button.
5. The set of instructions will be displayed in the **Editor** pane.

Run Command

This starts the execution of the commands you have typed in the **Editor** pane. Click the arrow button next to the **Run** button on the toolbar (Fig 3.6). A menu appears.

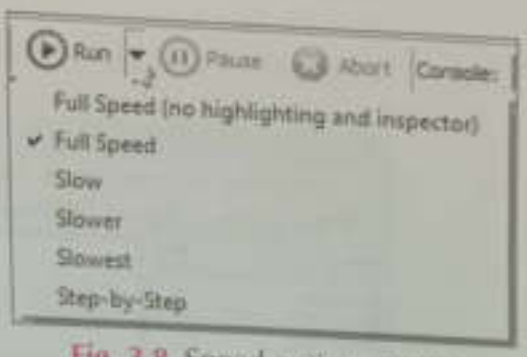


Fig. 3.8 Speed options menu

You can change the speed of executing the commands by clicking one of the options from the list (Fig. 3.8).

If you select the **Slow** option, you can actually see the turtle moving on the screen. If you select **Full Speed**, the turtle draws the figure so fast that you will not be able to see the movement of the turtle on the screen.

By default, the speed is set to **Full Speed**. You can select any option. The check mark will appear to the left of the selected option. When one of the slow modes is selected the command being executed will be marked in yellow colour in the **Editor** pane.

The **Step-by-Step** speed option will execute one command at a time. You will have to click the **Run** button for the execution of each command in the program.

Pause Command

It stops the execution temporarily. It starts executing again on clicking the **Run** button. It is enabled only when the commands are actually being carried out.

Abort Command

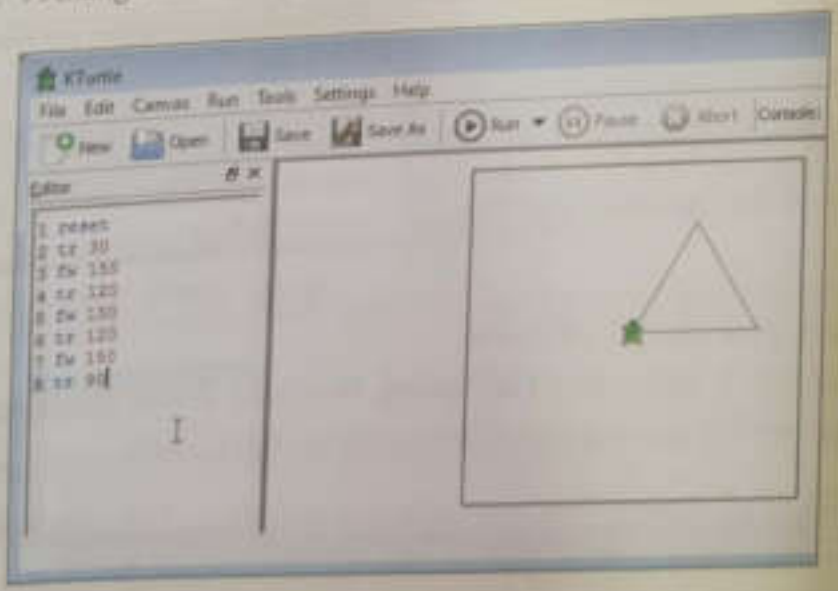
It stops the execution permanently. This button also is enabled only when the commands are actually being carried out.

PRACTICE TIME

Arshia wants to draw a triangle on the canvas. Can you help her with this task?

SOLUTION

1. Double-click the **KTurtle** icon on the **Desktop.**
2. The **KTurtle** screen will be displayed.
3. Click inside the **Editor** pane and type the commands as shown alongside. Press the **ENTER** key after each command.
4. Click the **Run** button on the Toolbar.
5. A triangle will be displayed on the canvas.



SAVING AN IMAGE

To save an image, do the following:

1. Click **Canvas** and select the **Export to Image (PNG)** option (Fig. 3.9).
2. The **Save as Picture** dialog box appears (Fig. 3.10).

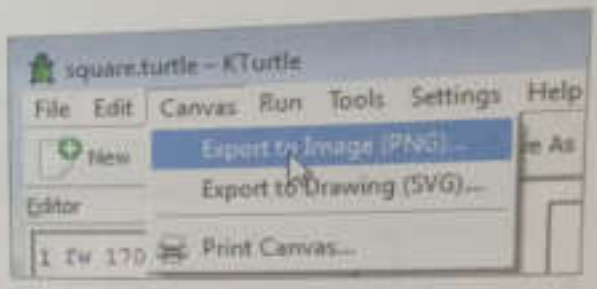


Fig. 3.9 **Canvas** menu

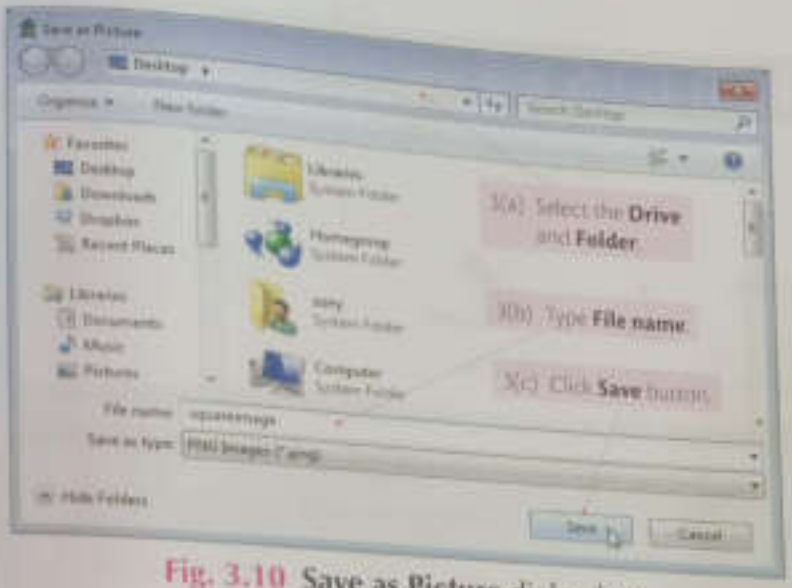


Fig. 3.10 **Save as Picture** dialog box

Top Tip

You can also print your drawing. Click **Canvas** and select the **Print Canvas ...** option. The **Print** dialog box appears. Select the printer and click the **Print** button. The drawing on the canvas will get printed on paper.

3. a. Select the **drive** and the **folder**.
   b. Type the **File name** as squareimage.
   c. Click the **Save** button.

Tricky Terms

Canvas the area where the turtle makes your drawing

Turtle It is used to draw lines on the canvas.

Editor It is used to type KTurtle programming commands.

Memory Bytes

- KTurtle teaches you how to program in an easy way.
- The main window of KTurtle has three main parts: Editor, Canvas, and Inspector.
- The Editor pane is used to enter commands. These commands are executed by pressing the ENTER key or by clicking the **Run** button.
- The canvas is where you can see the turtle make your drawing.

OXFORD

- The **Inspector** pane shows you information about the command you have executed.
- A turtle carries out commands on the screen. You can slow down the execution of commands or increase the speed.
- You can give easy commands to the turtle like `forward (fw)`, `backward (bw)`, `turnright (tr)`, and `turnleft (tl)`.
- You can both print and save all your drawings.

EXERCISES

Objective Type Questions

1. **Fill in the blanks with the correct words.**

Abort **File** **center** **New** **three**

a. The KTurtle window has ..... main windows.

b. In the KTurtle main screen, the turtle sits at the ..... of the canvas.

c. To save an image, click the ..... menu and select the **Export to Image** (PNG) option.

d. The ..... button on the toolbar clears the **Editor** pane and you can type a different set of instructions.

e. The ..... button stops the execution.

2. **Write T for the true statement and F for the false one.**

a. You can change the shape of the turtle. ☐

b. The turtle sits in the **Editor** pane. ☐

c. You can change the execution speed of your program. ☐

d. The **Save** button is used to save the programming commands. ☐

e. You can save the image that the turtle draws on the canvas. ☐

Descriptive Type Questions

1. **Answer the following.**

a. In how many different types of speeds can you run the commands?

b. What is the default execution speed in KTurtle?

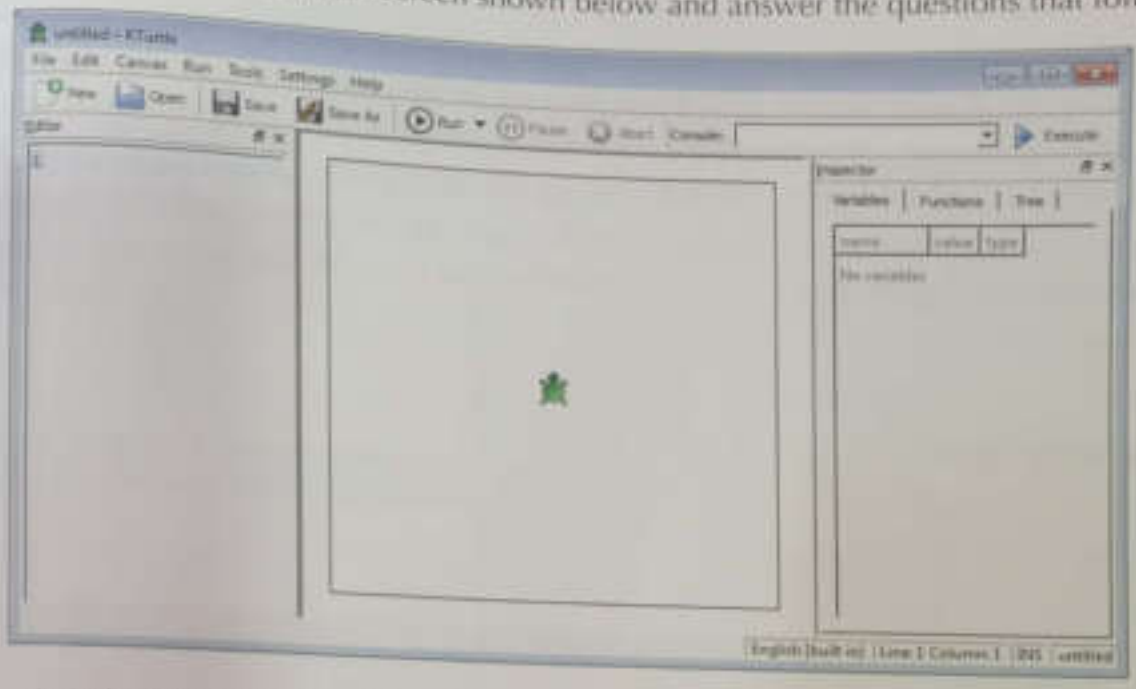
c. What is the function of a Console text box?

d. Where will you look for the action last performed?

e. Distinguish between the FW and BW commands.

Application-Based Questions

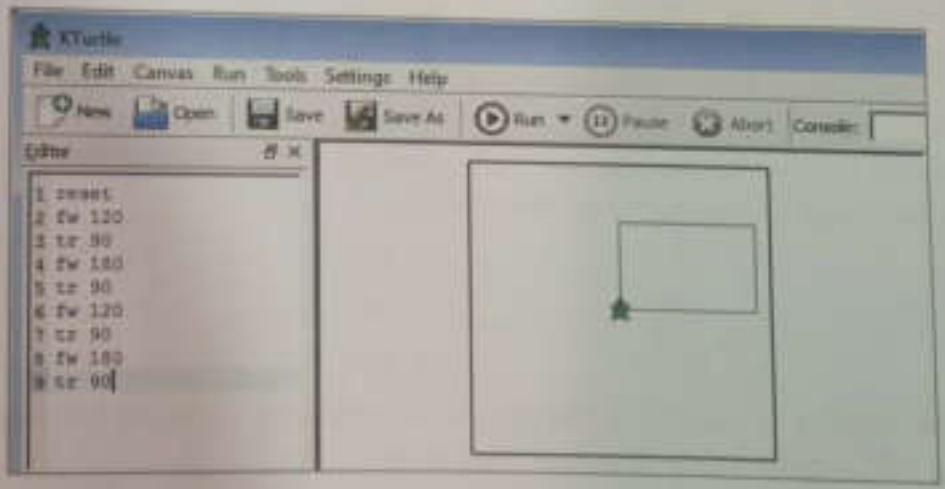
a. Consider the KTurtle main screen shown below and answer the questions that follow:



i. Which pane is used for entering commands?

ii. Name the pane in which the turtle sits.

b. Essa has typed and executed the following program in KTurtle:

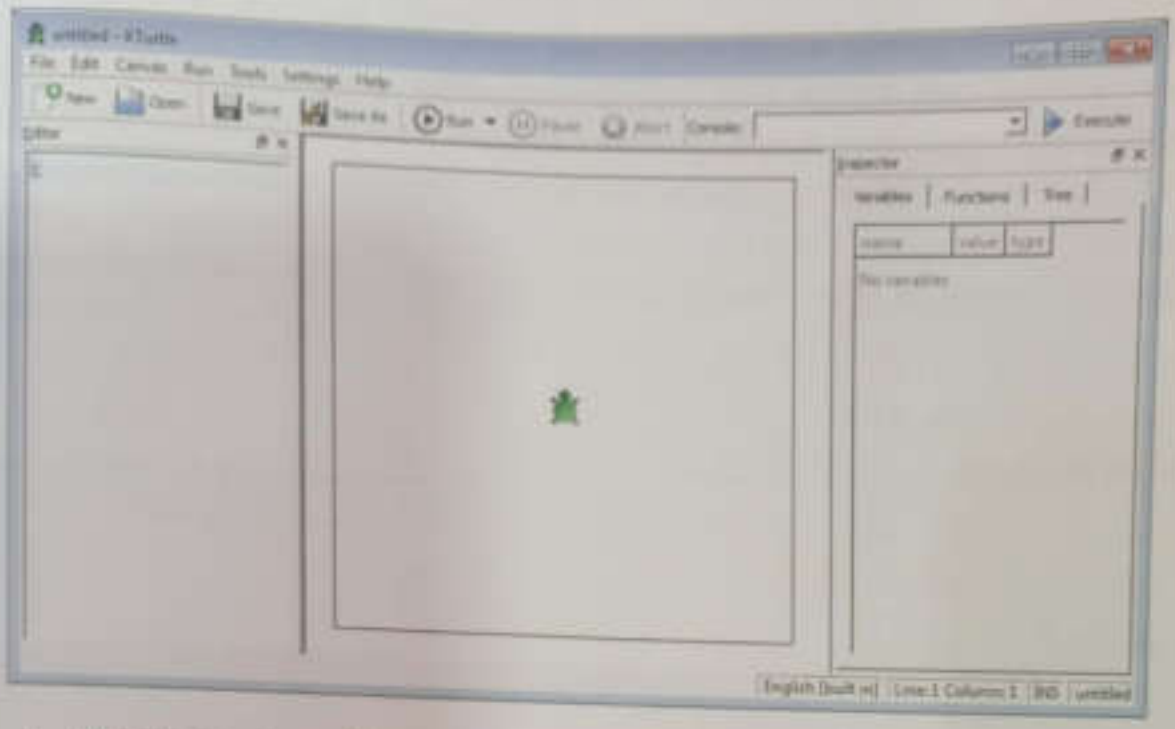


i. Name the figure that has appeared on the canvas.

ii. Which button on the Toolbar is used to execute the commands?

Application-Based Questions

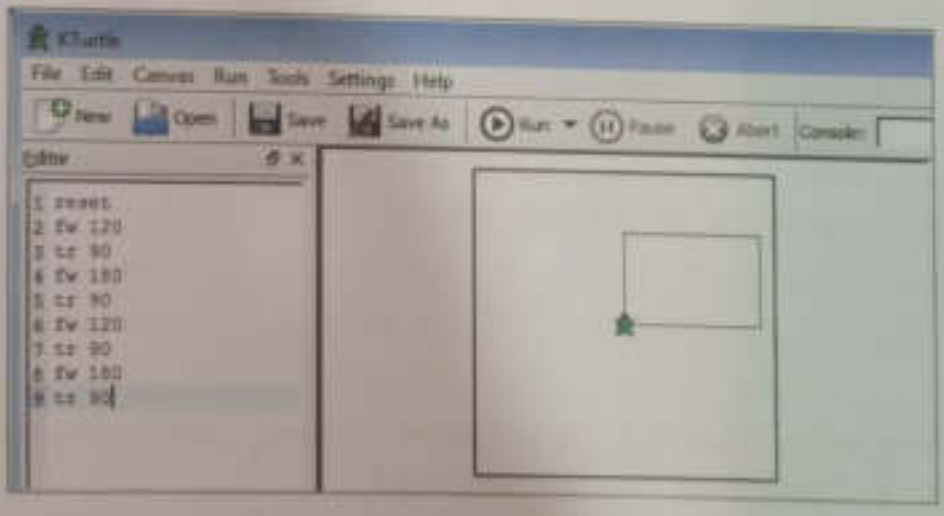
a. Consider the KTurtle main screen shown below and answer the questions that follow:



i. Which pane is used for entering commands?

ii. Name the pane in which the turtle sits.

b. Essa has typed and executed the following program in KTurtle:



i. Name the figure that has appeared on the canvas.

ii. Which button on the Toolbar is used to execute the commands?

IN THE LAB

1. The computer science teacher, Ms. Shaheen, wants her students to type and execute the following sets of code and see what figure they get on the canvas. Please enter the commands column-wise. Draw the figure in the space provided. Also write the names of the geometrical figures. Use different speeds to execute the commands.

a.
```
reset
tr 90
fw 150
tl 150
fw 100
bw 100
tl 60
fw 100
```

Name of the figure: .....

b.
```
reset
fw 100
tr 90
fw 190
tr 90
fw 100
tr 90
fw 190
tr 90
```

Name of the figure: .....

2. Execute the following commands in Kturtle and save the image by the name of the figure.

```
reset
fw 100
tr 70
fw 100
tr 70
fw 100
tr 75
fw 110
tr 70
```

3. The computer science teacher has asked the students to type and run the following code, and save the image by any name of their choice.

```
reset
tl 90
fw 100
tr 60
fw 100
tr 60
fw 100
tr 60
fw 100
tr 60
fw 100
```

4. Mashal, the monitor of class III A, has to type the following code and take a printout of the image that will appear. What does she need to do?

```
reset
tl 90
fw 100
tr 90
fw 50
tr 90
fw 100
tl 90
fw 80
tl 90
fw 100
```

Note: **The commands should be entered column-wise.** The teacher may need to set up a printer and help the students in taking the printout.

5. Play with KTurtle! What happens on the screen when you use these given commands: FW, TR, BW, and TL?

GROUP PROJECT

Now is your chance to put KTurtle to work. Decide as a group what shape you would like KTurtle to create for you. Work out together, and write down, the commands needed to create the shape. (Is a five-sided star a bit of a challenge?) Type in the commands and see what happens. Share the tasks between yourselves to make sure you all have a turn at inputting the commands.

TEACHER'S NOTES

- It would be useful to demonstrate the execution of the commands at different speeds, using relevant examples, before the students start practising on their own.
- Explain the use of the Console text box to the students.
- The KTurtle software can be downloaded from the site http://windows.kde.org for Windows OS.

Chapter 4

KTurtle Commands

In the previous chapter, we learnt how to draw in KTurtle using commands. In this chapter we will learn more about these commands and also some new ones.

When you start KTurtle, the turtle is seen at the center. KTurtle uses simple commands to move the turtle around the canvas.

In this Chapter

- FORWARD Command
- BACKWARD Command
- TURNRIGHT Command
- TURNLEFT Command
- DIRECTION Command
- CENTER Command
- Setting Canvas Size and Colour
- Setting Pen Width and Colour
- Clear and Reset command

FORWARD COMMAND

The `forward` or `fw` command as you learnt in the previous chapter, is used to move the turtle in the

forward direction. You need to type the number of steps the turtle has to move. To use the `forward` command:

Step 1: Type **`forward`** or **`fw`**.

Step 2: Press the **spacebar** key.

Step 3: Type the **number** of steps.

For example, the command **`forward 75`** or **`fw 75`** moves the turtle forward by 75 steps and draws a straight line. Figure 4.1 shows the turtle movement using the `forward` command.

Fig. 4.1 Using the `fw` command

Remember

- When you give a **`forward`** command, the turtle moves in the direction of its head.
- You should give a single space between the command and the number. For example, if you type **`fw75`**, an error message **"`An unknown function named 'fw75' was called`"** will appear [Fig. 4.2(a)]. Click the **Hide Errors** button and correct the error in the **Editor** pane.

Top Tip

Suppose you have typed in **fw75** instead of **fw 75**; bring the mouse pointer (blinking line) before 7 and press the spacebar key to insert a space between the command and the number.

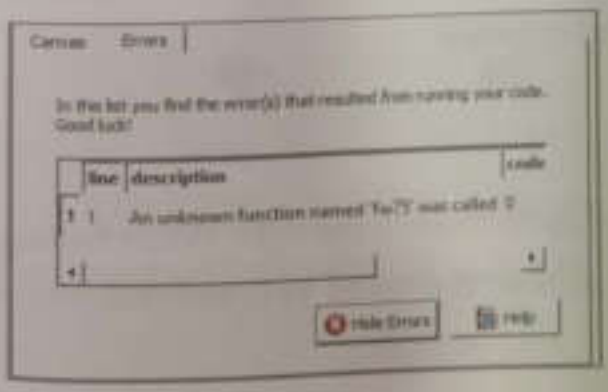


Fig. 4.2(a) Error message

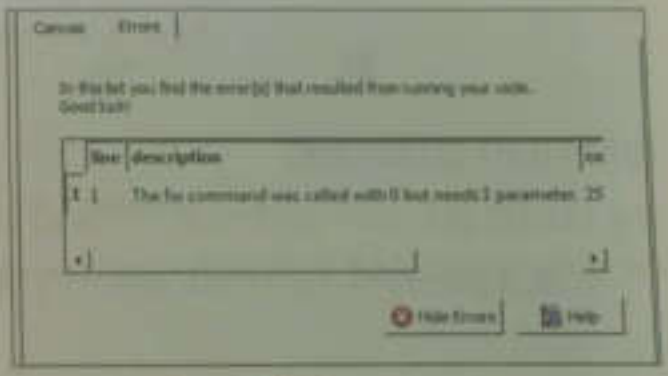


Fig. 4.2(b) Error message

- If you simply type `fw`, an error message "`The fw command was called with 0 but needs 1 parameter.`" will appear (Fig. 4.2(b)). Click the **Hide Errors** button and correct the error in the **Editor** pane.

BACKWARD COMMAND

The `backward` or `bw` command is used to move the turtle in the backward direction. While the turtle moves backwards by the given number of steps, its head remains pointed forward.

To draw a line in the backward direction:

Step 1: Type `backward` or `bw`.

Step 2: Press the **spacebar** key.

Step 3: Type the **number** of steps.

Suppose the turtle is at the center position. Let us give the command `bw 50`. This command moves the turtle 50 steps backward.

Let us look at some more examples (Fig. 4.3).

Top Tip

- You can also move the turtle forward by giving a negative input to the bw command. For example, `bw -60` would move the turtle forward by 60 steps.
- You can also move the turtle backward by giving a negative input to the fw command. For example, `fw -80` would move the turtle back by 80 steps.

(a) bw 60 (b) bw 110 (c) bw 180

Fig. 4.3 Using the bw command

TURNRIGHT COMMAND

The `turnright` command turns the head of the turtle towards the right. While turning, the turtle rotates, but stays at the same position. The short form of `turnright` is `tr`.

To turn the turtle to the right:

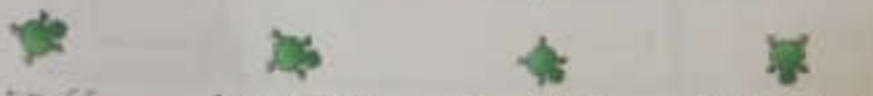
Step 1: Type **turnright** or **tr.**

Step 2: Press the **spacebar** key.

Step 3: Type in the **number** of degrees.

The number of degrees to be turned is given by this number. The term 'turning' means to move the turtle's head in a circular path. A circular path consists of a total of 360 degrees.

Let us look at some examples of the **tr** command (Fig. 4.4).



(a) `tr 65` (b) `tr 100` (c) `tr 135` (d) `tr 180`

Fig. 4.4 Using the **tr** command

TURNLEFT COMMAND

The **turnleft** command turns the head of the turtle towards the left. The short form of **turnleft** is **tl**. To turn the turtle to the left:

Step 1: Type **turnleft** or **tl**.

Step 2: Press the **spacebar** key.

Step 3: Type in the **number** of degrees.

The number of degrees to be turned is given by this number.

Top Tip

The `reset` command is a special command that cleans up the canvas completely. You can use it whenever you want to try a new set of commands.

Let us look at some examples of the `tl` command (Fig. 4.5).

(a) `tl 55` (b) `tl 100` (c) `tl 150` (d) `tl 180`

Fig. 4.5 Using the **tl** command

The commands **tr 360** or **tl 360** would make the turtle turn one complete circle.

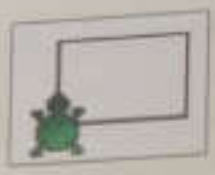
PRACTICE TIME

Tina wants to draw a rectangle of breadth 40 steps and length 60 steps in KTurtle using the `turnright (tr)` command. Can you help her out?

```
1 reset
2 fw 40
3 tr 90
4 fw 60
5 tr 90
6 fw 40
7 tr 90
8 fw 60
9 tr 90
```

SOLUTION

1. Tina should type the code given alongside in the KTurtle Editor pane.
2. After typing the code, she should click the **Run** button.
3. The output will appear as given here.



Note: Try doing the same using the `tl` command also.

DIRECTION COMMAND

You can also command the turtle to point its head in any direction without using the **`tr`** or **`tl`** command. You can do this using the **`direction`** command. The short form is **`dir`**.

The **`direction`** command followed by the number of degrees turns the turtle's head in the clockwise direction by those many degrees.

Let us look at some direction commands (Fig. 4.6).

(a) `dir 40` (b) `dir 100` (c) `dir 195` (d) `dir 280`

Fig. 4.6 Using the **`dir`** command

Top Tip

In the **`direction`** command, degrees are counted from the starting position of the turtle each time the command is given, whereas in `tl` and `tr` commands, degrees are counted from the current position of the turtle.

If you are not sure of how many degrees the turtle should move, click **Tools** and, in the menu, select **Direction Chooser ...** (Fig. 4.7).

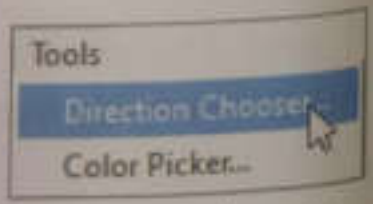


Fig. 4.7 **Tools** menu

The **Direction Chooser** dialog box appears (Fig. 4.8). Now do the following:

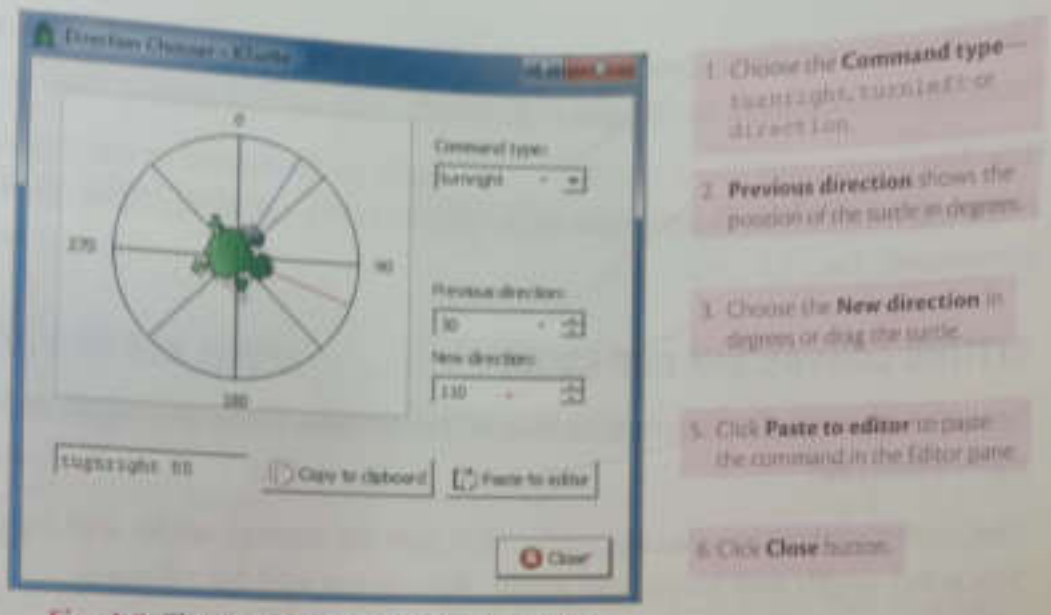


Fig. 4.8 The **Direction Chooser** dialog box

1. Choose the **Command type**.
2. **Previous direction** shows the position of the turtle in degrees.
3. Choose the **New direction** in degrees or drag the turtle to the new position.
4. The command will appear in the text box on the left.
5. Click the **Paste to editor** button. The command will appear in the **Editor** pane.
6. Click the **Close** button.

CENTER COMMAND

The `center` command brings the turtle to the center of the canvas without drawing a line. The head of the turtle points in the same direction as in the previous command. The `center` command does not draw a line as it moves to the center of the canvas. Consider the following set of commands (Fig. 4.9):

```
reset
fw 100
tr 150
center
```

The first command moves the turtle to the center of the canvas with its head pointing upward (Fig 4.9(a)).

(a) `reset` (b) `fw 100 tr 150` (c) `center`

Fig. 4.9 Using the `center` command

The second and third commands move the turtle forward by 100 steps and then move its head by 150 degrees to its right [Fig 4.9(b)].

The last command [Fig 4.9(c)] brings the turtle to the center of the canvas without drawing a line. The head of the turtle points in the same direction as in the previous command, i.e., `tr 150`.

SETTING CANVAS SIZE AND COLOR

You can change the size and colour of the canvas. The commands are **`canvassize`** and **`canvascolor`**.

The command `canvassize 200, 200` sets the canvas width and height to 200 steps. Since the width and height are equal, the canvas will be a square.

The command `canvascolor 0, 0, 0` makes the canvas black. `0, 0, 0` is called the RGB value. The first number stands for **Red**, the second for **Green**, and the third for **Blue**. Each of them can take values from 0 to 255. A zero for each gives the colour black.

You can also set the colour values by following the steps given below:

1. Click **Tools**.
2. Select the **Color Picker** option in the menu that opens (Fig. 4.7).
3. The **Color Picker** dialog box appears (Fig. 4.10).

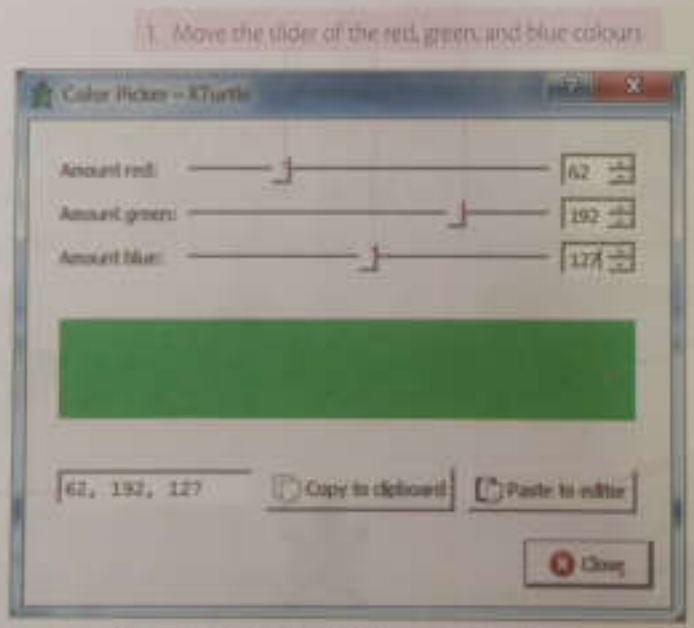


Fig. 4.10 **Color Picker** dialog box

a. You can move the slider for red, green, and blue, and the colour that is formed by a combination of their values will appear. The RGB numbers are shown in a text box on the left.

b. Click the **Paste to editor** button. The command will appear in the **Editor** pane.

c. Click the **Close** button.

SETTING PEN COLOR AND PEN WIDTH

In KTurtle, you can change the pen colour and the pen width also. The commands are **`pencolor`** and **`penwidth`**, respectively.

pencolor Command

With the **`pencolor`** command you can set the colour of the pen to the one that you like by changing the RGB values. The short form of `pencolor` is `pc`.

For example,
`pencolor 255,0,0` gives red colour.
`pencolor 0, 255, 0` gives green colour.
`pencolor 0, 0, 255` gives blue colour.

Note: You can use the **Color Picker** dialog box to know the RGB value of a particular colour.

Did you Know?

RGB values for some common colours

RGB combination	Colour	RGB combination	Colour
0, 0, 0	Black	255, 255, 0	Yellow
255, 255, 255	White	255, 0, 255	Pink
150, 0, 0	Dark red	0, 255, 255	Light blue

penwidth Command

The **`penwidth`** command sets the width (size) of the pen. The short form of `penwidth` is `pw`. For example, `penwidth 50` sets the pen width to 50 units. Now every line the turtle draws will have a thickness of 50 units.

CLEAR AND RESET COMMAND

The **`clear`** command will clean all drawings on the canvas. But the position and angle of the turtle, the canvas colour, and canvas size will remain as they were. The short form of **`clear`** is **`ccl`**.

The **`reset`** command will clean all drawings on the canvas and also bring the turtle back to the middle of the screen. The canvas colour will be set to white, and everything will be as it was before you started the drawing. There is no short form of the **`reset`** command.

PRACTICE TIME

Asad wants to draw a red colour rectangle of pen width 5 units on a yellow colour background. Can you help him in this task?

SOLUTION

1. Type the code given alongside in the editor pane. (To draw a red colour rectangle of width 5 units, Asad needs to change the pen colour to red and the pen width to 5. To set the background colour, he needs to change the canvas colour to yellow)
2. After typing the code, click the **Run** button.
3. The output will appear as:

```
1 reset
2 canvascolor 255,255,0
3 pencolor 255, 0, 0
4 penwidth 5
5 fw 40
6 tr 90
7 fw 60
8 tr 90
9 fw 40
10 tr 90
11 fw 60
12 tr 90
```

Tricky Terms

RGB a combination of Red, Green, Blue colour codes used to specify colours

Degree a unit to measure a turn

Turning to move the turtle's head in a circular path

Memory Bytes

- The **`forward`** or **`fw`** command moves the turtle forward by the number of steps that you type.
- The **`backward`** or **`bw`** command moves the turtle backward by the number of steps that you type.
- The **`turnright`** or **`tr`** command turns the turtle towards the right by the number of degrees that you type or select.
- The **`turnleft`** or **`tl`** command turns the turtle towards the left by the number of degrees that you type or select.

- The **direction** or **dir** command turns the turtle by the number of degrees you type, counting from zero each time.
- The **canvassize** or **cs** command sets the size of the canvas.
- The **canvascolor** or **cc** command sets the colour of the canvas.
- The **pencolor** or **pc** command sets the colour of the pen used for drawing on the canvas.
- The **penwidth** or **pw** command sets the thickness of the pen used for drawing on the canvas.
- The two commands to clear the canvas are **clear** (**cc**l) and **reset**.

EXERCISES

Objective Type Questions

1. Fill in the blanks with the correct words.

canvassize **reset** **direction** **penwidth** **turnleft**

a. The ..... command turns the turtle's head to the left.

b. The ..... command clears the canvas.

c. The ..... command counts the number of degrees from zero.

d. The ..... command sets the thickness of the pen used for drawing on the canvas.

e. The ..... command sets the size of the canvas.

2. Write T for the true statement and F for the false one.

a. The backward command can be used to move the turtle forward.

b. There is no short form of the `reset` command.

c. You cannot change the thickness of a pen.

d. The RGB combination is three numbers in the range 0 to 100.

e. The short form of the `clear` command is `cl`.

3. Choose the correct option.

a. This command moves the turtle forward by 80 steps.

i. `fw 80` ii. `bw -80` iii. `tr 80` iv. both i and ii

b. This command turns the turtle by 90 degrees to the left.

i. `tr 90` ii. `tl 90` iii. `dir 90` iv. `fw 90`

c. The command that takes no input.

i. `dir` ii. `clear` iii. `reset` iv. both ii and iii

d. The command to change the turtle's pen colour to yellow.

i. `pencolor 255, 255, 255` ii. `pencolor 255, 255, 0`

iii. `pencolor 255, 0, 255` iv. `pencolor 0, 255, 255`

e. The command to change the canvas size to 300 steps height and 300 steps width.

i. `canvassize 100, 300` ii. `canvassize 300, 300`

iii. `canvassize 300, 100` iv. `canvassize 100, 100`

Descriptive Type Questions

1. Answer the following:

a. Write a command to change the size of the canvas to 200 steps height and 200 steps width.

b. Write a command to change the thickness of the turtle's pen to 40 units.

c. Are the commands `turnright 360` and `turnleft 360` the same? What do they do?

d. How many degrees does a circular path consist of?

e. Which command performs the same functions as 'tr' or 'tl'?

f. What are the similarities and differences between clear and reset commands?

Application-Based Questions

a. Salman has just learnt the commands of KTurtle. He wants to turn the turtle to the right by 150 degrees. He has given the command, `turnright 150`.

i. Can you perform the same action using `turnleft`?

ii. Do the following commands give the same output?

```
turnright 90
turnright 60
```

iii. Can you get the same output with the following commands?

```
direction 90
direction 60
```

b. Shanila has been asked to write the command in the right column of the table for the tasks given in the left column. Can you help her out?

Task	Command
Turn the turtle 80 degrees to the left.	
Move the turtle 90 steps backward.	
Bring the turtle to the center position in the same state when you started KTurtle.	
Move the turtle 60 steps forward.	
Change the canvas colour to red.	

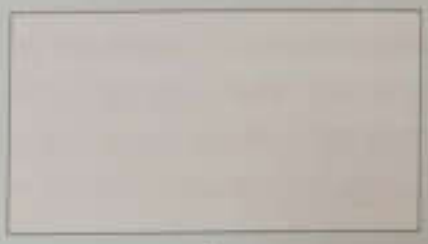
IN THE LAB

1. The Computer Science teacher has asked Mahad to draw a rectangle of width 60 steps and length 150 steps in KTurtle. Can you help him with the steps needed? Now change the width of the turtle's pen to
   a. `penwidth 5`
   b. `penwidth 25`
   c. `penwidth 50`
   Run the program for each case and see the changes.
2. Nabiha has to draw a triangle in KTurtle. What commands should she enter? Now change the colour of the turtle's pen to
   a. `pencolor 255, 0, 0`
   b. `pencolor 0, 255, 0`
   c. `pencolor 0, 0, 255`
   Run the program for each case and see the changes.
3. The students were asked to type and execute the commands to draw the letter 'C' in KTurtle. Now change the canvas size to 300, 300. What do you see? Change the colour of the canvas to
   a. `canvascolor 255, 0, 0`
   b. `canvascolor 0, 255, 0`
   c. `canvascolor 150, 50, 255`
   Run the program for each case and note the colour of the canvas.

4. Type and execute the following commands and draw the figure in the space provided. Enter the commands column-wise.

a.
```
reset
tr 20
fw 120
tl 110
fw 80
```

b.
```
reset
fw 100
tr 90
fw 50
tr 90
fw 50
tr 90
fw 70
tl 140
```



a.

c.
```
reset
tr 30
fw 150
tr 120
fw 150
tr 120
fw 150
tl 90
fw 150
tl 90
fw 150
```

b.

d.
```
reset
fw 150
tr 90
fw 150
tr 90
fw 150
tr 90
fw 300
tl 90
fw 150
tl 90
fw 150
tl 90
fw 150
```

c.

5. Complete the following programs by writing the missing commands.

a.
```
reset
penwidth 5
pencolor .....
tr 30
fw 120
tr 120
.....
bw 60
tr 118
fw 60
```

d.

b.
```
reset
penwidth 10
pencolor .....
fw 150
.....
fw 120
bw 120
tr 90
fw 75
tl 90
fw 75
.....
tr 90
fw 75
tl 90
fw 120
```

6. Draw a perfect square using Kturtle commands.

GROUP PROJECT

Can you create a colourful smiley face using KTurtle? It is time to use the direction commands, the pencolor commands, and the penwidth commands. It is a tough task and you will need to work together as a team, helping and advising one another every step along the way.

TEACHER'S NOTES

- Ensure that enough exercises to draw various geometric figures are given for practice.
- The concept of angles could be taken up before teaching the `tr`, `tl`, and `dir` commands, if it has not been taught already in Math class.
- The concept of primary colours—red, green, and blue—could be explained to students before teaching the `canvascolor` and `pencolor` commands.

Chapter 5

Writing and Math in KTurtle

So far you have used the turtle to draw figures on the canvas. In this chapter, you will learn about the commands used to write on the canvas. You will also learn how to solve math sums in KTurtle.

Before we write any text or numbers on the canvas, let us learn how to set the font size in KTurtle.

In this Chapter

- FONTSIZE Command
- PRINT Command
- GO Command
- SPRITEHIDE and SPRITESHOW Commands
- Math in KTurtle

FONTSIZE COMMAND

The `fontsize` command sets the size of the font that is used by the turtle to write text or numbers on the canvas. It takes one input which should be a number. The size of the font is set in units.

For example, `fontsize 50` sets the size of the font to 50 units.

PRINT COMMAND

The **print** command is used by the turtle to write text or numbers on the canvas.

Let us run the following commands:

```
fontsize 50
print 75
```

This will print the number 75 horizontally on the canvas (Fig. 5.1).

Fig. 5.1 Horizontal output

If you want to print text, it should be entered using double quotes (""). Enter the following commands in the Editor pane:

```
reset
fontsize 14
tr 90
print " Look! A Turtle on the canvas!"
```

The `tr 90` command turns the turtle 90 degrees towards the right.

In this case, the turtle will write the text vertically on the canvas (Fig. 5.2).

Fig. 5.2 Vertical output

GO COMMAND

You can even move the turtle to a certain place on the canvas without drawing a line. You can do this with the help of the `go` command. The position of the upper left corner of the canvas is given by `0, 0`. The number of steps the turtle will move is calculated from that position. For example,

```
go 50, 50
```

moves the turtle (counted from the upper left corner) 50 steps to the right and 50 steps down on the canvas.

Now, try the following commands:

```
reset
fontsize 40
```

```
go 30, 20
print "This turtle is cute!"
```

The go command moves the turtle, from the upper left corner, 30 steps to the right and 20 steps down on the canvas. Then, it writes the text at the position of the turtle, horizontally on the screen (Fig. 5.3).

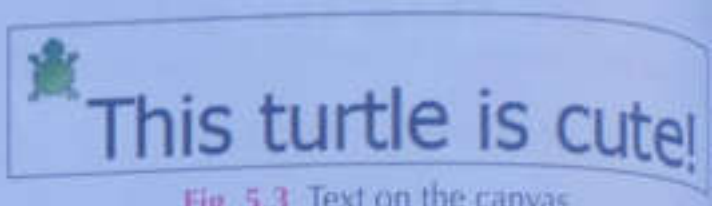


Fig. 5.3 Text on the canvas

SPRITEHIDE AND SPRITESHOW COMMANDS

You might have seen that the turtle is always visible on the canvas.

The turtle is also called a **sprite**. A **sprite** is a small creature that is supposed to have magic powers. You can hide the turtle so that it becomes invisible after your drawing is complete. This can be done using the **`spritehide`** or **`sh`** command.

If you want to make the turtle appear on the screen again, give the **`spriteshow`** or **`ss`** command. This makes the turtle visible on the screen again.

PRACTICE TIME

Naveen wants to draw an arrow starting from the upper left corner to the lower right corner of the canvas. Can you help her in the task? Do you get the same result as Naveen (Fig. 5(a)) if you type and run the following commands in the Editor pane? Check to see the result.

SOLUTION

```
reset
penwidth 2
go 5,5
direction 135
forward 100
turnleft 150
forward 40
backward 40
turnleft 55
forward 40
```

Fig. 5(a)

Note: Enter the commands column-wise.

Now hide the turtle by executing the `spritehide` command and make the turtle appear by executing the `spriteshow` command.

MATH IN KTURTLE

You can also solve math sums in KTurtle. The symbols used for this purpose are:

Operator	Meaning
+	Add
–	Subtract
*	Multiply
/	Divide
^	Power

These symbols are called **arithmetic operators**. The arithmetic operators can be used with the `print`, `forward`, `backward`, `turnright`, `turnleft`, `direction`, and `go` commands. They usually take two inputs.

Math using the `print` command

Let us look at a few examples of using arithmetic operators with the **`print`** command (Fig 5.4(a-d))

```
reset
go 20, 20
fontsize 40
print 53 + 35
```

(a) Add

```
reset
go 20, 20
fontsize 40
print 50 - 17
```

(b) Subtract

```
reset
go 20, 20
fontsize 40
print 45 * 10
```

(c) Multiply

```
reset
go 20, 20
fontsize 40
print 48/4
```

(d) Divide

Fig. 5.4 Basic arithmetic operations using the `print` command

Math Using Other Commands

Let us now look at some examples of using arithmetic operators with the **`forward`**, **`backward`**, **`turnright`**, **`turnleft`**, **`direction`**, and **`go`** commands (Fig. 5.5):

a. `fw 12 * 5`
It moves the turtle forward by 60 units [Fig. 5.5(a)].


(a)

b. `bw 160/2`
It moves the turtle backward by 80 units [Fig. 5.5(b)].


(b)

c. `tr 145 - 25 + 40`
It turns the turtle right by 160 degrees [Fig. 5.5(c)].


(c)

d. `tl 110 + 20`
It turns the turtle left by 130 degrees [Fig. 5.5(d)].


(d)

e. `direction 180 - 30`
It turns the turtle right by 150 degrees [Fig. 5.5(e)].


(e)

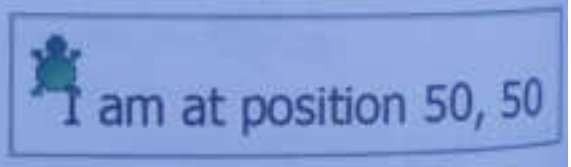
f. `direction 20 * 3 * 4`
It turns the turtle right by 240 degrees [Fig. 5.5(f)].


(f)

Fig. 5.5 KTurtle actions using basic arithmetic operators

They can also be used with the `go` command. Look at the following example:

```
fontsize 25
go 30 + 20, 30 + 20
print " I am at position 50, 50"
```



It changes the size of the font to 25. It then moves the turtle 50 steps to the right and 50 steps down. Then it prints `"I am at position 50, 50"` on the screen.

Ask Command

This command allows you to enter a number or text, so that you can provide an answer to a question. The command starts with `$n` followed by an equal to (=) sign.

On the right side of the equal to (=) sign, type **ask** followed by some text enclosed in double quotes (" "). Thus, the command looks like this:

```
$n = ask "type some text here"
```

For example, the command [Fig. 5.6(a)]

```
$n = ask "Please enter your school name"
```

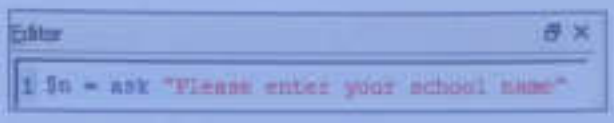


Fig. 5.6(a) An `ask` command

displays a question asking you to enter your school name. Enter the school name and click **OK** to answer the question [Fig. 5.6(b)].

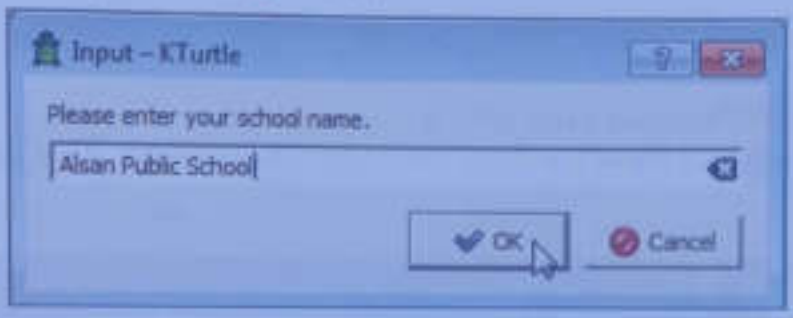


Fig. 5.6(b) **Input** dialog box

Message Command

The message command is used to give some information by displaying the text you have typed. For example, the command

```
message "KTurtle helps me in learning programming"
```

displays the message you have entered with the **message** command (Fig. 5.7).

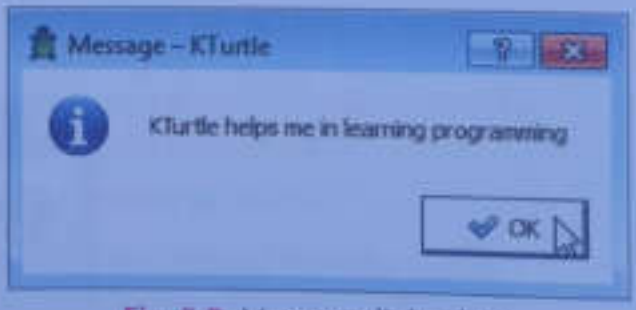


Fig. 5.7 Message dialog box

You can combine both `ask` and `message` commands to ask a question using the **ask** command and provide an answer to that question using the **message** command.

PRACTICE TIME

Sameen wants to write a program in KTurtle that asks the user to enter his/her nickname (say, Samy) and print the message "Hello, Samy!". What steps should Sameen take?

SOLUTION

As you can see we first have to use the `ask` command and then the `message` command.

1. Enter the commands as given below (Fig. 5b):

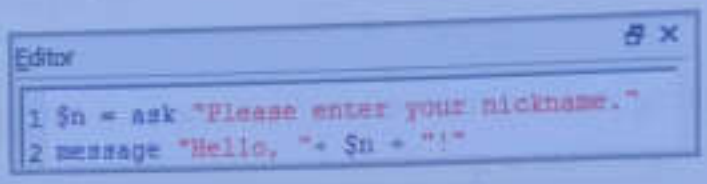


Fig. 5b Program code

2. Run the program.
3. First, it will open the **Input** box. Enter your nickname. Let us take "Samy" as an example (Fig. 5c):

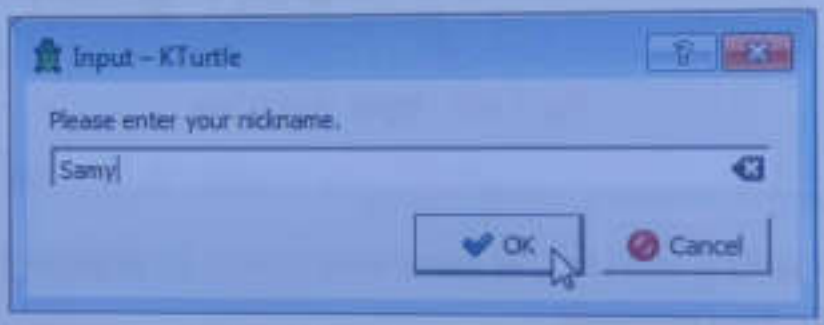


Fig. 5c **Input** box to enter your nickname

4. Now click **OK**.
5. Once you click **OK**, the message "Hello, Samy!" will be displayed (Fig. 5d).

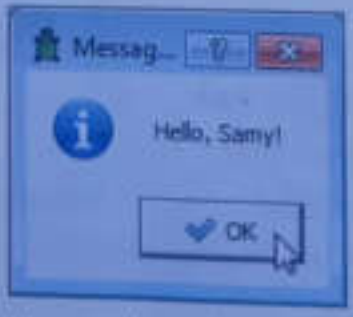


Fig. 5d **Message** box displaying greeting

Tricky Terms

`fontsize` changes the size of a font used in print command

`print` writes text or numbers on the canvas

Arithmetic operators the operators +, -, *, / and ^ used for calculations

sprite a small creature that is supposed to have magic powers

`spritehide` hides the turtle

`spriteshow` makes the turtle visible after it has been hidden

Memory Bytes

- The **`fontsize`** command is used to change the size of the font used in the `print` command.
- The **`print`** command is used to write any text or number on the canvas.
- The **`go`** command is used to move the turtle to any position on the canvas without drawing a line.
- The **`spritehide`** command is used to hide the turtle.
- The **`spriteshow`** command is used to make the turtle visible after it has been hidden.
- The arithmetic operators used in KTurtle are +, –, *, / and ^.

EXERCISES

Objective Type Questions

1. Fill in the blanks with the correct words.

`fontsize` **`go`** **`print`** **`spritehide`** **`spriteshow`**

a. The ..... command writes text or numbers on the canvas.

b. The ..... command changes the size of the text or number.

c. The ..... command is used to move the turtle without drawing a line.

d. The ..... command allows you to hide the turtle.

e. The ..... command is used to unhide the turtle.

2. Choose the correct options.

a. The operator used for multiplication is

i. + ii. – iii. * iv. /

b. The operator used for subtraction is

i. * ii. – iii. / iv. ^

c. It moves the turtle forward by 60 steps.

i. `fw 120 - 50` ii. `fw 70 + 5 - 15` iii. `fw 10 * 7` iv. `fw 100/5`

d. It turns the turtle right by 70 degrees.

i. `tr 50 + 10` ii. `tr 90 - 20` iii. `tr 15 * 5` iv. `tr 50/5`

e. The command used to move the turtle 40 steps to the right and 30 steps down from the top left corner.

i. `go 30, 40` ii. `go 40, 30` iii. `fw 40 + 30` iv. `tr 40 + 30`

Descriptive Type Questions

1. Answer the following.

a. Why is the font size an essential command of the KTurtle program?

b. What command would you use to write the text horizontally?

c. Can you only move the turtle to the bottom of the canvas by drawing a line?

d. How will you solve the division sum: 84/4 in KTurtle using arithmetic operators with the print command?

e. Which command would you use in KTurtle to ask the name of a place and to get an answer? Outline the steps you would take to write this command.

Application-Based Questions

a. The Computer teacher has asked the students to write the commands used to draw a triangle on the canvas.

(i) Which command will you use to hide the turtle?

(ii) Which command is used to erase the drawing and bring the turtle to the starting position?

b. Aman has learnt the commands and arithmetic operations in KTurtle. The Computer Science teacher has given him the task to match the following:

i. Move the turtle forward by 100.	i. `tr 60 * 2`
ii. Turn the turtle left by 80 degrees.	ii. `go 10 + 20, 10 * 5`

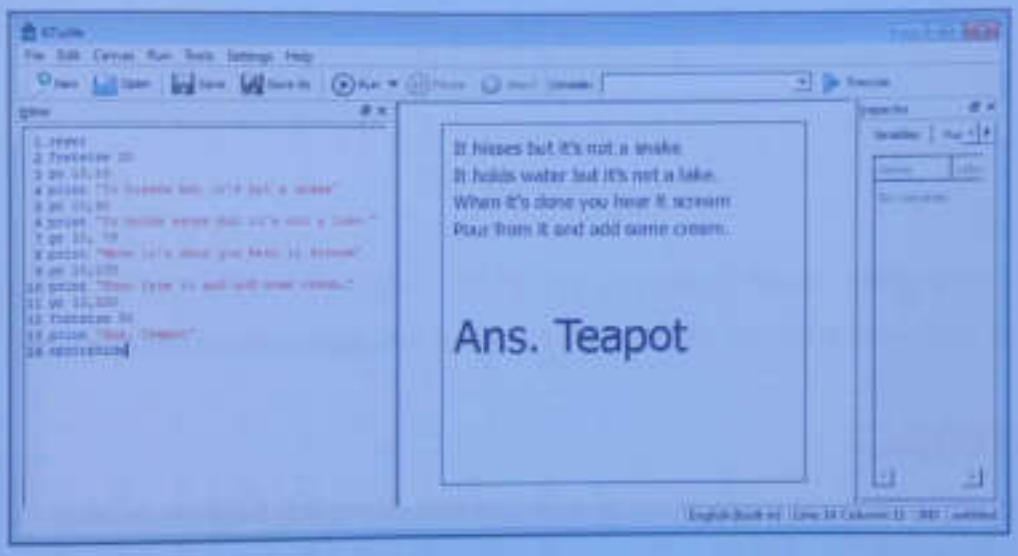
iii. Move the turtle backward by 150.
iv. Turn the turtle right by 120 degrees.
v. Move the turtle 30 steps to the right and 50 steps down from the top left position.

Can you help him with the correct answers?

iii. `fw 200/2`
iv. `tl 100 - 20`
v. `bw 100 * 2 - 50`

IN THE LAB

1. The class teacher has asked the students to write a riddle or a poem of 4—5 lines in KTurtle. He wants them to use the `fontsize`, `go`, and `print` commands. Can you perform the same task? One example is given below:



2. The Computer Science teacher has asked the students to try the following commands in KTurtle and note down their result.

a. `fw 30 * 4`
b. `bw 12 * 5`
c. `tr 60 * 3`
d. `tl 50 * 2`
e. `dir 40 * 5`

3. The Math teacher has asked the students to do the following arithmetic calculations. Sajid who has just learnt how to solve math sums in Kturtle finds out the results quickly. Can you do the same task in Kturtle?

a. `356 * 12`
b. `128 / 4`
c. `1211 + 867`
d. `887 - 243`
e. `455 + 554`

4. Try the following commands and draw the picture you get in the space provided.

a.
```
reset
fontsize 50
pencolor 255,0,0
tr 90
print "Hello!"
pencolor 0,255,0
tr 90
print "Hello!"
pencolor 0,0,255
tr 90
print "Hello!"
pencolor 122,76,122
tr 90
print "Hello!"
```

Note: Enter the commands column-wise.

b.
```
reset
canvascolor 0, 255, 0
pencolor 255,0,0
penwidth 10
fw 90
tr 90
fw 90
tr 90
fw 90
tr 90
fw 90
go 160, 220
fontsize 30
pencolor 0, 0, 255
print "This is a ..... ....."
spritehide
```

Fill in the blanks based on the figure you get on the canvas. Enter the commands column-wise.

Practice hide and seek with the turtle. Hide him first and then make him reappear.

GROUP PROJECT

1. In your group, do these mathematical calculations using the KTurtle. (Check your answers with a calculator)

   I) 45 + 83 II) 67 + 93 III) 900 – 456 IV) 675 – 325

2. Set multiplication and division problems for each other and find the solutions using the KTurtle.

TEACHER'S NOTES

- Discuss the use of `fontsize` in `print` command.
- Discuss the arithmetic symbols used in Math and compare them with the arithmetic operators in KTurtle.
- Ensure that the students familiarise themselves with using arithmetic operators with the `fw`, `bk`, `tr`, `tl`, and `dir` commands in a variety of situations.

WORKSHEET—2

(Chapters 3–5)

1. Search for any five KTurtle commands in the following maze:

D	C	A	N	V	A	S	C	O	L	O	R	J	G	T
F	S	W	A	Z	N	R	E	E	H	A	G	S	B	U
O	S	A	C	C	H	S	R	N	A	F	H	P	N	R
R	D	V	U	K	D	A	O	F	G	C	I	R	F	N
W	D	P	E	N	W	I	D	T	H	B	K	I	D	R
A	V	B	N	A	T	U	T	A	T	H	J	T	S	I
R	T	N	K	C	B	S	S	D	U	U	L	E	A	G
D	R	R	E	S	E	T	B	R	F	R	P	S	C	H
B	H	R	U	D	C	S	D	A	D	E	O	H	T	T
F	I	M	I	F	V	L	E	J	C	D	H	O	H	K
D	E	F	O	G	B	J	R	H	G	K	G	W	U	H
R	D	S	P	L	N	M	P	T	S	A	W	A	F	F
W	P	E	N	C	O	L	O	R	W	E	F	A	R	R
A	S	E	T	A	Z	S	W	E	T	H	U	B	R	D
T	U	R	N	L	E	F	T	R	Y	G	M	N	V	D

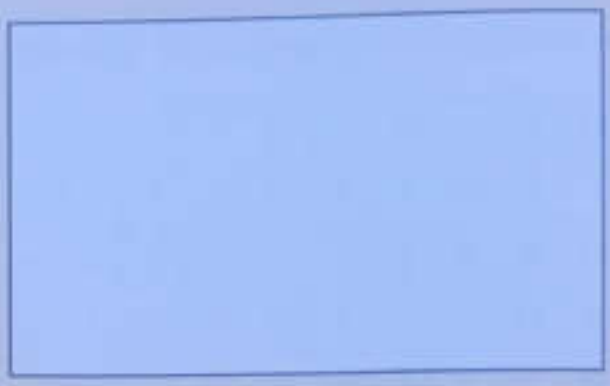
2. Match the commands on the left with their actions on the right.

a. `print 34 + 56`	i. It hides the turtle.
b. `turnright 120`	ii. It moves the turtle forward by 100 units.
c. `direction 120`	iii. It prints 90.
d. `forward 100`	iv. It turns the turtle right by 120 degrees from the previous position.
e. `spritehide`	v. It turns the turtle right by 120 degrees from the starting position.

OXFORD

3. Complete the missing statements to draw a rectangle of size 60 steps by 100 steps. What is the colour of the rectangle you get? Draw a rectangle of the same colour in the given box.

```
reset
penwidth 5
pencolor 255, 0, 0
forward 60
.....
forward 100
turnright 90
.....
turnright 90
.....
.....
```

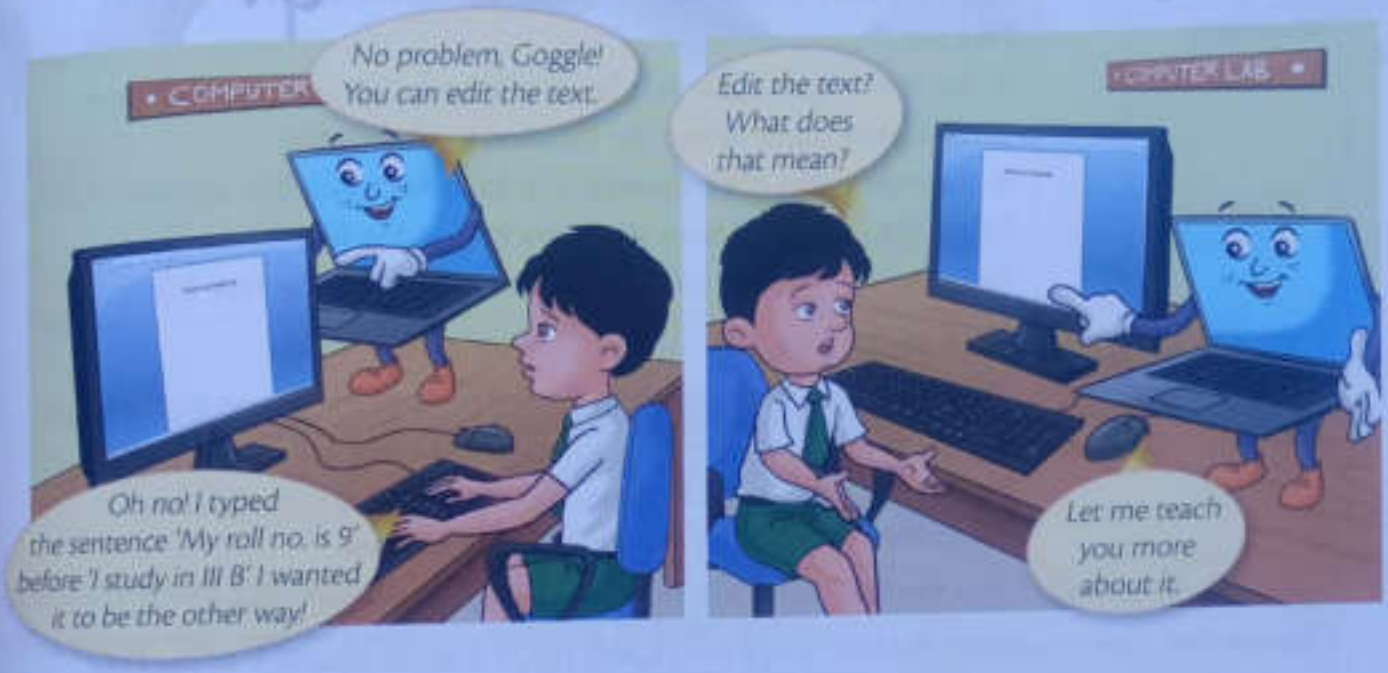


4. Write the short form of the following commands.

Command	Short form
spriteshow	
canvascolor	
penwidth	
direction	
spritehide	
turnright	
turnleft	
forward	
backward	
canvassize	

Chapter 6

Editing Text in Word 2013



You know that Word is a very popular software that allows you to type and save stories, letters, poems, etc.

In the previous class, you learnt some of the basic features of Word 2013:

- How to start Word 2013
- How to create and save a document
- How to open a saved document, and
- How to change the font size and font colour of a piece of text.

Let us quickly revise them and then move further.

In this Chapter

- Parts of the Word 2013 Window
- Editing Text
- Undo and Repeat commands
- Copying and Moving Text

OXFORD

Table 6.1 Basic commands in Word

Function	Steps
Starting Word 2013	**Start** ▶ **All Programs** ▶ **Microsoft Office 2013** ▶ **Word 2013**
Creating a new document	Click the **FILE** tab. Click the **New** option in the left pane. In the right pane, select **Blank document**.
Saving a document	Click the **Save** button on the **Quick Access Toolbar** OR click the **FILE** tab. In the screen that appears, click the **Save As** option in the left pane. In the center pane, select the location as **Computer**. In the right pane, click **Browse**. The **Save As** dialog box appears. Select the location where you want to save the file. Type the file name in the filename box and click the **Save** button.
Opening an existing document	Click the **FILE** tab. Now click the **Open** option in the left pane of the screen that appears. In the center pane, select the location as **Computer**. In the right pane, click **Browse**. The **Open** dialog box appears. Select the location, the file and then click **Open**.
Closing a document	Click the **FILE** tab. Click the **Close** option in the left pane.
Change font size and colour	Select the text. Click the **HOME** tab, if it is not selected. In the **Font** group, choose your font size and colour.

PARTS OF THE WORD 2013 WINDOW

The various parts of the Word 2013 window are shown in Fig. 6.1. In the previous class, you came to know about some of these parts. Let us learn about more of them.

Dialog Box Launcher

The **dialog box launcher** is a small icon that appears in some groups. If we click this icon, a dialog box opens related to that group. A dialog box is a new window that pops up. It has options that you can select as per your choice.

Zoom Control

The **zoom control** can be used by clicking, holding, and dragging the slider. The number to the right of the slider bar reflects the zoom percentage.

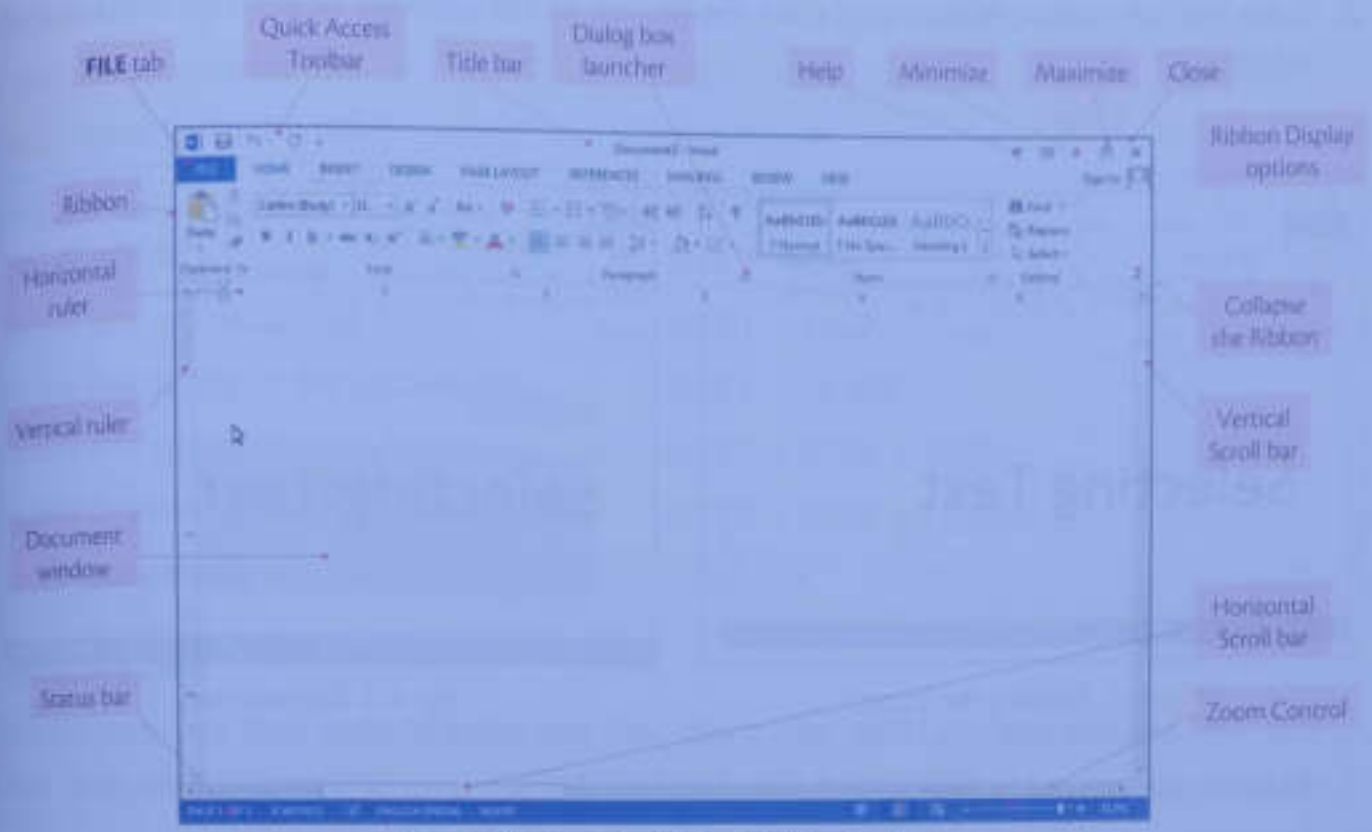


Fig 6.1 Parts of the Word 2013 window

Ribbon Display Options

Clicking on this button gives you options to **hide the ribbon, show ribbon tabs only,** and **show ribbon tabs and commands.**

Top Tip

If the ribbon is hidden, click at the top of the window to show it.

EDITING TEXT

Editing means making changes to your text. Word provides you with the tools to edit your text.

In some cases, you need to select text before you can make changes, so, let us learn how to do it. Text can be selected using the mouse or the keyboard. The selected text gets a grey background.

Selecting Text Using a Mouse

To select text using a mouse, follow these steps:

1. Place the cursor to the left of the first character to be selected (Fig. 6.2).

OXFORD

2. Press the left mouse button and drag the mouse to the position where you want to stop selecting.

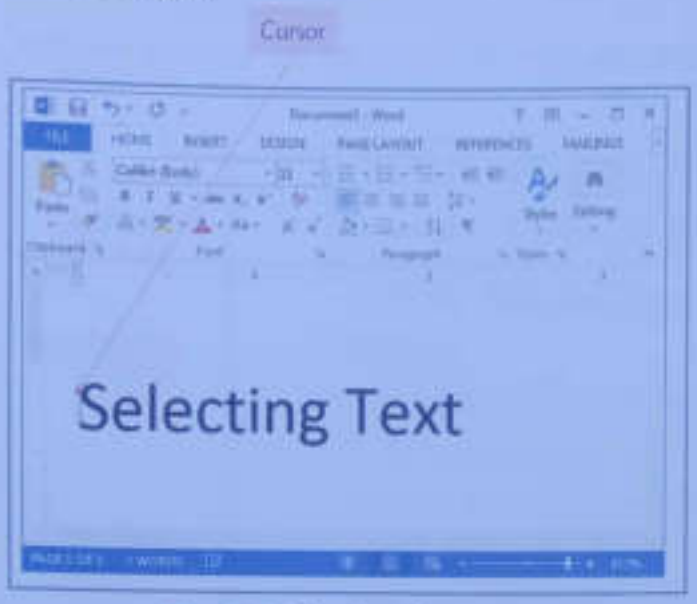


Fig. 6.2 Placing the cursor

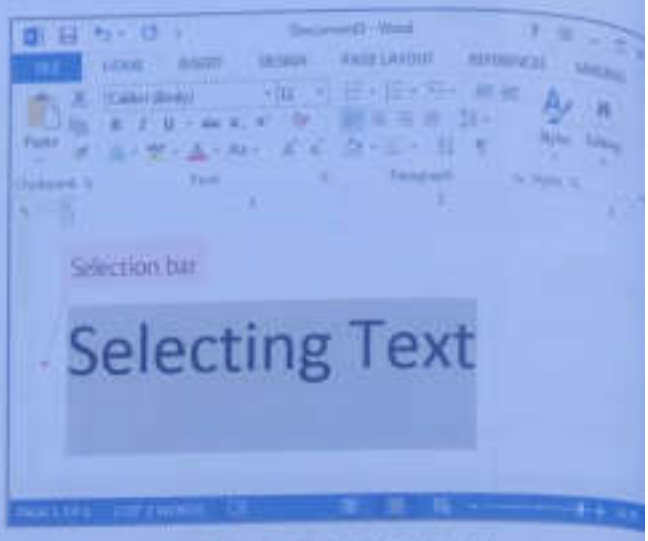


Fig. 6.3 Text Selected

3. Release the mouse button.
4. The selected text gets highlighted in grey (Fig. 6.3).

You can also use the **selection bar** to select the text. The selection bar is the space between the left edge of the page and where the text begins (Fig. 6.3).

To Select	Mouse Action
A word	Double-click the word.
A line of text	Click the selection bar to the left of the line.
Multiple lines of text	Click and drag in the selection bar to the left of the lines.
A paragraph	Double-click the selection bar or triple-click anywhere in the paragraph.
A sentence	Press and hold CTRL and click anywhere in the sentence.
Entire document	Triple-click the selection bar.

Selecting Text Using a Keyboard

You can even select text using the keys on your keyboard. First, place the cursor to the left of the first character you wish to select. Then use the following key combinations:

To Select	Press
One character to the left	SHIFT + ←
One character to the right	SHIFT + →
One line up	SHIFT + ↑
One line down	SHIFT + ↓
To the end of the current line	SHIFT + END
To the beginning of the current line	SHIFT + HOME
To the end of the current document	SHIFT + CTRL + END
To the beginning of the document	SHIFT + CTRL + HOME
Entire document	CTRL + A

Inserting Text

Sometimes, you may want to insert text (i.e., place new text) between existing text. You may also want to overtype (i.e., replace) old text with a new one.

Before inserting or overtyping text, you should always check whether the insert or overtype mode is selected on the status bar.

To select the **Insert/Overtype** mode, follow these steps:

1. Right-click the status bar.
2. The **Customize Status Bar** menu appears.
3. Click **Overtype**. The **Insert/Overtype** button appears on the status bar.
4. If the **INSERT** button appears on the status bar, it means the INSERT mode is selected (Fig. 6.4). If the **OVERTYPE** button appears on the status bar, it means the OVERTYPE mode is selected. If you click the **OVERTYPE** button, it will change to **INSERT**.

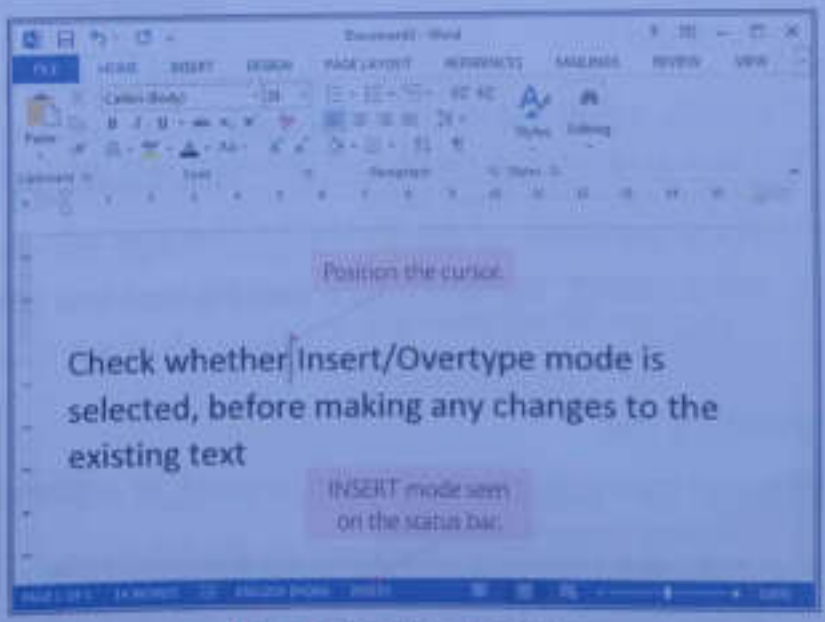


Fig. 6.4 Placing the cursor

To insert text in a document, follow these steps:

1. Position the cursor to the right of the character where you want to insert new text (Fig. 6.4).
2. Make sure that the INSERT mode is selected.
3. Type the new text. When you insert new text, the existing text moves to the right (Fig. 6.5).

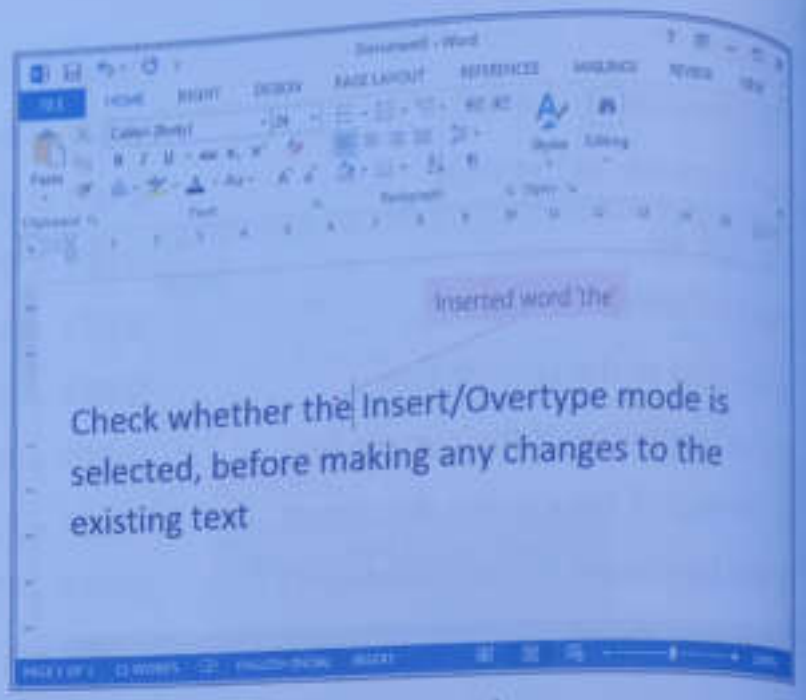


Fig. 6.5 Inserted text

Overtype

You can type and replace the current text with new text in the OVERTYPE mode. To change to the OVERTYPE mode, click **INSERT** on the status bar. **INSERT** changes to **OVERTYPE**.

To overtype text in a document, you can follow the steps given below:

1. Place the cursor before the letter where you want to start overtyping.
2. Type the text.

Inserting a Blank Line

You can also insert a blank line between two existing lines. Do as given below:

1. Place the cursor at the end of the line after which you want to insert a blank line.
2. Press ENTER. You will notice that the next line gets shifted down and a blank line is inserted.

Deleting Text

You can easily delete a character, a word, or a block of text in Word.

If you wish to delete a character, do the following:

1. Position the cursor to the left of the character to be deleted.

2. Press **DELETE**.

Or

1. Position the cursor to the right of the character to be deleted.
2. Press **BACKSPACE**.

To delete a block of text:

1. Select the text to be deleted.
2. Press **DELETE** or **BACKSPACE**.

Whereas, to delete a word:

1. Place the cursor to the left of the word to be deleted.
2. Press CTRL + DELETE.

Or

1. Place the cursor to the right of the word to be deleted.
2. Press CTRL + BACKSPACE.

UNDO AND REPEAT COMMANDS

The **Undo** command is used to reverse the last command. To reverse the last command, click the **Undo** button on the **Quick Access Toolbar**.

As long as there is nothing to redo, the Redo command will show up as **Repeat** command. The function of the **Repeat** command is to repeat the last thing you did in Word.

When you undo an action, the **Repeat** command changes to **Redo.** The **Redo** command is used to reverse the **Undo** action. To reverse the **Undo** action, click the **Redo** button on the **Quick Access Toolbar** (Fig. 6.6).

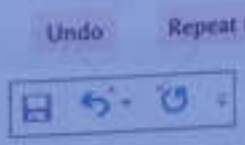


Fig. 6.6 **Quick Access Toolbar**

Top Tip

The **Redo** command does exactly the opposite of what the **Undo** command does. For example, if you type some text, the **Undo** command will clear or delete the text and then **Redo** will recover the text.

Fast Forward

Undo	**CTRL + Z**
Redo	**CTRL + Y**

COPYING AND MOVING TEXT

To copy text from one place to another, you can use the **Copy** and **Paste** commands. The **Copy** command creates a duplicate of the selected text. The **Paste** command pastes the copied text at the position where the cursor is placed.

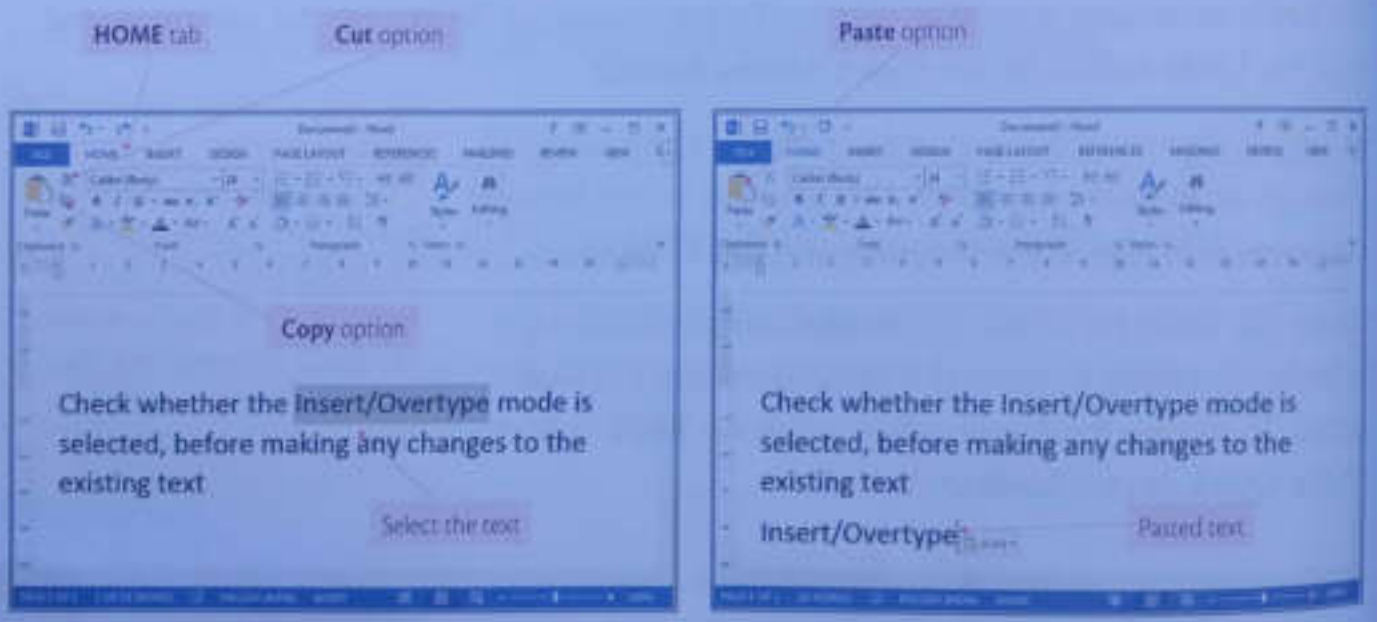
The **Cut** and **Paste** commands can be used to move text from one place to another in a document. The **Cut** command deletes the selected text from its original position. The **Paste** command then places this text at the position where the cursor is placed.

For copying (or moving) and pasting text, follow these steps:

1. Select the text to be copied.
2. Click the **HOME** tab, if it is not already selected.
3. In the **Clipboard** group, click **Copy** (or **Cut**) [Fig. 6.7(a)]
4. Position the cursor at the location where you want to paste the text.
5. In the **Clipboard** group, now click **Paste** [Fig. 6.7(b)].

Fast Forward

Copy text	CTRL + C
Cut text	CTRL + X
Paste text	CTRL + V



(a) **Copy (Cut)** selected text (b) **Paste** the copied (cut) text

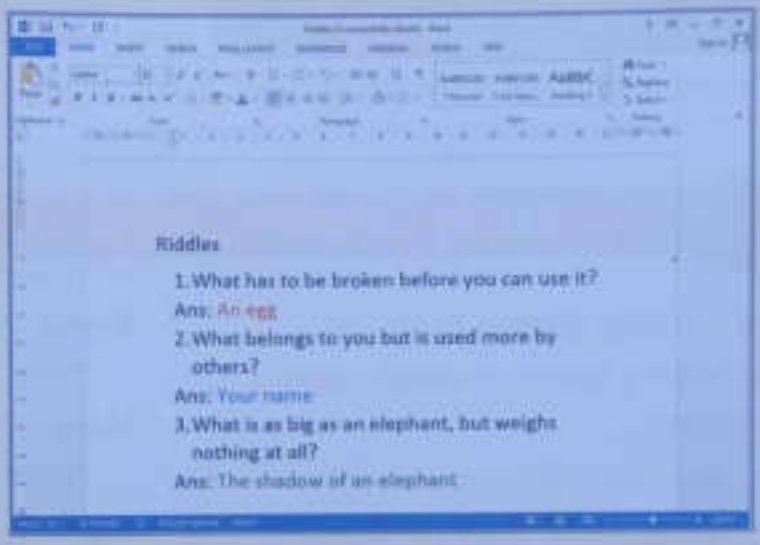
Fig. 6.7 **Copy (Cut)** and **Paste** options

PRACTICE TIME

Haider wants to create a document in Word 2013 having some riddles for kids. Help him create the document and select the word 'Riddles', the first sentence and then the entire document. He then has to do the following tasks:

i. Insert the word 'Funny' before the word 'Riddles' (heading).
ii. Shift the third riddle to the second position.
iii. Bring the riddle back to its original position.

SOLUTION



1. Start Word 2013.
2. Type the heading as **Riddles**.
3. Type the riddles.
4. Save the file as 'Riddles'.
5. To select the word 'Riddles', double-click it.
6. To select the first sentence, press and hold the CTRL key and left-click anywhere in the first sentence.
7. To select the entire document, press CTRL + A.
8. Now, to insert the word 'Funny' before the word 'Riddles', follow these steps:
   a. Make sure that the **INSERT** mode appears on the status bar.
   b. Click before 'Riddles' to place the cursor to the left of 'R'.
   c. Type the word 'Funny'.
   d. Press the **SPACEBAR** key to insert a space.
9. To shift the third riddle to the second position, do the following:
   a. Select the riddle and its answer by clicking and dragging in the selection bar next to the riddle and its answer.
   b. Click the **HOME** tab.
   c. In the **Clipboard** group, click **Cut**.
   d. Position the cursor at the location where you want to place the text.
   e. Make sure that the **HOME** tab is selected. In the **Clipboard** group, click **Paste**.
10. Now, to bring the riddle back to its original position, click the **Undo** button on the **Quick Access toolbar.**

Computer Manners

Do not pull or push the keyboard too hard. It may damage the wire connected to the keyboard.

Tricky Terms

Editing making changes to the text

Insert adding text to an already existing document

Undo reversing the last command

Redo reversing the Undo command

Repeat carrying out the last command once more

Move moving text from one position in the document to another

Copy creating a duplicate of the text, leaving the original text unchanged

Memory Bytes

Selecting text

- To make changes, you may need to select the text before performing any operation
- The selected text gets a grey background.

Editing text

- Blank lines can be inserted in an already existing document by pressing the **ENTER** key.
- You can delete a character, a word, or a block of text.
- Before inserting or overtyping text, you should always check whether the **INSERT** or **OVERTYPE** mode is selected.

Undo and Repeat

- The **Undo** command is used to reverse the last command.
- The **Repeat** command carries out your last command once more.
- The **Redo** command is used to reverse the **Undo** command.

- A duplicate of the text can be created using the **Copy** and **Paste** commands.
- Text can be moved from one position to another using the **Cut** and **Paste** commands.

EXERCISES

Objective Type Questions

1. Fill in the blanks with the correct words.

FILE **Clipboard** **copy** **Redo** **Save**

a. The keyboard shortcut to ..... the selected text is Ctrl + C.

b. The **Save** option is available on clicking the ..... tab.

c. The ..... command is used to reverse the **Undo** action.

d. The ..... button appears on the **Quick Access toolbar**.

e. The **Cut** option is available in the ..... group of the **HOME** tab.

2. Choose the correct option.

a. To select a paragraph

i. Double-click the selection bar ii. Triple-click anywhere in the paragraph

iii. both (i) and (ii) iv. none of these

b. To select one character to the left, press

i. SHIFT + ← ii. SHIFT + ↑ iii. CTRL + ← iv. CTRL + ↓

c. Keyboard shortcut for **Undo** command

i. CTRL + Y ii. CTRL + Z iii. CTRL + X iv. none of these

d. To delete a character to the left of the cursor, press

i. DELETE ii. ENTER iii. BACKSPACE iv. none of these

e. The keyboard shortcut for the **Paste** option is

i. CTRL + V ii. CTRL + C iii. CTRL + X iv. none of these

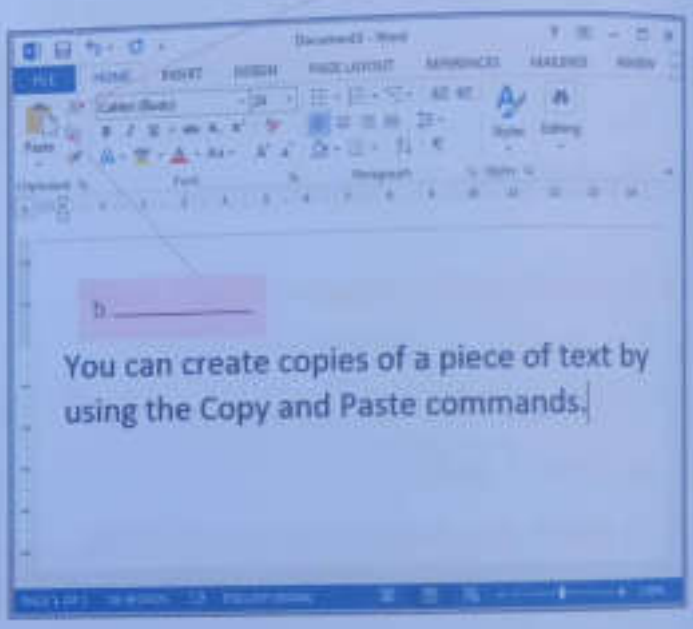
Descriptive Type Questions

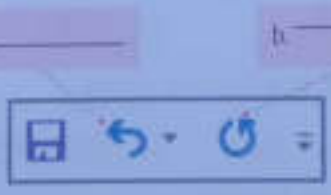
1. Answer the following.
   a. What are the functions of horizontal and vertical scroll bars?
   b. Imagine you have written an essay on whales but you need to add more information to it. What steps will you take to insert additional information?
   c. Now you want to replace the opening paragraph in your essay on whales with new text. Explain how you would do this.
   d. What is the difference between 'Undo' and 'Redo' commands?
   e. Discuss why you would use the 'Copy' command instead of the 'Cut' command.

Application-Based Questions

a. Observe the figure given on the right and answer the questions given below.
   i. Label the commands (a) and (b) in the figure.
   ii. Name the tab and the group that has the **Paste** option.

b. Sharmeen has mistakenly deleted the text she had typed in her document. She wants to get it back and save the document. Can you help her with the right options by labelling the figure given below? Name the toolbar where she will find these options.





IN THE LAB

1. Irfan is interested in collecting amazing facts about animals. His teacher has suggested that he should create a document in Word and type those facts. Help him create a neat document in Word giving some amazing facts about animals.
2. Irum has created a list of her favourite storybooks in Word. Do you like reading storybooks too? Make a list of ten of your favourite storybooks in Word and compare it with that of your friends.
3. Jehan recently visited a grocery store with her mother. Her mother now wants her to make a list of items she would like to purchase the next time she visits that store. Help Jehan create a document in Word and make that list.
4. Sarim's English teacher has asked him to create a document in Word and write a paragraph on the topic 'My likes and dislikes'. You, being Sarim's friend, should help him create an attractive document.

GROUP PROJECT

In your group, share your 'favourite things' list and create a new Word document by combining all this information together into one new list, 'Our favourite things'. Apart from using 'Copy' and 'Paste' commands from each other's word documents, can you also use the 'Insert' or 'Overtype' mode to help you create this new list? Using the keyboard shortcuts may help.

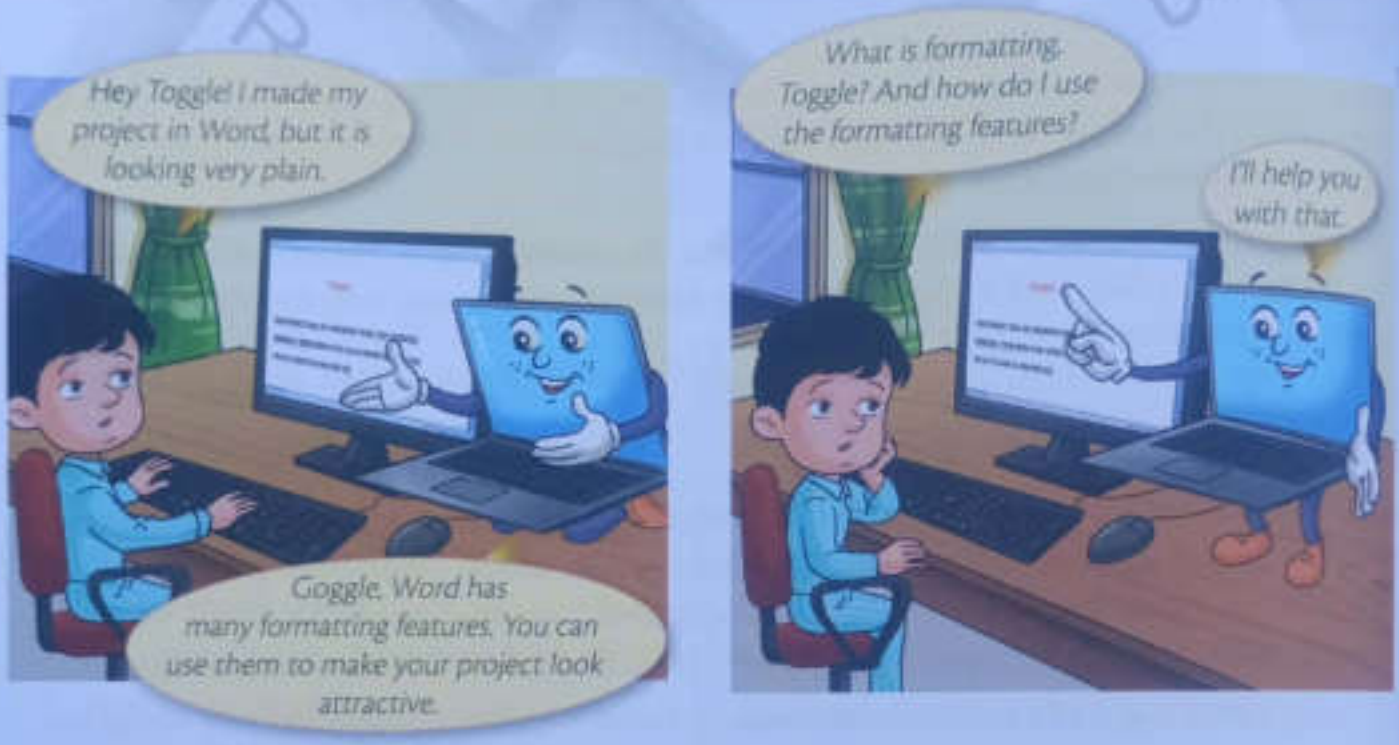
It's a complicated and fiddly challenge but helps you work together and develop your computer skills. Have fun!

TEACHER'S NOTES

- Ensure that students are comfortable using both mouse actions and keyboard shortcuts for simple commands like Cut, Copy, and Paste.
- The students could be given practical situations where editing the text is useful rather than creating an entirely new document.
- Emphasise the importance of switching off the computer entirely when students are done using it.

Chapter 7

Formatting Text in Word 2013



You have already learnt how to edit text in Word 2013. In this chapter, you will learn how to format text.

Formatting is the process of changing the general arrangement and appearance of text, i.e., improving the appearance of the text by using various fonts, font colours, font sizes, and font styles.

A **font** is a set of letters, numbers, or symbols of a given size and design that may be displayed or printed.

In this Chapter

- Character Formatting
- Highlighting and Aligning Text
- Applying Borders and Shading

Settings that are standard or pre-defined in a software are called **default settings**. Formatting helps to make changes to the default settings. It also helps in highlighting important text in a document and makes the text look more attractive.

CHARACTER FORMATTING

Character formatting means displaying text in a certain manner. Character formatting consists of text properties—bold, italic, underline, font type, font size, font colour, etc.

In Class 2, you have already learnt how to change the font colour and font size. Let us now look at some more formatting options available in the **Font** group.

Character Formatting Using the Ribbon

To apply character formatting to your text using the commands on the ribbon, follow the steps below:

1. Select the text to be formatted.
2. Click the **HOME** tab. The **Font** group on the **HOME** tab offers a quick way to apply some of the most commonly used character formatting options.
3. The options available in the **Font** group are shown in Figure 7.1.

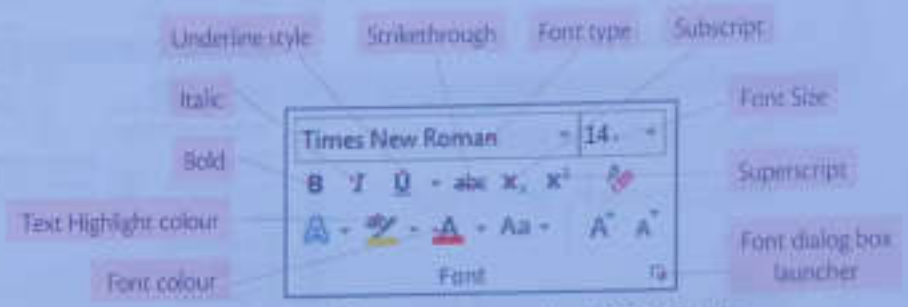


Fig. 7.1 **Font** group on the **HOME** tab

   a. Click the drop-down menu arrow of the **Font type** box and select a new font.
   b. Click the drop-down menu arrow of the **Font Size** box and select a font size.
   c. Click the drop-down menu arrow of the **Font Color** button and select the desired colour.
   d. Click the **Bold**, **Italic**, or the **Underline** buttons, to make the text bold, italic (slanted), or underlined, respectively.
   e. To change the underline style and colour, click the drop-down menu arrow of the **Underline** button and select a new style and/or colour.
   f. To give a special effect to the text, such as strikethrough, to make a selection a subscript, or a superscript, click the buttons marked in Figure 7.1.

Top Tip

While selecting a Font type, you can see the preview of how the text will look like in the new font.

Top Tip

The default font in Word 2013 is **Calibri**.

Default font size is **11**.
Default font style is **Regular**.
Default font colour is **Black**.

Character Formatting Using the Font Dialog Box

Fast Forward

Font dialog box Ctrl + D

If you need more formatting options, you can use the **Font** dialog box. To open the **Font** dialog box do as follows:

Did you Know?

One point equals 1/72th of an inch.

1. Select the text.
2. Click the **HOME** tab.
3. In the **Font** group, click the **Font** dialog box launcher (Fig. 7.1). The **Font** dialog box appears (Fig. 7.2).
4. Click the **Font** tab.
5. Select the following options in the **Font** dialog box:
   a. In the **Font** box, select a font for the text.
   b. In the **Font style** box, select the font style—Regular, Italic, Bold, or Bold Italic.
      Regular refers to normal text.
      Italic means slanted text.
      Bold means **darker than normal text.**
      Bold Italic means **that the text is both bold and italic.**
   c. In the **Size** box, select the size for the text. **Font size** means the height of letters or other characters. Font sizes are measured in units called **points**.
   d. From the **Font color** drop-down list, select a colour for the text.
   e. From the **Underline style** drop-down list, select the underline style you want.
   f. From the **Underline color** drop-down list, select the colour for the underline.
   g. You can also select some special effects from the **Effects** list by selecting the desired check boxes.
6. Click **OK**.

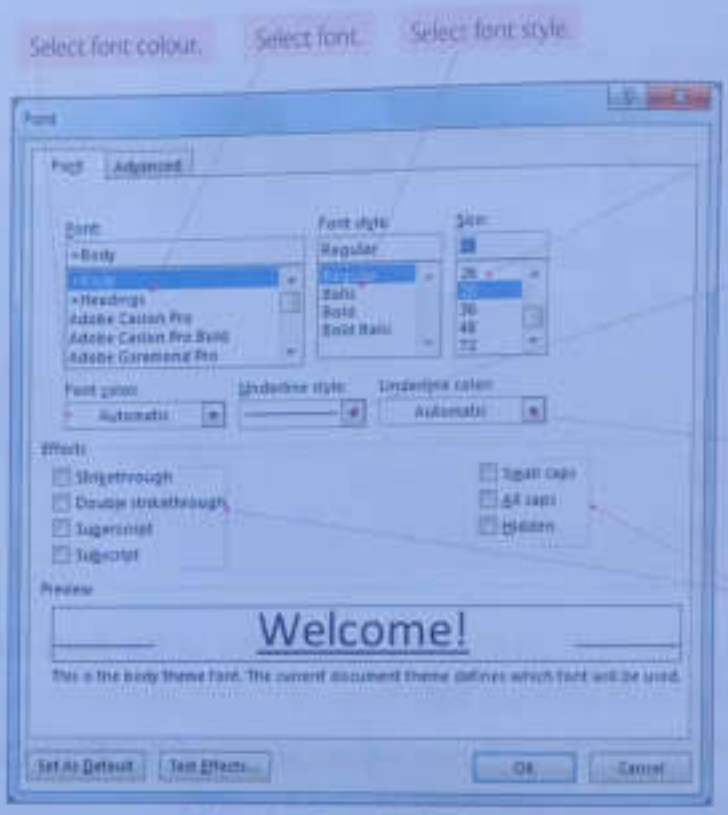


Fig. 7.2 **Font** dialog box

Text Effects

In Word 2013, there is a new button called **Text Effects** in the **Font** group. Using this button, you can apply different kinds of effects to any text in the document. You can change the look of the text by changing its colour, outline, or by adding effects like, shadows, glow, reflection, etc.

You can apply text effects by following the steps below:

1. Select the text.
2. Click the drop-down menu arrow of the **Text Effects** button in the **Font** group on the **HOME** tab.
3. Select the desired effect (Fig 7.3).

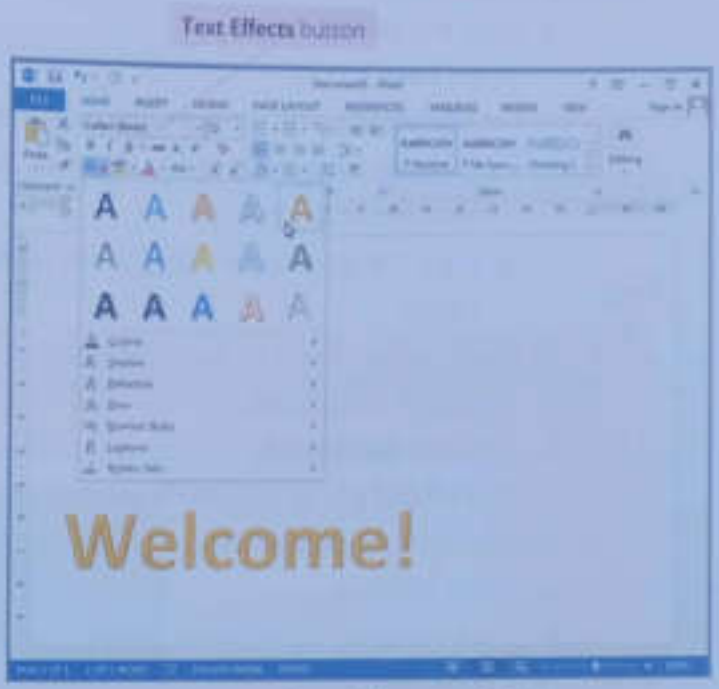


Fig. 7.3 Text effects applied

PRACTICE TIME

Osman is the sports captain of his class. His sports teacher is organising an Inter-Class Athletics competition. Osman has been asked to make a list of activities to be included in the competition. Help him create the document in Word and format it as follows (Fig. 7(a)):

a. Change the font, font size, and colour of the list.
b. Apply special effect to the word 'Jump' in 'High Jump' so that it appears as 'High Jump'.
c. Apply artistic effects to the heading.
d. Save the document as 'Athletic Events'.

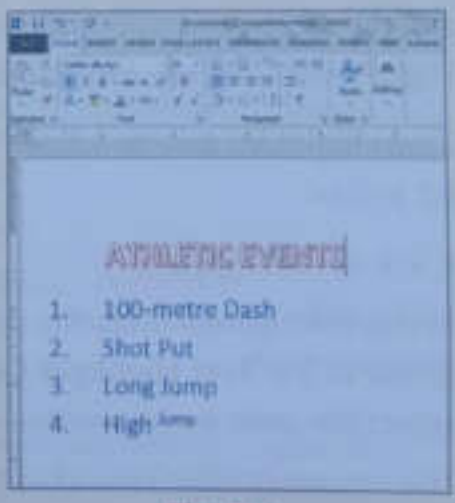


Fig. 7(a)

SOLUTION

1. Start Word 2013.
2. Type the list.

3. To change the font, font size, and colour:
   a. Select the text.
   b. Click the **HOME** tab.
   c. In the **Font** group:
      i. Click the drop-down menu arrow of the **Font** box and select the desired font.
      ii. Click the drop-down menu arrow of the **Font Size** box and select the font size from the drop-down list.
      iii. Click the drop-down menu arrow of the **Font Color** button and select the desired colour.
4. To apply special effects to the word 'Jump':
   a. Select the word 'Jump'.
   b. Click the **HOME** tab.
   c. In the **Font** group, click the **Superscript** option.
5. Steps to apply artistic effects to the heading are:
   a. Select the text.
   b. Click the drop-down menu arrow of the **Text Effects** button in the **Font** group on the **HOME** tab.
   c. Select the desired effect.
6. Click the **Save** button on the **Quick Access Toolbar** and save the document by the file name 'Athletic Events'.

HIGHLIGHTING TEXT

Highlighting means making the text look different to draw the reader's attention towards it. Highlighted text has a coloured box around it.

You can highlight text by following the steps listed below:

1. Click the **HOME** tab.
2. In the **Font** group, click the drop-down menu arrow of the **Text Highlight Color** button and select the colour you want.
3. The mouse pointer now changes to a pen-shaped pointer.
4. Select the text you want to highlight (Fig. 7.4). The text gets highlighted.

Fig. 7.4 Highlighted text

Removing Highlighting

If you want to remove the highlight colour from the text, follow the steps given below:

1. Select the text from which you wish to remove highlighting.
2. Click the **HOME** tab.
3. In the **Font** group, click the drop-down menu arrow of the **Text Highlight Color** button and select **No Color** (Fig. 7.4).

Top Tip

After selecting the text, a mini toolbar appears above the text. It can be used to quickly format the selected text.

ALIGNING TEXT

Alignment is the manner in which text is placed between the margins of a page. You can have your text lined up at the left side, at the center, or at the right side of the page (Fig. 7.5).

The steps to change the alignment of the text are as follows:

1. Select the text.
2. Click the **HOME** tab.

Fast Forward

Align text left	CTRL + L
Center	CTRL + E
Align text right	CTRL + R
Justify	CTRL + J

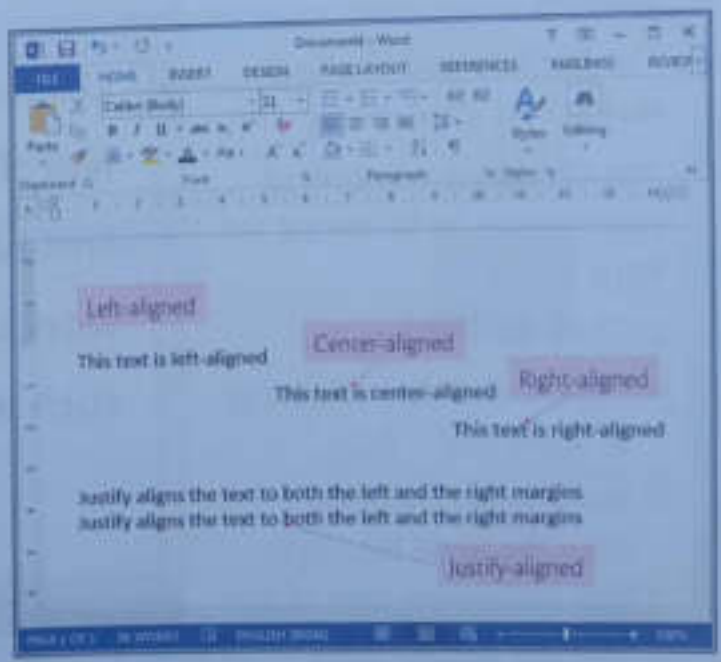


Fig. 7.5 Alignment of text

3. In the **Paragraph** group, click the required alignment button—**Align Text Left**, **Center**, **Align Text Right**, or **Justify** (Fig. 7.6).

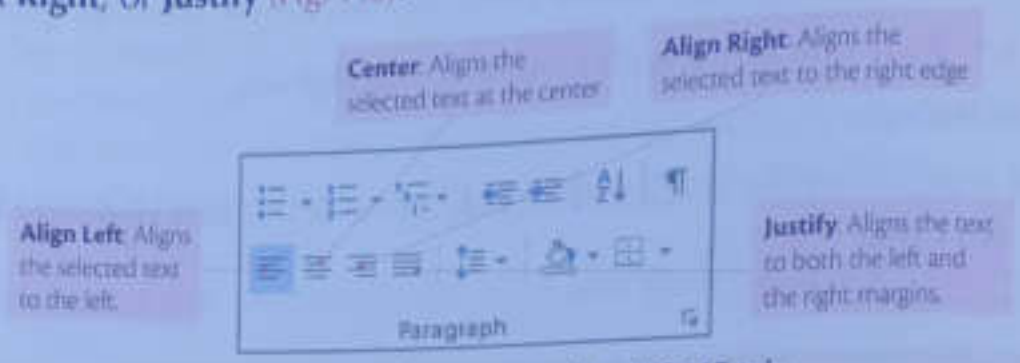


Fig. 7.6 **Paragraph** group on the **HOME** tab

APPLYING BORDERS AND SHADING

The steps for applying borders and shading to text are as follows:

1. Select the text or paragraph(s) to which you want to apply borders and shading.
2. Click the **HOME** tab.
3. In the **Paragraph** group, click the drop-down menu arrow of the **Borders** button and click **Borders and Shading ...** (Fig. 7.7).
4. The **Borders and Shading** dialog box appears (Fig. 7.8).
5. You can apply a border of your choice by following the steps below:
   a. Click the **Borders** tab.
   b. Choose the desired setting to apply (Fig. 7.8).
   c. Now, select the style from the **Style** list. Style determines the type of line used for the border.

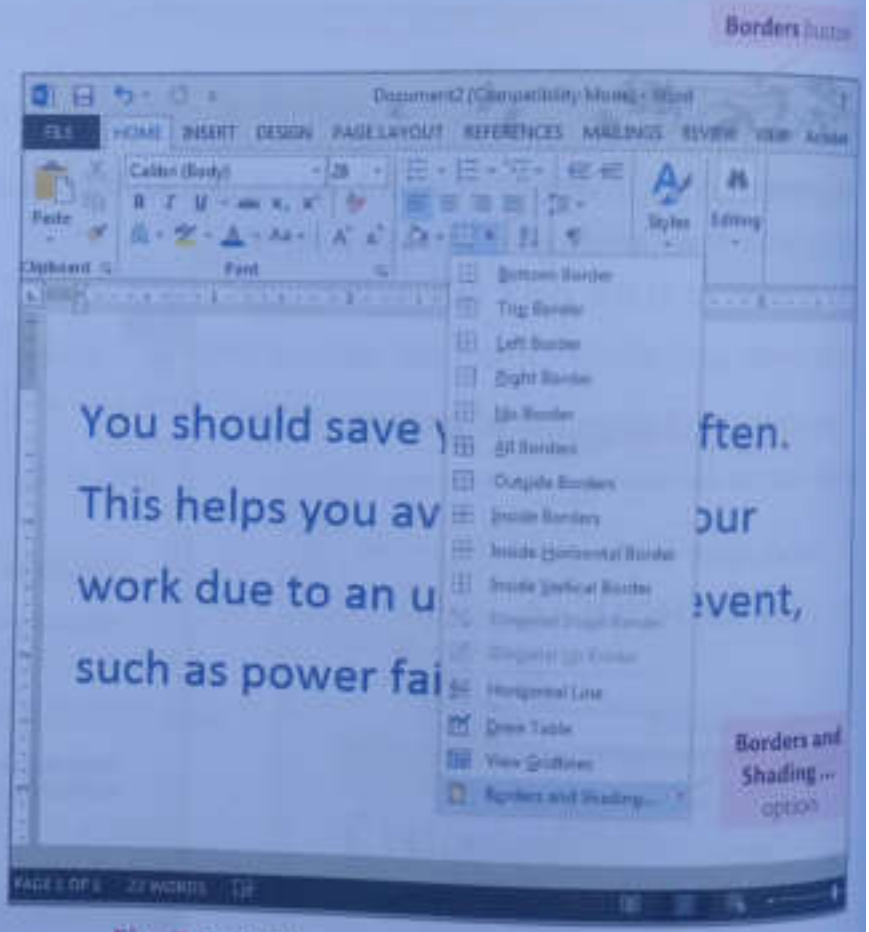


Fig. 7.7 **Borders** menu in the **Paragraph** group

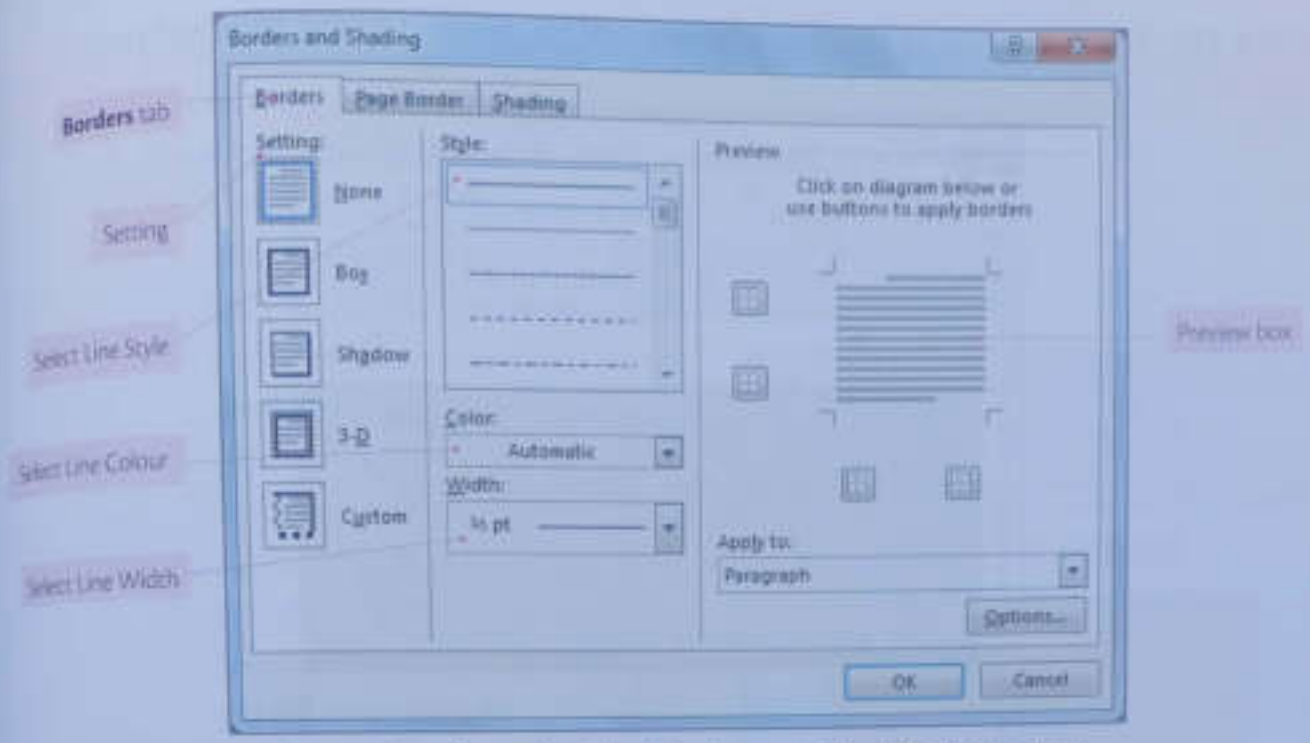


Fig. 7.8 **Borders** tab of the **Borders and Shading** dialog box

d. From the **Color** drop-down list, select a colour for the line.

e. From the **Width** drop-down list, specify the width of the line.

f. The **Preview** box shows how the border will be applied to the selected text.

6. The steps to apply shading (Fig. 7.9) are as follows:

a. Click the **Shading** tab.

b. Select the colour for the shading from the **Fill** drop-down menu.

c. Select the shading style you want to apply from the **Style** drop-down menu.

d. The effect of the selection appears in the **Preview** box.

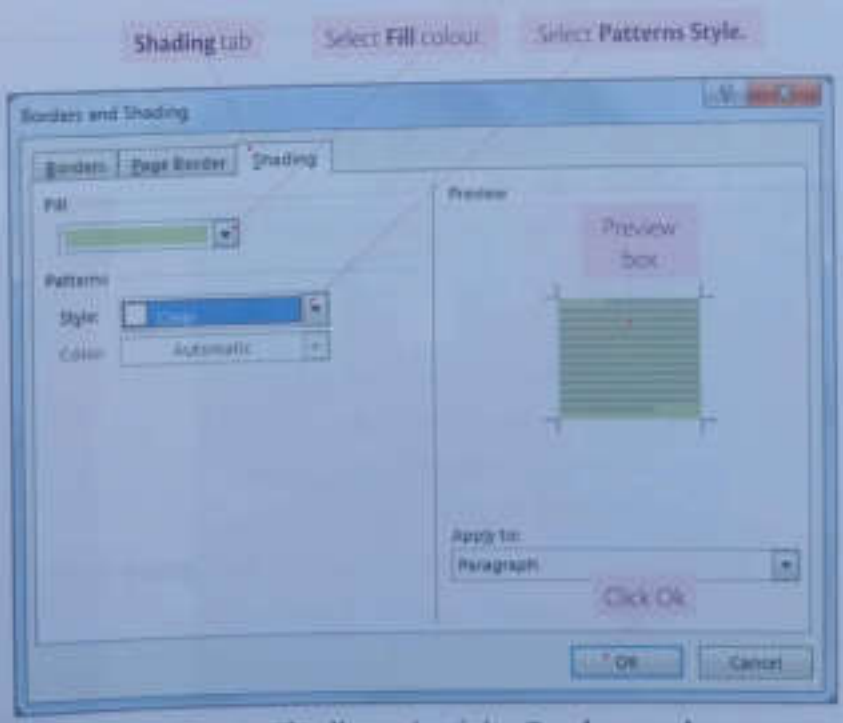


Fig. 7.9 **Shading** tab of the **Borders and Shading** dialog box

7. Click **OK**. The borders and shading chosen will be applied to the selected text (Fig. 7.10).

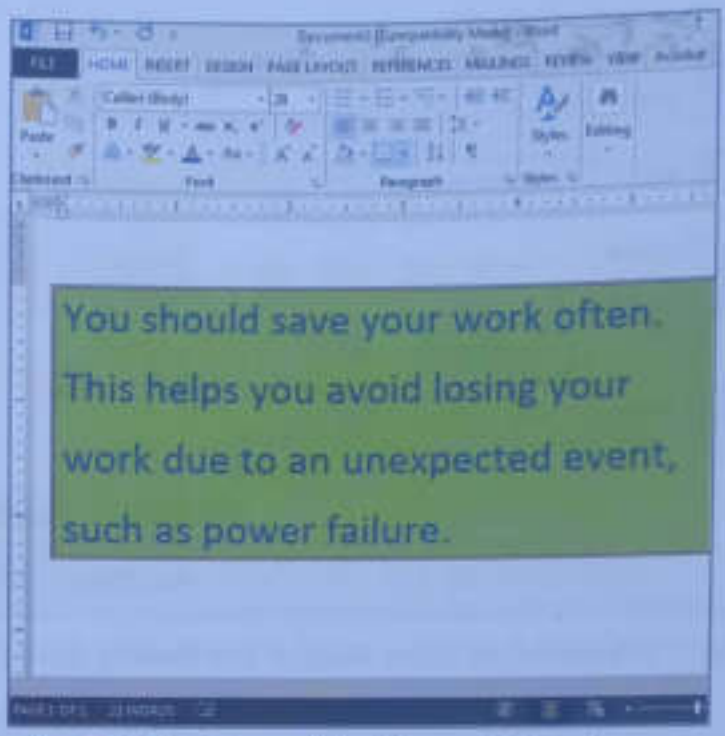


Fig. 7.10 Borders and shading applied to the text

PRACTICE TIME

Osman's sports teacher wants him to open the already saved document 'Athletic Events' and make the following changes in the document:

a. Center-align the heading.
b. Apply borders and shading to the list.

SOLUTION

1. Open the document 'Athletic Events'.
2. To center-align the heading:
   a. Select the heading.
   b. Click the **HOME** tab.
   c. In the **Paragraph** group, click the **Center** button.
3. To apply borders and shading to the list:
   a. Select the list.
   b. Click the **HOME** tab.

c. In the **Paragraph** group, click the drop-down menu arrow of the **Borders** button and click **Borders and Shading ...**.

d. The **Borders and Shading** dialog box appears.

e. The steps to apply a border are as follows:

i. Click the **Borders** tab, and choose the desired settings to apply.

ii. Select a style from the **Style** scroll list.

iii. From the **Color** drop-down menu, select the colour for the line.

iv. From the **Width** drop-down list, specify the width of the line.

f. The steps to apply shading are as follows:

i. Click the **Shading** tab.

ii. Select the colour for the shading from the **Fill** drop-down list.

iii. Select the shading style you want to apply from the **Style** drop-down list.

g. Click **OK**. The chosen borders and shading style will be applied to the selected text [Fig. 7(b)].

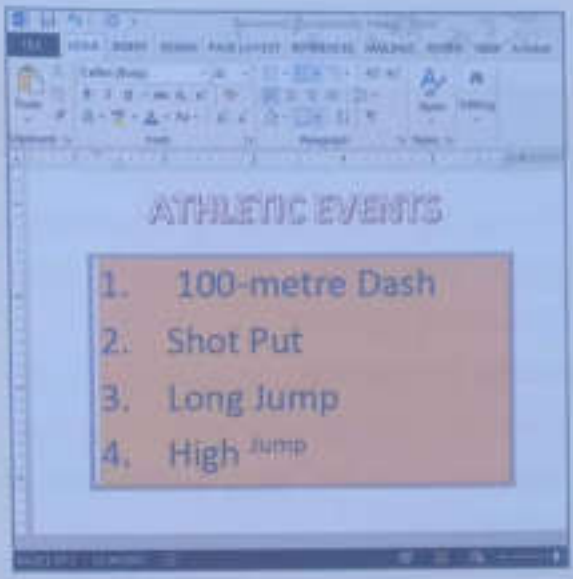


Fig. 7(b)

Computer Manners

Sit close to your keyboard and position it so that it is directly in front of your body. Make sure the keyboard is placed directly in front of you.

Tricky Terms

Formatting changing the general arrangement and appearance of text

Default Settings settings that are standard or pre-defined in a software

Alignment the manner in which text is placed between the margins of a page

Highlighting making the text look different to draw the reader's attention

Memory Bytes

- Formatting helps in highlighting important text in a document, and makes the text look more attractive.

Character Formatting

- Formatting features are used to improve the appearance of text using various fonts, font colours, etc.
- Character formatting consists of text properties—bold, italic, underline, etc.
- The **Font** group on the **HOME** tab offers a quick way to apply some of the most commonly used character formatting options.

Highlighting Text

- Important text can be highlighted by clicking the **Text Highlight Color** button in the **Font** group on the **HOME** tab selecting the text to be highlighted.

Aligning Text

- Text can be left-aligned, center-aligned, right-aligned, or justified in a document with the help of the appropriate buttons in the **Paragraph** group on the **HOME** tab.

Borders and Shading

- You can apply borders and shading to the selected text by clicking the **Borders drop-down menu** button in the **Paragraph** group on the **HOME** tab.

EXERCISES

Objective Type Questions

1. Fill in the blanks with the correct words.

character **Borders** **center** **justify** **Font**

a. ..... alignment option is used to align the text to both the left and right margins.

b. The **Font** group on the **HOME** tab offers a quick way to apply some of the most commonly used ..... formatting options.

c. The keyboard shortcut for ..... align is Ctrl + E.

d. Clicking the **HOME** tab displays the ..... group.

e. The **Borders and Shading** option is available in the ..... drop-down menu.

Descriptive Type Questions

1. Answer the following.

a. List at least 5 features that can be used to format a report.

b. What must you do first in order to change the font type, size, and colour of a particular text?

c. Would you consider using text effects for writing an application for sick leave to your principal? Give reasons for your answer.

d. If you want to draw the attention of the readers towards the key points in your study notes, which tool would you use?

e. Outline the steps needed to create borders for a flyer you are making for the Spring Carnival in your school.

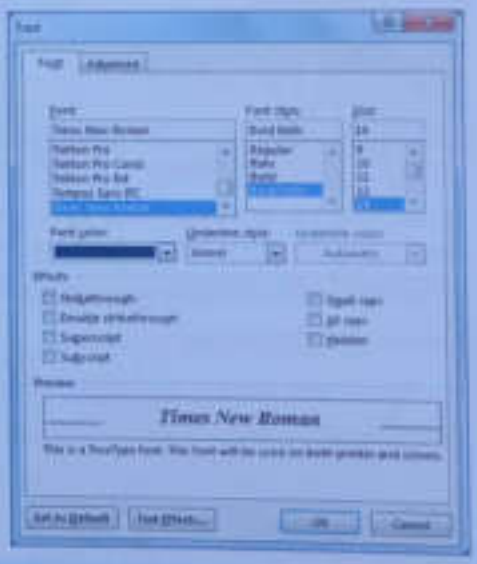
Application-Based Questions

a. Observe the given figure and answer the following questions:

i. Name the dialog box that is shown in this figure.

ii. Name the font that is selected.

iii. What option has been selected in the **Font style** box?



b. Usama has written a paragraph on the topic 'Importance of Trees'. He wants to make the text look different to draw the reader's attention.

i. Which feature of Word should he use?

ii. Name the tab and the group that has this feature.

IN THE LAB

1. Shoaib's teacher has asked him to create a document in Word and write a few lines about his school. Help him create the document and also highlight the main words in the document.

2. Ghazanfar has been asked to write a paragraph on 'Uses of Water'. Help him create a document in Word and also to use the formatting features (bold, underline, colour, etc.) of Word.
3. Sana is fond of reading stories. Her computer teacher has asked her to type a short summary of one of her favourite stories in Word. She wants her to change the font, font size, and colour of the text as well as, center-align the heading and justify-align the paragraphs. Write and format a similar summary of your favourite story.
4. Have you attended a marriage or a party recently? What was on the menu? Make a list in Word and also apply borders and shading to the list. Highlight the item or items you liked the most.
5. Choose a topic on nature, football, a famous person in history, or a famous athlete. Your task is to write a descriptive paragraph about one of these topics using Word 2013. The important task here is not necessarily what you write but how well you format the Word document.
6. Once you have written and formatted the paragraph in Task 5 above, do the following tasks:
   - Type an appropriate heading and explore different ways of formatting it.
   - Use different fonts and colours for each sentence.
   - Use a different font size for the word which you think is the most important in each sentence.
   - Highlight the sentence that you want the reader to notice the most.

GROUP PROJECT

Use Word 2013 to create a poster with a message. As a group you will need to select a topic that you all feel passionate about. It might be to do with healthy eating, healthy lifestyle, dangers of smoking, protecting the environment, saving tigers, staying safe online, or staying safe in the community, etc. You now have the fantastic opportunity to use all of the new Word 2013 skills you have learned to create an amazing poster to raise awareness for your message.

Remember the following points:

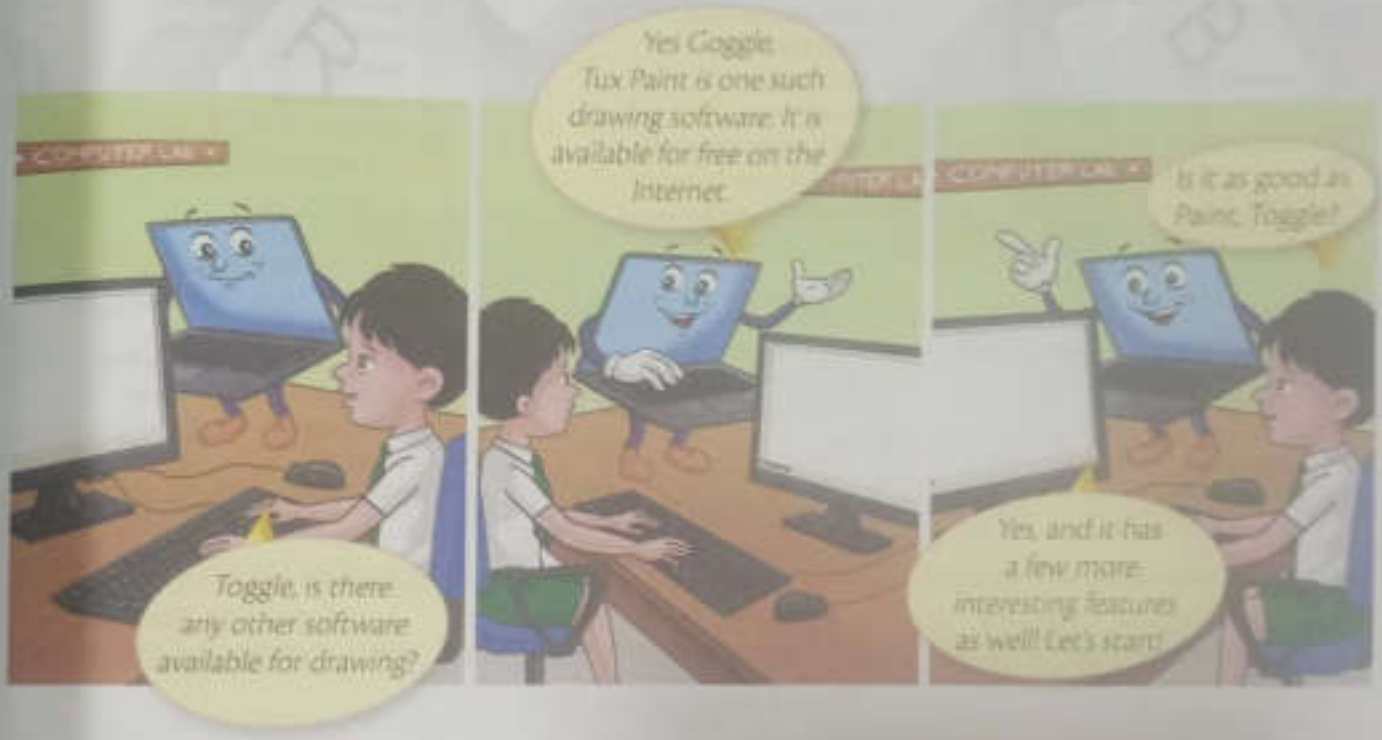
- Apply text effects to the headline.
- Format the text in different fonts and colours.
- Decide on the alignment of the text to create a pleasing design.
- Add borders.
- Select a shading style.

TEACHER'S NOTES

- The children might need help in using the formatting features of Word. It would be useful to give them a demonstration on how to improve the appearance of a Word document.
- Encourage them to experiment with and observe the changes in colour, fontsize, style, etc.

Chapter 8

Enjoy with Tux Paint



Tux Paint is a software, like Paint, meant for drawing and painting. It has a number of tools to help you draw and colour. It also has interesting sound effects, so keep the speakers of your system on!

In this Chapter

- Starting Tux Paint
- Main Screen
- Drawing Tools
- Other Controls

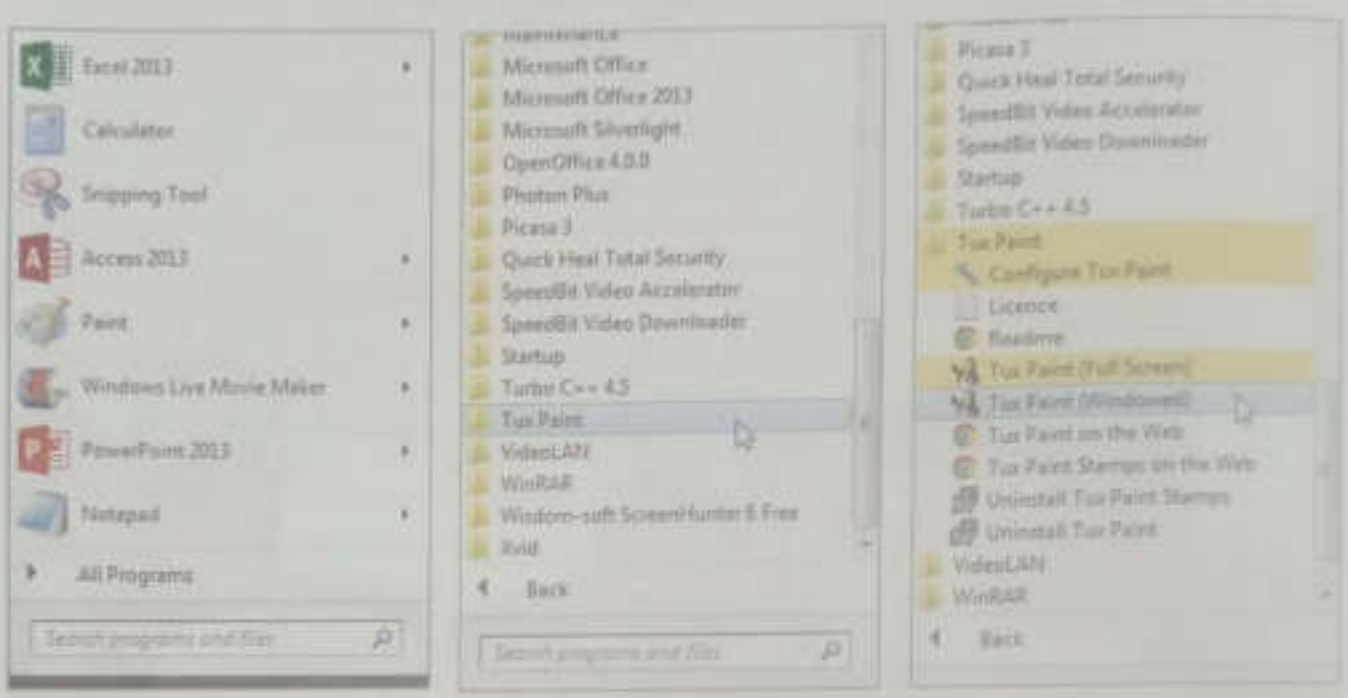
STARTING TUX PAINT

Click **Start** ▶ **All Programs** ▶ **Tux Paint** ▶ **Tux Paint (Windowed)** [Fig. 8.1 (a) – (c)]

Or

Double-click the **Tux Paint** icon on the desktop.

You get two choices while opening Tux Paint. You can either open it in full-screen by selecting **Tux-Paint (Full Screen)** or open it in a new window by selecting **Tux Paint (Windowed).** Usually it is better to open Tux Paint in a new window because sometimes in full screen all the options cannot be seen.



(a) Selecting **All Programs** (b) Selecting **Tux Paint** (c) Selecting **Tux Paint (Windowed)**

Fig 8.1 Starting Tux Paint

1. The title screen appears (Fig. 8.2).
2. As the program is loaded into memory, press any key or click the mouse to continue.

   Or

   After about 30 seconds, the title screen will go away on its own.
3. The main screen appears (Fig. 8.3).

Fig. 8.2 Title screen of Tux Paint

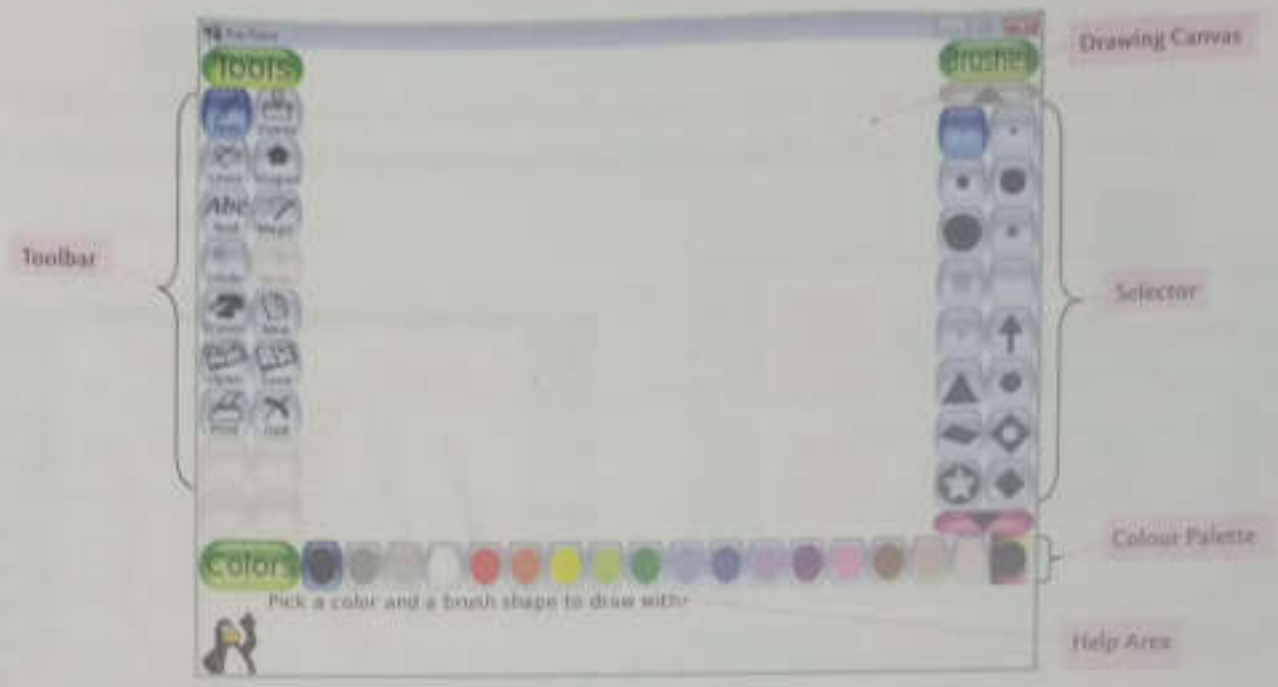


Fig. 8.3 Main screen of Tux Paint

MAIN SCREEN

The main screen is divided into five parts:

Toolbar It is on the left side of the main screen. It contains drawing and editing tools.

Drawing Canvas It is at the center of the main screen. You draw your figures here.

Selector It is on the right side of the main screen. If you select the **Brush** tool, for example, the selector shows the various sizes of brushes available.

Fig. 8.4 Color box

Colors A palette of colours is found below the drawing canvas. It has 18 colours. The first 17 colours are fixed. The 18th colour on the right is one that you are allowed to change. Just click on the colour here. This will open the **color box** (Fig. 8.4).

As you move over the colours, the same colour will appear in the square on the upper right side. Click the colour you like. You will now see this colour in the 18th ring of the colour palette.

Help Area It is present at the bottom of the main screen. It provides tips and other information about the selected tool while drawing on the canvas.

DRAWING TOOLS

Some of the drawing tools in Tux Paint are described below. As you use these tools, you will hear different sounds, so it will be fun to keep the speakers of your system on!

Paint

The **Paint** tool lets you draw stars, arrows, and also freehand (done by hand without the help of any devices). The steps are:

1. Click the **Paint** tool. A brush will appear as you take the mouse pointer to the drawing canvas.
2. Select a colour from the colour palette by clicking it.
3. Also select a size for the brush from the selector on the right.

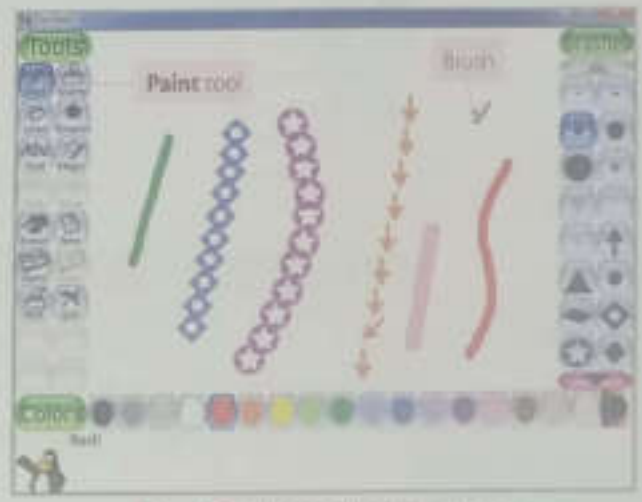


Fig. 8.5 Using the **Paint** tool

4. Click and hold the left mouse button and move the mouse pointer on the drawing canvas (Fig. 8.5).
5. Release the mouse each time you finish a part of your drawing.

Lines

The **Lines** tool lets you draw straight lines. The steps are:

1. Click the **Lines** tool.
2. Click a colour in the colour palette to select it.
3. Select a thickness for the line from the menu on the right.
4. Click and hold the left mouse button and move the mouse pointer on the drawing canvas (Fig. 8.6).
5. Release the mouse to draw your lines.

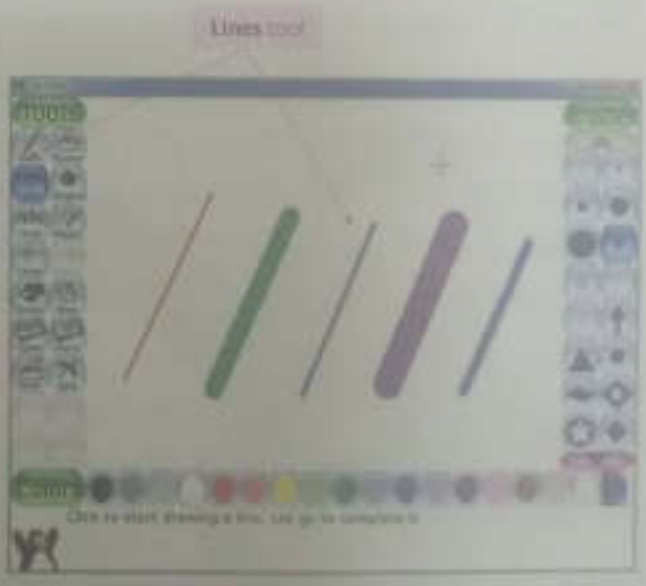


Fig. 8.6 Using the **Lines** tool

Shapes

The **Shapes** tool lets you draw some simple, filled, and unfilled figures. The steps are:

1. Click the **Shapes** tool.
2. Click a colour in the colour palette to select it.
3. Choose the shape you want in the selector on the right.
4. Click to select the center, and to start drawing, click and hold the left mouse button and drag it to the size you want.
5. Release the mouse when you finish.
6. Move the mouse around to rotate the shape and click to fix it (Fig. 8.7).

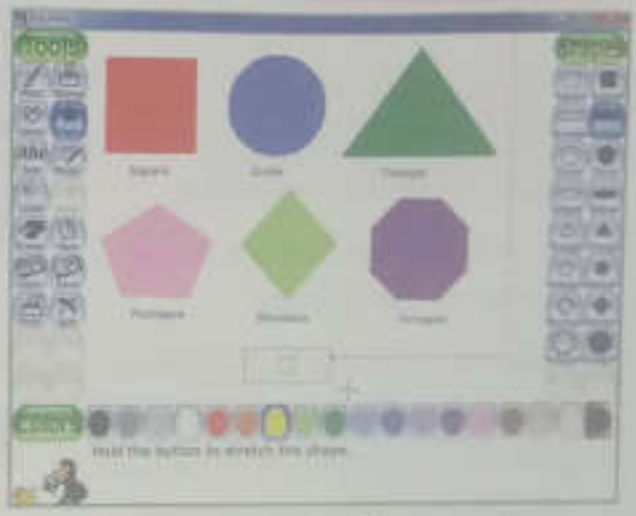


Fig. 8.7 Using the **Shapes** tool

Text

The **Text** tool lets you add text or numbers in the drawing area. The steps are:

1. Click the **Text** tool. A blinking line appears on the canvas. If the line does not appear, click anywhere on the drawing canvas.
2. Choose a colour from the colour palette.
3. Also select a text style from the selector on the right.
4. Type the text.
5. Press the **ENTER** key to move the cursor down one line or press **TAB** to move it to the right.
6. If you want to move the text you have typed to a new place, just click at that place on the drawing canvas before pressing **ENTER**. You will find that the line of text you have typed has moved to that location (Fig. 8.8).

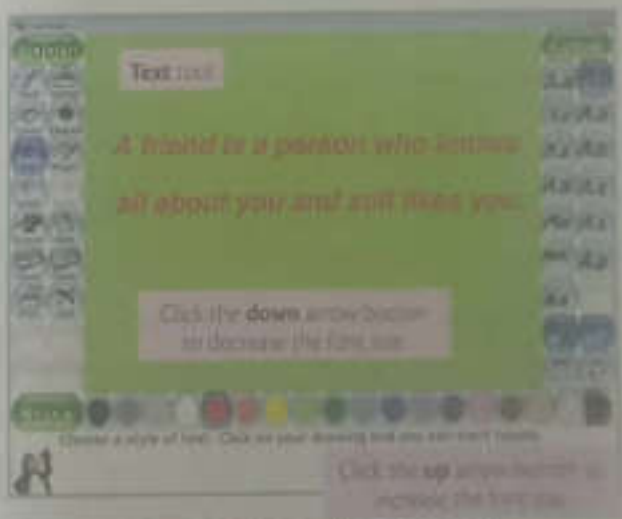


Fig. 8.8 Using the **Text** tool

Magic (Special Effects)

The **Magic** tool lets you add different kinds of special effects to your drawing. To add an effect do the following:

1. Click the **Magic** tool and then a magic effect in the selector.
2. You will see two buttons at the bottom of the selector.
3. If the left button is highlighted, it means the effect can be applied to parts of the picture by clicking and dragging around the picture.
4. If the right button is also activated, it means the effect can be applied to the entire picture also by clicking the picture once (Fig. 8.9).

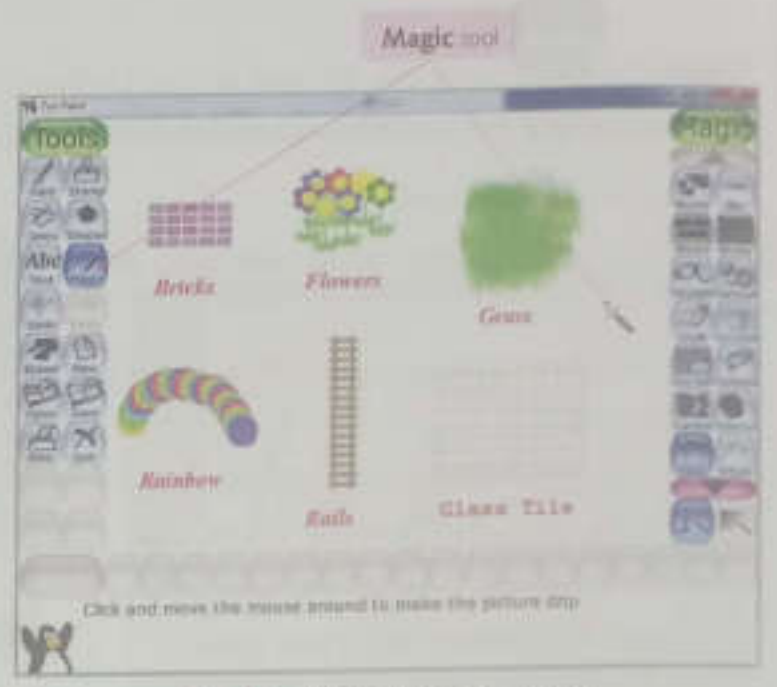


Fig. 8.9 Using the **Magic** tool

Top Tip

Starter images are backgrounds with outlines of images, or 3D photographs, that you can use in Tux Paint.

Eraser

The **Eraser** tool helps you erase or remove any portion of a drawing. The steps are:

1. Click the **Eraser** tool.
2. Click to select an eraser of the size you want from the selector.
3. Click and hold the left mouse button and move the mouse pointer on the drawing canvas to erase or remove the whole, or a part, of the drawing (Fig. 8.10)
4. Release the mouse when you finish.

Fig. 8.10 Using the **Eraser** tool

PRACTICE TIME

The Computer Science teacher has asked the students of Class III to select a starter image in Tux Paint, and colour it using the **Fill** option of the **Magic** tool. One image has been done for you. You can choose any other image and colour it. Can you write down the steps to do it?

SOLUTION

1. Double-click the **Tux Paint** icon on the desktop.
2. The title screen opens. Press any key. The main screen appears.
3. Click the **New** button. You will see the list of background and starter images.
4. Double-click the image that you want, or select the image and click the **Open** button at the bottom.
5. The image will appear on the screen.
6. Click the **Magic** tool. On the right, click the **Fill** tool. Click a colour in the **Color palette**. Now click inside the area of the picture you want to fill with that colour.
7. Now, click another colour in the **Color palette**. Click inside the area you want to fill with that colour.
8. Repeat step 7 until you fill the entire image as you do in your drawing book.

OTHER CONTROLS

There are other tools for various functions like to undo or redo, to save, and to open a drawing. There is also a tool for starting a new drawing.

Undo  and Redo 

Clicking **Undo** will cancel the last drawing action.

Clicking the **Redo** button will redo the drawing action you just 'undid' (cancelled) with the **Undo** button.

Note: You can **Undo/Redo** more than once.

Fast Forward

Undo	CTRL + Z
Redo	CTRL + Y
New	CTRL + N

New

The **New** tool will start a new drawing. The steps are:

1. Click the **New** button.
2. A dialog box will appear where you can choose from a solid background colour, or a starter image, on scrolling down (Fig. 8.11).

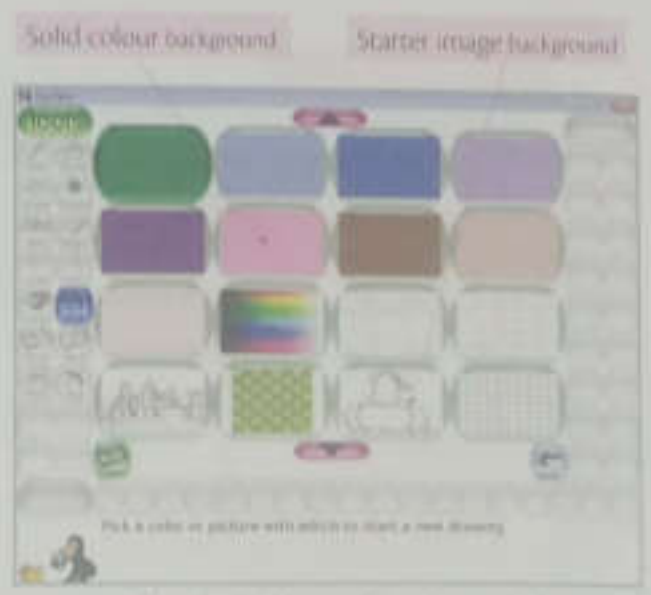


Fig. 8.11 Choose background

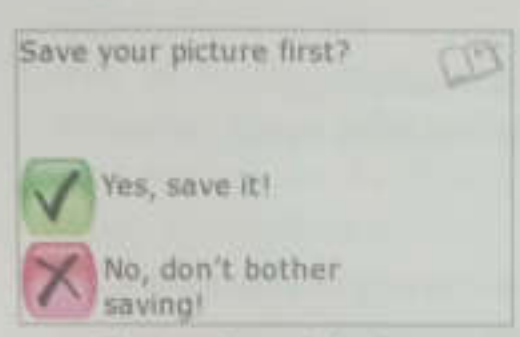


Fig 8.12 **Save** dialog box

3. Just double-click it, or click it and click **Open**.
4. If you have double-clicked a starter image, a dialog box appears (Fig. 8.12).
5. Click **Yes, save it!** It will create a new picture file. If the dialog box does not appear, continue and then save the picture by clicking Save in the tool box.

Save

The **Save** tool will save the current drawing. If the picture is not saved before, it will create a new file. If the picture is already saved, a dialog box appears (Fig. 8.13).

- Click **Yes, replace the old one!** to save it over an older version.
- Click **No, save a new file!** to save it as a new file.

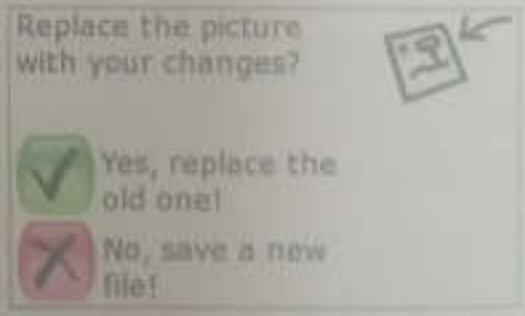
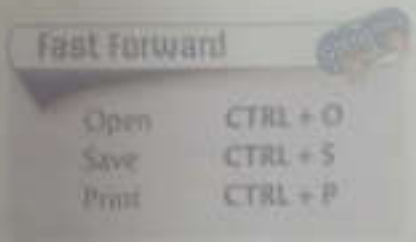


Fig. 8.13 **Replace** dialog box

Open

The **Open** tool is used to load a picture that has been saved earlier. Clicking this button will show a list of all the pictures you have saved. Just double-click the picture to open it.



Print

The **Print** tool is used to print the picture using a printer. On clicking this tool, a dialog box appears (Fig. 8.14).

- Click **Yes, print it!** to print the picture using a printer.
- Click **No, take me back!** to go back to the previous screen.

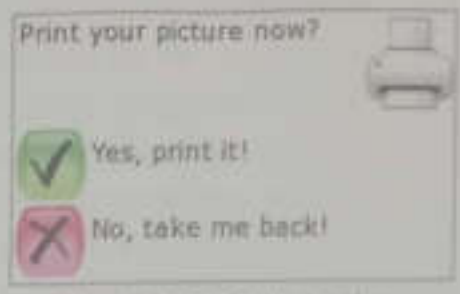


Fig. 8.14 **Print** dialog box

Quit

The **Quit** button is used to close Tux Paint. On clicking this button, a dialog box appears (Fig. 8.15):

- Click **Yes, I'm done!** to quit Tux Paint.
- Click **No, take me back!** to move back to the previous screen.

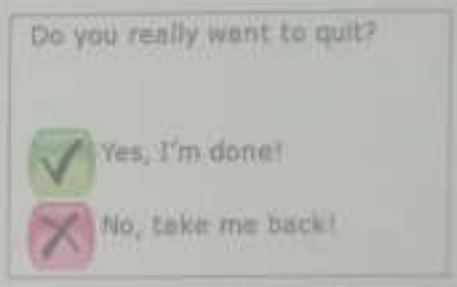
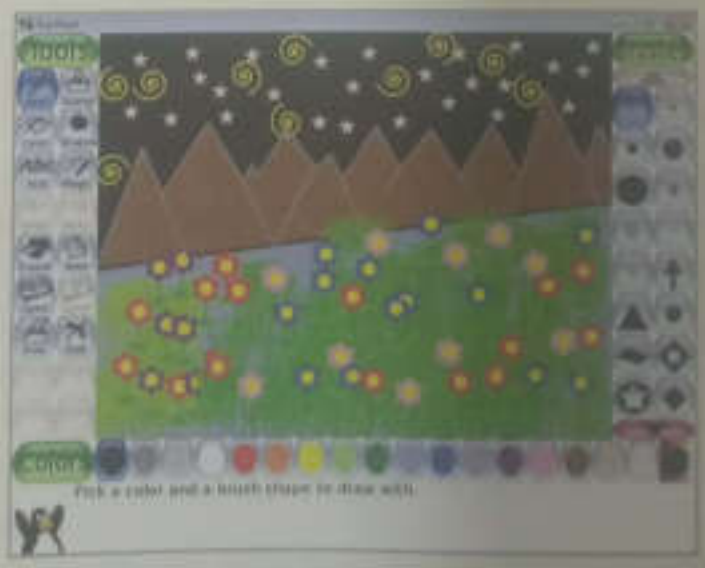


Fig. 8.15 **Quit** dialog box

PRACTICE TIME

The students of Class III have to draw a picture in Tux Paint. They have to use as many of the drawing tools they have learnt as they can. One example is given below. Can you draw the same picture? You may also draw any other picture from your imagination.



SOLUTION

1. Double-click the **Tux Paint** icon on the **Desktop**.
2. The **Title** screen appears. Press any key. The **Main** screen appears.
3. Click the **New** button. The list of background and starter image appears.
4. Double-click the white background.
5. Draw a line in the middle of the picture using the **Lines** tool.
6. Draw hills using the **Lines** tool.
7. Fill the part above with black colour and the part below with blue colour using the **Magic** tool.
8. Draw stars and circles using the **Brush** tool.
9. Draw grass and flowers of different colours using the **Magic** tool.
10. Fill the hills with brown colour using the **Magic** tool.
11. Finally, use the **Save** tool to save your picture.

Tricky Terms

Tux Paint a software for drawing and painting

Drawing canvas an area at the center of the main screen used to draw figures

Selector present on the right side of the main screen. If you select the Brush tool, the selector shows the various sizes of brushes available

Starter image a background with an outline of the image or a 3D photograph

Memory Bytes

- Tux Paint is a software used for drawing and painting.
- The main screen of Tux Paint is divided into five sections–Toolbar, Drawing canvas, Selector, Colors, Help area.
- The various drawing tools found in Tux Paint are the **Paint** tool, **Lines** tool, Shapes tool, **Text** tool, **Magic** tool, and the Eraser tool.
- Other tools are the **Undo** tool, **Redo** tool, **New** tool, **Save** tool, **Open** tool, **Print** tool, and the **Exit** tool.

EXERCISES

Objective Type Questions

1. Fill in the blanks with the correct words.

bottom **drawing** **open** **text** **undo**

a. The ..... canvas is present at the center of the main screen.

b. The ..... tool is used to load the already saved pictures.

c. The **Help** area is present at the ..... of the Tux Paint screen.

d. The ..... tool is used to type text and numbers in the drawing area.

e. The ..... command will cancel the last drawing action.

2. Choose the correct option.

a. The command used to save a picture.

i. New ii. Open iii. Save iv. Save As

b. The tool used to draw geometrical figures.

i. Line ii. Brush iii. Shapes iv. Magic

c. This tool is used to draw free hand.

i. Brush ii. Line iii. Text iv. Shapes

d. The tool used to move out of Tux Paint.

i. New ii. Print iii. Quit iv. Exit

e. The tool used to cancel the last action you undid.

i. Undo ii. Redo iii. New iv. Save

Descriptive Type Questions

1. Answer the following.

a. Describe the functions of the different parts on the main screen of Tux Paint.

b. What is the disadvantage of opening Tux Paint in full screen?

c. Which section of the main screen would you refer to if you needed assistance in printing out the picture on the drawing canvas?

d. List the available options in the Paint tool to draw on the canvas.

e. Give an example of a drawing where you might need to use lines with varied thickness.

Application-Based Questions

a. Name the tool used to write 'Snowman' in the picture given below. Which tool would you use to draw the face and body of the Snowman?

b. Essa was asked by his teacher to draw two kites in Tux Paint. While drawing, he made three kites instead of two. He needs to rub out one kite and show it to his teacher.

i. Which tool should he use to remove the kite in the middle?

ii. Which tool is used to fill colour in the kites?

IN THE LAB

1. The class teacher has asked the students of Class III to make a poster on any one of the topics given below. Can you draw a poster in Tux Paint on any one of the topics using the Lines, Paint, Text, Shapes, and the Magic tools?
   - Use Paper Bags
   - Save Electricity
   - Save Water
   - Save Environment
2. The Computer Science teacher wants Class III to practise the tools available in Tux Paint by trying to draw the following:

(a)

(b)

(c)

Can you draw the same in Tux Paint?

3. As you know, you can also type text in Tux Paint. Try to write four lines on any one of the topics given below. Each line should be of a different colour. Also, draw a matching picture or pictures.
   - Five cartoons I like most
   - My house address and contact number
   - Five vegetables I like most
   - My school address and telephone number
   - Five fruits I like most
4. Draw a square, a circle, a triangle, and a rectangle, in Tux Paint using the Shapes tool and fill them with different colours.
5. It's not called Magic for Nothing! Explore the different kinds of special effects in the magic tool in Tux Paint and see what you can use to create a drawing of your dream school. (Just make sure you show the green fields around it!)

GROUP PROJECT

The sky really is the limit in this task!

Your massive challenge as a group is to draw the solar system using Tux Paint. No small task! It doesn't have to be an accurate scaled picture but should include the essentials (planets and stars). Explore various tools to draw and paint planets and their orbits, with the Sun in the centre. And if you can add in a secret spaceman or a spacewoman, that would be fun. Work together as a team, helping one another and taking turns to use the software.

TEACHER'S NOTES

- Tux Paint software can be downloaded from the site http://tuxpaint.org. Please download it along with the stamps collection.
- Students should be made familiar with the five sections of the Tux Paint main screen. Encourage them to create images right from the beginning of the lesson.
- It may be ensured that students are able to start and exit Tux Paint on their own.
- Students should know the difference between saving over an old file and saving as a new file.

KEYBOARD SHORTCUTS

Copy	CTRL + C	Left Align	CTRL + L
Paste	CTRL + V	Center Align	CTRL + E
Cut	CTRL + X	Right Align	CTRL + R
Undo	CTRL + Z	Justify	CTRL + J
Redo	CTRL + Y	New Drawing	CTRL + N
Resize and Skew	CTRL + W	Save	CTRL + S
Select All	CTRL + A	Open	CTRL + O
Open Font	CTRL + D	Print	CTRL + P

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