

COMPUTER TRAINING

DIRECTORATE OF DISTANCE & CONTINUING EDUCATIONS

MANONMANIAM SUNDARANAR UNIVERSITY

TIRUNELVELI – 627012

OPEN AND DISTANCE LEARNING (ODL) PROGRAMMES

(FOR THOSE WHO JOINED THE PROGRAMMES

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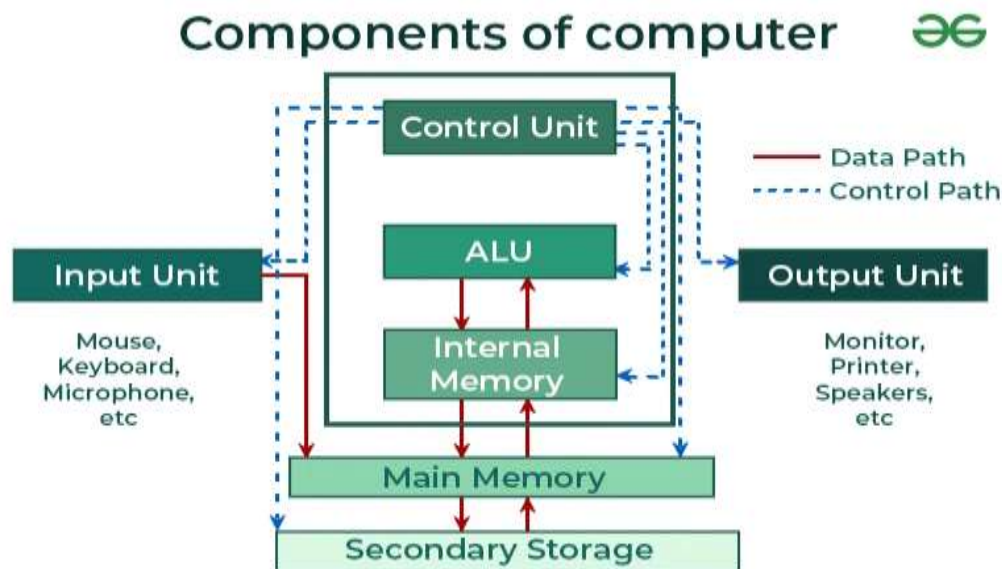
UNIT I

Components of a Computer – Hardware – Software – DOS and Windows – Printing

Objectives

- A hardware component
- Software is a collection
- Used to print documents

A computer is an electronic device that accepts data, performs operations, displays results, and stores the data or results as needed. It is a combination of hardware and software resources that integrate and provide various functionalities to the user. Hardware is the physical components of a computer, such as a processor, memory devices, monitor, keyboard, etc., while software is a set of programs or instructions that are required by the hardware resources to function properly.



Components of a Computer

Here are the main components of the computer:

1. Input Unit:

The input unit consists of input devices that are attached to the computer. These devices take input and convert it into binary language that the computer understands. Some of the common input devices are keyboard, mouse, joystick, scanner etc.

- The Input Unit is formed by attaching one or more input devices to a computer.
- A user input data and instructions through input devices such as a keyboard, mouse, etc.
- The input unit is used to provide data to the processor for further processing.

2. Central Processing Unit:

The CPU (Central Processing Unit) is the brain of the computer because it controls everything the computer does. When you enter information using an input device, the CPU processes it. First, it fetches instructions from memory, then decodes them to understand what needs to be done. If needed, it retrieves data from memory or an input device. After that, the CPU executes the task and either stores the result or displays it on an output device. The CPU has three main parts: the Arithmetic Logic Unit (ALU), which handles calculations and logic; the Control Unit (CU), which directs operations; and Memory Registers, which store temporary data.

A. Arithmetic and Logic Unit (ALU): The ALU, as its name suggests performs mathematical calculations and takes logical decisions. Arithmetic calculations include addition, subtraction, multiplication and division. Logical decisions involve the comparison of two data items to see which one is larger or smaller or equal.

- Arithmetic Logical Unit is the main component of the CPU
- It is the fundamental building block of the CPU.
- Arithmetic and Logical Unit is a digital circuit that is used to perform arithmetic and logical operations.

B. Control Unit: The Control unit coordinates and controls the data flow in and out of the CPU, and also controls all the operations of ALU, memory registers and also input/output units. It is also responsible for carrying out all the instructions stored in the program. It decodes the fetched instruction, interprets it and sends control signals to input/output devices until the required operation is done properly by ALU and memory.

- The Control Unit is a component of the central processing unit of a computer that directs the operation of the processor.
- It instructs the computer's memory, arithmetic and logic unit, and input and output devices on how to respond to the processor's instructions.
- In order to execute the instructions, the components of a computer receive signals from the control unit.
- It is also called the central nervous system or brain of the computer.

C. Memory Registers: A register is a small, temporary memory inside the CPU. The processor uses it to store data that it is currently working on. Registers come in different sizes, such as 16-bit, 32-bit, and 64-bit, and each has a specific role. Some store data, some store instructions, and others hold memory addresses.

For example, the Accumulator (ACC) is an important register in the CPU. It holds one of the values used in calculations inside the Arithmetic and Logic Unit (ALU).

Apart from registers, the internal memory (also called primary memory or main memory) is where data and instructions are stored temporarily while a program runs. This memory is called RAM (Random Access Memory). Every piece of data in RAM is stored at a unique location with an address, so the processor can access it quickly without searching the entire memory. Since RAM provides direct access to any data location, it is called Random Access Memory.

- Memory Unit is the primary storage of the computer.
- It stores both data and instructions.
- Data and instructions are stored permanently in this unit so that they are available whenever required.

3. Output Unit :

The output unit consists of output devices that are attached to the computer. It converts the binary data coming from the CPU to human understandable form. The common output devices are monitor, printer, plotter, etc.

- The output unit displays or prints the processed data in a user-friendly format.
- The output unit is formed by attaching the output devices of a computer.
- The output unit accepts the information from the CPU and displays it in a user-readable form.

4. Motherboard:

The motherboard is like the backbone of a computer, connecting all the important parts such as the CPU, memory, and storage. It also helps distribute power, transfer information, and connect devices like a mouse, keyboard, or monitor. If there is a problem with the motherboard, a computer technician may open the PC to check for any loose or damaged connections, such as corrosion. They may also inspect the power supply to ensure the computer is receiving electricity properly.

5. Random Access Memory (RAM):

RAM is the computer's short-term memory, where data is stored temporarily while programs are running. For example, when you open an app, it loads into RAM so the computer can access it quickly. A technician knows how to check what type of RAM a computer has, replace it if it's faulty, and fix issues with moving data in memory. They also understand different types of RAM and common problems that can affect it. Before repairing RAM, a technician might back up important files to prevent losing any important programs or documents.

6. Power Supply Unit (PSU):

The Power Supply Unit (PSU) gives electricity to all the parts of a computer. It usually connects the PC to a wall socket using a power cord. If there's a problem, a technician may check by turning off the computer, unplugging the power cord, or trying a different cord or outlet to see if the issue is with the power supply.

Characteristics of a Computer

- **Speed:** Computers can perform millions of calculations per second. The computation speed is extremely fast.
- **Accuracy:** Because computers operate on pre-programmed software, there is no space for human error.
- **Diligence:** They can perform complex and long calculations at the same time and with the same accuracy.
- **Versatile:** Computers are designed to be versatile. They can carry out multiple operations at the same time.
- **Storage:** Computers can store a large amount of data/ instructions in its memory,

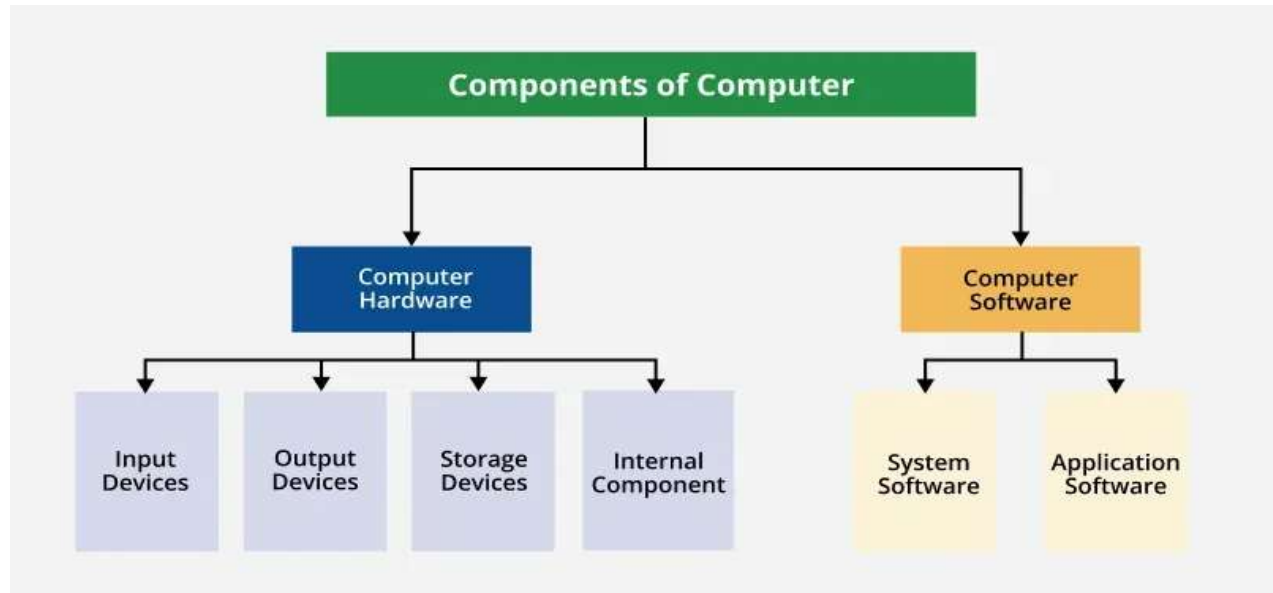
Conclusion

Computer have been there for many years and and its use have been spread widely. Three important component of Computer are Input Unit, CPU and Output Unit. But there are some other components like Memory Unit, Control unit and Arithmetic and Logical unit. Using this all components we can easily do complex operations.

Computer Hardware

Computer hardware refers to the physical components of a computer that you can see and touch. These components work together to process input and deliver output based on user

instructions. In this article, we'll explore the different types of computer hardware, their functions, and how they interact to make your computer work.



What is Computer Hardware?

Computer Hardware includes all the physical parts of a computer that you can see and touch, like the CPU, keyboard, and monitor.



Computer Hardware Parts



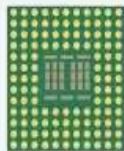
Monitor



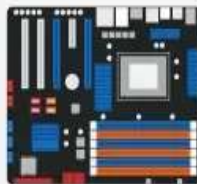
Keyboard



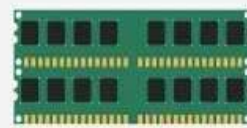
Mouse



CPU



Motherboard



Ram

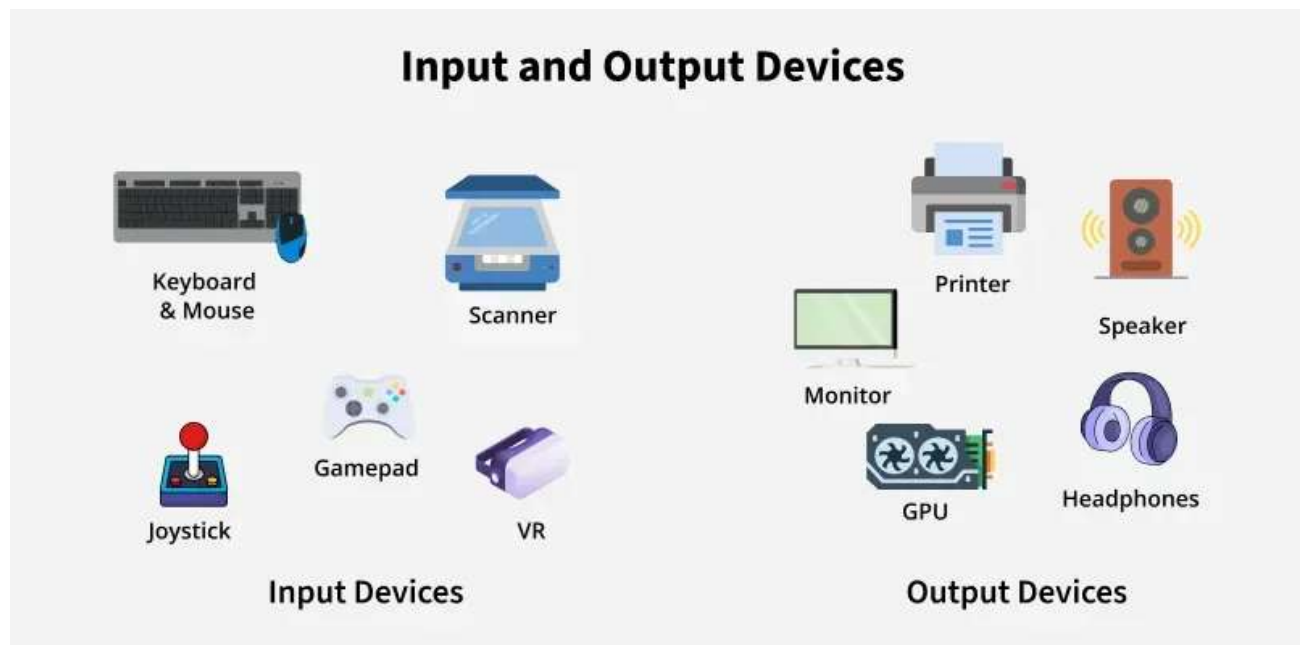
Hardware Vs Software



Hardware



Software



The computer has mainly has two major components:

- Hardware
- Software

In this article, we only discuss computer hardware.

What is a Computer Hardware

Computer hardware is a physical device of computers that we can see and touch. E.g. Monitor, Central Processing Unit, Mouse, Joystick, etc. Using these devices, we can control computer operations like input and output.

Computer Hardware Parts

These hardware components are further divided into the following categories, which are:

- Input Devices
- Output Devices
- Storage Devices
- Hardware Components

Input Devices

Input devices allow users to interact with a computer by entering data or commands. These devices convert the input into a format that the computer can process.

Now we discuss some input devices:

- **Keyboard:** The most widely used input device, featuring 104 keys, including alphabetic, numeric, and function keys. Modern keyboards connect via Bluetooth, replacing traditional wired connections.
- **Mouse:** A pointing device that controls the cursor on the screen. It features left, right, and middle buttons for selection and interaction. The sensor inside the mouse detects its movement speed, adjusting the cursor accordingly.
- **Scanner:** Scans documents, images, and other media, converting them into digital formats for editing or processing, similar to a Xerox machine.
- **Trackball:** A stationary pointing device with a ball that the user rotates to control the cursor, requiring less space than a traditional mouse.
- **Light Pen:** A light-sensitive pen used to draw or select objects on a CRT screen by detecting raster patterns, offering a direct interaction with the display.
- **Microphone:** Converts sound into electrical signals. It captures voice input for speech recognition and voice commands on the computer.
- **Optical Character Reader (OCR):** Scans printed or handwritten text, converting it into digital data by detecting reflected light from the characters, similar to a scanner.
- **Bar Code Reader:** Reads bar codes and converts them into digital data for processing. The bar code consists of light and dark lines that encode information.

Output Devices

Output devices display the results of tasks given to the computer in a human-readable form. Let's discuss some common output devices:

- **Monitor:** The main output device. It is also called VDU(visual display unit) and it looks like a TV screen. The Monitor displays the information from the computer. It is used to display text, video, images, etc.
- **Printer:** A printer is an output device that transfers data from the computer in a printed format by using text or images on paper. There are both coloured and black & white printers. Further, there are also different types of printers, like Laser Printer, Dot-matrix printers, and Inkjet printers.

- **Plotter:** It is similar to a printer but plotters are large. A plotter is used to generate large drawings, architectural blueprints, etc. on paper and these are high-quality images and drawings and large.
- **Speakers:** It is a very common output device and it gives sound as an output. The speaker is generally used to play music or anything having sound.

Storage Devices

Some devices are used for storage purposes and are known as secondary storage devices. Some of them are discussed below:

1. CD (Compact disc): A CD is circular and made up of thin plated glass and plastic polycarbonate material. It has a storage capacity of 600 MB to 700 MB of data. It has a standard size of 12 cm with a hole in the centre of about 1.5 cm and 1.2 mm in thickness. There are 3 types of CDs, which are:

- **CD-ROM (CD - Read Only Memory):** Contents of this type of CD cannot be erased by the user. Only the publisher is allowed to access the data imprinted on this CD. CD-ROM is used for commercial purposes like for a music album or any application package by a software company.
- **CD-R (CD-Recordable):** In this, content or data can be stored once. After that, they can be read many times but the data or content cannot be rewritten or erased. (Kind of one-time use)
- **CD-RW (CD-Rewritable):** As the name suggests, this type of CD is used to rewrite the content or erase previous content and again write new content many times.

2. DVD (Digital Video/Versatile Disc): A DVD is the same as a CD but with some more features. A DVD comes in single and dual-layer formats. It has much greater storage capacity in comparison to CD. The storage capacity of a DVD with a one-sided single layer is - 4.7 GB, one-sided double layer - 8.5 GB, double-sided single layer - 9.4 GB, and double-sided double layer - 17 GB. There are also some types of DVDs, which are :

- **DVD-ROM:** In this type, the contents of the DVD cannot be written on or erased by the user. DVD ROM is used for applications and databases for distributing them in large amounts.

- DVD-R / DVD+R: DVD-R (DVD minus R) and DVD+R (DVD plus R) are two different kinds of discs and they are once recordable formatst. Also, they have no difference virtually.
- DVD-RW / DVD+RW: This is a kind of rewritable disc and it allows up to 1,000 rewrites.
- DVD-RAM: DVD RAM is accessed like a hard disk. It provides high data security and storage capacity. This is a kind of rewritable disc and it allows up to 1,00,000 rewrites.

3. Hard DisktheAn hard disk is a non-volatile storage device that uses its read/write heads to store digital data on the magnetic surface of a rigid plate. It is generally 3.5 inches in size for desktops and 2.5 inches in size for laptops. A hard disk can be classified further into 3 types, which are:

- Internal Hard Disk: It has a common storage capacity stated as GB or TB. A system case or cabinet is the place where it is located. It can perform faster operations and its storage is fixed. It is mainly used to store large data files and programs.
- Internal Cartridges: The Internal hard disk can't be removed from the system cabinet easily. To resolve this problem Internal Cartridges are introduced. So, Internal cartridges make it easy to remove CDs. It has a storage capacity of 2 GB to 160 GB. It is used as an alternative to an internal hard disk.
- Hard Disk Packs are used by organizations such as banks and government sector organizations to store large amounts of data. They have a storage capacity of PB (peta bytes).

Hardware Components

Some important hardware devices known as the internal components are discussed below:

1. CPU (Central Processing Unit)

The CPU is also known as the heart of the computer. It consists of three units, generally known as the control unit, the Arithmetic Logical Unit (ALU), and the memory unit. Below is the block diagram of the CPU is given:

As shown in the diagram input is given to the CPU through input devices. This input goes to memory and the control unit gets instructions from memory. The control unit now decides what to do with the input or instructions and transfers it to ALU. Now, ALU performs various operations like addition, subtraction, multiplication, division, logical operations, etc.

After that, the final result gets stored in memory and finally passed to output devices to give the output. So, this is how the CPU works.

2. Motherboard

It is the main circuit board inside a computer and it contains most of the electronic components together. All the components of the computer are directly or indirectly connected to the motherboard. It includes RAM slots, controllers, system chipsets, etc.

3. RAM (Random Access Memory)

It is also known as temporary or volatile memory. It holds the program and data, which are currently in process or processing. All the data is erased as soon as the computer is turned off or in case of a power failure. Data stored in this memory can be changed. There are two types of RAM:-

1. **SRAM (Static RAM):** SRAM consists of a flip-flop using a transistor or Mosfet (MOS). It is fast and has less access time. In this refreshing circuits are not required. But it is costly and requires more space. E.g. cache memory.
2. **DRAM (Dynamic RAM):** DRAM consists of capacitors and the data is stored in the form of capacitors. Capacitors charge when data is 1 and don't charge if data is 0. It requires refreshing circuits, as leakage of current in the capacitor can occur, so they need to be refreshed to the data. It is slower and has a higher access time. It is cheaper in comparison with SRAM. E.g. Main memory.

4. Video Graphics Array Port

A video input commonly used on computer monitors is called a video graphics array (VGA) port. Verifying that there isn't a loose connection, a damaged cable, or a broken display is one step in troubleshooting a VGA port. Compressed air can also be sprayed inside the VGA port by a computer expert to make sure it's dust-free.

5. Power Supply

All of a computer system's parts are powered by a power source. Typically, a power cord is used to connect a computer tower to an electrical outlet. By turning off the computer, unplugging and separating the power supply cord, or trying a different cord or socket, a technician can diagnose the power supply.

6. Cooling Fan

A computer's system to prevent overheating uses cooling fans. To aid customers who use their computers intensively, such as when streaming video or playing games, many computers contain more than one cooling fan. If a user detects their computer overheating, a computer expert might need to repair the cooling fan. The blades may be examined for any damage and cleared of any foreign objects. A technician's standard method of troubleshooting may involve replacing computer fans.

7. Hard Drive

On a computer system, files, programs, and other types of information are stored on hard drives, which are data storage devices. They utilise hard drives, which are magnetically coated discs used to store digital versions of information. A computer technician can suspect a corrupt hard disk when a hard drive dies.

Relationship Between Computer Hardware and Software

Category	Hardware	Software
Definition	Physical devices that perform tasks	Programs or applications that run on hardware
Examples	CPU, RAM, Hard Drive, Monitor, Keyboard	Operating Systems, Applications, Utilities
Purpose	Executes and stores data physically	Processes data and provides user interface
Dependence	Independent of software, but relies on it to function	Requires hardware to operate
Interaction	Direct interaction with the user or system	Indirect interaction, using hardware as a platform
Examples of Interaction	Input / .Output devices like keyboard, mouse	Word processors, video editors, web browsers
Cost	Generally higher initial cost	Often lower initial cost
Installation	Requires physical setup or installation	Installed via software package or online

Software and its Types

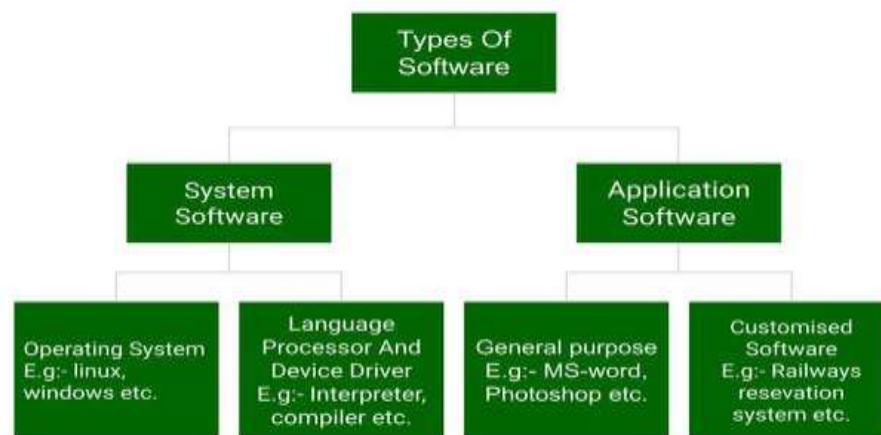
Software is a collection of instructions, data, or computer programs that are used to run machines and carry out particular activities. It is the antithesis of hardware, which refers to a computer's external components. A device's running programs, scripts, and applications are collectively referred to as "software" in this context.

What is a Software?

In a computer system, the software is basically a set of instructions or commands that tell a computer what to do. In other words, the software is a computer program that provides a set of instructions to execute a user's commands and tell the computer what to do. For example like MS-Word, MS-Excel, PowerPoint, etc.

Types of Software

It is a collection of data that is given to the computer to complete a particular task. The chart below describes the types of software:



Above is the diagram of types of software. Now we will briefly describe each type and its subtypes:

1. System Software

- Operating System
- Language Processor

- Device Driver
- 2. Application Software**
- General Purpose Software
 - Customize Software
 - Utility Software

System Software

System software is software that directly operates the computer hardware and provides the basic functionality to the users as well as to the other software to operate smoothly. Or in other words, system software basically controls a computer's internal functioning and also controls hardware devices such as monitors, printers, and storage devices, etc. It is like an interface between hardware and user applications, it helps them to communicate with each other because hardware understands machine language(i.e. 1 or 0) whereas user applications are work in human-readable languages like English, Hindi, German, etc. so system software converts the human-readable language into machine language and vice versa.

Types of System Software

It has two subtypes which are:

1. **Operating System:** It is the main program of a computer system. When the computer system on it is the first software that loads into the computer's memory. Basically, it manages all the resources such as computer memory, CPU, printer, hard disk, etc., and provides an interface to the user, which helps the user to interact with the computer system. It also provides various services to other computer software. Examples of operating systems are Linux, Apple macOS, Microsoft Windows, etc.
2. **Language Processor:** As we know that system software converts the human-readable language into a machine language and vice versa. So, the conversion is done by the language processor. It converts programs written in high-level programming languages like Java, C, C++, Python, etc (known as source code), into sets of instructions that are easily readable by machines(known as object code or machine code).
3. **Device Driver:** A device driver is a program or software that controls a device and helps that device to perform its functions. Every device like a printer, mouse, modem, etc. needs a driver to connect with the computer system eternally. So, when you

connect a new device with your computer system, first you need to install the driver of that device so that your operating system knows how to control or manage that device.

Features of System Software

Let us discuss some of the features of System Software:

- System Software is closer to the computer system.
- System Software is written in a low-level language in general.
- System software is difficult to design and understand.
- System software is fast in speed (working speed).
- System software is less interactive for the users in comparison to application software.

Application Software

Software that performs special functions or provides functions that are much more than the basic operation of the computer is known as application software. Or in other words, application software is designed to perform a specific task for end-users. It is a product or a program that is designed only to fulfill end-users' requirements. It includes word processors, spreadsheets, database management, inventory, payroll programs, etc.

Types of Application Software

There are different types of application software and those are:

1. General Purpose Software: This type of application software is used for a variety of tasks and it is not limited to performing a specific task only. For example, MS-Word, MS-Excel, PowerPoint, etc.
2. Customized Software: This type of application software is used or designed to perform specific tasks or functions or designed for specific organizations. For example, railway reservation system, airline reservation system, invoice management system, etc.
3. Utility Software: This type of application software is used to support the computer infrastructure. It is designed to analyze, configure, optimize and maintains the system, and take care of its requirements as well. For example, antivirus, disk fragmenter, memory tester, disk repair, disk cleaners, registry cleaners, disk space analyzer, etc.

Features of Application Software

Let us discuss some of the features of Application Software:

- An important feature of application software is it performs more specialized tasks like word processing, spreadsheets, email, etc.

- Mostly, the size of the software is big, so it requires more storage space.
- Application software is more interactive for the users, so it is easy to use and design.
- The application software is easy to design and understand.
- Application software is written in a high-level language in general.

Difference Between System Software and Application Software

Now, let us discuss some difference between system software and application software:

System Software	Application Software
It is designed to manage the resources of the computer system, like memory and process management, etc.	It is designed to fulfill the requirements of the user for performing specific tasks.
Written in a low-level language.	Written in a high-level language.
Less interactive for the users.	More interactive for the users.
System software plays vital role for the effective functioning of a system.	Application software is not so important for the functioning of the system, as it is task specific.
It is independent of the application software to run.	It needs system software to run.

DOS and Windows

DOS and Windows square measure the various varieties of Operating Systems. DOS stands for Disk Operating System. It is a smaller amount probably employed in the current state of affairs whereas windows may be a wide used in operation system. It consumes less memory and power than windows.

Features of DOS:

- **Command Line Interface:** DOS is primarily a command-line operating system, which means that users must type commands to perform operations.
- **Small Size:** DOS is a very small operating system, which makes it easy to install on computers with limited storage space.
- **Low Resource Usage:** DOS has a very small memory footprint, which makes it ideal for use on computers with limited memory.

- **Compatibility:** Many old applications and games were designed to run on DOS, and it can be used to run them even on modern systems.

Window has no full form but it is widely used operating system than DOS operating system. It consumes more memory and power than DOS operating system. DOS and Windows square measure principally differentiated by the actual fact that DOS may be a single tasking, single user, interface primarily based OS developed within the year of 1979. On the opposite hand, all the windows version square measure multitasking, multiuser and graphical user interface primarily based OS.

Features of Windows:

- **Graphical User Interface:** Windows has a graphical user interface (GUI), which means that users can interact with the operating system using a mouse and a graphical interface.
- **Multitasking:** Windows allows multiple applications to run simultaneously, with each application running in its own window.
- **Compatibility:** Windows is compatible with a wide range of hardware and software, making it a versatile operating system.
- **Plug and Play:** Windows supports plug and play, which means that hardware can be connected to a computer and automatically recognized and configured by the operating system.

Similarities between DOS and Windows:

- **Command Prompt:** While Windows has a graphical user interface, it still has a command prompt that allows users to access the command line interface.
- **File System:** Both DOS and Windows use the File Allocation Table (FAT) file system.
- **Applications:** Many applications that were designed to run on DOS can also run on Windows, either natively or with the help of an emulator.
- **Compatibility:** Both DOS and Windows have a high degree of compatibility with a wide range of hardware and software.

Let's see the difference between DOS and Windows:

S. NO	DOS	WINDOW
1	DOS is single tasking operating system.	While windows are multitasking operating systems.
2	It consumes low power.	While windows consume high power.
3	It consumes less memory in comparison of windows.	While it consumes more memory.
4	DOS does not support networking.	While window supports networking.
5	DOS is complex in terms of using.	Whereas it is simple for using.
6	DOS does not share time.	While window can share time.
7	DOS is a command line operating system.	Whereas windows are the graphical operating systems.
8	DOS operating system is less preferred than windows.	While windows are more preferred by the users in comparison of DOS.
9	In DOS operating system multimedia is not supported such as: Games, movies, songs etc.	While windows support multimedia such as: Games, movies, songs etc.
10	In DOS operation systems, operation are performed speedily than windows OS.	While in windows OS, operation are performed slowly than DOS OS.
11	There is only one window opened at a time in DOS.	While in windows, multiple windows can be opened at a time.
12	DOS does not need any pointing devices.	While Windows uses various pointing devices such as light pen, mouse, etc.
13	DOS is not widely used in computer systems now-a-days.	While Windows is used now-a-days in computer systems.
14	DOS is free of cost.	While original version of Windows is expensive.

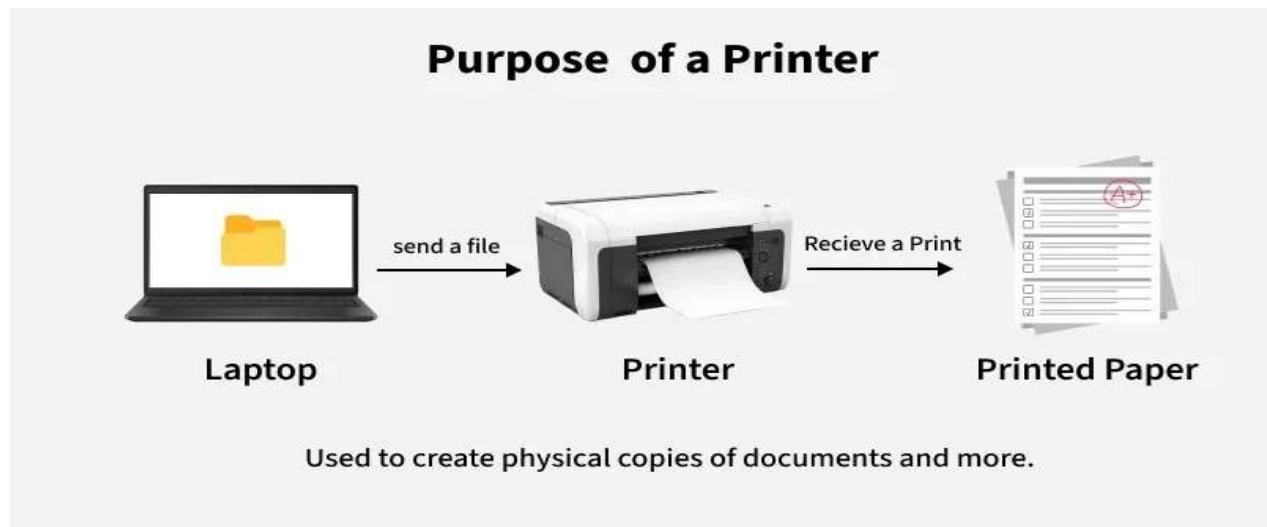
Conclusion:

While both DOS and Windows are operating systems used in personal computing, they have significant differences in terms of user interface, multitasking, hardware support, file system, and application support. Windows is a more modern and feature-rich operating system compared to DOS and is better suited for modern computing devices. However, DOS is still used today in some legacy systems and applications that require a command-line interface.

What is a Printer?

A printer is a device that accepts text and graphics output from a computer, and it transfers this information to paper, sheets. Printers can print any information that has been

passed to them, whether it be Text, Numbers or Images. It depends on the type of printer that determines what quality or colour the printed matter will be.



History of Printer

In 1822, Charles Babbage introduced the first mechanical printer with his Difference Engine. Inkjet printers were invented in the 1950s but became practical in the 1970s, with companies like Epson, Canon, and HP leading the way. In the early 1970s, Gary Starkweather at Xerox created the first laser printer by modifying a copier. This led to the HP LaserJet in 1984, making laser printers more affordable. Apple's 1985 LaserWriter introduced PostScript technology to the market. In 1984, Chuck Hull demonstrated the first 3d printer, while IBM introduced the first dot matrix printer in 1957.

Type of Printers

Depending upon the printing methods and the quality of images produced, printers are of two major types:

1. Impact Printers
2. Non-Impact Printers

Impact Printers

This type of printer works with paper via direct contact with an ink ribbon. It has similar mechanisms to that of a typewriter.



Examples of non-impact printers are Inkjet printers, Laser Printers and etc.

1. Inkjet Printers: The inkjet printers are the most common and widely used in both professional and domestic settings. It is popular due to its numerous advantages and very few drawbacks.

Advantages of Inkjet Printers

- ✓ Capable of printing highly detailed and photo-elastic prints.
- ✓ Small footprints
- ✓ Environment friendly
- ✓ Compact Design
- ✓ Versatile
- ✓ Best Picture and Image quality

Disadvantages of Inkjet Printers

- Higher cost per page than laser printers
- Less Reliable
- Slow print speed

2. Laser Printers: Laser Printers were developed by Xerox in the 1960s. The majority of laser printers use light, photoreceptor belts, and photosensitive drums. During printing, the laser will scan the page line by line. The most accepted writing method is black and white lasers, which print content in black text.

Advantages of Laser Printers

- Cost-effective than inkjet printers.
- High print speed.

- Expandable with paper trays, finishes, etc
- High paper capacity.

Disadvantages of Laser Printers

- Large footprints.
- High voltage usage.

3. LED Printers: LED Printers are quite similar to Laser Printers, but they use LED instead of laser to create pictures/images. LED printers are considered more efficient and reliable than laser printers.

Advantages of LED Printers

- Efficient
- Reliable
- Cheaper than laser printers.

Difference Between Impact Printer and Non-Impact Printer

The main difference between impact printers and non-impact printers is how they print on paper:

Feature	Impact Printer	Non-Impact Printer
How it works	Hits the paper with pins or hammers	Uses heat or ink to print
Noise	Loud	Quiet
Print Quality	Lower quality (dots)	High quality (clear text and pictures)
Speed	Slower	Faster
Cost	Cheaper	More expensive
Print Types	Can print on multiple sheets	Prints on one sheet at a time
Maintenance	Needs more care and repairs	Easier to maintain
Examples	Dot matrix printers	Inkjet or Laser printers

Qualities to Check Before Buying a Printer

- **Color Capability:** Many current printers can produce colour prints as well as black-and-white ones. Colour printing costs more because it requires multiple ink or toner supplies, usually in black, cyan, magenta, and yellow shades.

- **Print Clarity:** The detail and clarity of printed text or images are measured by how many dots fit into an inch (dpi). A basic printer often delivers enough sharpness with a 600 dpi rating.
- **Printing Speed:** For those who need to print frequently, how fast the printer works matters. Basic models may handle only 3–6 pages every minute, while high-end machines can print much faster.
- **Internal Storage:** Printers usually come with a small built-in memory space, often between 2 to 16 MB. Extra memory can be added, which is helpful when dealing with pages full of large graphics or images.

Conclusion

A printer is a adaptable electronic device that produces physical copies of digital documents, images, or graphics. It is used in both personal and professional settings, offering various printing technologies such as inkjet, laser, and thermal printing. Printers have changed over time, becoming faster, more efficient, and capable of producing high-quality outputs. They are essential for a wide range of tasks, from home office use to large-scale commercial printing, making them an indispensable tool in today's digital age.

Check Your Progress

- Differentiate between system software and application software.
.....
.....
- What is the role of an operating system like DOS or Windows in a computer?
.....
.....
- Explain the function of a printer in a computer system.
.....
.....

UNIT II

Creating a New Document – Open and Close Document – Delete a File – Save a File – Cut, Copy and Paste

Objectives

- To create a new document using application software.
- To open and close existing documents properly.
- To save and delete files effectively.
- To use cut, copy, and paste commands for editing text or files.

Creating a New Document

Microsoft Word or MS-Word is a Fantastic word processing program that has many features, and it is very user-friendly and interactive for the user. It allows the user to create documents such as letters, articles, etc. It is easy to work with because of the vast features provided by MS-Word.

Opening the Document

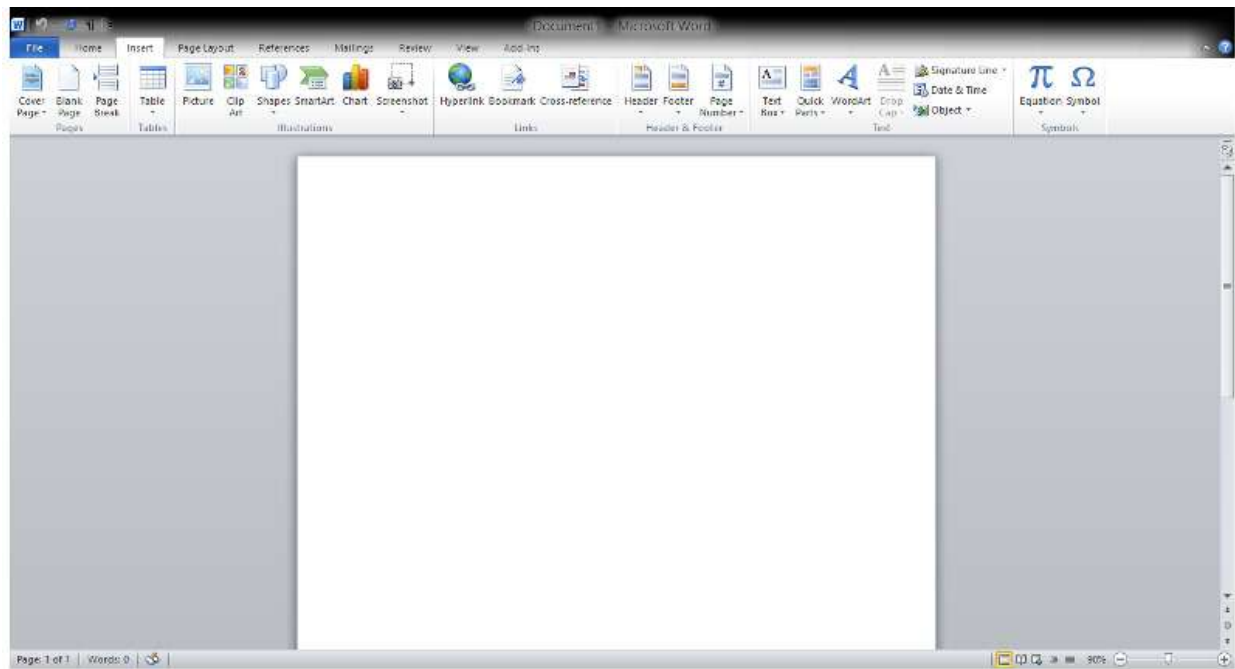
Opening a document is very basic, and it is a kind of the first step for a user to start with MS Word. It is obvious that to make any document or to modify any document, We have to open that document first. So, in this article, we will learn how to open a document in MS Word. For this, we will learn step by step the whole process of opening a document with the help of sample images and also necessary instruction:

Method 1: Opening Default Document

When we open MS-Word, we find that a blank page with a default name ("Document1" generally) is opened.

Step 1: First Open MS-Word on your PC.

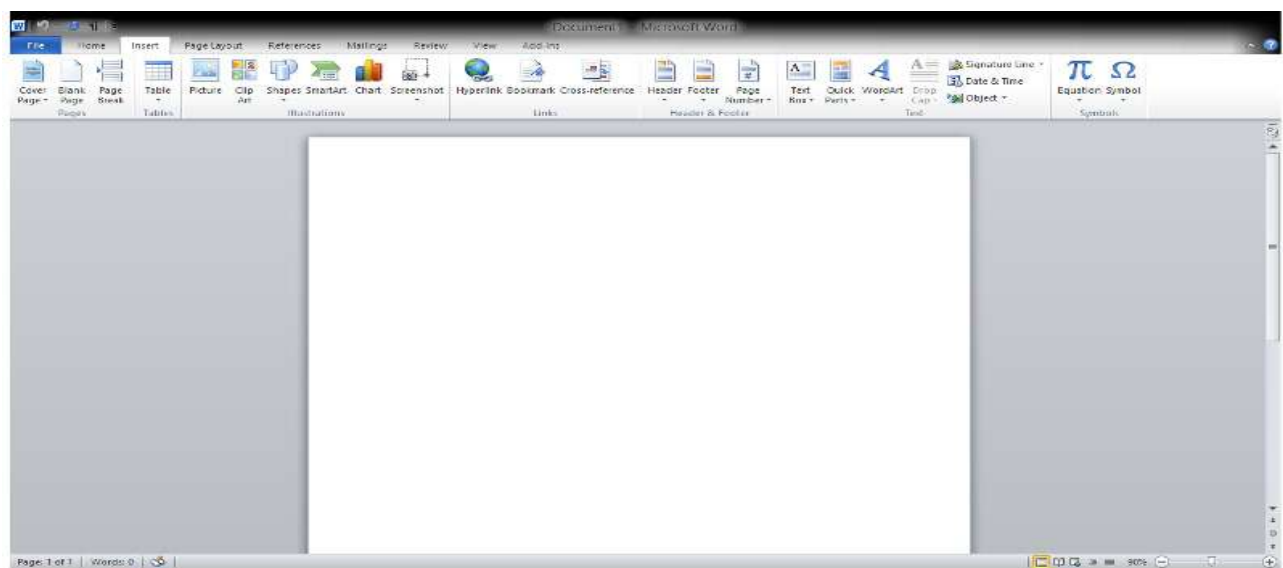
Step 2: By default, a new document with a blank page is already opened and the screen looks like the below image.



Method 2: Opening a document of your choice

We use MS-Word to create different types of documents. So, a situation may come where we need to open a document i.e. already existed, and we need to modify that document. So, for this follow the steps below:

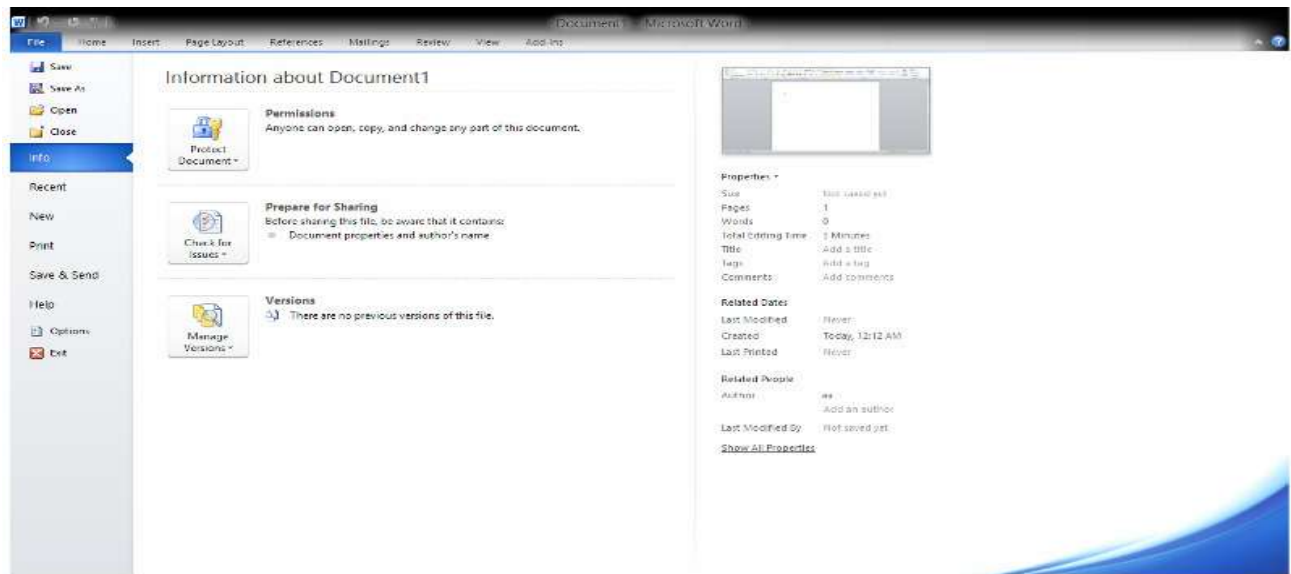
Step 1: First Open MS-Word on your PC. So, the screen looks like the below image:



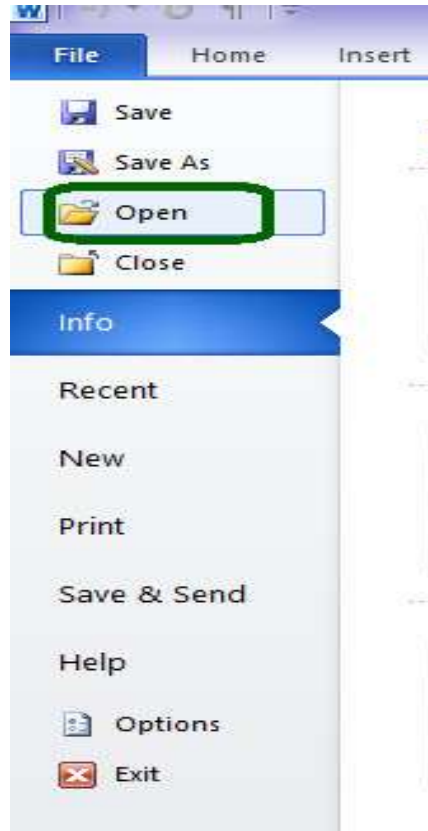
Step 2: Now, above there is a tab called "File"(Shown in the image below).



Step 3: Now, Click on the "File" tab and the file tab will open and looks like the below image.



Step 4: Now, on the left-hand side of the page or screen there are many options. Select "Open" to open a document of your choice.



Step 5: Now, open the document of your choice, by double-clicking on the file of your choice.

Step 6: Now, the opened document will look something like the below image.



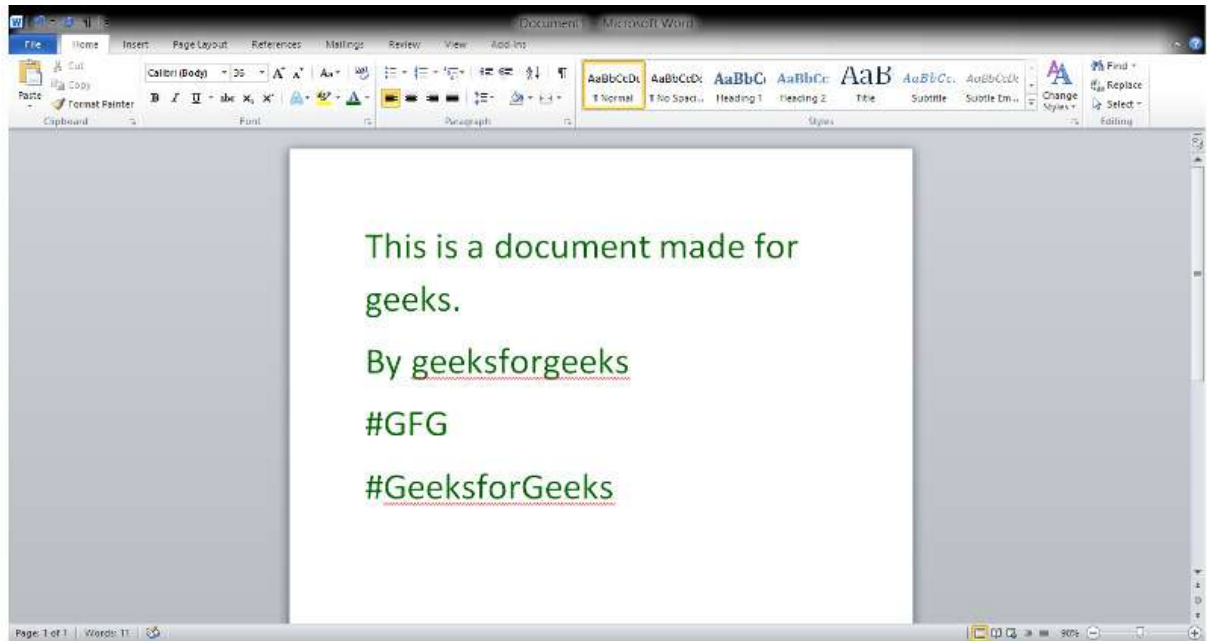
Step 7: You have successfully opened the document of your choice.

Method 3: Opening a New document

This is a condition or situation when a user is already working in MS-Word and wants a new document. So, let us see how it can be done step by step:

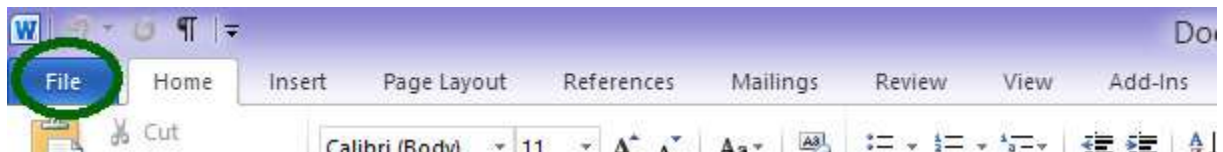
Step 1: First open MS-Word on your PC.

Step 2: Now, Open the document in which you would work.(like in the below image)

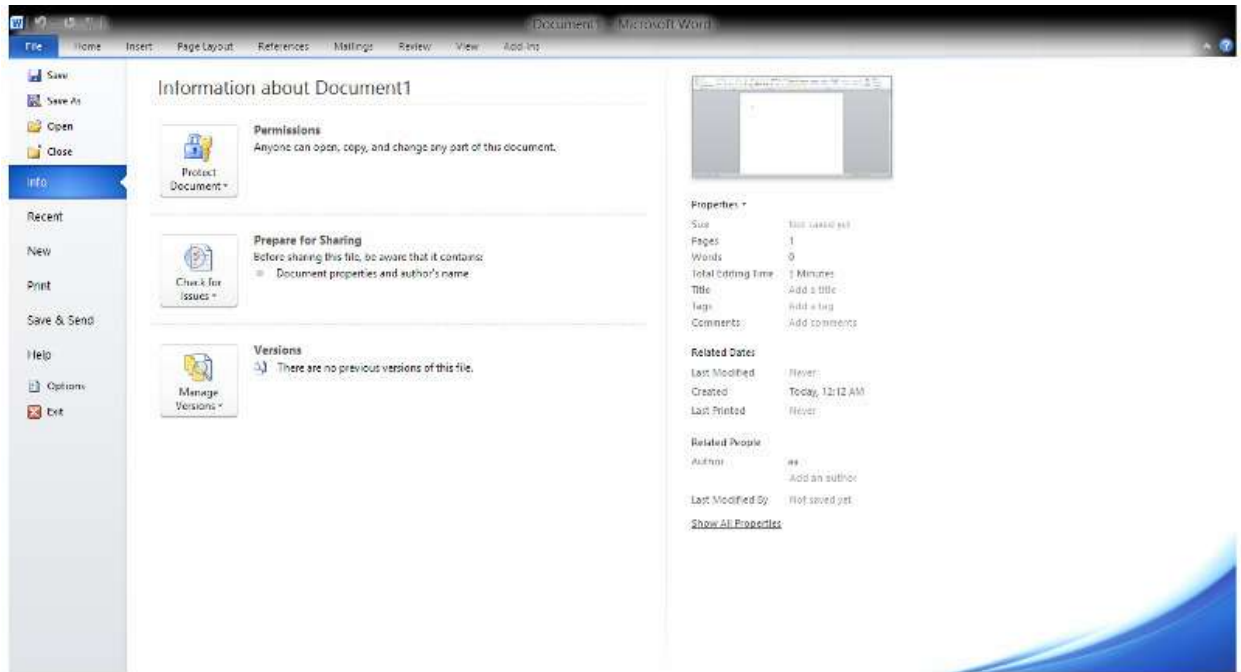


Step 3: Now, You want to open a fresh new document to work in.

Step 4: Now, above there is a tab called "File"(Shown in the image below).



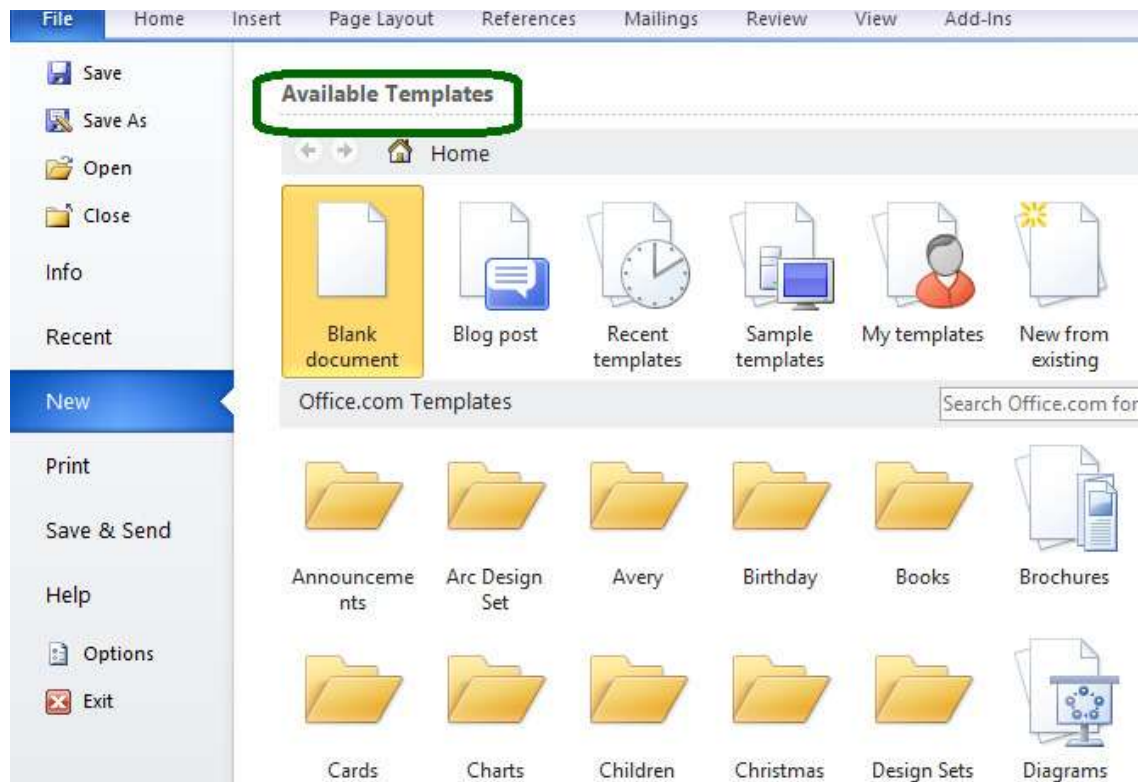
Step 5: Now, Click on the "File" tab and the file tab will open and looks like the below image.



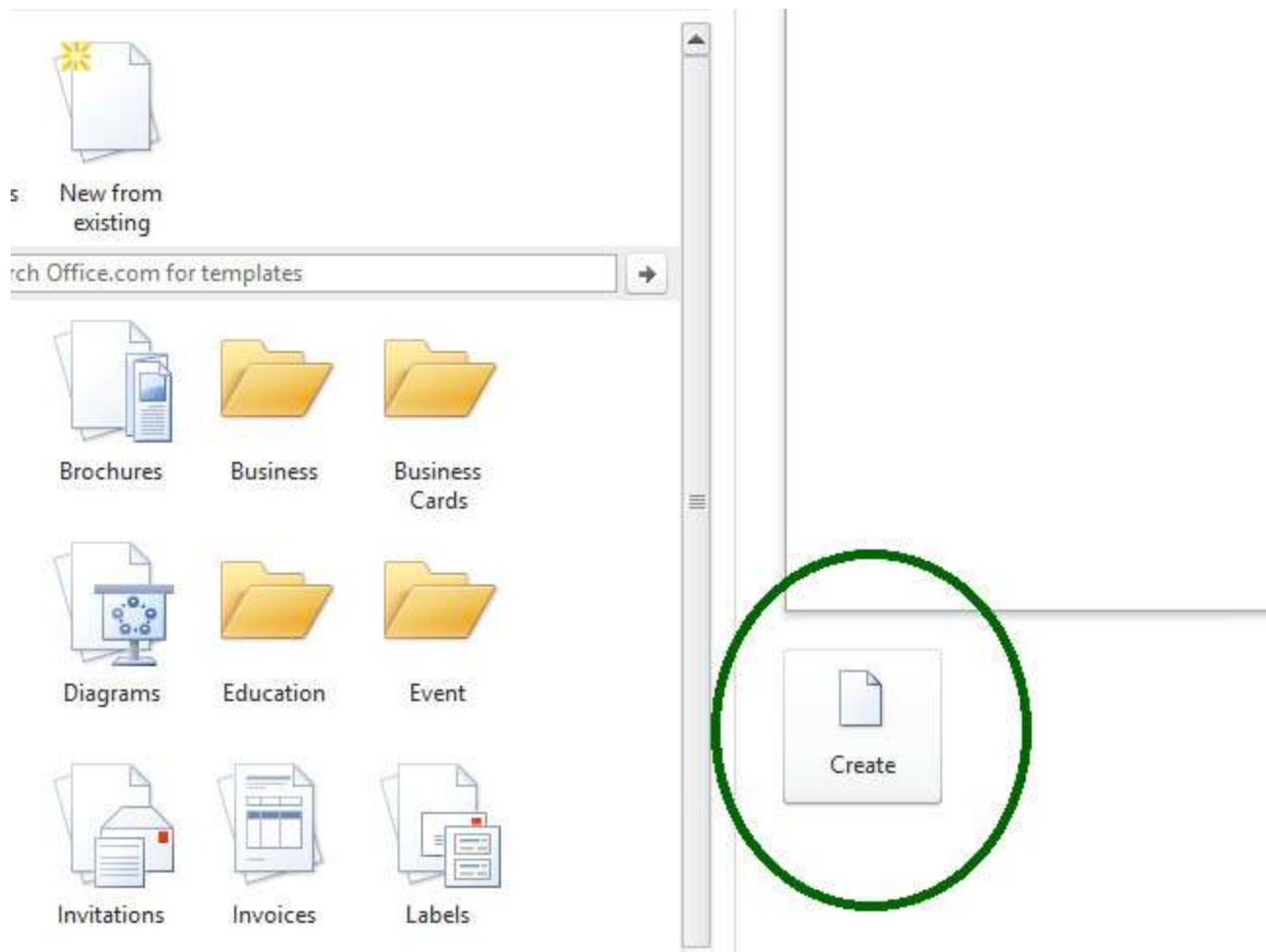
Step 6: Now, on the left-hand side of the page or screen there are many options. Select "New" to open a fresh new document.



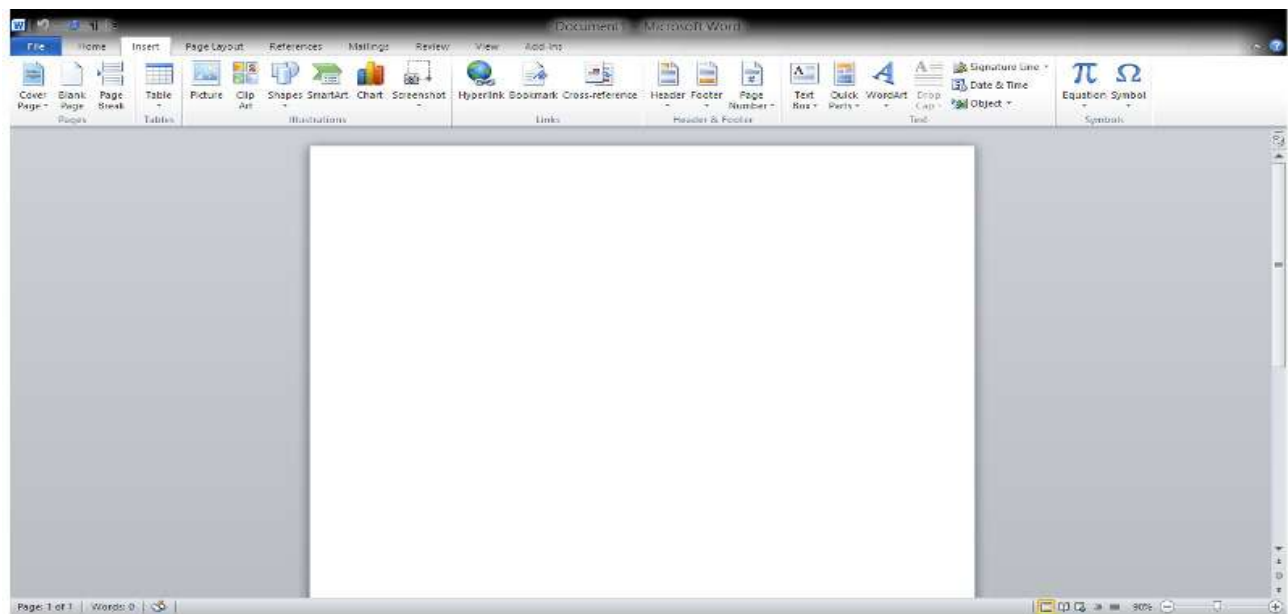
Step 7: Now, After clicking on "New". Select a Template from "available Template" option. (marked in the image below)



Step 8: After selecting a template (in this example blank is selected). Click on the "create" option, which is present on the right side of the screen.



Step 9: You have successfully created the new document or opened a new document.



So, in all these ways we can open a document in MS-Word.

Open and Close Document

MS Word or Microsoft Word is a software used to create documents such as reports, PDFs, pictured-document, assignments, etc. Microsoft provides features like Adding Images, Adding Visual effects, adding charts and graphs, etc. to a word file.

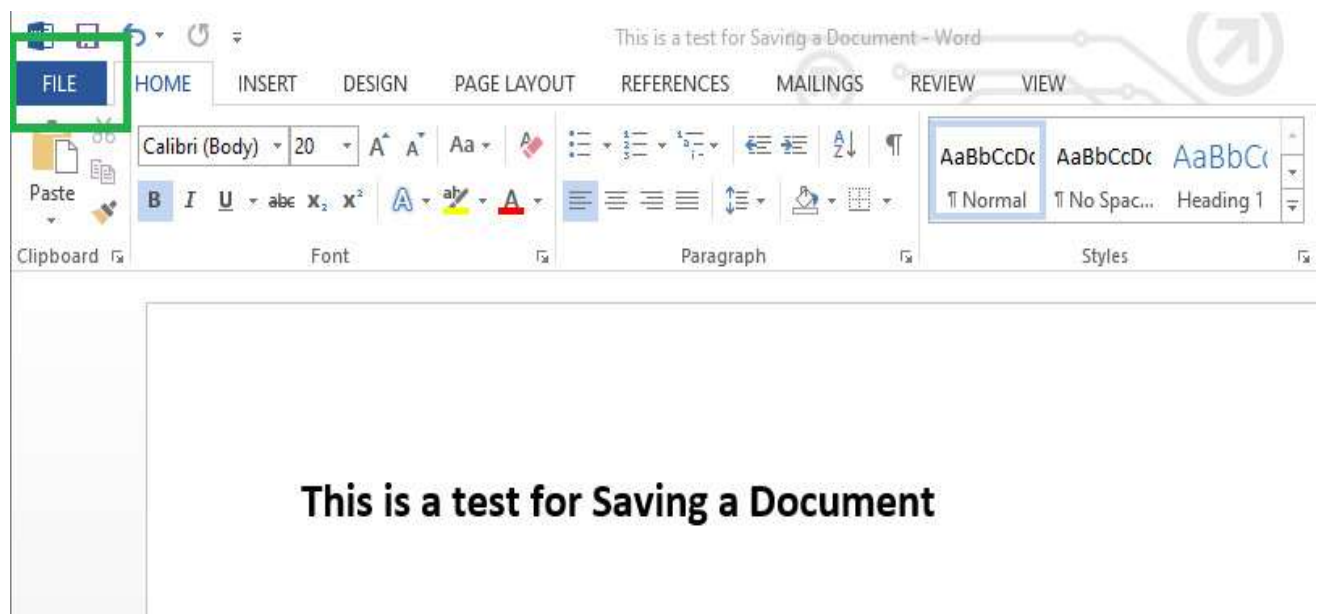
Closing a Document

Closing of a document after the desired work to it is done or there is a need for a break in between completing the content of the file, is a very important task, as it helps to prevent the undesired changes to occur to the content. Closing a document doesn't necessarily mean that there is a need to close the entire MS Word, one can easily close a specific file that is currently open in the MS Word and then continue working with another file. There are multiple methods to close a document/file in MS Word.

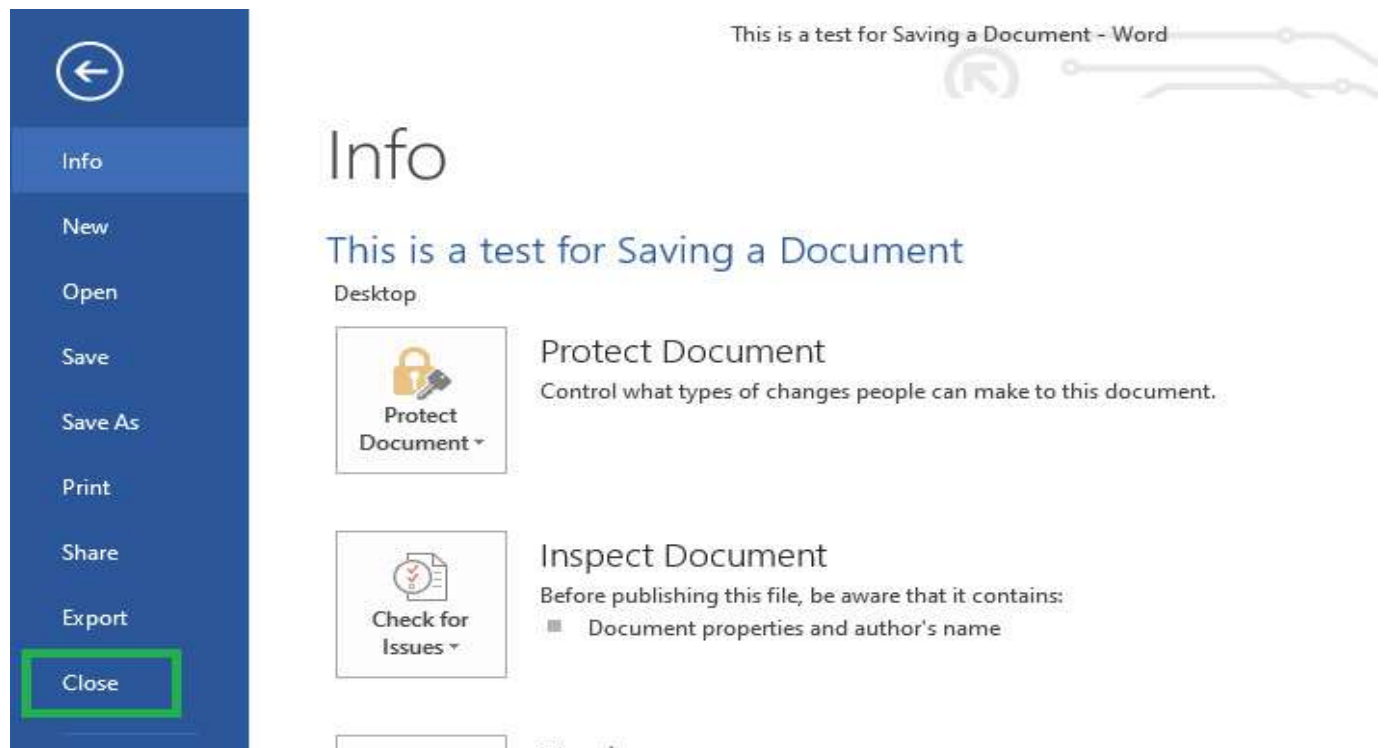
Method 1: Using the File Menu

MS Word provides a specific option to close the Word Document after the work to it is done. Following are the steps to do the same:

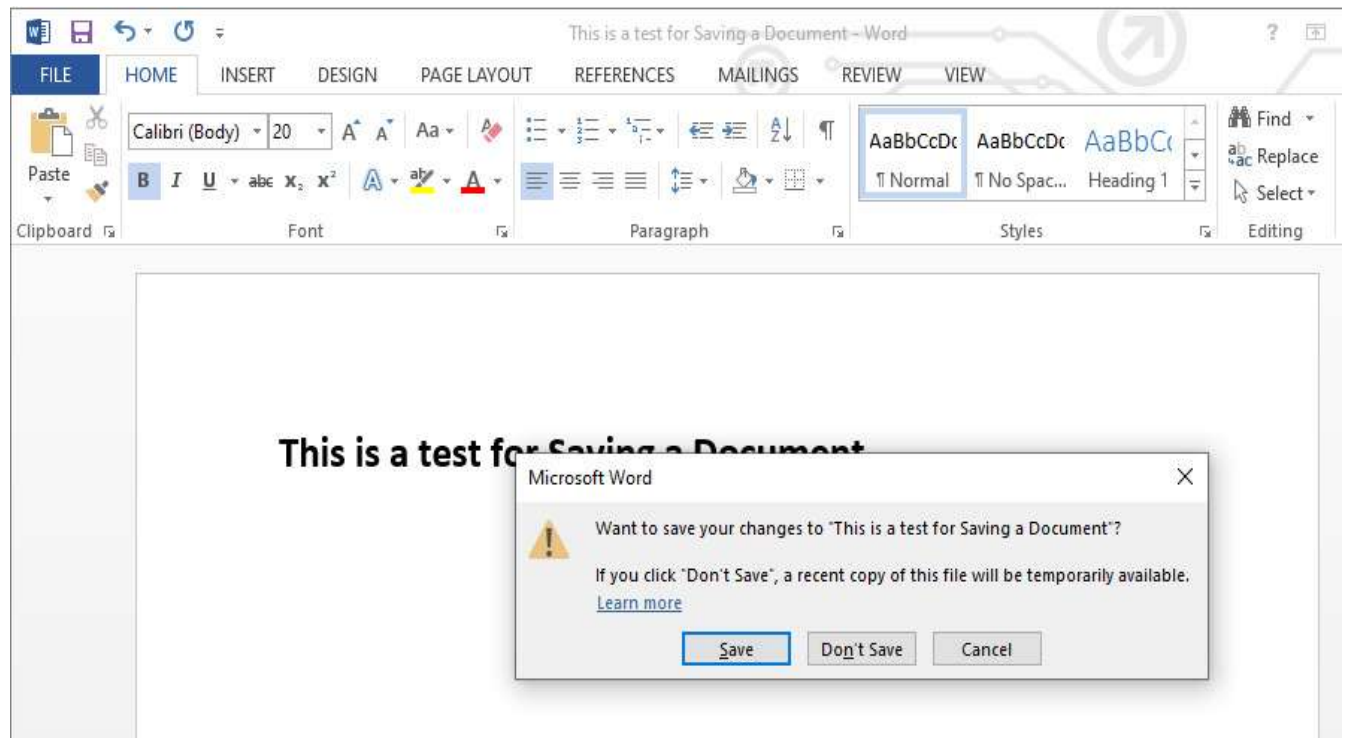
Step 1: Click on the File Menu Tab.



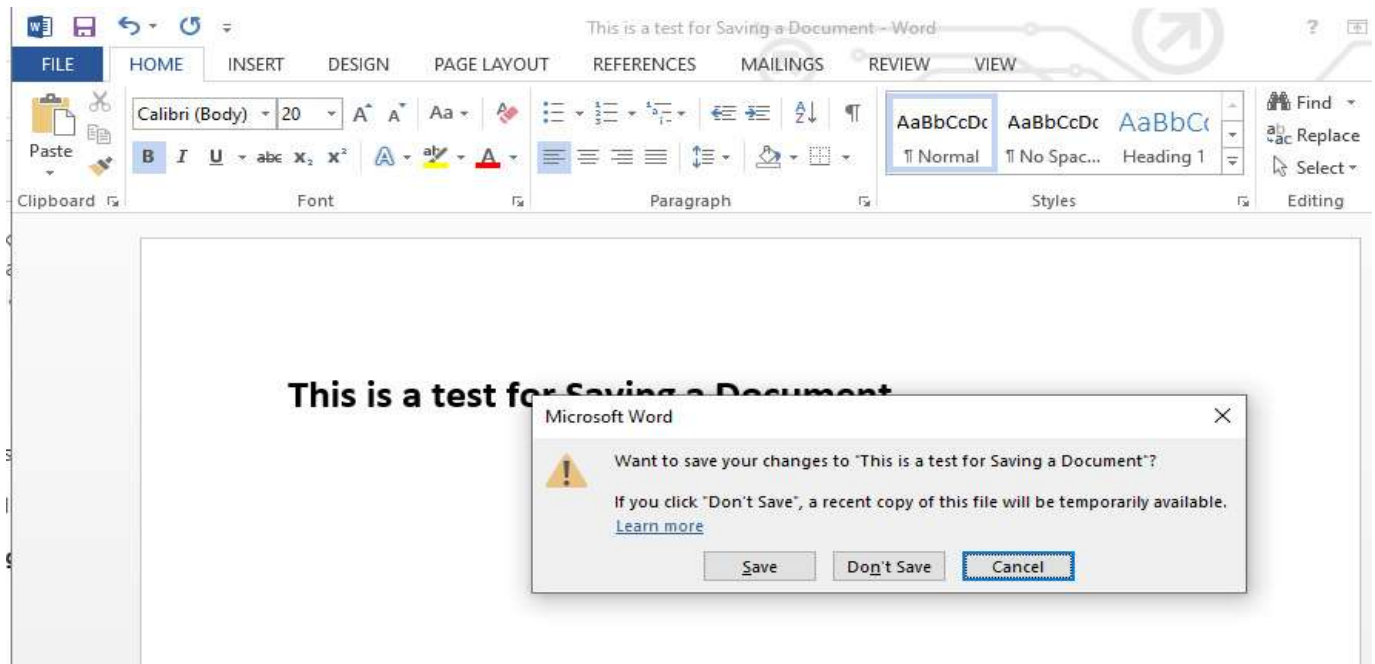
Step 2: Click on the Close button provided in the options under File Menu.



Step 3: If the file is not saved, a pop-up will arise asking you to save the file. You can choose either to Save the file and perform the save operation or if there is no need to save the File, choose the Don't Save button.



Step 4: In case, the Close button is pressed by mistake, MS Word gives you a second option to cancel the close operation.

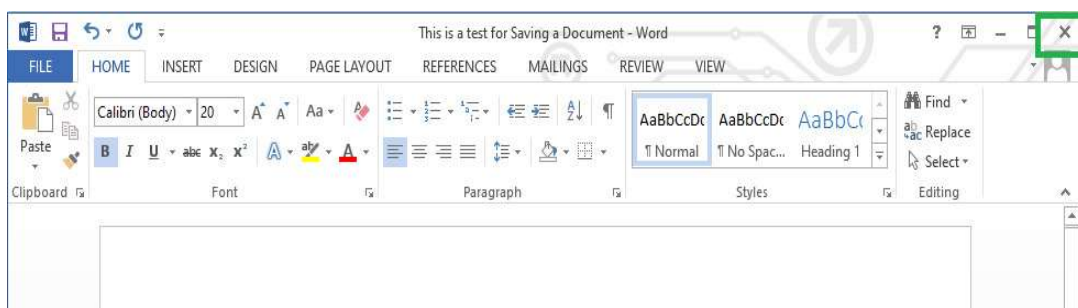


Note: These options provided in the pop-up menu will only arise for the Unsaved Files. Saved files will close directly.

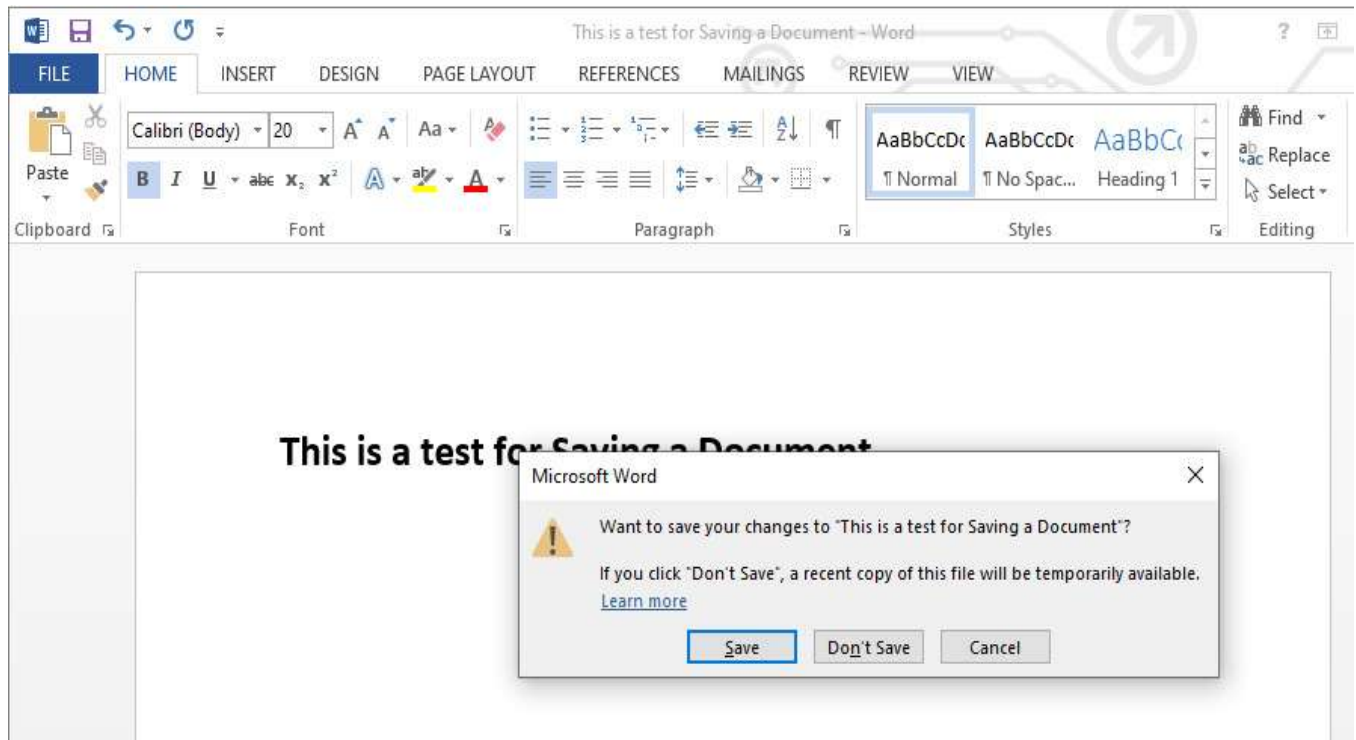
Method 2: Using the Window Close button

If you do not want to use the File Menu tab, then MS Word document can also be closed by the Close button provided in the File Window.

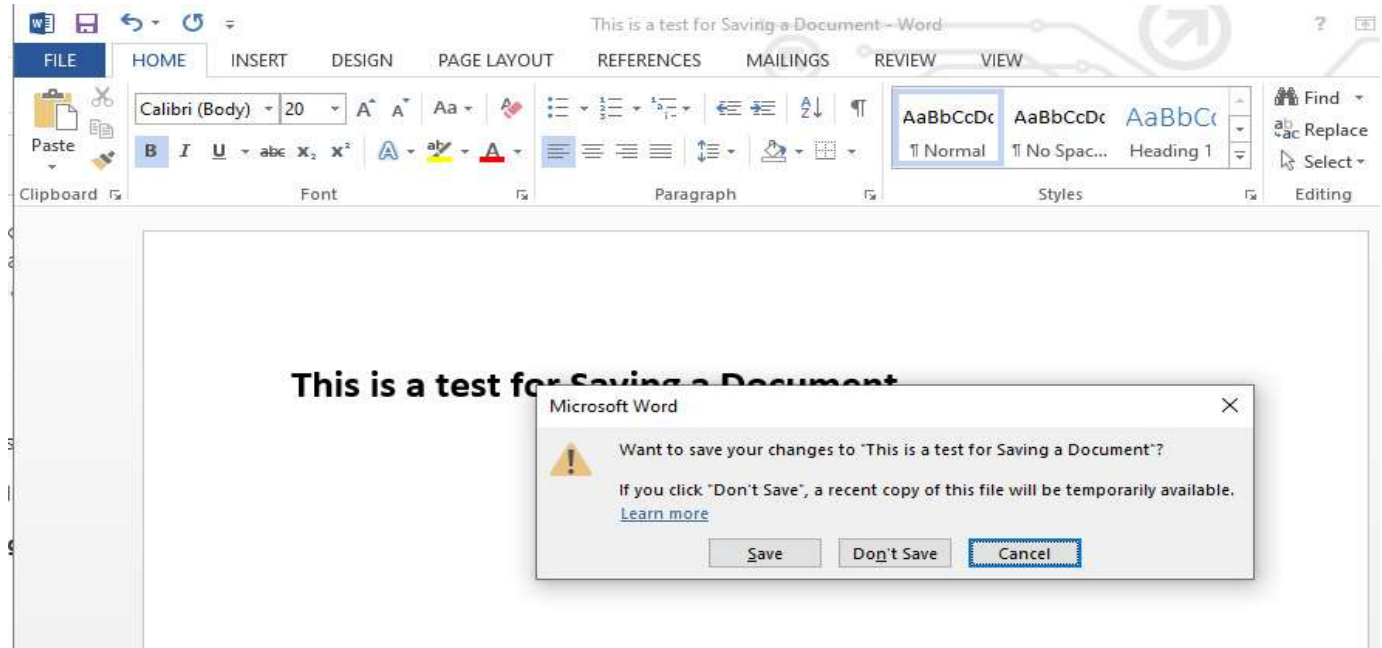
Step 1: Click on the 'X' button provided in the Top-right corner of the File Window.



Step 2: If the file is not saved, then a pop-up will arise to either Save the file or Don't Save and Close the file as it is.



Step 3: If the 'X' button is pressed by mistake, then the Cancel button can be used from the pop-up to avoid the file from getting closed.



Method 3: Using the Shortcut Keys

If you don't want to use the mouse and want to close the file, then use the shortcut keys that are provided by MS Word to close a file.

Step 1: Press the 'CTRL + F4' keys simultaneously to close the Word File.

Step 2: If the File is an existing file and the changes are unsaved, then you can press 'CTRL + S' before performing Step 1.

Delete a File

How to Delete a Microsoft Word Document

Delete a Document in Microsoft Word

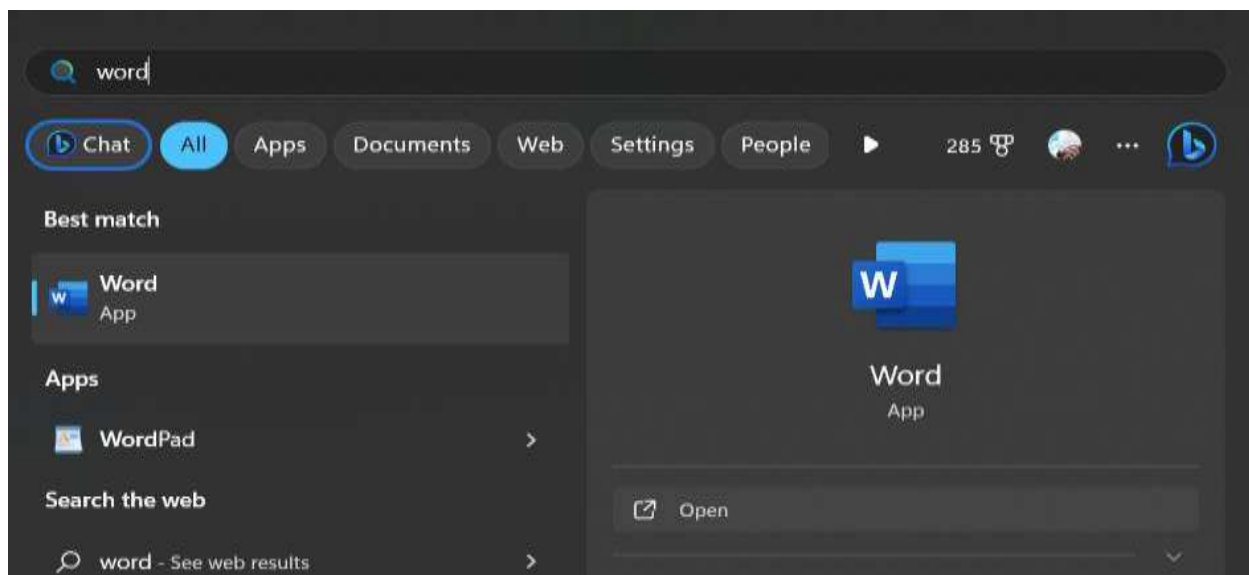
- Open Microsoft Word > Select the "File" tab > Choose 'Open'
- Select the File > Right Click the Document > Select Delete
- Confirm Yes

Microsoft Word, a powerful word processing tool, simplifies the creation and editing of documents. However, managing your documents efficiently is equally crucial. Whether you're dealing with obsolete files, duplicates, or simply need to free up space, the process of deleting a document in Word is just as straightforward as creating one. In this article, we'll guide you through the easy steps to swiftly declutter your digital workspace and regain valuable memory space.

How to Delete Documents from Microsoft Word

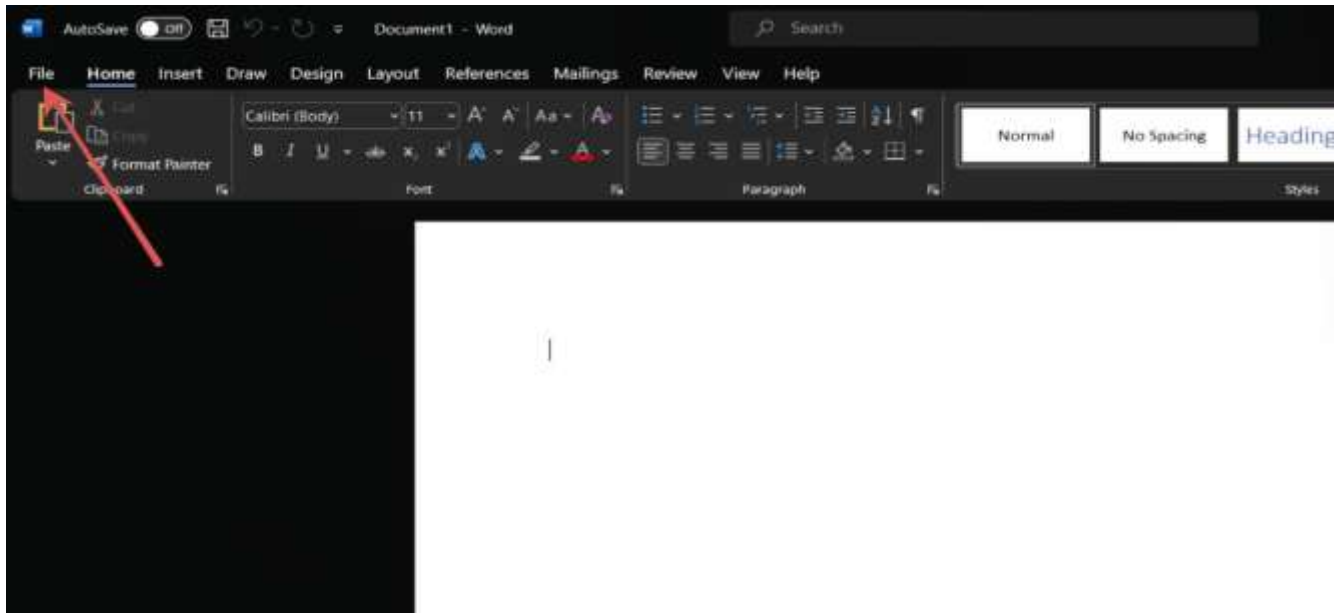
Step 1: Open Microsoft Office Word

On your computer desktop, you can access the office suite and locate Microsoft Word to launch the application.



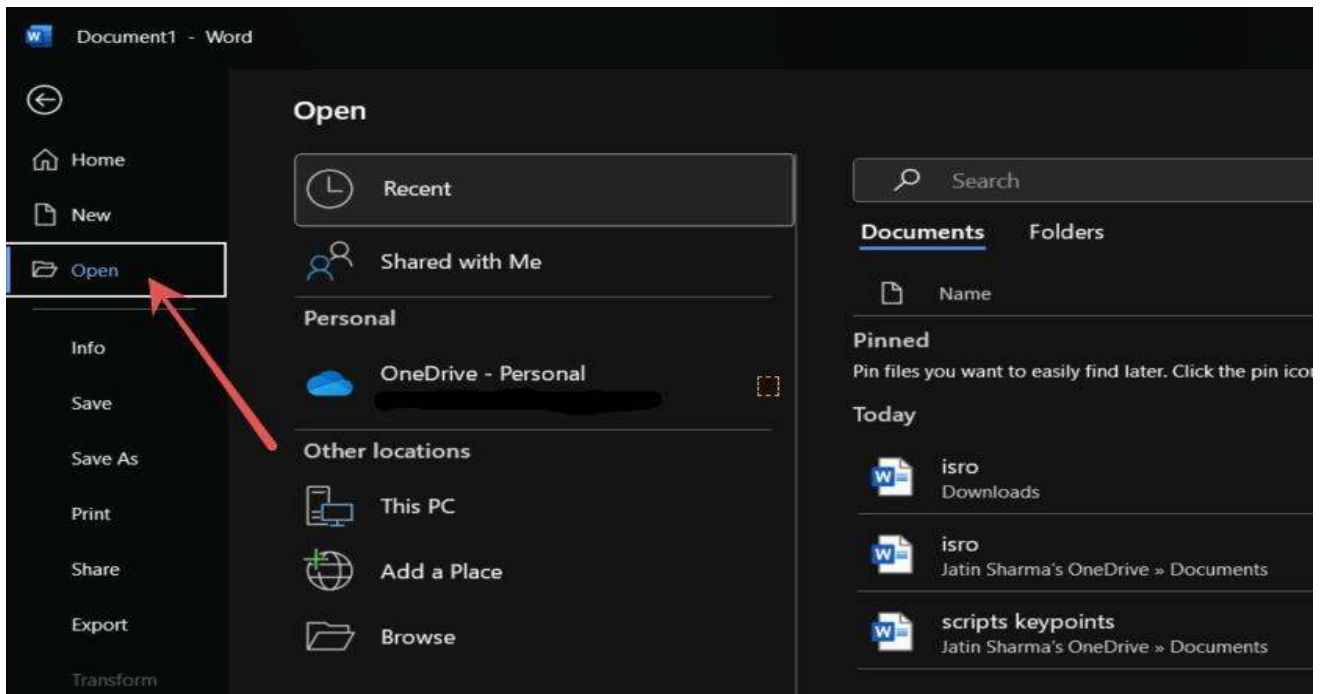
Step 2: Select File Tab

In your document access and select the "File tab" in the top-left corner once the window has opened. As you click on it a drop down menu will appear consisting of different options.



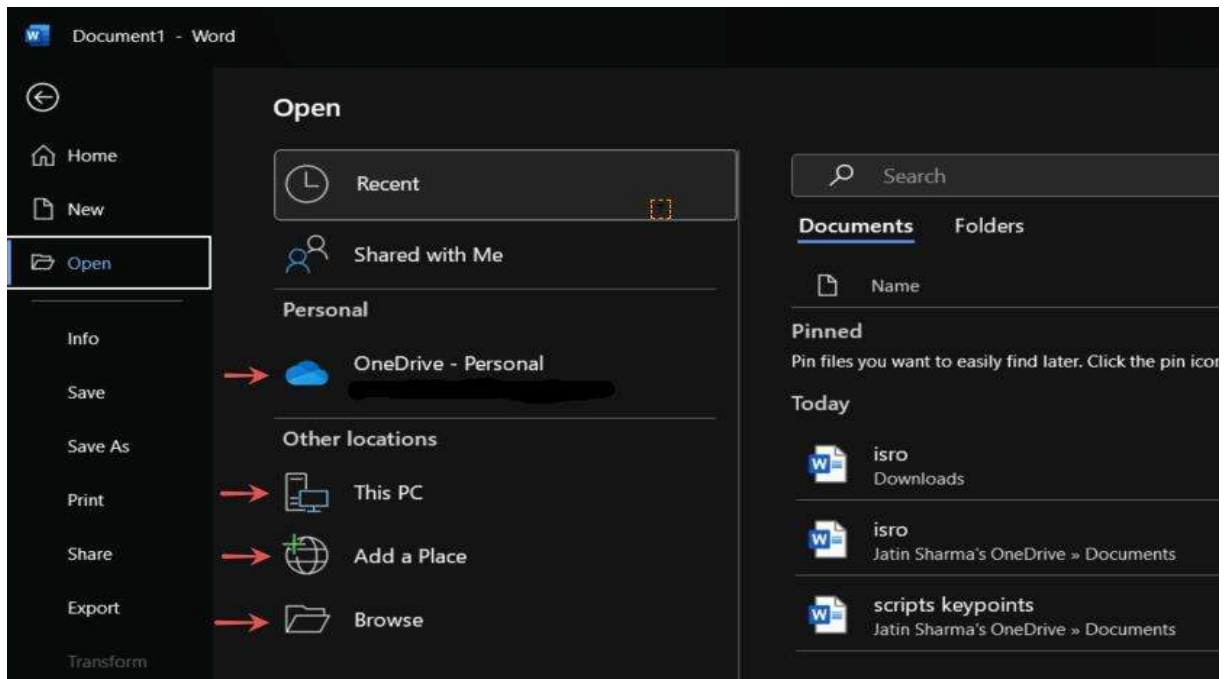
Step 3: Click on Open

Among different options given, Choose 'Open' from the drop-down menu to access your files.



Step 4: Select the Location of the Document

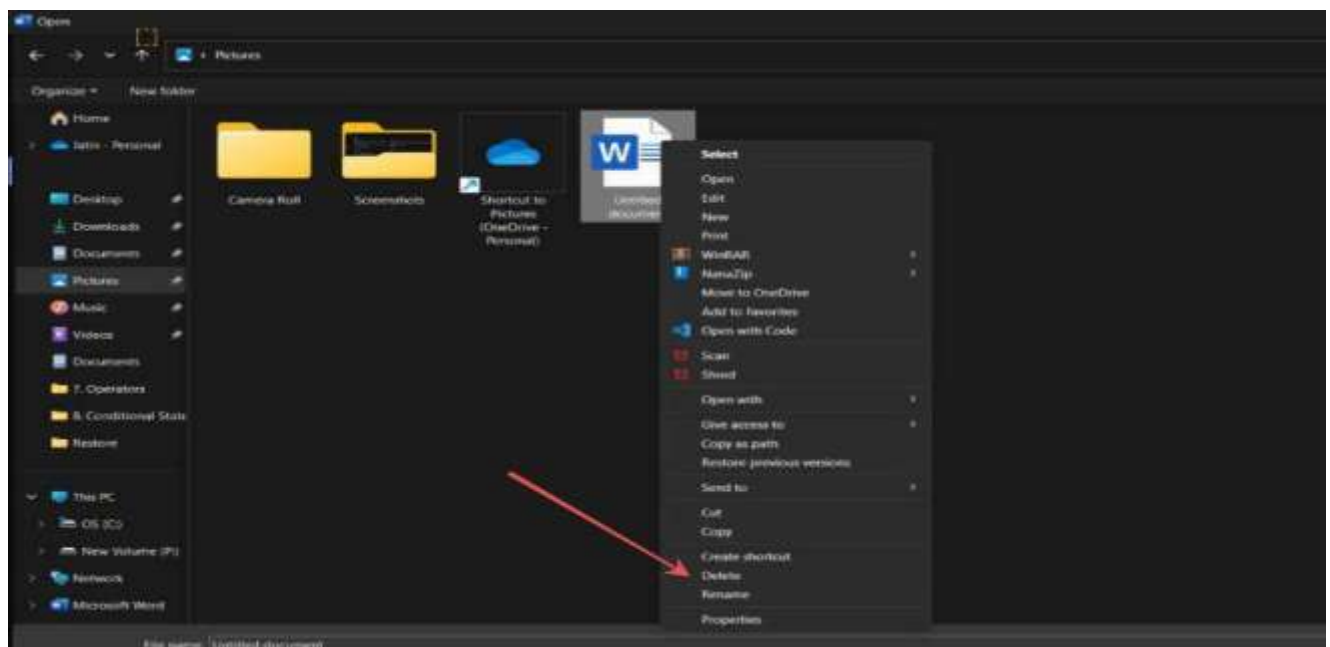
After clicking on open you need to go to the precise location of the file you want to delete by navigating there using any of the given approaches as shown in the below figure.



Step 5: Select Document and Right Click to choose Delete

Find the file you want to delete and then press the 'Delete' button from the menu by right-clicking it.

Note: The file that you deleted will go into the trash bin, from where you can recycle it again as per your need.



How to Delete a Word Document on Mac

Step 1: Go to Finder.

To delete a Word document, you must locate the MS word document within Finder.

Step 2: Locate the Word document you want to delete, then right-click it.

Step 3: Select Move to Trash

Conclusion

We have learned how to delete a doc in word easily on your desktop and mobile device. This is easy to do as at first you have to open the Word application then click on the file tab, select the location of the file to be deleted from where you can delete the required file. Alternatively, you can also delete the doc by simply going to the file explorer, browse to the file location and select the doc to be deleted. Deleting the Doc in Word on Mobile Device is also quite a simple process and can be done by Search for the file which is required to be deleted in the Files Manager and then Search for the file, long press the file and then select delete tab and then give the final confirmation. The file will get moved to the trash bin and can be deleted permanently from there.

Save a File

Save a Document in Microsoft Word

MS Word or Microsoft Word is a software used to create documents such as reports, PDFs, pictured-document, assignments, etc. Microsoft provides features like Adding Images, Adding Visual effects, adding charts and graphs, etc. to a Word file.

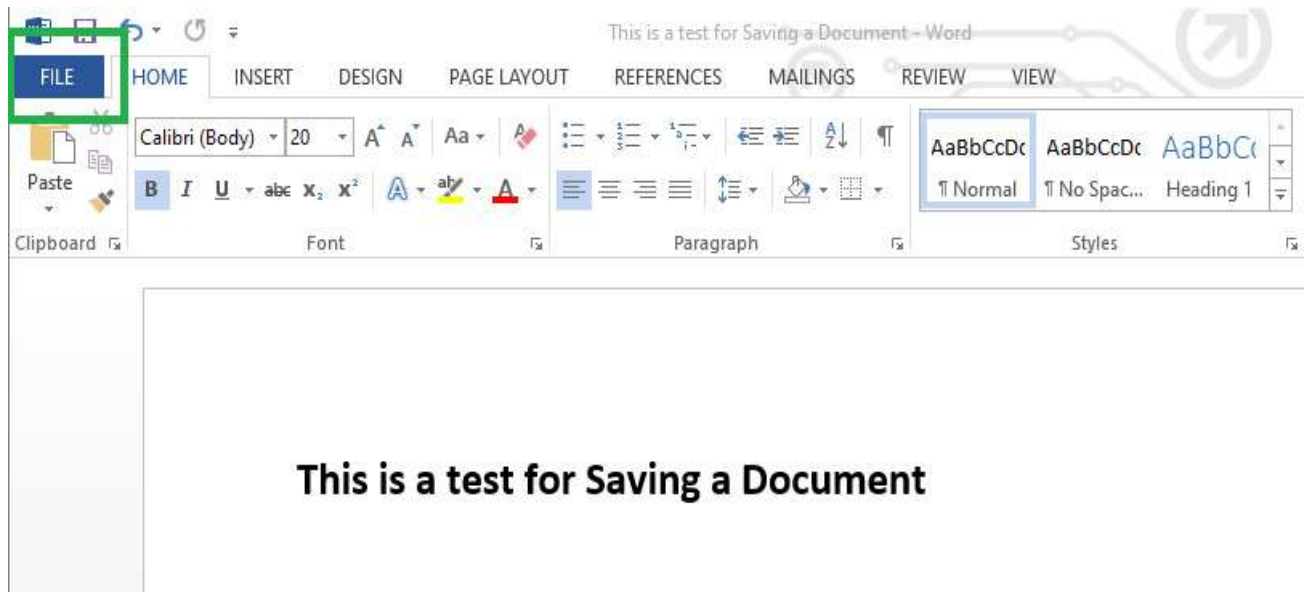
Saving a Document

Saving a document is a very important step that is to be executed right after the addition of some content in a document. This is done to prevent the loss of data that might occur because of power cuts or system failure. There are multiple ways provided by MS Word to save a file or a document with/without a name specified by the user.

Method 1: Saving a file with File Menu

To save a document using the options provided by MS Word in its File menu, go through the following steps:

Step 1: Click on the File Menu.



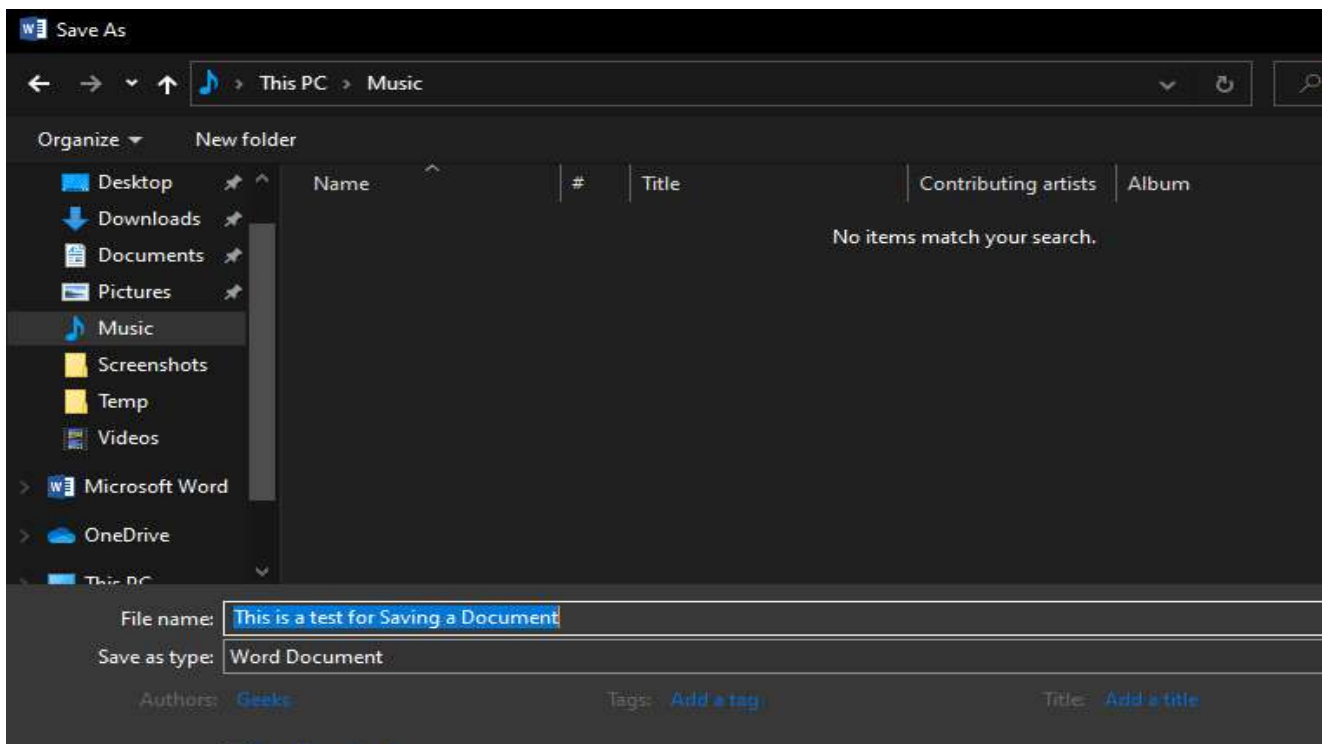
Step 2: Go to the Save or Save As button provided.



Step 3: Select the location where you want the file to be saved.



Step 4: Provide a name to the file or use the default one.



Step 5: Click on the Save button



Method 2: Using the Keyboard Shortcut Keys

MS Word allows us to use the shortcut keys, in case we don't want to go through the process of clicking on File Menu and selecting Save. Steps to do the same are given below:

Step 1: Use the keys 'CTRL + S' to enter the Save As menu after the creation of a new file.

Step 2: Follow the steps from Step 3-Step 5 provided in the method 1.

Note: This shortcut will only allow to save the file with a new name only once, rest all the times, it will just overwrite the existing file.

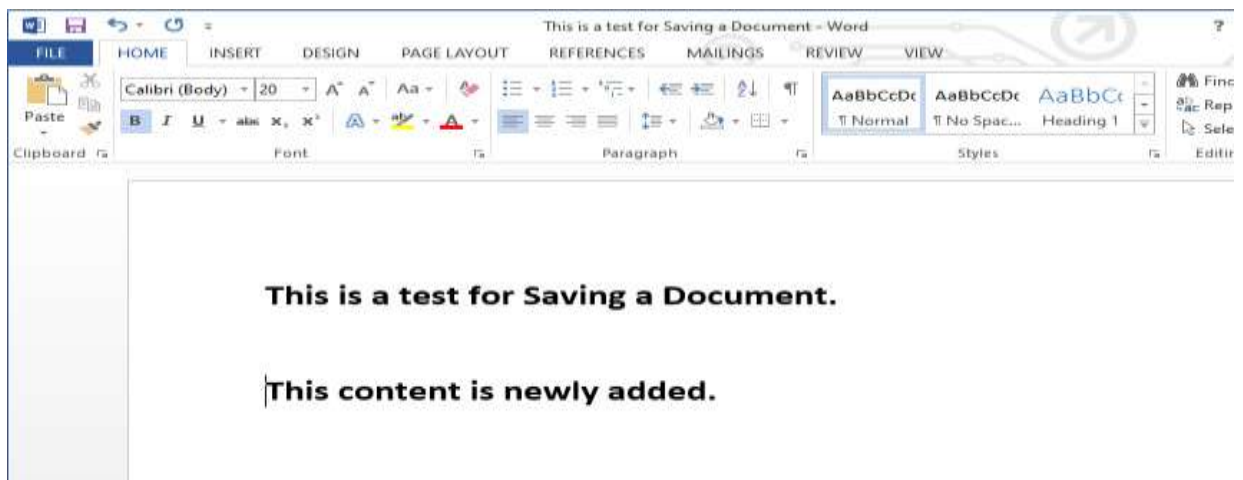
Saving a File with New Name:

To save an existing file with a new name, Save As will be used. Save button will just overwrite the existing file with the same name.

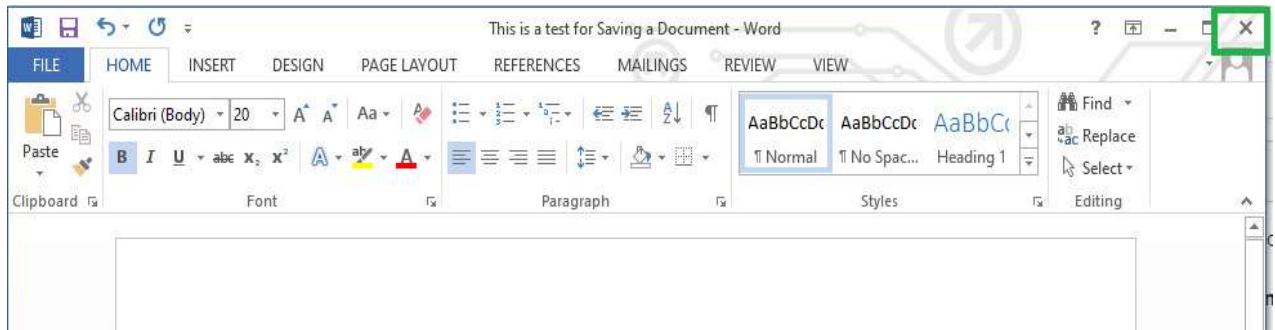
Method 3: Saving a Document while Closing

Sometimes, we may forget to save our file after making changes to its content and then try to close the file, MS Word will prevent the user from doing so, by providing a pop-up to Save the file while being closed.

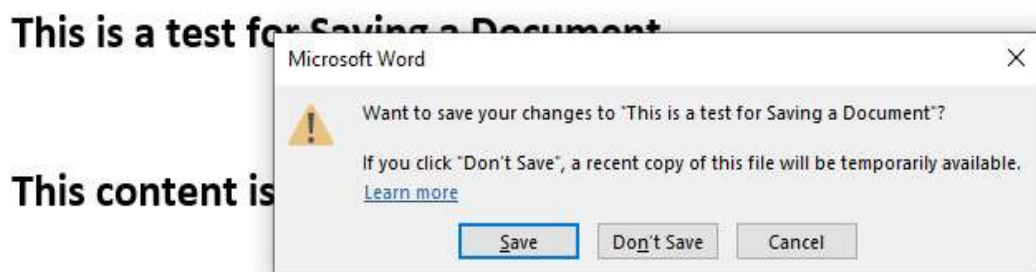
Step 1: Add content to a newly created file or an existing file.



Step 2: Close the file with the Close button provided on the Top-right corner of the Window.



Step 3: Choose the option of Save provided in the pop-up.



Step 4: Further follow the steps to save the file as explained in the previous methods.

Note: This option is used just to prevent the content from getting lost and is not a recommended method. Use the other two methods to save the file.

Method 4: Saving a file with other extensions/format.

From the Save As section we can also save our word file into different formats if necessary. It might not be a word document; it can be PDF, XPS Document, older version of office document etc. While saving our file after clicking Save As, we can select the format from the drop down menu to which we would like to save / convert our word file.

Cut, Copy and Paste

How to Cut, Copy and Paste on Windows

If you use regularly use a Windows PC, laptop, or any other device, you probably know how essential it is to cut, copy, and paste content. These actions are some of the most basic and time-saving tools to handle text, files, and images on your computer.

In this guide, you will learn some of the quick methods to cut, copy, and paste, from keyboard shortcuts to Clipboard History and beyond. Whether you're on a desktop or laptop,

these tricks will make your life much easier. Let's walk through how to cut, copy, and paste in the easiest way possible.



How to Cut, Copy, and Paste on Windows PC and Laptop: 8 Easy Methods

Performing the cut, copy, and paste on laptop is one of the most basic task that every user performs in their day-to-day task. Below are the best 8 methods to perform this action, let's find out:

1. Using Keyboard Shortcuts

Keyboard shortcuts are one of the fastest and most efficient ways to copy, cut, and paste on Windows, working across both Windows 10 and Windows 11. Here are the common shortcuts:

Copy: Select items and press **Ctrl + C** to copy to the clipboard.

Cut: Select items and press **Ctrl + X** to cut (removes from the original location).

Paste: Go to your destination and press **Ctrl + V** to paste.

Paste as plain text (no formatting): **Ctrl + Shift + V**.



2. Using Mouse (Right-Click)

This method is helpful for users who prefer working with the mouse rather than keyboard shortcuts. Both Windows 10 and Windows 11 support cut, copy, and paste through the right-click context menu:

- Select the content you wish to cut or copy.
- Right-click the selected item.
- Choose Copy or Cut from the context menu.
- Paste: Right-click in the destination and select Paste from the menu.



Note: This method is especially helpful when you're working with files and folders on your laptop or Windows desktop.

Copy and Paste Operation in MS Word

Microsoft Word or MS-Word is a powerful word processing program which have many features, and it allows you to create documents such as letters, articles, etc. It is very much user-friendly and interactive to the user, i.e. is easy to work with because of the vast features provided by the MS-Word.

Copy and Paste Operation

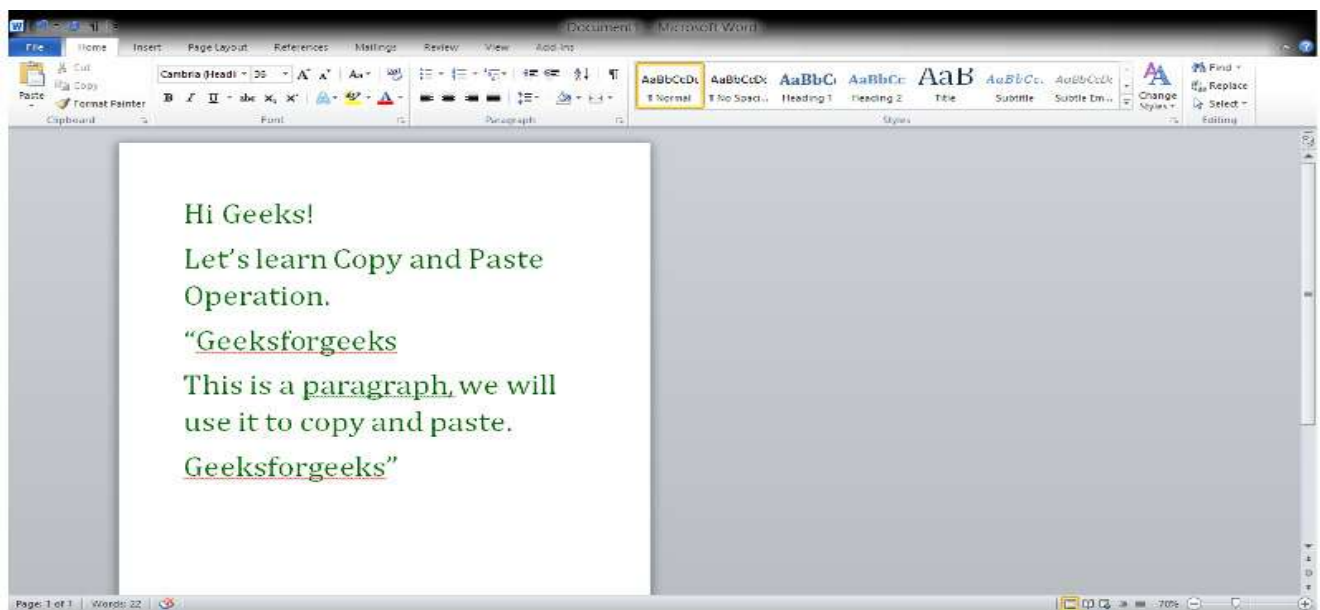
As of the many features provided by the MS-Word, Copy and Paste Operation is majorly used one. This operation is used when the user has the content previously written or has already written content somewhere else (in any other document or in memory somewhere) then copy content from there and paste it where required in the MS-Word document (which is currently in progress). With the help of this operation, users can save there valuable time.

So, to learn this easy and very effective operation, we will learn with the help of images and instruction and learn this Copy and Paste operation in MS-Word.

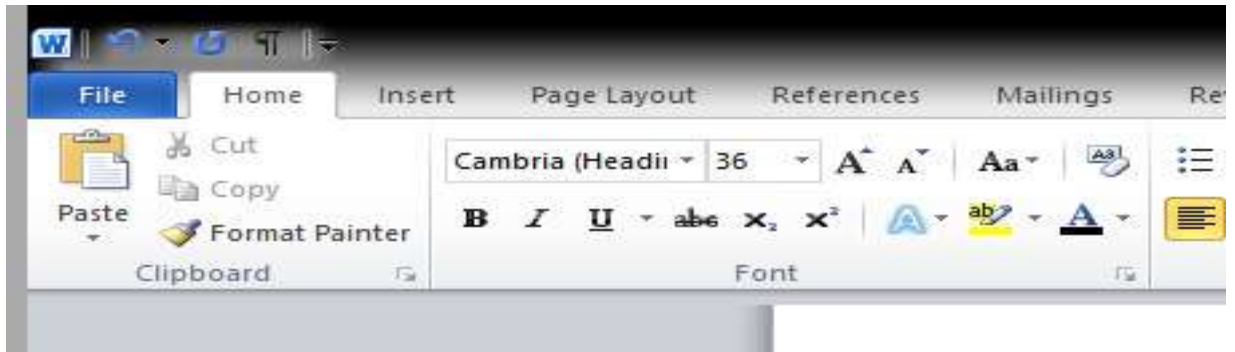
Method 1: Steps to follow for copy and Paste operation:

Step 1: First open MS-Word in your PC.

Step 2: Now, Open the document or create new one in which you want to do the copy and paste operation.

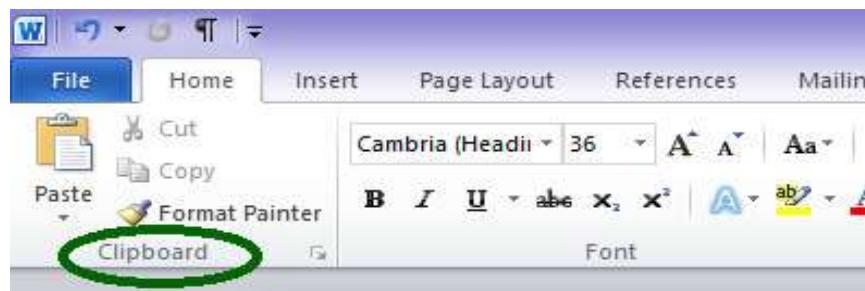


Step 3: Now, go to the "Home tab" (shown in the picture)

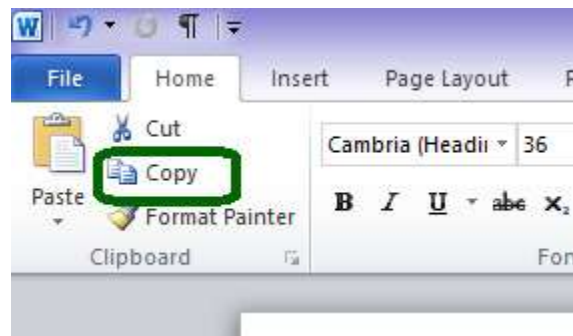


Step 4: Now, select a text or word or paragraph or any part of content which you want to Copy.

Step 5: Now, go to the "Clipboard" section in home tab (marked by circle in the image below).

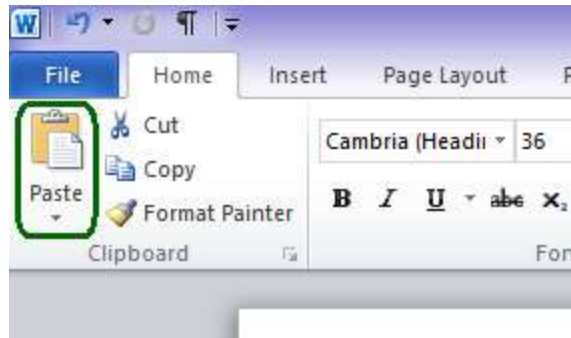


Step 6: Now as you have already selected the text to be copied, then in "Clipboard" there is a option called "Copy"(marked in the image below). Select the "Copy" option to copy the text successfully.

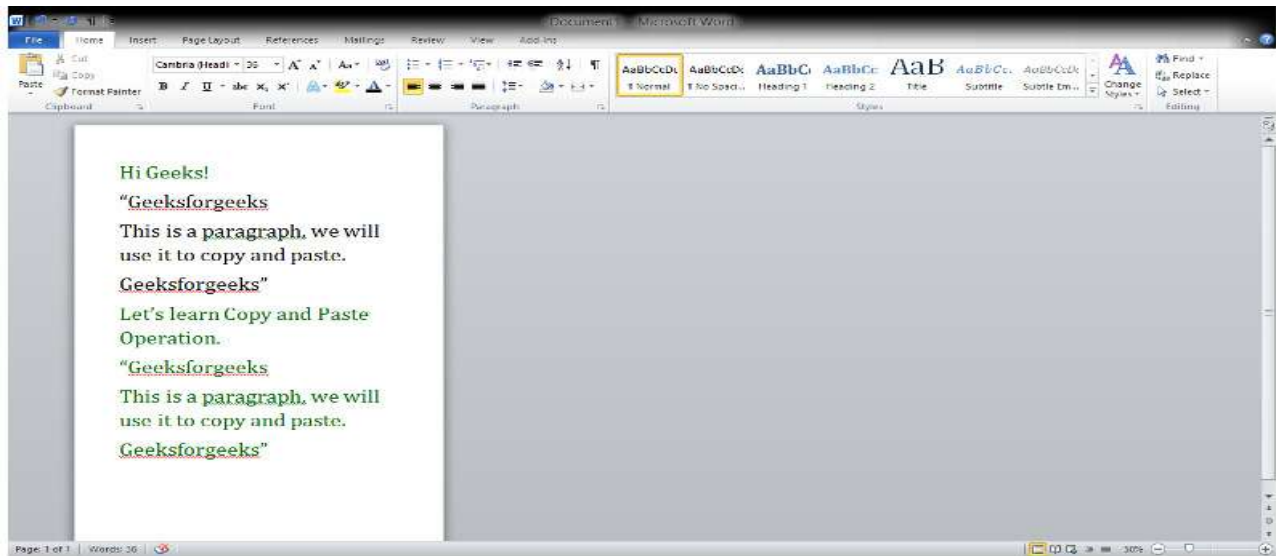


Step 7: Now, Select or Choose a place where you want to paste the text you have copied. Place the cursor there. (For example, here we want to place the Cursor after "Hi Geeks!")

Step 8: Now, again go to "Clipboard" section and click on the option "Paste"(marked in the image below) to successfully paste the text you have copied earlier.



Step 9: You have successfully pasted the copied text.



This way we can easily complete the copy and paste operation.

Method 2: Shortcut Keys

Also, there is another way, or we can say the shortcut way. So, for that we have to know about the shortcut keys which are:

Shortcut Key for **Copy** = "**Ctrl + C**"

Shortcut Key for **Paste** = "**Ctrl + V**"

Now, We will again see Step by Step Copy and Paste operation with the help of images and instructions we will learn and also with the help of shortcut keys.

Steps to follow for copy and Paste operation with the help of Shortcut keys:

Step 1: First open MS-Word on your PC.

Step 2: Now, Open the document or create new one in which you want to do the copy and paste operation.

Step 3: Now, select a text or word or paragraph or any part of the content which you want to Copy.

Step 4: Now, to copy the selected text, Press "Ctrl + C". The text copied successfully.

Step 5: Now, Select or choose a place where you want to paste the text you have copied. Place the cursor there. (For example, here we want to place the Cursor after "Hi Geeks!")

Step 6: Now, to paste Press "Ctrl + V". The copied text is pasted at selected place successfully.

Check Your Progress

- Define how to create a new document in MS Word.
- What steps are followed to open an existing document?
- Explain how to close a document without exiting the application.
- What is the difference between 'Save' and 'Save As'?
- How can you delete a file permanently from your computer?
- Describe the function of the Cut command.
- What does the Copy command do?
- How is the Paste command used after cutting or copying?
- Write the keyboard shortcuts for Cut, Copy, and Paste.
- Why is it important to save a file regularly while working?

UNIT III

Typing a letter and Curriculum Vitae

Objectives

- To understand the proper format and structure of a formal letter.
- To develop the skill of typing professional and personal letters accurately.
- To learn the format and components of a Curriculum Vitae (CV).

How to Write A CV

How to Write A CV: Seeking jobs in modern work is a challenging task. The evolution of technology has contributed to making lives easy and hard at the same time. For example, there are multiple tools and literature on how to write a Curriculum Vitae (CV) at the same time making the process of writing the best one that gets shortlisted hard. CV is often seen as an instrument of matchmaking between the employee and employer.

So in this article, we will understand what is curriculum vitae is and its importance, how to write a curriculum vitae, how different it is from a resume, sections or essential information to be present, and finally, some hacks to make an ATS-friendly CV.

What Is Curriculum Vitae and its importance?

Curriculum vitae also known as a CV, is a comprehensive statement of the educational background, teaching, research experience, professional experience, skill sets and accomplishments of an individual. It's a comprehensive note of an individual's academic and professional journey.

Curriculum Vitae (CV) is an important document that helps us unlock the door to an interview. This document makes the first impression of a job seeker to his recruiters, human resource managers, or hiring managers.

What is the difference between a Curriculum Vitae and a Resume?

In simple words, a Curriculum Vitae (CV) is a detailed version of a Resume. A Resume is a summary of your career, generally limited to a page or two. It is usually customized to the job that you are applying to by the job description (JD) provided. A CV is a detailed documentation that is multiple pages comprised of your educational background, job history

and achievements, publications, awards, and any other key skill sets that are important to your industry.

How should I write a Curriculum Vitae (CV) and what should be its appropriate length?

There are no hard and set rules to be followed to write a Curriculum Vita. However, there are certain standard practices like adding and organizing all necessary sections of information, which will be discussed in upcoming sections of this article. Curriculum vitae should ideally be of 2-3 days and a maximum of 4 pages. It should cover all the necessary details, presented in an organized manner. Resume on the other hand can be a one-pager document, which included necessary portions from CV to meet the job descriptions on need-to-have basis.

What should I include in my CV?

Writing a crisp brief introduction

A brief introduction gives an overview of an individual's full name, professional title, phone number, home address, email address, and links to your social media profile as a part of the header. A particular add-on in this section is to have links to your portfolio which might give an adding edge among competitors.

Employment history with description

This section is important as a job seeker you will be pitching your experience and skills to the recruiter. You can list down all the places you have worked or interned with joining and leaving dates. It's essential to list the work you have done daily, quantify it, note achievements, crucial projects and responsibilities you have taken on.

Academic history with description

In this section mention all academic activities you have undertaken. It's an add-on to mention grades, subjects you have majored in so that the hiring managers can have a glance at the foundation knowledge you possess and understand your candidature.

List down skills and achievements

This is the crucial segment that reflects your skills and job readiness. You may add all necessary soft skills, tech skills you have been trained and equipped with. An add-on is to align your skills to those mentioned in the job description so that the recruiter will take cognizance in prioritization. List down all achievements, certificates and put a link to them as well so that your CV stands out in the crowd.

Add any additional details

You are always free to add any additional details that you want the recruiter to know about you. This way people can convey your interests, personal details which you deem significant. Additional relevant details might draw the interest of the recruiter.

Types Of CV Formats

There are various types of CV formats prepared for different purposes and career stages:

- **Chronological CV:** In this CV format lists work experience, educational information is presented in the reverse chronological order, showcasing career progression. This is ideal for those who have a continuous working experience without any gaps or breaks.
- **Functional CV:** This CV focuses on skills and achievements rather than work history. This is often suitable for career changers or those with diverse skills who are applying for roles which are different from what they have studied or practiced earlier.
- **Combination CV (or Hybrid CV):** As the name suggests it's a combination of chronological and functional CV formats. It highlights both work experience and skills.
- **Resume or Targeted/Mini CV :** It is a concise version of CV which is limited to one or two pages. It highlights key skills and experiences relevant to the job. It's customized for specific jobs or industries, emphasizing relevant skills and experiences.
- **Creative CV:** This is a way of showcasing personality and creativity through unique design elements, suitable for creative industries. Usually followed by people in Graphics, Design roles.

How do I navigate gaps in my CV?

As the saying goes "Honesty is the best Policy", covering gaps in career or CV has to be done in a honest way with some subtlety. Career-gap is a common phenomenon of the new age world. Being vocal and truthful about it with employer or recruiting manager will set good precedence.

- Provide a brief explanation to explain the reason for the gap. It may be due to personal reasons, pursuing further education, taking care of family members, or exploring new opportunities, provide a clear and concise explanation.
- Highlight Relevant Activities and skills gained in any volunteer work, freelance projects, part-time roles, or professional development activities during the gap period,

include them in your CV. This emphasizes on the skills and experiences gained during the gap period that are relevant to the position you're applying for.

What are Applicant Tracking Systems and ATS-friendly Curriculum Vitae?

As a result of the digitalization phenomenon, new-age job recruitment has turned completely digital from drafting CVs on computer, using AI to make resumes, seeking jobs, submitting CVs by email and job portals, recruitment interview process on Zoom calls or online meeting each phase of candidate recruitment has seen digital intervention.

On this line, many big companies and job portals have automated the process of shortlisting candidates using technology. Many software are built to shortlist suitable candidates based on their job and skill requirements and candidates' CVs. This software is called an applicant tracking system (ATS).

Tips for ATS complaint CV

- Keep the CV Clean and use a standard professional font style while preparing a CV.
- Preferably send out CVs or resumes in a PDF format so that it's easily readable.
- While applying for the job include relevant skills as keywords and use titles as asked in the Job description.
- Make CVs easy to read, and arrange information using bullet points and short sentences to list details.
- Use a professional email address and keep things professional.
- Proofread and correct grammar before sending out resumes or CVs.

CV Template

[Your Name]

[Your Address]

[City, State, Zip Code]

[Your Email Address]

[Your Phone Number]

Objective:

[Optional: Brief statement about your career goals or the position you are seeking]

Work Experience:

[Job Title]

[Company Name], [Location]

Dates of Employment (Month, Year - Month, Year)

[Job Title]

[Company Name], [Location]

Dates of Employment (Month, Year - Month, Year)

Description of responsibilities and achievements

[Continue adding work experience as needed]

Education:

[Degree Earned], [Major/Field of Study]

[Institution Name], [Location]

Year Graduated]

Skills:

[Skill 1]

[Skill 2]

[Skill 3]

Awards and Honors:

[Award/Honor Name], [Issuing Organization], [Year Received]

Certifications (if applicable):

[Certification Name], [Issuing Organization], [Date Earned]

Volunteer Experience (if applicable):

[Organization Name], [Role/Position], [Dates of Involvement]

Publications (if applicable):

[Publication Title], [Journal/Conference Name], [Year Published]

References:

[Available upon request]

CV Sample

Mahesh R

Bengaluru

India

[mailmrb@gmail.com]

+91 00000 00000

Objective:

Dynamic and results-driven Computer Science Engineer with a passion for research in computer networks. Seeking opportunities to leverage expertise in coding and networking to contribute to innovative projects and solutions.

Work Experience:

Software Engineer Intern

Juniper Network, New York

Jan 2018 – Present

- Developed and maintained software applications for networking routers.
- Collaborated with cross-functional teams to implement new features and enhancements.
- Gained hands-on experience with computer networking softwares.

Education:

Master of Science in Computer Science Engineering – 2016

Bangalore University, Bengaluru

9.2 CGPA

Bachelor of Technology in Computer Science Engineering – 2014

VTU, Dharwad

8.6 CGPA

Skills:

- Proficient in programming languages including Java, Python, C++
 - Strong understanding of computer networks concepts and protocols (TCP/IP, DNS, HCP, etc.)
 - Experience with network simulation tools such as NS-3 and Wireshark
- Knowledge of software-defined networking (SDN) principles
 - Excellent problem-solving and analytical abilities

Research Experience:

Conducted in-depth research on computer networks.

Published research paper titled "Privacy Protection in Networking" in IEEE Xplore.

Presented findings at IEEE Conference, Tokyo.

Research Assistant

Bangalore University, Bengaluru

Jan 2015 - June 2016

- Assisted in conducting experiments and data analysis for research projects in computer networks.
- Contributed to the writing and editing of research papers and technical reports.

Publications

Mahesh, et al. "Privacy Protection in Networking." IEEE Explore, 2017.

Awards

Best young researcher award – 2016

References:

Prof. ABC

mailabc@gmail.com

Check Your Progress

- What are the essential parts of a formal letter?
- How do you format the date in a formal letter?
- Explain the difference between a formal and informal letter.
- What information is typically included in the heading of a Curriculum Vitae (CV)?
- How should the objective or career summary be written in a CV?
- Describe the proper way to address the recipient in a formal letter.
- What details should be included under the education section of a CV?
- How can you ensure clarity and professionalism when typing a letter?
- What is the importance of proofreading a letter before sending it?
- List the sections commonly found in a Curriculum Vitae.

UNIT IV

Power Point Presentation – Slide Creation – Inserting Pictures, Tables, Videos

Objectives

- To learn how to create and organize slides in a PowerPoint presentation.
- To develop the skill of inserting and formatting pictures within slides.
- To understand how to add and customize tables in a presentation.
- To gain the ability to insert and manage video clips in slides effectively.

How to Create a PowerPoint Presentation

How to Make a PowerPoint Presentation: Quick Steps

Open PowerPoint >> Choose a Slide Layout

Add Slide to Your Presentation

Insert Text, Images, and Media

Add Transitions >> Preview Presentation

Save and Share Your Presentation

Creating a PowerPoint presentation is an essential skill for students, professionals, and businesses. Whether you're preparing a classroom project, business proposal, marketing pitch, or webinar, PowerPoint offers a user-friendly interface and powerful design tools to create engaging and visually appealing slides.

In this step-by-step guide, you'll learn how to create a PowerPoint presentation, from choosing a template and adding content to designing slides and delivering your presentation effectively.



What is Microsoft Power Point

Microsoft PowerPoint is a presentation software developed by Microsoft as part of the Microsoft 365 suite. It allows users to create slideshow presentations with text, images, charts, animations, and multimedia elements. PowerPoint is widely used in business meetings, academic lectures, training sessions, and marketing presentations due to its flexibility and ease of use.

How to Create a PowerPoint Presentation

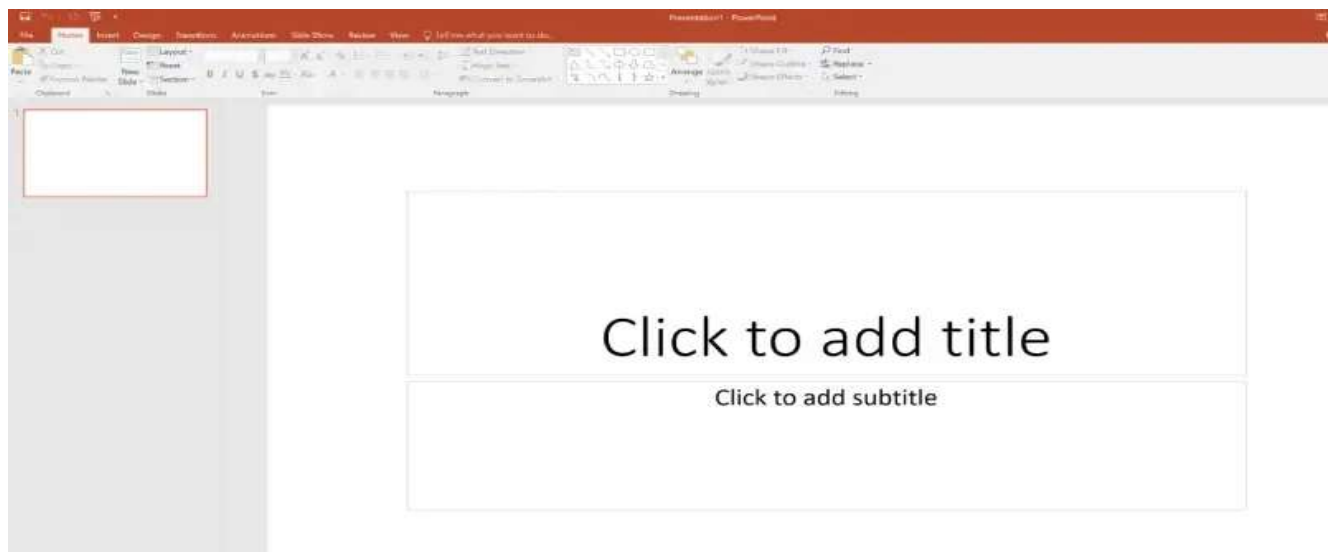
Creating a PowerPoint presentation is an essential skill for professionals, students, and businesses. Whether you need to make a business presentation, design a project report, or create a marketing pitch, Microsoft PowerPoint offers user-friendly tools to help you build engaging and professional slides. Follow the below steps to Create a Power Point Presentation.

Step 1: Open Microsoft PowerPoint

To start creating a presentation, open Microsoft PowerPoint on your computer. If you don't have PowerPoint installed, you can use PowerPoint Online via Microsoft 365.

How to Open PowerPoint

- Click on the Start Menu and search for PowerPoint.
- Click on the PowerPoint icon to open the program.
- Select Blank Presentation to start from scratch or choose a pre-designed template.



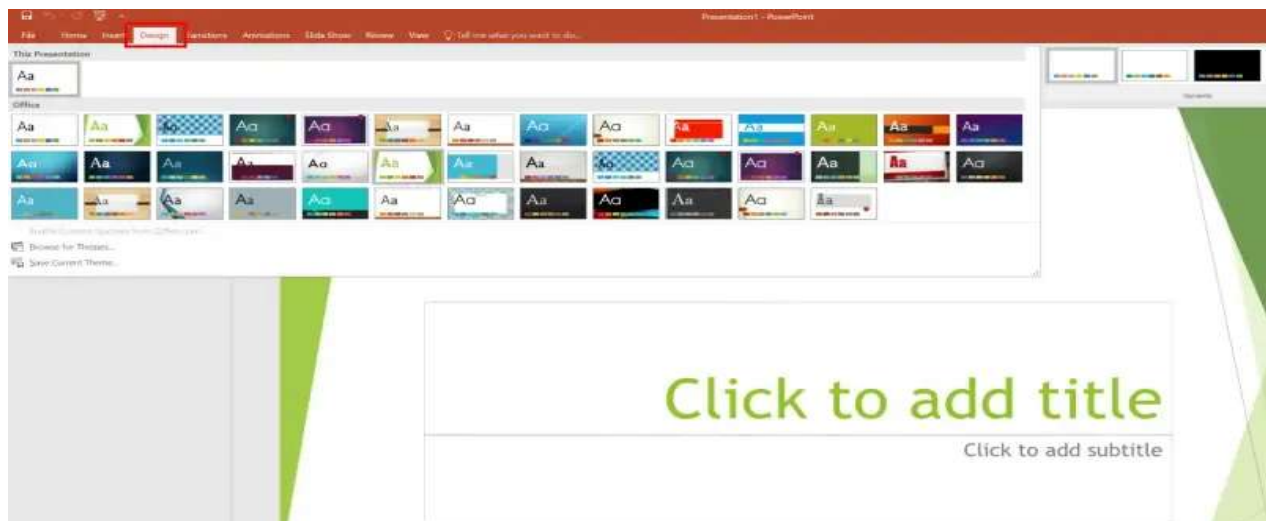
Pro Tip: Using Microsoft 365 PowerPoint allows you to access cloud storage (OneDrive) and collaborate in real-time with others.

Step 2: Choose a PowerPoint Template

PowerPoint provides a variety of built-in templates to help you create professional-looking presentations quickly.

How to Choose a Template:

- Open PowerPoint and select New Presentation.
- Click on Design in the ribbon and choose from the available templates.
- If you need more options, go to File > New and browse the template gallery.
- Select a template and click Create to apply it to your slides.



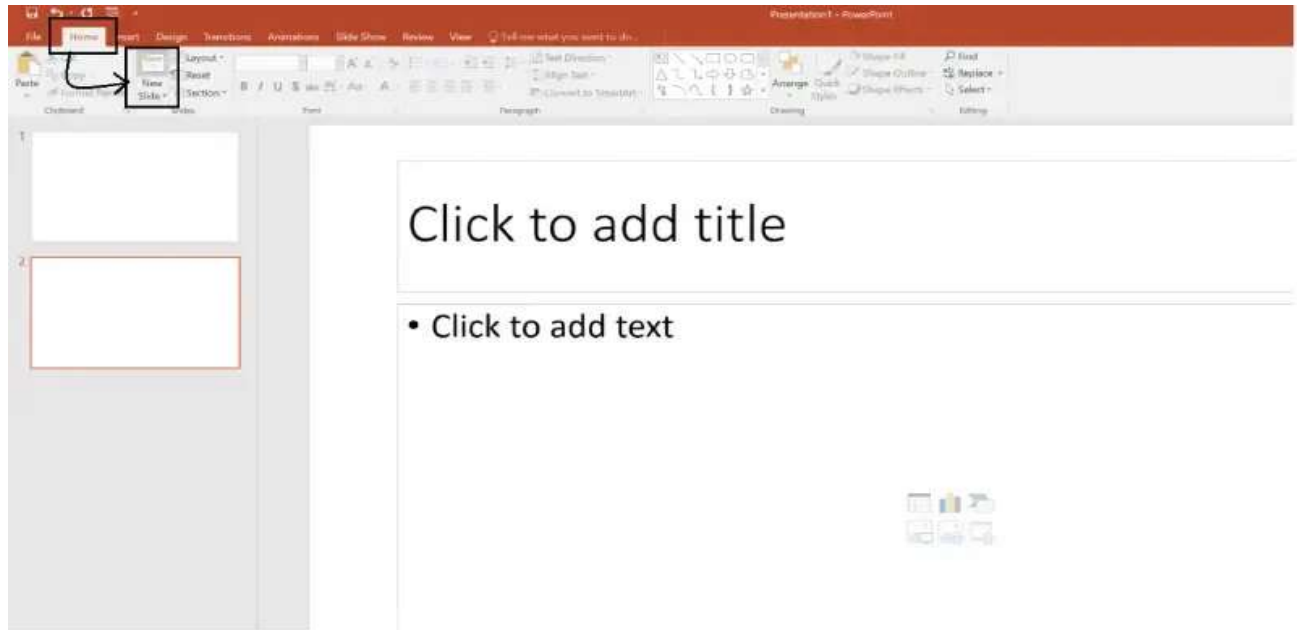
Pro Tip: Choose a template that matches your topic, audience, and branding to make your presentation more effective.

Step 3: Create and Organize Your Slides

A PowerPoint presentation consists of multiple slides, each containing different types of content.

How to Add New Slides

- Click the Home tab and select New Slide or Press "Ctrl + M"
- Choose from different slide layouts like Title Slide, Content Slide, or Image Slide.
- Click on the Slide Sorter View to rearrange slides for better flow.



Pro Tip: Use a consistent slide layout and structure to keep your presentation organized and professional.

Step 4: Add Text to Your Slides

Adding clear and concise text helps convey your message effectively.

How to Add Text in PowerPoint

- Click inside a text box on a slide.
- Type your content and use bullet points for better readability.
- Use the Font options in the Home tab to change font style, size, and color.
- Keep text short and engaging—avoid long paragraphs.



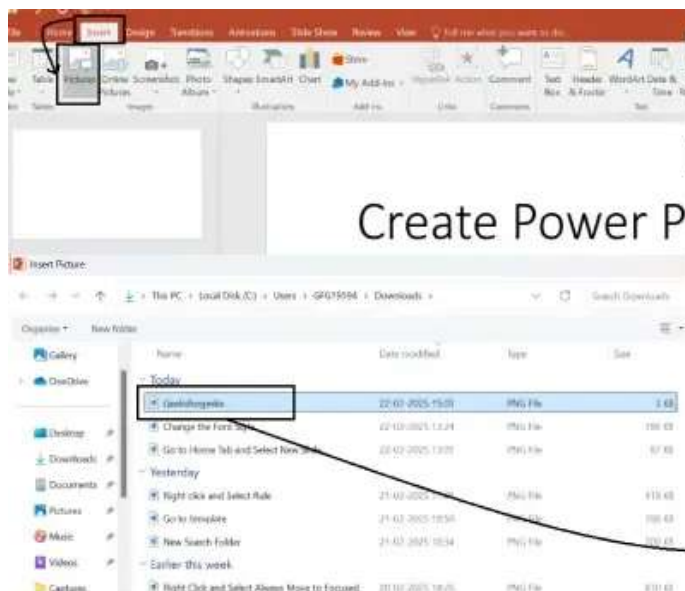
Pro Tip: Use a professional font like Calibri, Arial, or Times New Roman to enhance readability.

Step 5: Insert Images, Charts, and Graphics

Visuals make presentations more engaging and help communicate ideas more effectively.

How to Add Images in PowerPoint:

- Click on the Insert tab.
- Select Pictures to insert an image from your computer.
- Choose Online Pictures to search for royalty-free images.



Create Power Point Presentation

Follow the below steps to create a Power Point Presentation:

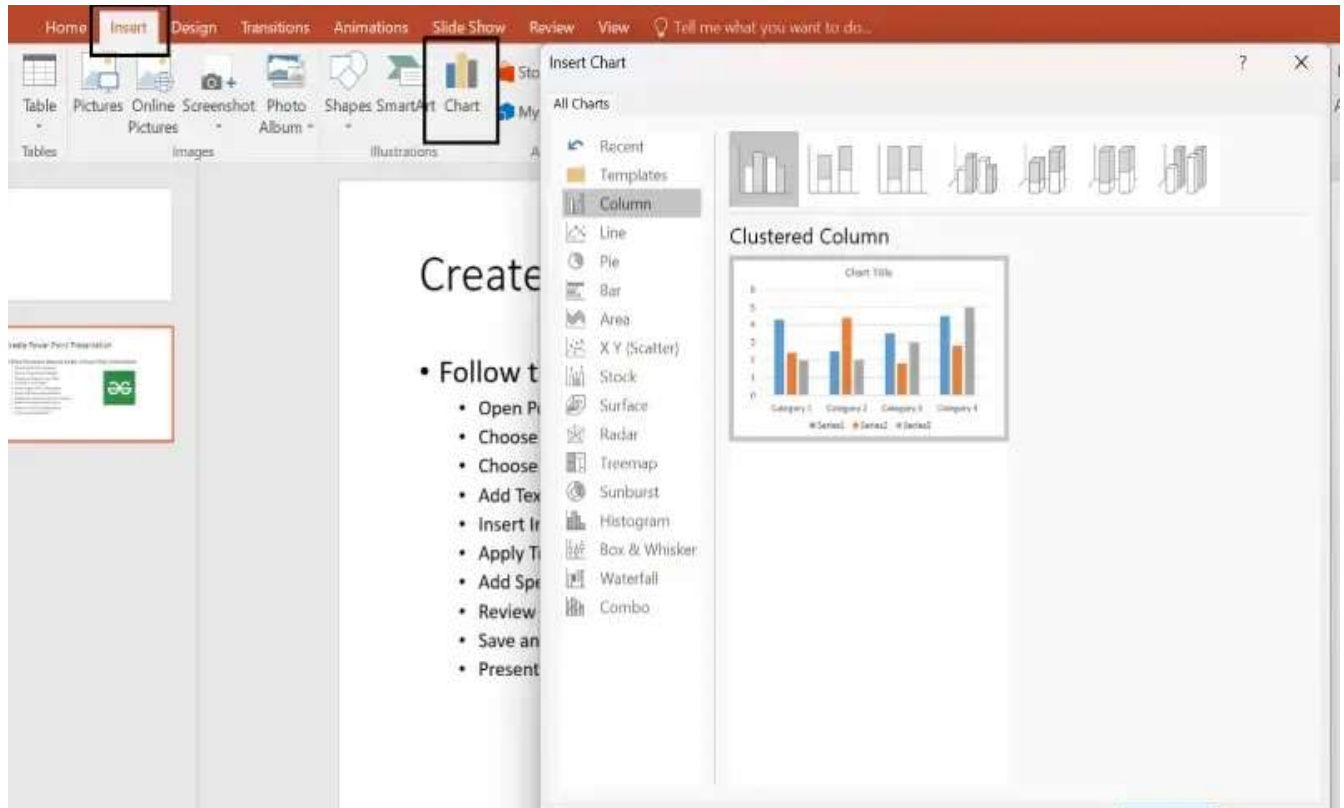
- Open PowerPoint Presentation
- Choose a PowerPoint Template
- Choose and Organize your Slides
- Add Text to your Slides
- Insert Images, Chart, and Graphics
- Apply Transitions and Animations
- Add Speaker Notes for your Presentation
- Review and Proofread your Slides
- Save and Share your Presentation
- Present your PowerPoint



How to Add Charts and Graphs:

- Click on the Insert tab and select Chart.

- Choose a chart type like Bar, Line, or Pie Chart.
- Enter your data and customize the chart style.



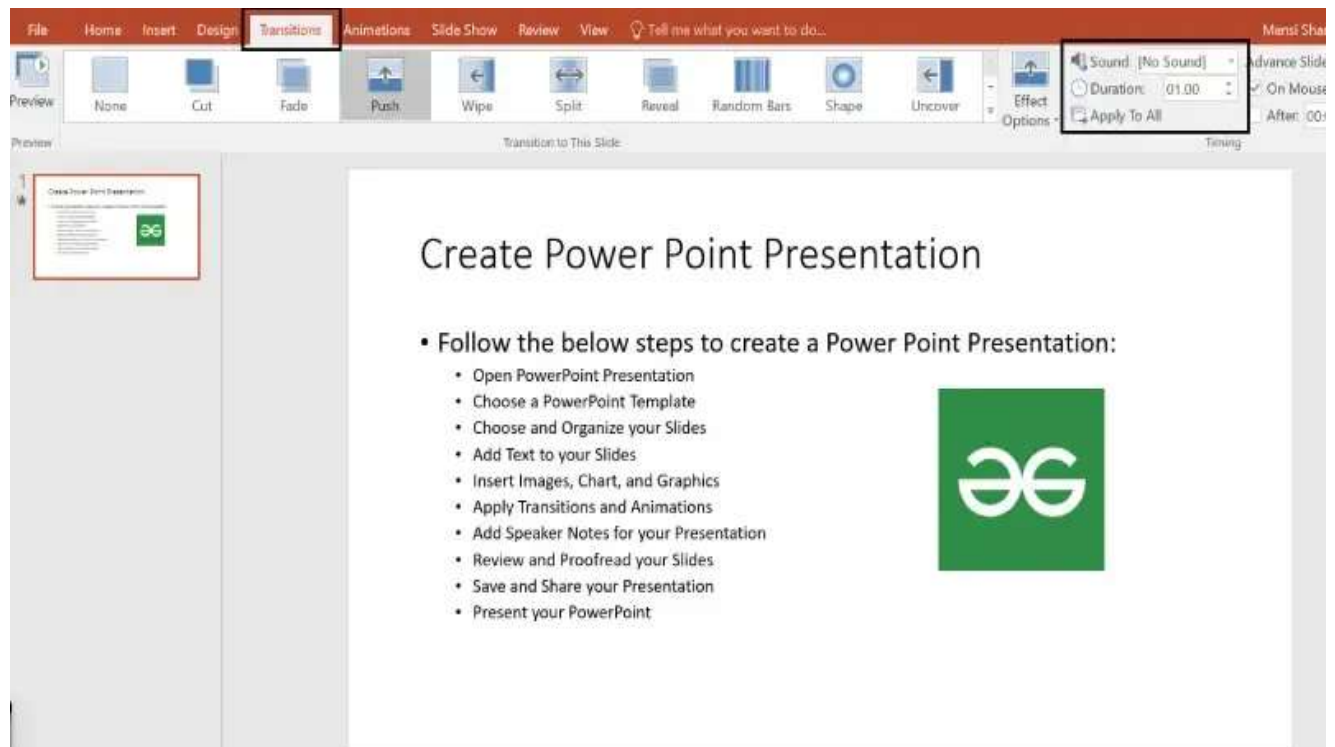
Pro Tip: Use high-quality images and well-designed charts to improve engagement.

Step 6: Apply Transitions and Animations

Transitions and animations add movement and make your slides more dynamic.

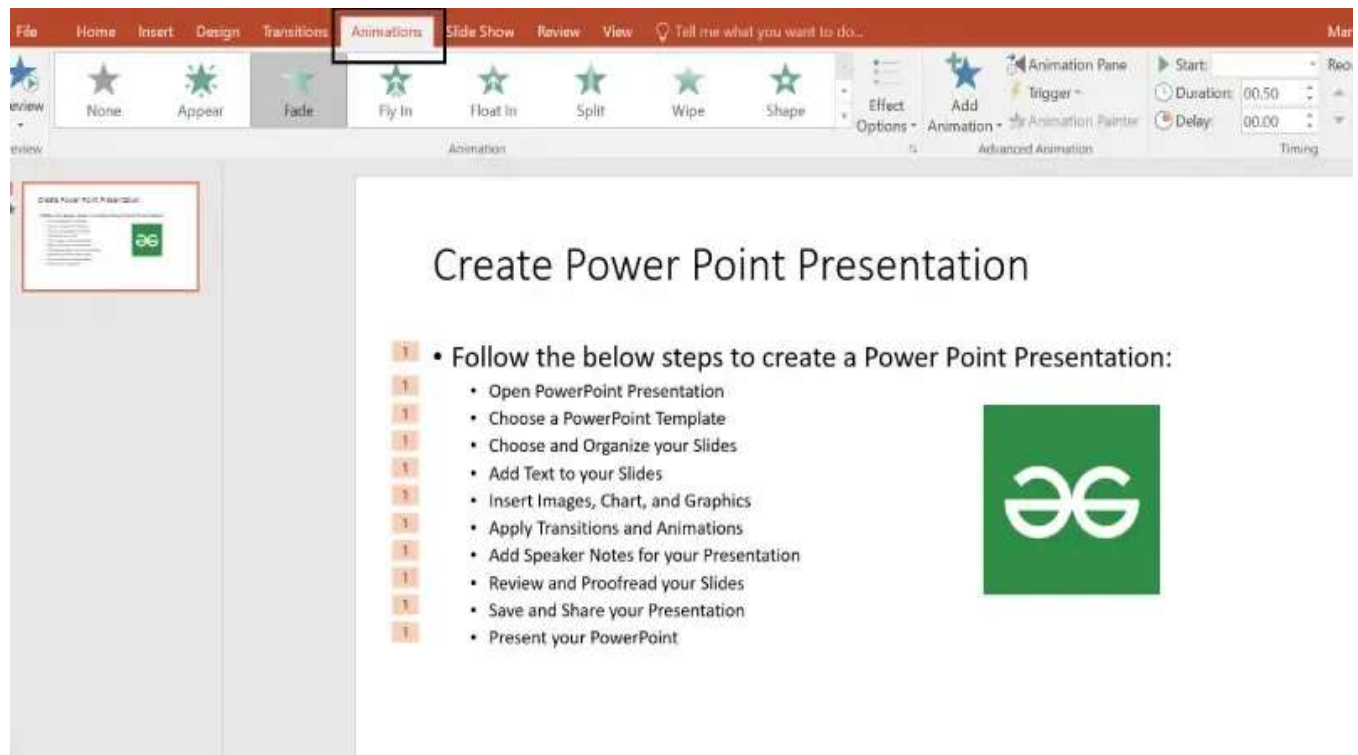
How to Add Slide Transitions:

- Click on the Transitions tab.
- Choose a transition effect like Fade, Push, or Wipe.
- Adjust the speed and duration for smooth transitions.



How to Add Animations to Objects:

- Click on the Animations tab.
- Select an object (text, image, or chart).
- Choose an animation effect like Appear, Fly In, or Zoom.



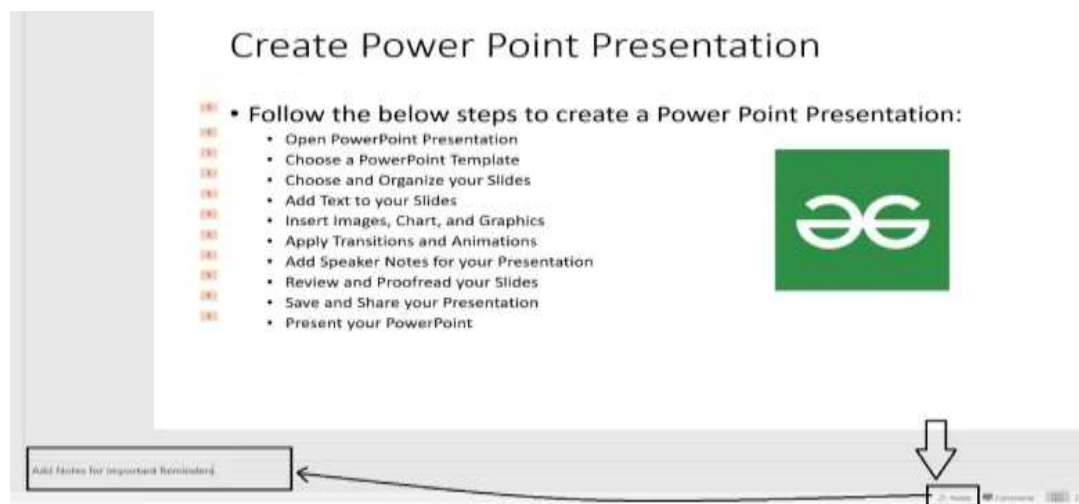
Pro Tip: Use animations sparingly to avoid distractions.

Step 7: Add Speaker Notes for Your Presentation

Speaker notes help you remember key points while presenting.

How to Add Speaker Notes:

- Click on the Notes section below the slide.
- Type important reminders or talking points.
- Use Presenter View during the presentation to see notes privately.



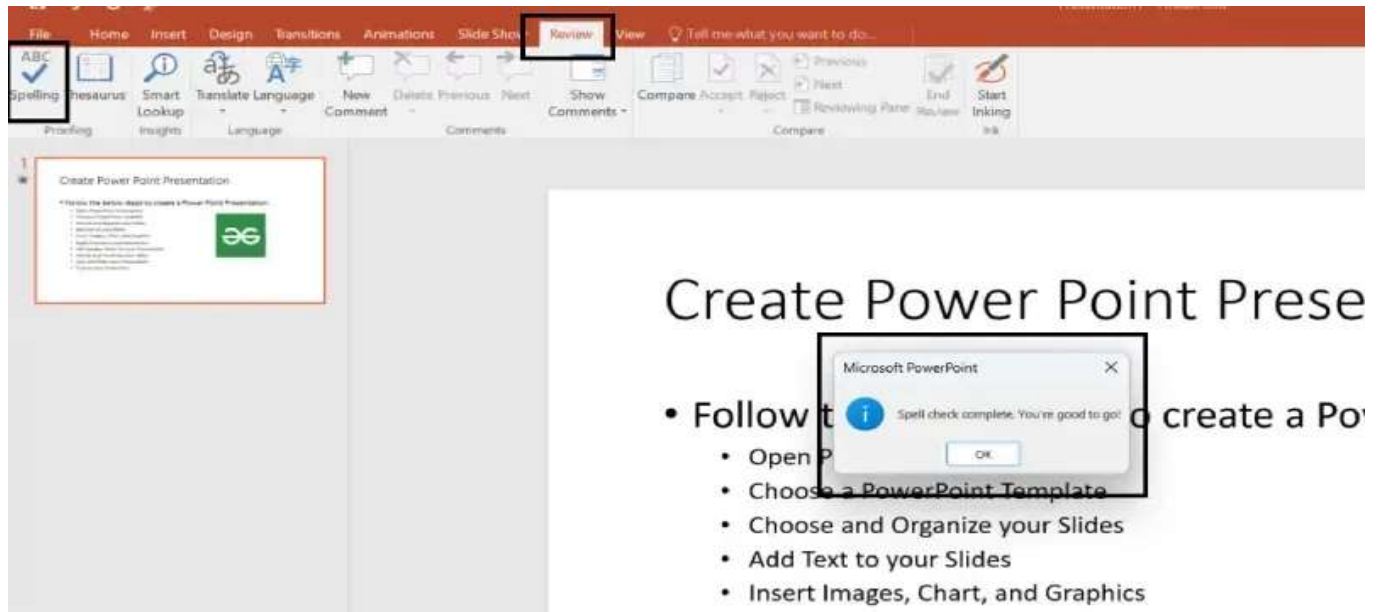
Pro Tip: Keep notes short and to the point for easy reference.

Step 8: Review and Proofread Your Slides

Before presenting, review your slides for spelling errors, formatting issues, and consistency.

How to Check for Errors:

- Click on Review > Spelling & Grammar to check for typos.
- Use Slide Sorter View to check the order and flow.
- Ensure consistent fonts, colors, and alignments.



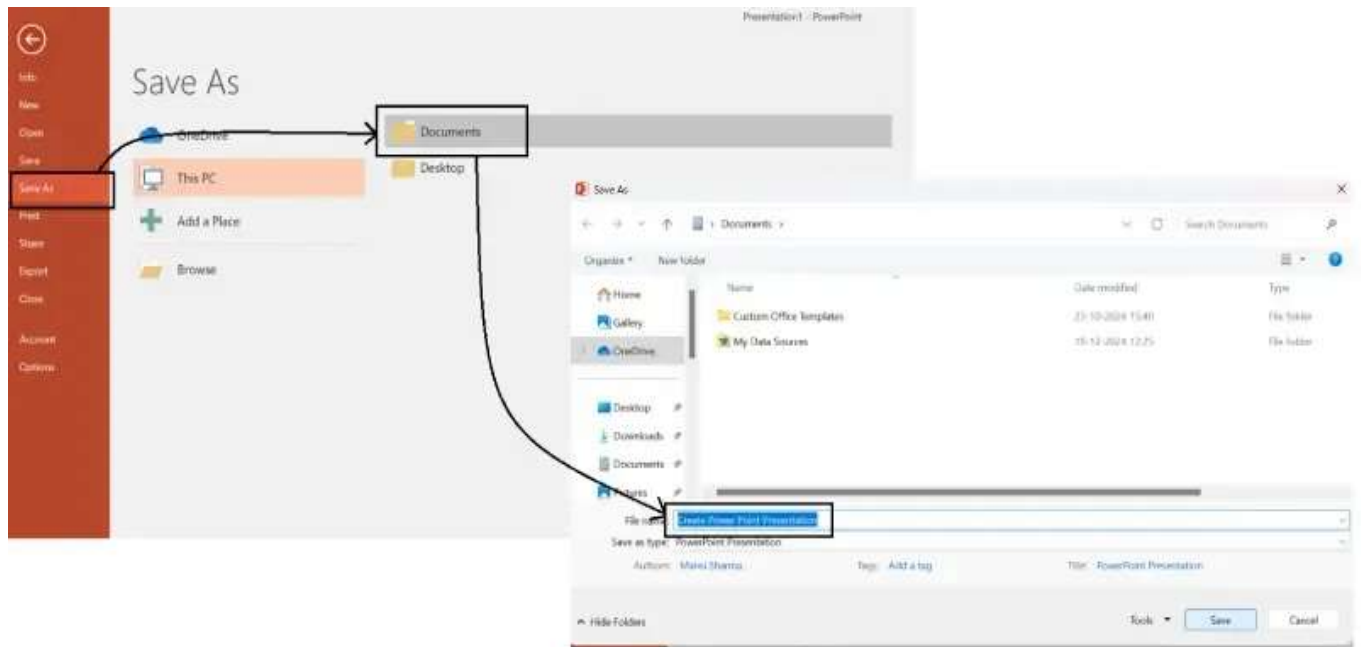
Pro Tip: Ask a colleague to review your slides for clarity and readability.

Step 9: Save and Share Your Presentation

After completing your presentation, you need to save and share your presentation

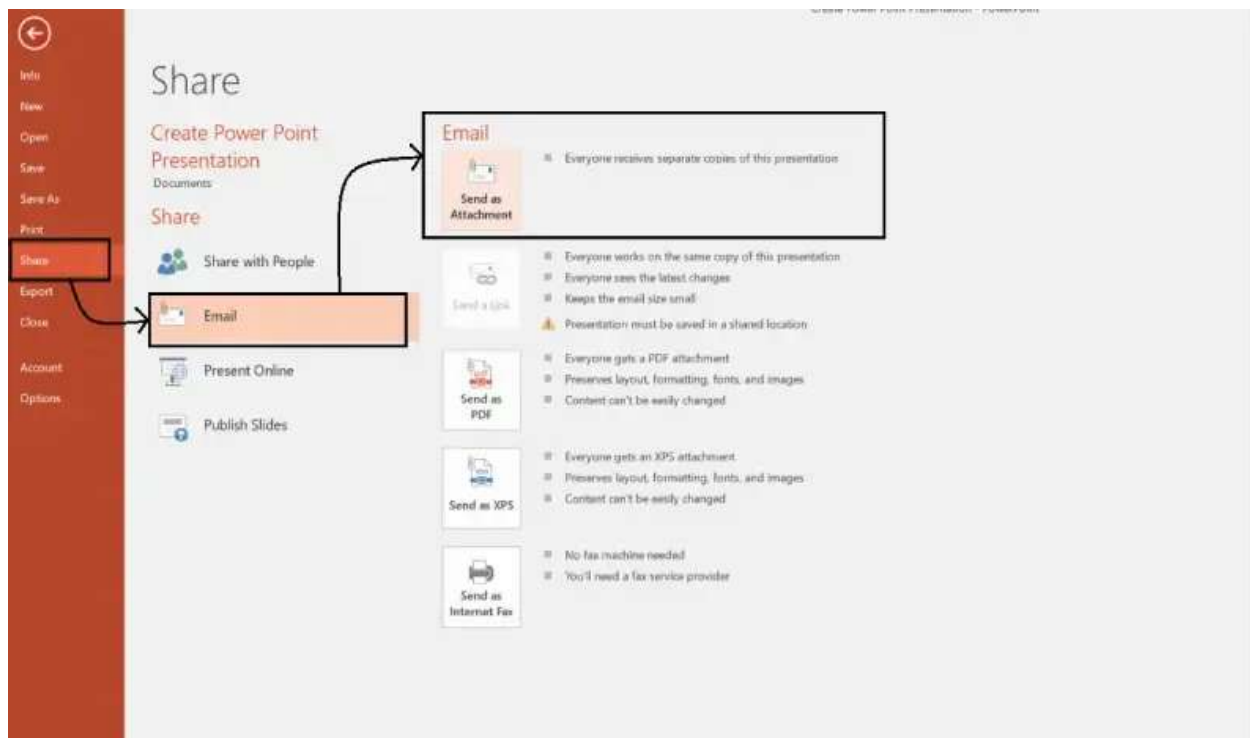
How to Save Your PowerPoint File

- Click File > Save As.
- Choose PowerPoint Presentation (.pptx) for future editing.
- Select PDF if you want a non-editable version.
- Save to OneDrive for cloud access and sharing.



How to Share a PowerPoint Presentation

- Send via email as an attachment.
- Share through Microsoft Teams or OneDrive.
- Export as a video for recorded presentations.



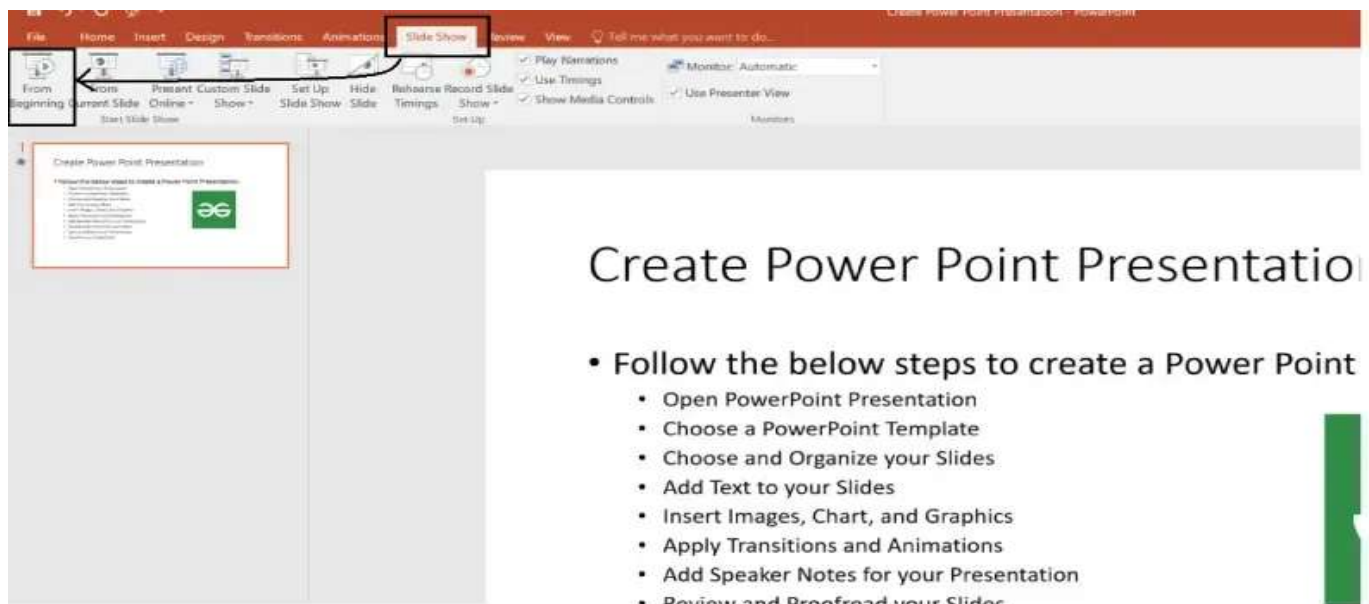
Pro Tip: If presenting online, use PowerPoint Live in Microsoft Teams for interactive engagement.

Step 10: Present Your PowerPoint Like a Pro

When presenting, maintain eye contact, speak clearly, and engage your audience.

How to Start a Slideshow

- Click on Slide Show > From Beginning.
- Use the Presenter View for private notes.
- Navigate using arrow keys or clicker.



Pro Tip: Practice beforehand and time your presentation for a smooth delivery.

Conclusion

Creating a PowerPoint presentation is a skill that enhances communication and engagement. Whether you're designing a business report, academic project, or marketing pitch, using professional templates, structured content, and engaging visuals makes a significant difference.

By mastering slide creation, animations, speaker notes, and presentation techniques, you can deliver impactful and memorable presentations. Start exploring PowerPoint today and elevate your presentation skills!

Inserting Pictures

How to Insert a Picture in MS PowerPoint

How to Add a Picture in PowerPoint: Quick Steps

- Open MS PowerPoint >> Go to the Slide
- Click on Insert Tab >> Select Pictures
- Choose the Image >> Click Insert
- Resize and Position >> Preview Results

Ever wondered how to insert pictures in PowerPoint without distorting them? Adding images to **Microsoft PowerPoint** is one of the easiest ways to make your presentations more **engaging, professional, and visually appealing**. Whether you're creating a **business pitch, educational lecture, or marketing presentation**, inserting high-quality images can **enhance storytelling, grab attention, and improve audience retention**.

But **how do you add pictures in PowerPoint** without losing quality? How can you **format, resize, and position images correctly** to make your slides stand out? In this guide, you'll learn **step-by-step methods to insert images in PowerPoint**, customize them for a **professional look**, and fix common issues related to **image formatting**.

How to Add a Picture in PowerPoint: Different Methods

PowerPoint offers multiple ways to insert images based on your needs, design preferences, and formatting requirements. Below are some of the best methods to add pictures in PowerPoint while keeping them high quality and well-positioned.

Method 1: Insert a Picture from Your Computer (Quick & Easy)

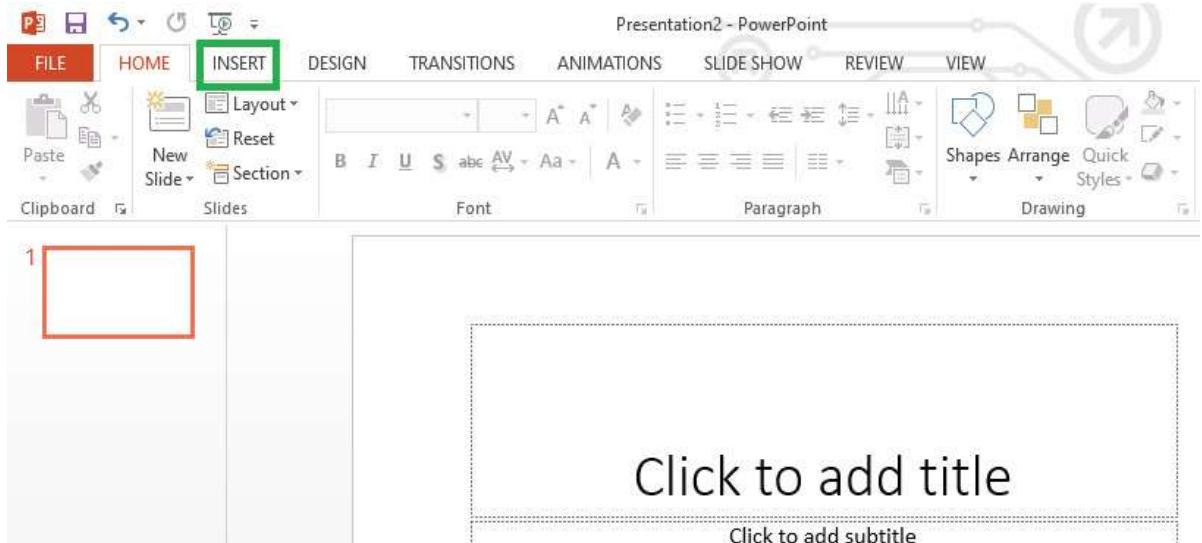
This method is best for adding images saved on your device. It ensures high-quality image resolution and gives you full control over editing, resizing, and positioning.

Step 1: Open Your Presentation

Launch PowerPoint and open the slide where you want to insert the image.

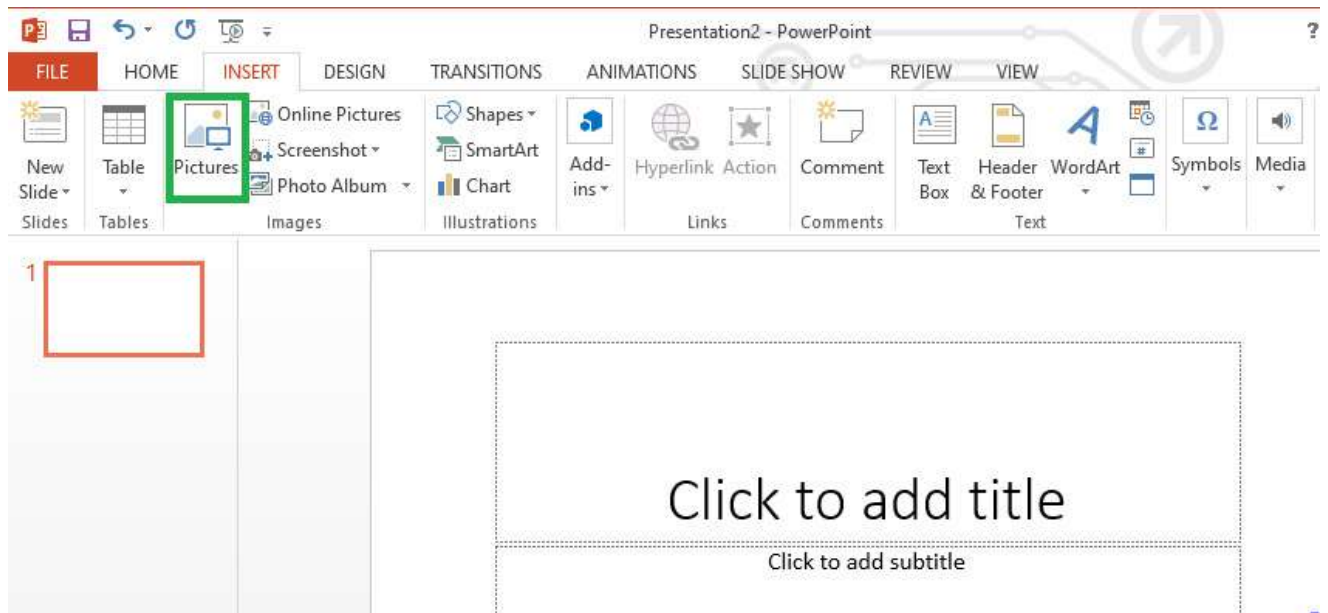
Step 2: Go to the "Insert Tab"

Click on the "Insert" tab in the ribbon at the top.



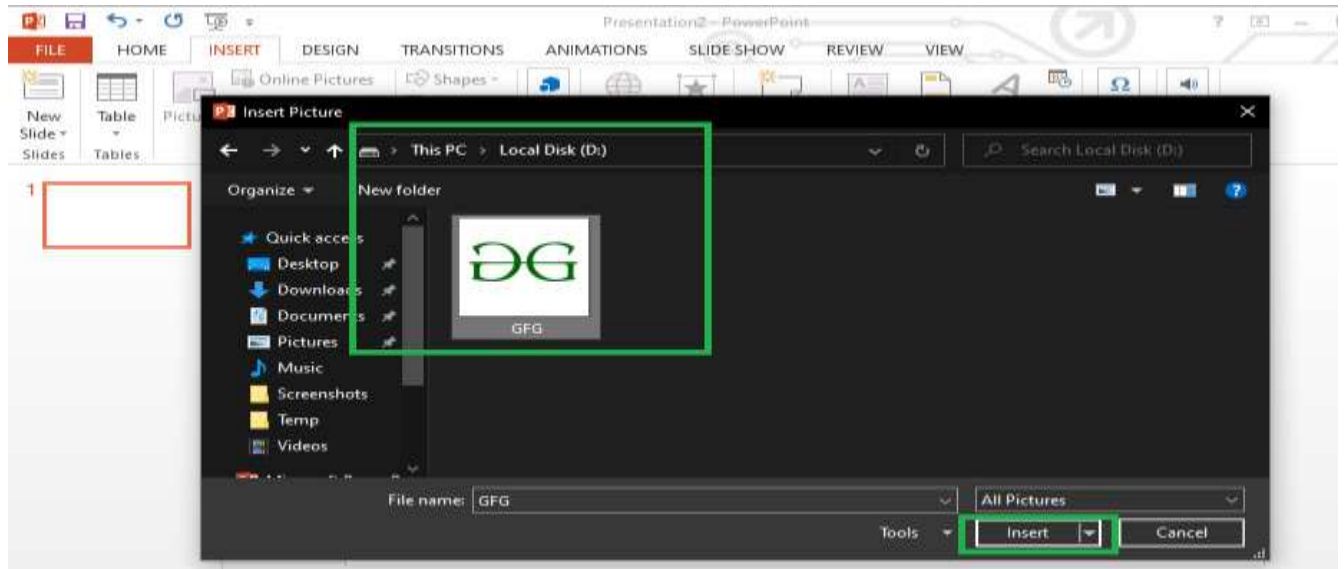
Step 3: Click on "Pictures"

In the "Images" group, select "Pictures" and then click "This Device" to browse your computer files.



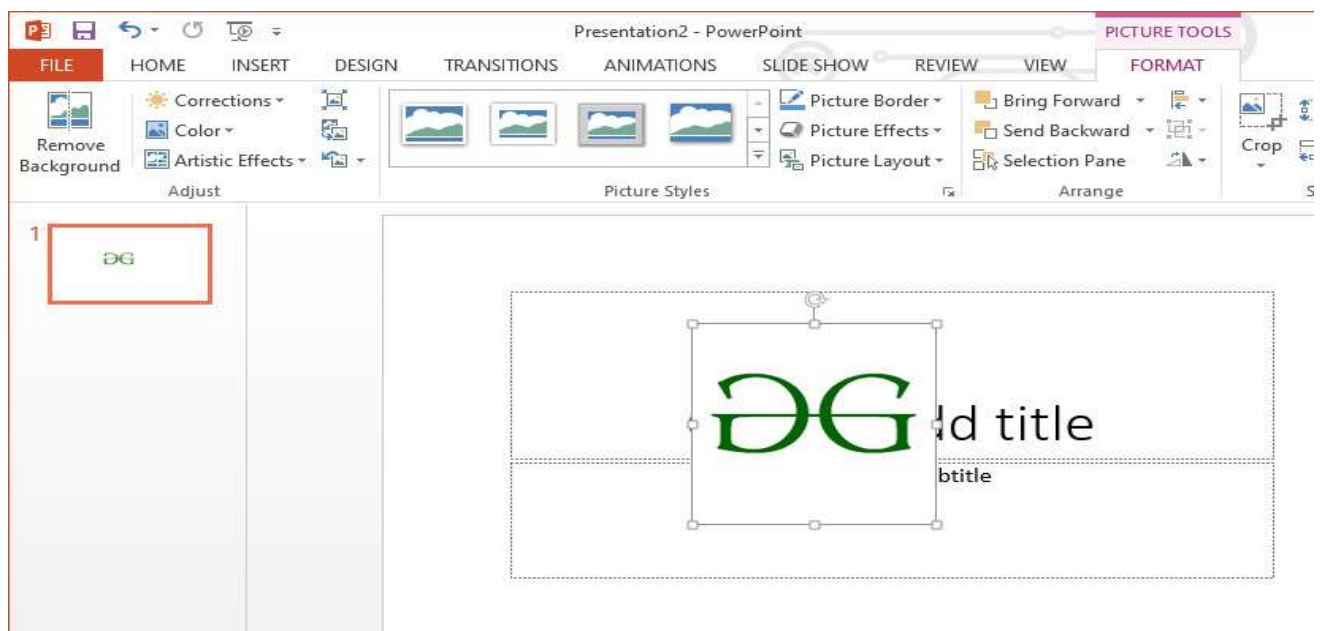
Step 4: Select the Image File and Click "Insert"

Locate and select the image you want to insert, then click "Insert".



Step 5: Adjust and Resize

Move and resize the image by dragging the corners to fit it perfectly into your slide.

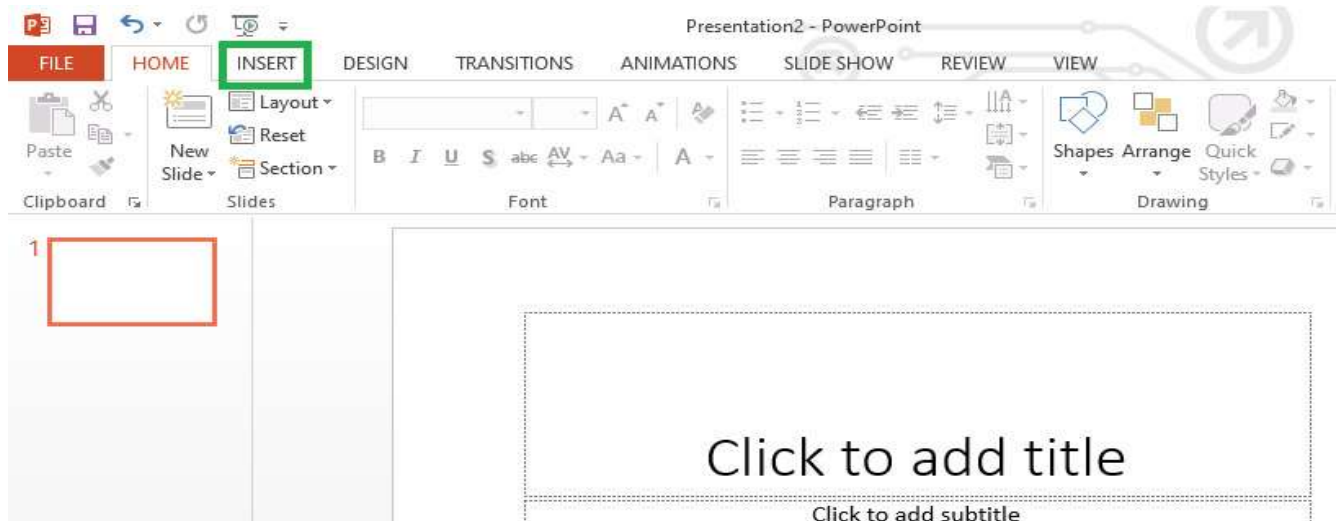


Method 2: Insert an Online Picture (Best for Free Stock Images)

If you don't have an image on your device, PowerPoint allows you to insert royalty-free images directly from the internet. This method is useful for finding high-quality stock images without leaving PowerPoint.

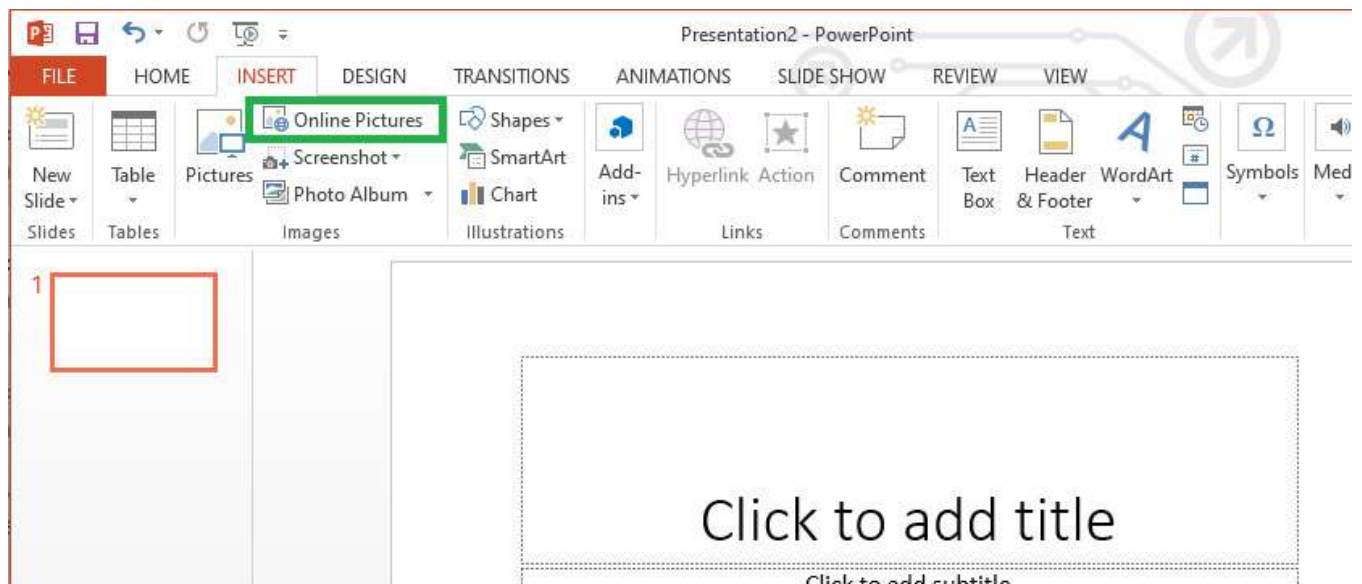
Step 1: Open the Insert Tab

Go to the "Insert" tab in the top menu.



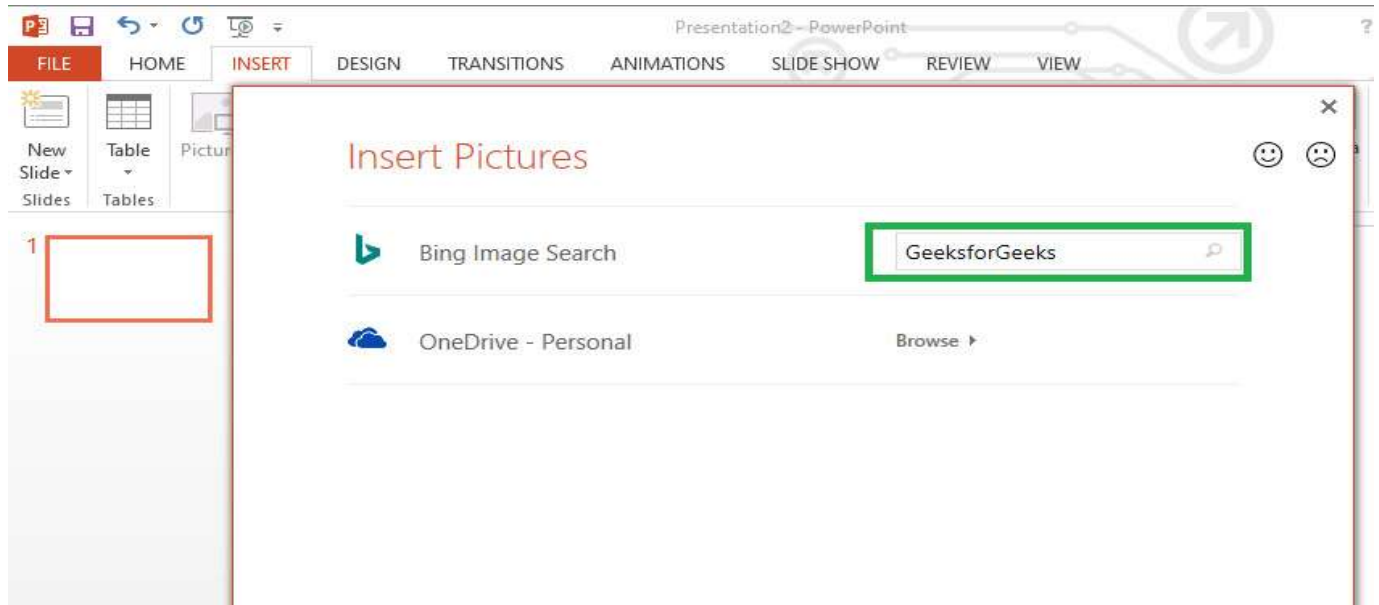
Step 2: Click "Pictures" > "Online Pictures"

Select "Online Pictures" to access Microsoft Bing's image search



Step 3: Search for an Image

Type a keyword related to the image you need (e.g., "Business meeting", "Technology background").



Step 4: Choose an Image and Insert

Select an image and click "Insert" to add it to your slide.



Step 5: Resize and Position

Adjust the image as needed to fit your presentation layout.

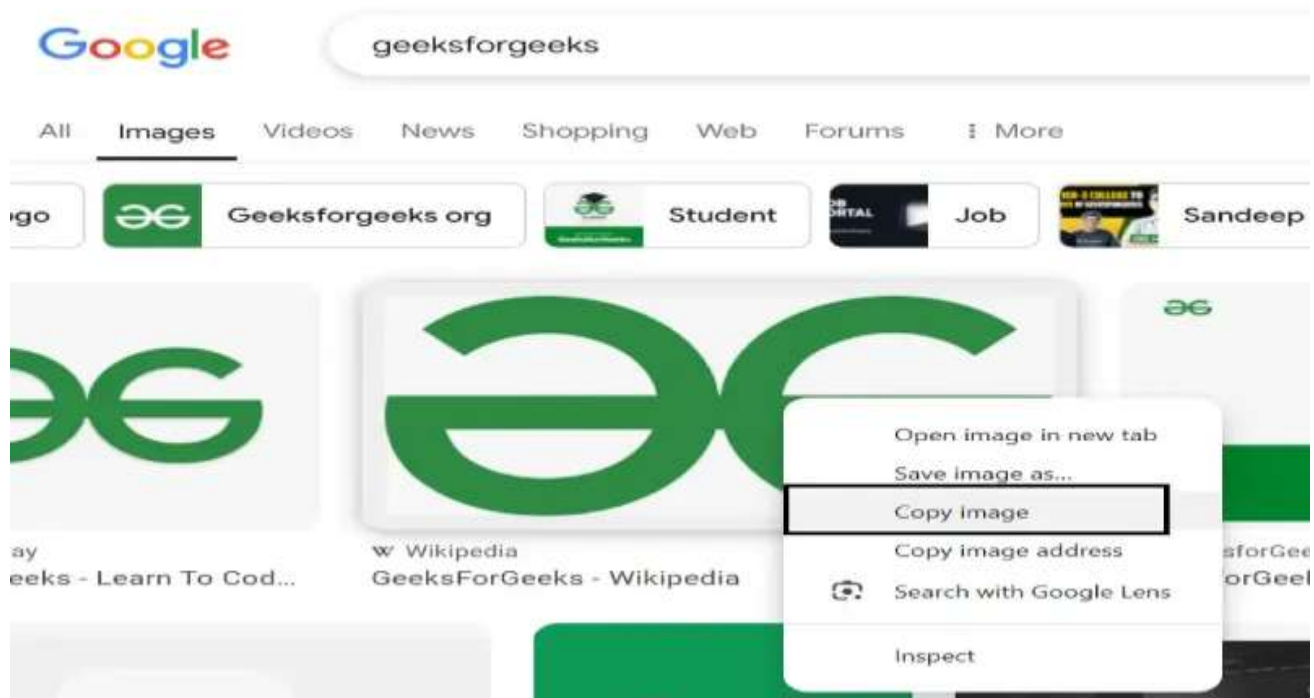


Method 3: Copy and Paste an Image (Fastest Way to Add Images)

If you have an image copied from a website, document, or another slide, you can quickly paste it into PowerPoint. This method is useful for quick edits and fast slide creation.

Step 1: Copy an Image

Right-click on an image from a website, another slide, or a document, and select "Copy" (or press Ctrl + C on Windows, Cmd + C on Mac).



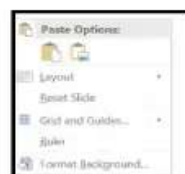
Step 2: Open PowerPoint and Select the Slide

Go to the slide where you want to insert the image.

Step 3: Paste the Image

Right-click on the slide and select "Paste" or press Ctrl + V (Windows) / Cmd + V (Mac).

- **DevOps is a transformative culture and practice that unites software development (Dev) and IT operations (Ops) teams.** By fostering collaboration and leveraging automation technologies, DevOps enables faster, more reliable code deployment to production in an efficient and repeatable manner.



Step 4: Resize and Format

Resize the image and adjust its brightness, contrast, or transparency under the Picture Format tab.

What is DevOps?

- **DevOps is a transformative culture and practice that unites software development (Dev) and IT operations (Ops) teams.** By fostering collaboration and leveraging automation technologies, DevOps enables faster, more reliable code deployment to production in an efficient and repeatable manner.



Method 4: Insert a Screenshot (Best for Tutorials & Guides)

If you need to capture and insert a screenshot into PowerPoint, this method allows you to take instant screen captures without needing additional software.

Step 1: Open PowerPoint and Go to the Insert Tab

Click on the "Insert" tab in the ribbon.

Step 2: Select "Screenshot"

In the "Images" group, click "Screenshot" and choose "Screen Clipping".



What is DevOps?

- **DevOps is a transformative culture and practice that unites software development (Dev) and IT operations (Ops) teams.** By fostering collaboration and leveraging automation technologies, DevOps enables faster, more reliable code deployment to production in an efficient and repeatable manner.

Step 3: Select the Area to Capture

Drag your cursor over the part of the screen you want to capture.

Step 4: Insert and Adjust

The screenshot will be automatically added to your slide. Resize and position it as needed.



Common Issues & Fixes When Adding Pictures in PowerPoint

Image Looks Blurry or Pixelated

- Use high-resolution images (avoid low-quality web images).
- Resize images proportionally to maintain quality.

Image is Not Fitting Properly in the Slide

- Use the Crop tool to trim unnecessary areas.
- Resize images manually while holding the Shift key to maintain aspect ratio.

Image is Covering Text or Other Elements

- Use Send to Back (Right-click > Send to Back) to move images behind text.
- Reduce transparency under "Picture Format" if needed.

Conclusion

Adding pictures to PowerPoint presentations is a simple yet powerful way to enhance your slides, improve visual appeal, and engage your audience. Whether you insert an image from your computer, use online pictures, take screenshots, or crop images into shapes, PowerPoint provides multiple options to fit your needs.

By using the methods outlined in this guide, you can ensure high-quality, well-placed images that make your slides visually stunning. So, start adding images to PowerPoint today and make your presentations more dynamic and effective!

How to Insert Video in PowerPoint:

How to Add a Video in PowerPoint: Quick Steps

- Open PowerPoint and Select the Slide
- Click on Insert Tab >> Video >> Choose the Video
- Click Insert >> Resize and Move the Video
- Adjust Playback Settings >> Save and Preview

Have you ever wondered **how to insert a video in PowerPoint** to make your presentation more interactive and engaging? Adding Videos can transform dull slides into dynamic and impactful presentations, making complex topics easier to understand and keeping your audience interested. Whether you're **embedding a YouTube video**, inserting a local file, or linking an online video, PowerPoint offers multiple ways to integrate videos seamlessly into your slides.

In this guide, you'll learn **how to add a video to PowerPoint**, customize playback settings, and troubleshoot common issues. Whether you're creating a business presentation, an educational lecture, or a marketing pitch, mastering video integration will take your slides to the next level!

How to Insert a Video in PowerPoint: Different Methods

Adding videos in PowerPoint enhances visual appeal, engagement, and retention. Depending on your needs, you can insert videos directly from your device, embed online videos, or link videos for optimized file size. Below are the best methods to insert a video into PowerPoint:

Method 1: Insert a Video from Your Computer (Best for Offline Playback)

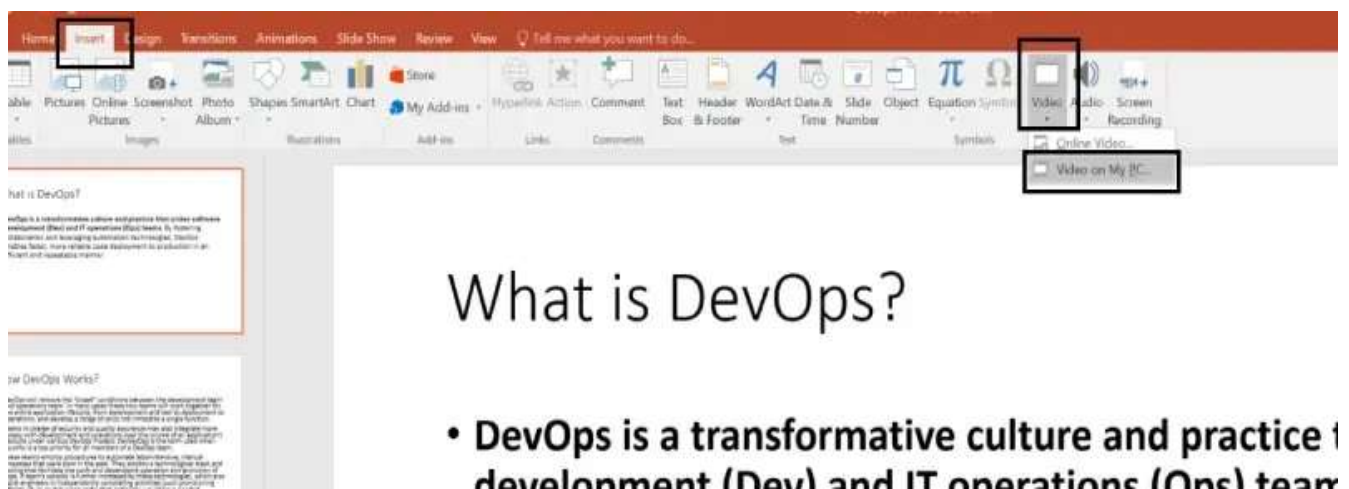
If you need a high-quality video without relying on the internet, inserting a video from your computer is the best option. This method ensures smooth playback without buffering and maintains the original video quality.

Step 1: Open Your Presentation

Launch PowerPoint and navigate to the slide where you want to add the video.

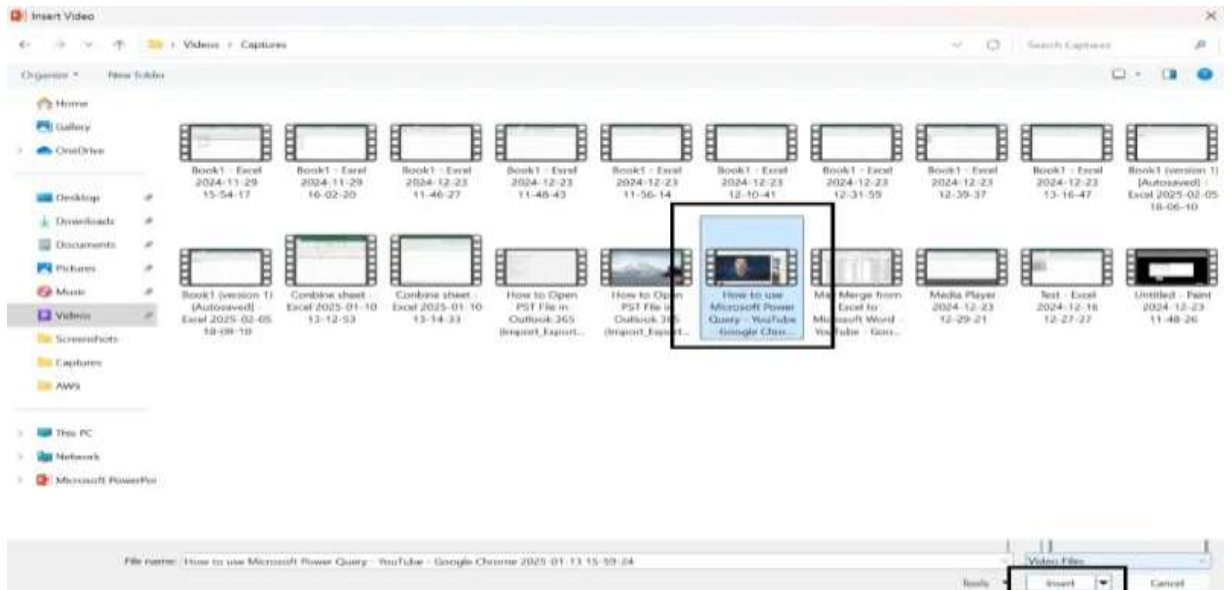
Step 2: Go to the Insert Tab >> Click on Video

Click on the "Insert" tab in the top menu. Under the "Media" group, select "Video" > "Video on My PC."



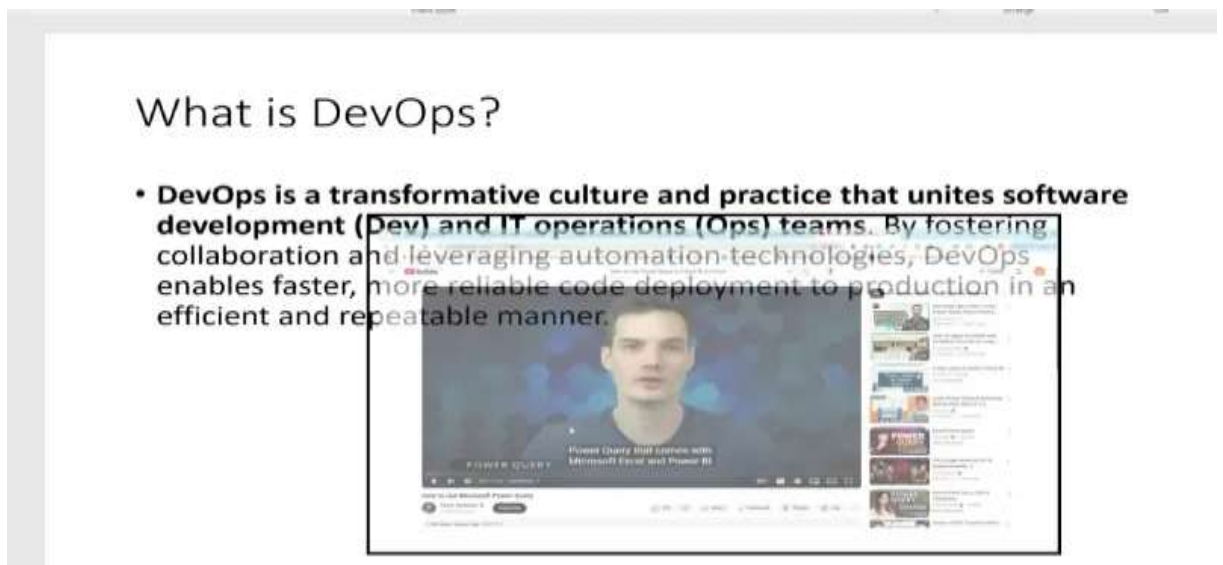
Step 4: Select Your Video File

Browse your computer, choose the video file, and click "Insert."



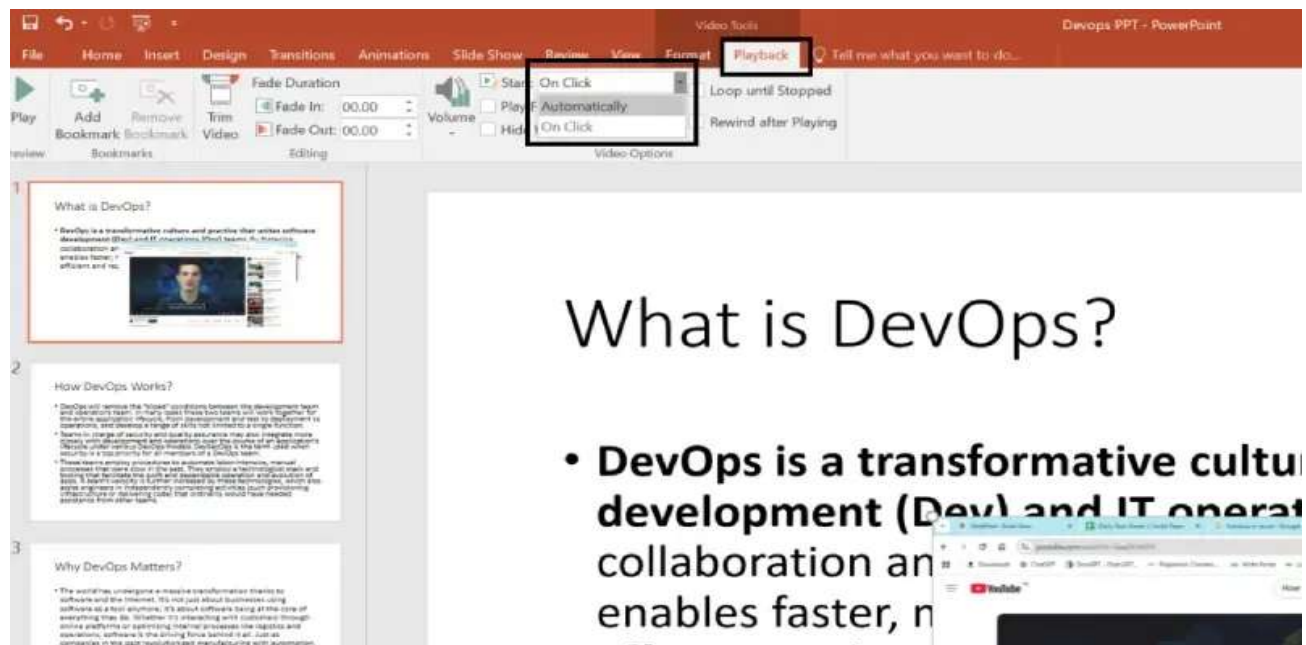
Step 5: Adjust Video Placement

Resize and reposition the video to fit your slide layout.



Step 6: Customize Playback Settings

Click on the "Playback" tab to adjust settings like "Play Automatically," "Loop Until Stopped," or "Start on Click"



Method 2: Embed a YouTube Video in PowerPoint (Best for Online Presentations)

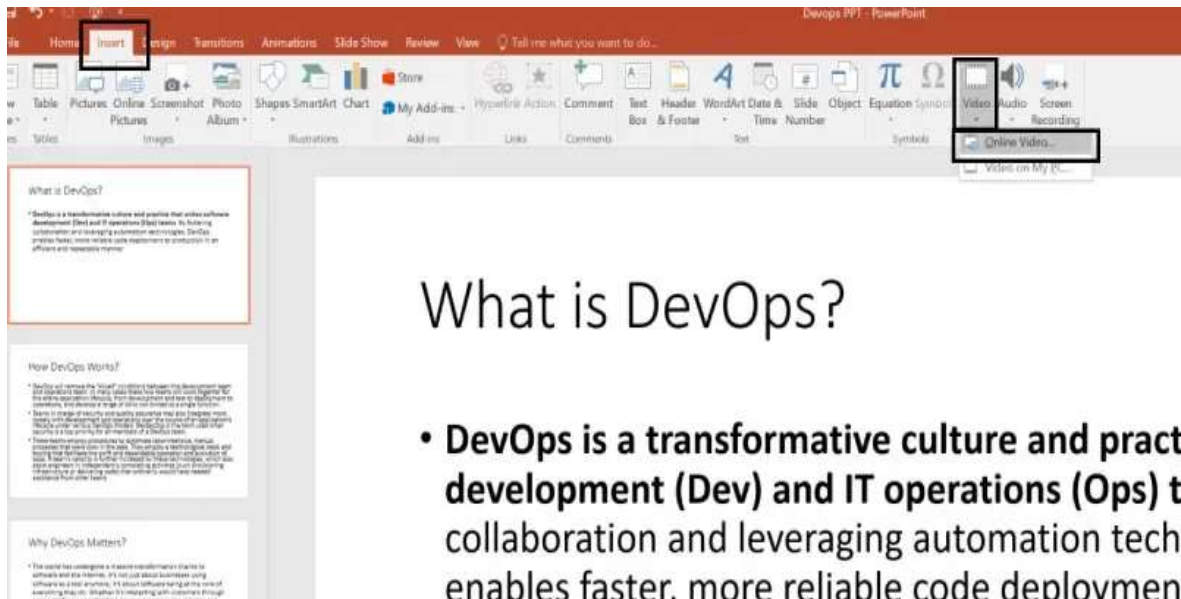
If you want to save storage space and access high-quality online content, embedding a YouTube video in PowerPoint is the perfect solution. This method allows you to integrate trending videos, tutorials, or promotional clips directly into your slides.

Step 1: Open PowerPoint and Go to Your Slide

Open the presentation and go to the slide where you want to embed the video.

Step 2: Go to Insert Tab, Click on Video and Select Online Video

Go to "Insert" > "Video" > "Online Video."



Step 3: Paste the YouTube Video URL and Click on Insert

Find the YouTube video, copy its link, and paste it into the "Insert Video" field. Press "Insert" to embed the video onto your PowerPoint slide.



Step 4: Resize and Position

Adjust the size and position of the video player to fit your slide layout.

What is DevOps?

- **DevOps is a transformative culture and practice that unites software development (Dev) and IT operations (Ops) teams.** By fostering collaboration and leveraging automation technologies, DevOps enables faster, more reliable code deployment to production in an efficient and repeatable manner.



Step 5: Ensure Internet Connectivity

Remember, YouTube videos in PowerPoint require an active internet connection to play.

Method 3: Link to an External Video (Best for Reducing File Size)

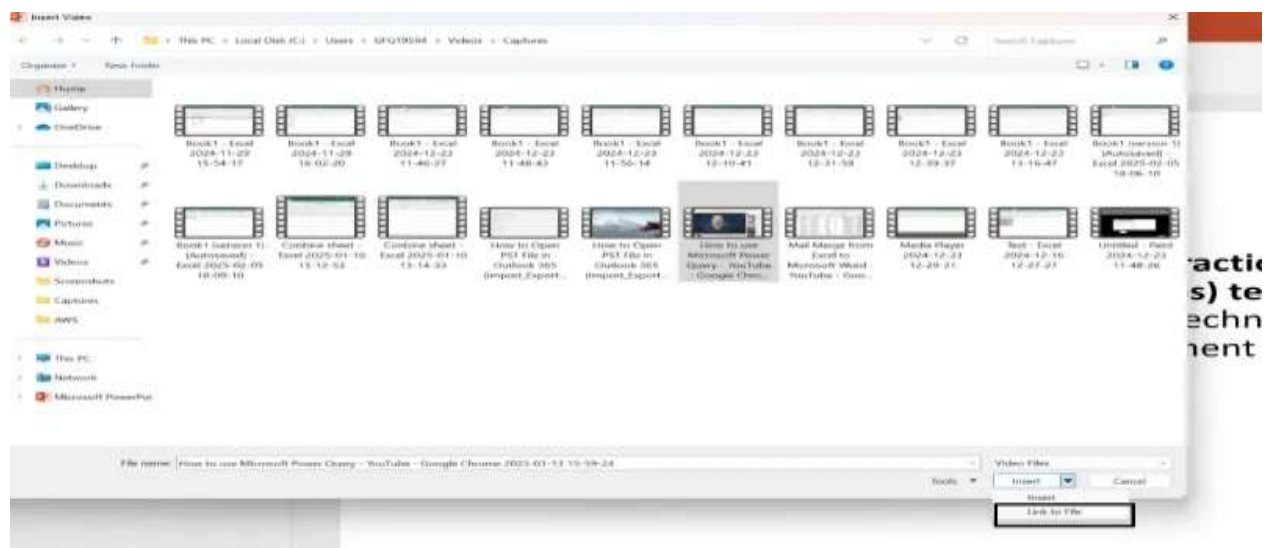
If your video file is too large, linking it instead of embedding it will keep your PowerPoint file lightweight and prevent lag during presentations.

Step 1: Go to the Insert Tab

Open PowerPoint and click "Insert" > "Video" > "Video on My PC."

Step 2: Select Your Video File

Find your video file but instead of clicking "Insert," click the dropdown next to it and select "Link to File."



Step 3: Adjust Video Settings

Resize and format your video as needed, just like embedded videos.



Step 4: Ensure the Video File Stays in the Same Location

Since PowerPoint only links to the video, moving the file might break the link.

How to Customize Video Playback in PowerPoint

After inserting a video, you can customize its playback settings to match your presentation style and ensure smooth transitions.

1. Set Video to Play Automatically or On Click

- Select the video and go to the "Playback" tab.
- Choose "Start Automatically" or "Start On Click."

2. Trim the Video for a Specific Clip

- Click "Trim Video" under the "Playback" tab.
- Adjust the start and end points to display only the relevant section.

3. Loop or Mute the Video

- Select "Loop Until Stopped" for continuous playback.
- Choose "Mute" if you don't want background audio.

4. Add Fade-In and Fade-Out Effects

- Click "Fade In" and "Fade Out" for a smoother video transition.

Common Issues & Fixes When Adding Videos to PowerPoint

1. PowerPoint Video Not Playing?

Fix: Ensure you're using a supported video format (MP4, WMV, AVI) and check video playback settings.

2. YouTube Video Not Loading?

Fix: Check your internet connection and ensure you've pasted the correct video URL.

3. Video File Too Large?

Fix: Compress the video by selecting "File" > "Compress Media."

4. Linked Video Not Found?

Fix: Keep the video file in the same folder as your PowerPoint presentation.

Conclusion

Incorporating videos into your PowerPoint presentation can elevate your content, increase engagement, and effectively convey complex ideas. Whether you're embedding a YouTube video, linking an external video to reduce file size, or adding videos directly from your computer, PowerPoint offers seamless methods to integrate multimedia content into your slides. By customizing video playback settings, you can ensure smooth transitions and enhance the overall viewing experience for your audience.

With the right video formatting and settings, your presentations will not only look more professional but will also captivate and inform your viewers. Whether you're delivering a business pitch, an educational lesson, or an entertaining webinar, mastering video integration in PowerPoint will take your presentation to the next level.

Check Your Progress

- What are the basic steps to create a new slide in PowerPoint?
- How do you change the layout of a slide in a presentation?
- Describe the process of inserting a picture into a slide.
- How can you resize and move a picture on a slide?
- What are the steps to insert a table in a PowerPoint slide?
- How do you add or remove rows and columns in a table within PowerPoint?
- Explain how to insert a video file into a slide.
- What formats of video files are supported by PowerPoint?
- How can you play or preview a video during a presentation?
- What are some ways to customize the appearance of inserted pictures and tables in PowerPoint?

UNIT V

Developing skills in Designing: Brochures – Newsletter – Videos – Websites

Objectives

- To learn how to design brochures.
- To understand how to create newsletters.
- To develop basic video making skills.
- To know the basics of website design.

How to Send Newsletters in Gmail

Sending Newsletters through Gmail can be a game-changer for your email marketing strategy. Whether you're a small business owner, a blogger, or just looking to keep your audience updated, Google newsletters offer a user-friendly and effective solution. In this article, you'll learn the process of creating and sending an email newsletter using Gmail, with newsletter email examples.

You'll learn about the best practices for Gmail newsletter design, how to segment Gmail lists for newsletters, and how to make newsletter templates in Gmail. Discover the secrets to successful Gmail campaigns and make the most of Google's powerful email tools to enhance your marketing efforts with Google newsletters.

How to Send a Newsletter in Gmail

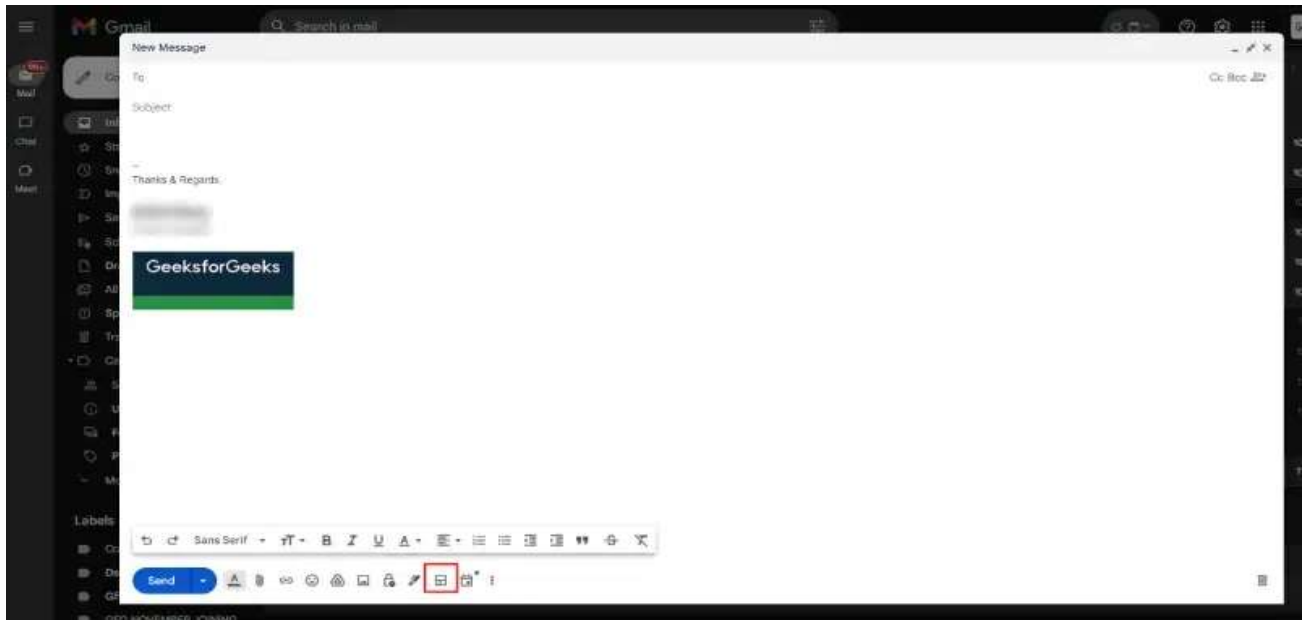
Gmail isn't typically used for large-scale email marketing, but for smaller operations, it can make a significant difference in how professional your emails appear. Here are a few ways to send newsletters in Gmail,

Gmail's Built-in Newsletter Templates

Gmail now offers built-in email newsletter templates. Follow the step-by-step procedure given below for your reference,

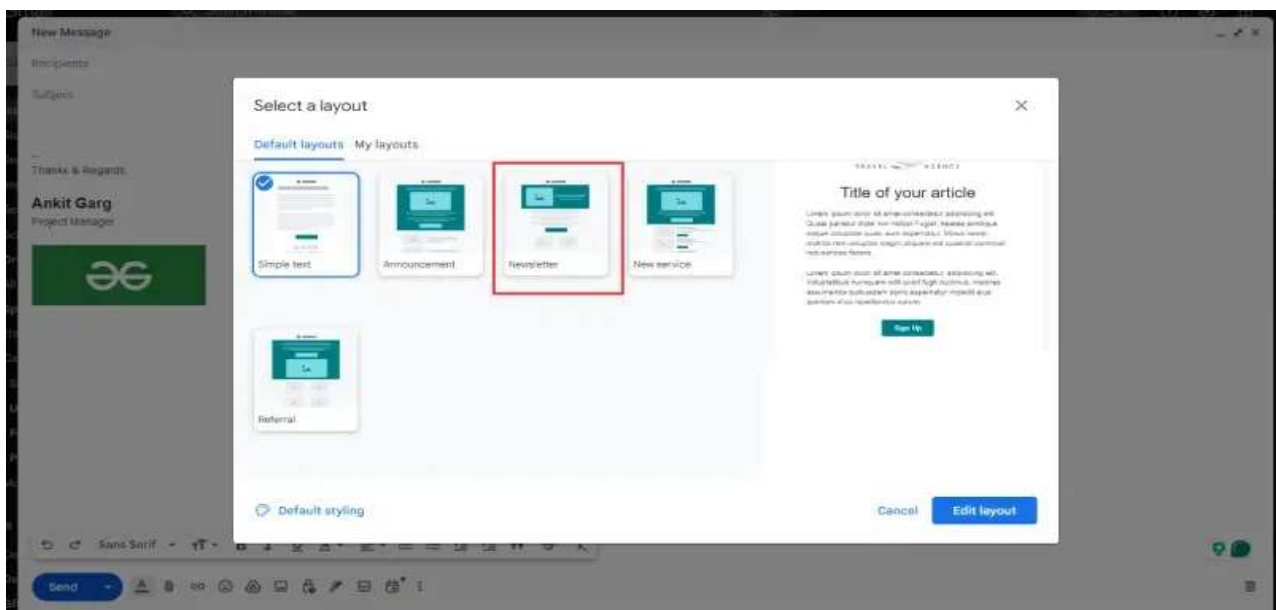
Step 1: Open Your Gmail and Compose a new Mail

Open Gmail, Compose a new Mail, and click the "Choose layout" icon at the bottom of a new email.



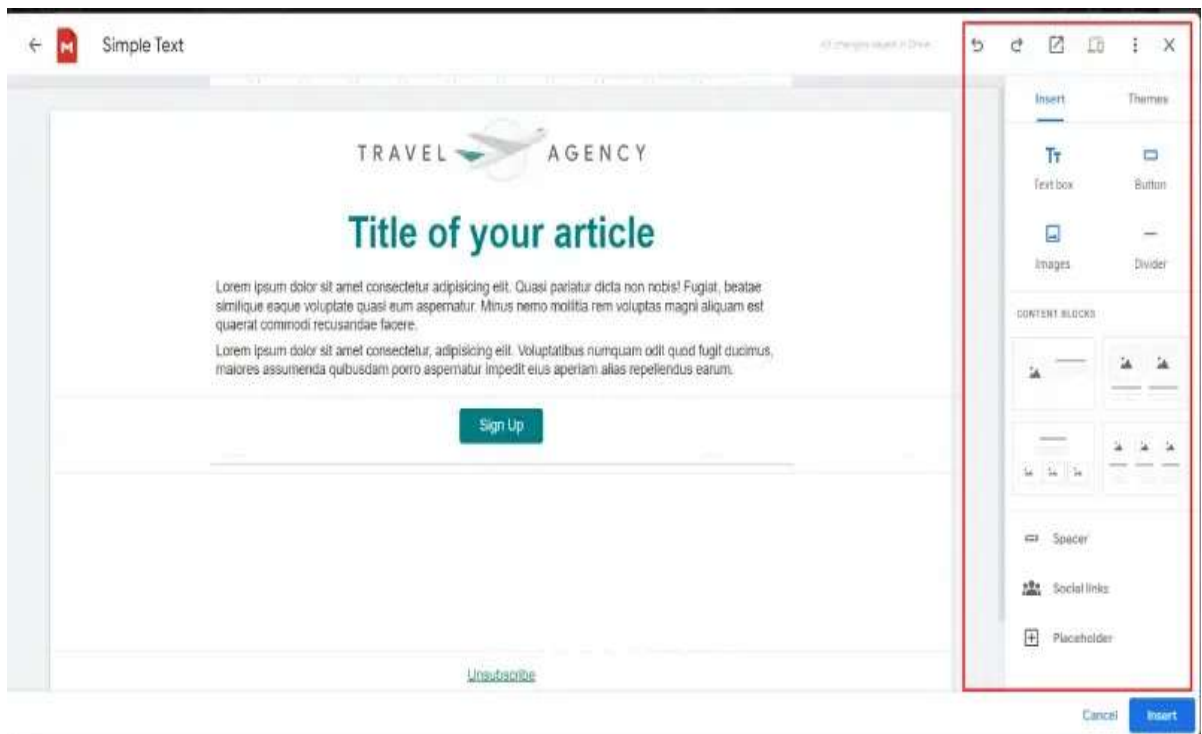
Step 2: Choose a layout from the default layout option

Gmail offers few default newsletter templates to send via email. Click on the Edit button and create your own and desired template.



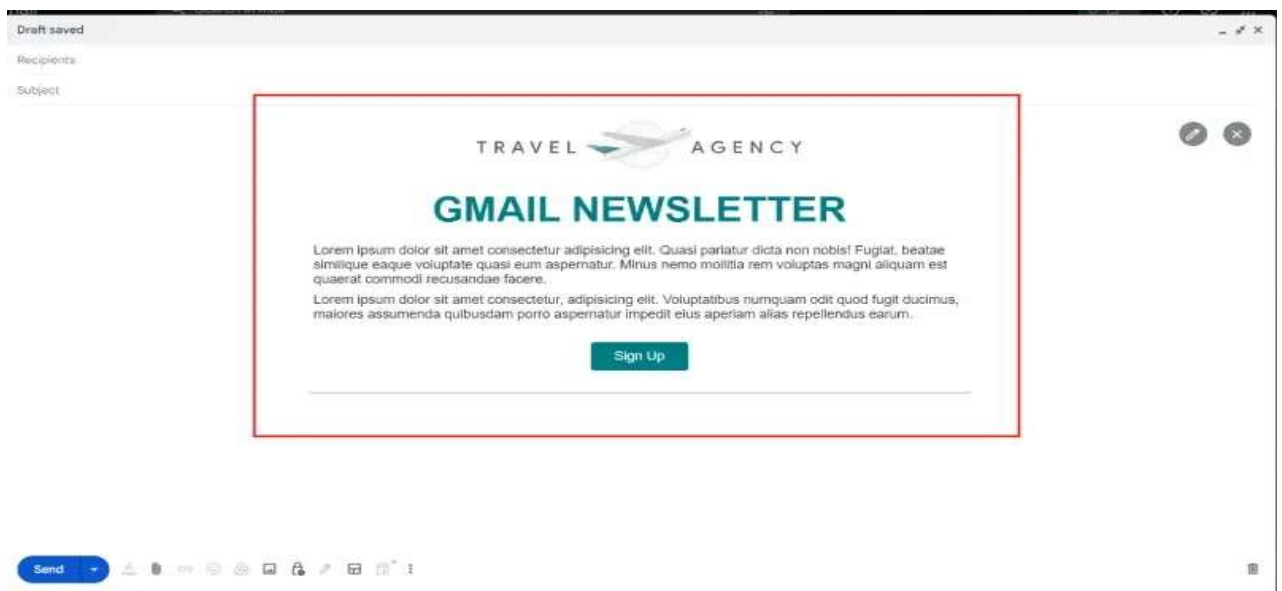
Step 3: Customize your layout using the given options and Click on Insert Button given at the bottom

After choosing the layout, customize the layout by adding your logo, colors, fonts, and footer details.



Step 4: See the results of Email Newsletter in Your Gmail

Your Gmail Newsletter is inserted successfully, now edit as needed.



12 Things to Consider for an Effective Brochure Design



Designing a brochure that is worth keeping is a challenging feat. An effective brochure should not only convey information and be eye-catching but should also resonate and leave a lasting impression. So, how do you make a **brochure** that is worth keeping? In this article, we'll explore the various 12 elements that you need to consider for effective brochure design.

12 Things to Consider for an Effective Brochure Design



1. Determine your purpose.

Before getting into brochure design, the first step is identifying your brochure's objectives. Are you targeting a specific demographic? Will it be distributed by hand or sent through direct mail? What results do you hope to achieve? Answering these questions can help determine the direction of your brochure marketing so that you can easily choose which design to go for.

2. Know your brochure folds.

Brochures are known for a lot of various folds, and these help you manage how your product and service information are presented. When choosing the right brochure fold, you'd want a style that complements your content, something that makes it easier for your recipients to read your material. For example, a list of product features or a step-by-step procedure may benefit more from a trifold or roll fold brochure as these are ideal in revealing sequences.



PrintRunner currently offers nine types of brochure folds, each with its unique features and recommended applications. To learn more about them, check out our blog post on brochure folds.

3. Review your copy.

The content of a brochure is crucial, as is how you present or convey that information. Ensure that your copy is concise, understandable, and straightforward. Too much information can overwhelm your readers and could leave them uninterested. Check for spelling and grammar mistakes, and make sure your copy is attuned with the overall visual design.



4. Choose your fonts.

Fonts affect the readability of your text, set the tone of your brochure, and impact its overall visual appeal. Choose font combinations that match your brand identity, and ensure they are easy to read. Limit your font choices from two to a maximum of three and use these for the heading, subheading, and body text.

5. Know your paper stock and coating.

Familiarize yourself with the paper stock you'll print your brochure on, as well as the coating that you can use to enhance it. Your choice of paper stock and coating can influence how customers perceive your company — brochures made with thicker paper stock and a glossy or matte coating will feel more sophisticated than those made with thinner variants.

Your choice of paper stock and coating will also affect durability. Heavier stock usually lasts longer than lighter ones, while coatings can protect your brochure from smudging and abrasions and make colors more vibrant.

6. Use high-resolution photos.

Image quality is crucial in effective brochure design. If you're going with stock photos, use the ones that do not look generic and are appropriate for your brand. If you're going to shoot product images, make sure that they are arranged in a visually appealing way, especially omnibus setups. Consider hiring a professional photographer to help you with art direction and in ensuring the quality of your product presentation. But if you plan to take the photos yourself, prepare by watching online tutorials on creating an **ideal product photography setup**, plan layouts, and rehearse techniques before the actual shoot.



7. Include a call-to-action.

The call-to-action is the most important section of your brochure. This is where you lead customers to act, whether it's to buy your products, visit your website, or avail your discounts, so you have to be specific about what it says. Make your call-to-action immediately visible to your recipient by using a bigger font or larger white space around it to make it stand out. For better results, include an incentive for readers — things like coupons or exclusive promotions can encourage customers to act after reading your brochure.

8. Create an eye-catching headline and cover design.

Your brochure headline and cover design are the first things readers will see when they receive your brochure. Write a clear and eye-catching headline to go with an awesome cover design to draw attention and encourage people to read your brochure.

9. Maintain a balanced layout.

A balanced layout will not only look aesthetically pleasing, it will also make your content easier on the eyes. Give your readers a great visual treat by breaking down large blocks of text, using high-quality images, and avoiding distracting graphics that can make the layout look cluttered.

10. Pick your colors wisely.

Colors can instantly influence your readers and evoke certain emotions. Choose a color palette that is consistent with your brand's theme and mix and match different shades until you achieve a scheme that will attract people to pick up your brochure.

11. Give your readers the option to engage.

In line with having a good call to action, ensure that your business information, such as your name, website, email address, phone number, and social media accounts, are present in your brochure. This will help readers reach out to you should they have any inquiries about your business or the products and services you offer.

12. Get creative.

Don't be afraid to test various designs and combinations. Go the unconventional route and get creative in laying out your brochure. You can experiment with unique shapes, add inserts, or play around with the type of fold to make your brochure stand out when placed in the rack. Creating an effective brochure design involves strategic planning, compelling content, and eye-catching visuals. With a well-designed brochure, you can elevate your brand and attract potential customers with ease.

What Are Effective Presentation Skills (and How to Improve Them)

Presentation skills are essential for a successful career in many fields. They are important for building confidence, enhancing collaboration, and developing robust critical-thinking skills. Although it might be tempting to think these skills are reserved for people interested in public speaking roles, they're critical in diverse jobs. For example, you may need to use presentation skills to pitch new ideas to clients or to explain your perspective on an issue to a manager.

Presentation skills are essential in various scenarios, including working with a team and explaining your thought process, walking clients through project ideas and timelines, and highlighting your strengths and achievements to your manager during performance reviews. Whatever the scenario, you want to begin by capturing your audience's attention with a well-crafted opening and get your point across when presenting information. Effective presentation skills help you get your point across and connect with the people you're communicating with, which is why nearly every employer requires them. Understanding what presentation skills are is only half the battle. Honing your techniques is essential for mastering presentations of all kinds and in all settings.

What are presentation skills?

Presentation skills are the abilities and qualities necessary for creating and delivering a compelling presentation that effectively communicates information and ideas. They encompass

what you say, how you structure it, and the materials you include to support what you say, such as slides, videos, or images.

You'll make presentations at various times in your life. Examples include:

- Making speeches at a wedding, conference, or another event
- Making a toast at a dinner or event
- Explaining projects to a team
- Delivering results and findings to management teams
- Teaching people specific methods or information
- Proposing a vote at community group meetings
- Pitching a new idea or business to potential partners or investors

Why are presentation skills important?

Delivering effective presentations is critical in your professional and personal life. You'll need to hone your presentation skills in various areas, such as when giving a speech, convincing your partner to make a substantial purchase, and talking to friends and family about an important situation. Whether you're using them in a personal or professional setting, these skills make it easier and more effective to convey your ideas, convince or persuade others, and experience success. A few of the benefits that often accompany improving your presentation skills include:

- Enriched written and verbal communication skills
- Enhanced confidence and self-image
- Boosted critical thinking and problem-solving capabilities
- Better motivational techniques
- Increased leadership skills
- Expanded time management, negotiation, and creativity

The better your presenting techniques, the more engaging your presentations will be. You could also have greater opportunities to impact business and other areas of your life positively.

Effective presentation skills

Imagine yourself in the audience at a TED Talk or sitting with your coworkers at a big meeting held by your employer. What would you be looking for in how they deliver their message? What would make you feel engaged?

Those are a few questions to ask yourself as you review this list of effective presentation skills.

Verbal communication

How you use language and deliver messages is essential to how your audience will receive your presentation. Speak clearly and confidently, projecting your voice enough to ensure everyone can hear. Think before you speak, pausing when necessary, and tailoring the way you talk to resonate with your particular audience.

Body language

Body language combines critical elements, including posture, gestures, eye contact, expressions, and position in front of the audience. Body language is one of the elements that can instantly transform a presentation that would otherwise be dull into one that's dynamic and interesting.

Voice projection

Projecting your voice improves your presentation by allowing your audience to hear you. It also increases your confidence, helping to settle lingering nerves while making your message more engaging. To project your voice, stand comfortably with your shoulders back. Take deep breaths to power your voice and ensure you enunciate every syllable.

Posture

How you present yourself affects your body language and ability to project your voice. It also sets the tone for the presentation. Remain open, upright, and adaptable while considering the formality of the occasion instead of slouching or looking overly tense.

Storytelling

Many powerful public speakers use storytelling effectively and incorporate it into their presentations. Storytelling can bring your subject to life and pique the audience's curiosity. Don't be afraid to tell a personal story, slowly building up suspense or adding a dramatic moment. And, of course, be sure to end with a positive takeaway to drive your point home.

Active listening

Active listening is a valuable skill all on its own. When you understand and thoughtfully respond to what you hear—whether it's in a conversation or during a presentation—you'll likely deepen your personal relationships and actively engage audiences during a presentation. As part of your presentation skill set, it helps catch and maintain the audience's attention, helping them remain focused while minimising passive response, ensuring the message is delivered correctly, and encouraging a call to action.

Stage presence

During a presentation, projecting confidence can help keep your audience engaged. Stage presence can help you connect with your audience and encourage them to want to watch you. To improve your presence, try amplifying your normal demeanour with enthusiasm. Project confidence and keep your information interesting. Watch your audience as you present. If you hold their attention, it likely means you're connecting well with them.

Self-awareness

Monitoring your emotions and reactions will allow you to react well in various situations. It will also help you remain personable throughout your presentation and handle feedback well. Self-awareness can help soothe nervousness during presentations, allowing you to perform more effectively.

Writing skills

Writing is a form of presentation. Sharp writing skills can help you master your presentation's outline to ensure you stay on message and remain clear about your objectives from the beginning until the end. It's also helpful to have strong writing abilities for creating compelling slides and other visual aids.

Understanding an audience

When you understand your audience's needs and interests, you can design your presentation around them. This will deliver maximum value to them and enhance your ability to make your message easy to understand.

How to improve presentation skills

Public speaking is an art form of sorts, and just like any other type of art, this is one that requires practice. Improving your presentation skills will help reduce miscommunications, enhance your time management capabilities, and boost your leadership skills. The following offers a few tips to help you improve these skills:

Work on self-confidence.

When you're confident, you naturally speak more clearly and with more authority. Preparing your presentation with a strong opening and compelling visual aids can help you feel more confident. Other ways to improve your self-confidence include practising positive self-talk, surrounding yourself with positive people, and avoiding comparing yourself (or your presentation) to others.

Develop strategies for overcoming fear.

Many people are nervous or fearful before giving a presentation. A bad memory of past performance or insufficient self-confidence can contribute to fear and anxiety. Having a few go-to strategies like deep breathing, practising your presentation, and grounding can help you transform that fear into extra energy to put into your stage presence.

Learn grounding techniques.

Grounding is a technique that helps you steer your focus away from distressing thoughts and keeps you connected with your present self. To ground yourself, stand with your feet shoulder-width apart and imagine you're a large, mature tree with roots extending deep into the earth—like the tree, you can become unshakable.

Learn how to use presentation tools.

Visual aids and other technical support can transform an otherwise good presentation into a wow-worthy one. A few popular presentation tools include:

- **Canva:** Provides easy-to-design templates you can customise
- **Powtoon:** Animation software that makes video creation fast and easy
- **PowerPoint:** Microsoft's iconic program popular for dynamic marketing and sales presentations

Practice breathing techniques.

Breathing techniques can help quell anxiety, making it easier to shake off pre-presentation jitters and nerves. It also helps relax your muscles and get more oxygen to your brain. For some pre-presentation calmness, you can take deep breaths, slowly inhaling through your nose and exhaling through your mouth. While presenting, breathe in through your mouth with the back of your tongue relaxed so your audience doesn't hear a gasping sound. Speak on your exhalation, maintaining a smooth voice.

Gain experience.

The more you practice, the better you'll become. The more you do anything, the more comfortable you'll feel engaging in that activity. Presentations are no different. Repeatedly practising your own presentation also offers the opportunity to get feedback from other people and tweak your style and content as needed.

Tips to help you ace your presentation

Your presentation isn't about you but the material you're presenting. Sometimes, reminding yourself of this ahead of taking centre stage can help take you out of your head and allow you to connect effectively with your audience. The following are many actions you can take on the day of your presentation.

Arrive early.

Since you may have a bit of presentation-related anxiety, it's important to avoid adding travel stress. Give yourself ample time to arrive at your destination, and consider heavy traffic and other unforeseen events. By arriving early, you also give yourself time to meet with any on-site technicians, test your equipment, and connect with people ahead of the presentation.

Become familiar with the layout of the room.

Arriving early also allows you to assess the room and determine where you want to stand. Experiment with the acoustics to determine how loudly you need to project your voice and test your equipment to make sure everything connects and appears properly with the available setup. This is an excellent opportunity to work out any last-minute concerns and move around to familiarise yourself with the setting for improved stage presence.

Listen to the presenters ahead of you.

When you watch others present, you'll get a feel for the room's acoustics and lighting. You can also listen for any relevant data and revisit it during your presentation—this can make the presentation more interactive and engaging.

Use note cards.

Writing yourself a script could provide you with more comfort. To prevent sounding too robotic or disengaged, only include talking points in your note cards if you get off track. Using note cards can help keep your presentation organised while sounding more authentic to your audience.

Improve your presentation skills with Coursera.

Cultivating effective presentation skills can be helpful in your personal and professional life, aiding you in everything from making a toast at your next celebration to pitching your team on a new project. Rehearsing your presentation and preparing ahead of time can help smooth the way forward, but these are only two options to improve your presentation skills. Learn to deliver clear and confident presentations with Dynamic Public Speaking from the University of

Washington. Build confidence, develop new delivery techniques, and practice strategies for crafting compelling presentations for different purposes, occasions, and audiences.

Newsletter Design

A newsletter is an electronic document with information about and from your organization. To design a newsletter for your organization or company, you need to know what content to write about and the best way to engage your readers. Understanding how to structure and distribute your newsletter can help increase subscribers and drive traffic to your organization's website. Email newsletters can be used to deliver information to people within your company network, such as your employees or stakeholders, or directly to your consumers or potential customers. In this article, we provide 20 useful tips you can use when designing a newsletter for your organization.

Tips for designing a newsletter

Once you've learned the basics of how to create a newsletter, you can pay attention to the newsletter design. You can follow these tips when designing your organization's newsletter:

1. Find a distribution program

Distribution programs have tools you can use to deliver your newsletter to your readers. You can schedule the exact delivery time and select who you want to receive your newsletter. You can also organize and access each edition of your newsletter in one system and manage your subscribers. Examples of newsletter distribution programs include:

- Campaign Monitor
- HubSpot
- Mailchimp
- Microsoft Publisher
- Squarespace
- Sender

2. Select an email design software

Email design software programs have tools that can allow you to design your newsletter and save your work. Look for software that permits you to attach images and manipulate colors and fonts. You may also consider the format you need for downloading your newsletter such as a .pdf, which can affect how your newsletter will appear. Examples of email design software include:

- Adobe Creative Cloud Express
- Canva
- Lucidpress
- Chamaileon
- Postcards
- Stripo
- Visme

3. Identify a target audience

A target audience is the group of people who may most benefit from reading your newsletter. For example, your target readers might be a particular age group or those who live in the same geographical area where your organization is located. During the creation process, it's important to design the content of your newsletter based on the interests of your target audience.

You can take into consideration:

- Information your target audience would find most relevant
- The type of language your target audience responds to
- The platforms your target audience frequents
- Actions you want your target audience to take after reading your newsletter

4. Create a theme

The theme of your newsletter can dictate the newsletter's content and your calls to action. Consider the goal of your newsletter and what messages you want to send about your organization. For example, perhaps you want to use your newsletter to promote a concert and detail the headlining acts and ticket prices. You may also use your newsletter to discuss new happenings in your organization, such as employee promotions.

Related: How To Create Email Subscriptions Worth Subscribing To

5. Name the newsletter

Naming your newsletter can complement its theme and coincide with your professional brand. You can create a name that may be easy for readers to recognize when they receive your newsletter. Your newsletter's name can also be homage to the name of your organization or its symbol.

6. Choose a format

The format of your newsletter can determine how it will appear to readers. You can consider the devices readers may use to read your newsletter. For example, your target audience may primarily use mobile devices to access emails so you may need to design your newsletter for mobile users. You may also consider if you want your newsletter to look different on mobile devices and desktops.

7. Structure a simple layout

Elements of a newsletter layout can include:

- **Subject line:** A newsletter subject line is the line of text that appears in an email inbox next to the sender's name.
- **Headings:** Headings divide your newsletter content into sections that readers can scan, and they show the major elements of your content. Consider using strategic keywords that can capture your readers' interest as they review your newsletter.
- **Subheadings:** Subheadings appear between headings to show more specific components of a broader topic. For example, if the heading is "New Employees," your subheadings might be "The Marketing Team" or the "Human Resources Department."
- **Headers:** Headers are visual components that appear at the top of your newsletter and serve as the first thing readers will see when they open the email. Headers often can include the name of your newsletter and organization, as well as its logo.
- **Footers:** Footers appear at the bottom of the newsletter and may frame the email. They may include links to your social media accounts and options for readers to sign up for more emails or unsubscribe.

8. Type with standard fonts

Standard fonts can improve the readability of your newsletter. It's important that your subscribers can interpret the text regardless if they're viewing your newsletter over their mobile devices or desktops. Creation and distribution tools may use standard fonts, which ensures your newsletter will transfer the way you want it to from one software to the next. Examples of standard fonts include:

- Arial
- Times New Roman
- Helvetica
- Sans Serif

9. Make use of white space

White space can help separate the sections of your text, make your newsletter easier to scan or interpret and can help emphasize your content. Consider adding white space to break up long blocks of text or can add extra space between headings and subheadings to distinguish them from one another.

Related: 15 Effective Strategies To Increase Newsletter Sign-ups

10. Attach images and videos

Attaching images and videos can illustrate your content and make your newsletter more appealing. For example, if you're documenting an event that took place, you can include images and video links to show your readers how and what occurred. If you're discussing future organizational goals in your newsletter, such as the groundbreaking of a new building, you can include photos and videos of the construction process.

11. Show some personality

Using GIFs can add personality and authenticity to your newsletter. GIFs are animated images that express emotions or add comedy. For instance, if you write about the excitement in your organization for the next quarter, you can use a GIF from a well-known movie or television show that depicts excitement.

12. Keep your information concise

Having a concise newsletter can encourage readers to interact fully with the content of your newsletter. As you write the text, you can use direct, specific descriptions to communicate your information as concisely as possible. It may be helpful to link to external resources, such as your organization's website, for more information about topics instead of including extensive descriptions.

Related: How To Write an Effective Newsletter

13. Write a good headline

Your headline is the first line of text your subscribers may read in your newsletter. Use language that can attract the interest of the readers and encourage them to continue reading your

newsletter. You can also communicate the purpose of the newsletter in your headline to offer insight into its content.

14. Apply consistent branding

Your newsletter can serve as a representation of your professional brand, which can help your readers easily identify your organization and what it means. Here are ways you can apply consistent branding to your newsletter:

- **Add your slogan:** If you have words or phrases that help your organization stand out, you can include them in your newsletter to help your readers identify your brand.
- **Include logos and symbols:** Logos and organizational symbols also represent your organization. You can paste your logo at the top of your newsletter so it's the first thing readers may see.
- **Use signature colors:** When deciding the colors for your newsletter, select the same color schemes you use on your website, business cards or office to encourage consistent branding. You can use the hex codes to ensure you're using the exact shades.

Related: [What Is Email Branding? \(And How To Use It\)](#)

15. Use thumbnails for other content

Thumbnails are images that can direct readers to similar organizational content. For instance, in your newsletter, you can include thumbnails to blog articles or previous newsletter editions. You may have a video on your website that applies to the content of the newsletter, so you can include a thumbnail from the video on the newsletter. Thumbnails can attract the readers' attention as they scroll through the newsletter and help you boost activity on other online platforms of your organization.

Related: [How To Create a YouTube Thumbnail in 6 Steps \(With Tips\)](#)

16. Include a call to action

Using a call to action could mean asking your subscribers to do something after reading your newsletter such as learning more about your organization. Here are examples of calls to action you can include in your newsletter:

- Visiting the organization's website: If you discuss your organization's services in the newsletter, you can direct subscribers to your website where they can learn about what you do and what you provide.
- Following social media platforms: You can include the logo of the social media platforms your organization uses with active links that direct subscribers to those platforms when they click on them.
- Purchasing tickets to events: If you use your newsletter to promote upcoming events, you can include a link that directs readers to the site where they can purchase tickets or make reservations.
- Submit questions: Your readers may have questions after reading your newsletter, so you can include a portal for them to send their questions directly to you.

Related: Customer Satisfaction: 70 Questions for Feedback

17. Stick to a consistent schedule

It's important that you distribute your newsletter consistently to keep your readers. Think about the content you want to promote and how often you need to promote it. For example, your organization may host several events for charity a month, so you may need to distribute a newsletter once a week to document past events and promote upcoming ones. Here are examples of newsletter delivery schedules:

- Twice weekly
- Weekly
- Bi-weekly
- Twice monthly
- Monthly
- Quarterly
- Semi-annually

Annually

18. Proofread your newsletter

It's important that your newsletter is free from grammatical and spelling errors. Before you schedule its distribution, carefully read over your text and preview the layout. You can also ask your colleagues to review the newsletter to catch any errors you may have overlooked.

Asking for feedback can also help you determine if the content of your newsletter is engaging and communicates details about your organization thoroughly.

19. Perform a test run

With a test run, you can make sure your newsletter meets your standards before you officially send it to readers. You can review its colors and format, checking that it's easy to read and appealing to the eye. You can click on your active links to ensure they go to the correct websites, and you can check the location of the newsletter's destination. For example, if you discover your distribution tool sends your newsletter to an email's spam folder, you can make adjustments so your readers can find your newsletter more easily.

Related: [10 Newsletter Ideas to Engage Your Subscribers](#)

20. Review the analytics

Tracking the analytics of your newsletter, like the average email open rate, can allow you to determine its success or if you need to make any changes. For example, if you find your current schedule is not frequent enough to engage readers, you may choose to distribute the newsletter once a week instead of once a month. To show how well your newsletter performed, you can also review the number of times readers clicked your active links, which may have directed them to your organization's website or your social media platforms.

Video Design: Differences & Similarities

Marketable design skills refers to the design skill sets of graphic designers and video designers. While many of these skills overlap between the two professions, they are still very much different from each other; however, those who have both graphic and video skills are bound to create limitless opportunities for themselves. The essential difference between graphic designers and video designers is the content in which they produce. Marketable design skills specific to each profession can be distinguished by the software knowledge needed in order to create graphic or video content. Those interested in graphic design need proficiency in software found in Adobe Creative Cloud such as Photoshop, Illustrator, and InDesign and those interested in video design need proficiency in Adobe software like Premiere Pro and After Effects.

In regard to creative expression and visual communication, graphic and video designers have a great deal of similarities. Both professions need to have a “keen eye for detail, a strong understanding of color theory and typography, and the ability to use software tools to create stunning visual content,” as noted in a recent LinkedIn article. Since Adobe software is at the

core of the skill sets for those in the graphic and video design professions, the similarities between these professions are also found in software knowledge and language as well. Those who know how to use *all* of Adobe Creative Cloud to create both graphic and video content have the chance to open a plethora of doors of opportunity as they blend the differences into one big skillset.

Career Possibilities in Graphic & Video Design

Those proficient in either or both graphic and design skills can market themselves into a wide range of career opportunities. Whether through freelancing, joining a marketing agency, or landing a designer job at a business or organization, those with marketable design skills can find that their skills and knowledge are in high demand across industries. Professionals with graphic design skills can find careers in just about any type of business under job titles like graphic designer, web designer, content specialist, and digital illustrator. There are many other jobs that those with graphic design skills can secure such as art directors, social media marketers, and content creators. Professionals with video editing and design skills can find employment under job titles such as video editors, video content strategists, special effects artists, and animator. Video editing and design professionals can also find opportunities in marketing and art management jobs. Those who are skilled in both graphic and video design can clearly see how many paths that could be possible.

Here are some career outlook fast facts in regard to both professions: (data pulled from the *U.S. Bureau of Labor Statistics*)

- Careers for Graphic Designers are increasing by 3% from 2022-2032, as fast as the national average.
- Careers for Video Designer/Editors are increasing by 7% from 2022-2032, faster than average.
- In 2022, there were 270,900 available Graphic Design jobs and 87,500 available Video Design Jobs
- Median pay for Graphic Designers in 2022: \$27.88 an hour
- Median pay for Video Designers/Editors in 2022: \$30.01 an hour

Fostering Marketable Design Skills

While similar in the fact that Adobe software is at the core of the skill and knowledge base for both graphic and video designers, essential skills differ for both professions. There are a

number of skills that employers look for in graphic and/or video designers to complete needed tasks, so professionals must make sure they have the essential skills as foundation before marketing themselves as graphic and video designing professionals. O*NET OnLine, an extension of the U.S. Department of Labor, is a tool created for career exploration and job analysis, with “detailed descriptions of the world of work for use by job seekers, workforce development and HR professionals, students, developers, researchers, and more.” The following essential skills for each profession are pulled from the comprehensive reports that are on O*NET OnLine.

Essentials Skills in Graphic Design

Proficiency in Adobe software Photoshop, Illustrator, and InDesign set the foundation for fostering essential skills in graphic design. Some of the most important tasks related to the responsibilities of a graphic designing professional are as follows:

1. Develop graphics and layouts for product illustrations, company logos, and websites.
2. Create designs, concepts, and sample layouts based on knowledge of the principles of design.
3. Use digital software to draw charts, graphs, illustrations, and other artwork.
4. Generate and prepare digital images and files for print.
5. Review final layouts and suggest improvements as needed.

Essentials Skills in Video Design

Proficiency in Adobe software Premiere Pro and After Effects set the foundation for fostering essential skills in video design and editing. Some of the most important tasks related to the responsibilities of a video designing and editing professional are as follows:

1. Select and combine the most effective video clips to form a logical and smoothly running story.
2. Manipulate plot, score, sound, and graphics to make parts into a continuous whole.
3. Use software to edit and add music, dialogue, sound effects, and to correct errors.
4. Trim clips to specific lengths and reassemble clips in sequences that present stories with maximum effect.
5. Review assembled projects to determine if corrections are needed.

Using Certificate Programs to Foster Marketable Design Skills

DWC Certificate programs are designed to teach and help improve skills in a real-world setting. Our experiential learning style ensures guidance by an expert instructor in a hands-on format and the challenges faced in class mimic the challenges found on the job and will provide the solutions needed to land the job and improve productivity. Each certificate program comes with a real-world project to foster real-world tasks and responsibilities as well as one-on-one job search and resume writing assistance with a career coach. By taking one (or both) of the certificate programs geared towards graphic and video design, marketable design skills can be fostered and improved upon.

Advanced Graphic Design Certificate Program

The Advanced Graphic Design certificate program focuses on high demand graphic design skills and software such as Photoshop, Illustrator, and InDesign. In addition to graphic design courses, the certificate program includes design fundamentals and soft skills classes to teach the language of graphics and to highlight the difference that elevates today's modern designs. Upon successful completion, students will be able to understand the principles of design, speak clearly on the concepts of design with other designers, edit images using Adobe Photoshop techniques, create logos and branding materials with Adobe Illustrator, design complex layouts using Adobe InDesign, and integrate Adobe programs using Adobe CC libraries.

Video Design Certificate Program

The Video Design certificate program offers necessary classes to provide a foundation in video software such as Adobe Premier Pro and After Effects. With additional classes in Adobe Photoshop and Illustrator, those enrolled in this certificate program will walk away with understanding the process of design for a video project as well as the knowledge to create something visually compelling.

Upon successful completion, students will explore the principles and elements of design, use Adobe Photoshop to edit still images used in video assets, understand best practices and terminology for video production, create dynamic videos using Adobe Premiere Pro, design and implement animations using Adobe After Effects, understand video marketing concepts and storytelling, create content strategies for video marketing, and examine/analyze video metrics for social and digital channels such as YouTube.

Being a web designer involves harmoniously combining visuals and content. But non-technical skills, like collaboration and communication, are also important.

The demand for skilled web designers today continues to surge as businesses of all sizes recognize that their digital presence is often the first touchpoint with customers. The rise of AI-assisted design tools hasn't replaced human designers but rather elevated expectations for what makes a truly exceptional website. Companies are investing more in distinctive web experiences that blend aesthetics with functionality, and they're looking for designers who can create interfaces that not only look stunning but also drive conversions, accommodate diverse accessibility needs, and adapt across an ever-expanding ecosystem of devices.

19 must-have web designer skills

Here's a list of 20 skills to help you become a design expert, no matter where you're at in your career.

Creative & technical skills

1. Visual design principles

You don't need to know music theory to write a song. If you've never taken an art class, you can still draw. Some of us might have an innate artistic ability, but knowing the basic fundamentals can make the difference between recreating what you see and being able to build a design that's calculated and unique. Our guide to visual design principles explores concepts rooted in Gestalt psychology like proximity, similarity, and figure-ground relationships. These fundamentals form the backbone of effective web and graphic design and are essential for creating intentional, cohesive experiences.

2. Typography

Typography shapes our perception of ideas. A type's weight and geometry communicates meaning, and as a designer, it's important to know the best way to deliver messaging with the appropriate typographical choices.

All the font options can make it hard for new designers to know what to choose. For body copy, try practical fonts like:

- Georgia
- Verdana
- Roboto

Meanwhile, more decorative typefaces should be used sparingly as ornamentation. Good designers know the difference between type styles, and where to use them. There are plenty of resources on the web to help broaden your typographic knowledge. FONTS IN USE shows different typefaces applied to a variety of media. Check out our guide to web typography best practices and tips for effective font pairing to elevate your typographic designs and create more cohesive visual experiences.

3. Composition

The arrangement of text, visuals, and other elements serve both an artistic and utilitarian purpose. There's the visual harmony of a design and the organization and hierarchy of ideas. Important content should grab our attention *and* look great. A well-composed layout involves creating balance with contrast, negative space, and proportioned elements. Pay attention to design around you — websites, paintings, movie scenes, billboards. The more you're aware of and can recognize good composition, the more it'll show up in your own design.

4. Color theory

Understanding fundamental color principles — such as how primary colors blend to create secondary and tertiary hues — will empower you to build harmonious and intentional color schemes for your web projects.

As a designer, you should develop fluency with the color wheel and understand the psychological impact of various color relationships:

- complementary,
- contrasting,
- analogous

The use of clashing colors is a common mistake that plagues beginner designers. A bit of visual dissonance can help make for an interesting design, but conflicting hues can also render a layout unreadable. Text, calls to action, and headers should use colors that work well together and maintain a strong sense of legibility. Understanding and knowing when to use lights and darks, contrast, and saturation are also important color skills in website design.

5. Design tools

Proficiency with these industry-standard design tools is essential for today's web designers:

- Adobe Creative Cloud (Illustrator, Photoshop, XD)
- Figma

- Webflow
- Sketch
- Framer

Beyond understanding these platforms, you should develop a solid foundation in photo manipulation and vector editing to handle everything from image optimization to logo refinements. Budget-conscious designers can leverage powerful free alternatives like Gimp for photo editing or Inkscape for vector work without compromising capability. As your skills advance, exploring motion design through tools like After Effects or Lottie will help you create more dynamic, engaging web experiences that capture attention and enhance user engagement.

When selecting your primary web creation platform, Webflow offers the ideal balance of design flexibility and development power — allowing you to create responsive, professional websites without writing code while still maintaining complete creative control over your projects.

6. Design frameworks & content management systems

Understanding frameworks and various content management systems is essential for modern web designers. A well-designed CMS makes managing large blocks of content significantly less burdensome, allowing for efficient updates and organization. For content that requires regular refreshing—like blog posts, recipes, or events—a robust CMS will streamline the entire process. Using a CMS to link related data and customize templates makes content management much more efficient. Many platforms offer built-in CMS features with customizable templates that give you the flexibility to create and organize content exactly as you need it.

7. Responsive design

Responsive design is a key component of the web development process. The guidelines for responsive design help guarantee that HTML, CSS (cascading style sheets), and JavaScript elements like menus, text, and buttons are clear and usable everywhere. Responsive design ensures consistent delivery of your content. It works by having a primary layout that adjusts to fit the screen it's loaded on. Making sure your designs translate to different devices helps them reach more people without sacrificing the user experience. And with tools like Webflow, you don't need to rely on a web developer to bring responsive designs to life. In addition to responsive layouts, understanding the fundamentals of accessibility is essential for creating inclusive experiences everyone can use.

8. User experience (UX)

User experience now encompasses the entire journey a visitor has with your website — from their emotional response to the design to how efficiently they accomplish their goals. Modern UX blends intuitive usability with thoughtful micro-interactions and personalized elements that create memorable digital experiences.

UX aims to not just guide users through a site, but to anticipate their needs and create moments of delight throughout their journey.

Current UX best practices include:

- Minimalist layouts with strategic negative space that reduce cognitive load and guide attention (prioritize clarity).
- Inclusive design that considers diverse user needs, abilities, and contexts while maintaining a human-centered approach (practice universal empathy).
- Data-informed personalization that adapts to user behavior and preferences in real time (dynamic audience understanding).

9. User Interface (UI)

Where UX is concerned more with broad aspects of how a design affects someone, UI focuses on specificity. Web pages, buttons, menus, and micro-interactions are all a part of UI. These elements guide an audience through a design, free from obstructions, for a smooth experience. Today, designers must be fluent in creating interfaces across an expanding ecosystem — from traditional screens to voice interfaces, AR overlays, and even haptic feedback systems.

UI touches many different facets of usability including:

- Navigational elements and straightforward, intuitive interfaces that adapt to context (whether on a smartwatch, foldable device, or ambient display).
- Calls to action that guide people to do what you want them to do in the shortest amount of time, with considerations for different input methods.
- Intuitive and repeatable interaction patterns your audience can follow and learn when using your design, regardless of the device or platform they're engaging with.

10. Graphic design

Website and graphic design share a similar creative space. Both involve the artistry of crafting visuals. But while web design is a medium where ongoing changes and updates are a

part of any project, graphic design is about creating visuals with longevity. Designing a website or a logo may be different design disciplines, but they're both a part of branding. Graphic design skills will round out your skill set, allowing you to create typography, custom illustrations, and other types of creative flourishes that enhance your web design work.

11. Search engine optimization (SEO)

SEO has evolved beyond just keywords into a fundamental design consideration. Understanding search engine optimization principles ensures your beautiful designs actually get discovered. Modern SEO blends technical elements (like site structure and page speed) with content strategy to create websites that both humans and algorithms appreciate. The most effective designers recognize that SEO shouldn't compromise user experience — forced keyword stuffing creates clunky, unnatural content that drives visitors away. Instead, aim for a harmonious balance where SEO enhances rather than detracts from your design's readability and flow.

12. Emerging technologies

Staying informed about cutting-edge technologies keeps your design work relevant and forward-thinking. From AI-powered design tools to immersive experiences like AR and VR, the landscape is constantly evolving. Understanding how technologies like generative AI can enhance (not replace) your creative process gives you a competitive edge. Whether it's using AI to generate initial concepts, exploring 3D elements, or implementing motion-triggered interactions, embracing these innovations allows you to create more dynamic, personalized experiences that captivate users and solve problems in novel ways.

Soft skills

13. Patience

Design challenges — from difficult feedback to complex navigation problems to career plateaus — all demand patience. This fundamental skill helps you gracefully navigate both technical obstacles and professional relationships, and prevent hasty decisions when frustration peaks. Step away from your screen when needed; a brief walk or task switch often reveals solutions that weren't previously apparent. Patience extends beyond design problems to human interactions. While clients bring valuable business expertise, they may not understand design terminology. Taking time to explain concepts clearly — sometimes through multiple approaches — builds trust and elevates your status from service provider to valued partner.

14. Collaboration

Collaboration is the cornerstone of effective web design. Working alongside developers, marketers, and clients brings diverse perspectives that strengthen your work, though balancing feedback with your creative vision can be challenging. The most successful designers cultivate a mindset that values input without becoming too attached to initial concepts. They recognize that developers spot technical constraints, marketers understand audience needs, and clients know their business objectives better than anyone.

When advocating for design decisions, balance conviction with openness — articulate your rationale with evidence when elements serve clear usability or branding goals, but remain genuinely receptive to compromise. True design leadership isn't about "winning" every discussion, but facilitating outcomes where everyone's expertise contributes to a superior result that serves both user needs and business objectives. This collaborative approach transforms potential friction points into opportunities that elevate the final product beyond what any individual could create alone.

Unleash your creativity on the web

Build completely custom, production-ready websites — or ultra-high-fidelity prototypes — without writing a line of code. Only with Webflow.

15. Time management

Effective time management is crucial for web designers, especially freelancers and teams who must balance multiple projects with competing deadlines. Creating a structured work schedule, blocking out focused design time, and using productivity techniques like time-boxing or the Pomodoro method can help you maintain momentum while preventing burnout. The key is establishing boundaries: knowing when to step away from social media and other distractions that fragment your attention and diminish your creative output.

16. Communication

People skills are as important as pixel skills. Explaining your vision for a project in a way that non-designers understand is essential. Stakeholders can include anyone from the marketing department to the founder, and you need to communicate how your design meets project goals. Much of design is a solitary pursuit, but it's still important to step outside your creative bubble, be an active listener, and share what you're working on.

17. Strategic business thinking

Understanding the business context behind every project transforms you from a pixel-pusher to a strategic partner. Effective web designers don't just create beautiful interfaces—they craft solutions that directly support conversion goals, brand positioning, and market differentiation. This requires asking probing questions about target audiences, competitive landscapes, and success metrics before diving into design work, ensuring your creative decisions align with measurable business outcomes. Business acumen also helps you prioritize design efforts for maximum impact. Rather than automatically pursuing flashy redesigns, you'll develop the analytical mindset to recommend precisely what a situation requires — whether that's optimizing the checkout flow to reduce abandonment, improving information architecture to boost engagement, or strategically refreshing visual elements to better communicate brand values. This discernment not only delivers better results for clients but positions you as an invaluable advisor who can translate business challenges into effective design solutions.

18. Attention to detail

Exceptional web design emerges from intentional decision-making, not happy accidents. Every pixel, interaction, and visual element should be purposeful — from the precise spacing in your navigation to the subtle color transitions that guide user attention. This meticulous attention to detail creates cohesive experiences where nothing feels arbitrary or disconnected. When you approach design with this level of precision, you naturally eliminate superfluous elements that don't contribute to your goals. The result is work that feels refined and focused, where each component not only looks beautiful but meaningfully advances both user needs and business objectives. Remember: in thoughtful design, nothing exists without reason.

19. Continuous learning

The web design landscape evolves at lightning speed, with new tools, techniques, and best practices emerging constantly. Successful designers cultivate a growth mindset—actively seeking out fresh perspectives through design blogs, industry podcasts, and community events rather than relying solely on what worked yesterday. This perpetual curiosity helps you stay ahead of trends like design systems, accessibility standards, and emerging technologies before they become mainstream requirements. Beyond just consuming information, effective continuous learning involves deliberate practice and experimentation. Challenge yourself to implement one new technique in each project, participate in design challenges that push you

outside your comfort zone, and regularly analyze innovative websites to reverse-engineer their solutions. This active approach to professional development not only expands your technical toolkit but also keeps your creative thinking fresh and prevents your work from becoming formulaic or dated.

Practical ways to grow your web designer skills

Take advantage of free and paid courses

Online platforms like Coursera, Udemy, and Webflow University offer structured lessons to boost your web design knowledge. Start with the basics, then move to advanced techniques at your own pace.

Collaborate with the design community

Online communities like Webflow Forum, Behance groups, and local meetups are great places to find support, exchange feedback, and stay inspired by other designers.

Test your skills on real or mock projects

- Redesign a local nonprofit's site to improve clarity and impact.
- Create a single-page promo site for a community event or product launch.
- Experiment with a personal portfolio to showcase your best work.

Web design is more than making great websites

Web design in 2025 demands a versatile toolkit that spans both technical expertise and human qualities. The most successful designers balance visual fundamentals — typography, color theory, and spatial relationships — with a deep understanding of user behavior and business objectives. These elements don't exist in isolation but work together to create experiences that are both beautiful and purposeful.

The soft skills we've explored elevate your work beyond pixels and code to create meaningful connections with clients and users alike. Navigating client feedback sessions doesn't just improve your designs; it builds the resilience and empathy that serve you in every aspect of life. In this ever-evolving field, being a great designer means continuously learning, staying curious, and remembering that behind every screen is a human seeking an experience worth their time and attention.

Check Your Progress

- What is the purpose of a brochure?
- Name three important elements to include in a brochure design.
- How does a newsletter differ from a brochure?
- What software can be used to create newsletters?
- List two key steps in creating a simple video.
- What is the importance of storyboarding in video production?
- What are the basic components of a website?
- How can good website design improve user experience?
- What factors should be considered when choosing colors for brochures and newsletters?
- Explain why consistency is important in designing brochures and newsletters.