

COMPUTER

5



With the blessings of :
Our Parents

Computer-5

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Edited & Designed by:

Editone International Pvt. Ltd.

Based on:

- National Education Policy 2020
- NCF 2022
- Activity Based Format
- Innovative Approach
- Learning with fun
- Eco-Friendly Paper

Preface

Computer : Computers, a series of eight books, is a carefully arranged Computer series, that perfectly complies with the NCERT syllabus criteria and the National Curriculum Framework's vision. In accordance with NEP 2020's guidelines, the series adopts an interactive approach to make Learning about Computer enjoyable for students. This book includes enough questions in accordance with the NEP criteria. The fundamental principles of NEP which are recognising, identifying and fostering the unique capabilities of each student, respect for diversity, and respect for the local context in all topics, are always kept in mind while creating the book.

The topics are introduced in a way that children experience and learn through exploration.

Child-friendly language and contextual images have been incorporated throughout the series to make the material more understandable for young readers. This allows them to connect what they read and relate it to the views, ideas and experiences they encounter every day.

Salient Features of the series:

Learning Outcomes : It shows the right path of learning to the teachers as well as students. It establishes the direction of learning for efficient and superior learning results.

Warm Up : Children can connect their prior knowledge to the chapter's topic through simple yet engaging activities.

Teacher's note : An outline of guidelines for teachers to follow in the classroom in order to make lessons interactive and discussion-based.

Let me answer : Questions related to the topic which are essential for checking pupil understanding and keeping them engaged with the task at hand.

Do You know : An interesting piece of information related to the topic.

Remember It : Additional information about the topic to encourage children to wonder about various surroundings.

Kids' IQ : These questions have been included to reinforce learners to think, analyse and apply.

Up skill your Intelligence : Ample exercises with a range of questions to support learning.

Critical Thinking : Questions which allow the learners to think clearly and rationally. Further, permit the learners to understand the logical connections between ideas in order to analyse facts and come to a conclusion.

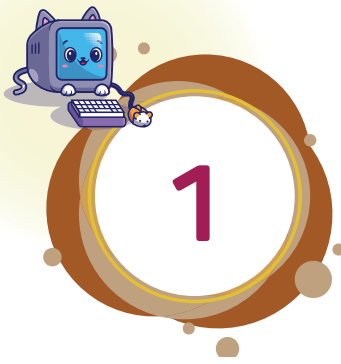
Team Work : It enables the students to collaborate with others.

The content is structured and well-graded. Sincere efforts have been taken to prevent any inconsistencies and make this series a perfect complement to the students' education. Any worthwhile recommendations for how to improve the series are always welcome and greatly appreciated.

Author

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1

GENERATIONS OF COMPUTERS



Learning Outcomes

At the end of this chapter, students will be able to:

- ◆ Know the characteristic features of different generations of computers.
- ◆ Learn about the Primary and Secondary memory of a computer.



Warm-up



Circle the pictures of the things that were used by your ancestors.



Teacher's Note:

Apprise students that with every passing generation, progress takes place that makes our life better.



Hey Friends! Let's learn about different generations of computers.

In today's world, for almost every activity whether personal or business-related; in some or other way, we rely on the computer system. It's amazing how easily computers operate, in terms of speed, accuracy and readiness. As a result of their high-speed processors and data storage devices, modern computers are more potent than earlier models which were only meant to be used for calculations. Since ancient times, simple manual machines like the Abacus helped people in doing calculations.

In 1833, Charles Babbage who is referred to as the 'Father of Computers' invented the machine called **Analytical Engine**. It was the first-ever working model of a mechanical computer, whose structure is considered the basic framework of modern-day computers today.



GENERATIONS OF COMPUTERS

The technology employed changes with each generation. The modern-day computer is the result of changes that took place over a period of time. There are five generations of computers.

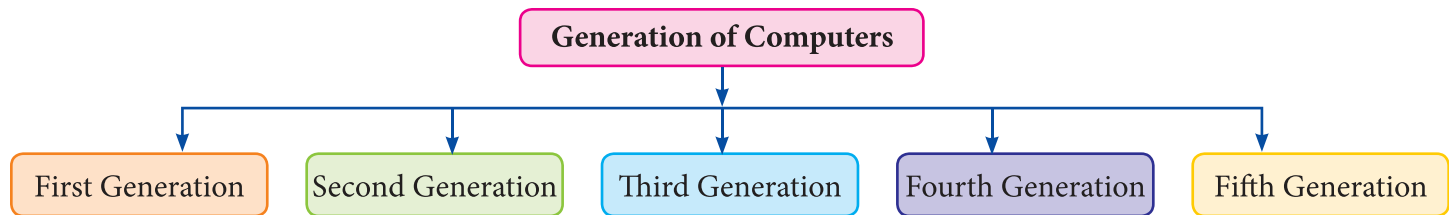


Figure 1.1: Timeline

First Generation of Computers (1940 - 1956)

The features of the first generation computers were:

- ❖ These computers were huge in size.

- ❖ The calculations were carried out using circuitry made of vacuum tubes.
- ❖ They used a lot of electricity and produced a lot of heat.
- ❖ They used punched cards for the communication of data.



Figure 1.2: First Generation Computers


Examples: Mark I, ENIAC and UNIVAC.

Second Generation of Computers (1956 - 1963)

In this generation, assembly language and high-level programming languages like FORTRAN and COBOL were used. The computers used batch processing and a multiprogramming operating system. Storage media such as tape, disk and printers were in use for the output. The features of the second generation computers were:

- ❖ They were a bit large but smaller, cheaper and faster than the first generation computers.
- ❖ In order to perform the calculations, they used transistors instead of vacuum tubes.
- ❖ Magnetic tapes were used to store data.
- ❖ In this generation, the use of the keyboard as an input device was also introduced.

Examples: IBM 1620, IBM 7094 and UNIVAC 1108.



Do You Know?

Similar to modern-day electric bulbs, vacuum tubes existed. They used to fuse regularly and produced a lot of heat. The UNIVAC had 5200 vacuum tubes.



Figure 1.3: Transistor



Figure 1.4: Second Generation of Computer

Third Generation of Computers (1964 - 1971)

Integrated circuits were developed in the third generation, which resulted in smaller-sized computers with better performance and more storage.

The main features of the third-generation computers were:

- ❖ They used integrated circuits, which reduced the size and increased the speed of the computers.
- ❖ They were more affordable and efficient than second-generation computers.
- ❖ Monitors and keyboards were used for communication.

Examples: Honeywell 6000 series, IBM system 360 and UNIVAC 9000 series.



Figure 1.5: Integrated circuit chips



Figure 1.6: Third Generation of Computer

Fourth Generation of Computers (1972 - 1981)



Let Me Answer

Who comes in the fourth generation in your family?

The invention of Very Large Scale Integration (VLSI) came into existence

in which thousands of transistors were on a single chip called a microprocessor.

The main features of the fourth-generation computers were:

- ❖ The size of the computers was reduced to what we call a **Personal Computer**.
- ❖ The speed of the computers were increased and the cost was reduced.
- ❖ GUI operating system was introduced.

Examples: DEC 10, CRAY 2 and Apple II.



Figure 1.7: VLSIC



Figure 1.8: Fourth Generation of Computer

Fifth Generation of Computers (1982 - Present)

In the fifth generation, VLSI technology became ULSI (Ultra Large Scale Integration) technology. The devices are equipped with AI-based technologies like face detectors, fingerprint detectors and much more.

REMEMBER IT!



The first Microprocessor was created by Intel.

The main features of the fifth-generation computers are:

- ❖ The size, cost, speed are improved with high performance.
- ❖ Development of new versions of GUI Operating systems.
- ❖ The computers can recognise a human face, fingerprints and voice.

Examples: Notebooks from IBM and Robots.

The two key factors that have accelerated the development of different generations are processing speed and storage capacity. It is important for us to know about computer memory and its types.



COMPUTER MEMORY AND ITS TYPES

Computer memory refers to the storage area of a computer where all the data and instructions are stored.

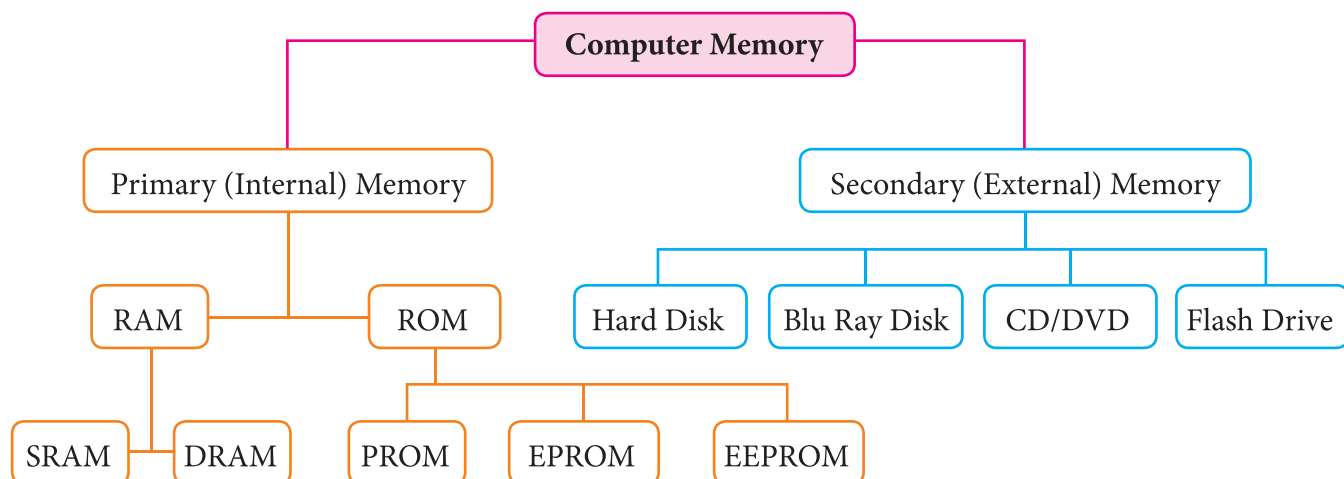


Figure 1.9: Computer Memory

PRIMARY MEMORY

Primary Memory is a section of computer memory that the CPU can access directly, also called Main memory or Internal memory. It has constrained capacity. We can broadly classify Primary Memory into two parts:

1. Read Only Memory or ROM
2. Random Access Memory or RAM

Read Only Memory or ROM

As the name suggests, we can only read from this memory and cannot write on it. It is the built-in memory of a computer. Moreover, it does not lose data after the power supply is cut off i.e. it is non-volatile. Furthermore, its main function is to store the program and instructions permanently.



Figure 1.10: ROM

ROM is of three types:

- ❖ **PROM:** The user can only change the programmable Read Only Memory once.
- ❖ **EPROM:** It is Erasable Programmable Read Only Memory which can be erased as well as reprogrammed.
- ❖ **EEPROM:** The Electrically Erasable Programmable Read Only Memory can be modified by erasing the content and reprogrammed.

Random Access Memory or RAM

Random Access Memory is a type of computer memory that can be read and modified in any order. It is usually used to store working data and



Figure 1.11: RAM

machine code. The storage of data and instructions are temporary. It is volatile memory, i.e. When the power is cut off, it loses its content.

We can broadly classify RAM into two types on the basis of behaviour:

- ❖ **SRAM:** As long as the computer is powered on, the data is kept in static RAM (SRAM).
- ❖ **DRAM:** This memory is temporary and constantly refreshes its content.



SECONDARY MEMORY

Secondary Memory stores a large amount of information permanently, i.e., it doesn't lose its memory when the power is off. It is also called External Memory. Some of the secondary storage devices are Hard Disk, CD-ROM, Digital Versatile Disc, Blu ray Disc and Pen Drive.

Hard Disk:

Hard disks are storage devices designed to hold a lot of information. It is the main and the largest secondary data storage device in a computer. Hard disk stores the operating system, software and other files. It is created using the collection of discs known as platters. The platters are placed one below the other. They are coated with magnetic material.



Figure 1.12: Hard Disk

CD-ROM (Compact Disc-Read Only Memory)

It is an optical storage device that has the capacity to hold a wide range of data in the form of text, photos, video and audio. The storage capacity of a CD is up to 700 MB of data. Its shape is circular and is made up of polycarbonate plastic.



Figure 1.13: CD-ROM

DVD (Digital Versatile Disc)

A Digital Versatile Disc, usually known as a DVD, resembles a CD in appearance but has a larger storage capacity, holding up to 4.7 GB of data.



Figure 1.14: DVD

Blu-Ray Disc

A Blu-ray disc looks just like a CD or a DVD but it can store data or information up to 25 GB data. It is developed for recording, rewriting and playing high-definition video. The name Blu-ray is derived from the technology that is used to read the disc 'Blu' from the blue-violet laser and 'ray' from an optical ray.



Figure 1.15: Blu-Ray Disc

Pen Drive

A pen drive is a small device, which is used to transfer and store data. It is also called a USB drive or Flash drive. It comes in various storage capacities, such as 1 GB, 2 GB, 4 GB, 8 GB, 16 GB, 32 GB, 64 GB, up to 1 TB.



Figure 1.16: Pen Drive



Let me Answer

For what purpose have you used a pen drive?



Kids' IQ

List the names of the brands which make pen drives.



Let's Recall

- There are five generations of computers.
- First generation computers used punched cards for the communication of data.
- In the second generation, the use of the keyboard as an input device was also introduced.
- In the fourth generation, GUI operating system was introduced.
- Primary Memory is also referred to as Main Memory.
- Secondary Memory is also referred to as External Memory.



A. Fill in the blanks.

1. In ancient times, simple manual machines like helped people in doing calculations.
2. is referred to as the Father of Computers.
3. was the first-ever working model of a mechanical computer.
4. There are generations of computers.
5. circuits were developed in the third generation.

B. Write 'T' for True statements and 'F' for False statements.

1. Computers of the first generation were small in size.
2. Magnetic tapes were used in the second-generation computers to store data.
3. IBM system 360 is an example of a third-generation computer.
4. In the fifth generation of computers, VLSI came into existence.
5. ULSI stands for Uniform Large Scale Integration.

C. Answer in one word.

1. A type of computer memory that can be read and modified in any order.
2. A secondary storage device which resembles a CD in appearance but has a larger storage capacity.
3. A storage device that is also referred to as a USB drive or Flash drive.
4. The memory which is temporary and constantly refreshes its content.
5. A storage device made up of Polycarbonate plastics.

D. Write the following in expanded form.

1. ROM -
2. RAM-

- 3. CD-ROM-
- 4. DVD-
- 5. VLSI-

E. Answer the following questions.

- 1. How many generations of computers are there?
.....
.....
- 2. Write the features of the second generation of computers.
.....
.....
- 3. State the difference between the third generation and fourth generation of computers.
.....
.....
- 4. What do you mean by Primary Memory?
.....
.....
- 5. Explain any three types of secondary storage devices.
.....
.....



A. Some features have been listed on the next page. Segregate them in the appropriate columns.

- ❖ GUI operating system was introduced.
- ❖ Punched Cards for the communication of data.
- ❖ Usage of Integrated Circuits.
- ❖ Magnetic tapes were used to store data.
- ❖ The use of the keyboard as an input device was introduced.

| First Generation | Second Generation | Third Generation | Fourth Generation | Fifth Generation |
|------------------|-------------------|------------------|-------------------|------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

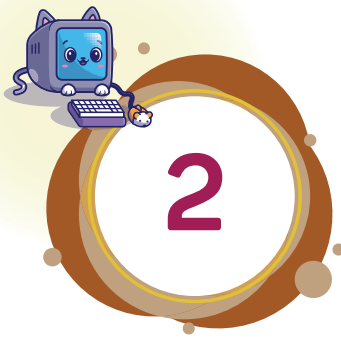
B. Samaksh attended the marriage ceremony of his cousin. He wants to save all the pictures but the file is larger than 16GB. Advise him as to what should he do.



Team Work

Let us discuss the topic - Generation of Computers.

| | |
|---|--|
| <p>Which generation of computer do you use? How?</p> <p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p> | <p>Which types of secondary storage do you use? List the name of the devices.</p> <p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p> |
|---|--|



LEARNING MORE ABOUT WINDOWS 10



Learning Outcomes

At the end of this chapter, students will be able to:

- ◆ Know various features of Windows 10.
- ◆ Enhance their knowledge of various components of Windows.
- ◆ Change Windows appearance.



Number the following Windows from the older versions to the advanced editions.



Windows 7



Windows 10



Windows XP



Windows 2003



Windows VISTA



Windows NT



Teacher's Note:

Assist students in arranging the editions of the windows in chronological order. Apprise students that continuous research and increased technology usage has led to the advanced editions of Windows by Microsoft.



Hi Friends! In the previous class, we already learnt about some of the features of Windows 10. Let's learn more!

As we know, a computer is a machine that cannot think on its own and requires commands from us. The most important program of a computer is its Operating System. Windows is such an operating system that acts as a medium through which we can interact with the hardware, using the software.

The first GUI edition of windows with a new user interface was introduced in 1995 and was called Windows 95.

Windows 10 is the latest version of Windows available in the market.



FEATURES OF WINDOWS 10

Following are the features of Windows 10.

- ❖ It is interesting and easy to use.
- ❖ It is the most secured version of windows.
- ❖ The use of graphics makes it quite interactive.
- ❖ The enhanced tool, Cortana, allows in searching the information on the system or the web directly.
- ❖ The new start menu helps to give us easy access to apps and services.
- ❖ The new Task View button on the taskbar provides the ability to open multiple desktops at the same time. You can create an unlimited number of desktops.



Figure 2.1: Window 10

- ❖ The window snapping feature allows working with multiple applications on the screen.
- ❖ Microsoft Edge is the default browser of Windows 10. It helps you to write and highlight directly on the web pages.
- ❖ With Windows Hello, you can instantly access your Windows 10 devices using a PIN, facial recognition software, or a fingerprint in a more private and secure way.
- ❖ The window store provides a lot of free or paid applications.



COMPONENTS OF WINDOWS 10

Components of Windows 10



Let Me Answer

What all files do you have on your desktop?

Desktop

The first screen that appears when we start the computer is called the Desktop. It has various icons of files and folders. By default, the taskbar is located at the bottom of the desktop screen.



Figure 2.2: Desktop

Icons

Icons are tiny images on the desktop that represent files, folders, and apps. Some of the common desktop icons include: This PC, Application icons, shortcut icons and recycle bin.



LET US LEARN ABOUT THESE ICONS IN DETAIL

1. This PC Icon:

It shows all the files and folders stored on our computer system. It helps us in ordering the data stored on the local drives efficiently.



Figure 2.3:
This PC icon

2. Application Icons:

To display a specific application on a computer, windows employ application icons. It provides easy access to the related application.



Figure 2.4: Application Icons

3. Shortcut Icons:

A shortcut icon provides direct access to a certain application. It has a small arrow on its lower left.

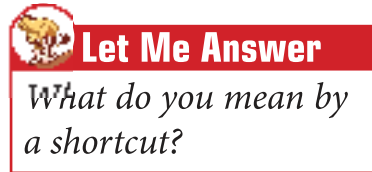


Figure 2.5: Shortcut Icon

4. Recycle Bin Icon:

All the deleted files/folders are moved into the Recycle bin. We can easily restore the file or a folder from recycle bin or can be deleted permanently.



Figure 2.6: Recycle bin

Start Button

It is at the bottom left of the screen. By clicking on it, we get two panels side by side. The panel on the left displays apps in a listed form in alphabetical order. Live tiles which show the new updates are on the right panel.

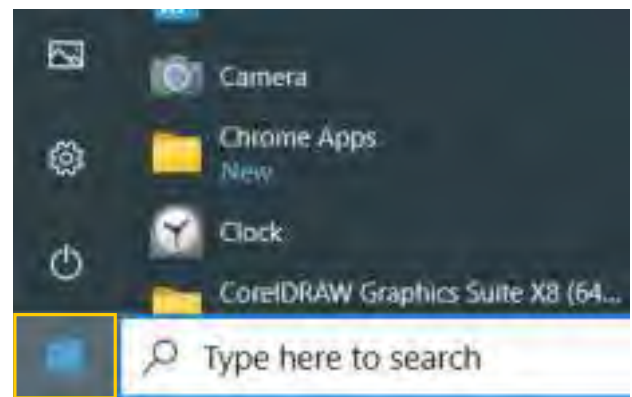


Figure 2.7: Recycle bin

Taskbar

The long horizontal bar found at the desktop's bottom is the taskbar.

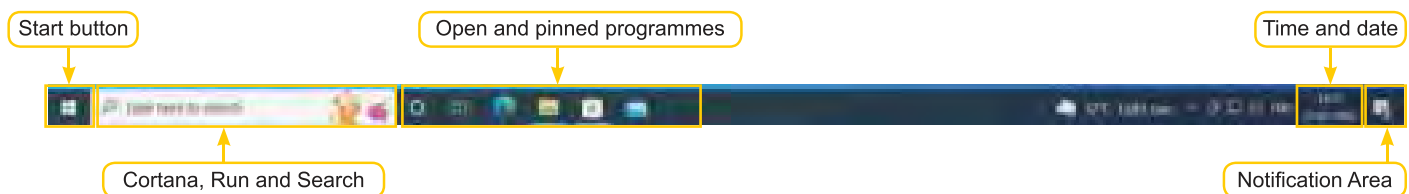


Figure 2.8: Windows Taskbar

It shows the Start button on the extreme left side. Just next to the Start button is the search box, Cortana. It helps to browse both your computer and the web. To the right of the Cortana, is the Task view button which allows accessing multiple desktops simultaneously. The area which lies in the mid of the taskbar contains the apps which are opened and are used frequently. In the taskbar, we have a notification area on the right side, which shows the clock, date, and some more icons. On the extreme right, the Peek button is present which makes the desktop visible by minimizing all the open windows.



CUSTOMISING WINDOW APPEARANCE

With the wide range of settings in Windows 10, we can change the appearance to make the desktop and apps look better.

Changing the wallpaper

Follow the following steps to change the wallpaper.

Steps:

1. Right-click on the blank area of the desktop.
2. From the pop-up menu, select the Personalize option.
3. The settings window will be displayed.
4. Under the Personalisation panel, click on the background option.
5. Select the background available or click on the browse button to select the picture of your choice.
6. The selected picture will be set as the desktop background.



Figure 2.9: Background

Setting the Screen Saver

A screensaver is a computer program that displays the black screen or fills it with moving patterns when the computer has been idle for a designated time.

Follow the following steps to change the screen saver.

REMEMBER IT!



Press window Key + L together to lock your computer.

Steps:

1. Right-click on the blank area of the desktop.
2. From the pop-up menu, select the Personalize option.
3. The settings window will be displayed.
4. Select the Lock screen option from the left panel.
5. Click on the screen saver option, and a dialogue box will appear.
6. Select the desired Screen saver and click on the apply option.
7. The chosen screen saver will be applied.



Figure 2.10: Lock Screen

Live Tiles

In the right panel of the Start Menu, the most popular Universal apps in the form of resizable live tiles are displayed. All the latest information such as news, weather report and much more are shown here.

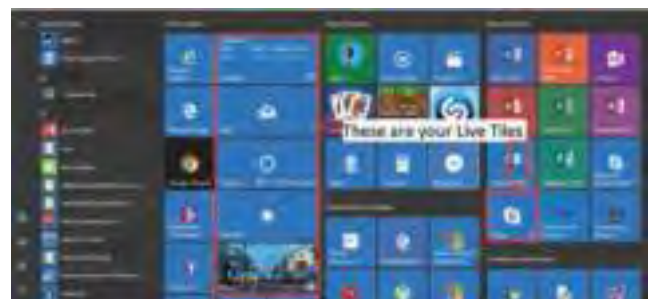


Figure 2.11: Live Tiles

Follow the following steps to resize a live tile.

Steps:

1. Click on the Start menu.
2. Right-click on the tile whose size you want to change.

3. Select the option Resize, and choose the size of your choice from the sub-menu.

Turning a Live Tile On/Off

Follow the following steps to turn on Live tiles.

Steps:

1. Click on the Start menu.
2. Right-click on the tile you want to turn on.
3. Click on more, and click Turn live tile on.

Similarly, you can turn off the Live tile by selecting Turn Live tile off.



Figure 2.12: Turning a Live Tile On/Off

Displaying Windows Together

Multiple application windows can be displayed side by side in Windows 10.

Follow the following steps to display windows together.

Steps:

1. Open Excel window, Word window and Paint 3D.
2. Now, Right-click on the blank area of the taskbar.
3. Select the 'Show Windows Side by Side' option from the pop-up menu.
4. All three windows will be displayed side by side.

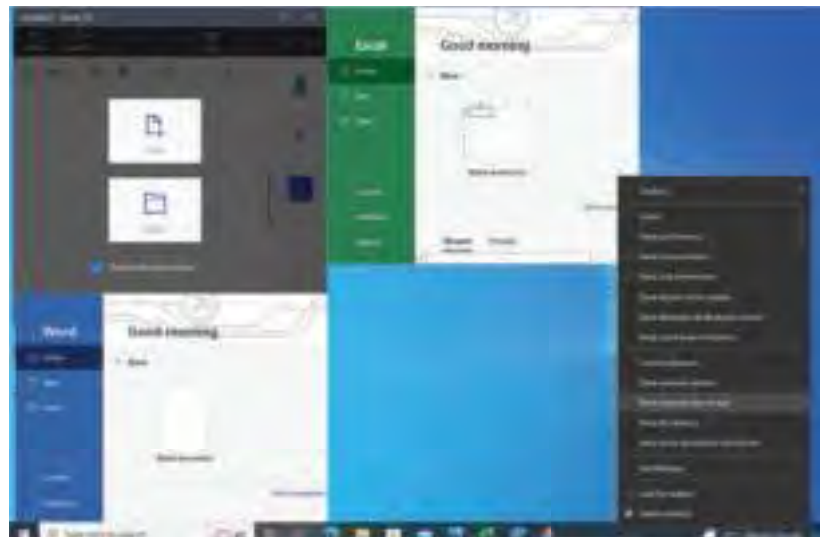


Figure 2.13: Displaying Multiple Windows Together



FILE EXPLORER WINDOW

Files and Folders stored in our system are displayed in the File Explorer Window. It allows to view and manage files and folders. Further, we can create, open, move or delete a folder in this window.

Opening File Explorer

Follow the following steps to open the File Explorer window.

Steps:

1. Click on the Start button.
2. Click on the File Explorer option.
3. The File Explorer Window will open.
4. Alternatively, click the Windows button (Windows button) + E.

Components of File Explorer Window

1. **Search Box:** In this box, we can search files or folders in the system.
2. **Navigation Pane:** It is on the left and is used to explore disks and drives.
3. **Content Area:** It contains icons representing the drives in the system.
4. **Address Bar:** Here, the path of the currently open file or the folder is displayed.



Figure 2.14: File Explorer



UNIVERSAL APPS OF WINDOWS 10

Universal App is an application that works on all devices from phones to high-powered desktops. Moreover, these apps can work on different types of devices such as iPhones and Smartwatches.

Some of the most useful apps are:

- ❖ **Weather App** - This app lets you know all about the Weather such as real-time rain alerts, minimum/maximum temperature and much more.
- ❖ **E-mail App** - This app aids you to manage all your mail accounts in one place. Also, it gives the notification of all the incoming mails.
- ❖ **News App** - This application displays the latest news to keep the user up-to-date.



Figure 2.15: Weather App

Kids' IQ

Pragya is a content writer . She has to keep herself updated with the news every hour. Suggest the kind of app she should use for the same.

Let's Recall

- The most important program of a computer is its Operating System.
- The first screen that appears when we start the computer is called the Desktop.
- All the deleted files/folders are moved into the Recycle bin.
- The long horizontal bar found at the desktop's bottom is the taskbar.
- Files and Folders stored in our system are displayed in the File Explorer Window.
- Universal App is an application that works on all devices from phones to high-powered desktops.



A. Fill in the blanks.

1. The most important program of a computer is its
2. The first GUI edition of Windows with a new user was introduced in
3. is the latest version of windows available in the market.
4. The Window store provides a lot of free or paid
5. The first screen that appears when we start the computer is called the

B. Answer in one word.

1. Tiny images on the desktop that represent files, folders and apps.
.....
2. Location of the taskbar.
.....
3. An icon that provides direct access to a certain application.
.....
4. The tiles which display the most popular Universal apps.
.....
5. The window which displays files and folders stored in our system.
.....

C. Write 'T' for True statements and 'F' for False statements.

1. A computer is a machine that thinks on its own.
2. The first GUI edition of Windows was called Windows 95.
3. Bill Gates is the founder of Microsoft.

4. In Windows 10, we can create an unlimited number of desktops.

5. All deleted files/folders are moved into This PC.

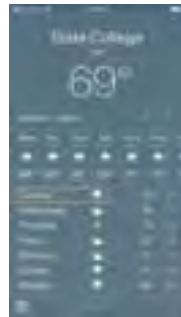
D. Identify the following icons/apps and write their names.



.....

.....

.....



.....

.....

.....

E. Answer the following questions.

1. Write any five features of Windows 10.

.....
.....

2. Briefly write about any two components of Windows 10.

.....
.....

3. Write the steps to change the wallpaper.

.....
.....

4. What do you mean by a screen saver?

.....
.....

5. What is the purpose of the File Explorer Window?

.....
.....



Critical Thinking

A. Anushka wants to write the information from two different files. Suggest the option she can use to open two files side by side.

.....
.....

B. Unscramble the letters to form words.

1. SLUIVNEAR PAP -

2. VILE EILT -

3. DTESKPO -

4. SKBTAAR -

5. SNIOC-



Team Work

A. Work in pairs. Find out an interesting quote on hard work by some famous personality and set it as your wallpaper.

B. Discuss with your friends.

1. Which type of wallpaper do you like the most?

a. Nature

b. Famous personalities

c. 3D objects.

2. How did you write the quote?



3

ADVANCE FEATURES OF MS WORD



Learning Outcomes

At the end of this chapter, students will be able to:

- ◆ Apply the styling features in MS Word.
- ◆ Insert symbols and shapes.
- ◆ Set the page margins, size, orientation and colours.
- ◆ How to use Thesaurus to improve vocabulary.

Warm-up

Can you make a friendship card? Here are some clues:



Ask your parents to allow you to use their computer and make a friendship card to celebrate the friendship-day with your friends.



Teacher's Note:

With the help of the above activity, introduce the students to the advance features of MS-Word 2016.



“Hi friends! Let’s learn about the advanced features of MS-Word. It helps us to learn various styling features.”

Microsoft Word 2016 is the most popular word processor developed by Microsoft Corporation. It is one of the world’s largest companies in software development.

Word 2016 has the ability to create, read, edit and share files at once very easily. Formatting can also be done in the documents.


Let’s further study the advanced features of MS Word 2016.



MS WORD STYLES

Styling is the process of altering the font’s appearance in terms of size, colour, and themes. In MS Word, we can change the style of any text in a sentence or paragraph.

We can use the styles options, which include predetermined styles, to quickly change the font style.

**Do You Know?**
Using the ‘design a style’ option provided in the styles drop-down list, you can build your own special styles.

Styling features can be applied to the following elements:

Paragraph

The outlook of a paragraph can be changed completely by changing its styling. A paragraph consists of different options like heading, quote, index, header, footer, bibliography, salutation, address and much more.

Character

The smallest element in a word document is a character.

Linked Content

Linked Content is a mix of paragraphs and characters. It has styles available for both paragraphs and characters.



Let Me Answer

What is a paragraph?

Table

There are different table styles available such as Plane Table, Grid Table, List Table, Colourful Grid and many more.

List

A list contains ordered and unordered list items.

Follow the following steps to apply styles to a Paragraph.

1. Select the desired paragraph.
2. In the Style group, click on the more option.
3. A drop-down containing different style options will appear.
4. Place the cursor over the desired Style.
5. See the change in the selected text.

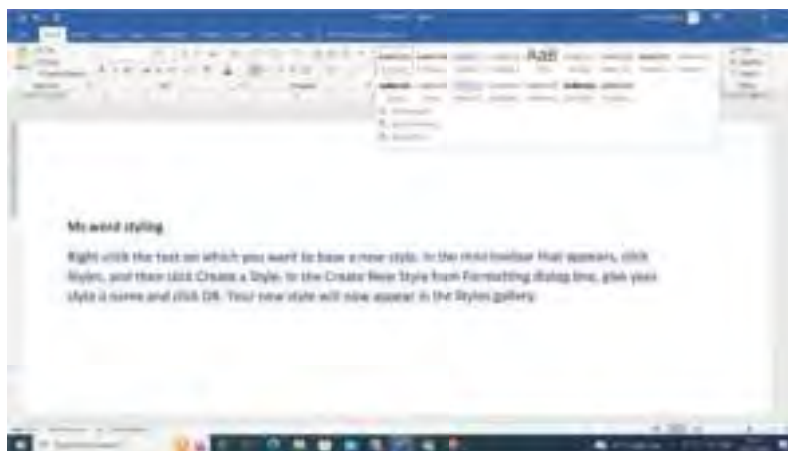


Figure 3.1: Applying Styles



Let Me Answer

Tell the chemical formula which has a number as subscript.



SUBSCRIPT

You must have observed TH after some numbers like '2' after some letters in chemical formulas. Denoting a number or letter above or below the baseline makes it either a Superscript or a Subscript.



Figure 3.2: Creating Subscript

The subscript option places the selected text slightly below the baseline and makes it appear smaller than the rest of the text.

Follow the following steps to create a Subscript.

1. Type the formula CO₂ and select 2.
2. From the font group, select the subscript Option.
3. You will notice that '2' will be placed below the baseline.



SUPERSCRIPT

The superscript option places the selected text slightly above the baseline and makes it appear smaller than the rest of the text.

Follow the following steps to create a Superscript.

1. Type the date 10th April and select th.
2. From the font group, select the superscript Option.
3. You will notice that 'th' will be placed above the baseline.



Figure 3.3: Creating Superscript

REMEMBER IT!



By pressing Ctrl+Shift++ key combination, you can create Superscript.



INSERTING SYMBOLS

Symbols are special characters.

Follow the following steps to insert symbols.

1. Take the cursor to the point where you wish to insert the symbol.

2. Go to the Symbols group in the Insert tab, and select the symbol button.
3. Pick a symbol of your choice or choose the more symbols option.
4. When you find the symbol of your choice, double-click on it.
5. The symbol will be inserted at the desired place.
6. Click on the cancel button.



Figure 3.4: Symbol



UNDO AND REDO COMMANDS

MS Word 2016 keeps the record of all the alterations that we do in a document. The Undo command allows you to discard the most recent change. The Redo command reverses the most recent change made using Undo. These buttons appear in the Quick Access Toolbar in Microsoft by default.

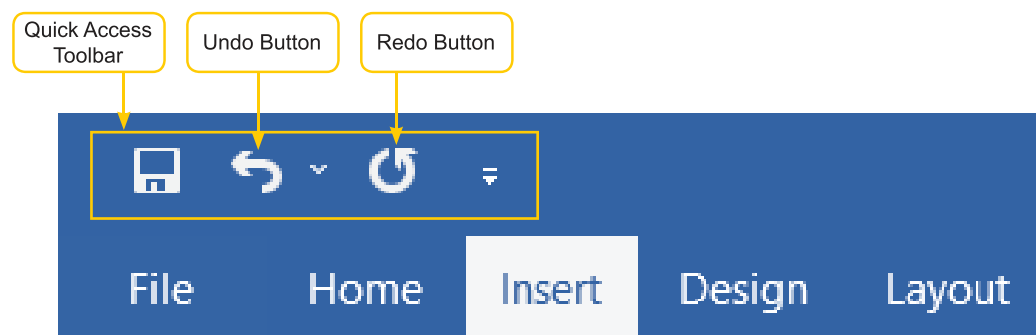


Figure 3.5: Quick Access Toolbar

Follow the following steps to undo the last action.

1. On the Quick Access Toolbar, click Undo. Alternatively, you can press Ctrl + Z.
2. Click the drop-down arrow next to Undo, if you want to undo several actions at the same time.

Follow the following steps to redo the last action.

On the Quick Access Toolbar, click Redo. Alternatively, you can press Ctrl + Y.



PAGE SETTINGS

In Word, we have options for formatting the page and also for setting the page properties.

Setting Margins

A margin is the amount of space between the text and the edge of the page. The default margins are set at 1” from top and bottom and 1” from the left and right edge of the page.

In Word 2016, we can manually set the margin on all four sides of a document.

Follow the following steps to set the Page Margins.

1. Click on the Layout tab.
2. In the Page Setup group, select the Margins buttons.
3. Select the margin from the list or customise it as per your requirement.
4. Type the values for Top, bottom, left and right margins.
5. In the Apply to drop-down list, choose the option : Whole document.
6. Click OK.



Figure 3.6: Page Margins

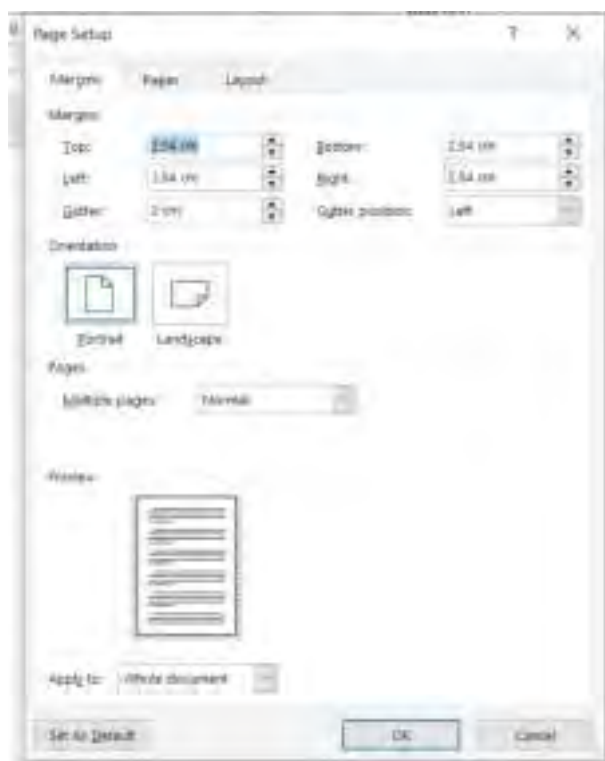


Figure 3.7: Page Setup

Setting Paper Orientation

The property to set the printing direction of the text is called Page Orientation. It is of two types: **Portrait** and **Landscape Orientation**. The default orientation is Portrait, which is vertical.



Figure 3.8: Page Orientation

Follow the following steps to change paper orientation to landscape (horizontal).

1. Click on the Layout tab.
2. In the Page Setup group, click on the Orientation button.
3. From the drop-down list, choose the landscape orientation.
4. The orientation of the page changes to Landscape.

Setting Page Size

In Word 2016, different sizes of paper can be used to write a document.

Follow the following steps to change the page size of the Word.

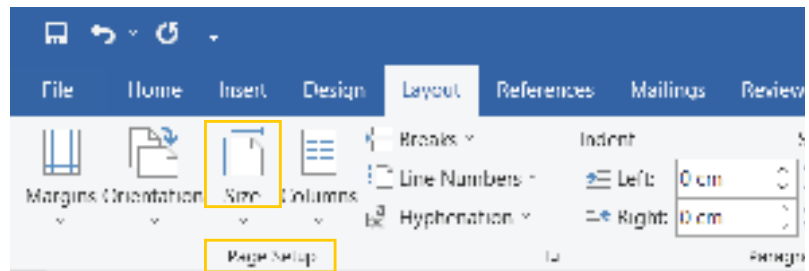


Figure 3.9: Page Size

1. Click on Layout Tab.
2. In the Page Setup group, click on the size button.
3. A drop-down menu appears. The current page size is highlighted.
4. Select the desired page size option.
5. The size of the page will change.



WORKING WITH SHAPES

AutoShapes is a tool to help you draw objects on your document. There are many shapes such as lines, call-out, equation shapes and many more.

Follow the following steps to insert a shape in the document.

1. Click on the Insert tab.
2. In the Illustration group, select the shapes button.
3. A drop-down menu will displayed.
4. Click on the desired shape.
5. The mouse pointer changes to (+) plus sign.
6. Take the plus sign to the desired place in the document and drag it to add the shape.

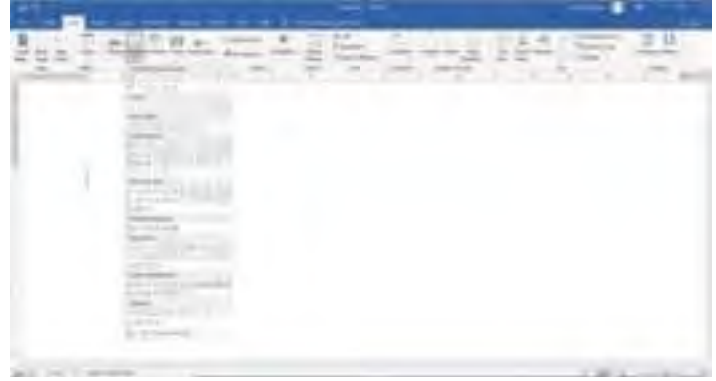


Figure 3.10: Shapes

Placing Text in a Shape

Text can also be inserted in the shape.

Follow the following steps to add text in a shape.

1. Select the shape you want to add text in.
2. Right-click on it.
3. A pop-menu appears, select the Add text option.

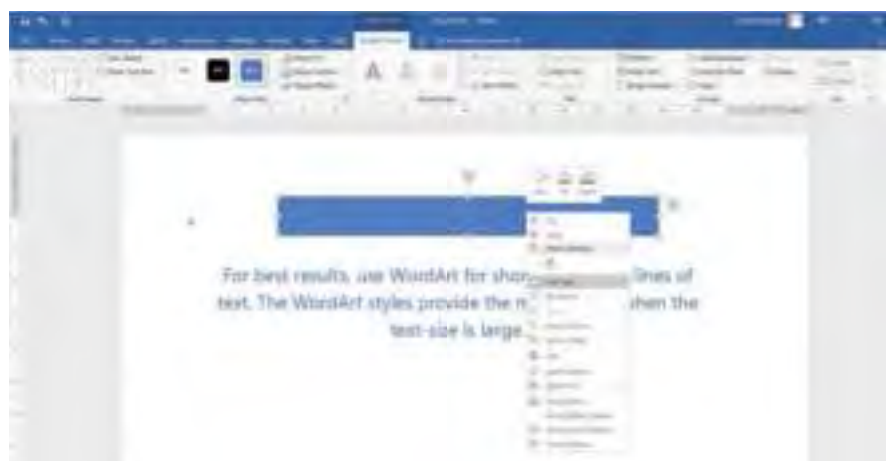


Figure 3.11: Placing Text in a Shape

4. Now type the text in the placeholder.
5. Click outside the placeholder to complete the task.

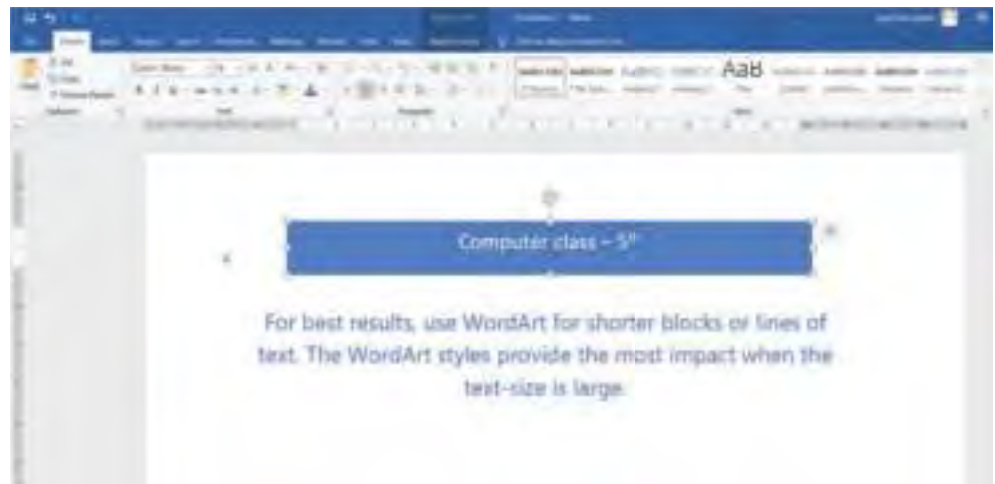


Figure 3.12: Typing Text in a Shape



THESAURUS

Microsoft Word includes a tool that enables you to perform synonym and antonyms

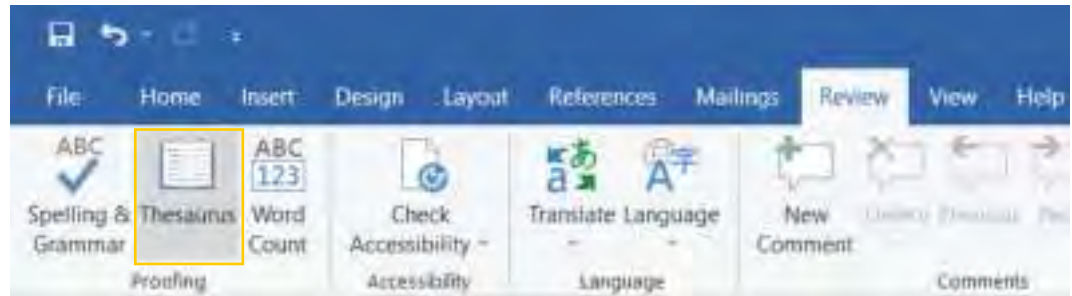


Figure 3.13: Thesaurus

searches using the thesaurus. We can also look up for a suggestion of a word.

Follow the following steps to use the Thesaurus.

1. Select the word for which you want a synonym or antonym.
2. Click on the Review tab.
3. In the proofing group, select the Thesaurus option.
4. The Research task pane appears with synonyms and antonyms.
5. Choose the desired word and select the Insert option.
6. The existing word will be changed with the new word.

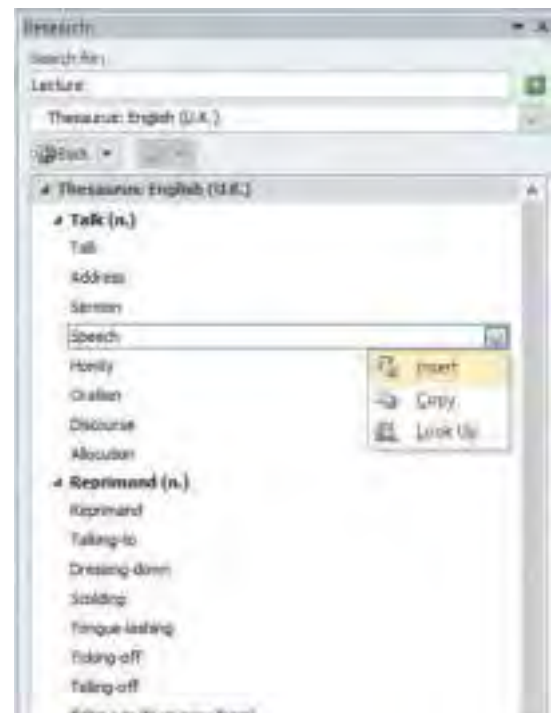


Figure 3.14: Search for Synonyms or Antonyms



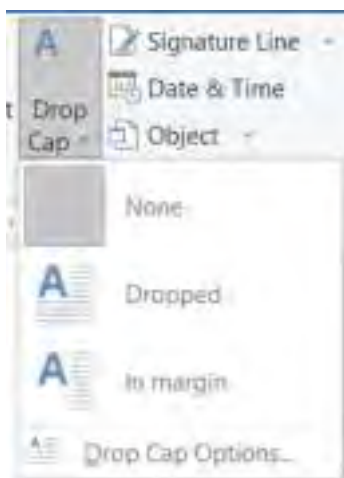
DROP CAP EFFECT

A drop cap (dropped capital) is a large capital letter used as a decorative element at the beginning of a paragraph or section. The size of a drop cap is usually two or more lines.

There are two types of Drop Cap:

Dropped option allows you to create a drop cap that fits within your paragraph.

In Margin option allows to create a drop cap that is in the margin, outside of your paragraph.



How doth the little crocodile
Improve his shining tail,
And pour the waters of the Nile
On every golden scale!
How cheerfully he seems to grin,
How neatly spreads his claws,
And welcomes little fishes in,
With gently smiling jaws!

Figure 3.15: Drop Cap Effect

Follow the following steps to apply Drop Cap Effect.

1. Select the first letter of a paragraph.
2. Click on the Insert Tab.
3. Select Drop Cap button and a drop-down menu appears.
4. Select either dropped or in margins as per your requirement.
5. Selected character will be changed.



HEADER AND FOOTER

Information is added to the top and bottom of each page using the header and footer, respectively.

Follow the following steps to add a header to your document.

1. Click on the Insert tab.

2. In the Header and Footer group, select the header button.

3. A drop-down menu appears, select the Blank option.



Figure 3.16: Adding Header

4. A placeholder of the header will be displayed at the top margin of the document.

5. Click on the placeholder to add text.

6. In the close group, click on the close header and footer button.

7. Observe the top margin of the document.

Follow the following steps to add a footer to your document.

1. Click on the Insert tab.

2. In the Header and Footer group, select the footer button.

3. A drop-down menu appears, select the Blank option.



Figure 3.17: Adding Footer

4. A placeholder of the footer will be displayed at the top margin of the document.
5. Click on the placeholder to add text.
6. In the close group, click on the close header and footer button.
7. Observe the bottom margin of the document.



REMOVING HEADER OR FOOTER

- ❖ From the header drop-down menu, select remove header to withdraw header.
- ❖ From the footer drop-down menu, select remove footer to withdraw footer.



Kids' IQ

Harman is writing an article for her school magazine. She wants to use advanced vocabulary. Suggest her ways for the same.



Let's Recall

- Microsoft Word 2016 is the most popular word processor developed by Microsoft Corporation.
- Styling is the process of altering the font's appearance in terms of size, colour and themes.
- The subscript option places the selected text slightly below the baseline.
- A margin is the amount of space between the text and the edge of the page.
- AutoShapes is a tool to help you draw objects on your document.
- Information is added to the top and bottom of each page using the header and footer, respectively.



A. Fill in the blanks.

1. Microsoft word is the word processor developed by
2. The smallest element in a word document is a
3. Linked content is a mix of and
4. A list contains and list items.
5. The Subscript option places the selected text slightly the baseline.

B. Answer in one word.

1. The process of altering the appearance of font in terms of size, colour and themes.
.....
2. The option that places the selected text slightly above the baseline.
.....
3. These are the special characters.
.....
4. The command that allows you to discard the most recent change.
.....
5. By default, Undo and Redo commands appear in this toolbar.
.....

C. Write 'T' for True statements and 'F' for False statements.

1. The outlook of a paragraph cannot be changed.
2. The Redo command reverses the most recent change made using Undo.
3. Press Ctrl + U to apply Undo Command.
4. A margin is the amount of space between the text and the edge of the page.
5. The default page orientation is landscape, which is horizontal.

D. Tick (✓) the correct answer.

1. In the word, helps us look up for a suggestion of a word.
 a. Header b. Footer
 c. Thesaurus d. Drop Cap effect
2. A tool that help you draw objects on your document.
 a. Font b. Shapes c. Symbols d. Margins
3. Page size can be changed by clicking on tab.
 a. File b. Insert c. Design d. Layout
4. Dropped and In Margins are two options of
 a. Margins b. Drop Cap Effect
 c. Paragraph d. Insert
5. The information which is added to the bottom of each page.
 a. Header b. Footer c. Symbols d. Shapes

E. Answer the following questions.

1. Write the steps to apply styles to a Paragraph.
.....
.....
2. State the difference between Header and Footer.
.....
.....
3. What is the use of the Drop Cap effect in the word?
.....
.....
4. What do you mean by Subscript?
.....
.....
5. How can we set the Page Margins?
.....
.....



Critical Thinking

A. Find the group names in the grid where the following options can be found.

1. Page Margins -
2. Symbols -
3. Thesaurus -
4. Shapes -

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

B. A book publishing house wants to write the name of their company at the bottom of every page. Suggest the ways to do so.

.....

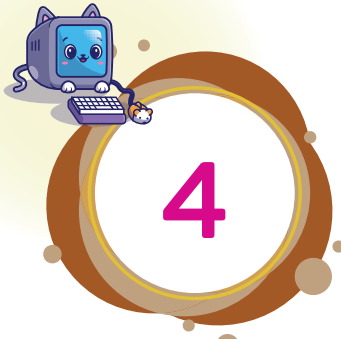
.....



Team Work

A. Collect information on photosynthesis and make a project in MS-Word.

B. Write the equation of photosynthesis using subscripts.



MAIL MERGE



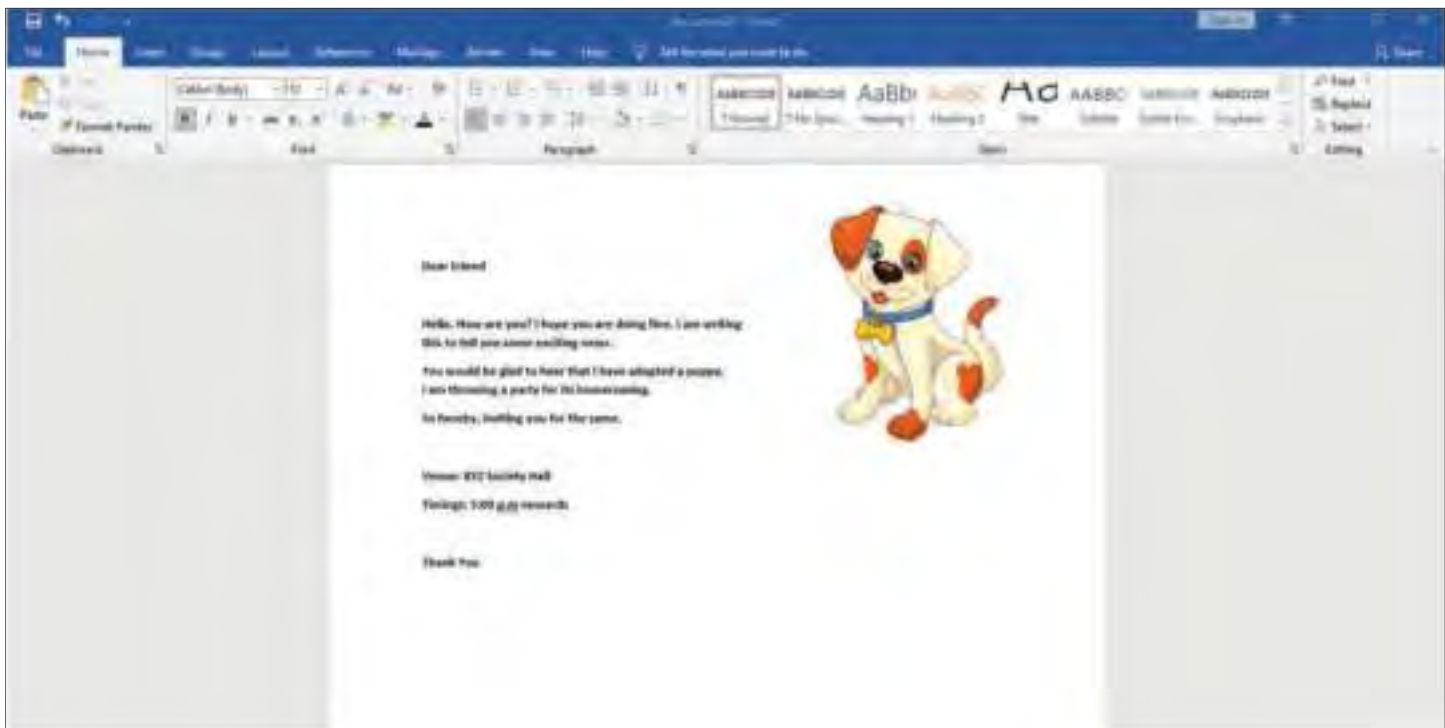
Learning Outcomes

At the end of this chapter, students will be able to:

- ◆ Know the features of Mail Merge.
- ◆ Merge the components of the Mail Merge.
- ◆ View and print the Merged Data.



Shubham has recently adopted a puppy. He wants to throw a party for its homecoming. To invite his friends, he has written a letter in MS Word 2016. Now, he wants to send the same letter to his 15 friends. Discuss the ways he can do the same without taking much time.



Teacher's Note:

With the help of the above activity, introduce the students to the mail merge feature of Word 2016.



“Hello friends! Let’s learn about the Mail Merge features 2016. It saves our time and efforts to send letters at multiple addresses.”

Your school sends the same circulars to all the students from classes 1-12 on the daily basis. Do you think they type the e-mails of the students one by one? No. They use MS Word’s famous feature: Mail Merge.

Mail Merge feature of Word 2016 is used to combine data source, which contains all the addresses with the main document. This definitely saves a lot of time.

Let’s learn about this feature in detail.



MAIL MERGE

Mail Merge is a very efficient tool of MS Word. It is possible to write and send a letter or email to multiple recipients at once using the Mail Merge feature in Microsoft Word. From this tool, we can create letters, mailing labels and envelopes by combining main documents with a data source.



Let Me Answer

Have you ever received a circular from your school on your e-mail id?

Let’s know about two very important components of Mail Merge:

- ❖ **Main Document:** It contains the text which we want to send to all the recipients.
- ❖ **Data Source:** It consists of personalised information such as name, address, city, and phone numbers. This information is organised in the tabular form with the field names.

Creating the Main Document

Follow the following steps to create the main document.

1. Create a new document and type a letter, that you want to send to multiple addresses.
2. Click on the Mailings tab.
3. Click on Start Mail Merge drop-down arrow and select the Step-by-Step Mail Merge Wizard Option.
4. The Mail Merge pane appears on the right side of the window.



Figure 4.1: Start Mail Merge

Follow the following steps to create the document.

1. Under the 'Select document type' section, select the letters radio button.

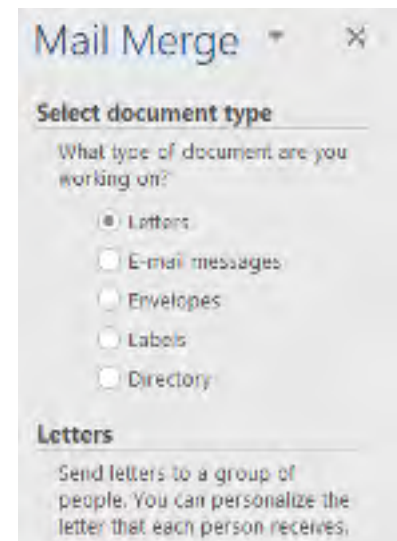


Figure 4.2:
Selecting Document

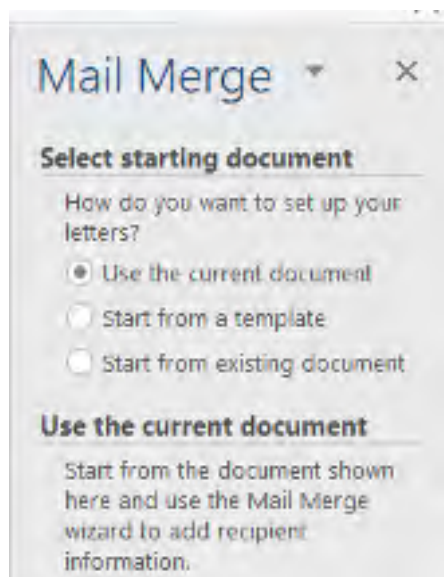


Figure 4.3: Selecting recipients

2. **Click the Next:** Starting document under the 'Step 1 of 6' section at the bottom of the task pane.
3. Under the Select starting document section, click on the Use the current document option.

4. Under the 'Step 2 of 6' section, click the Next: Select recipients.

There are three ways to create the Recipients list:

1. **Use Existing List:** Select a list if you already have one, then click "OK."
2. **Select from Outlook contacts:** Select a list from the address book of Outlook.
3. **Type New List:** If you don't have a list, choose this option to build a list to be combined with your word document.

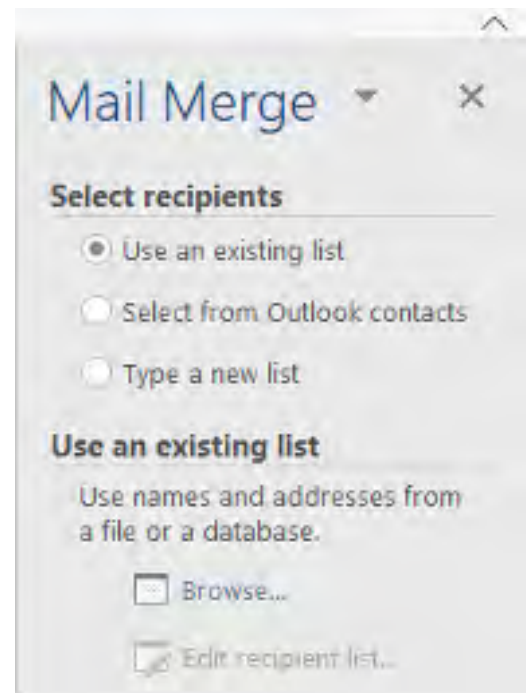


Figure 4.4: Type New List



CREATING THE DATA SOURCE

If there is no list, then we need to create a new list.

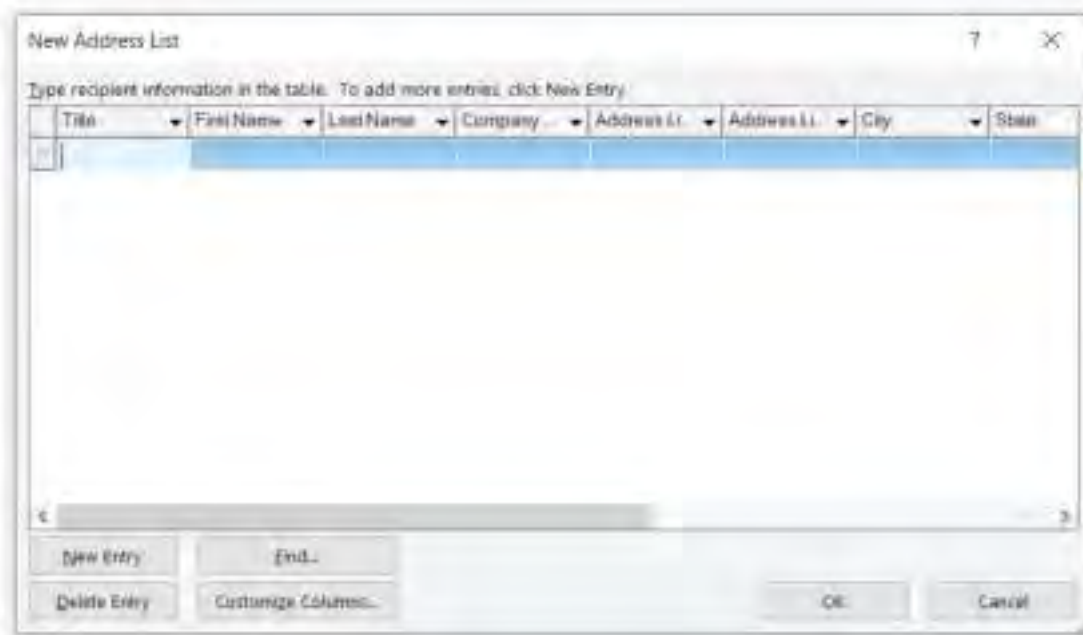


Figure 4.5: New Address List

Follow the following steps to create a New List.

1. Click on the create button.
2. The New Address List appears.

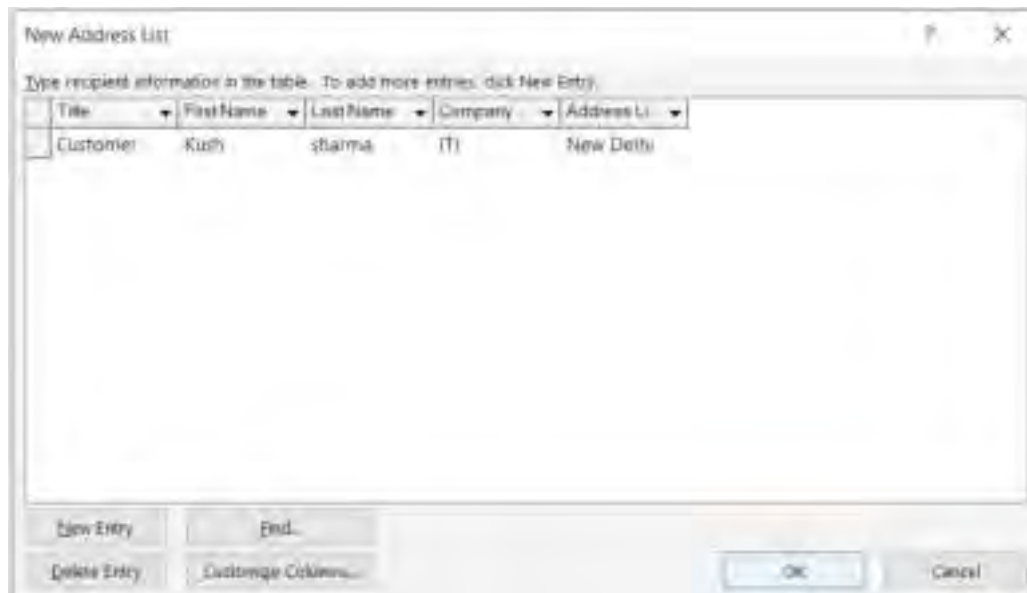


Figure 4.6: New Address List

Follow the following steps to enter records.

1. To add values to the list, click on the New Entry button.
2. Fill in the information in the New Address List.
3. If you want to enter more records, click on the New Entry button.
4. Click on the OK button.
5. Give the appropriate name and click on the Save button.

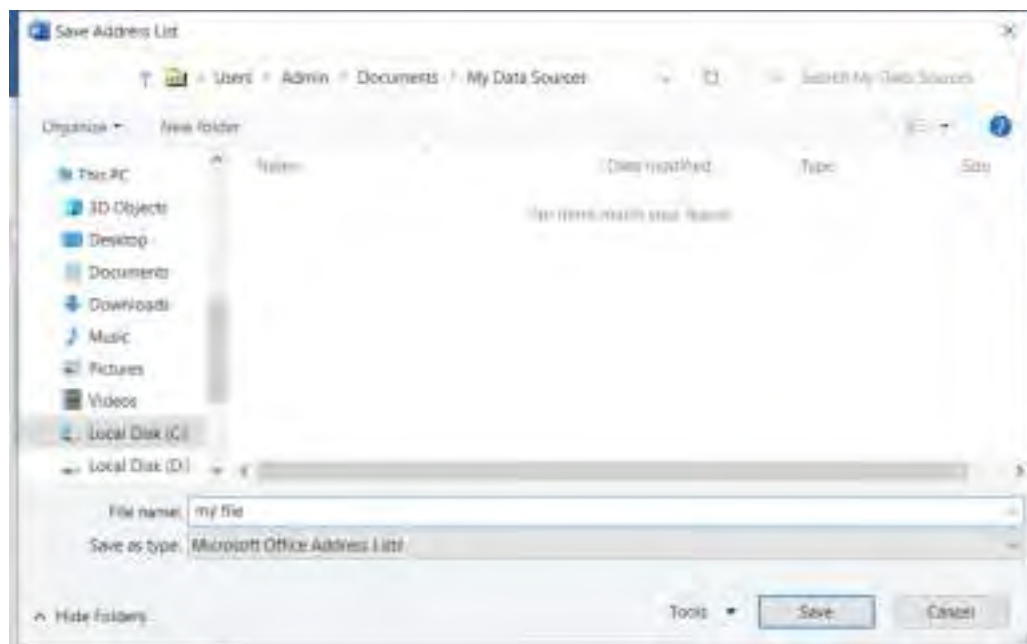


Figure 4.7: Save Address List



MERGING THE COMPONENTS OF MAIL MERGE

After creating the data source, merge both the components: Main Document and Data Source together.



Let Me Answer

What do you mean by merging?

Follow the following steps to merge these two.

1. Select the records you want to merge and click OK.

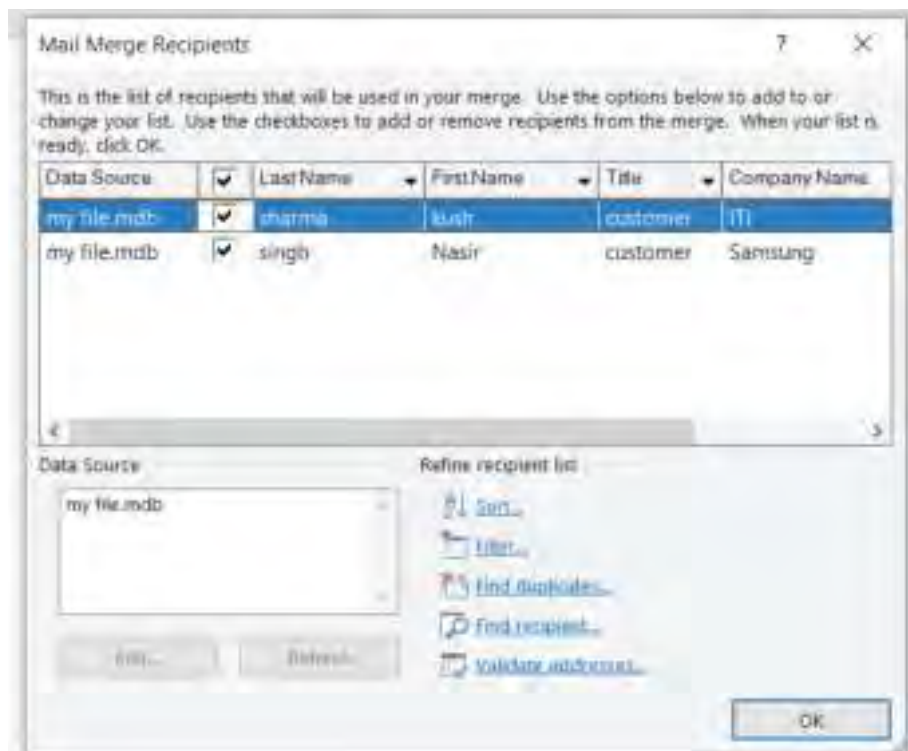


Figure 4.8: Mail Merge Recipients

2. On the Mailings tab, click on the Insert Merge Field button to insert the fields from the database.

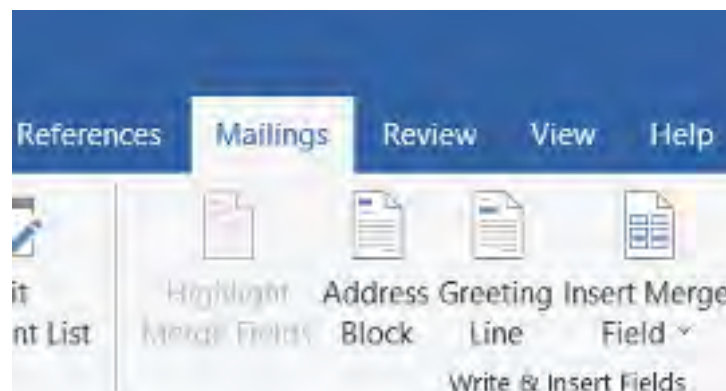



Figure 4.9: Insert Merge Field Button

3. Select the field you intend to add and the field name will appear in the document.

 **Do You Know?**
To insert a merge field, we can press Alt + Shift + F Key combinations.

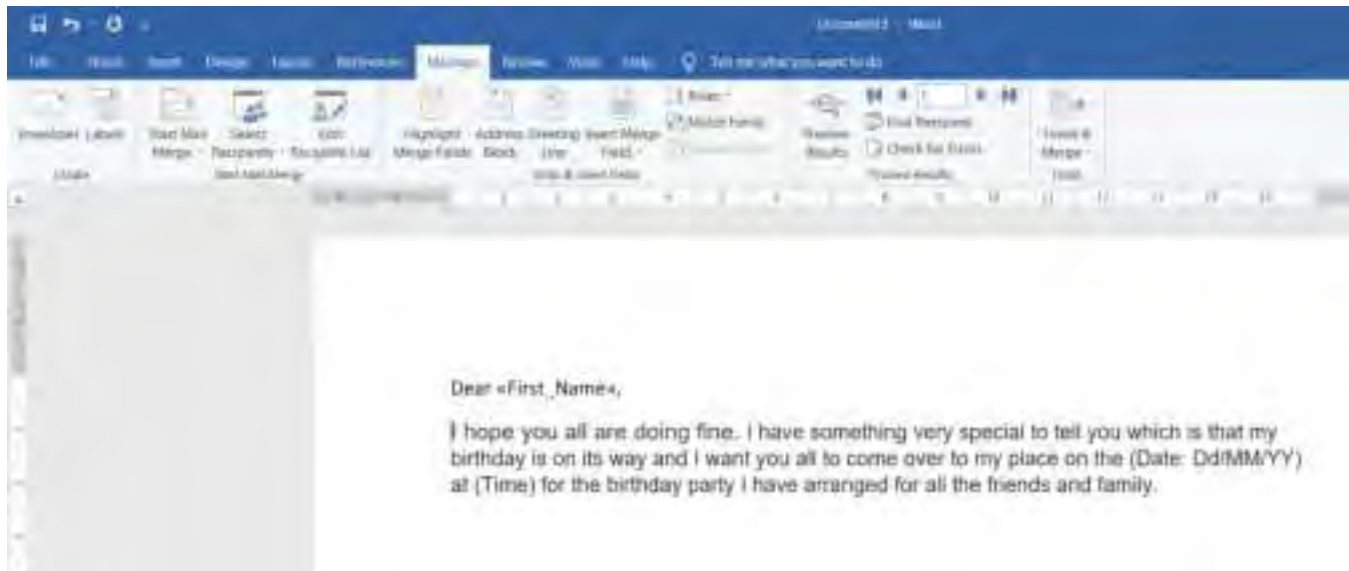


Figure 4.10: Insert Merge Field



VIEWING THE MERGED DATA

Follow the following steps to preview the merged data.

1. On the Mailings tab, click on the Preview Results button. Alternatively, click the Next: Preview your letters under the 'Step 4 of 6' section.

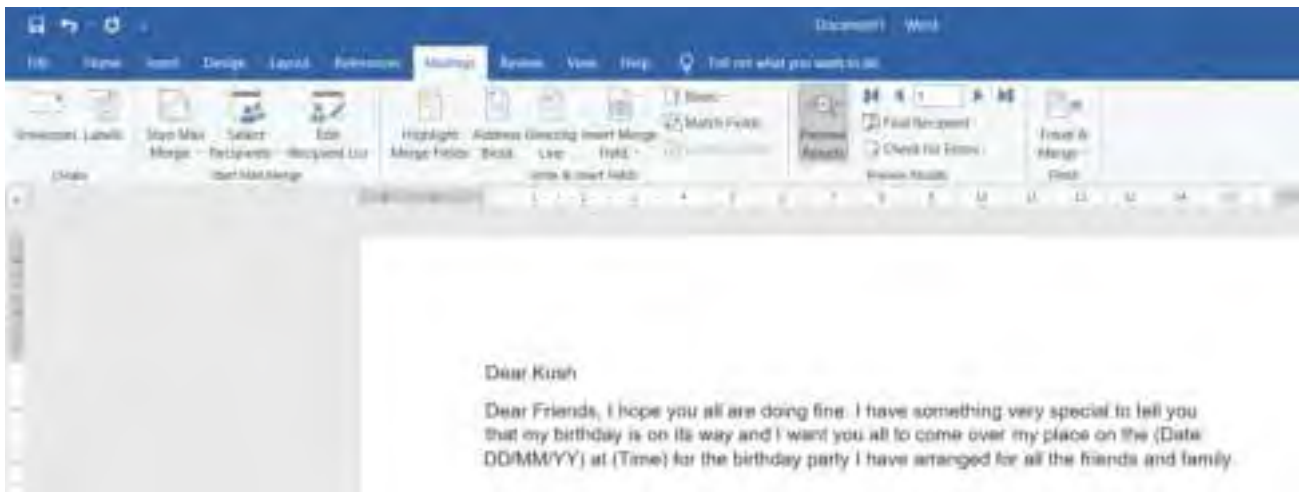


Figure 4.11: Preview Results

2. The data stored in the fields will appear.
3. Once you've previewed the records, click on the Finish Merge button.

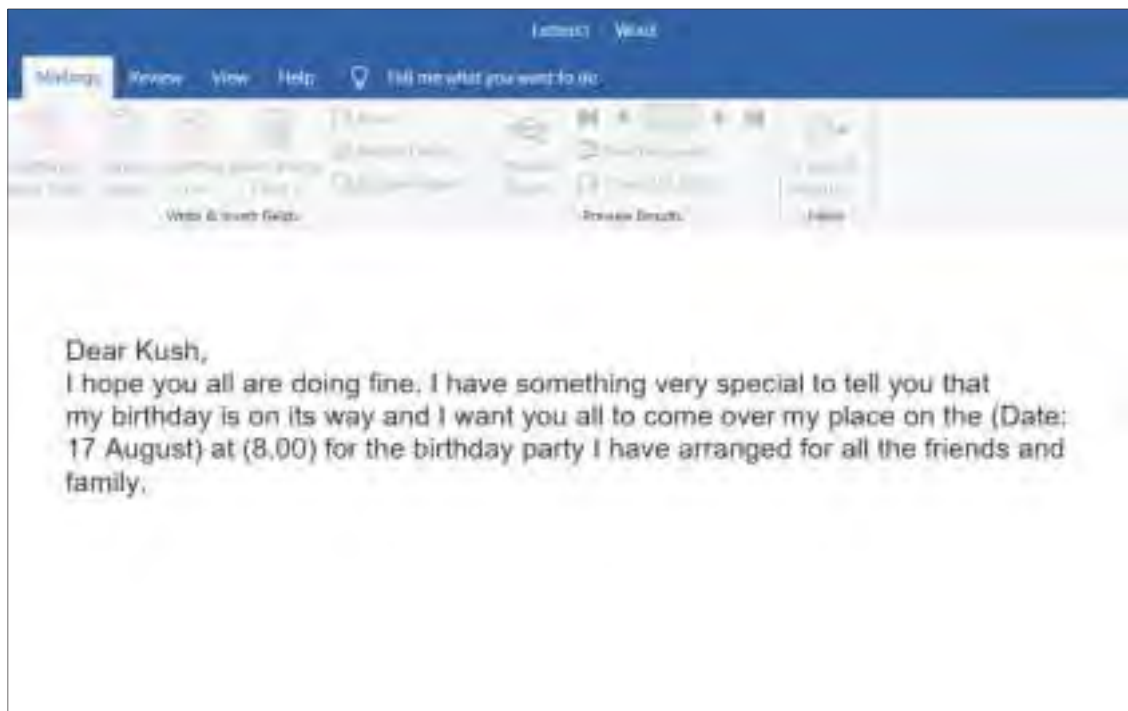


Figure 4.12: Complete the Merge



PRINTING THE MERGED DOCUMENT

If you wish to directly print the letters then from the File tab, select the Print Option.

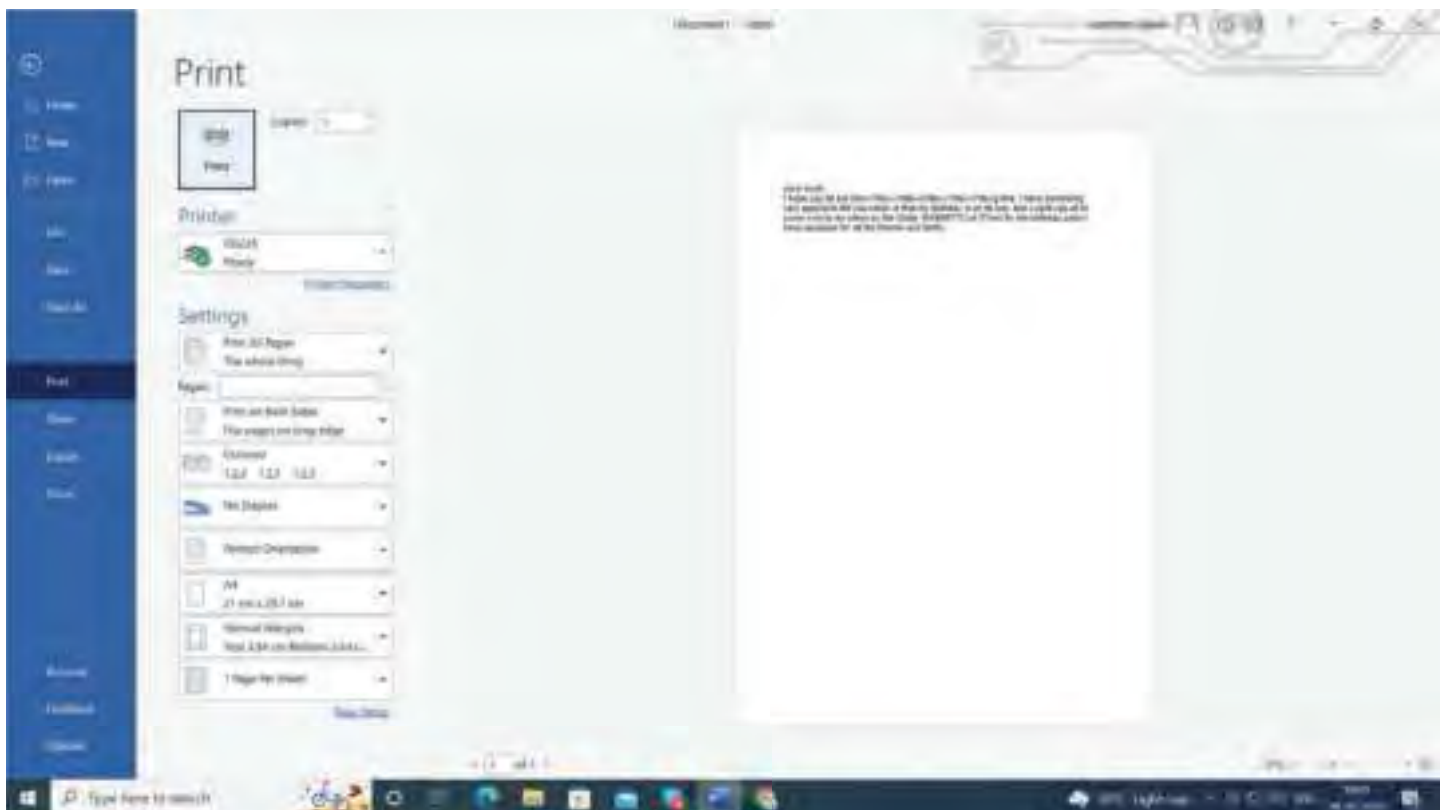


Figure 4.13: Printing Merged Document

If you intend to save the individual letters permanently and edit them later, click on the Edit Individual Letters option.

REMEMBER IT!



To print the merged document, Alt + Shift + M Key combinations can be used.



Kids' IQ

Roshni wants to insert a merge field but she has forgotten the steps which her teacher told to follow. Help her with a simple way for it.

.....



Let's Recall

- Mail Merge is a very efficient tool of MS Word which allows you to write and send a letter or email to multiple recipients.
- Mail Merge consists of the main document and a data source.
- Main Document contains the text which we want to send to all the recipients.
- Data Source consists of personalised information such as Name, Address, City and Phone number.
- Mail Merge saves time and typing efforts.
- Procedure you need to follow while using the feature of mail merging.
 - Creating the main document.
 - Creating the data source
 - Merging the components of mail merge.
 - Viewing the merged data.
 - Printing the merged document.



A. Fill in the blanks.

1. feature of word 2016 is used to combine a data source with the main document.
2. Two important components of Mail merge are and
3. consists of personalised information.
4. tab needs to be clicked in order to create the main document.
5. The Mail Merge Pane appears on the side of the window.

B. Answer in one word.

1. The tab which you select to execute the mail merge option.
.....
2. Component of Mail Merge which contains the text we want to send to all recipients.
.....
3. The option we choose to select a list from the address book of Outlook.
.....
4. The button which is clicked to insert the fields from the database.
.....
5. The options to see the records before merging.
.....

C. Write 'T' for True statements and 'F' for False statements.

1. The two main components of a mail merge process is the main document and data source.
2. Edit Individual letters option allows you to save the individual letter permanently and edit them later.
3. To add values to the list, we click on the New Entry button.
4. Information in Data Source is organised in tabular form with the field names.
5. You can select the list from the address book of outlook.

D. Identify and label the following buttons.



.....

.....



.....

.....

E. Answer the following questions.

1. What do you mean by Mail merge?

.....
.....

2. How can we create a Main document?

.....
.....

3. What is a Data source?

.....
.....

4. How can we merge the Main document and Data source together?

.....
.....

5. Write the different ways to select a Recipient list.

.....
.....



Critical Thinking

A. Here are the steps to preview the merged data. Number them in order.

- 1. The data stored in the fields will appear.
- 2. Once you've previewed the records, click on the Finish Merge button.
- 3. On the Mailings tab, click on the Preview Results button.

B. Its Samaira's birthday. She has made a beautiful invitation using MS Word. She wants to send a personal invitation to her friends without typing their names and address again and again. Suggest her the way she can do this task.

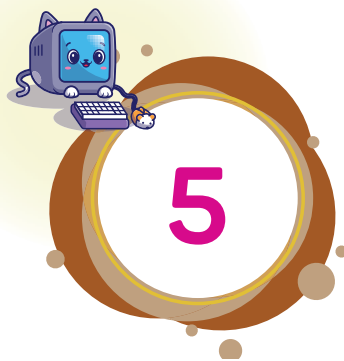
.....
.....



Team Work

You are the head girl/head boy of your class. Create a data source of your classmates which includes their personal information such as Name, Date of Birth, Address, Phone numbers, and Parents' names for the school identity cards.

- 1. How many students are there in your class?
- 2. How many prints of student's information are there?
- 3. How did you paste the logo of your school in the identity card?



UPGRADING PRESENTATION



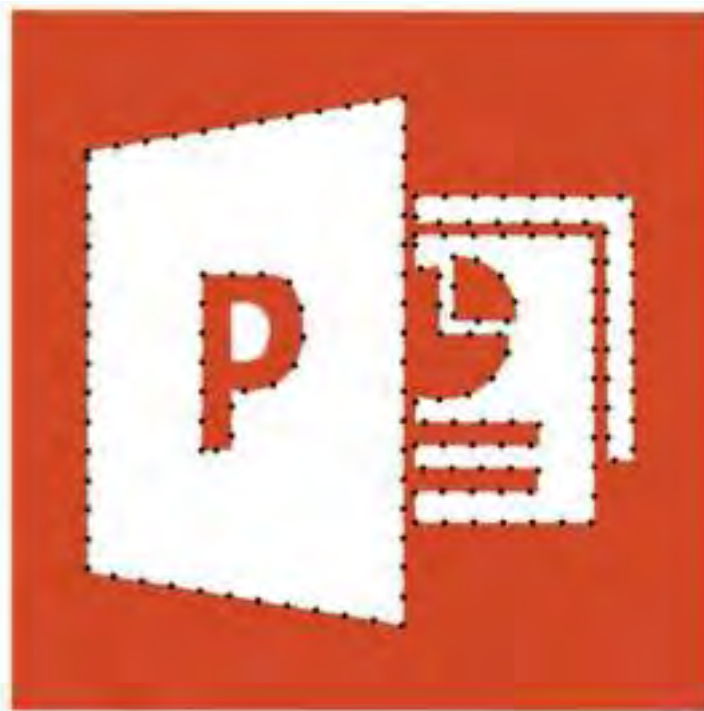
Learning Outcomes

At the end of this chapter, students will be able to:

- ◆ Insert the objects in the placeholder.
- ◆ Add WordArt, SmartArt and Shapes in a presentation.
- ◆ Do Animations and Transitions in a presentation.



Naman and Akhil have been told to complete the task. They have managed to do so but are unable to tell the name of the software application. Now, it's your turn to join the dots to find the following software application.



Teacher's Note:

Ask students to name the above software application. Also, tell them to recall MS PowerPoint application features which they learn in their previous class.



“Hello friends! Let us make our presentations more engaging and powerful by adding WordArt, SmartArt, shapes, animations and transitions.”

As we already know, **Microsoft PowerPoint** is a software application that allows you to create and show slides to support a presentation. In this chapter, we will learn how to use the right effects on text and objects to make our presentations more visually appealing and meaningful.

REMEMBER IT!



More than 500 million people use PowerPoint worldwide.



ADDING OBJECTS IN A PRESENTATION

Placeholder

A placeholder is a region surrounded by dotted borders on a slide. The first slide of a new presentation has two placeholders on it by default.

Different types of content, text and images can be added in a placeholder.

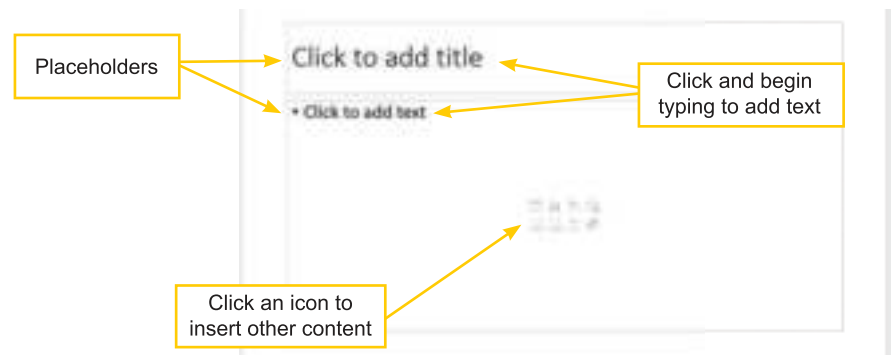


Figure 5.1: Different Placeholders

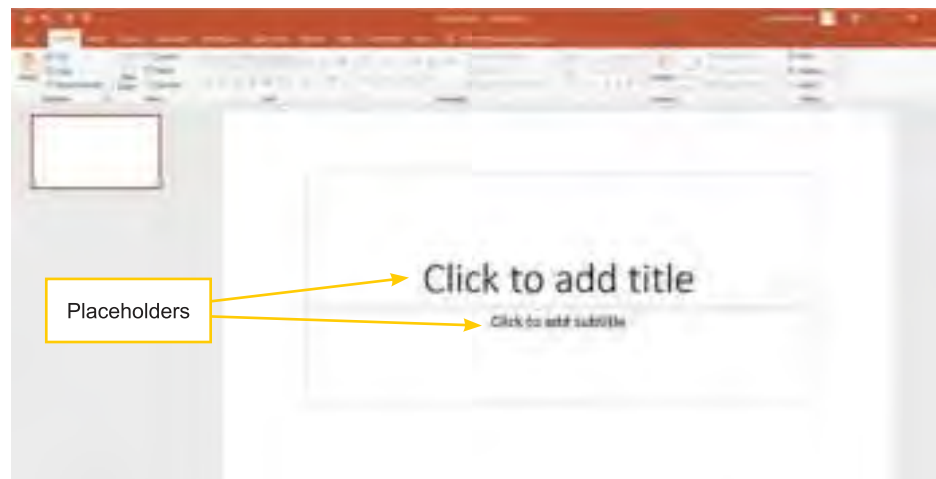


Figure 5.2: Placeholders

Follow the following steps to add text to a placeholder.

1. Move the cursor to the 'Click to add title' placeholder and click it.
2. Type the Title of the presentation in the placeholder.
3. Likewise, move the cursor to the 'Click to add subtitle' placeholder and click it. Then, type the Subtitle of the presentation in the placeholder.

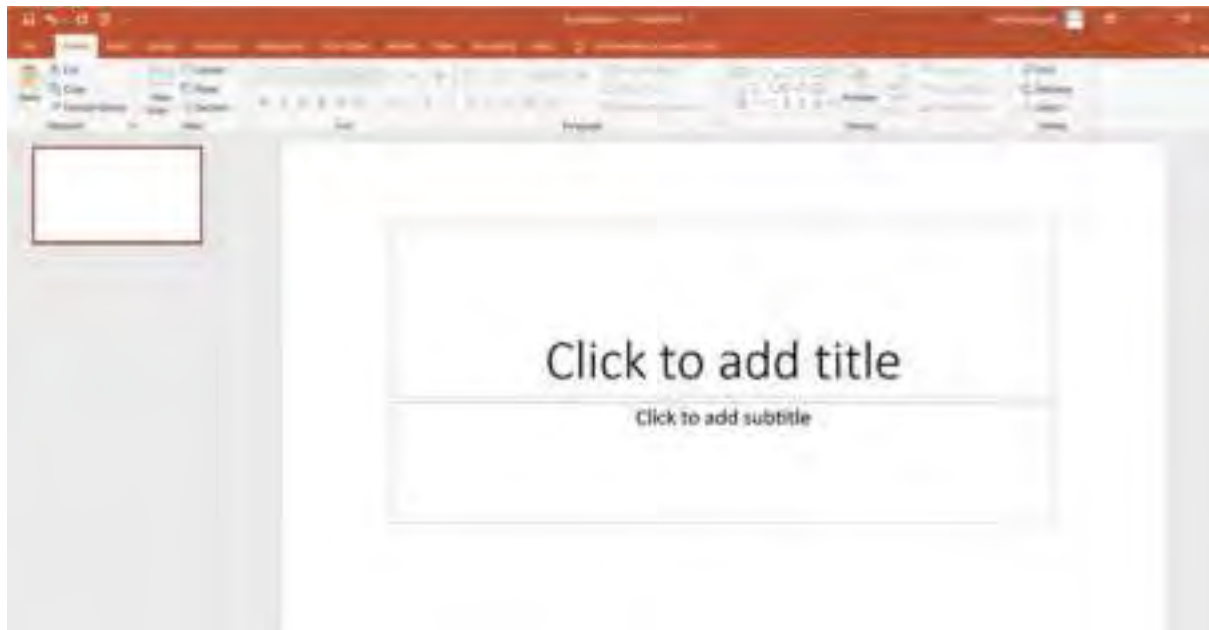


Figure 5.3: Adding Text in the Placeholder

Editing Text with WordArt



Let Me Answer

What do you mean by WordArt?

WordArt is a feature that creates text effects which are not available through font formatting. Adding WordArt to the slides makes them attractive.



Figure 5.4: Inserting WordArt

Follow the following steps to insert WordArt.

1. Select the text in the placeholder.
2. Click the Format tab. Click the drop-down arrow next to the WordArt styles.
3. A list of WordArt styles will appear, click on the desired style.

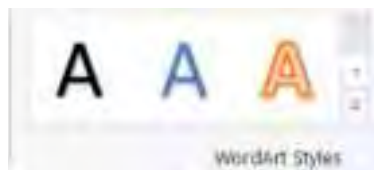


Figure 5.5: WordArt Styles Group



Figure 5.6: WordArt Styles Preview

4. Observe the change in the text.

Follow the following steps to apply the text effects.

1. Select the text in the placeholder.



Figure 5.7: Applying Text Effects

2. Click the Format tab. In the WordArt Styles group, click the Text effects.
3. From the drop-down list box, select the desired text.
4. Observe the change in the text.



Let Me Answer

Which shapes are available in MS PowerPoint?

Inserting Shapes

In MS PowerPoint, a range of shapes are available that can be added to the presentation. Adding shapes to the slides enhance the appearance of the presentation.

Follow the following steps to insert shapes to a slide.

1. Click on the Insert tab.
2. In the illustrations group, select the shapes button.
3. From the drop-down menu, select the shape you want to add.
4. To draw the desired shape, click and drag the mouse on the slide.
5. Release the mouse button.
6. The chosen shape will appear on the slide.



Figure 5.8: Inserting Shapes

Follow the following steps to rotate and resize a shape.

1. Click the shape you want to modify.
2. Sizing handles will appear on the corners, drag one of them to get the desired size.
3. Similarly, move the rotating handle on the top to rotate the desired shape.



Adding Text to a Shape

In PowerPoint, text can also be added to any shape.

Follow the following steps to add text in a shape.

1. Select the shape in which you want to add the text.
2. Right-click on it, and a pop-up menu will appear.
3. Click on the Edit Text option and add text to the shape.



Inserting SmartArt

One of the features of PowerPoint is SmartArt. A SmartArt graphic is a visual representation of information and ideas as well numeric values or data.

Follow the following steps to insert SmartArt.

1. Go to the slide where you want the SmartArt graphic to appear.
2. Click on the Insert Tab.
3. In the illustrations group, select the SmartArt Button.
4. A dialogue box 'Choose a SmartArt Graphic' will appear.
5. Select the category and type from the list.

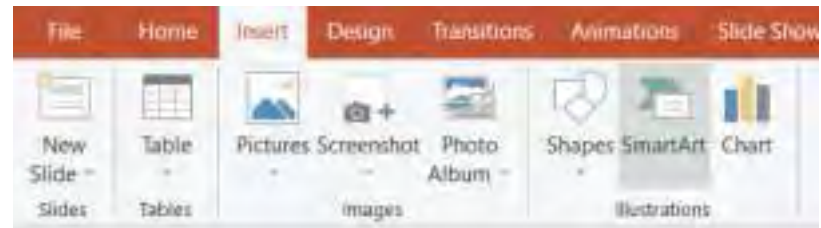


Figure 5.9: Insert Tab

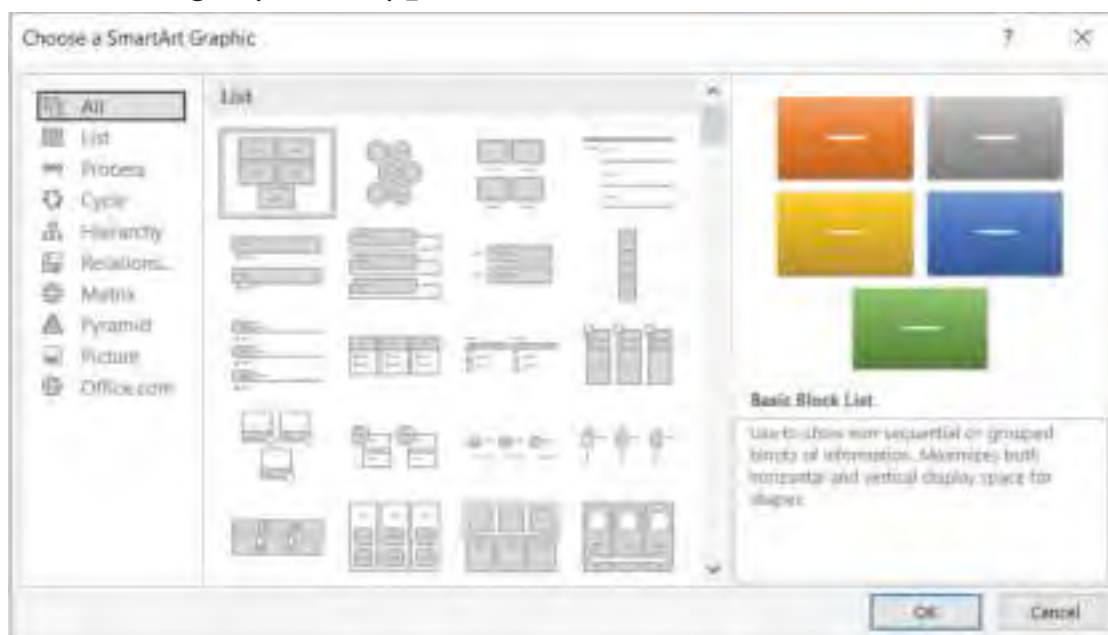


Figure 5.10: Applying SmartArt

6. Double click on the desired SmartArt to insert a graphic in the slide.
7. The SmartArt graphic will appear along with a text placeholder.
8. Insert the text as you wish to.

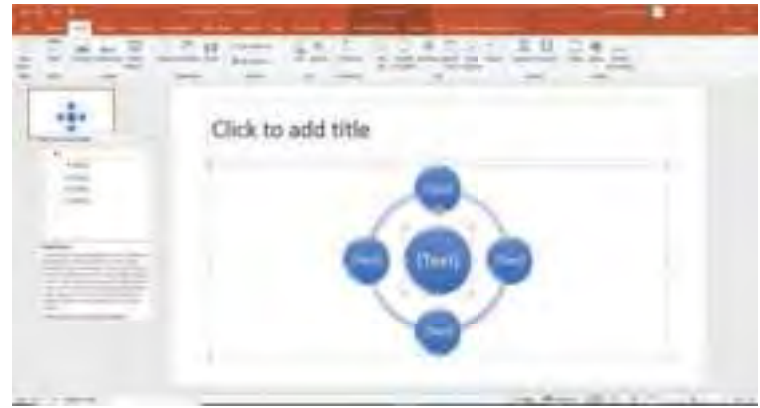


Figure 5.11: Inserting SmartArt



ANIMATIONS AND TRANSITIONS

When you watch an animated film, the scenes keep coming one after the other. Have you ever wondered why? This is because of the transitions. The same effect can be done in a PowerPoint presentation also by slide transition.

Slide Transition

Transitions are animation effects which can be applied to slides. The way one slide follows the other on the screen in a presentation is called transition. When a slide enters or exits during the slide show, we may adjust the speed of each transition and even add sound.

Let us explore the transition styles found on the Transitions tab.

Do You Know?

Emile Cohl is referred to as the Father of the Animated Cartoon.

Subtle Transitions

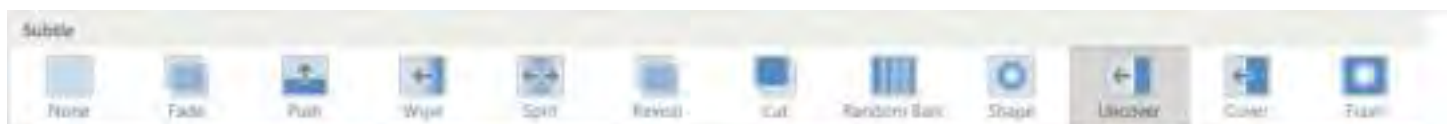


Figure 5.12: Subtle

Exciting Transitions

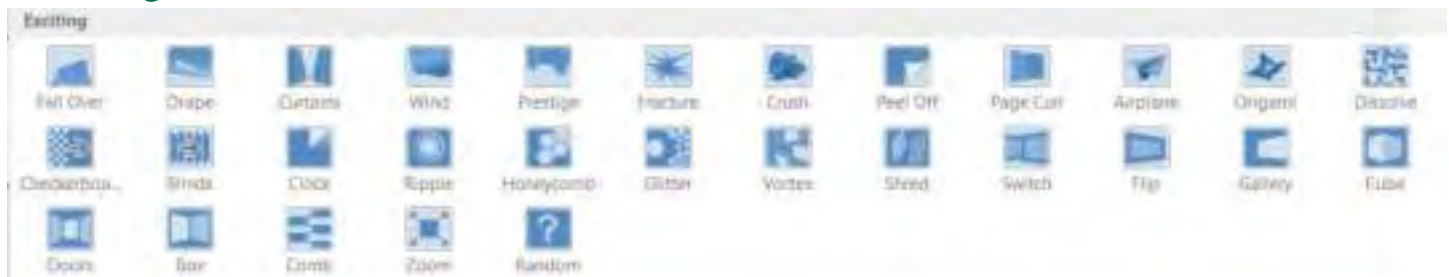


Figure 5.13: Exciting

Dynamic Content

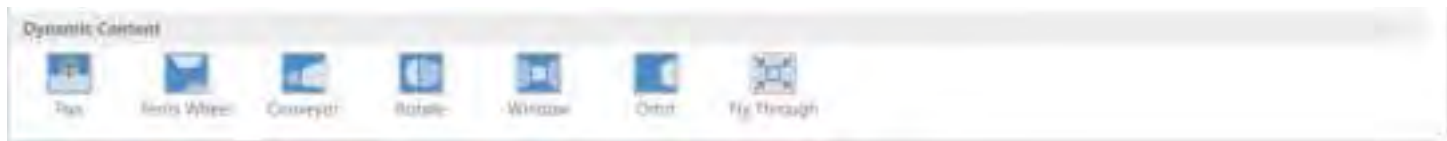


Figure 5.14: Dynamic Content

Follow the following steps to apply slide transition.

1. Select the desired slide from the Slide Navigation pane on which you want to apply the transition.
2. Click on the Transitions tab.
3. Click on the drop-down button to see all transitions.
4. Choose the transition effect of your choice.

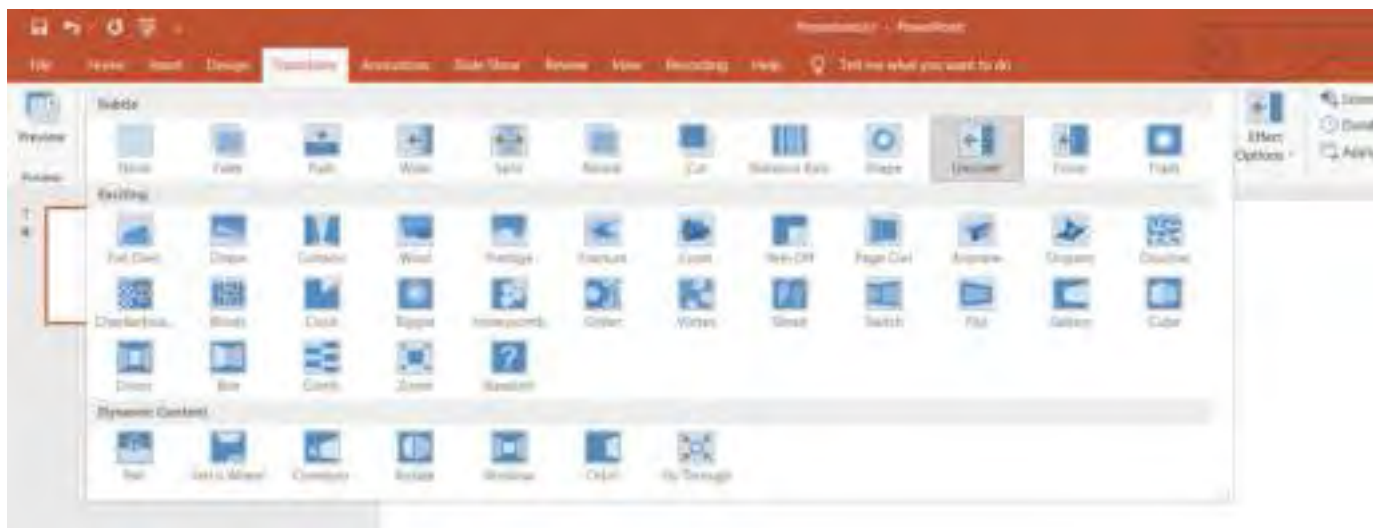


Figure 5.15: Applying Transition

5. A preview of the transition effect appears in the slide area.
6. Click on Apply to all option from the Timings group.

Applying Animation to Text and Objects

Transitions and slide animations are similar, however, slide animations apply to specific elements on a single slide- a title, chart, image, or individual bullet point. Animation makes a presentation look attractive and eye-catching.

Let us explore the four types of animations available.

Entrance: These animations manage how an object enters a slide.

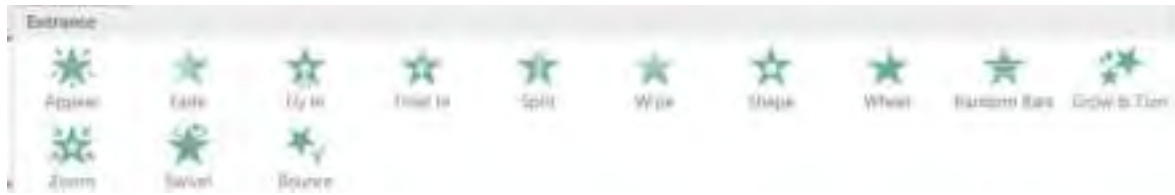


Figure 5.16: Entrance Effects

Emphasis: Specific contents are highlighted using these animations.

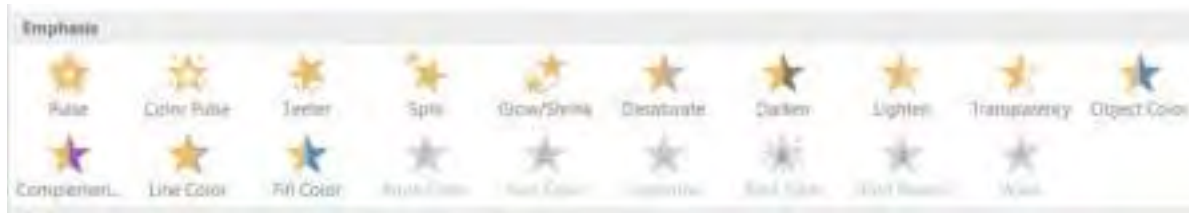


Figure 5.17: Emphasis

Exit: These animations manage how the object leaves the screen.



Figure 5.18: Exit

Motion Paths: When an object follows the designated path, these animations are used to add animation.



Figure 5.19: Motion Paths

Follow the following steps to apply an animation to an object.

1. Select the desired object.
2. Click the Animations tab, and click on the More drop-down arrow to view the available animations.

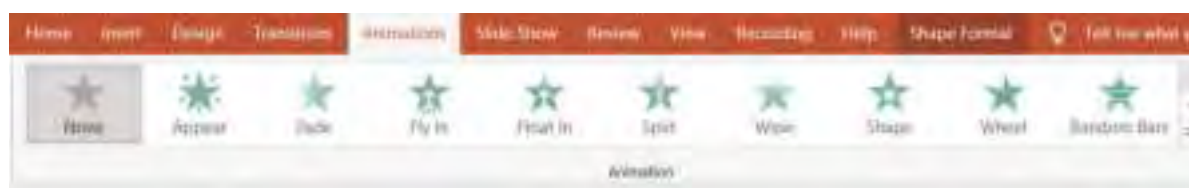


Figure 5.20: Animation Tab

3. Select the animation effect from Entrance, Exit or Emphasis option.

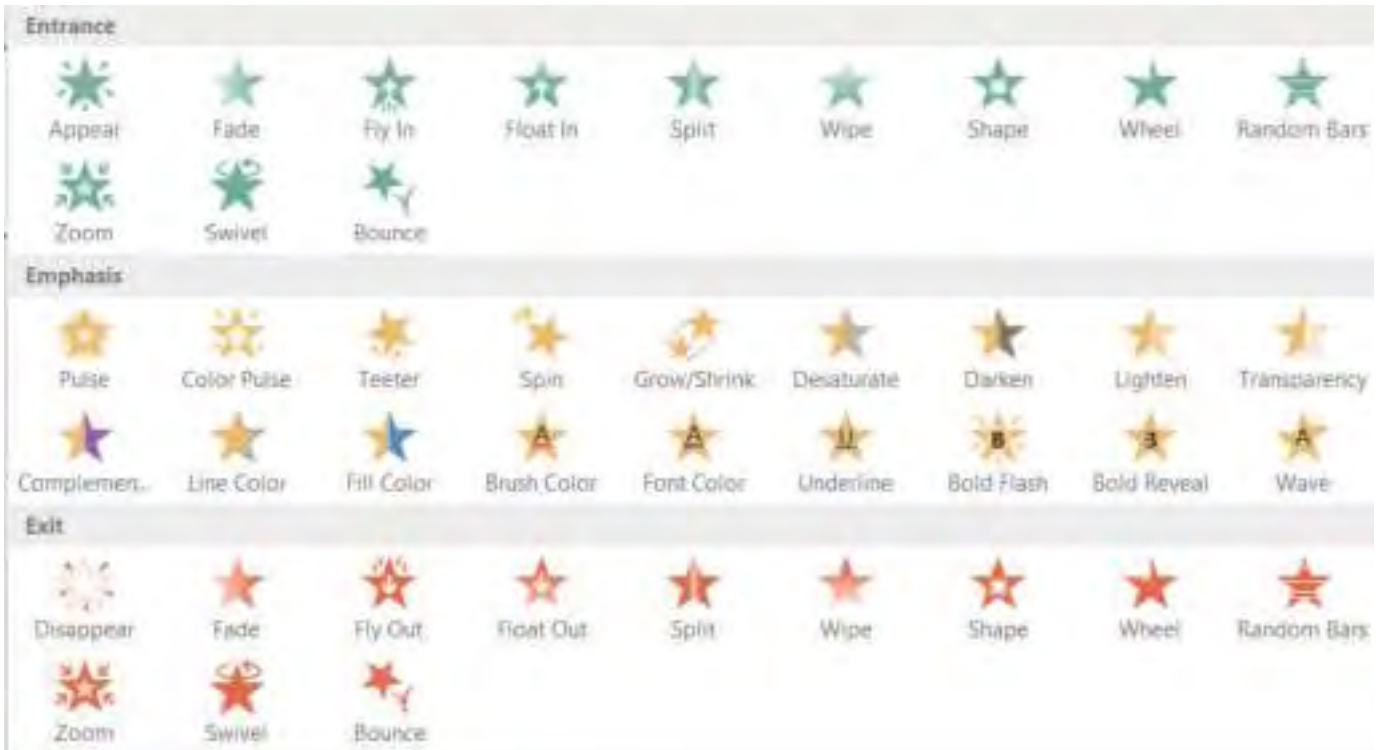


Figure 5.21: Animation Preview

4. Click the preview button to preview the applied animation effect.

Kids' IQ

Saman has 50 photographs in a folder which she wants to add in all the slides. Further, she wants to add animation effects to these slides. Suggest her the option to complete this task.

Let's Recall

- A placeholder is a region surrounded by dotted borders on a slide.
- Adding shapes to the slides enhance the appearance of the presentation.
- In PowerPoint, text can also be added to any shape.
- A SmartArt graphic is a visual representation of information and ideas as well numeric values or data.
- Transitions are animation effects which can be applied to slides.

A. Fill in the blanks.

1. PowerPoint is a software application that allows you to create and show slides to support a
2. A is a region surrounded by dotted borders.
3. is a visual representation of information and ideas.
4. animation manage how the object leaves the screen.
5. is a feature that creates text effects which are not available through font formatting.

B. Identify the following options in MS PowerPoint.



C. Answer in one word.

1. How many placeholders are there on the first slide of a new presentation?
.....
2. In which tab do Word Art styles present?
.....
3. The way one slide follow the other on the screen in a presentation.
.....
4. This animation manages how an object enters a slide.
.....
5. In which group does a SmartArt button present?
.....

D. Write 'T' for True statements and 'F' for False statements.

1. Text can be added to shapes.
2. Transitions and slide animation are similar.

- Entrance animations manage how the object leaves the screen.
- We can adjust the speed of each transition.
- Multiple animation effects can be applied to an object.

E. Answer the following questions.

1. What do you mean by Slide transition?

.....
.....

2. Write the steps to insert SmartArt.

.....
.....

3. How can we apply animations to text and objects?

.....
.....

4. Can we rotate a shape? If yes, then how?

.....
.....

5. What is a WordArt?

.....
.....



Critical Thinking

A. Naman has to make the food web diagram. For it, he wants to show the relationship between different animals. He wants to display the same using cycle form. Suggest him the ways to achieve the task.

B. Unscramble the letters to form correct words.

1. ELPACEHOOLR -

2. DILSE -

- 3. EEPSRTTANIO-
- 4. XTTE-
- 5. SSPHEA-



Team Work

Find out the information on 'COVID-19' and make a presentation utilising all the features learnt in Microsoft PowerPoint.

COVID-19

Medscape

The virus associated with the outbreak originating in Wuhan, China, has been designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease caused by that virus is now officially called COVID-19.

The diagram illustrates the structure of the SARS-CoV-2 virus. It is a spherical virus with a lipid bilayer envelope. The surface is covered with spike glycoproteins (S), hemagglutinin-esterase (HE), and membrane proteins (M). The envelope is also associated with small membrane proteins (E). Inside the envelope, the genome consists of genomic RNA, which is associated with nucleoproteins (N).

SPIKE GLYCOPROTEIN (S)

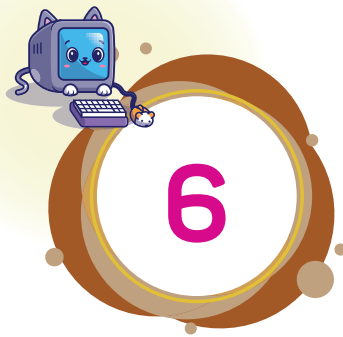
HEMAGGLUTININ-ESTERASE (HE)

ENVELOPE SMALL MEMBRANE PROTEIN (E)

MEMBRANE PROTEIN (M)

NUCLEOPROTEIN (N)

GENOMIC RNA



PROGRAMMING IN SCRATCH



Learning Outcomes

At the end of this chapter, students will be able to:

- ◆ Sense input and its execution.
- ◆ Use Mathematical Operations in Scratch.
- ◆ Add the various blocks of the Control block.

Warm-up

Rahul wants to change the costume of the Sprite. Steps are given below but are not in order. Arrange them in order to help Rahul.



1. From the list of costumes, select Dani-b costume.
2. Click on Choose a Sprite button on the bottom right side of the Scratch window.
3. The sprite's costume will be changed.
4. Select Dani Sprite to click on the Costume tab.



Teacher's Note:

Assist the students in arranging the above steps in a chronological order.



“Hello friends! Let’s learn about a few more blocks of code in Scratch.”

The various tasks that a sprite can carry out on the Scratch stage are already known to us. We have also learnt how to change the background, colour, direction, and costume of a Sprite. Let us now learn how to perform various sensing and mathematical operations to solve a problem.



Do You Know?

Scratch service is developed by the MIT Media Lab, has been translated into 70+ languages, and is used in most parts of the world.



SENSING INPUT AND ITS EXECUTION

The light blue colour-coded Sensing blocks are among the eight categories of Scratch blocks. They are used to sense the keyboard input while executing the script as well as the location of the mouse pointer and its distance from a Sprite. Further, these blocks determine whether a Sprite is touching another sprite. Hence, these blocks give your Sprites the ability to sense an action that takes place.



Let Me Answer

What do you mean by sensing?

Sensing a Mouse Click

When we click the right mouse button mouse down, the sensing block responds. This implies that we can create a Sprite or part of our programme in such a way that it would react to our activities.

This is another example of event-driven programming. When the mouse button is clicked, the script runs.

Sensing a Key

When a user touches a certain key on the keyboard key space pressed, this block can be used to detect it.

When Two Sprites Collide

This is used to detect a sprite and respond to contact with another Sprite on the stage. This is done by telling the Sprite to do something when one colour touches another colour.

Look at the code, it tells the Sprite to change to the next costume when the colour red touches the colour yellow.

Asking a Question

This block stores keyboard input in the answer block while enabling us to put a question on the screen. The question is displayed in a call-out on the screen. While the user enters an answer or presses the enter key, the application waits.



USING OPERATORS

Operator blocks are light green-coloured coded blocks and are round in shape. They are used to solve mathematical equations. Basic mathematical operations, logical operations, and different functions are all included in the operators group blocks.

Let us perform calculations in a Scratch Project.

Steps:

1. Open a new file in the Scratch window.



Let Me Answer

What do you mean by the term collide?

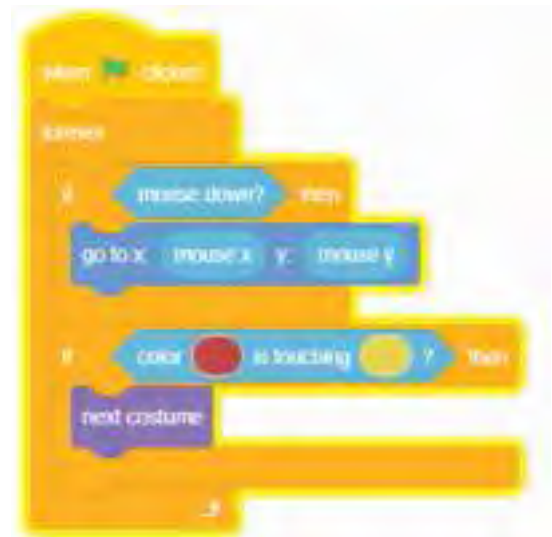


Figure 6.1: Responding to Contact



Figure 6.2: Asking a Question

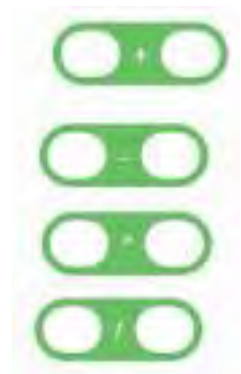


Figure 6.3: Operators

2. Delete the cat sprite, and choose sprite from the library button.
3. Select the Crab sprite from the Animals category and click OK.
4. Drag the when flag clicked (crop from button file) block from the Events block category and place it in the script area.
5. Take the say hello for 2 seconds(crop from button file) and say hello(crop from button file) blocks from the Looks block category and place them under the when flag clicked(crop from button file) in the script area.
6. Drag the - (crop from button file) block from the Operators block category and club it inside the say hello block.
7. Type the text and numbers inside the block as shown in the figure.
8. Click the blocks to run the script.
9. Observe the Sprite displaying the calculations.

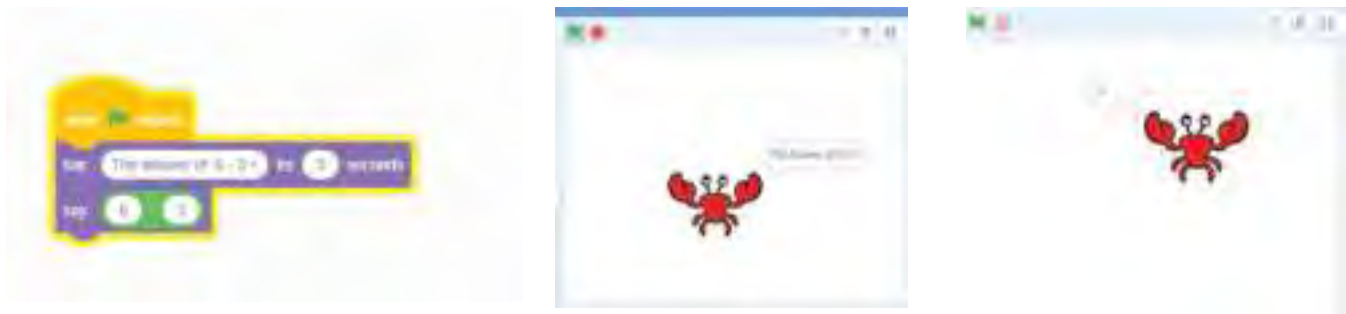


Figure 6.4: Sprite subtracting two numbers on the Stage



WORKING WITH VARIABLES

You may have noticed that when you progress to the next level in playing computer games, your score either rises or falls and is displayed on the screen at the end. These values are stored by using variables. A **Variable** is a name given to a place in the memory of the computer. These values can be either numbers or text.

REMEMBER IT!



With the Scratch app, users can snap together computer programming blocks to make interactive stories, games, art, animations etc.

Creating a Variable

Follow the following steps to create a variable.

1. In the block palette, click the variable category.
2. Select the Make a Variable button.
3. Name the variable.
4. Use the options available.

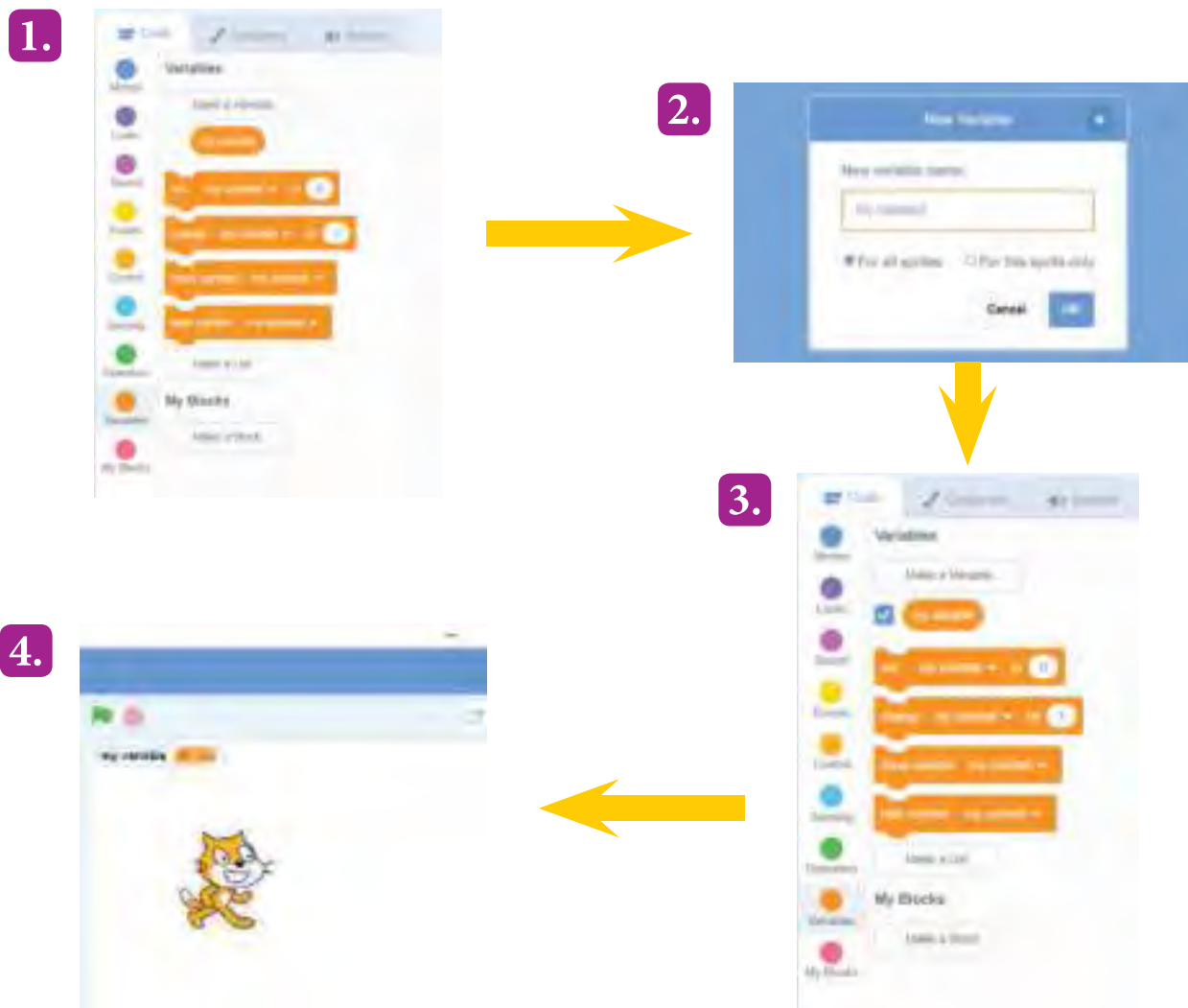


Figure 6.5: Creating Variables



CONDITIONAL STATEMENT

Sometimes, we want to have programs that respond differently in different situations. We might want the program to say 'It's your turn', 'You win' or 'you lose'.

In Scratch, 'wait 1 seconds', 'repeat 10', 'if', 'forever if' or 'if then' are the conditional blocks present in the Control blocks category.

Wait 1 seconds block halts the script's execution for some duration as mentioned in the block.

Repeat 10 block repeats a set of instructions a specified number of times.

In if then block, the script inside it will execute, only if the condition given after if is true. If the condition is false, no code is executed.

The if else block checks the condition between if.. then, if it is true then block place after if.. then will execute. If it is false, then the blocks placed after else will be executed.

In forever block, a set of instructions keep repeating until the interrupting button - the stop button - is pressed.

Kids' IQ

Sam has written a statement in Scratch and he wants to repeat the statement at least 10 times. Suggest him the block by which he can complete this task.

.....

Let's Recall

- The light blue colour-coded sensing blocks are among the eight categories of Scratch blocks used to sense the keyboard.
- The category of Operators group blocks of basic arithmetic operations, logical operation and various functions.
- A variable is a name given to a place in the computer's memory.
- The if else block checks the condition between if .. then, if it is true then block place after if..then will execute. If it is false, then the blocks placed after else will be executed.
- In forever block, a set of instructions keep repeating until the interrupting button - the stop button - is pressed.



A. Fill in the blanks.

1. Sensing blocks are of colour.
2. Operator blocks are in shape.
3. When we click the mouse button, the sensing block responds.
4. The question is displayed in a on the screen.
5. blocks are used to solve mathematical equation.

B. Write 'T' for True statements and 'F' for False statements.

1. Sprites can react to our activities.
2. A variable is a name given to a place in the memory of the computer.
3. Stop all block stops the execution of a script.
4. Forever block repeats a set of instructions a specified number of times.
5. Say hello block is in Looks block category.

C. Match the following.

- | | |
|----------------------------|---|
| 1. Sensing blocks | Light-green colour |
| 2. Operator blocks | In Events blocks |
| 3. When Flag clicked block | Script execution stops for a specified time |
| 4. Wait block | Light-blue colour |

D. Answer the following questions.

1. Write the steps to create a variable.
.....
.....

2. What do you mean by conditional statement?

.....

.....

3. What is the purpose of 'Sensing a Key'?

.....

.....

4. Why do we use variables?

.....

.....

5. What are sensing blocks? Explain any two.

.....

.....



Critical Thinking

Harmeet has created a program in Scratch and she wants her Sprite to repeat a set of instructions forever. Recommend her the block to accomplish the task.



Team Work

Learn how to use different blocks that are accessible in Scratch and their diverse functions.

1. What did you learn after the discussion?
2. Conclude your points as a project on a word file.



INTRODUCING MS EXCEL 2016



Learning Outcomes

At the end of this chapter, students will be able to:

- ◆ Know the features of Excel.
- ◆ Enter data and Perform calculations in a Worksheet.
- ◆ Learn types of data.
- ◆ Save a workbook.



Ram has got the marksheet for his first term examinations. He has to calculate his total marks. Help him to do the task.

| Subjects | Theory | Practical | Obtained | Total |
|----------------|--------|-----------|----------|-------|
| English | 79 | 18 | | 100 |
| Hindi | 75 | 19 | | 100 |
| Maths | 79 | 20 | | 100 |
| Science | 72 | 17 | | 100 |
| Social Studies | 65 | 15 | | 100 |
| Computer | 77 | 18 | | 100 |
| Total | | | | |




Teacher's Note:

Apprise the students that in the above activity, text and numbers have been organised in rows and columns which can be defined as a Spreadsheet. Also, inform them this task would have been very easily done in Microsoft Excel by applying simple formulas.



“Hello friends! Let’s learn about the MS Excel and its various type of data features. Let’s learn to enter them data into it.”

Microsoft Excel is a popular spreadsheet. A spreadsheet can be defined as text and numbers that have been organised in rows and columns. It is widely used to perform mathematical calculations. It also provides features such as formulas, functions and data analysis tools that make it easier to deal with a large amount of data.

 **Do You Know?**
Excel was the first software that introduced a toolbar.

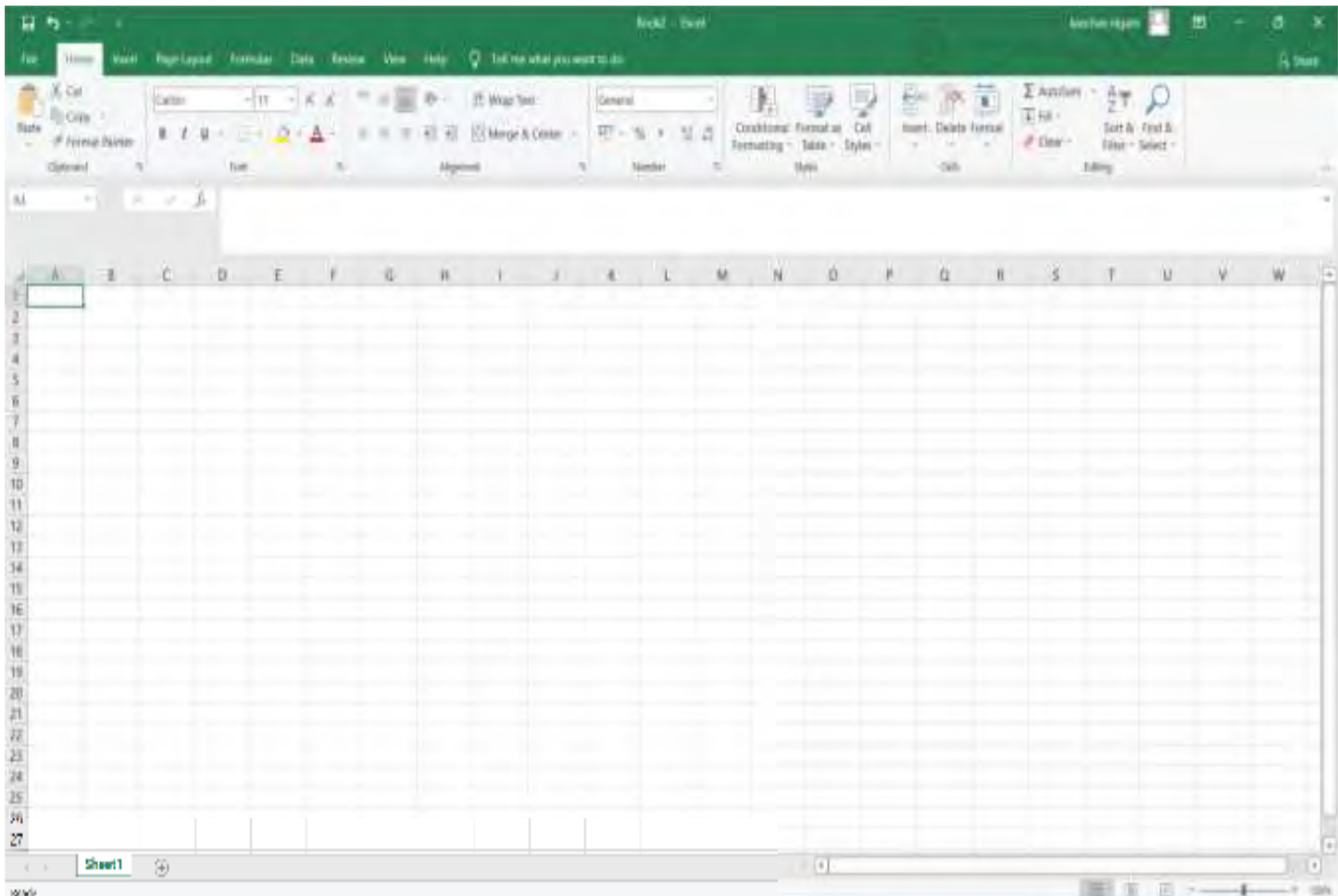


Figure 7.1: Microsoft Excel



FEATURES OF MS EXCEL 2016

- ❖ Excel has built-in formulas and functions to do calculations.
- ❖ Easy data entry and sorting of data.
- ❖ Searching and replacing data can be quick.
- ❖ When we make a change at one place in a worksheet, the entire spreadsheet is automatically recalculated.
- ❖ Data can be represented in charts and graphs for comparing the data effectively.
- ❖ By using the Auto Fill option, quick data entry can be done in a large series of cells.

Let us learn how to Start MS Excel 2016.

Starting Excel 2016

Follow the following steps to start MS Excel 2016.

1. Click on the Start button.
2. Scroll down to find Excel 2016.
3. Click on it.
4. The Excel 2016 window appears.

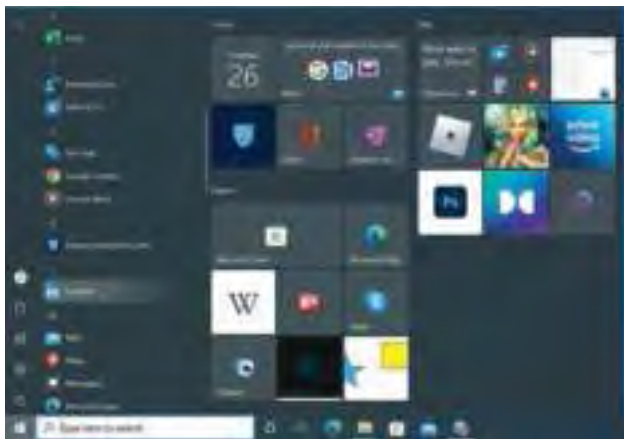


Figure 7.2: Starting Excel

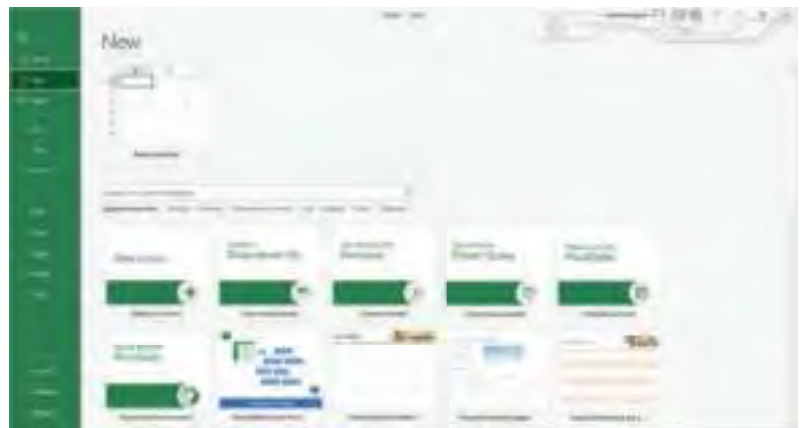


Figure 7.3: Excel Window



COMPONENTS OF MS EXCEL 2016 WINDOW

Cell

A cell is an intersection of rows and columns. It is the smallest unit in a worksheet and text, as well as numbers, can be written in it. Each cell has its unique cell address identified by its column letter and row number.



Let Me Answer

State the difference between a remote's cell and a cell in Ms Excel.



Figure 7.4: Cell

Worksheet

A worksheet in Excel is a collection of cells organised into rows and columns. A single worksheet has 1,048,576 rows and 16,384 columns.

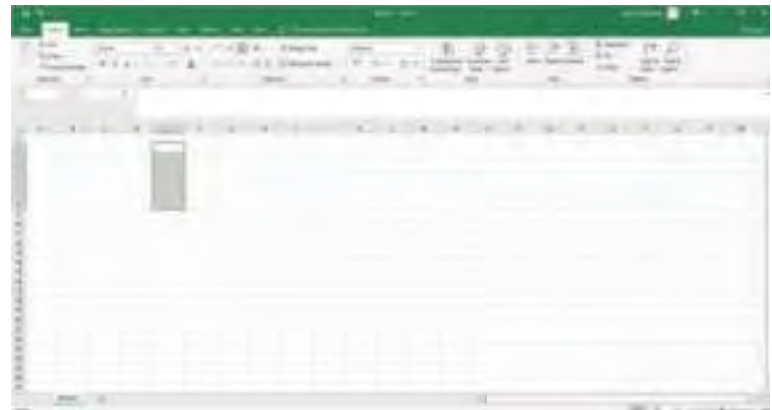


Figure 7.5: Worksheet

Workbook

An excel is called a workbook. By default, the file name of a new workbook is Book 1. There are many worksheets in a single workbook. We can edit, delete, hide and rename these worksheets.

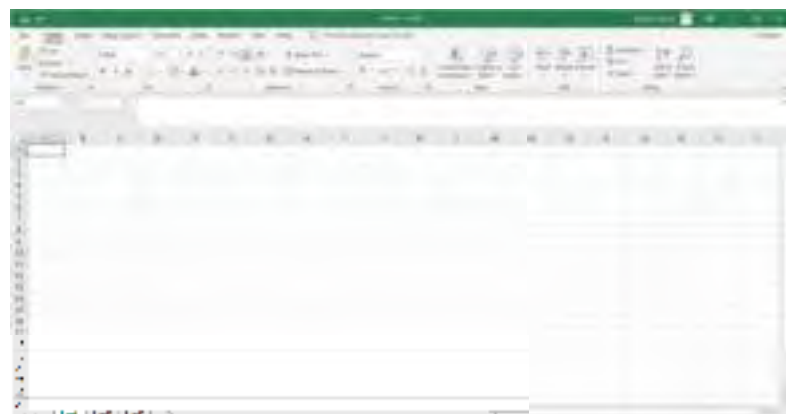


Figure 7.6: Workbook

Components of a Worksheet

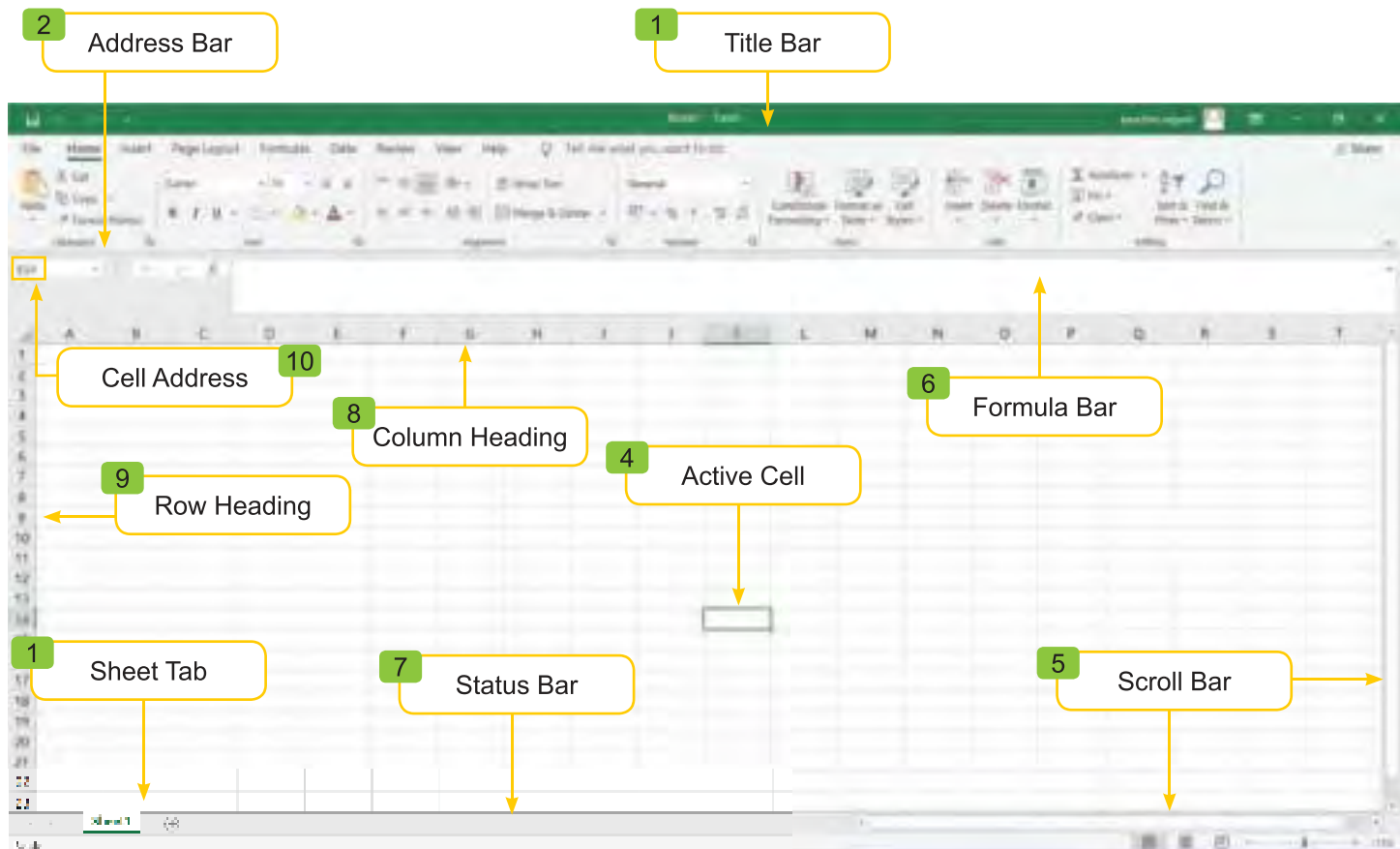


Figure 7.7: Excel Worksheet Layout

- 1. Title Bar:** Located at the top of the Excel window, it displays the name of the currently opened Workbook.
- 2. Address Bar:** It shows the address of the active cell.
- 3. Sheet Tab:** It is present at the bottom left side of the Excel window. It shows the number of worksheets in a workbook and the active sheet. By default, the names of the worksheets are sheet 1, sheet 2 and so on.
- 4. Active Cell:** The cell which is currently selected and surrounded by a thick black border. The data can be typed into an active cell only.
- 5. Horizontal Scroll Bar and Vertical Scroll Bar:** They are used to scroll the worksheets up and down or left and right to view the entire sheet.
- 6. Formula Bar:** The contents of the active cell is shown here. Data or formulas can be typed or edited in the formula bar.
- 7. Status Bar:** It is present at the bottom of the Excel window. It displays the name of the selected command or status information.

8. **Columns Heading:** Vertical section of the table which is numbered with alphabetic values such as A, B, C AND SO ON. Each column has its identification with its column number such as A1, A2,..and so on.
9. **Rows Heading:** Horizontal section of the table which is numbered with numeric values such as 1,2,3... and so on.
10. **Cell Address:** Cell Address shows the column letter and row number of each cell. For example, D3 is the cell address referring to the cell with column D and row 3.

REMEMBER IT!



Microsoft considered many other names before finally landing on Excel. Other serious considerations were “Mr. Spreadsheet” and “Master Plan”.



CREATING A NEW WORKSHEET

Follow the following steps to create a New Worksheet.

1. Click on the File tab. A backstage view appears.
2. Click on New, and a blank workbook will be displayed with Sheet 1 as Default Worksheet.



Figure 7.8: Workbook



DATA ENTRY

Follow the following steps to enter the data in MS Excel.

1. Click on the cell.
2. Type the text or numbers.
3. Press the Enter key.



TYPES OF DATA

Three types of data can be entered in a Microsoft Excel Worksheet.

- 1. Numbers:** Values that have numerals from 0 to 9 and the characters like +,-,! and many more. These can be used in calculations. By default, numbers are right aligned in a cell.
- 2. Text:** Text can contain data like alphabets, numbers, spaces and special characters. It is not used in calculations. By default, the text is left aligned in a cell.
- 3. Formulae:** It is a mathematical equation which calculates the value of the cell. They can range from basic calculations to complex calculations. Remember: Formulae begin with an equal to (=) sign

Doing Calculations in a Worksheet

The most efficient feature of MS Excel is to perform calculations by creating formulae. Formulas perform mathematical calculations on the data values stored in a worksheet. The result of the calculation is displayed in the cell where the formula is entered.

| Operation | Symbol | Operator |
|-------------|--------|---------------|
| Addition | + | Plus |
| Subtraction | - | Minus |
| Multiply | * | Asterisk |
| Divide | / | Forward Slash |

We can use simple or complex mathematical formulas or formulae in Excel.

In the example given below, formulae will be applied to do the addition of values. Formula = (C3+D3+E3) and press enter. Formula is entered in cell F3.

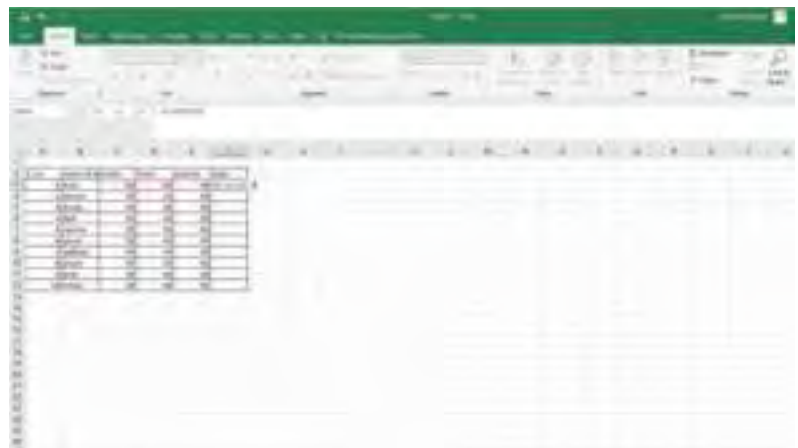


Figure 7.9: Excel Formula



SAVING A WORKBOOK

Follow the following steps to save a workbook.

1. Click on the File tab.
2. Select the option Save or Save As.

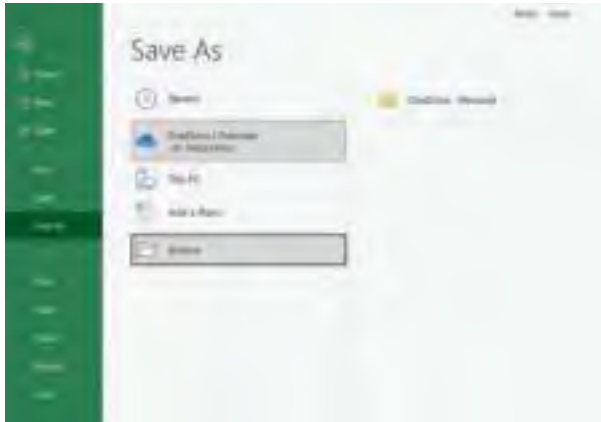


Figure 7.10: Browse Option



Figure 7.11: Save As Dialog Box



OPENING A WORKBOOK

Follow the following steps to open a saved workbook.

1. Click the File tab.
2. Click the Open option, and the open dialogue appears.



Figure 7.12: Open Option

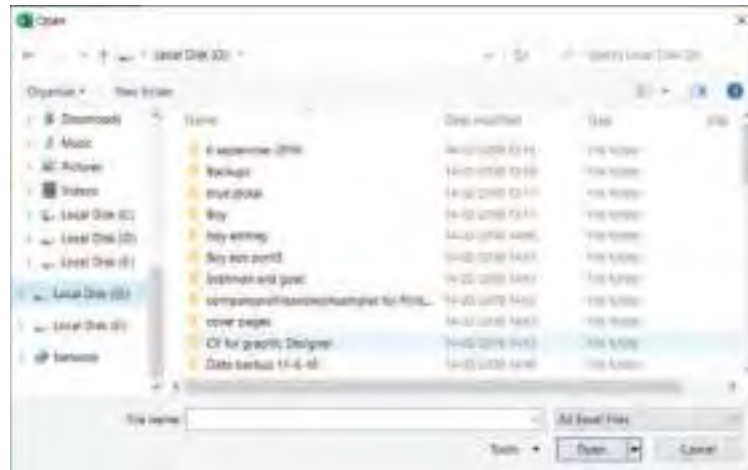


Figure 7.13: Open Dialog Box

3. Browse and navigate to the folder to open the saved workbook.
4. Select the file and click on the Open button.



CLOSING A WINDOW

Follow the following steps to close the Workbook.

1. Click the File tab.
2. Click on the close option.
3. The current workbook will close.

The above steps will close the workbook, but to close the Excel window click on exit or press Alt + F4.



Figure 7.14: Closing a Workbook



Kids' IQ

Raman has to enter the formula for calculating the marks. He doesn't remember the sign he needs to add before writing the formula. Suggest him the sign by which he can use.



Let's Recall

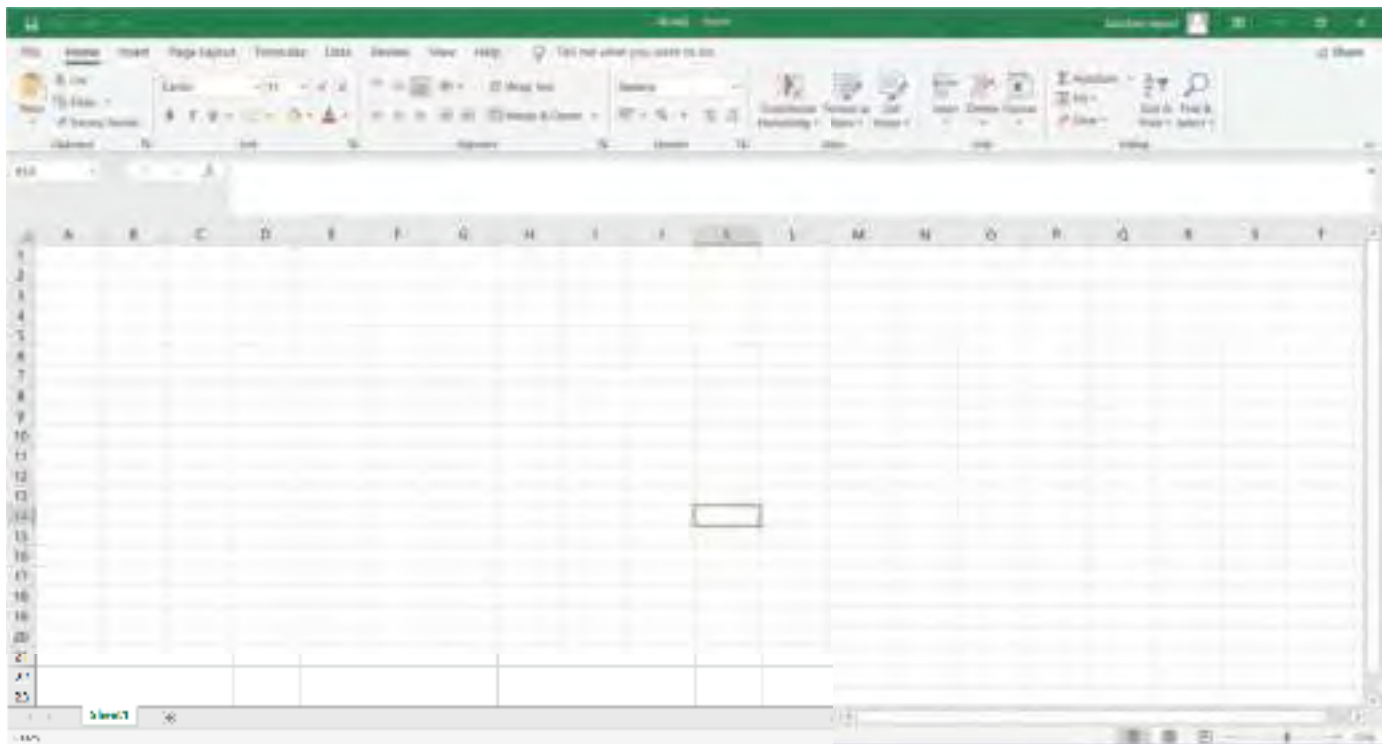
- A cell is an intersection of rows and columns.
- A worksheet in Excel is a collection of cells organised into rows and columns.
- An excel is called a workbook.
- By default, the text is left aligned in a cell.
- The most efficient feature of MS Excel is to perform calculations by creating formulae.



A. Fill in the blanks.

1. Microsoft Excel is a popular
2. Excel has built-in formulas and functions to do
3. A cell is an intersection of and
4. A single worksheet has rows and columns.
5. The cell which is currently selected and surrounded by a thick black border is called

B. Label the components of the MS Excel Window.



C. Write 'T' for True statements and 'F' for False statements.

1. Formulae is a mathematical equation which calculates the value of the cell.
2. Two types of data can be entered in a Microsoft Excel worksheet.
3. There is a single worksheet in a workbook.
4. The file in excel is saved with an extension .xlsx.
5. To close the Excel window, we press Alt + F3.

D. Answer the following questions.

1. Write any three features of MS Excel 2016.

.....
.....

2. Write the components of a worksheet. Explain any three.

.....
.....

3. Explain the types of data entered in a Microsoft Excel worksheet.

.....
.....

4. How can we save a workbook?

.....
.....

5. What is a cell?

.....
.....



Critical Thinking

Shobhit has entered the name of the students from cell B1 TO B6. Now, he is unable to recognise the column heading. Help him in identifying the column heading in the cell range B1 to B6.



Team Work

Find out your stationery expenses on a daily basis and represent it in MS Excel for two months. Calculate the total expenses in a week and a month.



Take your turn and play the game.

Full form of
RAM

Tiles which
show frequently
updated
information.

Denoting a
character above
the baseline.

It helps us to
improve our
vocabulary by
providing a list of
synonyms.

It consists of the
main document
and a data source.

An area on a
slide enclosed by
dotted borders.

Four types of
animations.

A name given
to a place in the
computer's memory.

In which app a
formula starts with
equal '=' sign?



Reach the highest level.

The direction in which a document is displayed.

In this construct, step by step instructions is followed.

I am WWW

I provide faster and easier data entry and sorting of data.