AETOMIC ENERGY EDUCATION SOCIETY

COMPUTER SCIENCE STUDY MATERIAL

FOR CLASS V

Computer Science Syllabus for Class V

Lesson	Title/Topic of the lesson	No. of Periods
1.	Computer Fundamentals ➢ Block diagram of a computer ➢ Computer Memory ➢ I/O Devices	7
2.	Computer Languages ➢ Introduction ➢ Types of Languages ➢ Language processors	6
3.	Networks ➢ Introduction ➢ Components of Network ➢ Advantages ➢ Types of Networks	8
4.	HTML ➢ Introduction ➢ History of HTML ➢ Uses of HTML ➢ Structure of HTML ➢ HTML Tags ➢ Simple HTML Programs	8
5.	Power Point Presentation-Introduction ➢ Introduction to PowerPoint ➢ Uses of Power Point ➢ Features of PowerPoint ➢ File Menu commands ➢ Creating Presentation with design theme	7
6.	Power Point Presentation-Advanced ➢ Formatting Presentations ➢ Working with slides ➢ Inserting graphics ➢ Working with objects ➢ Changing Views ➢ Animation effects	8

7.	QBasic–Part-1 ➢ Introduction ➢ Working with QBasic ➢ Character Set ➢ Constants ➢ Variables ➢ Operators ➢ Expressions	8
8.	QBasic–Part-2 ➢ QBasic Commands ➢ PRINT,REM,CLS,INPUT,LET ➢ Built-in Functions ➢ IF statement ➢ Simple Programs	8
Total Number of periods		60

Content

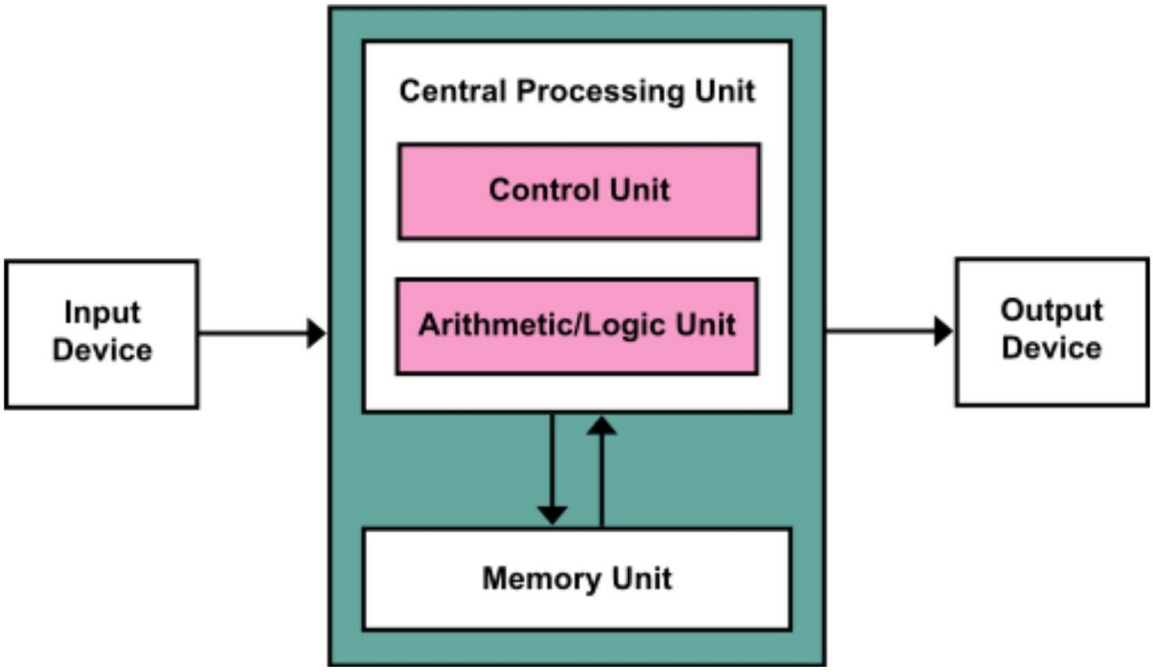
Chapter 1

COMPUTER FUNDAMENTALS

Learning Objective:

- **Student will learn basic diagram of computer**
- **Student will learn various input output and peripheral devices**
- **Basic of computer memory**

Basic components of Computer



Input Unit

The devices which are used to input the data and programs in the computer are known as "Input Devices". The input unit accepts instructions and data from the user and converts these instructions and data in computer acceptable format which are sent to computer system for processing.

Keyboard: Keyboard is most common input device. The data and instructions are input by typing on the keyboard. The message typed on the keyboard reaches the memory unit of a computer. It is connected to a computer via a cable. Apart from alphabet and numeral keys, it has other function keys for performing different functions.

Mouse: It is a pointing device. The mouse is rolled over the mouse pad, which in turn controls the movement of the cursor in the screen. You can click, double click or drag the mouse. Its sensor notifies the speed of its movements to the computer, which in turn moves the cursor/pointer on the screen.

Scanner: Scanners are used to enter information directly in to the computer memory. This device works like a Xerox machine. The scanner converts any type of printed or written information including photographs into digital pulses, which can be manipulated by the computer.

Track Ball: Track ball is similar to the upside- down design of the mouse. The user moves the ball directly, while the device itself remains stationary. The user spins the ball in various directions to effect the screen movements.

Light Pen: This is an input device which is used to draw lines or figures on a computer screen. It is touched to the CRT screen where it can detect raster on the screen as it passes.

Optical Character Reader (OCR): It is a device which detects alpha numeric characters printed or written on a paper. The text which is to be scanned is illuminated by a low frequency light source. The light is absorbed by the dark areas but reflected from the bright areas. The reflected light is received by the photocells.

Bar Code Reader: This device reads bar codes and coverts them into electric pulses to be processed by a computer. A bar code is nothing but data coded in form of light and dark bars.

Voice Input Systems: It converts spoken words to machine language form. A microphone is used to convert human speech into electric signals. The signal pattern is then transmitted to a computer when it is compared to a dictionary of patterns that have been previously placed in a storage unit of computer. When a close match is found, the word is recognized.

Digital Camera: It converts graphics directly into digital form. An electronic chip in used in camera, when light falls, on the chip though the lens, it converts light waves into electrical waves.

Output Unit

Output Device produces the final results of computer into human understandable form. Output unit accepts the results produced by the computer which are in coded form and it converts these coded results to human readable form.

Monitor: The monitor looks like a television screen. It is also called Visual Display Unit (VDU) and it is used to display information from the computer. There are coloured as well as black and white monitors. The monitor displays text and graphics. Based on the technology used, monitor is classified into two types. They are Cathode Ray Tube (CRT) monitor and Liquid Crystal Display (LCD) monitor.

Printer: A printer is used for transferring data from the computer to the paper. There are colour printers as well as black and white printers. The different types of printers are Dot Matrix Printers, Inkjet Printer and Laser Printers.

Touch Screen: A touch screen is a display screen that is sensitive to human touch. It allows the user to interact with the computer by touching pictures or words displayed on the screen. Touch screens are used to display the output information on the screen as well as to give input by touching the words or pictures on the screen. Thus it is an input/output device. Touch screens are normally used when information has to be accessed with minimum effort.

Plotter: Plotter is very large in size and is used to produce graphical output on papers. It uses single or multi-colour pens to draw pictures as blue print, posters etc

Storage Unit

The data and instructions that are entered into the computer system through input units have to be stored inside the computer before the actual processing starts. Similarly, the results produced by the computer after processing must also be kept somewhere inside the computer system before being passed on to the output units. The Storage Unit or the primary / main storage of a computer system is designed to do all these things. It provides space for storing data and instructions, intermediate results and for the final results.

Memory is primarily of three types

- Cache Memory
- Primary Memory or Main Memory
- Secondary Memory

Central Cache Memory: Cache memory is a very high-speed semiconductor memory which can speed up CPU. It acts as a buffer between the CPU and main memory. It is used to hold those parts of data and program which are most frequently used by Central Processing Unit (CPU)

Primary Memory (Main Memory): Primary memory is also known as main memory. It holds only those data and instructions on which computer is currently working. It has limited capacity and data is lost when power is switched off. It is generally made up of semiconductor device.

The main unit inside the computer is the CPU. This unit is responsible for all events.

Primary memory can be divided into RAM (Random Access Memory) and ROM (Read Only Memory).

RAM	ROM
Random Access Memory.	Read Only Memory.
It is Volatile or temporary memory.	It is Non Volatile or permanent memory
Data gets erased when power supply off.	Data stored permanently.
Faster memory.	Slow memory.
It is used in the normal operations of a computer after starting up and loading the operating system.	A ROM chip is used primarily in the start-up process of a computer.

Secondary Memory

It is also known as external memory or non-volatile memory. It is slower than main memory. These are used for storing data or information permanently. For example: hard disk, CD-ROM, DVD etc.

Inside the computer. It consists of Control Unit and Arithmetic and Logic unit. The CPU is the brain of any computer system. In a human body, all major decisions are taken by the brain and the other parts of the body function as directed by the brain. Similarly, in a computer system, all major calculations and comparisons are made inside the CPU and it activates and controls the operations of other units like Hard disk, Printer etc. of a computer system.

Arithmetic and Logic Unit (ALU): The arithmetic and logic unit (ALU) is the part where actual computations take place. It consists of circuits that perform arithmetic operations (e.g., addition, subtraction, multiplication, division over data received from memory and capable to compare numbers (less than, equal to, or greater than etc.).

Control Unit: The control unit acts as a central nervous system for the components of the computer. It manages and coordinates the entire computer system. It obtains instructions from the program stored in main memory, interprets the instructions, and issues signals that cause other units of the system to execute them. The control unit directs and controls the activities of the internal and external devices.

Exercise

I. Answer the following questions

1. Draw the block diagram of a computer.
2. List a few input devices.
3. List a few output devices.

II. Fill in the blanks.

1. The _____ is the part where actual computations take place.
2. The control unit acts as a _____ for the components of the Computer.
3. Memory is primarily of three types_____, _____ and _____.
4. _____ is a pointing device.
5. _____ is similar to the upside- down design of the mouse.

Chapter 2

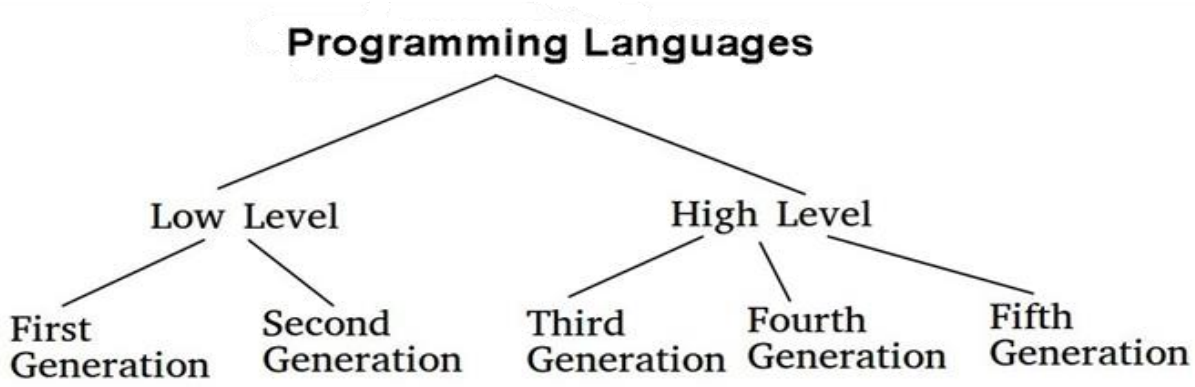
Computer Language

Learning Objective:

- **Student will learn about different type of computer programming language**
- **Student will learn about various type of software**

A language is defined as the medium of expression of thoughts. All the human beings in this world communicate with each other by a language. Similarly, computer also needs some expression medium to communicate with each other's.

A computer follows the instructions given by the programmer to perform a specific job. To perform a particular task, programmer prepares a sequence of instructions, known as program. A program written for a computer is known as Software.



1)First Generation Languages -1GLs (Machine language):

When the human being stared programming, the computer the instructions were given to it in a language that it could easily understand is called as machine language. The binary language of 1 and 0 is known as Machine language. Any instruction in this language is given in the form of 1s and 0s.

2) Second Generation Languages- 2GLs (Assembly Language):

The first language similar to English was developed in 1950 which was

known as Assembly Language or Symbolic Programming Languages. An assembly language is a low-level programming language for microprocessors (CPU) and other programmable devices.

3)Third Generation Languages- (3GLs) (High Level Languages):

The languages developed which were nearer to the English language in 1960 were known as High Level languages. The different high-level languages are FORTRAN, COBOL, BASIC, PASCAL, PL-1 and many others.

4) Fourth Generation Languages- (4GLs) (Query languages):

The 3GLs are procedural in nature means HOW the problem get programmed and the procedures require the knowledge of HOW the problem will be solved. .4GLs are non-procedural that focuses on WHAT of the problem is coded means 'WHAT is required'. The main aim of 4GLs is to be cut down on developed and maintenance time and making it easier for users. Example of 4GL is SQL (Structured Query Language).

5) Fifth Generation Language-(5GLs):

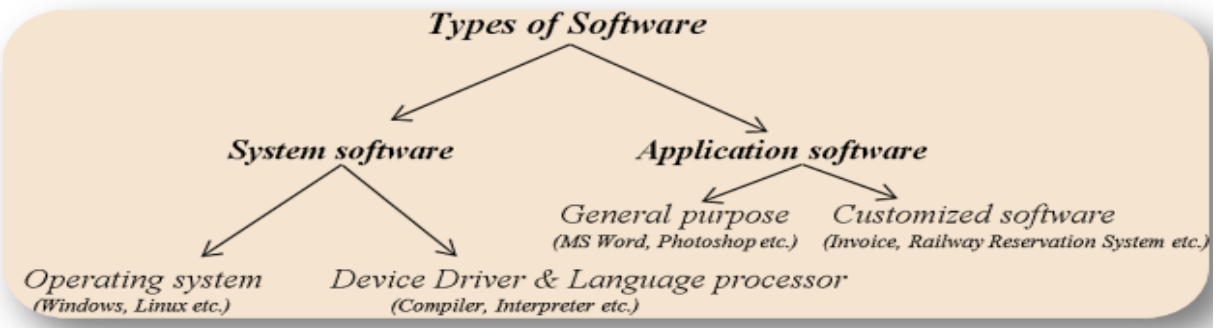
The 5GLs are designed to make the computer "Smarter". The use of 5GLs language touches on expert systems, computerized collection of the knowledge of many human experts, artificial intelligence and independently smart computer systems. Examples of 5GL are Prolog, OPS5 and Mercury.

Graphical User Interface (GUI) based languages: These are the languages which use a Graphical User Interface to write, compile & execute the program with ease. Some of them are

- Visual Basic
- Visual C++
- C# (Pronounced as C sharp)
- Visual Basic.NET

- Visual Basic 2005

Software: Computer software also called program is a set of instructions that directs a computer to perform specific tasks or operations. Computer software consists of computer programs and libraries.



System software: Software that directly operates the computer hardware to provide basic functionality needed by users and other software and to provide a platform for running application software. System software includes:

Operating system (OS): Operating system manages resources of computer system like memory, CPU, hard disk, printer etc. also provides an interface between user and computer system & provides various services to other software.

Language Processor & Device drivers: All the devices like mouse, keyboard, modem etc needs at least one corresponding device driver. A device driver is a program that controls a device. A language processor is a hardware device designed or used to perform tasks, such as processing program code to machine code. Language processors are found in languages such as Fortran and COBOL .

Application software: Software that performs special functions or provides entertainment functions beyond the basic operation of the computer itself. There are many different types of application software.

- General purpose: Microsoft Word, Microsoft Excel, MS PowerPoint, Photoshop etc.
- Customized: Invoice Management System, Airline Reservation System etc.
- Utilities: Antivirus, Memory tester, Disk partitioning and Disk defragmenter etc.

Exercise

I. Answer the following questions

1. List the different generation of programming languages.
2. What is a high-level language? Give examples.
3. List types of application software.

II. Fill in the blanks

1. The binary language of 1 and 0 is known as _____.

2. 4GLs are non-procedural that focuses on _____ of the problem.

3. Operating system (OS): Operating system manages resources of _____.

Chapter 3

Networks

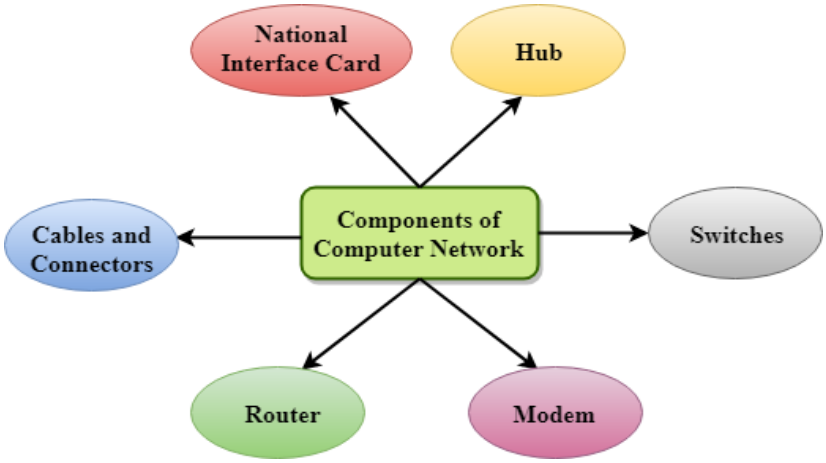
Learning Objective:

- **Student will learn about Network and type of Network**

What is a Computer Network?

Computer Network is a group of computers connected with each other through wires, optical fibers or optical links so that A computer network allows computers to exchange data, Information and share resources. The connections between computers (nodes) are established using either cable media or wireless media. Various devices can interact with each other through a network.

Components Of Computer Network:



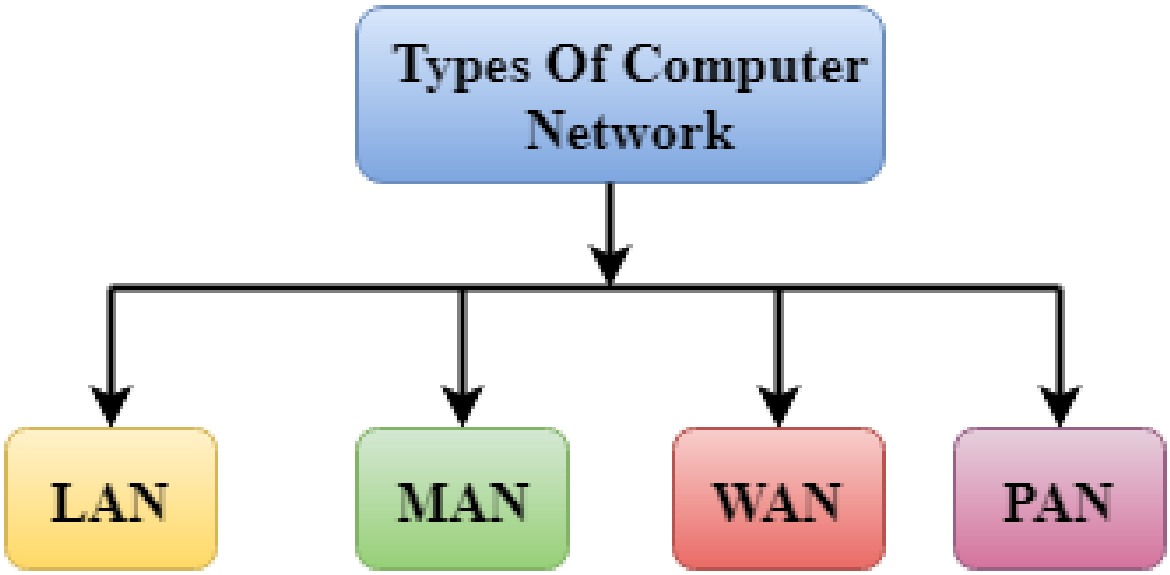
In the case of computer network technology, there are several types of networks that vary from simple to complex level.

Advantages of Computer Networking

- It enhances communication and availability of information.
- It allows for more convenient resource sharing.
- It makes file sharing easier.
- It is highly flexible.
- It is an inexpensive system.
- It increases cost efficiency.

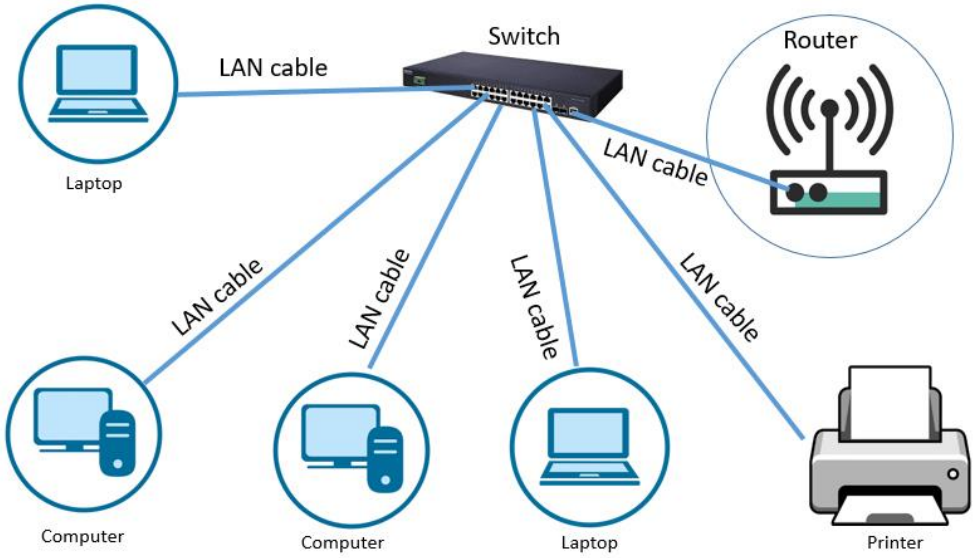
- It boosts storage capacity.

Types of Networks:



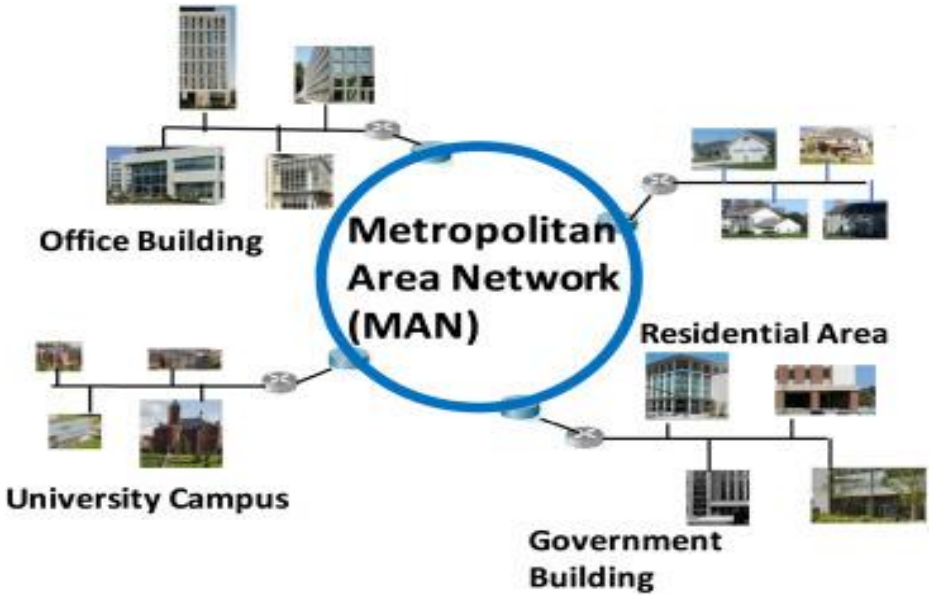
There are many types of computer networks, including the following:

- **Local-Area Network (LAN):** The computers are connected in a building or office.

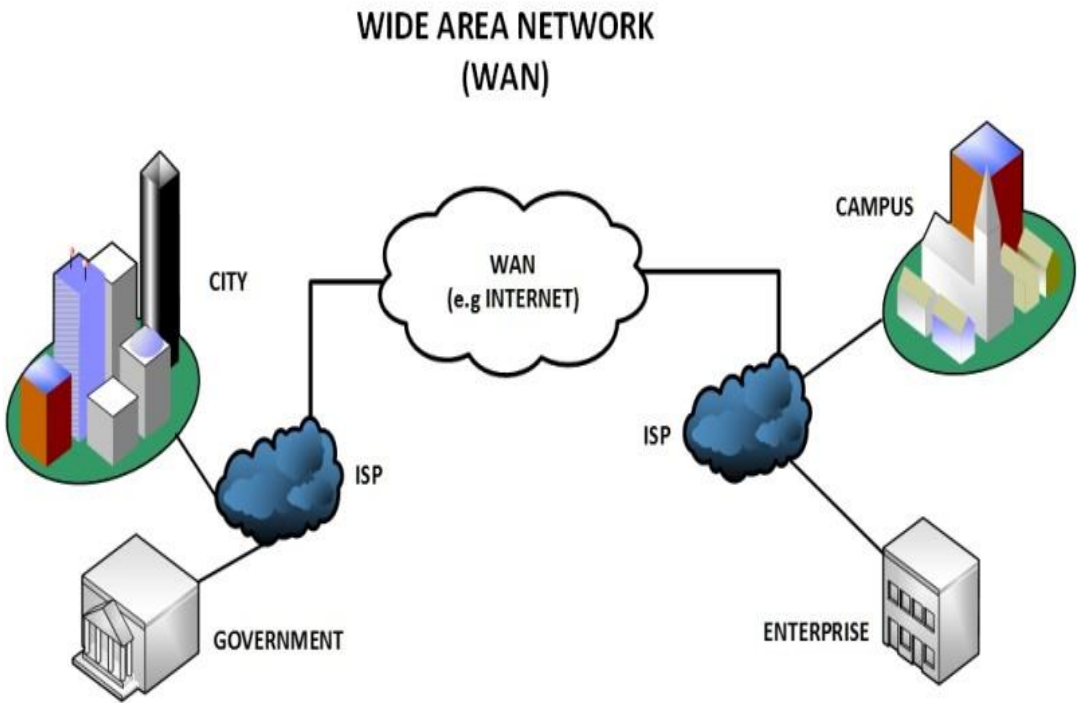


Local Area Network

- **Metropolitan-Area Network (MAN):** A network designed for a town or city.



- **Wide-Area Network (WAN):** The computers are connected by telephone lines or radio waves across country or continent.



- **Personal Area Network (PAN):** A network contained within a user's home that connects a person's digital devices.

Internet

Internet is a collection of computers connected by network cables or through satellite links. Internet is a network of networks. It is also known as Super Network. There are millions of computing devices that are connected to this network either permanently or for a short duration. These devices run network applications that communicate through copper or fiber optic cables, radio or satellite transmission.

Exercise

I. Answer the following.

1. Name the different types of networks.

2. List the components of computer network.

3. List any two advantages of computer networking.

II. Fill in the blanks.

1. Computer Network is a group of computers connected with each other through _____, _____ or _____.

2. _____ is a collection of computers connected by network cables or through satellite links.

3. _____is also knows as Super Network.

Chapter 4

HTML

Learning Objective:

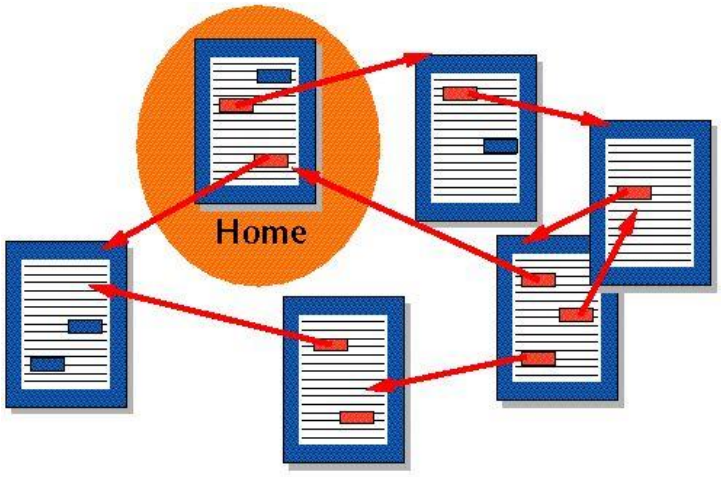
- **Student will learn about HTML and HTML file structure**
- **Student will learn how to create a simple webpage**

HTML is a computer language invented to allow website creation. The websites can then be viewed by anyone else connected to the Internet. It is relatively easy to learn, with the basics being accessible to most people in one sitting and quite powerful in what it allows you to create. HTML is used to build the websites or web-based applications.

Tim Berners-Lee and Robert Caillau at CERN, in 1989-1990 developed HTML as a simplification of SGML. There are several different version of HTML – HTML 1.0, 2.0, 3.2, 4.0, 4.01 – XHTML 1.0 and 1.1

HTML stands for Hyper Text Markup Language.

• **HyperText** is the method by which you move around on the web by clicking on special text called hyperlinks which bring you to the next page.



• **Markup** is what HTML tags do to the text inside them. They mark it as a certain type of text for example italicized text.

```
<HTML>
    <HEAD>
        <TITLE>Title of this Document</TITLE>
    </HEAD>
    <BODY>
        <H1>Main Document Header</H1>
        <A HREF="http://www.sdsu.edu/">Click here</A>
        <H2>Secondary Document Header</H2>
        Plain text
        <P>
        <BOLD>Bold text</BOLD>
    </BODY>
</HTML>
```

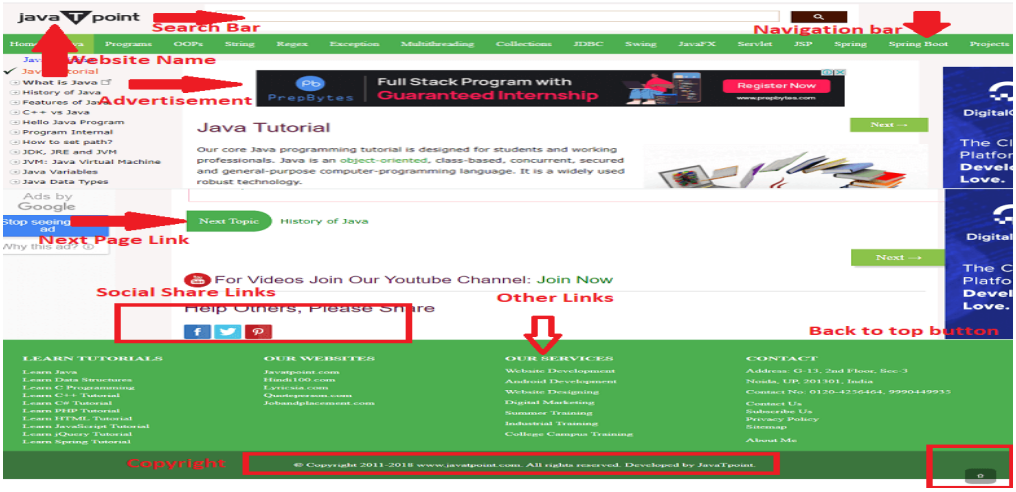
HTML consists of a series of short codes typed into a text-file called as tags. The text is then saved as html file, and viewed through a browser like Internet Explorer. This browser reads

the file and translates the text into a visible form, hopefully rendering the page as the author had intended.

Some of the most popular HTML editors, such as FrontPage or Dreamweaver will let you create pages more or less as you write documents in Word or whatever text editor you are using.

Uses of HTML

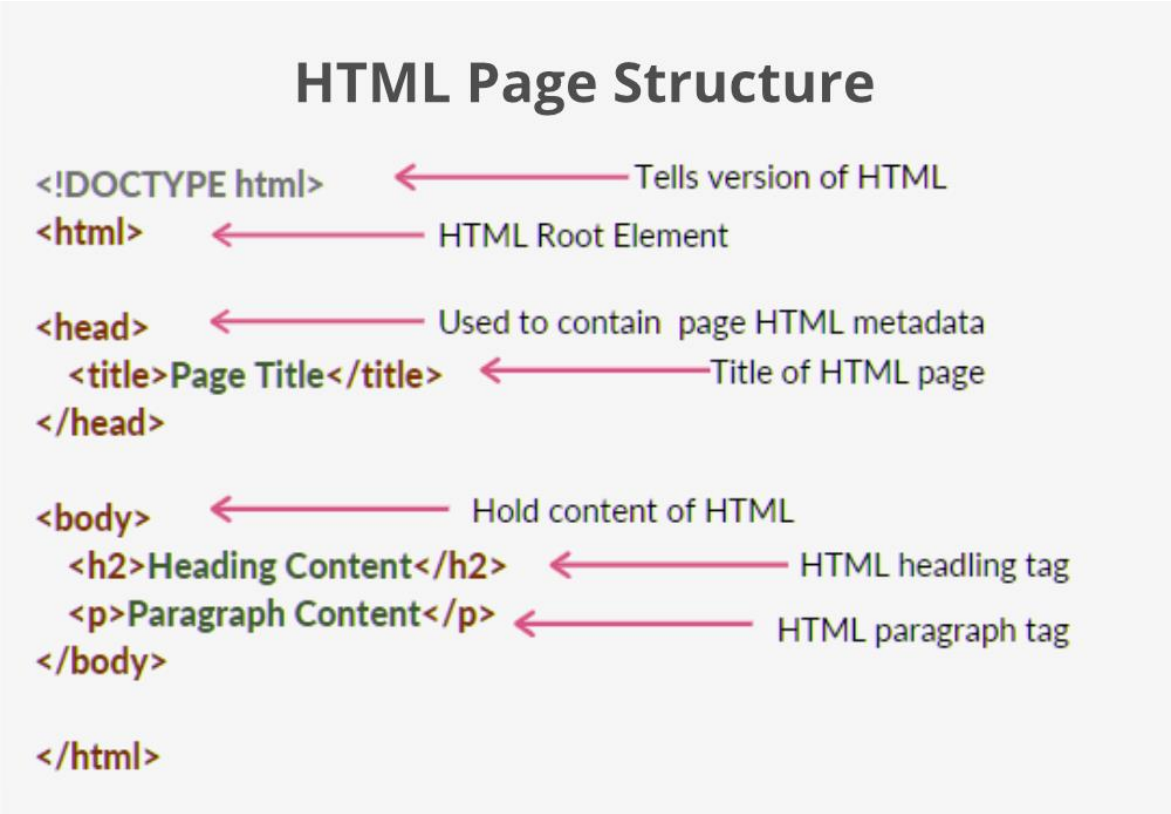
- HTML is mainly used to design webpages.



- It is also used to navigating the internet.
- HTML also allows you to not only embed images into a webpage.

Structure of an HTML

HTML tags are like keywords which defines that how web browser will format and display the content.



There are four sets of HTML tags that form the basic structure needed for every HTML file:

• <html></html>

This basically defines the document as web page. It also identifies the beginning and end of the HTML document. All other tags must fall between the html tags.

• <head></head>

The header contains information about the document that will not appear on the actual page, such as the title of the document, the author etc.

• <title></title>

The title tag defines the title that will appear in the title bar of your web browser. The title must appear between the head tags.

• <body></body>

The body tags contain all the information and other visible content on the page. All your images, links and plain text must go between the <body> and </body> tags.

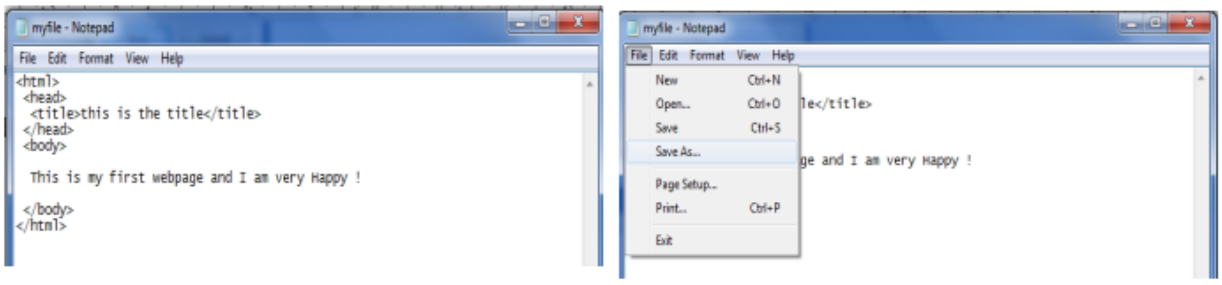
You may also be interested in the basic tags for adding content and headings.

Example:

Below is a basic html document. Notice that everything falls between the html tags, the title appears within the head of the document, and that the body comes after the head.

1. Open Notepad.

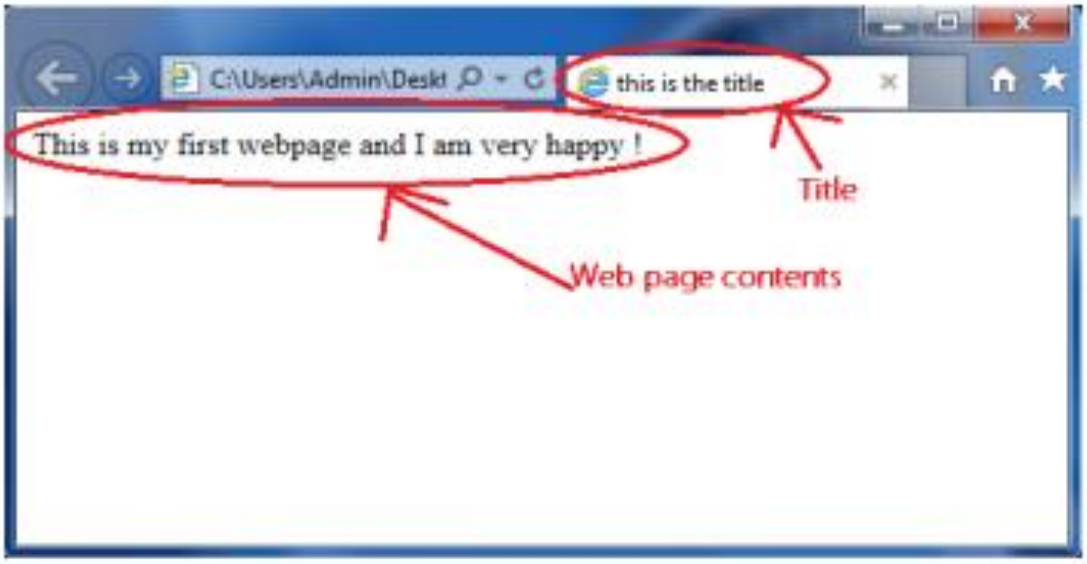
2. Type the HTML program as given below.



3. Click file->Save as

4. Select Desktop, type the file name as myfile.html and select All files in Save as type box and click on save. Your HTML file will be saved to desktop.

5. Double click on the file (as shown below) and your webpage is ready for display.



Empty tag and Container tag

A container tag has two ends (an opening and a closing) whereas an empty tag doesn't.

The paragraph tag is an example of a container tag:

Our paragraph text here.

The image tag is a good example of an empty tag.

<img src="aeeslogo.png" >

See how the initial paragraph tag (<p>) has a corresponding end tag? The text in between is "contained" by the tag.

The majority of tags are "container" tags. They have an opening and a closing tag.

However, a few tags are "self-contained" or "empty" tags in that they have an opening tag but not a closing one.

They common ones are:

-
 = break
- <img> = image
- <meta> = metadata within an HTML document.

Exercise

I. Fill in the blanks

1. Extension of a HTML file is……

2. Predefined command in HTML is knows as……

3. HTML is a ……language.

4. All HTML programs must have……tag the begging of program.

5. The ……contains information about the document that will not appear on the actual page.

6. The …… tag must appear between the head tags.

7. The ……tags contain all the information and other visible content on the page.

8. A ……tag has an opening and a closing end.

9. A……tag doesn't have a closing end.

10……is an example empty tag.

II. Create a HTML page that contains your name, class, father's name, mother's name etc. Save this HTML file to Desktop and test the result.

Chapter 5

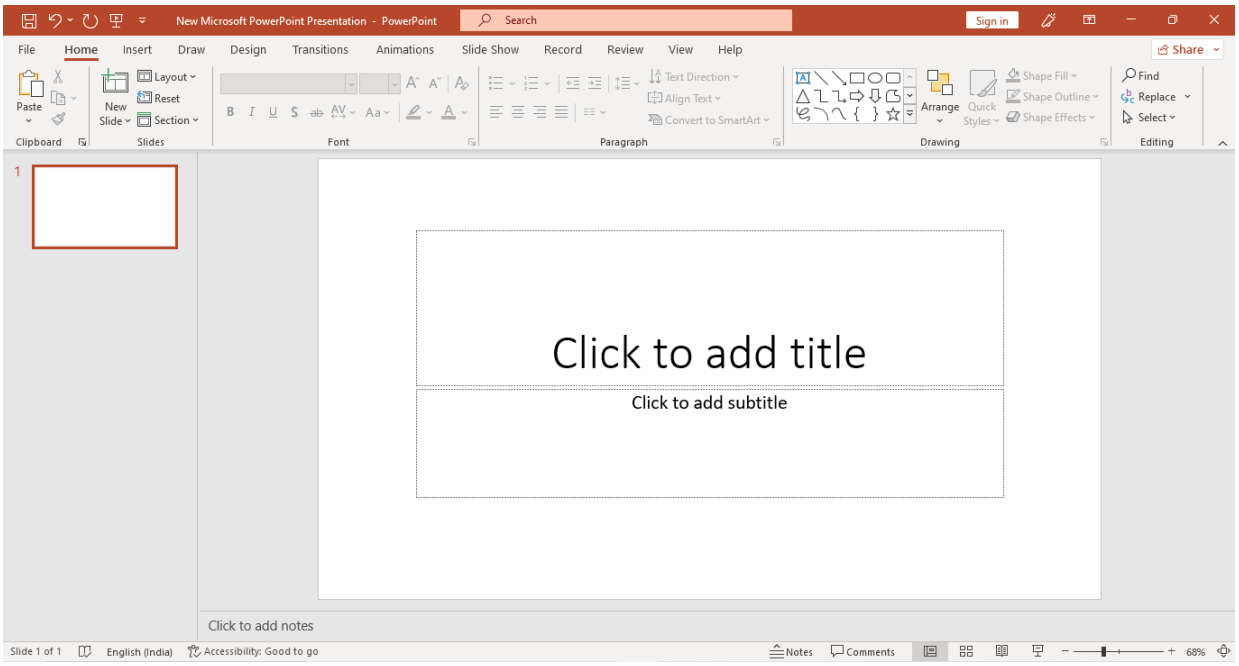
Power Point Presentation-Introduction

Learning Objective:

- **Student will learn about Power Point presentation**
- **Student will learn slide design and animation in Power point**

❖ Introduction to Power Point

- Power Point Presentation is an electronic slide show program that uses graphics, videos, etc. to make a presentation more interactive and interesting. We can create presentations using this program.
- A Power Point presentation comprising slides and other features is also known as PPT.
- The file extension of a saved Power Point presentation is ".ppt".



❖ Uses of Power Point

1. Power Point in Education

Teachers can use PowerPoint to teach subjects lessons and chapters of any book. They can create or delegate to produce a complete

presentation of a book. It gives the opportunity to the teacher to cover a topic in the different t slides.

2. Power Point in Business

Business is all about creating a plan, marketing strategies, execution, and making methods to follow and integrate. PowerPoint helps people in business to create a plan, structure related to the business or organization.

3. Power Point for Housewives

Housewives can easily invest their time in learning PowerPoint presentations. They can create slide shows in which they can generate numbers, calculations, alphabets, or all kinds of lessons they want to teach their kids in slideshows.

4. Power Point in Governance and Citizen Services

PowerPoint documents can be printed so whenever the citizen visits any government sector they can easily find or access government services through the file or document.

5. Power Point for Job Seekers

Through PowerPoint, job seekers can create digital resumes or multimedia resumes and it will become a unique way of presenting skills and knowledge in front of interviewers.

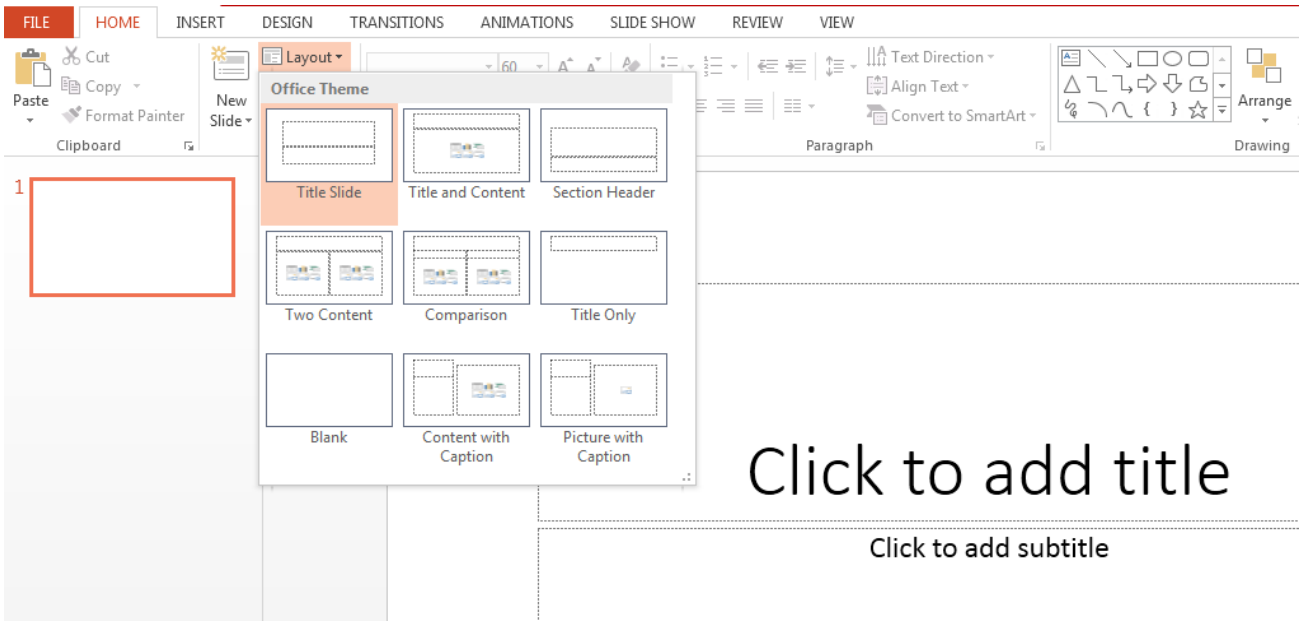
❖ Features of Power Point

There are multiple features that are available in MS PowerPoint which can customise and optimise a presentation. The same have been discussed below.

- **Slide Layout**

Multiple options and layouts are available based on which a presentation can be created. This option is available under the “Home” section and one can select from the multiple layout options provided.

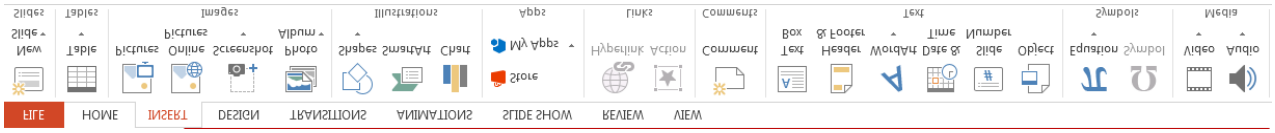
The image below shows the different slide layout options which are available for use:



- **Insert –** Clipart, Video, Audio, etc.

Under the “Insert” category, multiple options are available where one can choose what feature they want to insert in their presentation. This may include images, audio, video, header, footer, symbols, shapes, etc.

The image below shows the features which can be inserted:

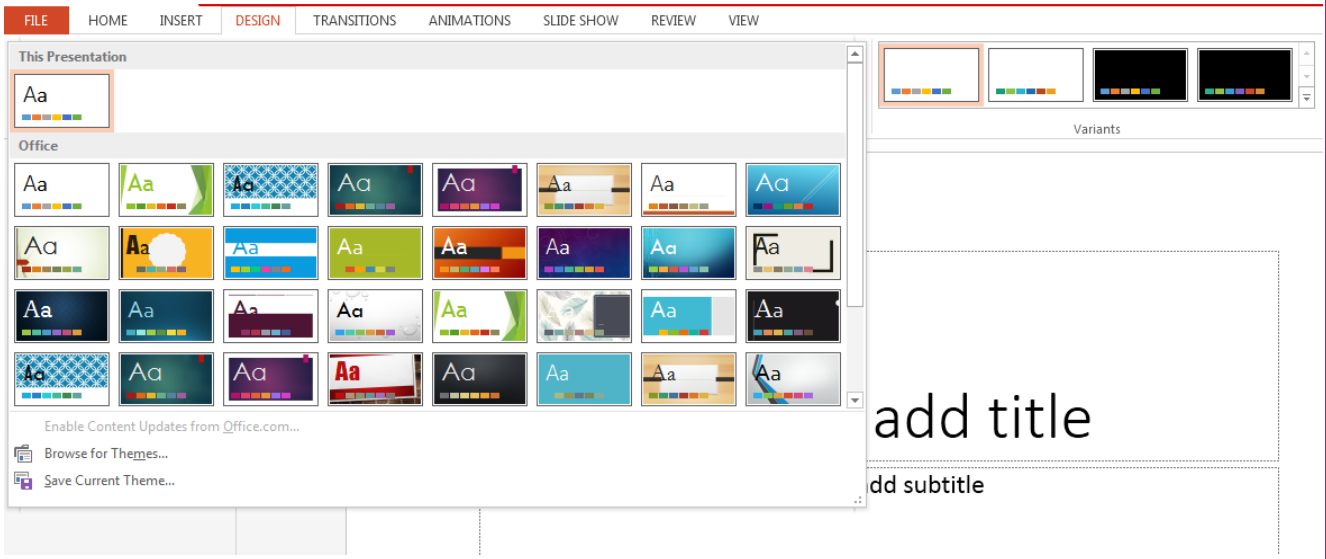


- **Slide Design**

MS PowerPoint has various themes using which background colour and designs or textures can be added to a slide. This makes the presentation more colourful and attracts the attention of the people looking at it.

This feature can be added using the “Design” category mentioned on the homepage of MS PowerPoint. Although there are existing design templates available, in case someone wants to add some new texture or colour, the option to customise the design is also available. Apart from this, slide designs can also be downloaded online.

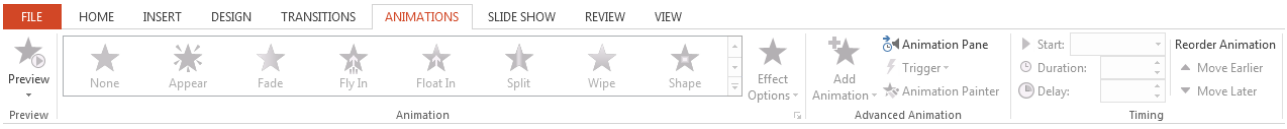
Refer to the below for slide design:



- **Animations**

During the slide show, the slides appear on the screen one after the other. In case, one wants to add some animations to the way in which a slide presents itself, they can refer to the “Animations” category.

The different animation styles available on PowerPoint are:



Apart from all these options; font size, font style, font colour, word art, date and time, etc. can also be added to a PPT.

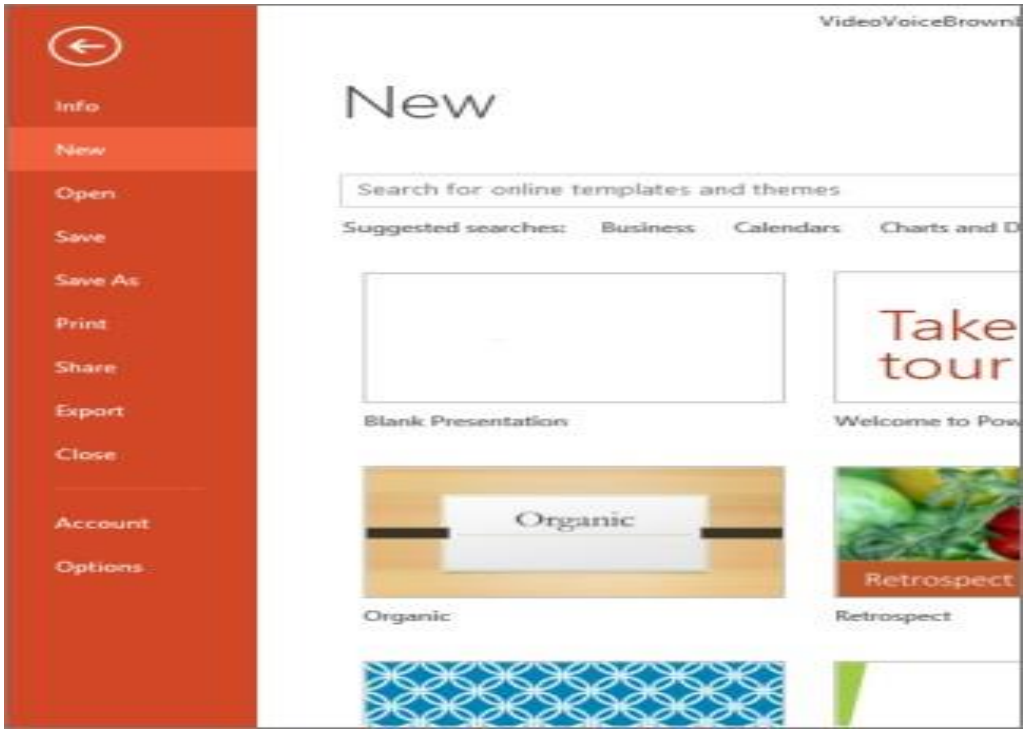
❖ File Menu commands

The File Menu:

At one end of the ribbon is the File tab, which you use for the behind-the-scenes stuff you do with a file, such as opening, saving, sharing,

exporting, printing and managing your presentation. Click the File tab to open a new view called the Backstage.

The options under the File menu are Info, Open, New, Save, Save As, Print, Share, Export, Close, Account and Options.



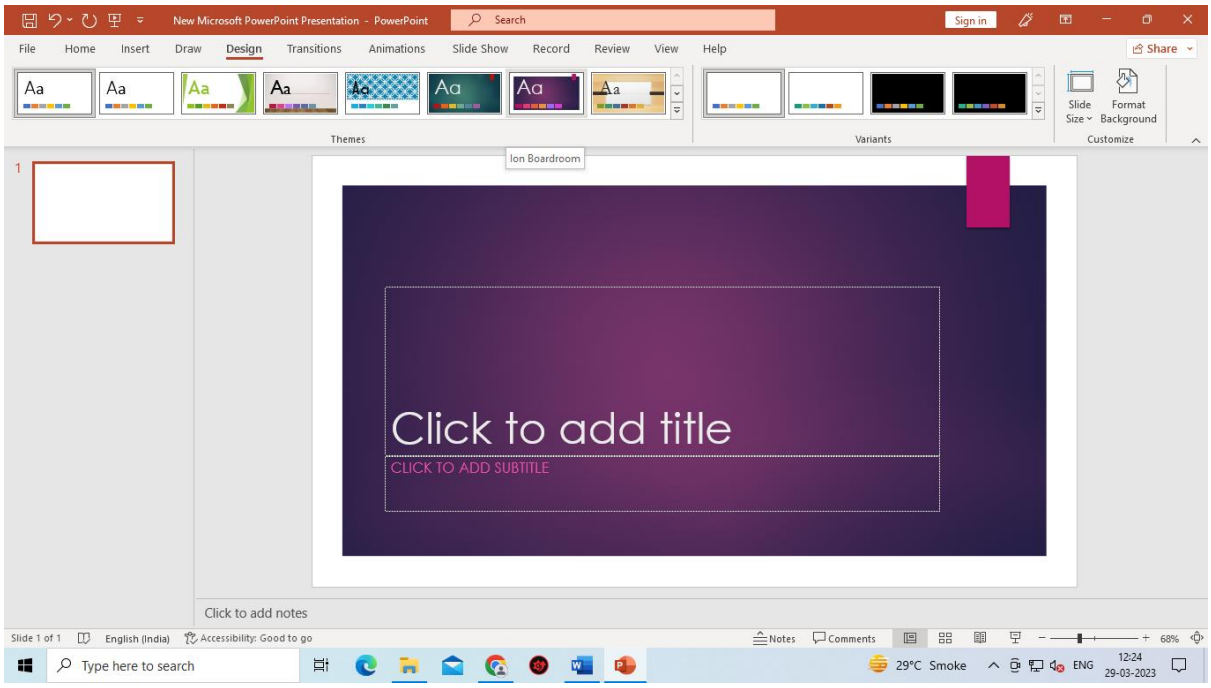
Click from the list on the side to do what you want to do; for example, click Print to find the options and settings for printing your presentation. Click Back to return to the presentation that you were working on.

❖ Creating Presentation with design theme

A theme is a design scheme of colours, fonts, and background that you apply to your slides.

Using a theme gives your presentation a pleasant appearance with minimal effort. Text and graphics automatically take on the size, colours, and placement defined by the theme, which means less manual work as you create individual slides.

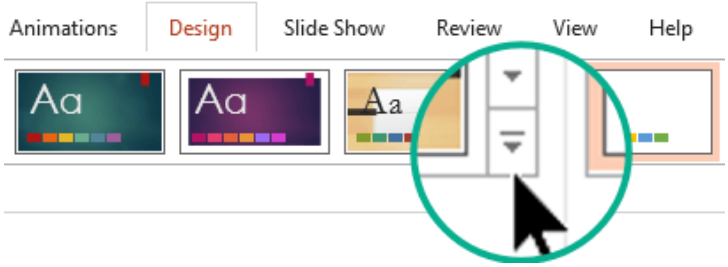
After you create a theme, it's located on the Design tab in the Themes gallery. To try out a theme, rest your mouse pointer over a thumbnail in the Themes gallery and notice how the look of your slide changes.



❖ To choose a theme for your presentation

PowerPoint offers several preset themes. They are on the Design tab of the Ribbon on the left side.

1. Open a slide. On the Design tab, point at a Theme thumbnail to get a preview of how it would affect the look of your slide.
2. To see the full gallery of themes, click the More button:



Test Your Knowledge

I. Choose the correct answer

1. _____ is a presentation program.

(A) U-torrent

(B) Mozilla Firefox

(C) MS PowerPoint

(D) Slide Panel

2. The file extension of a saved Power Point presentation is _____

(A) .docx

(B) .ppt

(C) .xlsx

(D) .accdb

3. Print option is visible in _____ menu.

(A) Insert

(B) View

(C) Home

(D) File

4. A _____ is a design scheme of colours, fonts, and background that you apply to your slides.

(A) insert

(B) theme

(C) view

(D) review

II. What are the uses of a Power Point Presentation?

Chapter 6

Power Point Presentation-Advanced

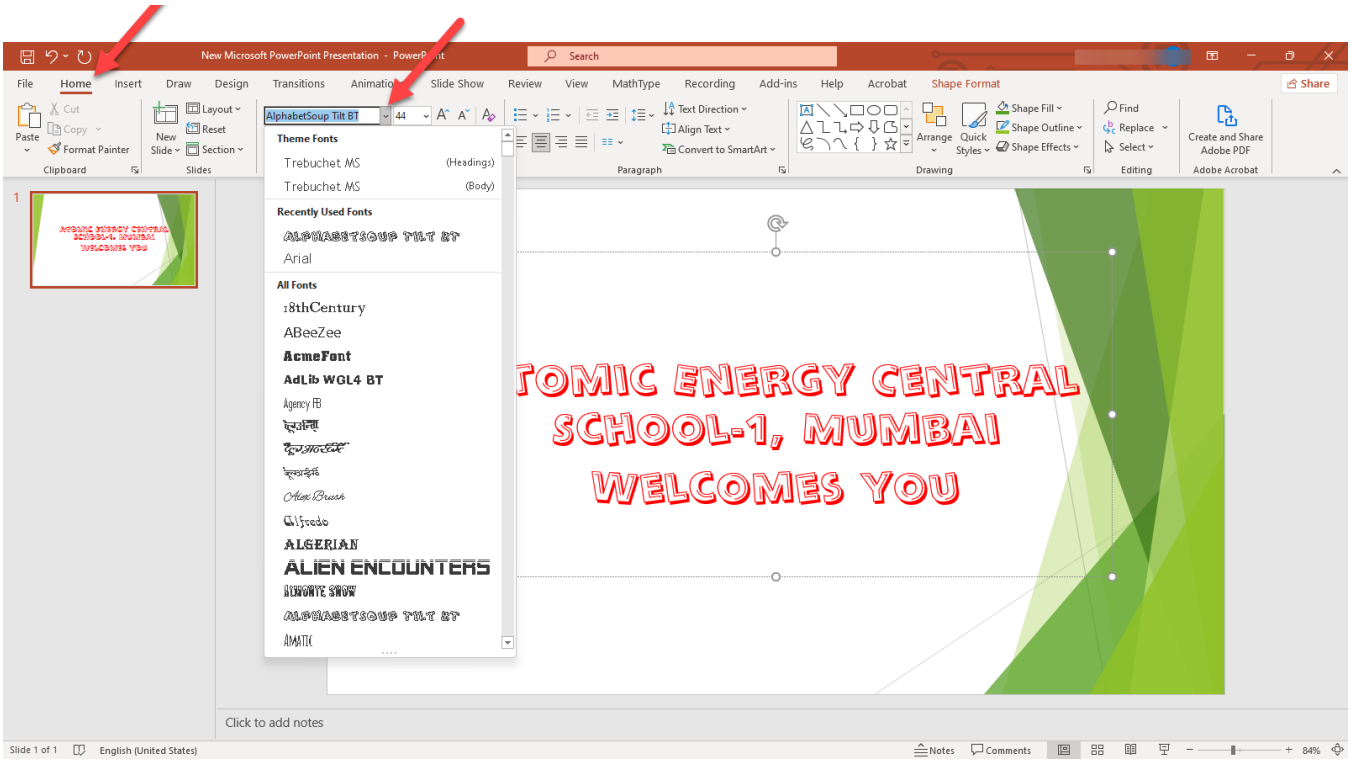
Learning Objective:

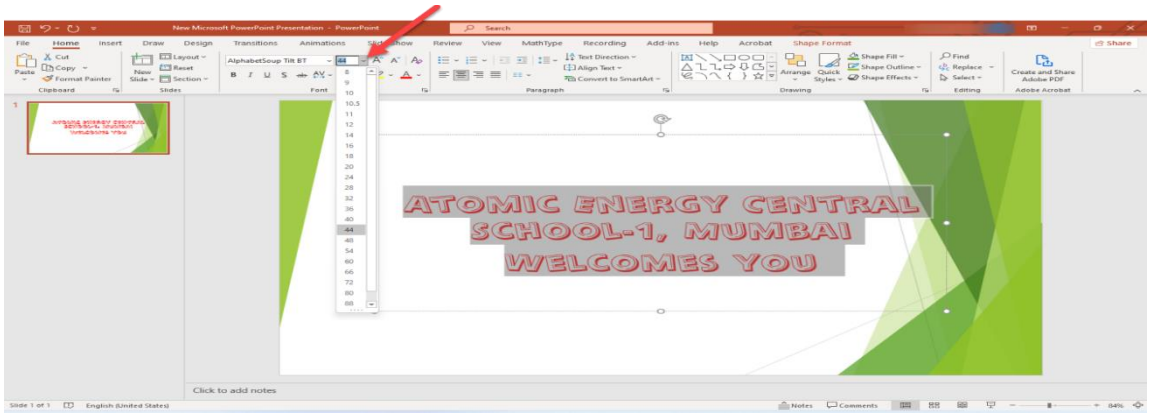
- **Create and manipulate simple slide with various formatting.**
- **Create slide presentations that include text, graphics, animation**
- **Learning various effect in animation of slide show**

❖ Formatting Presentations

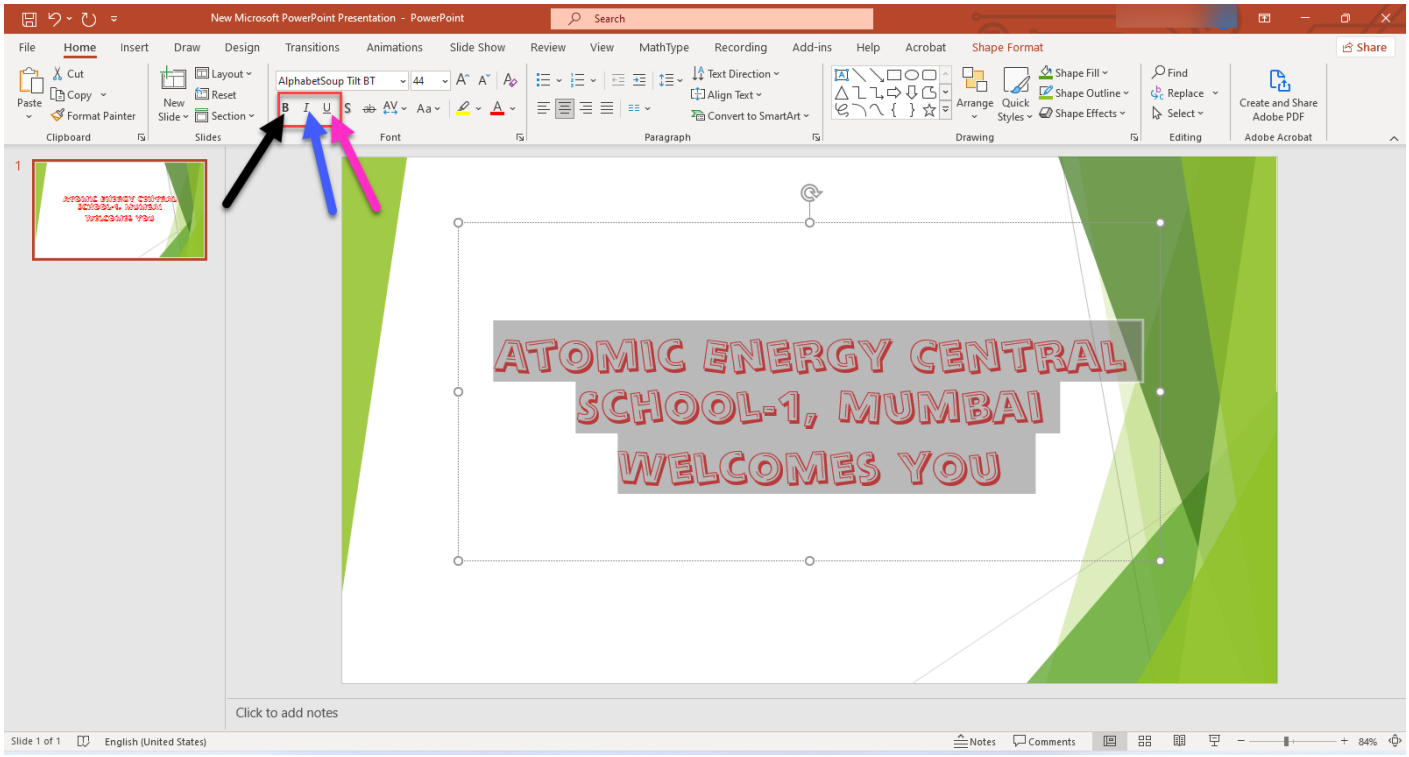
Formatting the Text

- Open your presentation in PowerPoint.
- Select the text you want to modify.
- On the Home tab, in the Font group, you'll find a lot of buttons and settings that you can use to customize and modify the text. This group contains everything related to the font and its styles.
- To change the font of a text, select it and click the Font drop-down arrow. You'll see a list of available fonts.
- Click the one you want to apply. The text will change accordingly.

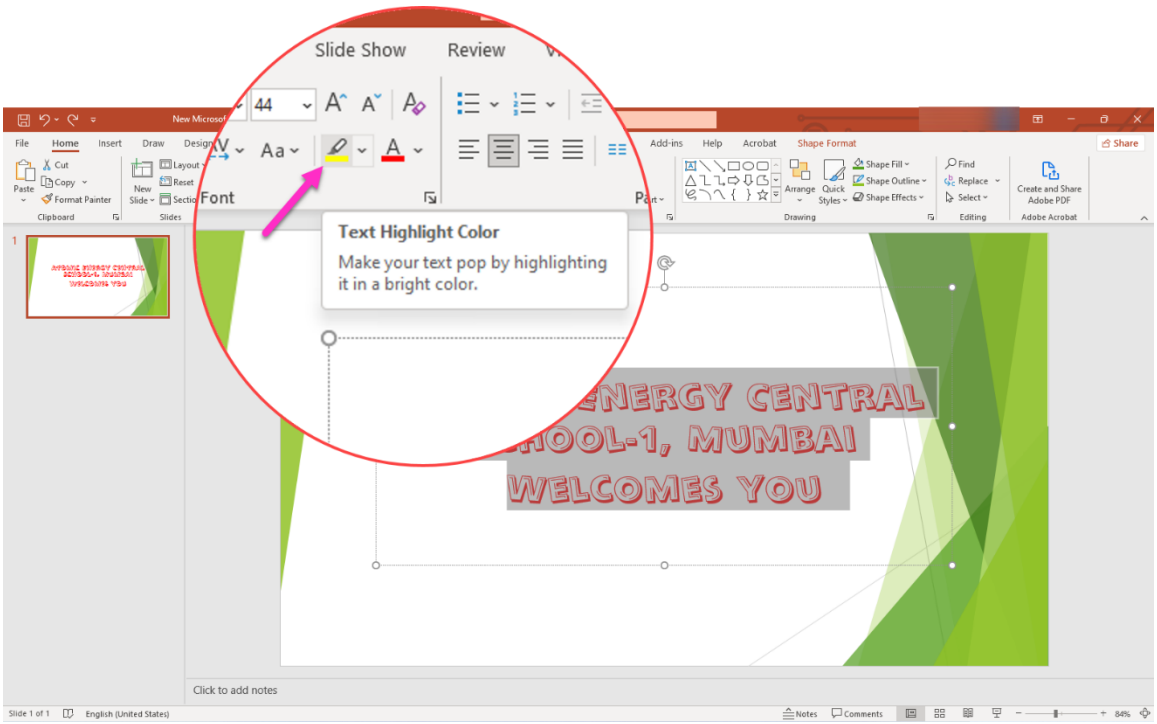


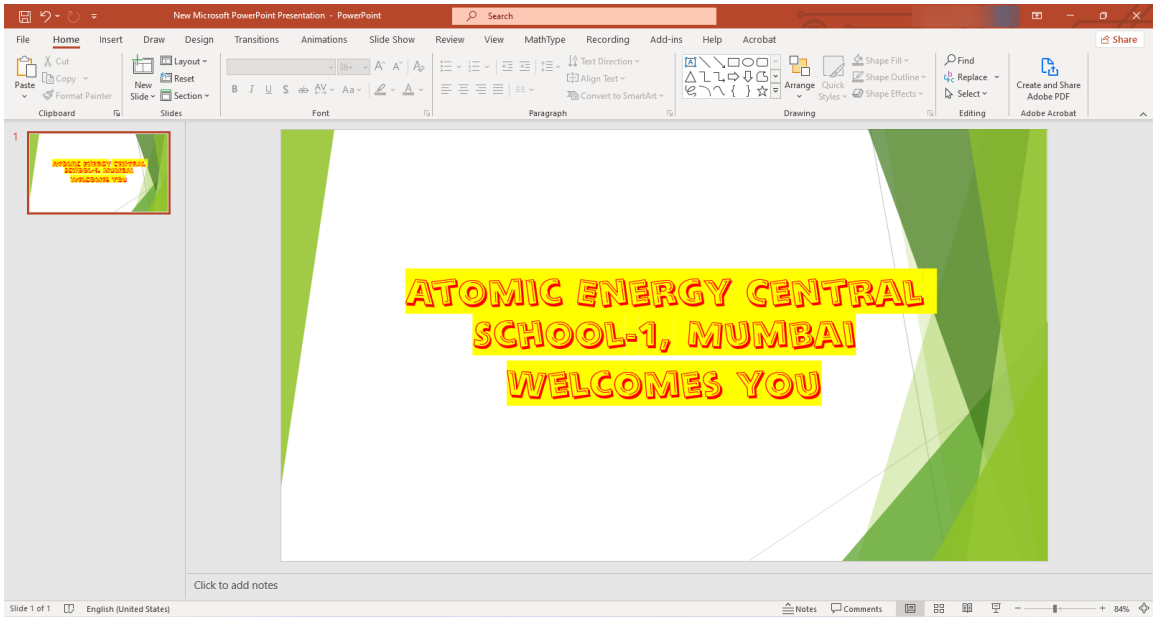


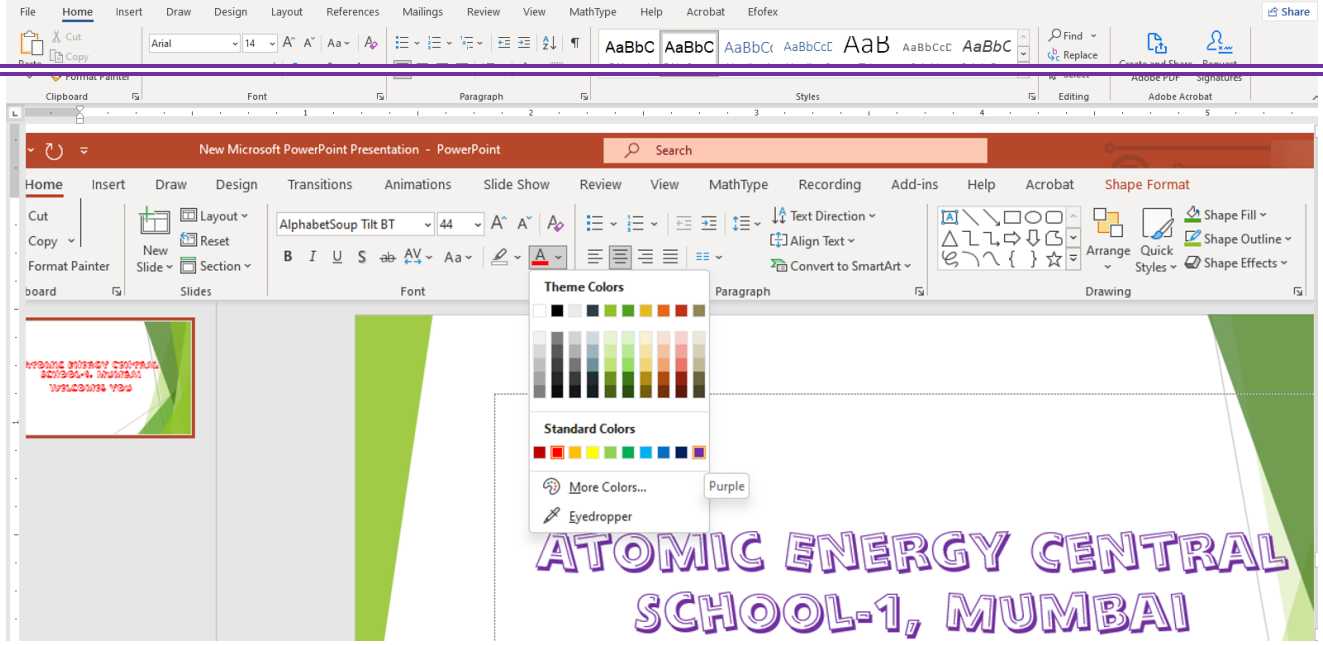
- Next, we have the Bold, Italic and Underline buttons.
- **Bold**is used for emphasis.
- *Italic* makes your text lean slightly to the right.
- <u>Underline</u> draws a line under your text, in case you want to highlight something.
- To apply any of these styles, select the text and click the corresponding button.



- Next, we have the Text Highlight Colour and Font Colour buttons.
- As their names suggest, the first one determines the Colour of the highlight and the second one determines the Colour of the text itself.
- It's easy to change any of them: select the text, click the arrow next to Text Highlight Colour or Font Colour and choose the desired Colour from the list.

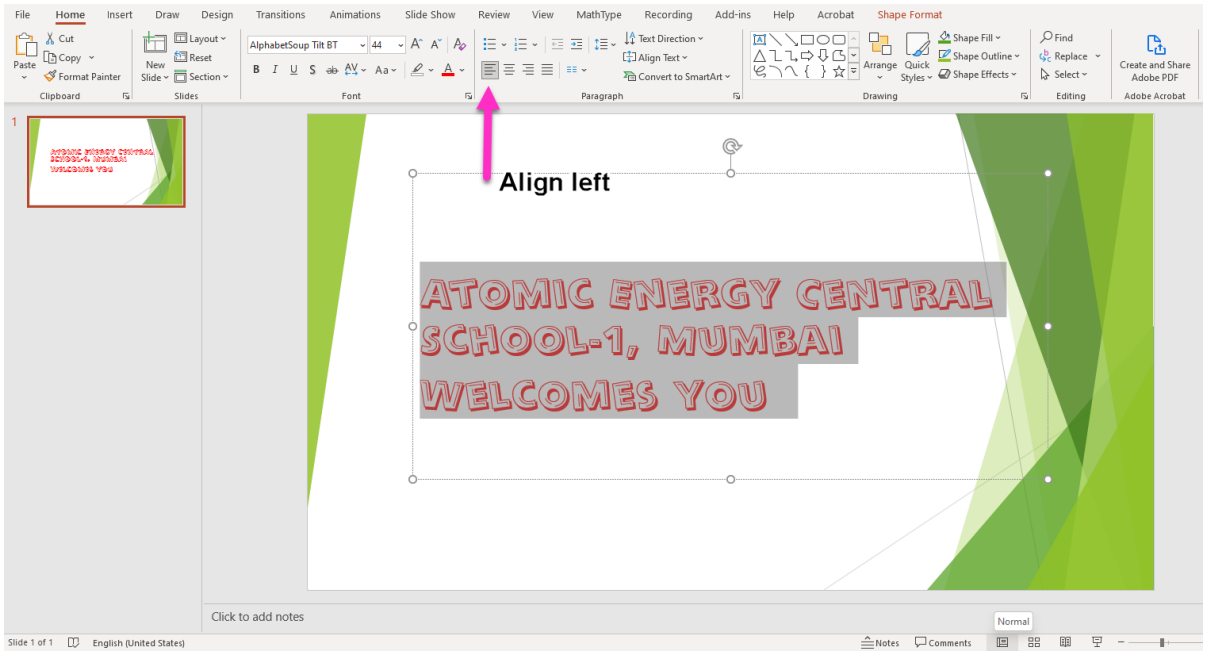


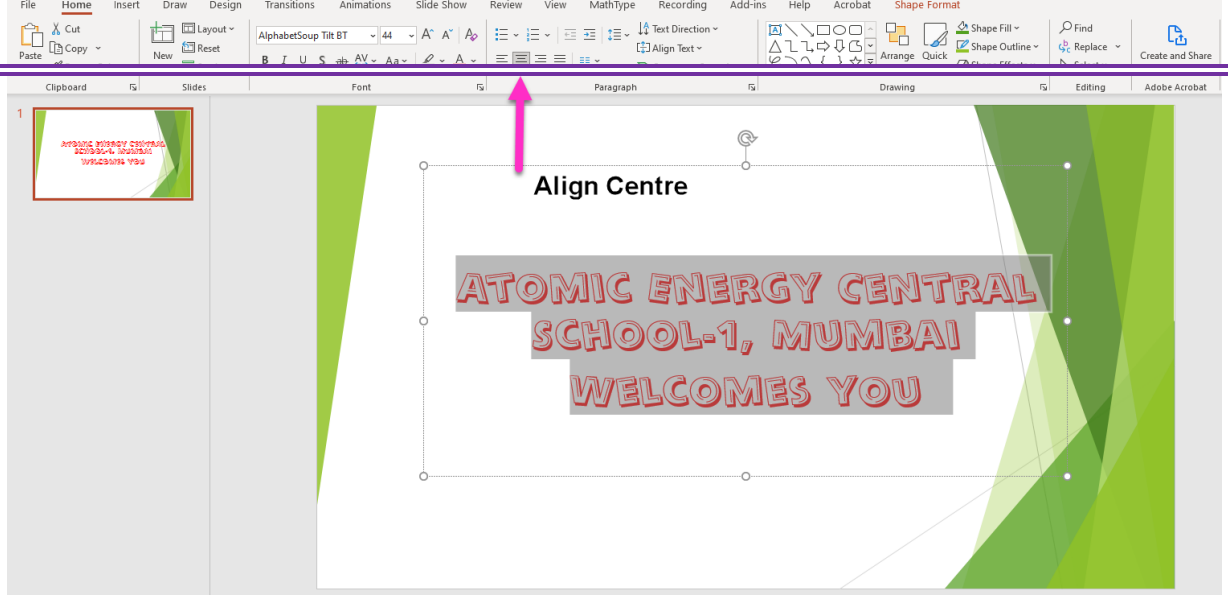


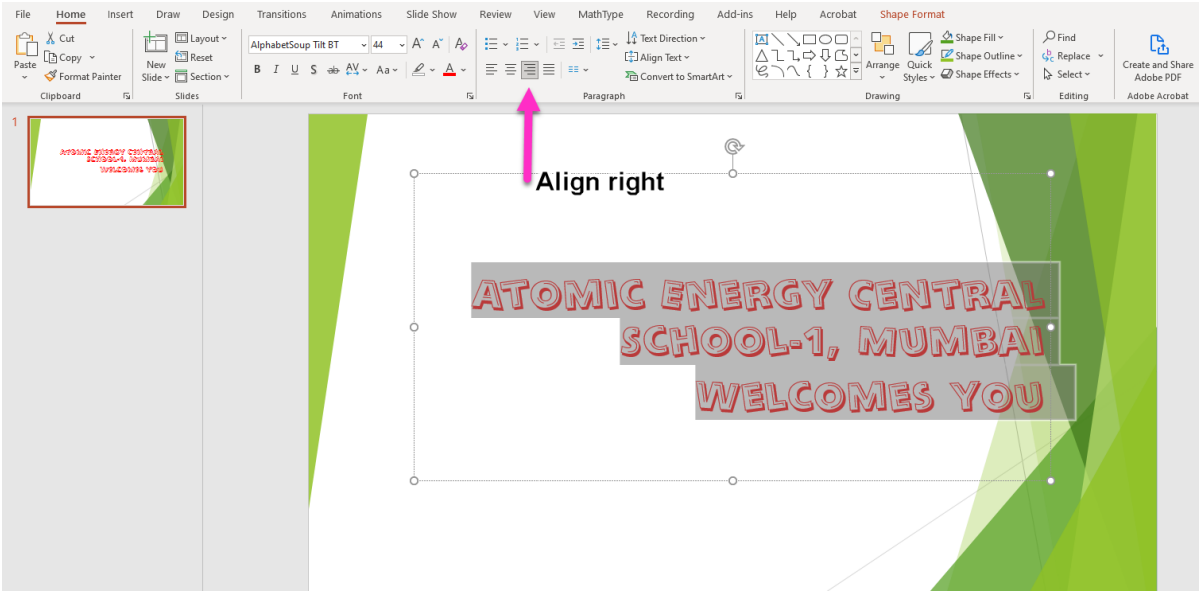


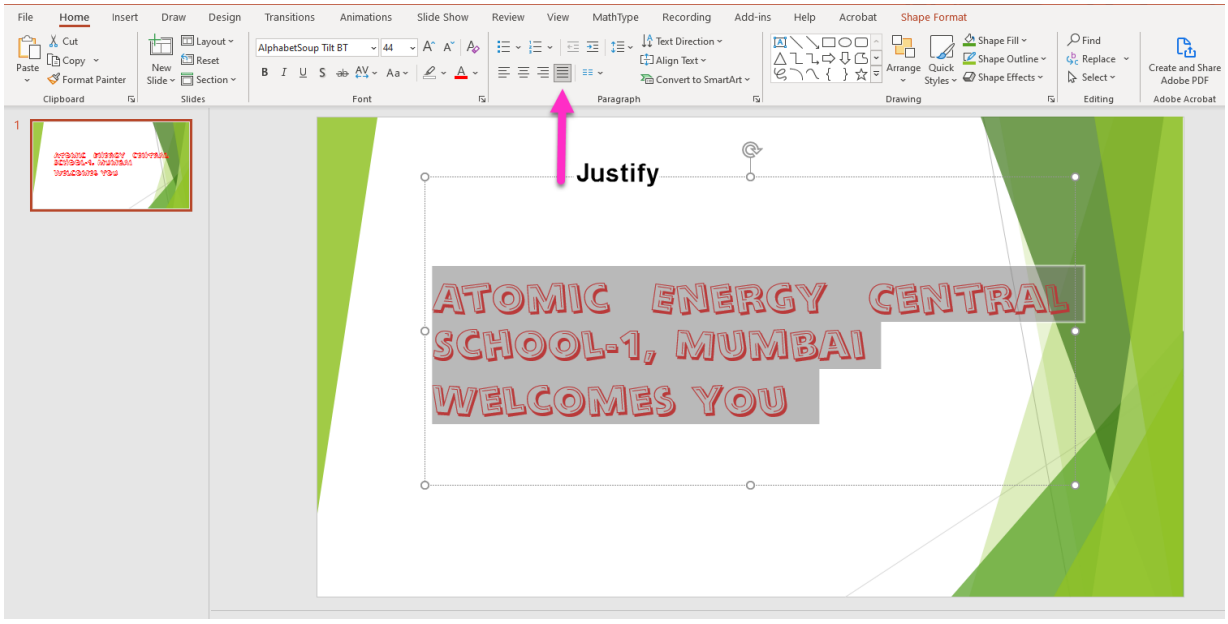
❖ **Aligning the Text**

- Once you've entered your text, you might want to align it properly so that it looks nice on the screen.
- The options found in the Paragraph group will help you. There are two types of alignment:
- If you click the Left Align, Centre Align or Right Align buttons, you'll align the text to the left, centre or right, respectively.
- The last button, Justify, aligns the text so that each line has the exact same length.




Align Centre
ATOMIC ENERGY CENTRAL
SCHOOL-1, MUMBAI
WELCOMES YOU

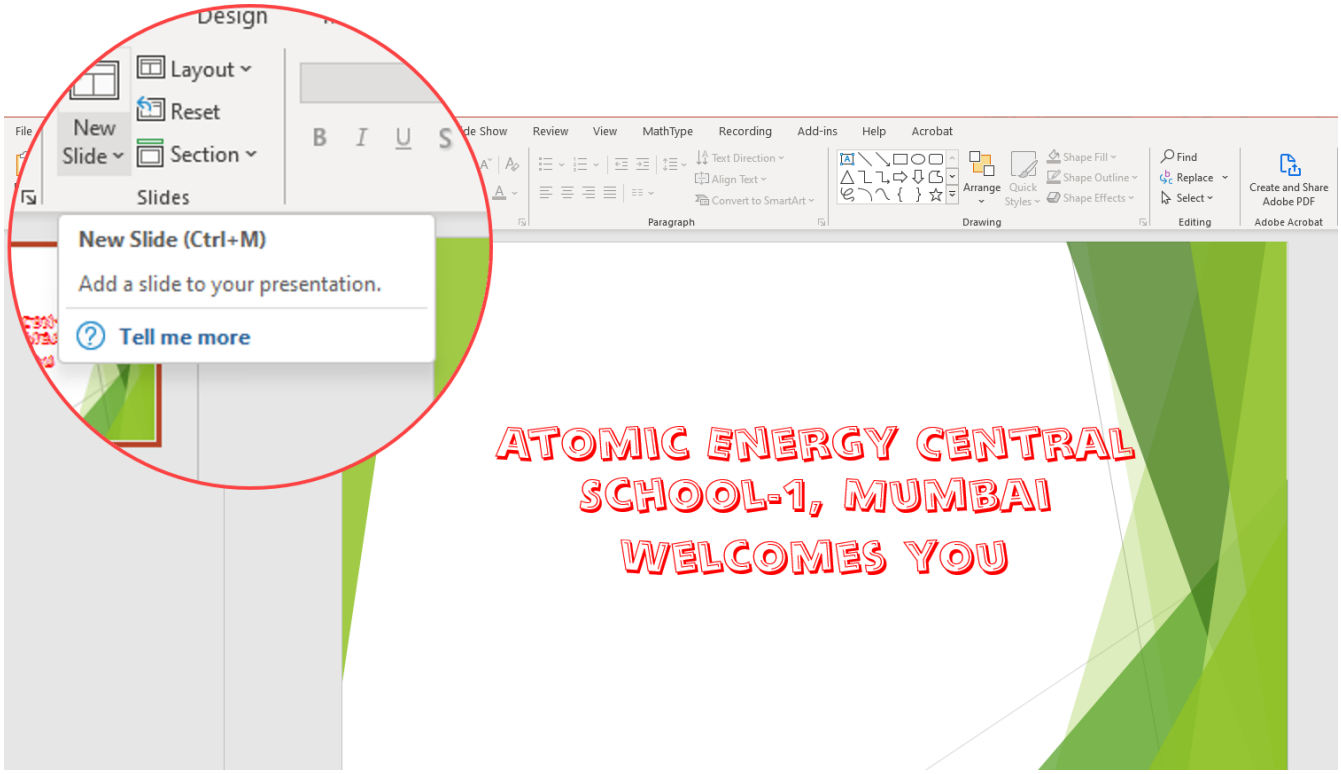

Align right
ATOMIC ENERGY CENTRAL
SCHOOL-1, MUMBAI
WELCOMES YOU


Justify
ATOMIC ENERGY CENTRAL
SCHOOL-1, MUMBAI
WELCOMES YOU

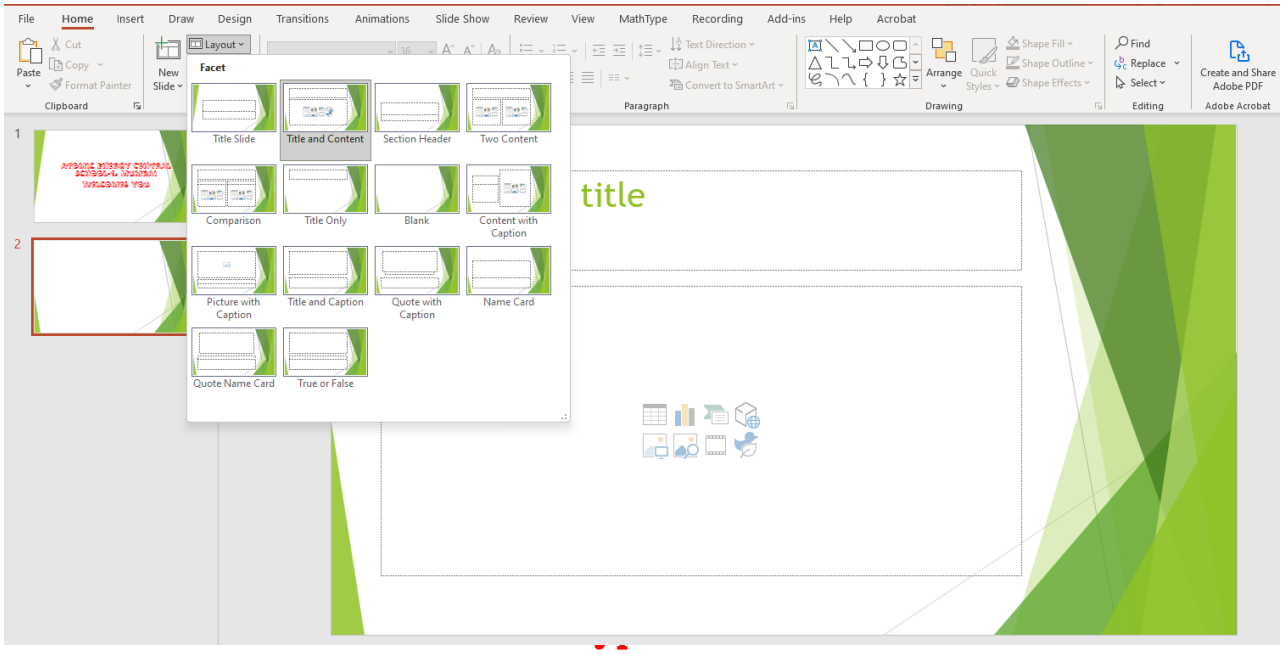
❖ Working with slides

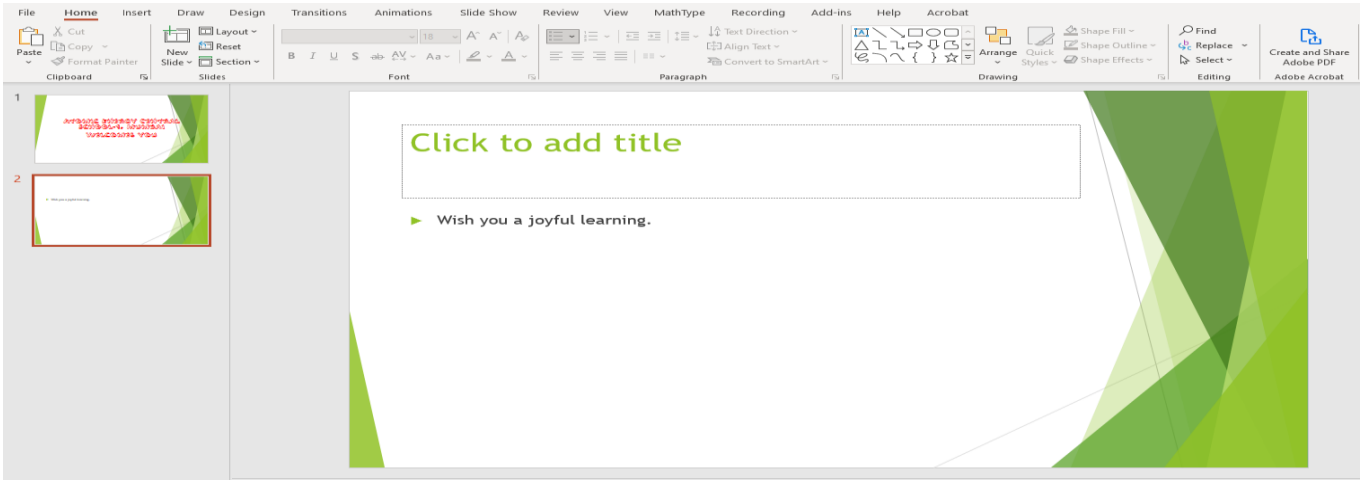
Add slides

- Select the slide you want your new slide to follow.
- Select Home > New Slide.



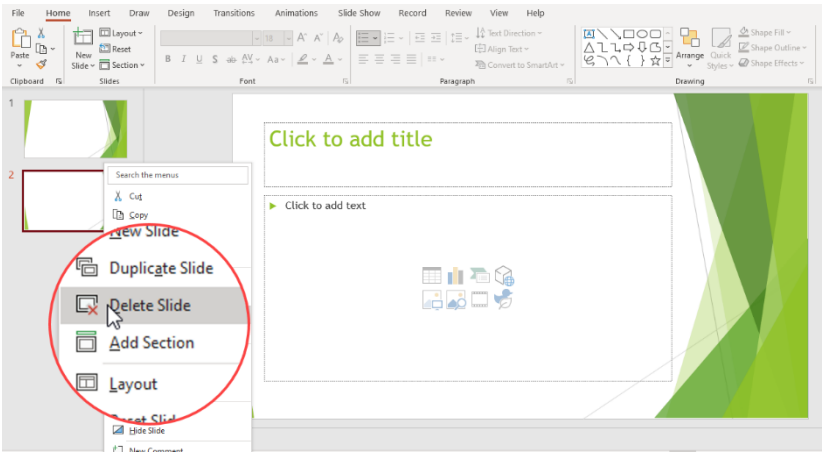
- Select a layout.





Delete slides

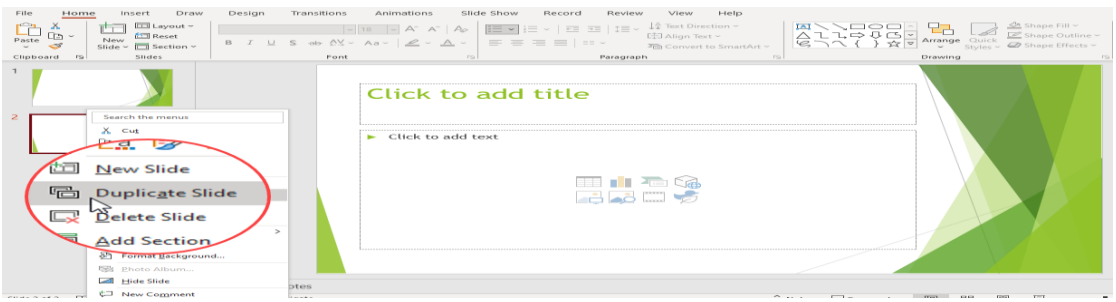
- For a single slide: Right-click the slide in the thumbnail pane on the left, and select Delete Slide.
- For multiple slides: Press and hold Ctrl, and in the thumbnail pane on the left, select the slides. Release the Ctrl key. Then right-click the selection and choose Delete Slide.



- For a sequence of slides: Press and hold Shift, and in the thumbnail pane on the left, select the first and last slides in the sequence. Release the Shift key. Then right-click the selection and choose Delete Slide.

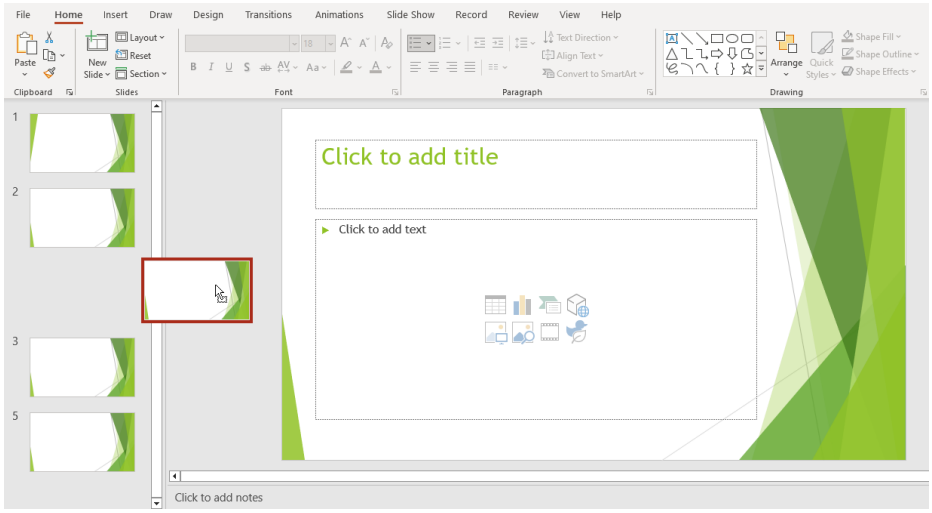
Duplicate a slide

- In the thumbnail pane on the left, right-click the slide thumbnail that you want to duplicate, and then click Duplicate Slide.
- The duplicate is inserted immediately after the original.



Rearrange the order of slides

- In the pane on the left, click the thumbnail of the slide that you want to move, and then drag it to the new location.
- To select multiple slides: Press and hold Ctrl, and in the pane on the left, click each slide that you want to move. Release the Ctrl key, and then drag the selected slides as a group to the new location.



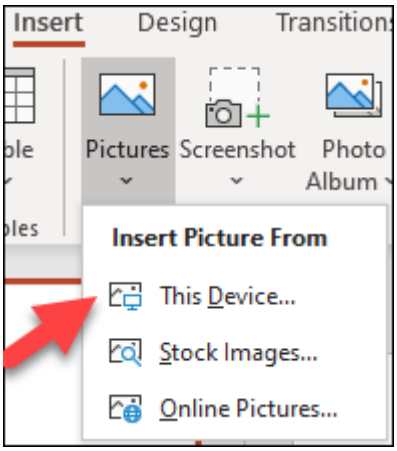
Inserting graphics

Insert a picture in PowerPoint

Insert a picture from your computer on your slide

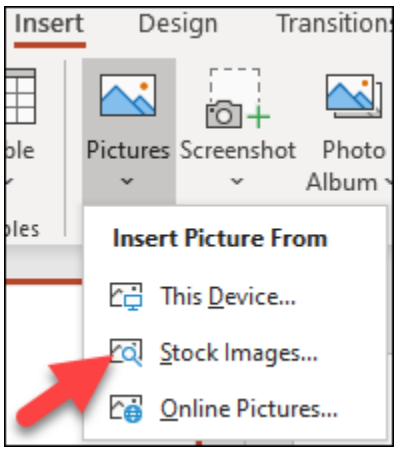
Depending on which version of PowerPoint you're using, you can insert pictures, photos, clip art, or other images to your slide show from your computer or from the Internet.

- Click where you want to insert the picture on the slide.
- On the Insert tab, in the Images group, click Pictures and then click This Device.



- In the dialog box that opens, browse to the picture that you want to insert, click that picture, and then click Insert.

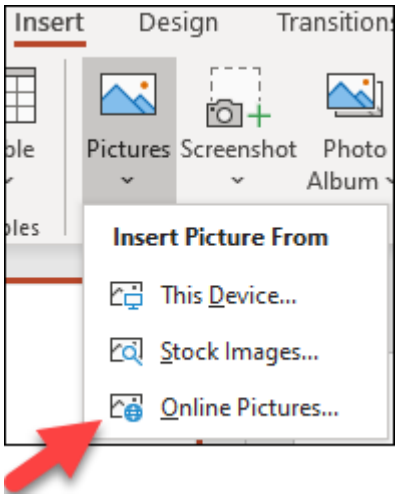
Insert stock images on your slide



- Click where you want to insert the picture on the slide.
- On the Insert tab, in the Images group, click Pictures and then click Stock Images.
- Type in what image you're looking for, then click on which images you want and click Insert.

Insert a picture from the web on your slide

- Click where you want to insert the picture on the slide.
- On the Insert tab, in the Images group, click Pictures and then click Online Pictures.



- In the search box type in the image, you're looking for and press enter.
- Select all the images you want and then click Insert.

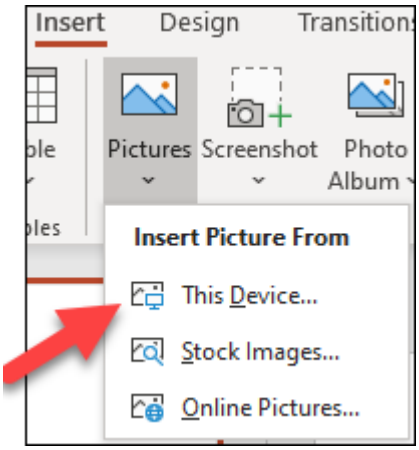
❖ Working with Objects

Objects: Objects are any element that you can add in PowerPoint. A text label is an object. An image is an object. Graphs and charts are objects. Any element within a slideshow is an object.

Inserting a picture in PowerPoint:

We can insert pictures, photos, clip art, or other images to your slide show from your computer or from the Internet.

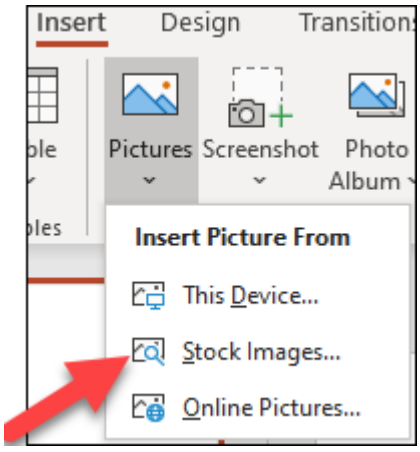
- Click where you want to insert the picture on the slide.
- On the Insert tab, in the Images group, click Pictures and then click This Device.



- In the dialog box that opens, browse to the picture that you want to insert, click that picture, and then click Insert.

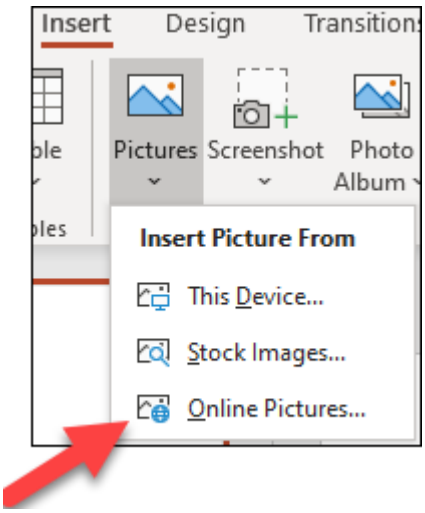
Insertstock images on your slide:

- Click where you want to insert the picture on the slide.
- On the Insert tab, in the Images group, click Pictures and then click Stock Images.



- Type in what image you're looking for, then click on which images you want and click Insert.

Insert a picture from the web on your slide:

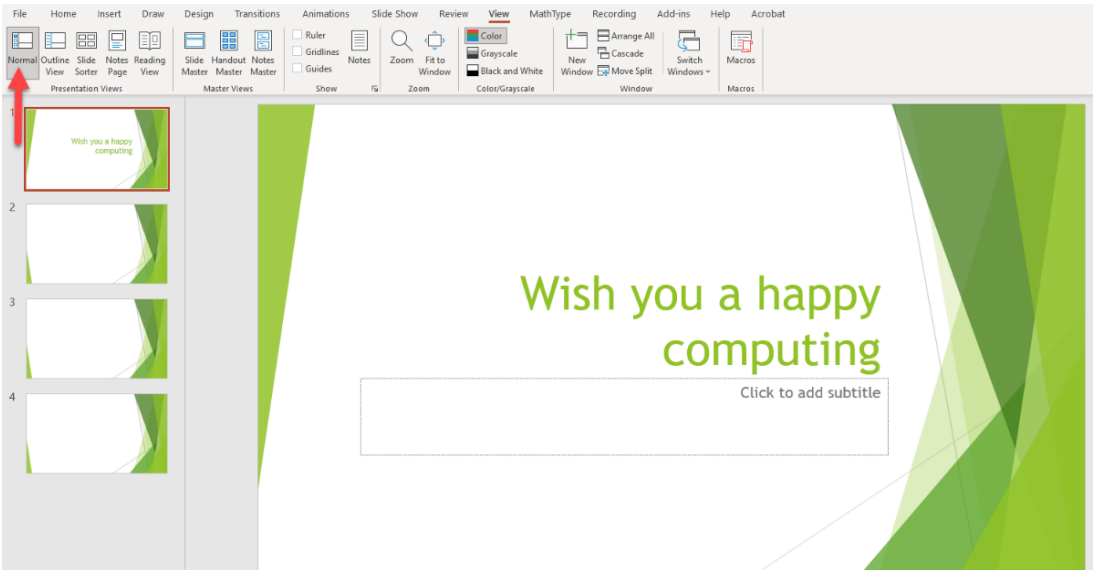


- Click where you want to insert the picture on the slide.
- On the Insert tab, in the Images group, click Pictures and then click Online Pictures.
- In the search box type in the image, you're looking for and press enter.
- Select all the images you want and then click Insert.

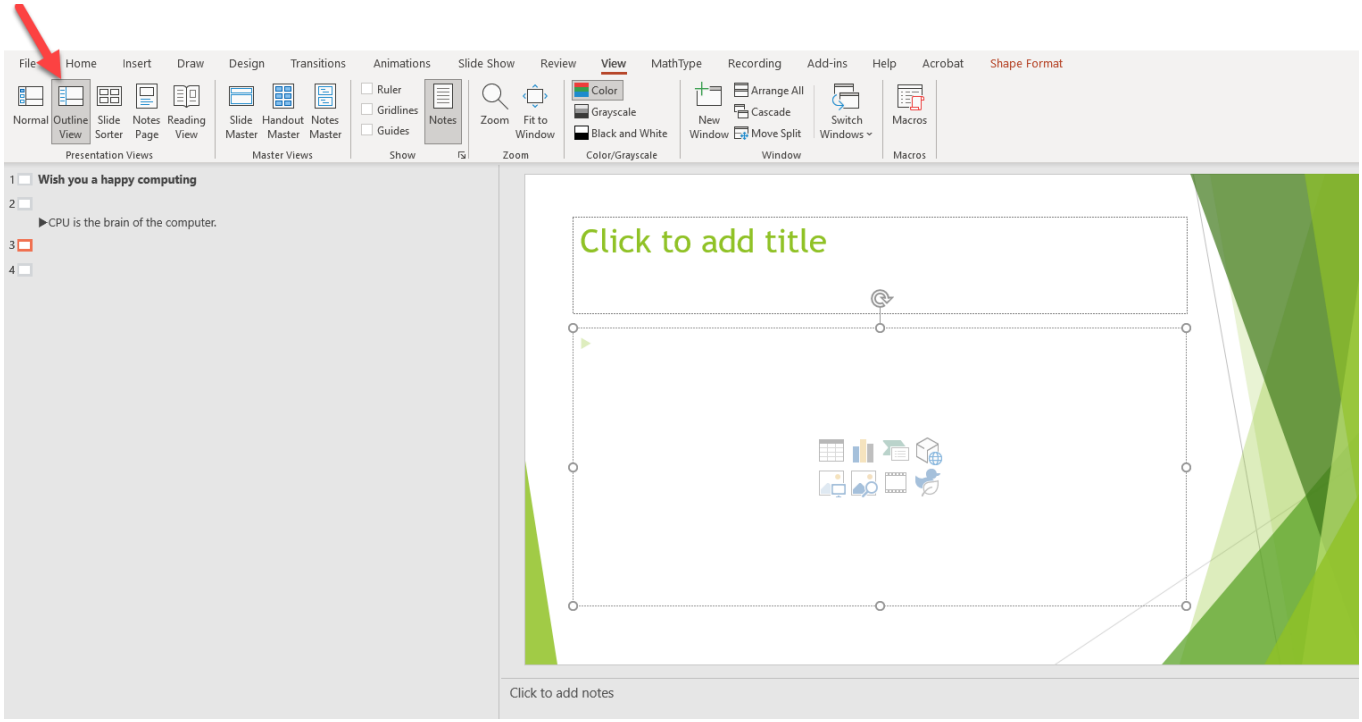
In this way you can also insert charts and graphs into slides.

❖ Changing views

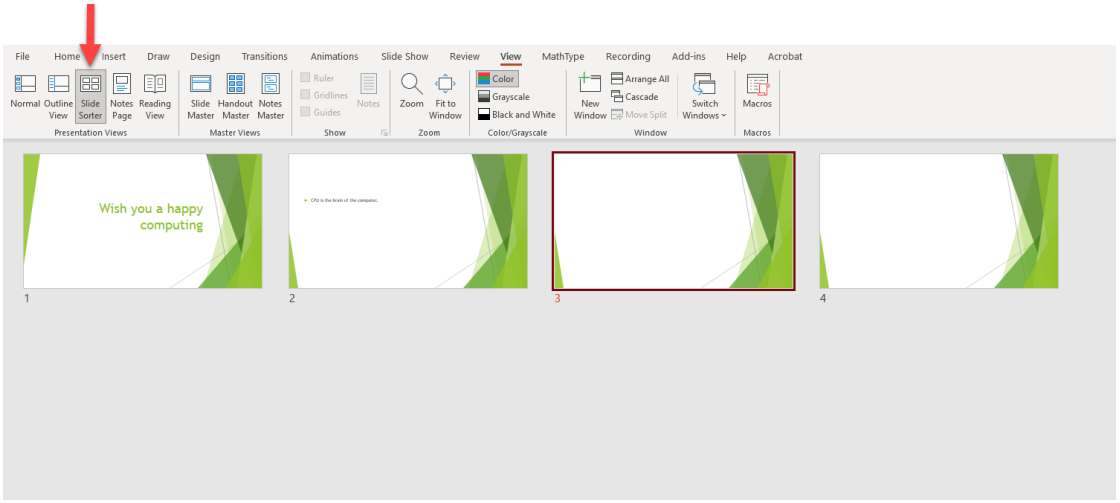
- To change views, find the View button on PowerPoint's ribbon and click on it.
- Then you can see Normal, Outline, Slide sorter, Notes page and reading views on the left side of the ribbon.
- **Normal View**is typically the default view for working in Microsoft PowerPoint.



The **Outline View**in PowerPoint shows your presentation in a traditional, easy-to-read outline. This view puts your main points in the sidebar.



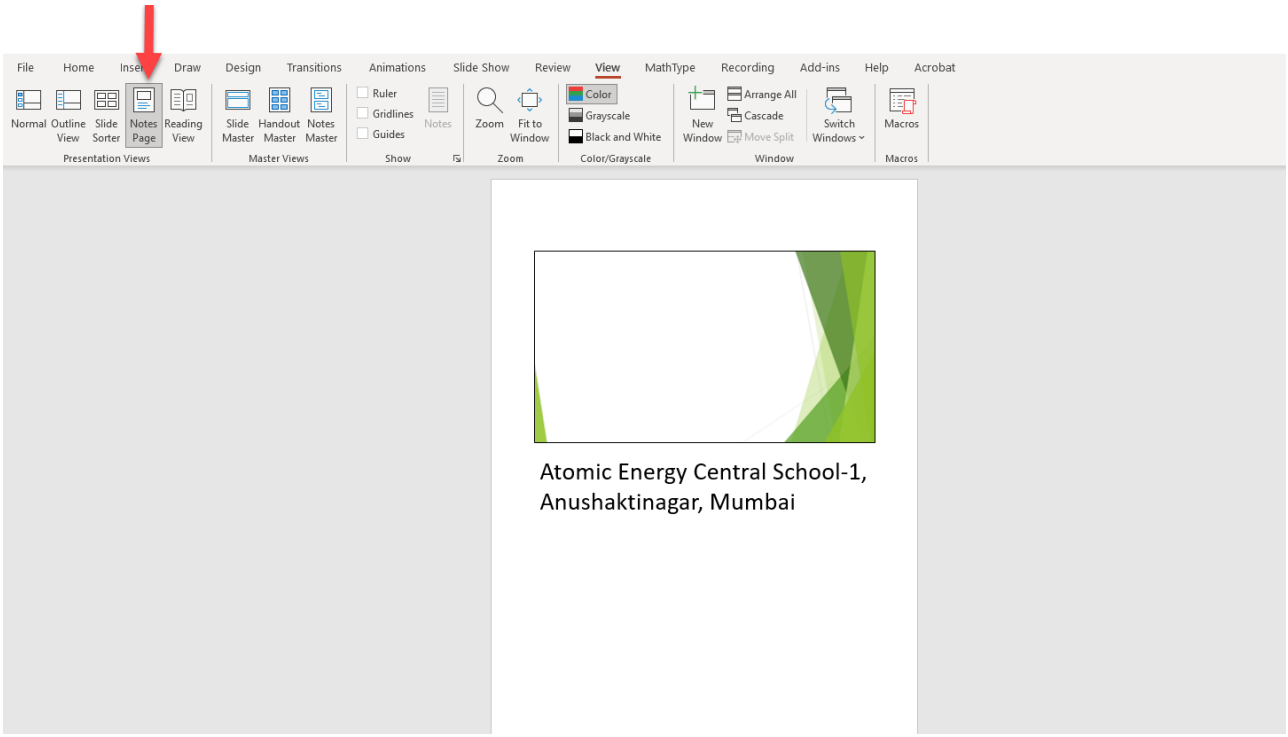
- **Slide Sorter View**is a helpful way to re-order the slides in your PowerPoint presentation.
- When you switch to Slide Sorter View, all your slides will be represented as thumbnails on the stage.



Notes page view

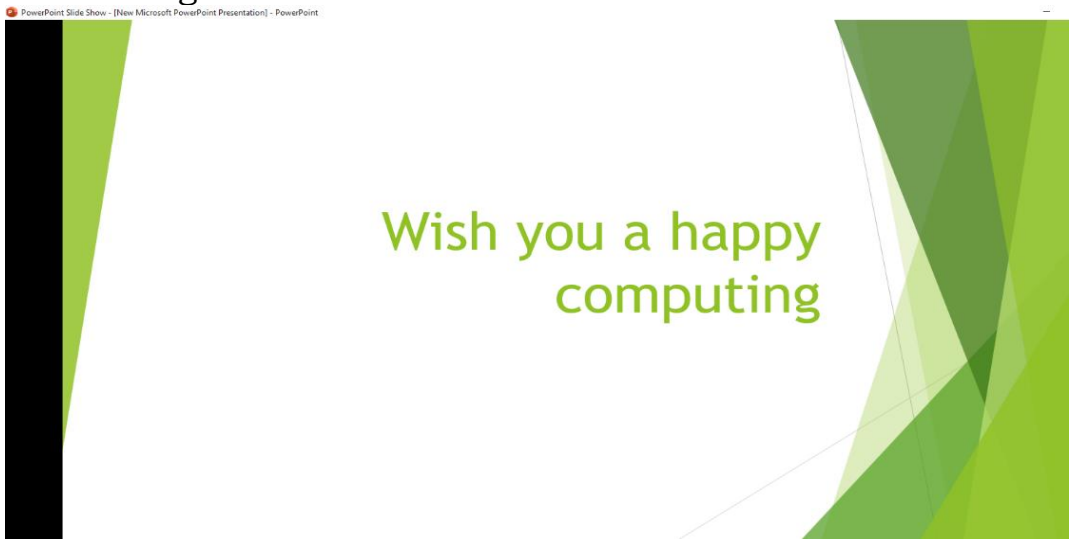
- Notes pages include your notes and each slide in the presentation. Each slide prints on its own notes page. Your notes

accompany the slide. You can add data, such as charts or pictures, to your notes pages.



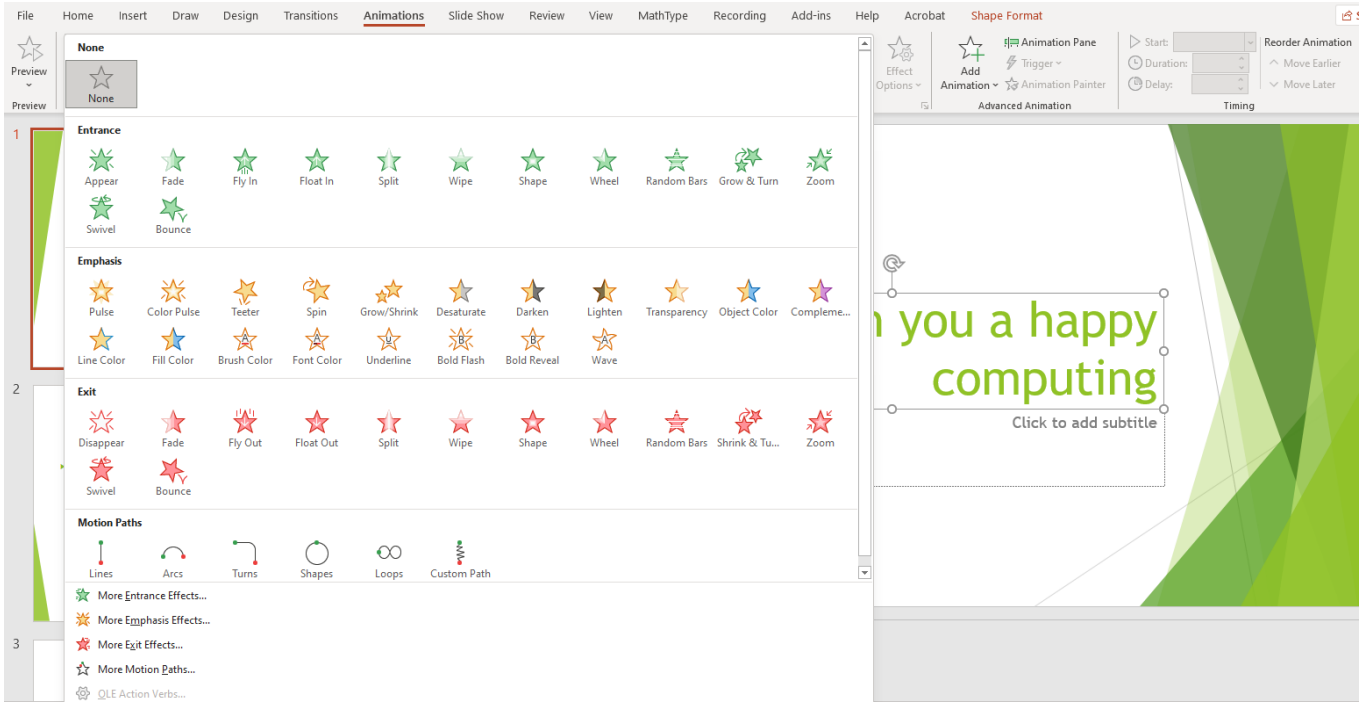
Reading view

- It displays the presentation in a full screen like Slide Show view, and it includes a few simple controls to make it easy to flip through the slides.



❖ Animation effects

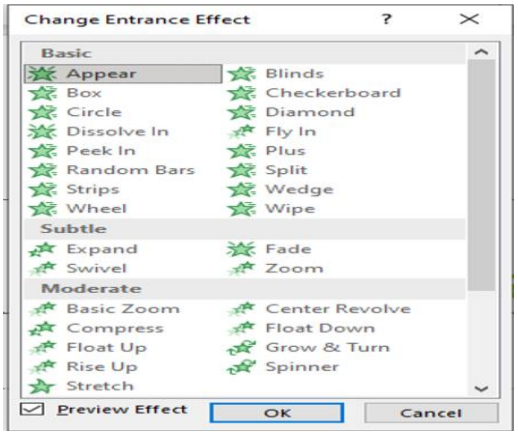
You can use animation to effectively manage the flow of information in your presentation, emphasise key points and to increase participants' interest in your presentation. There are four types of animation effects in PowerPoint – **entrance, emphasis, exit** and **motion paths**. These reflect the point at which you want the animation to occur.



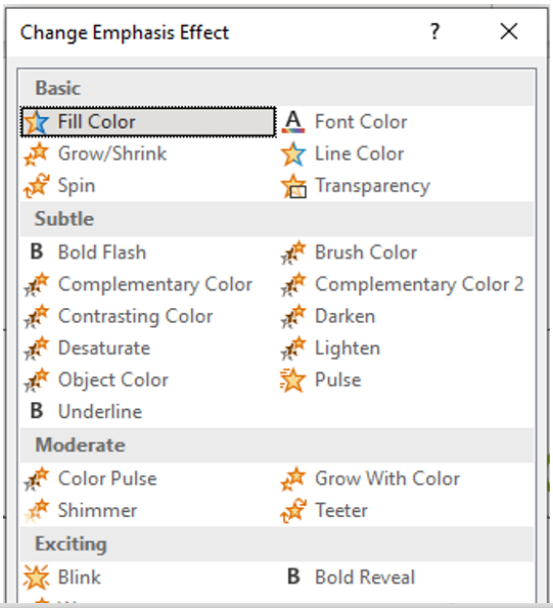
Types Of Effects

Many of PowerPoint's animation effects are listed in the Animationsgallery. Each effect has an icon that indicates the way the effect works. The effects are grouped into the following four groups.

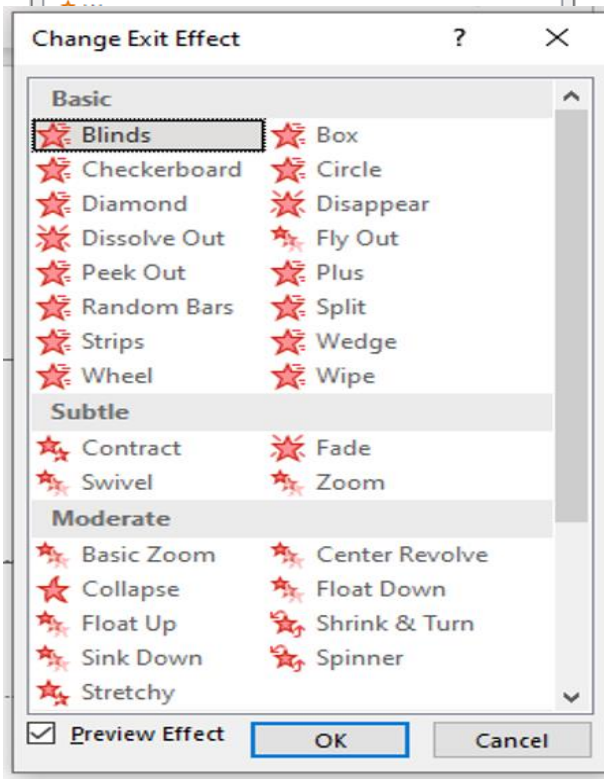
Entrance: Entrance effects control the way objects appear on your slide. For example, you may have individual lines of text fly in from the side of the slide, or have the slide titles gradually fading in as the slides display.



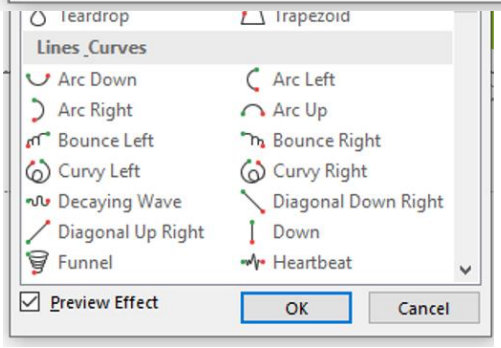
Emphasis: Emphasis effects control how the audience's eye is drawn to the animated object. For example, you may make an image pulse or spin or have a line of text move in a wave shape.



Exit: Exit effects determine how the animated objects will leave theslide. For example, an image may bounce or shrink and turn off a slide.



Motion Paths: Motion paths control the movement of your text or objects around the slide. For example, you could make objects move up and down, move in a specific shape or even create your own custom path for an object to follow.



ANIMATING OBJECTS

As well as animating text, you can apply animation to objects either to emphasise a concept or just to grab the audience's attention.

Test Your Knowledge

I. Choose the correct answer

1. _____ is used for emphasis.

(A) Bold

(B) Italic

(C) Underline

2. _____ makes your text lean slightly to the right.

(A) Bold

(B) Italic

(C) Underline

3. _____ draws a line under your text, in case you want to highlight something.

(A) Bold

(B) Italic

(C) Underline

4. _____ button aligns the text so that each line has the exact same length.

(A) Align left

(B) Align right

(C) Centre

(D) Justify

5. _____ is the default view for working in Microsoft PowerPoint.

(A) Normal view

(B) Outline view

(C) Reading view

6. _____ are any element that you can add in PowerPoint.

(A) Slides

(B) Objects

(C) Buttons

II. How many effects of animation in PowerPoint are there?

Name them.

Chapter 7

QBasic-part 1

Learning Objective:

- **Student will learn about QBASIC programming language**
- **Student will learn about constant and variable in QBASIC**

The name QBasic is an acronym for Quick Beginners All Purpose Symbolic Instruction Code. It was developed and launched by Microsoft in the year 1991 and is considered to be one of the most ideal languages for absolute beginners. It was intended as a replacement for GW-BASIC. QBasic was based on earlier QuickBasic 4.5 compiler. It does not produce .exe files but instead generates files with extension .bas which can only be executed immediately by the built in QBasic interpreter. It is based on DOS operating systems but is also executable on windows.

QBasic consists of two windows:

Program Window: The window titled as 'Untitled' is the program window. It is the place where program/code is written

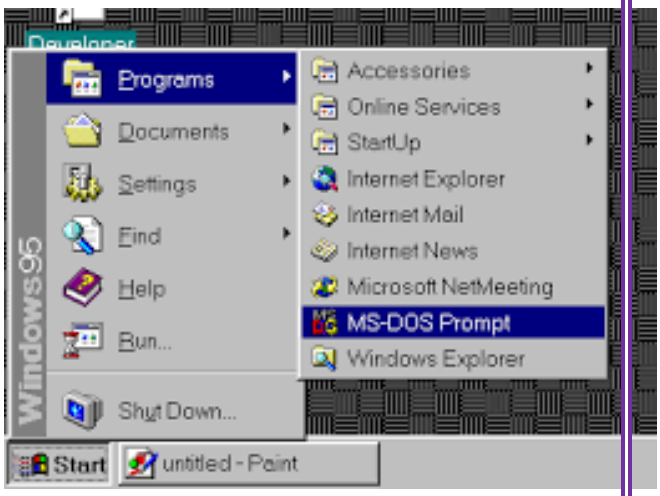
Immediate Window: The window below Program Window titled as 'Immediate' is the immediate window. This window is used as a debugging tool and is used when the user wants to check the output of a single statement.

Getting to QBasic

To run QBASIC we need to get to the QBasic editor.

Click on START (Located on the bottom left of your screen) – Click on ALL PROGRAMS – click on:

Shortcut to microsoft quick basic.



To construct the QBASIC program, we have to arrange some standard elements. The elements used in Qbasic are as follows:

- Character set
- Variables
- Constants
- Operator and Operands
- Expression
- Statements

Character Set: QBASIC has the character set consisting of the following elements: Alphabets: A, B, C,....Z, Digits: 0, 1, 2.....,9 and Special characters: + - * / ( ) . , $; ,: ,= ,> ,< , ^ (The symbol ^ (caret) is used to denote exponentiation operator, the symbol * (asterisk) is used to denote multiplication and other symbols; have their usual meanings.)

Constants: A quantity in a computer program which does not change its value during the execution of the program is called a constant. QBASIC allows the following constants:

Numeric constant:

The numeric constant is one that is formed by a sequence of digits 0, 1, 2,.....9 and may include a decimal point. A numeric constant may be an integer or a real number. 383, +57, 0, -6.2 and 6.15E4 are valid numeric constants.

The number 6.15E4, in fact, represent 6.15 * 104. The notation E is used to represent the exponential form. The number after E is the

exponent which can be positive or negative. However, its length cannot exceed two digits.

It is also important to keep in mind that:

QBASIC does not distinguish between an integer and fraction.

Commands are not allowed in a numeric constant.

The limit on the number of digits that can be used varies from computer to computer. Normally, a numeric constant can have up to a maximum of eight digits.

String constant:A string constant consists of a sequence of characters which must be enclosed by a quotation mark.

Variables: The quantity which may change its values during the execution of the program is called the variable.

In QBASIC, variables are also of two types:

Numeric variable: Numeric variable can assume numeric value and is represented by an alphabet or an alphabet followed by another alphabet or digit. For example A, C, A2, ABC, A6 etc, represent numeric variables.

String variable: A string variable is represented by an alphabet followed by dollar ()sign.It should be kept inmind that while constructing the string variable, dollar() should be the last character. For example, B1,NAME, BOOK1$, etc are valid string variables.

Expression

An expression can be a string, or numeric constant, a variable or a combination of constants, variables with operators which returns a single value.

Operands

Operands are the data or variables on which mathematical, logical and string operations take place.

Operators: Operators are the symbols, which are used in arithmetic operations, logical expressions, and string expressions.

Statements: A statement is a set of instructions written using keywords or commands of QBASIC. Every programming language uses keywords as a statement with certain syntax.

Exercise

1. Define:

a) Operands

b) Statements

c) String variable

d) Numeric constant

2. List the elements of the character set.

Chapter 8

QBasic-part 2

Learning Objective:

- **Student will learn about writing basic of QBASIC program**
- **Student will learn built in function in QBASIC program**

Some Basic useful commands on QBasic:

1. PRINT: This command prints the statement or data written after it. If the data to be printed is a string, then it is written inside double quotes (" ") and if it is a number or a variable it can be written directly.

2. INPUT: INPUT command is used to take inputs/data from the user. It can be used to input both strings and numbers. If the data to be taken is a numerical value, then the variable name in which it is to be stored is written directly after the INPUT command.

3. CLS: CLS stands for Clear Screen and is used to clear the screen if some previous results/outputs are present on the screen.

4. LET statement: It is used to assign the value of expression to variable. See assignment statements for more information about assigning values to variables.

Ex LET A=5

LET NAME$="AEES"

LET COUNTRY$="INDIA"

LENGTH =5

BREADTH=15

AREA = LENGTH* BREADTH

PRINT "AREA =" AREA

AREA =75

BUILD-IN OR LIBRARY FUNCTIONS:

The functions which are provided by the QBASIC system and also allow the programmer to use them according to the requirement are known as BUILT-IN or Library Functions. These functions are required to be called by the programmer to use them in a program. Some common Build-IN or Library Functions are LEN, LEFT$, RIGHT$, MID$. Here are the types of library functions:

Mathematical Functions

The numerical data is processed using mathematical functions. The following are some of the mathematical functions used in QBASIC:

SQR Function

The SQR Function gives the result as the square root of the given number.

Syntax: SQR (number)

EX SQR(25)

Ans: 5

ABS Function

This function is used to return the absolute value of a number or we can convert negative numbers into positive.

syntax: ABS(number)

ABS(-6)

Ans: 6

String Function

The string functions are used to process string data. Here are some of the string functions used in QBASIC:

– LEN Function

This function gives output as the length of a given string.

Syntax: LEN (string)

LEN(“aees”)

Ans: 4

LEFT$

This function retrieves the specified number of characters from the string’s left side.

Syntax: LEFT$ (string, n)

LEFT$ (“aees”, 2)

Ans: ae

RIGHT$

This function retrieves the specified number of characters from the string’s right Side.

Syntax: RIGHT$ (string, n)

RIGHT$ (“aees”, 2)

Ans: es

The IF statement always asks a question (usually about the number in a variable.)

If the answer is TRUE the true branch is executed.

If the answer if FALSE the true branch is skipped.

In both cases, execution continues with the statement after the END IF.

Here is the program

```
PRINT "Enter 1 if you are hungry; 0 if you are not"
INPUT HUNGER
IF HUNGER > 0 THEN
PRINT "Buy Cookies"
END IF
PRINT "Keep Shopping"
END
```

Exercise

Answer the following questions

1. Write a program to add two numbers
2. Write a program to multiply two numbers
3. Write a program to print your name