



மனோன்மணியம் சுந்தரனார் பல்கலைக்கழகம்  
**Manonmaniam Sundaranar University**

Reaccredited with 'A' Grade (CGPA 3.13 Out of 4.0) by NAAC (3rd Cycle)  
Tirunelveli - 627 012, Tamilnadu, India.

**DIRECTORATE OF DISTANCE**

**&**

**CONTINUING EDUCATION**

## *Computer Applications in Business*



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**II B. COM (III SEMESTER) – UNDER CBCS**  
**PART III – ALLIED -3**  
**COMPUTER APPLICATIONS IN BUSINESS**

**Objectives:**

1. To familiarize the students with the innovations of information in computer applications in business.
2. To understand the basic computer knowledge
3. To enable the students to appreciate the practical details of computer.

**Unit I Computer Applications**

Introduction of Computers – Computer Applications – Classification – Programming concepts – Assembly language – High level language – Operating system – Compilers – Assemblers – Packages.

**Unit II MS Word**

MS Word – Introduction to Word – Creating Word Document – Formatting – Spell Check – Grammar Check – Working with Tables – Saving, Opening and Closing Document – Mail Merge.

**Unit III MS Power Point**

MS Power Point – Creation – Insert Picture – Animation – Creating Multimedia Presentations – Insert Tables and Graphs.

**Unit IV MS Excel An Introduction**

MS Excel – Introduction – Spread Sheet – Entering data in Working sheets – Editing and Formatting Work sheets – Charts – Functions like Saving, Opening and Closing Work book.

**Unit V Introduction to Internet**

Introduction to Internet – Browsers – Search Engine – WWW – Internet Protocols – FTP – TELNET – HTTP – E-mail – How to create E-mail – Internet Vs Intranet – Webpage – URL.

**Reference Books:**

1. Complete reference on MS Office – Deitel&Deitel
2. Computer Application in Business – R Parameswaran, S Chand & Company Ltd.

**Note: 100% Practical for External; No Theory Examination**

**\*Marks: Internal 50 & External 50**

**Outcomes:**

1. To understand the basic concepts and terminologies used
2. To familiarize in MS Word
3. To familiarize in MS PowerPoint
4. To prepare a document in excel program
5. To know the internet protocols, to compose and view email etc.

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## UNIT I

### COMPUTER APPLICATIONS

#### **Introduction of Computer:**



Computer is an electronic device that operates (works) under the control of programs stored in its own memory unit.

A Computer is an electronic machine that processes raw data to give information as output. An electronic device that accepts data as input, and transforms it under the influence of a set of special instructions called Programs, to produce the desired output (referred to as Information).

#### **Meaning**

A Computer is an electronic machine that processes raw data to give information as output. An electronic device that accepts data as input, and transforms it under the influence of a set of special instructions called Programs, to produce the desired output (referred to as Information).





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## Explanations:

A computer is described as an electronic device because; it is made up of electronic components and uses electric energy (such as electricity) to operate.

- ✓ A computer has an internal memory, which stores data & instructions temporarily awaiting processing, and even holds the intermediate result (information) before it is communicated to the recipients through the Output devices.
- ✓ It works on the data using the instructions issued, means that, the computer cannot do any useful job on its own. It can only work as per the set of instructions issued.
- ✓ A computer will accept data in one form and produce it in another form. The data is normally held within the computer as it is being processed.

## Program:

A computer Program is a set of related instructions written in the language of the computer & is used to make the computer perform a specific task (or, to direct the computer on what to do).

A set of related instructions which specify how the data is to be processed.

A set of instructions used to guide a computer through a process.

**Data:** Is a collection of raw facts, figures or instructions that do not have much meaning to the user.

- Data may be in form of numbers, alphabets/letters or symbols, and can be processed to produce information.



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## **TYPES OF DATA.**

There are two types/forms of data:

### **a). Digital (discrete) data:**

Digital data is discrete in nature. It must be represented in form of numbers, alphabets or symbols for it to be processed by a computer. Digital data is obtained by counting. E.g. 1, 2, 3 ...

### **b). Analogue (continuous) data:**

Analogue data is continuous in nature. It must be represented in physical nature in order to be processed by the computer. - Analogue data is obtained by measurement. E.g. Pressure, Temperature, Humidity, Lengths or currents, etc.- The output is in form of smooth graphs from which the data can be read.

## **Data Processing:**

It is the process of collecting all items of data together & converting them into information.

Processing refers to the way the data is manipulated (or handled) to turn it into information. The processing may involve calculation, comparison or any other logic to produce the required result. The processing of the data usually results in some meaningful information being produced.



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Information: is the data which has been refined, summarized & manipulated in the way you want it, or into a more meaningful form for decision-making. - The information must be accurate, timely, complete and relevant.

## **ELEMENTS OF A COMPUTER SYSTEM:**

**A Computer system is a set of six elements viz.:**

- (i) Hardware,
- (ii) Software,
- (iii) People,
- (iv) Procedures,
- (v) Data and
- (vi) Connectivity.

### ***(i) Hardware:***

The Physical components of a computer constitute its Hardware. These include keyboard, mouse, monitor and processor. Hardware consists of input devices and output devices that make a complete computer system.

Examples of input devices are keyboard, optical scanner, mouse and joystick which are used to feed data into the computer. Output devices such as monitor and printer are media to get the output from the computer.



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## ***(ii) Software:***

A Set of programs that form an interface between the hardware and the user of a computer system are referred to as Software.

### **They are of six types:**

#### **(a) System software:**

A Set of programs to control the internal operations such as reading data from input devices, giving results to output devices and ensuring proper functioning of components is called system software.

#### **(b) Application software:**

Programs designed by the user to perform a specific function, such as accounting software, payroll software etc.

#### **(c) Operating system:**

A Set of tools and programs to manage the overall working of a computer using a defined set of hardware components is called an operating system. It is the interface between the user and the computer system.

#### **(d) Utility software:**

Certain special purpose programs that are designed to perform a specialized task, such as functions to copy, cut or paste files in a computer, formatting a disk etc.



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**(e) Language processors:**

Special software to accept data and interpret it in the form of Machine /Assembly language understandable by a computer. It also ensures the correctness of language syntax and errors.

**(f) Connectivity software:**

A Set of programs and instructions to connect the computer with the main server to enable sharing of resources and information with the server and other connected computers.

***(iii) People:***

The most important element of a computer system is its users. They are also called live-ware of the computer system.

**The following types of people interact with a computer system:**

**(a) System Analysts:**

People who design the operation and processing of the system.

**(b) System Programmers:**

People who write codes and programs to implement the working of the system

**(c) System Operators:**

People who operate the system and use it for different purposes. Also called the end users.



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***(iv) Procedures:***

Procedure is a step by step series of instructions to perform a specific function and achieve desired output.

**In a computer system, there are three types of procedures:**

**(a) Hardware oriented procedure:**

It defines the working of a hardware component.

**(b) Software oriented procedure:**

It is a set of detailed instructions for using the software.

**(c) Internal procedure:**

It maintains the overall internal working of each part of a computer system by directing the flow of information.

***(v) Data:***

The facts and figures that are fed into a computer for further processing are called data. Data is raw until the computer system interprets it using machine language, stores it in memory, classifies it for processing and produces results in conformance with the instructions given to it. Processed and useful data is called information which is used for decision making.





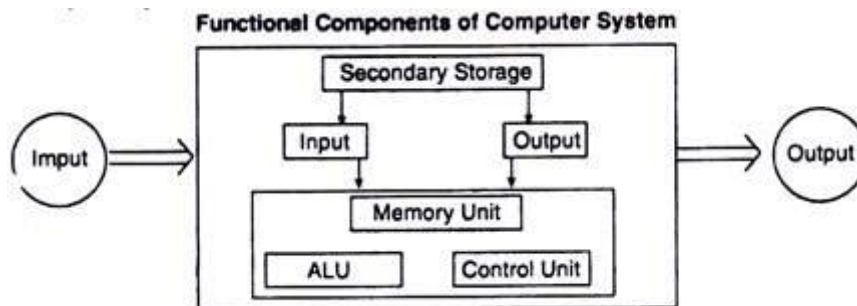
### **(vi) Connectivity:**

When two or more computers are connected to each other, they can share information and resources such as sharing of files (data/music etc.), sharing of printer, sharing of facilities like the internet etc. This sharing is possible using wires, cables, satellite, infra-red, Bluetooth, microwave transmission etc.

### **COMPONENTS OF A COMPUTER SYSTEM:**

A Computer system mainly has three components viz. Input Unit, Central Processing Unit and Output Unit. These components are the building blocks of a computer and define its architecture.

**The relationship among these components is well established by the following diagram:**



### **(i) Input Unit:**

Input unit is responsible for controlling the various input devices that are used to enter data into the computer. The commonly used input devices are mouse, keyboard, light pen, optical scanner etc. While some input devices are designed for special purposes such as Optical Character Recognition (OCR), Magnetic Ink Character Recognition (MICR) and



Bar Code Reader etc, there are other devices that accept input by responding to physical touch and voice such as ATMs.



***(ii) Central Processing Unit (CPU):***

The CPU ensures the flow of data into the system by directing the data to enter the system, storing it into the memory and retrieving it when needed to produce the output.



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**It has three parts:**

**(a) Arithmetic and Logic Unit (ALU):**

It performs all the arithmetical calculations and computations like addition, subtraction, multiplication and division. It is also responsible for logical calculations like comparisons among data items.

**(b) Memory Unit:**

The data has to be stored in the memory blocks of the computer before it is retrieved for actual processing.

**(c) Control Unit:**

As the name suggests, control unit controls and coordinates the activities of all the components of the computer system. It reads data from the memory, decodes the instructions, looks after its execution, and fetches the next instruction and so on.

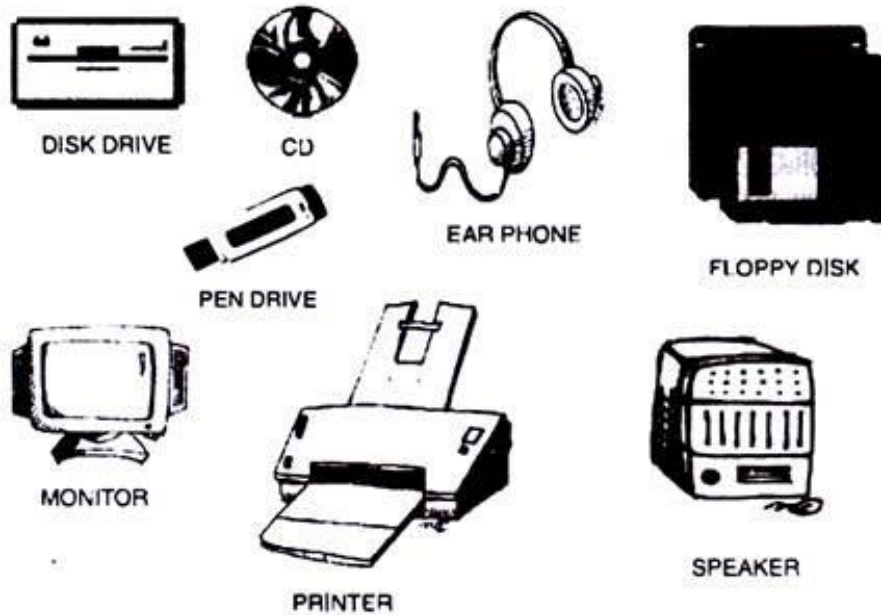
***(iii) Output Unit:***

It controls various output devices like printer, graphic plotter, speech synthesizer, monitor (also known as Visual Display Unit or VDU) to produce the desired output and present it to the user. It ensures the convertibility of output into human readable form that is understandable by the user.



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## OUTPUT DEVICES



## PARTS OF A COMPUTER SYSTEM

### Here are the 12 Main Parts of a Desktop PC Computer

Several years ago, I used to build custom computers as a hobby. I would order separate computer parts and connect them together on a PC motherboard inside a computer case to assemble a custom PC.

From that hobby I learned so much about computer parts, and it was so exciting to plan, design, find the best parts (that should be compatible between them) and finally assemble a custom-built computer machine.

As you will see below, Desktop computers are made up of a lot of different parts that work together to perform for you.



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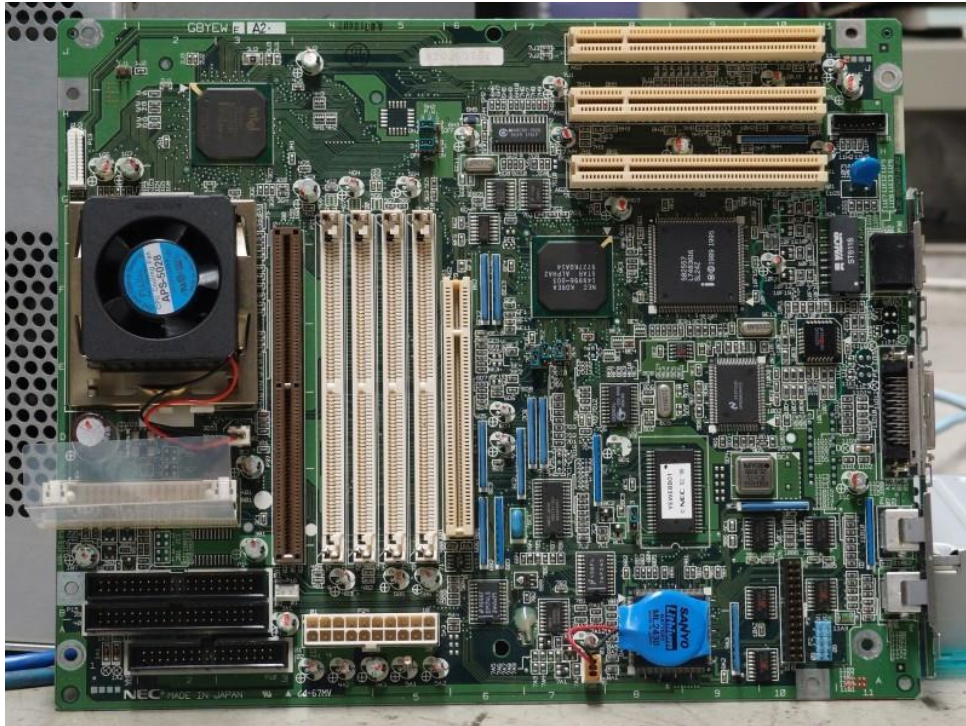
What I will try to do in this article is to teach you some basic functions of the main computer parts so when you open a computer up, you can identify these different parts and know what they do.

Let's take a look at the main components of a desktop computer below:

- Motherboard
- CPU
- RAM
- GPU (Video Card)
- Storage (Mechanical Hard Disk or SSD)
- Power Supply
- Computer Monitor
- Keyboard
- Mouse
- Optical Drive (DVD/CD ROM)
- Network Interface Card or WiFi Card
- Desktop Case

## **Motherboard**

The motherboard is the main circuit board inside your computer. It is the “common ground” that allows all of the other components to communicate with one another.



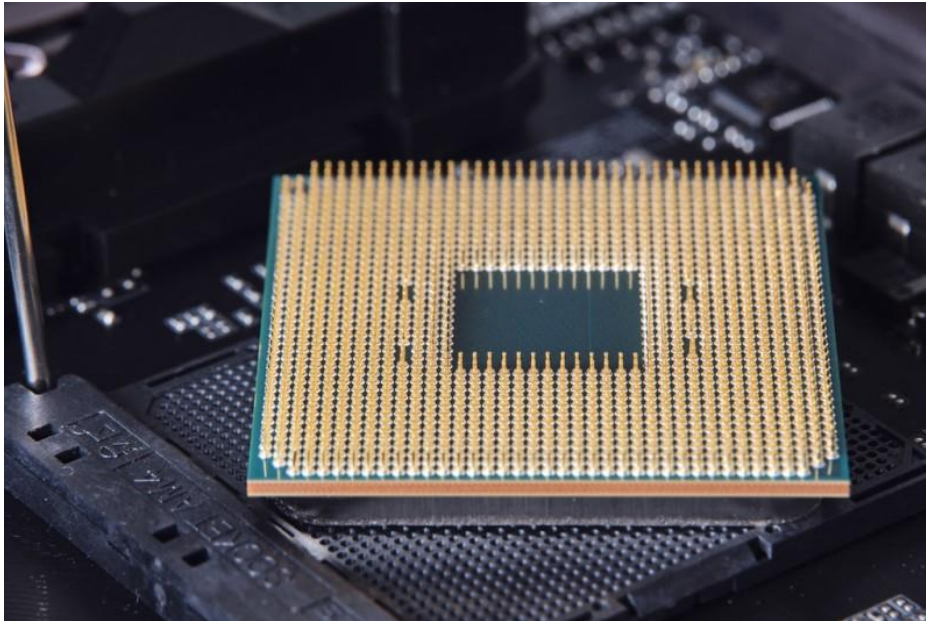
A number of other parts are attached to the motherboard, such as the memory RAM chips, the ROM, the CPU, PCI slots, USB ports etc, and it has controllers for your hard drive, DVD drive, keyboard, mouse etc.

The motherboard is the part that connects everything so that your computer can run. It has empty slots on which you can connect additional components if needed (e.g extra RAM, separate Graphics Card, additional disk storage etc).

## **CPU**

The CPU is the central processing unit of the computer. It is considered the “brain” of the computer and is the part that processes all of the instructions.





It runs the operating system, and it receives input and instructions from software and the other hardware.

Then it processes the input data and creates output which is either displayed on the screen or send to other components such as the Storage devices, printers etc.

The CPU has a chip inside that is where this activity takes place. The CPU's main performance metric is the Frequency (GHz) that is “clocked”, which means how fast the CPU runs.

Some people tend to “overclock” their CPU, which means that they force the CPU to work at higher speeds from its designated value. In such cases, you must use a CPU Temperature Monitor software to make sure you don't burn the CPU.



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## RAM

RAM stands for random access memory. It is hardware that is found in many different electronic devices, including a computer.



The amount of RAM in the computer determines how much memory applications that are open can use.

If a computer has more RAM, the user can open more programs without the speed slowing down.

Each program runs inside RAM which is a very high-speed memory area, so the program runs faster inside RAM. When you switch off the computer, all data in RAM is erased.

RAM is in the form of “chip modules” as shown on the picture above. Usually we have 2-4 RAM chip modules which are inserted in slots on the motherboard.

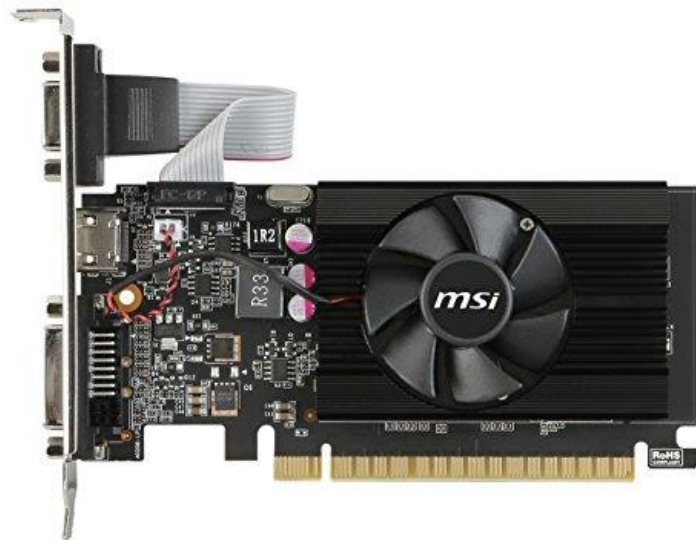


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For example, if you have 2x4GB RAM modules, your computer will have a total of 8 GB RAM.

## GPU (Video Card)

GPU stands for graphics processing unit. It is a processor that handles graphics operations, including 2D and 3D calculations, and it excels at 3D graphics.



This is an important component for gaming because the GPU can render graphics more efficiently than the CPU can.

For lower-end computers, the GPU is embedded on the motherboard. For high-end computers or for gaming desktop PCs, the GPU comes as a separate “Video Card” which is inserted in a motherboard slot (as shown on the picture above).



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## Storage (Mechanical Hard Disk or SSD)

The storage device, or hard disk, is the hardware that stores data which is not erased when you power-off the computer.



It stores the operating system, applications, files, and folders for the user. People often are referring to the storage when they talk about how much memory a computer has. This is the capacity of the hard disk to store files.

In previous years, the most common type of storage was the mechanical Hard Disk (see picture above).

Nowadays, almost all computers come with SSD disk (Solid State Drive) which is a much faster disk compared to a mechanical hard disk.



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## Power Supply



The power supply is the component that supplies power to the whole Desktop computer system. It plugs in and receives power from an electrical outlet. It then converts the current from an alternating current (AC) to a direct current (DC).

It regulates current and smooths-out any spikes in voltage which enters the computer at any given time and prevents damage to the sensitive electronic components.

## Computer Monitor

The computer monitor is also called the screen or display. It shows the user the output and allows the user to see the information being processed on the computer.

Most monitors today use LED technology, and they are flat screens that take up less space than the old CRT displays.



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## **Keyboard**

The keyboard is the main “input” device (together with the mouse) of any computer.

It is one of the main devices used for communicating with the rest of the world (e.g typing emails, searching the Internet etc) and its design mimics the old typewriter keyboards.

It is called the QWERTY layout. It gets its name from the first six letters on the top left corner of the keyboard. There are additional function keys and shortcut keys that vary on different keyboards.

Like almost every computer component, there are various types of computer keyboards such as mechanical, ergonomic, membrane, with backlight etc.

## **Mouse**

The mouse is another important input device. It is named because the shape of the mouse resembles the shape of the animal, and the cord represents the tail.

However, most mice are wireless today. You can refer to the plural as mice or mouses, although mice is the technically correct term.

They usually have two buttons and can have more. You can scroll up and down on a scroll wheel if the mouse has one. The mouse moves an arrow that allows you to open applications.





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## **Optical Drive (DVD/CD ROM)**

The optical drive uses a laser that writes and reads data on optical discs, such as a DVD or CD.

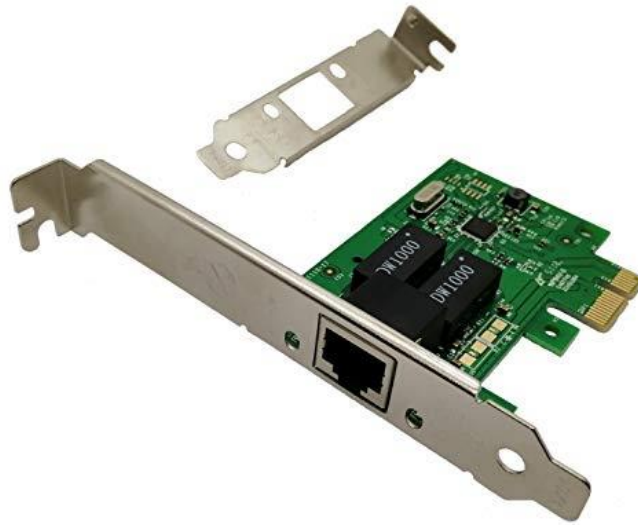


They are made up of millions of small dips and bumps, and the optical drive reads them as zeros and ones.

The optical drive can read and write data on these discs. When the laser writes data onto the disc, it burns it in. For this reason, people “burn” CDs.

## **Network Interface Card or WiFi Card**

The network interface card is also called the NIC (pronounced Nick). This part is what gives a computer its networking capabilities.



It can allow a wired Ethernet connection or a wireless WiFi connection to a LAN (local area network). Today, most computers have wireless NICs that are designed for WiFi connection. Also, you can insert a wired Ethernet NIC card in a motherboard slot to get additional network connectivity ports if needed.

### **Desktop Case**

The desktop case is the mount that houses all of the components of the computer, including the motherboard, the hard drive, the optical drive, and more.



Many of them are made of metal, and they are important because they protect the computer components from damage due to dust, accidents, liquids, and more.

It also helps to keep the components cool enough and usually has airflow through vents to make sure that the computer doesn't overheat. Finally, it helps to cut down on the noise made by computer parts.

### **Basic Applications of Computer**

Computers play a role in every field of life. They are used in homes, business, educational institutions, research organizations, medical field, government offices, entertainment, etc.



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## **Home**

Computers are used at homes for several purposes like online bill payment, watching movies or shows at home, home tutoring, social media access, playing games, internet access, etc. They provide communication through electronic mail. They help to avail work from home facility for corporate employees. Computers help the student community to avail online educational support.

## **Medical Field**

Computers are used in hospitals to maintain a database of patients' history, diagnosis, X-rays, live monitoring of patients, etc. Surgeons nowadays use robotic surgical devices to perform delicate operations, and conduct surgeries remotely. Virtual reality technologies are also used for training purposes. It also helps to monitor the fetus inside the mother's womb.

## **Entertainment**

Computers help to watch movies online, play games online; act as a virtual entertainer in playing games, listening to music, etc. MIDI instruments greatly help people in the entertainment industry in recording music with artificial instruments. Videos can be fed from computers to full screen televisions. Photo editors are available with fabulous features.

## **Industry**

Computers are used to perform several tasks in industries like managing inventory, designing purpose, creating virtual sample products, interior designing, video conferencing, etc. Online marketing has seen a great revolution in its ability to sell various



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products to inaccessible corners like interior or rural areas. Stock markets have seen phenomenal participation from different levels of people through the use of computers.

### **Education**

Computers are used in education sector through online classes, online examinations, referring e-books, online tutoring, etc. They help in increased use of audio-visual aids in the education field.

### **Government**

In government sectors, computers are used in data processing, maintaining a database of citizens and supporting a paperless environment. The country's defense organizations have greatly benefitted from computers in their use for missile development, satellites, rocket launches, etc.

### **Banking**

In the banking sector, computers are used to store details of customers and conduct transactions, such as withdrawal and deposit of money through ATMs. Banks have reduced manual errors and expenses to a great extent through extensive use of computers.

### **Business**

Nowadays, computers are totally integrated into business. The main objective of business is transaction processing, which involves transactions with suppliers, employees or customers. Computers can make these transactions easy and accurate. People can analyze investments, sales, expenses, markets and other aspects of business using computers.



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## **Training**

Many organizations use computer-based training to train their employees, to save money and improve performance. Video conferencing through computers allows saving of time and travelling costs by being able to connect people in various locations.

## **Arts**

Computers are extensively used in dance, photography, arts and culture. The fluid movement of dance can be shown live via animation. Photos can be digitized using computers.

## **Science and Engineering**

Computers with high performance are used to stimulate dynamic process in Science and Engineering. Supercomputers have numerous applications in area of Research and Development (R&D). Topographic images can be created through computers. Scientists use computers to plot and analyze data to have a better understanding of earthquakes.

## **Types of another Computer applications**

Most of the beginners confused about types of Computer Applications and It is not easy to divide computer applications into any exact categories. At present there is no clear definition available to categorize computer applications. Even though here is a small list of different types of computer applications.

1. Embedded Systems
2. Windows applications (also called 'Desktop applications')
3. Web Applications
4. Web Services





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## 5. Console applications

### **Embedded Systems**

When we save a name, address and other information in to our Mobile Phone or Digital Diary, You know How it gets saved in it? Nothing but which is a small computer program 'Embedded' into a chip in the device inside the mobile phone or digital diary known as Embedded Systems.

### **Windows applications**

Windows Applications is a form based standard Windows, Microsoft word; Paint is example to the Windows application, and also called 'Desktop applications'.

### **Web Applications**

A web site is also called 'web Applications'. A web applications is a collection of web pages hosted on a special computer called 'web server'. Web server can be located anywhere and visitors can be located anywhere .It will work through Browsers (EG. Internet Explorer, Mozilla, Netscape).

### **Web Services**

Web services are web applications that give services to other applications through the internet, example Google search engine, Yahoo Search engine etc. which allows other applications to delegate the task of searching over the internet.

### **Console Applications**

Console applications runs inside the command prompt i.e. DOS window, It is a light weight program and which is used commonly for test applications.



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## **COMPUTER**

A Computer is an electronic device that accepts data from the user, processes it, produces results, displays them to the users, and stores the results for future usage.

Data is a collection of unorganized facts & figures and does not provide any further information regarding patterns, context, etc. Hence data means "unstructured facts and figures".

Information is a structured data i.e. organized meaningful and processed data. To process the data and convert into information, a computer is used.

## **FUNCTIONS OF COMPUTERS**

A Computer performs the following functions –

### **Receiving Input**

Data is fed into computer through various input devices like keyboard, mouse, digital pens, etc. Input can also be fed through devices like CD-ROM, pen drive, scanner, etc.

### **Processing the information**

Operations on the input data are carried out based on the instructions provided in the programs.

### **Storing the information**

After processing, the information gets stored in the primary or secondary storage area.

### **Producing output**



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The processed information and other details are communicated to the outside world through output devices like monitor, printer, etc.

## **COMPUTER CONCEPTS - HISTORY OF COMPUTERS**

The history of the computer dates back to several years. There are five prominent generations of computers. Each generation has witnessed several technological advances which change the functionality of the computers. This results in more compact, powerful, robust systems which are less expensive. The brief history of computers is discussed below:

### **First Generation (1940-1956)**

The first generation computers had the following features and components –

#### **Hardware**

The hardware used in the first generation of computers was: **Vacuum Tubes** and **Punch Cards**.

#### **Features**

Following are the features of first generation computers –

- It supported machine language.
- It had slow performance
- It occupied large size due to the use of vacuum tubes.
- It had a poor storage capacity.
- It consumed a lot of electricity and generated a lot of heat.

#### **Memory**

The memory was of 4000 bits.



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## **Data Input**

The input was only provided through hard-wired programs in the computer, mostly through punched cards and paper tapes.

## **Examples**

The examples of first generation computers are –

- ENIAC
- UNIVACTBM 701

## **Second Generation (1956-1963)**

Several advancements in the first-gen computers led to the development of second generation computers. Following are various changes in features and components of second generation computers –

## **Hardware**

The hardware used in the second generation of computers were –

- Transistors
- Magnetic Tapes

## **Features**

It had features like –

- Batch operating system
- Faster and smaller in size
- Reliable and energy efficient than the previous generation



- 
- Less costly than the previous generation

### **Memory**

The capacity of the memory was 32,000 bits.

### **Data Input**

The input was provided through punched cards.

### **Examples**

The examples of second generation computers are –

- Honeywell 400
- CDC 1604
- IBM 7030

### **Third Generation (1964-1971)**

Following are the various components and features of the third generation computers –

#### **Hardware**

The hardware used in the third generation of computers were –

- Integrated Circuits made from semi-conductor materials
- Large capacity disks and magnetic tapes

#### **Features**

The features of the third generation computers are –

- Supports time-sharing OS



- 
- Faster, smaller, more reliable and cheaper than the previous generations
  - Easy to access

### **Memory**

The capacity of the memory was 128,000 bits.

### **Data Input**

The input was provided through keyboards and monitors.

### **Examples**

The examples of third generation computers are –

- IBM 360/370
- CDC 6600
- PDP 8/11

### **Fourth Generation (1972-2010)**

Fourth generation computers have the following components and features –

#### **Hardware**

The Hardware used in the fourth generation of computers were –

- ICs with Very Large Scale Integration (VLSI) technology
- Semiconductor memory
- Magnetic tapes and Floppy

#### **Features**

It supports features like –



- 
- Multiprocessing & distributed OS
  - Object-oriented high level programs supported
  - Small & easy to use; hand-held computers have evolved
  - No external cooling required & affordable
  - This generation saw the development of networks and the internet
  - It saw the development of new trends in GUIs and mouse

### **Memory**

The capacity of the memory was 100 million bits.

### **Data Input**

The input was provided through improved hand held devices, keyboard and mouse.

### **Examples**

The examples of fourth generation computers are –

- Apple II
- VAX 9000
- CRAY 1 (super computers)

### **Fifth Generation (2010-Present)**

These are the modern and advanced computers. Significant changes in the components and operations have made fifth generation computers handy and more reliable than the previous generations.



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## **Hardware**

The Hardware used in the fifth generation of computers are –

- Integrated Circuits with VLSI and Nano technology
- Large capacity hard disk with RAID support
- Powerful servers, Internet, Cluster computing

## **Features**

It supports features like –

- Powerful, cheap, reliable and easy to use.
- Portable and faster due to use of parallel processors and Super Large Scale Integrated Circuits.
- Rapid software development is possible.

## **Memory**

The capacity of the memory is unlimited.

## **Data Input**

The input is provided through CDROM, Optical Disk and other touch and voice sensitive input devices.

## **Examples**

The examples of fifth generation computers are –

- IBM
- Pentium





- 
- PARAM

## COMPUTER CONCEPTS - PROGRAMMING LANGUAGES

A **Program** is a set of instructions that help computer to perform tasks. This set of instructions is also called as scripts. Programs are executed by processor whereas scripts are interpreted. The languages that are used to write a program or set of instructions are called "**Programming languages**". Programming languages are broadly categorized into three types –

- Machine level language
- Assembly level language
- High-level language

### Machine Level Language

Machine language is lowest level of programming language. It handles binary data i.e. **0's** and **1's**. It directly interacts with system. Machine language is difficult for human beings to understand as it comprises combination of 0's and 1's. There is software which translate programs into machine level language. Examples include operating systems like Linux, UNIX, Windows, etc. In this language, there is no need of compilers and interpreters for conversion and hence the time consumption is less. However, it is not portable and non-readable to humans.



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```
0001111100001010101
0011100111001101010
0101010101010000000
1010101010101010101
1010100000111110000
1010101000111000101
1010101010010100100
```

### Assembly Level Language

Assembly language is a middle-level language. It consists of a set of instructions in a specific format called **commands**. It uses symbols to represent field of instructions. It is very close to machine level language. The computer should have assembler to translate assembly level program to machine level program. Examples include ADA, PASCAL, etc. It is in human-readable format and takes lesser time to write a program and debug it. However, it is a machine dependent language.

Assembly Language	Machine Code
SUB AX, BX	0010101110000011
MOV CX, AX	100010111001000
MOV DX, 0	101110100000000000000000



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## High-level Language

High-level language uses format or language that is most familiar to users. The instructions in this language are called **codes** or **scripts**. The computer needs a compiler and interpreter to convert high-level language program to machine level language. Examples include C++, Python, Java, etc. It is easy to write a program using high level language and is less time-consuming. Debugging is also easy and is a human-readable language. Main disadvantages of this are that it takes lot of time for execution and occupies more space when compared to Assembly- or Machine-level languages. Following is a simple example for a high level language –

```
if age < 18 {  
    printf("You are not eligible to vote");  
} else{  
    printf("You are eligible to vote");  
}
```

## Representation of Data/Information

Computer does not understand human language. Any data, viz., letters, symbols, pictures, audio, videos, etc., fed to computer should be converted to machine language first. Computers represent data in the following three forms –



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## Number System

We are introduced to concept of numbers from a very early age. To a computer, everything is a number, i.e., alphabets, pictures, sounds, etc., are numbers. Number system is categorized into four types –

- Binary number system consists of only two values, either 0 or 1
- Octal number system represents values in 8 digits.
- Decimal number system represents values in 10 digits.
- Hexadecimal number system represents values in 16 digits.

Number System		
System	Base	Digits
Binary	2	0 1
Octal	8	0 1 2 3 4 5 6 7
Decimal	10	0 1 2 3 4 5 6 7 8 9
Hexadecimal	16	0 1 2 3 4 5 6 7 8 9 A B C D E F

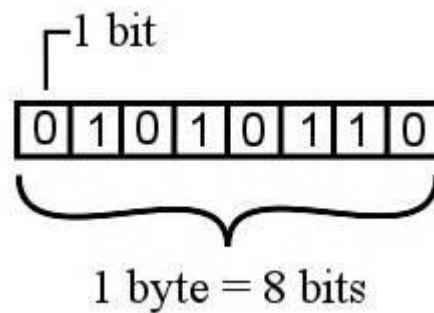


## Bits and Bytes

**Bits** – A bit is a smallest possible unit of data that a computer can recognize or use.

Computer usually uses bits in groups.

**Bytes** – group of eight bits is called a byte. Half a byte is called a nibble.



The following table shows conversion of Bits and Bytes –

Byte Value	Bit Value
1 Byte	8 Bits
1024 Bytes	1 Kilobyte
1024 Kilobytes	1 Megabyte
1024 Megabytes	1 Gigabyte
1024 Gigabytes	1 Terabyte



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1024 Terabytes	1 Petabyte
1024 Petabytes	1 Exabyte
1024 Exabytes	1 Zettabyte
1024 Zettabytes	1 Yottabyte
1024 Yottabytes	1 Brontobyte
1024 Brontobytes	1 Geopbytes

### **Text Code**

Text code is format used commonly to represent alphabets, punctuation marks and other symbols. Four most popular text code systems are –

- EBCDIC
- ASCII
- Extended ASCII
- Unicode

### **EBCDIC**

Extended Binary Coded Decimal Interchange Code is an 8-bit code that defines 256 symbols. Given below is the EBCDIC **Tabular column**



Special characters	EBCDIC	Alphabetic	EBCDIC
<	01001011	A	11000001
(	01001100	B	11000010
+	01001101	C	11000011
/	01001110	D	11000100
&	01010000	E	11000101
:	01111011	F	11000110
#	01111011	G	11000111
@	01111100	H	11001000
'	01111101	I	11001001
=	01111110	J	11010001
"	01111111	K	11010010
,	01101011	L	11010011
%	01101100	M	11010100
-	01101101	N	11010101
>	01101110	O	11010110
		P	11010111
		.	

## ASCII

American Standard Code for Information Interchange is an 8-bit code that specifies character values from 0 to 127.

### ASCII Tabular column

ASCII Code	Decimal Value	Character
0000 0000	0	Null prompt
0000 0001	1	Start of heading



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0000 0010	2	Start of text
0000 0011	3	End of text
0000 0100	4	End of transmit
0000 0101	5	Enquiry
0000 0110	6	Acknowledge
0000 0111	7	Audible bell
0000 1000	8	Backspace
0000 1001	9	Horizontal tab
0000 1010	10	Line Feed

### **Extended ASCII**

Extended American Standard Code for Information Interchange is an 8-bit code that specifies character values from 128 to 255.

Extended ASCII Tabular column





Char	Code	Char	Code	Char	Code	Char
Ą	161	˘	162	Ł	163	□
Š	169	Ş	170	Ť	171	Ž
ą	177	˙	178	ł	179	‘
š	185	ş	186	ť	187	ž
-	193	Â	194	Ă	195	Ă

## Unicode

Unicode Worldwide Character Standard uses 4 to 32 bits to represent letters, numbers and symbol.

### Unicode Tabular Column

Char	UTF-16	UTF-8
A	0041	41
c	0063	63
ö	00F6	C3 86
☞	4E9C	E4 BA 9C
♯	D834 DD1E	F0 9D 84 9E

## Data Processing & Data Processing Stages

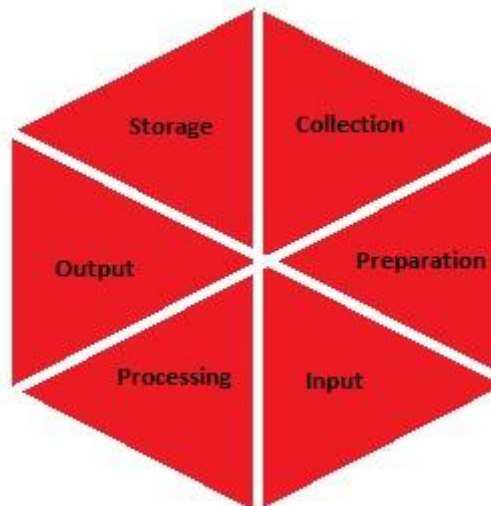
### Data processing

Data processing is a process of converting raw facts or data into a meaningful information.



## STAGES OF DATA PROCESSING

Data processing consists of following 6 stages –



### Collection

Collection of data refers to gathering of data. The data gathered should be defined and accurate.

### Preparation

Preparation is a process of constructing a dataset of data from different sources for future use in processing step of cycle.



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## **Input**

Input refers to supply of data for processing. It can be fed into computer through any of input devices like keyboard, scanner, mouse, etc.

## **Processing**

The process refers to concept of an actual execution of instructions. In this stage, raw facts or data is converted to meaningful information.

## **Output and Interpretation**

In this process, output will be displayed to user in form of text, audio, video, etc. Interpretation of output provides meaningful information to user.

## **Storage**

In this process, we can store data, instruction and information in permanent memory for future reference.

## **TYPES OF APPLICATION SOFTWARE**

Knowing **'what is an application software'** and the **'types of application software'** helps you take the most business-beneficial decisions. If you want to dig into the real meaning of the term software application, you need to explore and recognize different categories of application software.

This blog is an attempt to enlighten you about the following topics:

- An overview of different terms related to software



- 
- What is application software?
  - Different types of software applications
  - Business Application Software
  - Benefits of Application Software for Businesses
  - How to Choose an Application Software for your Business

Application software and software application and app are terms that are often used interchangeably in the custom software development landscape.

## **Types of Applications Software: An Overview with Different Terms Related to Software**

Before defining ‘**what is application software**’, I think it’s better to micro analyze the terms, ‘software’ and ‘application’.

**Computer software** is a phenomenal aspect that acts as the soul of the computer. The computer is just a set of hardware or a tangible machine without software in it. It is software that makes computers operational and useful. You can make your business work smartly by choosing the software that matches your business requirements and goals.

It is an entire system of programs, procedures or algorithms, and other operating information that synchronize with the hardware to run the machine. They are designed to achieve the input, processing, output, storage, and control activities of information systems.



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**Application** is a type of software designed for end-users to accomplish specific functions. All the applications are software, but not vice versa.

All types of computer software fall into either of the following two categories:

- System software
- Application software

**System software is intended to manage the system resources, whereas application software enables the user to perform some specific sets of functions.**

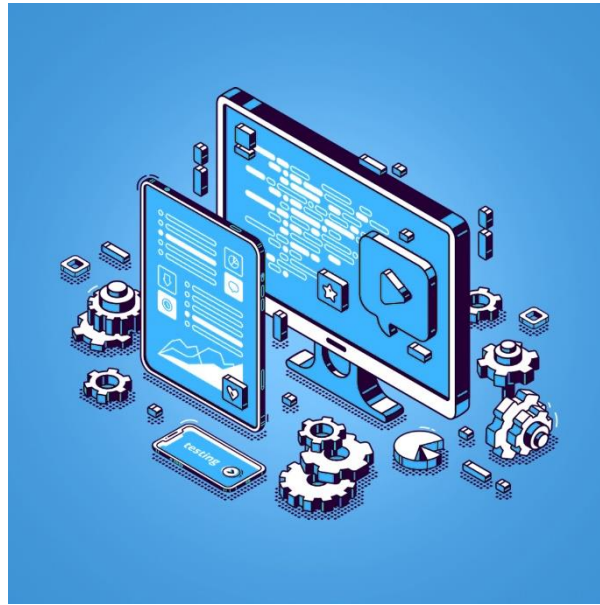
The system software also simplifies application programming. Examples of System Software are operating systems, firmware, database management systems, device drivers, networking software, assemblers, compilers, translators, and software utilities.

## **APPLICATION SOFTWARE**

To quote Wikipedia, “an **application program** (app or application for short) is a computer program designed to carry out a specific task other than one relating to the operation of the computer itself, typically to be used by end-users.” This specific task can be in line with the user requirements.

We can **define application software** as software that employs the capabilities of a computer to accomplish a dedicated task.

The user will be interacting directly with a piece of software in the case of application software. IT helps them to be more productive and assists them in fulfilling specific personal or business tasks.



**Examples of application software** are Microsoft Word, spreadsheets, VLC media player, Firefox or Google Chrome, accounting applications, photo editor, mobile apps such as video games, Whatsapp, etc.

It also includes software that is internally/externally developed to fulfill the unique needs of an organization. Application software will always be based on an operating system.

### **Types of Application Software: An Extensive List for 2021**

Every sphere of businesses needs application software as digitization and use of the software is rampant in all domains including healthcare and pharmacy, home, education, industries, communication, engineering, travel & tourism, etc. **Different types of application software** are used for information management, data manipulation, visual construction, resource coordination, and calculations.

A broader way to give the list of application software is as below.

- Packaged Software



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- Custom Software
  - Shareware
  - Freeware
  - Public domain Software

But, in this blog, I prefer to give the application software list as an index of **commonly used types of application software**. Each of these types of software programs belongs to the above-listed broader types of applications as well.

- Word processors
- Graphics software
- Database software
- Spreadsheet software
- Presentation software
- Web browsers
- Enterprise software
- Information worker software
- Multimedia software



- 
- Content access software

The list of application software can be an exhaustive one. Let me attempt to elucidate a few of the application software from this list.

## **1. Presentation Software**

Presentation software is a very commonly used type of application software both for personal and business purposes. These programs are specifically designed to help users to present information, thoughts, and ideas with ease and clarity through engaging visual modes such as text, pictures, sound, and video.

The three key elements of presentation software are:

- Text editor to enter and stylize texts
- Enabler to insert graphics, text, video, and multimedia files
- Slideshow facility to display the content

Microsoft's PowerPoint is the chief example of application software in the presentation software category. It helps you exhibit information in the form of slides.

You can insert text, images, graphs, and videos to make these slides attractive and engrossing.

Google Slides and Apple's Keynote are other capable alternatives.





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## **2. Spreadsheet Software**

Spreadsheet application software helps in organizing, storing, and analyzing data in columns and rows to facilitate calculations effortlessly and efficiently.

These rows and columns can be operated through formulas to execute crucial mathematical functions. This is a digital simulation of traditional physical (paper) worksheets. Examples of application software in the Spreadsheet category are Microsoft Excel, Google Sheets, and Apple Numbers.

## **3. Database Software**

Database application software, also known as a DBMS (Database Management System), is a collection of data associated with any application.

This helps in organizing data by creating and managing a database by storing, modifying, extracting, and searching for information within a database.

When we run an application, it accesses the data from the database and stores it after modifications. Examples of database application software are MS Access, Oracle, MySQL, Microsoft SQL Server, PostgreSQL, MongoDB, IBM Db2, etc.

## **4. Multimedia Software**

Multimedia application software helps users to create, edit, or record images, audio, and video files. This type of application software is a dominant player in the entertainment, media, and telecommunication industry.



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They are designed to enhance the visual and auditory features of the already present material. They combine together text, audio, still images, animation, video, and interactivity to communicate and engage better. VLC media player and Windows Media Player are a few examples.

## **5. Simulation Software**

Simulation application software is developed by modeling a real phenomenon with a set of mathematical prescriptions. Simulation software is designed as an animated model that replicates the operation of an existing/proposed system.

They are helpful in military engineering, gaming, industries such as power plants, space shuttle navigation, etc. where improper operation can lead to catastrophic outcomes.

This application software helps in observing and analyzing an operation through simulation without actually doing it.

## **6. Word Processing Software**

Word processing application software helps users to input, edit, format, and output text content. This type of software program processes words with pages and paragraphs and formats and enhances the text. It also enriches the 'wording' experience by helping users with easy access to thesaurus, synonyms, and antonyms.

It helps in embellishing letters with art features such as font styles, colors, and styles. Leading examples of application software belonging to the word processing category are:



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Google Docs, Microsoft Word Docs, Open Office Writer, Word Perfect, Wordpad, Notepad, AppleWorks, etc.

## **7. Web Browsers**

Web browsers or simply browsers are application software used to access and view websites through accessing the internet/ the World Wide Web.

It retrieves the necessary content from a web server and then shows the page on the user's device upon user requests. The most popular web browsers are Google Chrome, Internet Explorer (now Microsoft Edge), Firefox, MS Edge, Safari, etc. Web browsers or simply browsers are application software used to access and view websites through accessing the internet/ the World Wide Web.

## **8. Top Business Application Software**

**Business application software** are types of application software categorized on the basis of specific business needs they meet.

These are computer applications that are developed and designed to fulfill certain business functions and to enhance the accuracy, efficiency, and effectiveness of operations.

The end result is presumed to be boosted productivity and profitability.

### **1. Enterprise Resource Planning (ERP) Application Software**

Enterprise Resource Planning (ERP) is a type of application software that helps organizations to manage everyday business activities.



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It may cover accounting, procurement, project management, risk management and compliance, manufacturing, supply chain operations, and so on.

Many businesses find it difficult to keep up with a multitude of business processes leading to incongruent information and workflow bottlenecks.

An ERP software aids enterprises to plan, budget, predict and report on financial results by acting as a single repository for information.

They are helpful in cost reduction and operation standardizing. Odoo, Microsoft Dynamics, Oracle e-Business Suite, etc. are some examples.

## **2. Customer Relationship Management Application Software**

Customer Relationship Management (CRM) is a type of application software that helps businesses/organizations to smartly administer their interactions with customers backed by data analysis.

They help you in offering a seamless experience to your customers by forming better relationships. It offers truthful insights on customer interactions by overseeing your sales. It helps in coordinating customer information spread across different channels and touchpoints.

Salesforce Sales Cloud, NetSuite CRM, Zoho CRM, etc. are a few examples of popular CRM application software.



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### **3. Project Management Application Software**

“Project management software has the capacity to help plan, organize, and manage resource tools and develop resource estimates”, as quoted by Wikipedia.

This type of application software is a versatile tool that lets project managers (PMs), stakeholders, and users regulate expenses and handle costing.

It also helps with quality management and documentation and may also serve as an administration system. It also acts as a smart channel that facilitates collaboration and communication between project stakeholders. Jira, Zoho Projects, Basecamp, Trello, etc. Are some of the popular project management application software.

### **4. Business Process Management (BPM) Application Software**

Business process management (BPM) software are designed to enable a methodical style to optimize business processes. It models, defines, automates, and describes the workflow process with the ultimate intention of optimizing businesses to deliver their goals.

They are great tools to curtail errors, inadequacies, and miscommunication. It sheds complete visibility into operations. Some examples of application software of BPM are Zoho Creator, Kissflow, Nintex, ProcessMaker



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## **5. Productivity Software**

Productivity application software are tools that aid users to accomplish their tasks in a productive and timely manner. These programs give a smart way for users to produce documents, databases, worksheets, graphs, and presentations.

All types of application software that helps in time tracking, database management, project management, content management, etc. are productivity software.

A simple categorization is to include word processing, spreadsheets, data management, and presentation software as productivity application software.

## **6. Resource Management Application Software**

Resource management software or resource planning software is a type of application software that makes it easier to allocate and assign people to projects as per the requirements.

It smoothens the management of multiple projects and resources. IT ensures that everything is distributed smartly in real-time. Mavenlink, monday.com, Forecast, etc. are some of the well-known resource management soft that helps you manage the human capital and calendar of your organization.

## **7. Time Management Application Software**

Time management software helps your human resources to stay super productive by helping them manage their time effectively. It helps in tracking the usage of digital systems. It gives an outlook on how a user spends working in certain applications.



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These tools help your team to stay more organized, and competent by getting more things done in a short time. Asana, Avaza, ClickTime, DeskTime, EmpMonitor, etc. are some examples.

## **8. Educational Software**

Education software or learning management educational software are a type of application software that is made for educational purposes. They are designed to assist in the teaching and learning process of new content, concepts, and processes. They are of great help to administrators and educators to create content, share lessons, manage classrooms, and manage the institution and student-related data.

This e-learning software offers more personalized and collaborating educational involvements for students and tutors alike. High interactivity level is maintained through the use of multimedia content, such as graphics, pictures, and sound. Google Classroom, Litmos, Talent LMS, ProProfs, etc. are some examples.

## **BASIC FUNDAMENTAL CONCEPTS OF PROGRAMMING**

Irrespective of the programming language you choose to learn, the basic concepts of programming are similar across languages. Some of these concepts include:

- Variable Declaration
- Basic Syntax
- Data Type and Structures
- Flow Control Structures (Conditionals and loops)



- 
- Functional Programming
  - Object-Oriented Programming
  - Debugging
  - IDEs and Coding Environments

In the next section of this shot, you will be given a brief introduction to these concepts.

### **Variable declaration**

**Variables** are containers for storing data values, a memory location for a data type.

Variables are created using a declaration or keyword that varies across languages.

Variable names are usually alphanumeric, that is, they contain a-z and 0-9. They can also include special characters like underscore or the dollar sign.

Variables can hold values of any data type supported by the programming language. This value may change during program execution.

### **Basic syntax**

Every programming language has its syntax, and you must learn the fundamental syntax of the language you are learning.

Syntax refers to the set of rules that define the structure of a language. It is almost impossible to read or understand a programming language without its syntax.

For example, let us declare a variable named *greet* and assign the value “Hello World” to it:





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C++

JavaScript

Java

Python

## **Data types and structures.**

Data types refer to the classification of data. The most common data types include:

- String
- Boolean (true or false)
- Numbers, which includes integers (whole numbers from 1) and floating-point numbers (decimal-base)
- Characters (includes single alphabets or numbers)
- Arrays (a collection of data, usually of the same data type)

A **Data Structure** is a collection of data values. These structures include operations that can be applied to that data. Data structures are important in computer programming for organizing, managing, and storing data quickly and efficiently.

Some common types of data structures include:

- Stacks
- Heaps
- Trees
- Linked lists



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- Queues
  - Arrays
  - Tables
  - Graphs

## Flow control structures

**Flow Control Structures** are the fundamental components of computer programs. They are commands that allow a program to “decide” to take one direction or another.

There are three basic types of control structures: sequential, selection, and iteration.

### Sequential

The most basic control flow is **sequential control flow**. It involves the execution of code statements one after the other. A real-world example is following a cooking recipe.

### Selection (conditionals)

The basic premise of **selection flow control** is, the computer decides what action to perform based on the result of a test or condition equalling true or false.

### Iteration (Loops).

A **loop** is a programming structure that allows a statement or block of code to be run repeated until a specified condition is no longer true (will return Boolean, true or false).

It is one of the most powerful and fundamental programming concepts.



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## Functional programming

**Functions** are containers that take in a set of inputs and return an output. It is not required for a function to return a value. Pure functions will always give the same result for the same set of inputs.

Functional Programming is a straightforward method of building software that involves using pure functions. This method eliminates the occurrence of data mutation or side effects.

## Object-oriented programming

**Object-Oriented Programming (OOP)** is a programming concept that revolves around ‘objects’ and ‘methods’.

There are four principles of OOP:

- Inheritance
- Polymorphism
- Abstraction
- Encapsulation

## Debugging

**Debugging** is a crucial skill. It involves detecting and removing existing and potential errors, defects, or ‘loopholes’ in one’s code.



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## IDEs and Coding Environments

IDE stands for **Integrated Development Environment** – they are applications programmers use to write code and organize text groups. It increases a programmer's efficiency and productivity, and has added features like code completion, code compilation, debugging, syntax highlighting, etc.

Some common examples of IDE's are:

- Visual Studio code
- IntelliJ IDEA
- NetBeans
- Eclipse



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## UNIT – II

### MS WORD

#### AN INTRODUCTION TO MS WORD

One of the most widely used programs of Microsoft Office suite, MS Word is a word processor developed by Microsoft.

An introduction to MS Word, its features and its uses, have all been discussed in detail, in this article. Also, a few sample questions based on this MS Office program have been given further below for the reference of candidates preparing for competitive exams.

To know further about the MS Office suite and the various programs included in it, visit the linked article.

Since MS Word is one of the most used programs of the Office Suite, some basic information regarding its creation and development has been given below:

- Charles Simonyi, a developer and Richard Brodie, a software engineer, were the two creators of MS Word
- This program was initially named “Multi-Tool Word” but later, was renamed as MS Word
- It was introduced in 1983
- Word for Windows is available standalone or as a part of MS Office suite
- MS Word for Mac was introduced by Microsoft as Word 1.0 in 1985
- The extension for any word file is “.doc or .docx.”



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Moving forward, details about the features and applications of Word have been discussed.

To read more about the other Computer Knowledge topics, check the links given below:

## **BASICS OF MS WORD**

Let us first understand some basic aspects of Microsoft Word.



### **MS Word**

Used to make professional-quality documents, letters, reports, etc., MS Word is a word processor developed by Microsoft. It has advanced features which allow you to format and edit your files and documents in the best possible way.

### **To find MS Word on your personal computer**

Follow these simple steps to open MS Word on your personal computer:

Start → All Programs → MS Office → MS Word.

### **Uses of MS Word**

MS Word enables users to do write-ups, create documents, resumes, contracts, etc. This is one of the most commonly used programs under the Office suite.

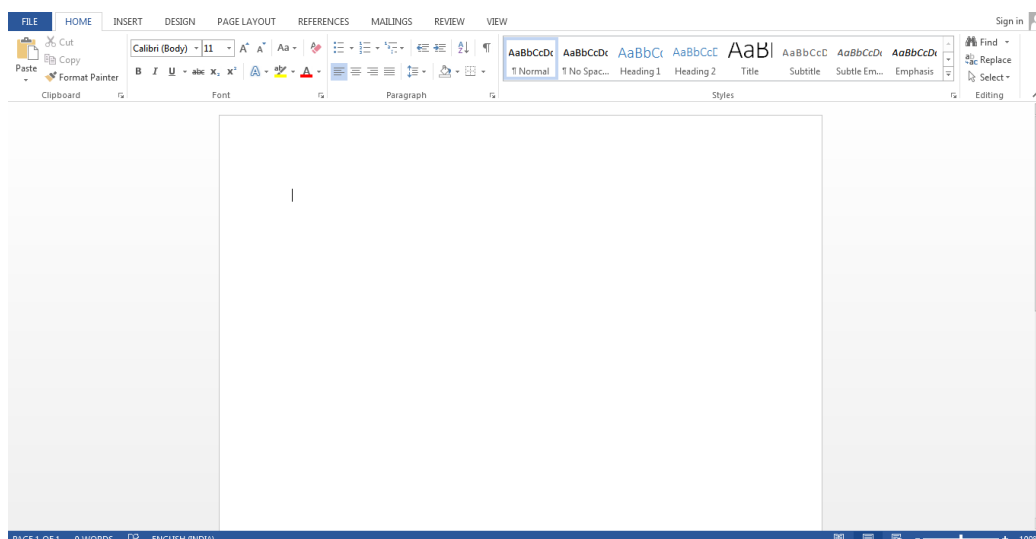


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## To Create an MS Word Document

To create an MS Word doc, follow the steps mentioned above to open Microsoft Word. Then once the program is open, click on “File” followed by “New”. This opens a new doc where something new can be created.

Since it is used by people of all age groups, in schools, in colleges and for official purposes, having proper knowledge of Microsoft Word is a must. The preview of the MS Doc file once it is opened is given below:



Also, from a competitive exam perspective, one must be well aware of this topic. To get the list of all major Government exams conducted in the country, aspirants can visit the linked article.

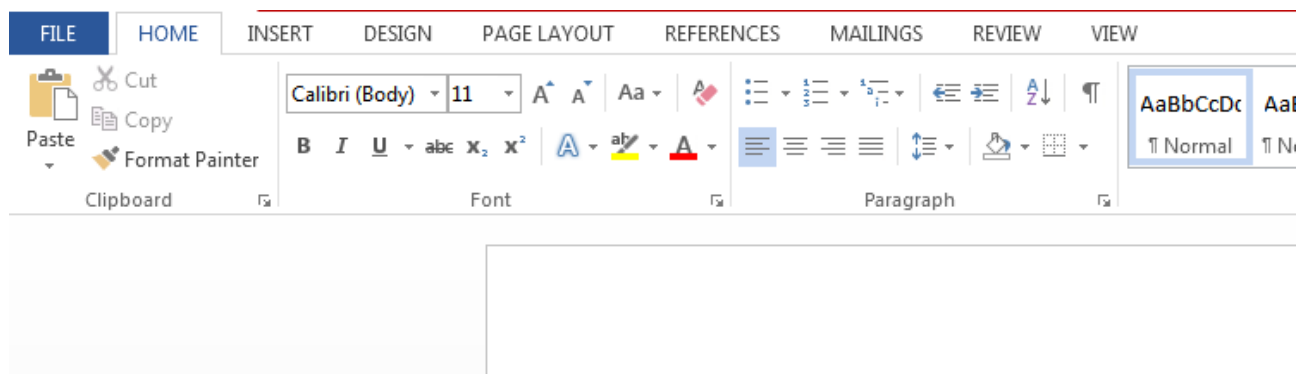
For a better understanding of how MS Word works and the features that are included in it, you can refer to the video given below and analyse its functioning easily.



## FEATURES OF MS WORD

Now let us read more about the features and components of an MS Word doc file in detail.

The image given below shows the different elements and categories which are available in MS Word doc:



- **Home**

This has options like font colour, font size, font style, alignment, bullets, line spacing, etc. All the basic elements which one may need to edit their document is available under the Home option.

- **Insert**

Tables, shapes, images, charts, graphs, header, footer, page number, etc. can all be entered in the document. They are included in the “Insert” category.





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- **Design**

The template or the design in which you want your document to be created can be selected under the Design tab. Choosing an appropriate tab will enhance the appearance of your document.

- **Page Layout**

Under the Page Layout tab comes options like margins, orientation, columns, lines, indentation, spacing, etc.

- **References**

This tab is the most useful for those who are creating a thesis or writing books or lengthy documents. Options like citation, footnote, table of contents, caption, bibliography, etc. can be found under this tab.

- **Review**

Spell check, grammar, Thesaurus, word count, language, translation, comments, etc. can all be tracked under the review tab. This acts as an advantage for those who get their documents reviewed on MS Word.

Apart from all the above-mentioned features, the page can be set in different views and layouts, which can be added and optimised using the View tab on the Word document. Margins and scales are also available for the benefit of the users.

When compared with MS PowerPoint, MS Word is more of reading while PPT is more of visual and graphical representation of data.



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To know more about Microsoft Windows, visit the linked article.

For Govt exam aspirants, given below are links to the other subjects which are a part of the competitive exam syllabus:

## USES OF MS WORD

Given below are the different fields in which MS Word is used and simplifies the work of an individual:

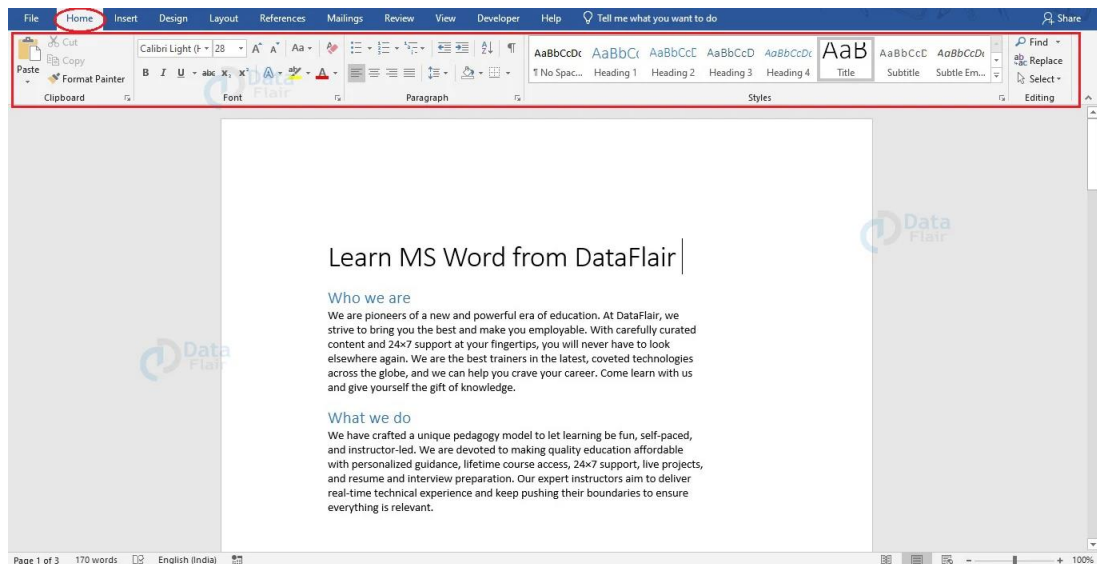
- **In Education:** It is considered as one of the simplest tools which can be used by both teachers and students. Creating notes is easier using MS Word as they can be made more interactive by adding shapes and images. It is also convenient to make assignments on MS Word and submitting them online
- **In Workplace:** Submitting letters, bills, creating reports, letterheads, sample documents, can all easily be done using MS Word
- **Creating & Updating Resume:** One of the best tools to create your resumes and is easy to edit and make changes in it as per your experience
- **For Authors:** Since separate options are available for bibliography, table of contents, etc., it is the best tool which can be used by authors for writing books and adjusting it as per the layout and alignment of your choice



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## FORMATTING TEXT IN MS WORD

Students and professionals use Word for documenting their work and projects. Formatting can help draw the reader's attention to a specific part of the document, and also emphasize on main points or the headlines of the document. You can see all the formatting options for Word under the **Home** tab. This is the default tab that is selected when you open a new or existing document.



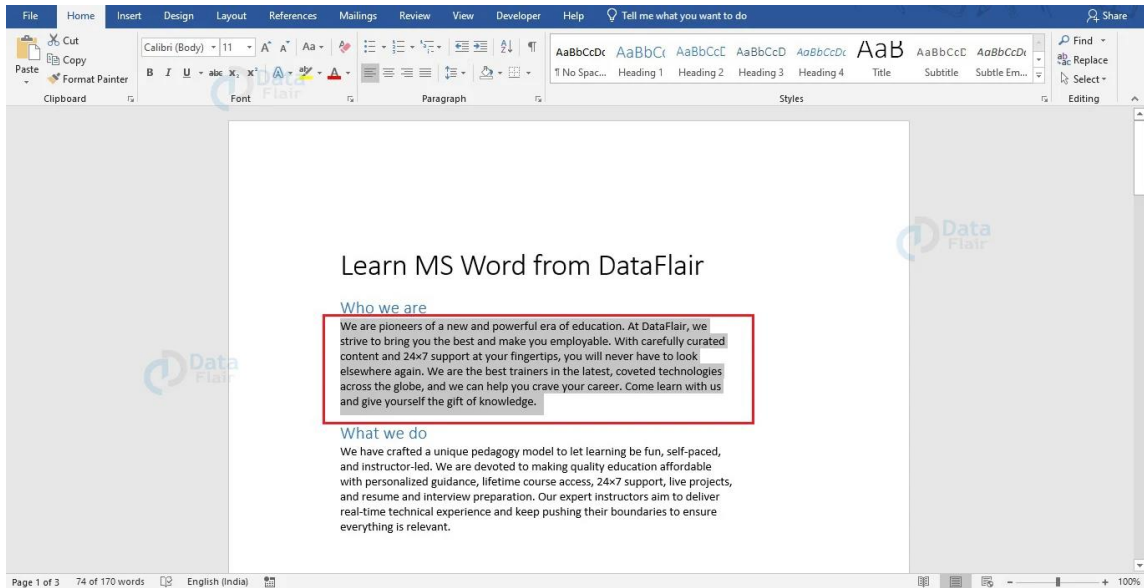
Let us see how we can change the formatting of text in Word.

### To Format Font Size in Word

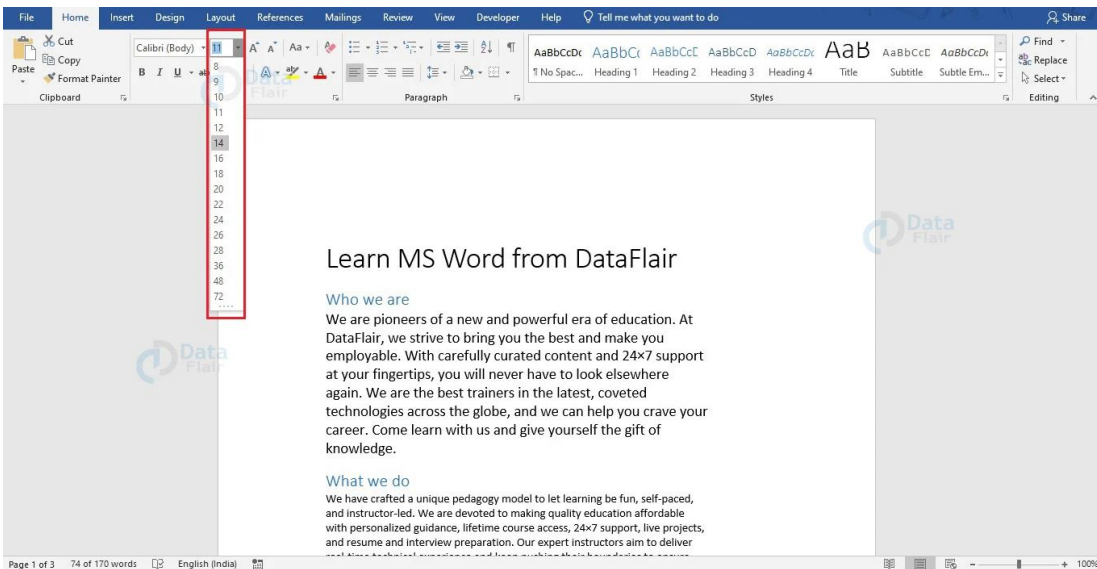
Formatting the font size is one of the most used cases of formatting. Follow the steps mentioned below to change the font size of your text.



# 1. Choose the words or text whose size you wish to change.



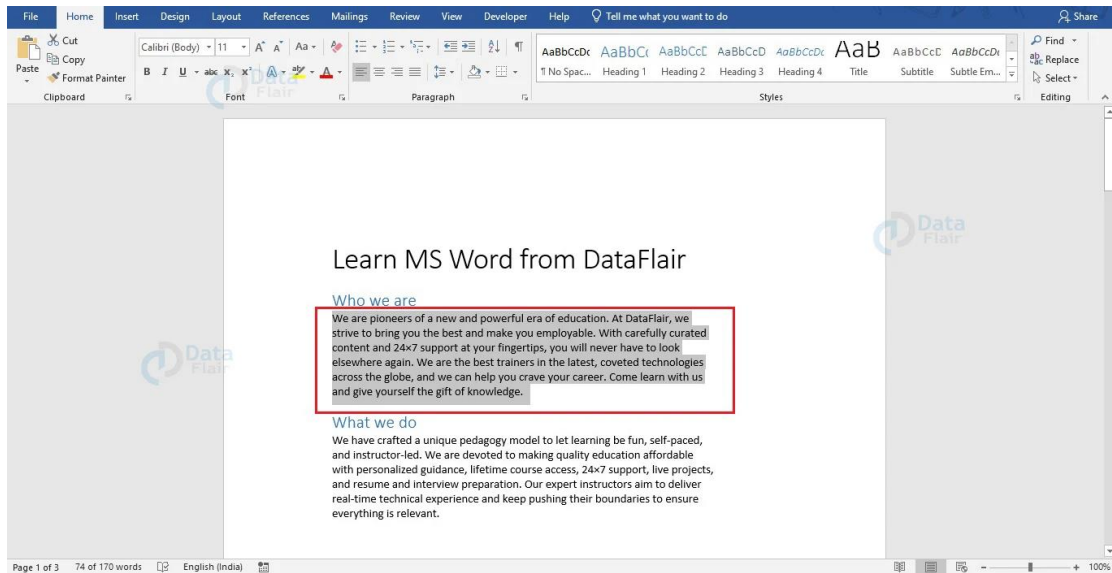
# 2. From the Font Group under the Home tab, choose the necessary font size from the dropdown. You can also type the desired font size for your text in the space.



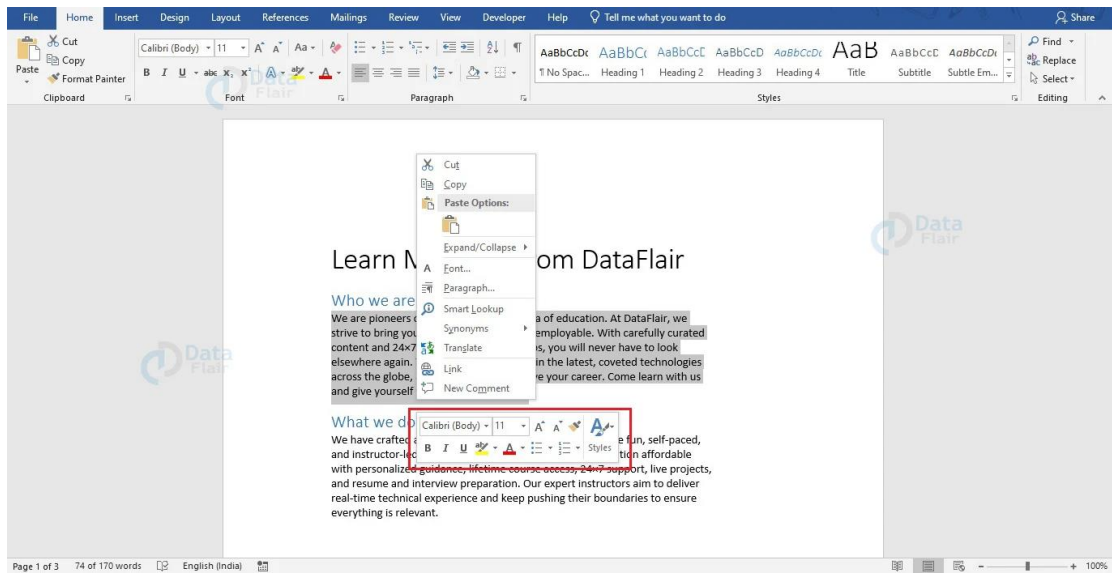


Here is another method you can follow to change the font size of your text.

1. Select the text to change its size.



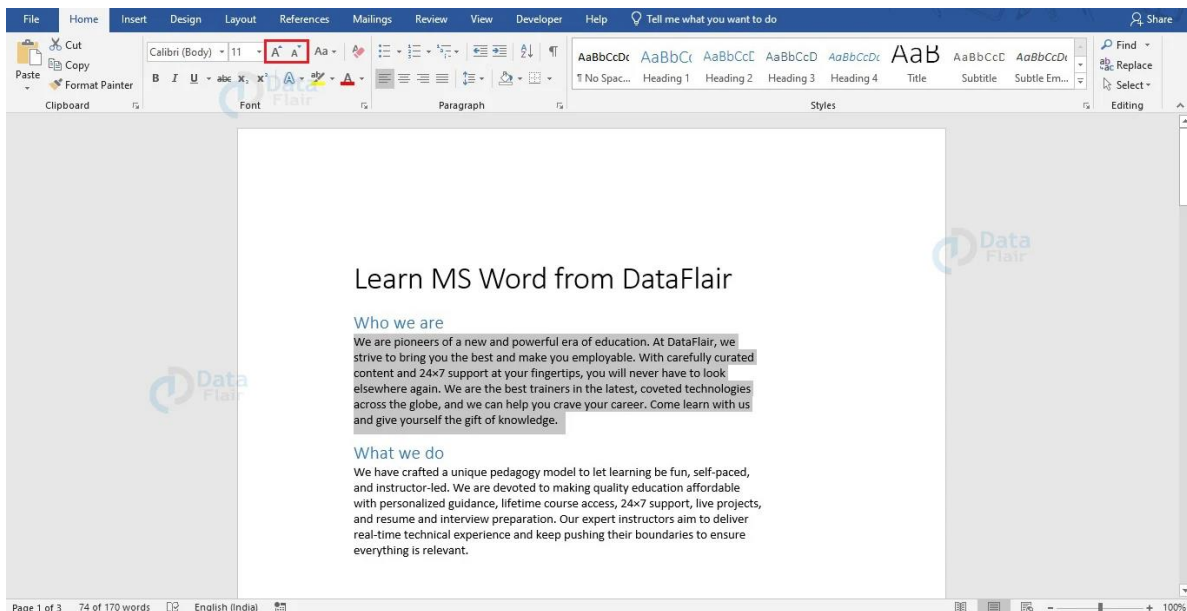
2. Click on the right mouse button to open the formatting options and a menu.





3. You can choose the desired font size from the formatting options that appear.

You can also change the font size of your text using the **Shrink** and **Grow** buttons. To do so, select the text whose size you wish to change. Click on the **Shrink** button to decrease the size, and the **Grow** button to increase the font size. Select the whole document to change the font size of the whole document. Every time you use these buttons, your font size changes by 1 point.

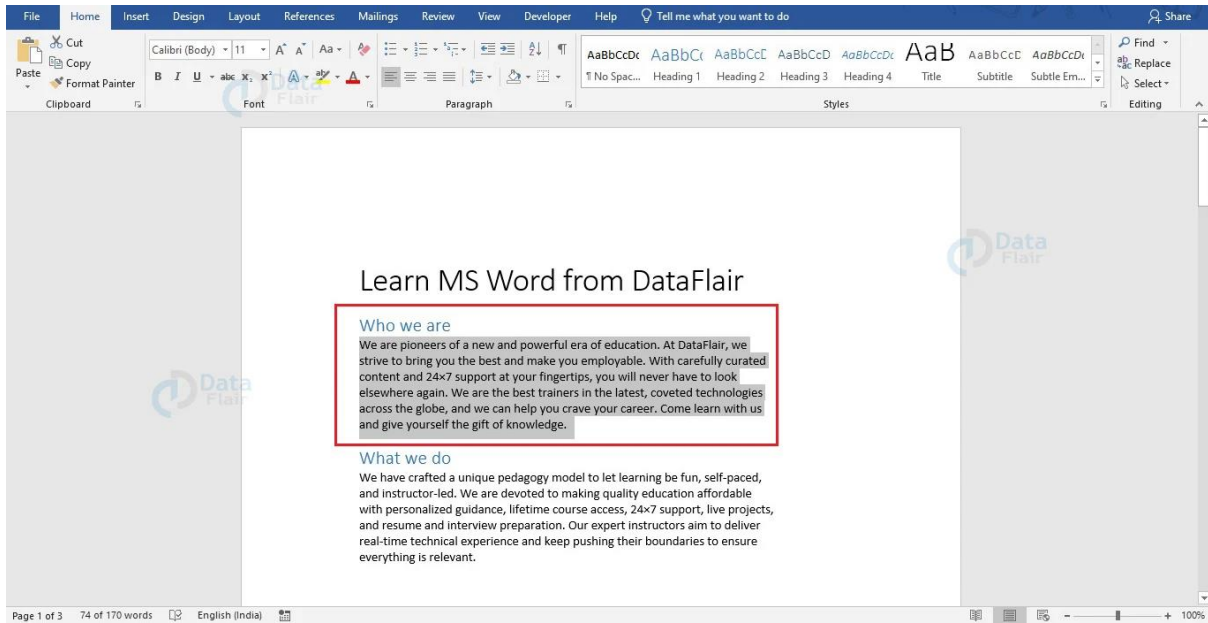


## To Format Font Style

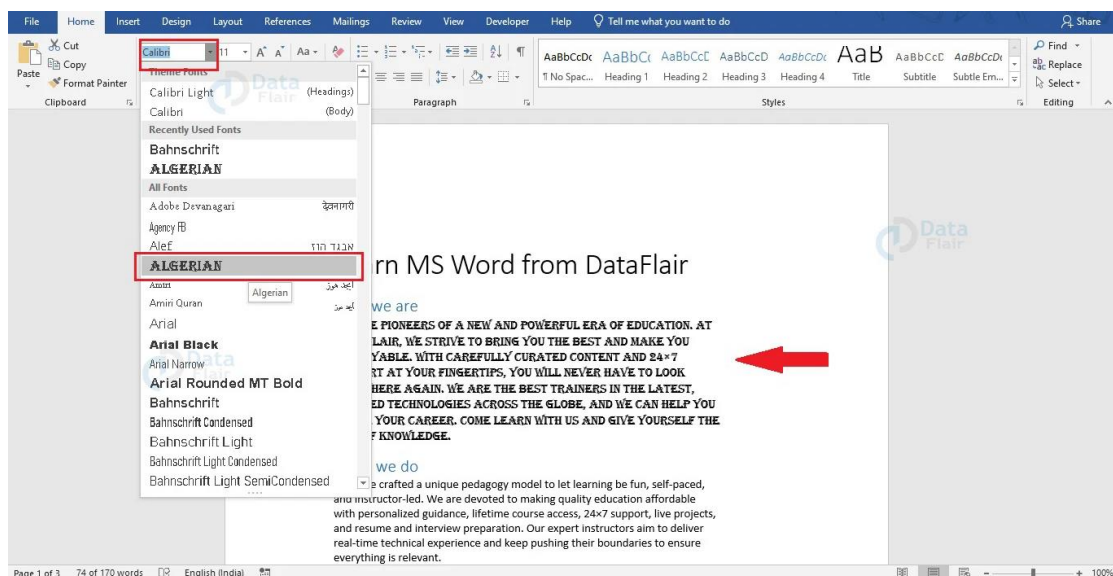
Formatting font style is a very easy task and can be successfully done by following the steps mentioned. There are two ways, and we would be discussing both of them.

### ***Method 1:***

1. Choose the words or text to change its style.



2. From the Font Group under the Home tab, choose the necessary font style from the dropdown menu. In case you know the specific font style that you want, you can start typing in the style box to get it easily.

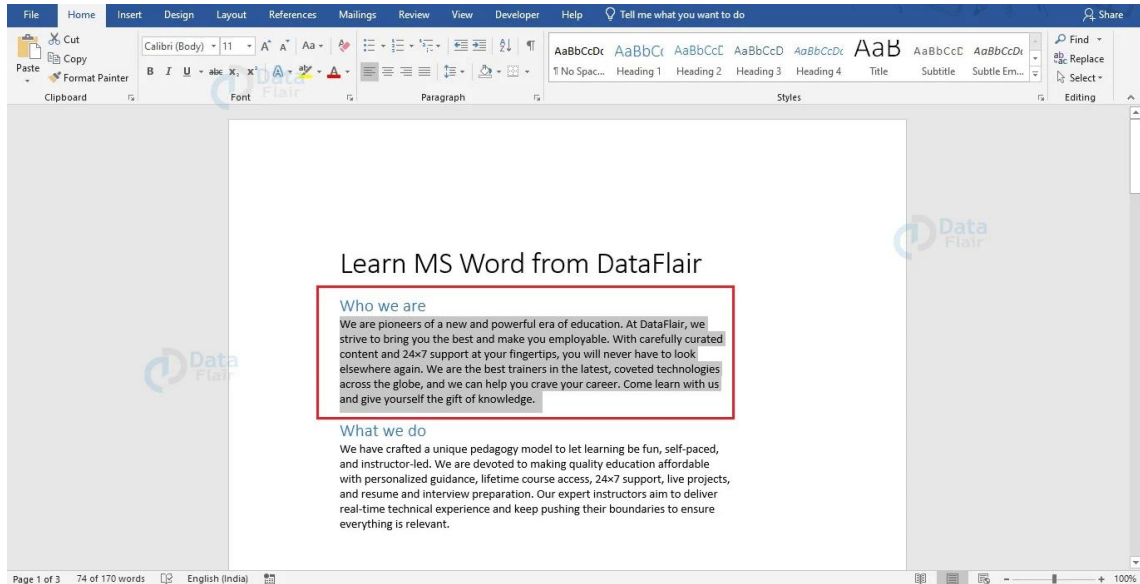




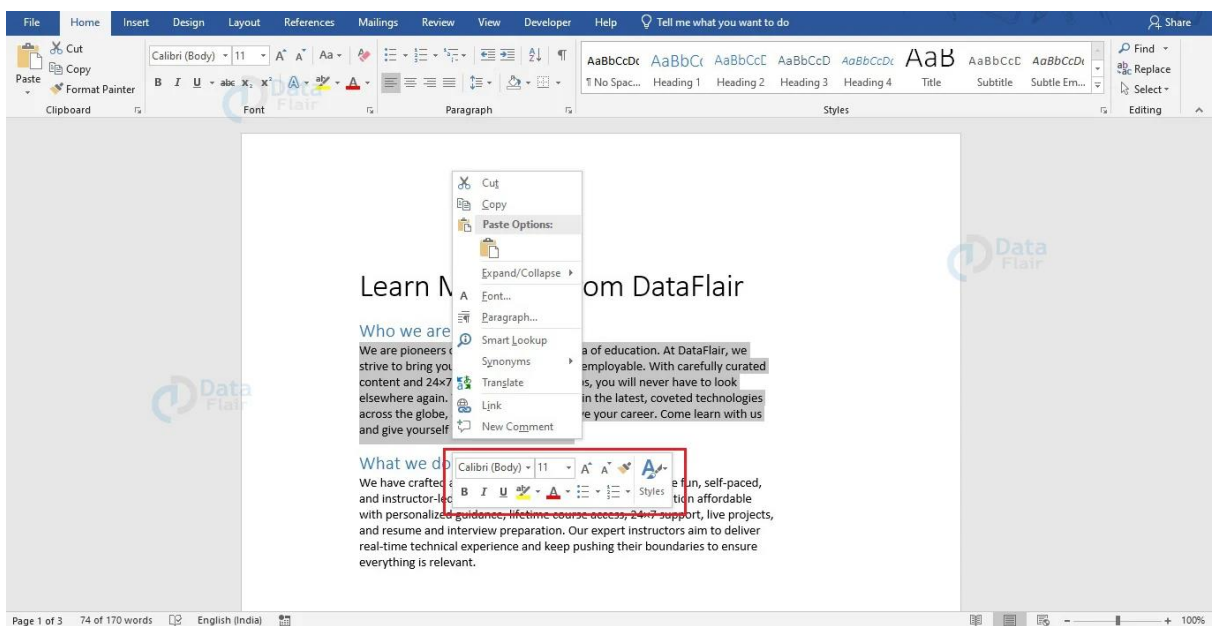


## Method 2:

1. Select the text whose style has to be changed.



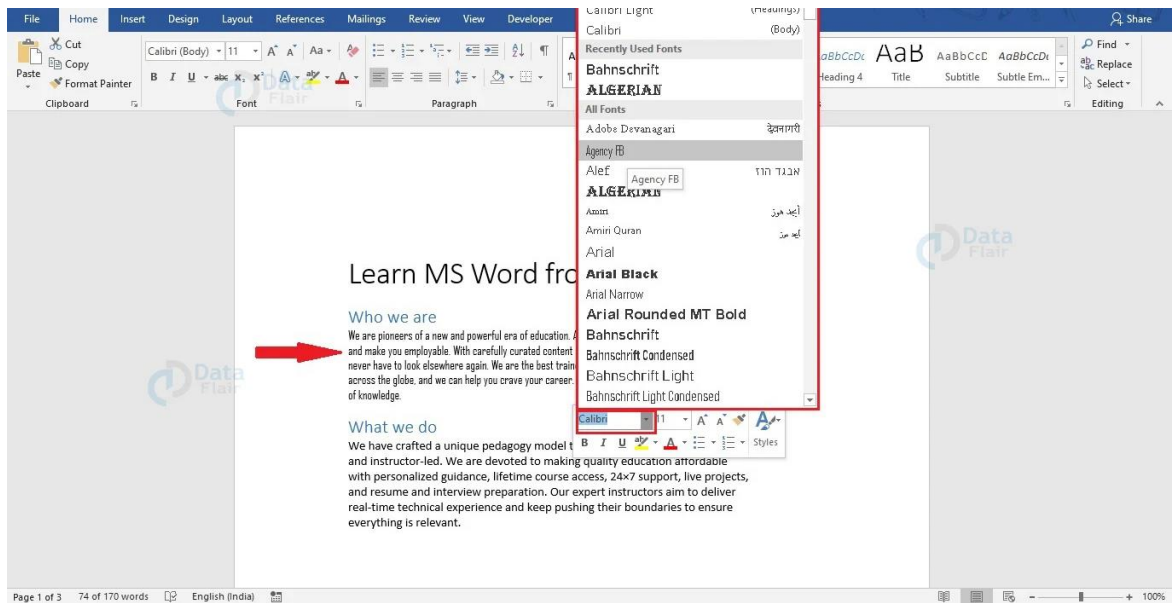
2. Select the text and click on the right mouse button. Formatting options and a menu will appear.







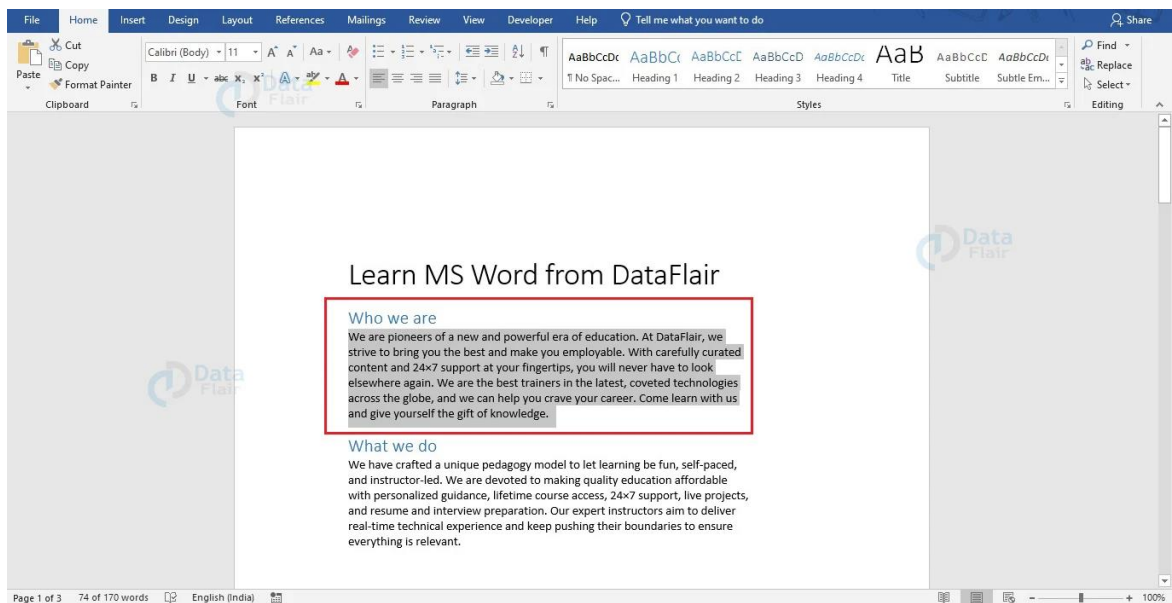
3. You can choose the desired font style from the formatting options that appear.



## Format Font Color

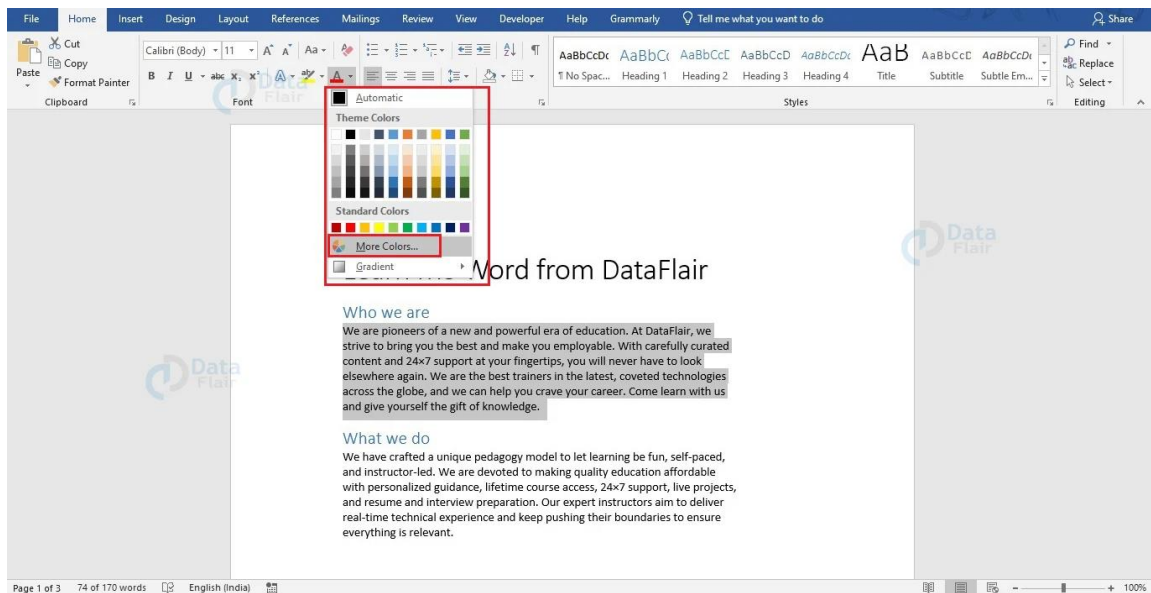
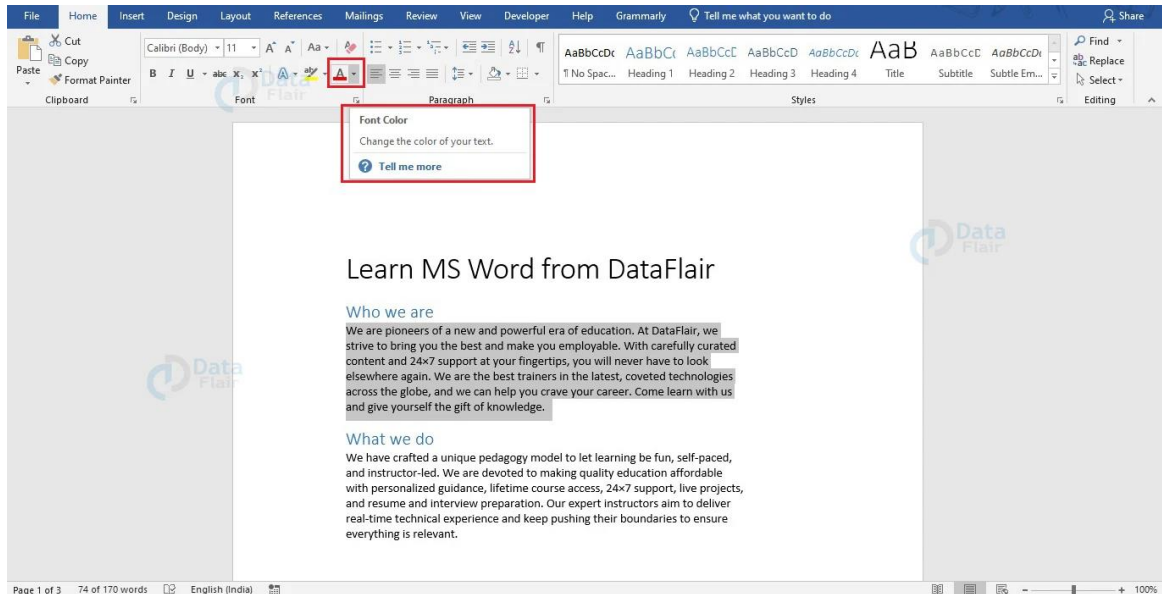
Changing the font color of your text can help emphasize the most important points and highlight topics. Here are the steps to change your font color.

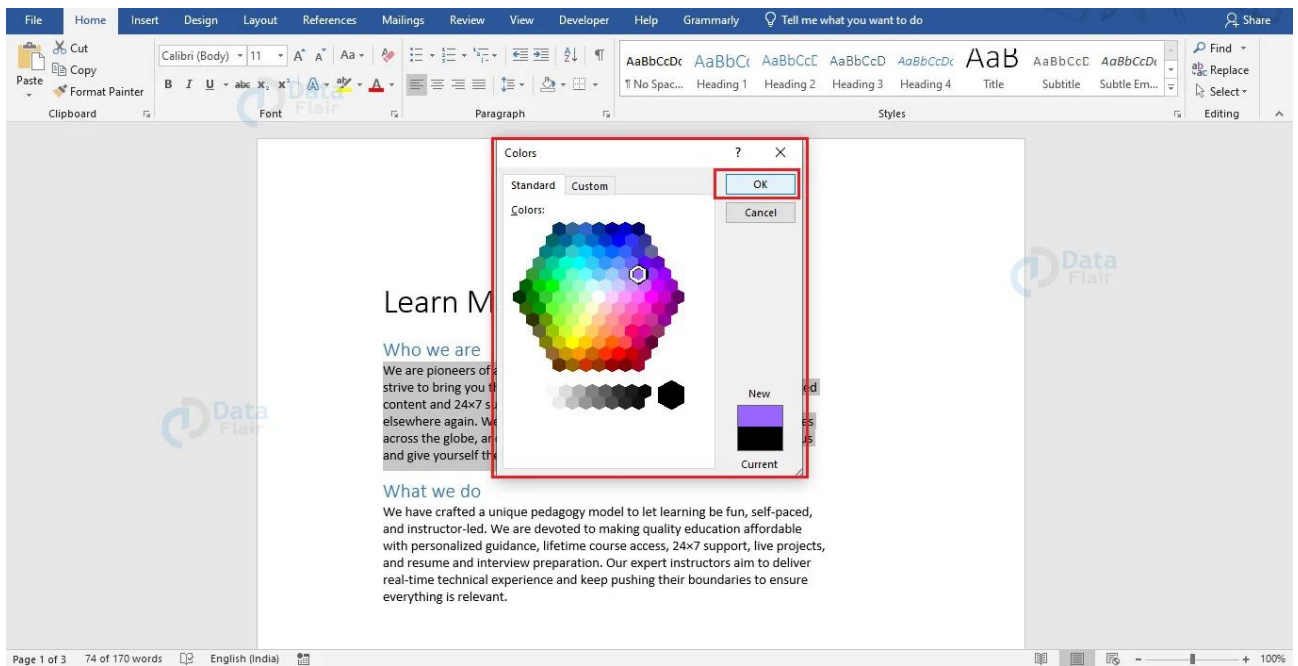
1. Select the text for which you wish to change the color.



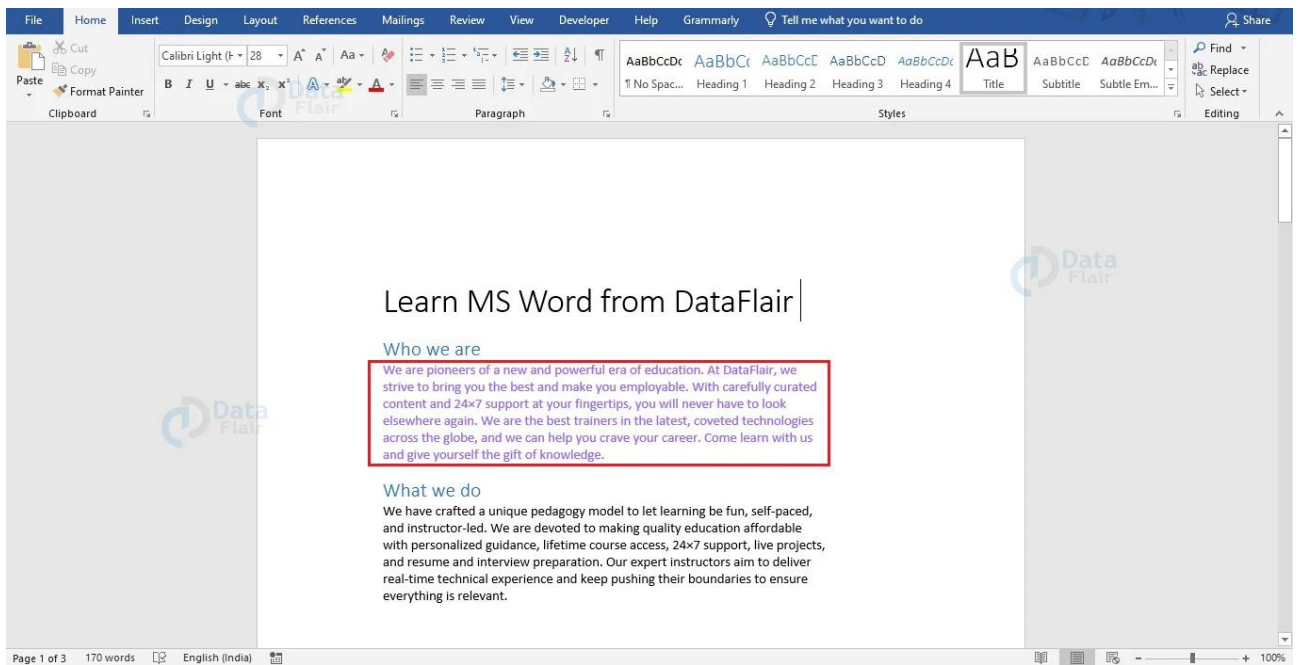


2. Select a color from the palette to change the font color. You can choose the More Colors... option if you are looking for more colors. Here you can choose from preset colors or choose a custom color.

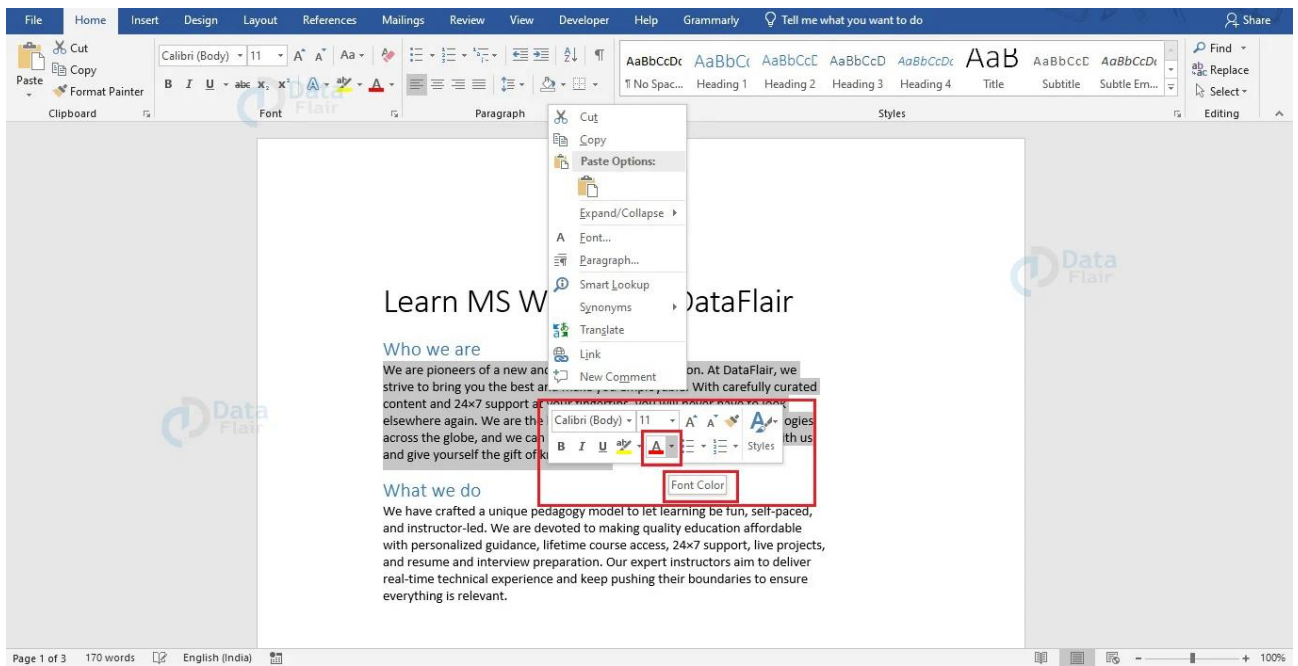




3. Click OK and your font color changes.



Additionally, there is another method to format font color. After selecting the text, right-click to open the formatting options and choose the font color of your choice.

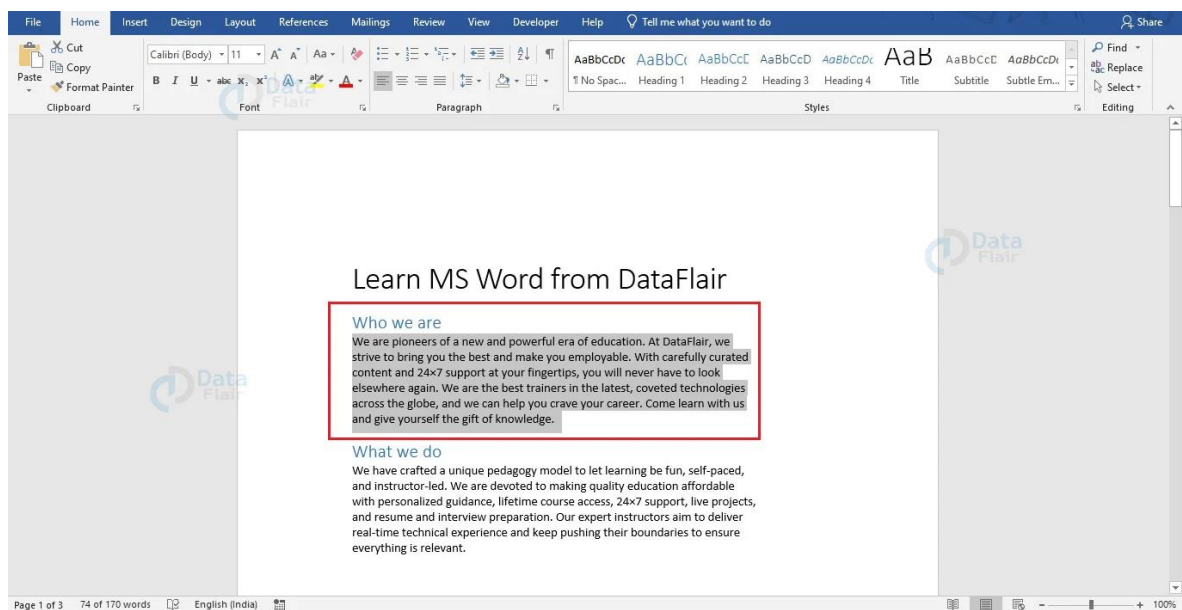


## Highlight Text in Word

In Word, the Highlight feature lets you highlight important text in your document.

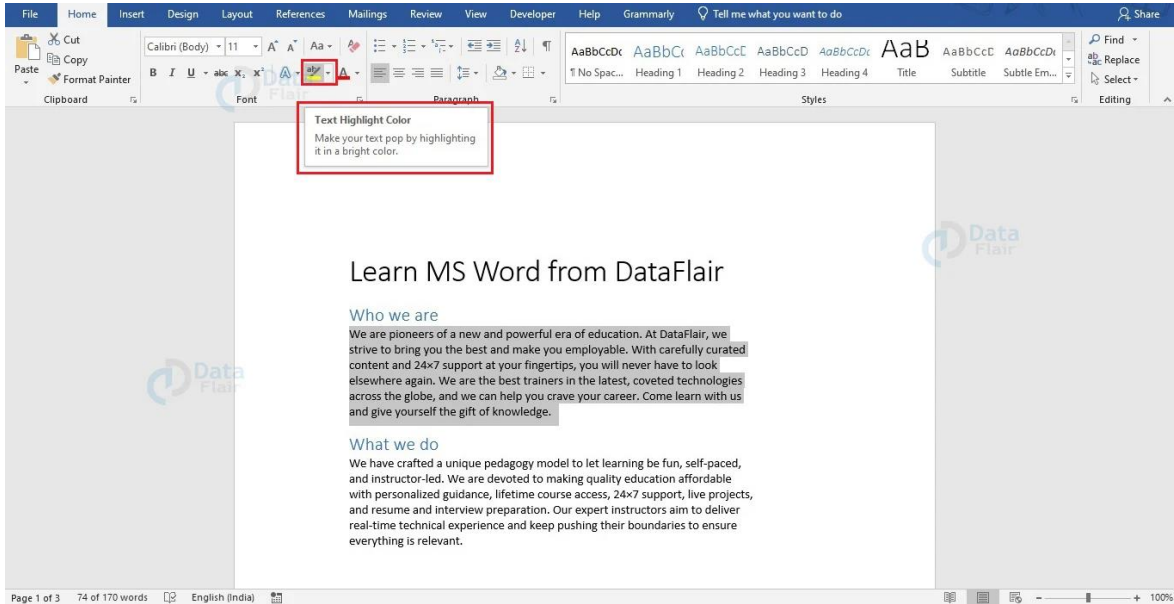
The steps to highlight text in Word are as follows:

1. Select the text that you wish to highlight.

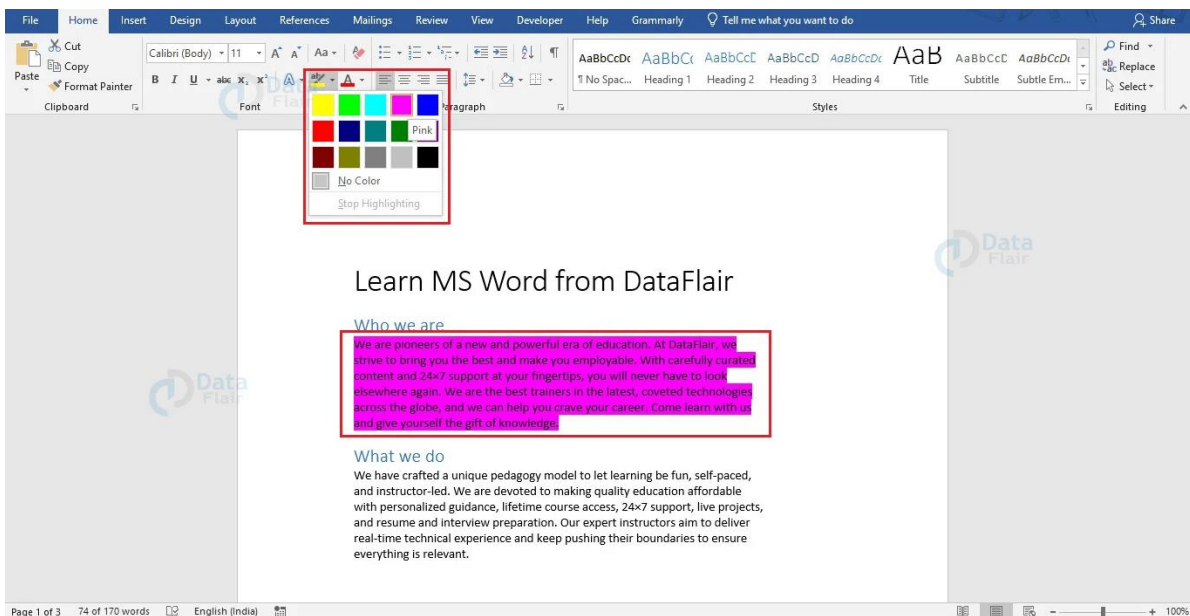




2. Click on the downward arrow beside the Text Highlight Color button in the Font group of the Home tab to open the associated drop-down menu.



3. From the dropdown menu that appears, choose the color for highlighting your text and select it.

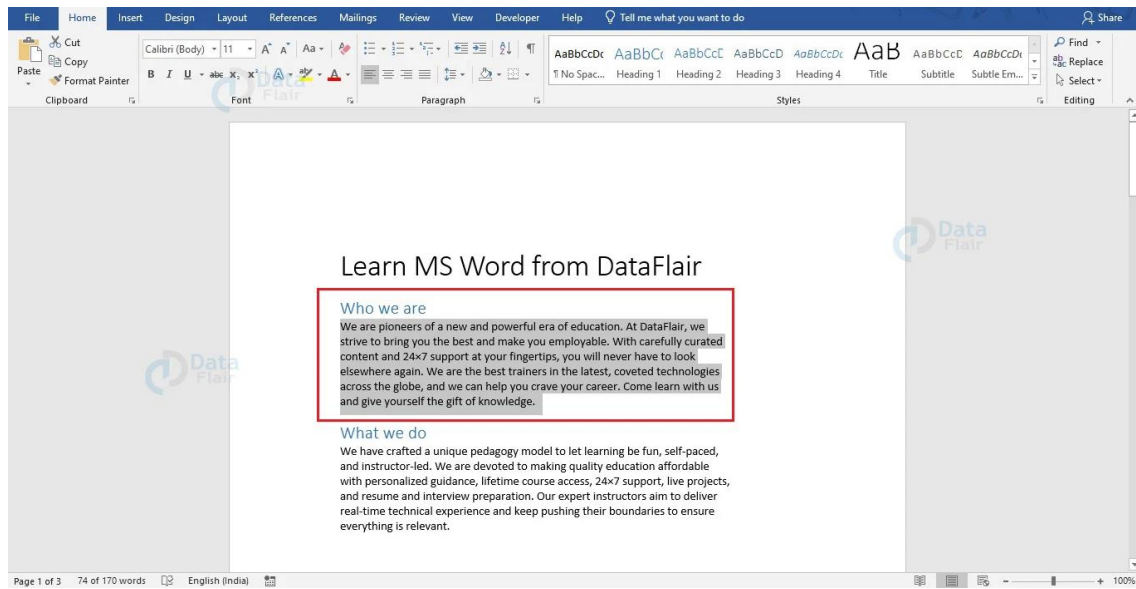




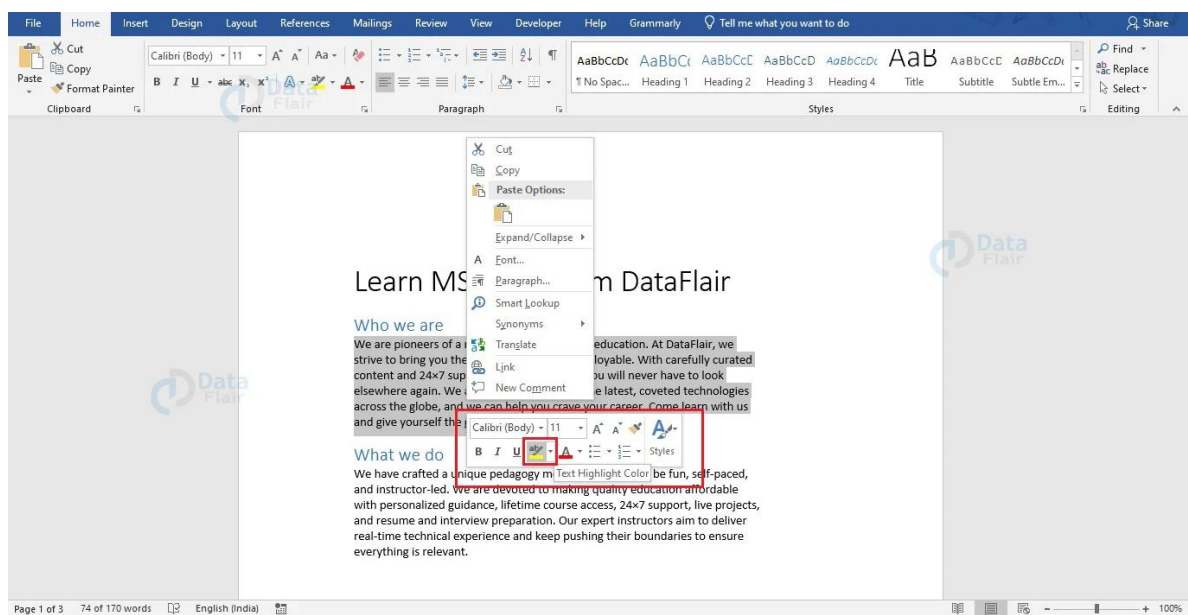


You can also highlight your text using the right mouse button. The following steps show how you can highlight your text using your mouse.

1. Select the text that you wish to highlight and click on the right mouse button. A related menu will appear with several formatting options.

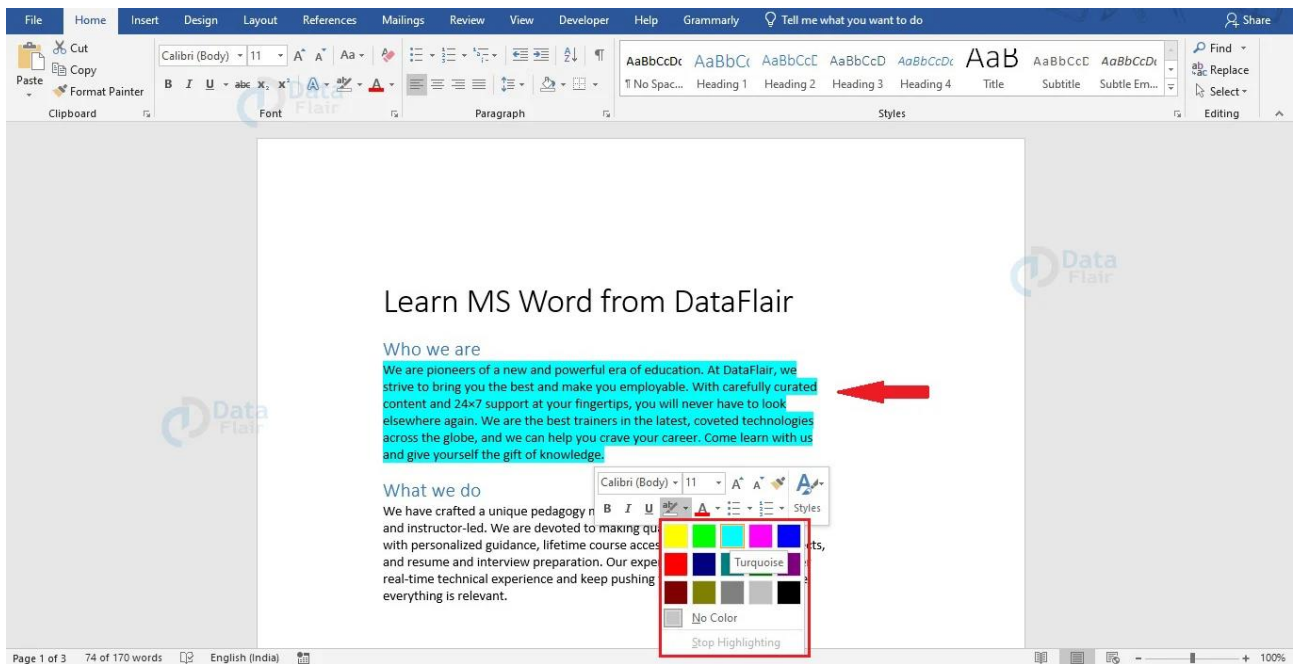


2. From the formatting options, click on the downward arrow beside the **Text Highlight Color** button. A list of possible highlight colors appears.

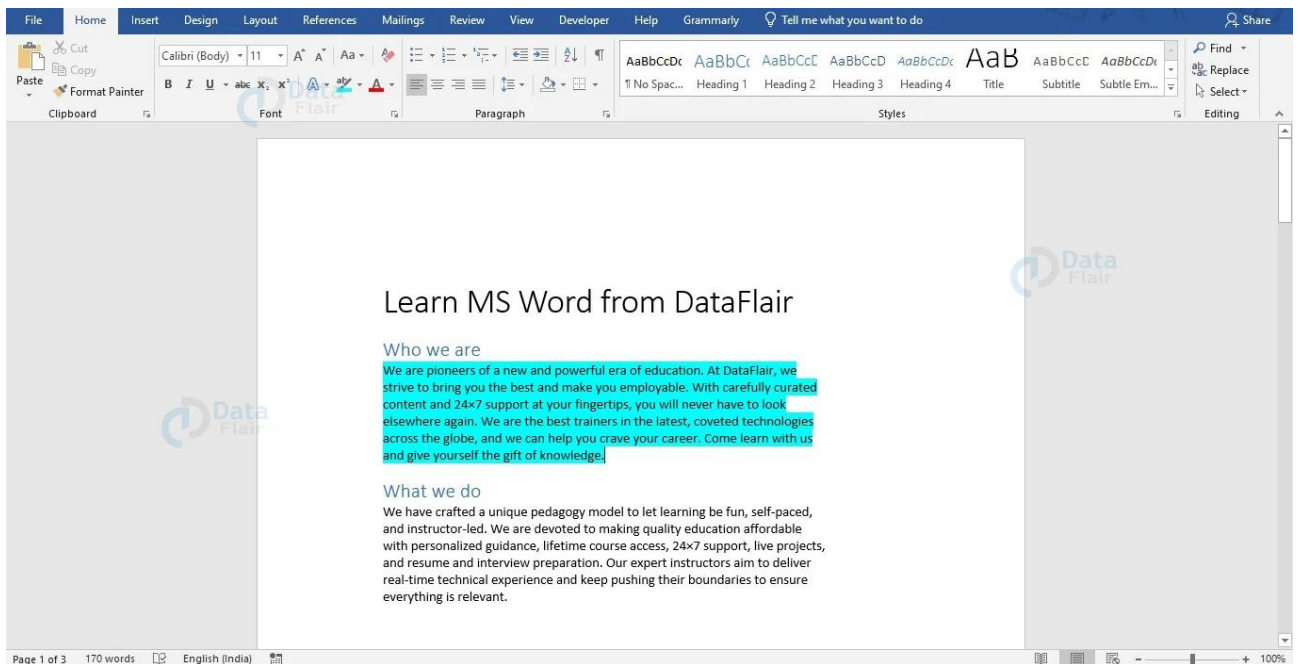




### 3. Choose the required color that you wish to use for your highlight and click on it.



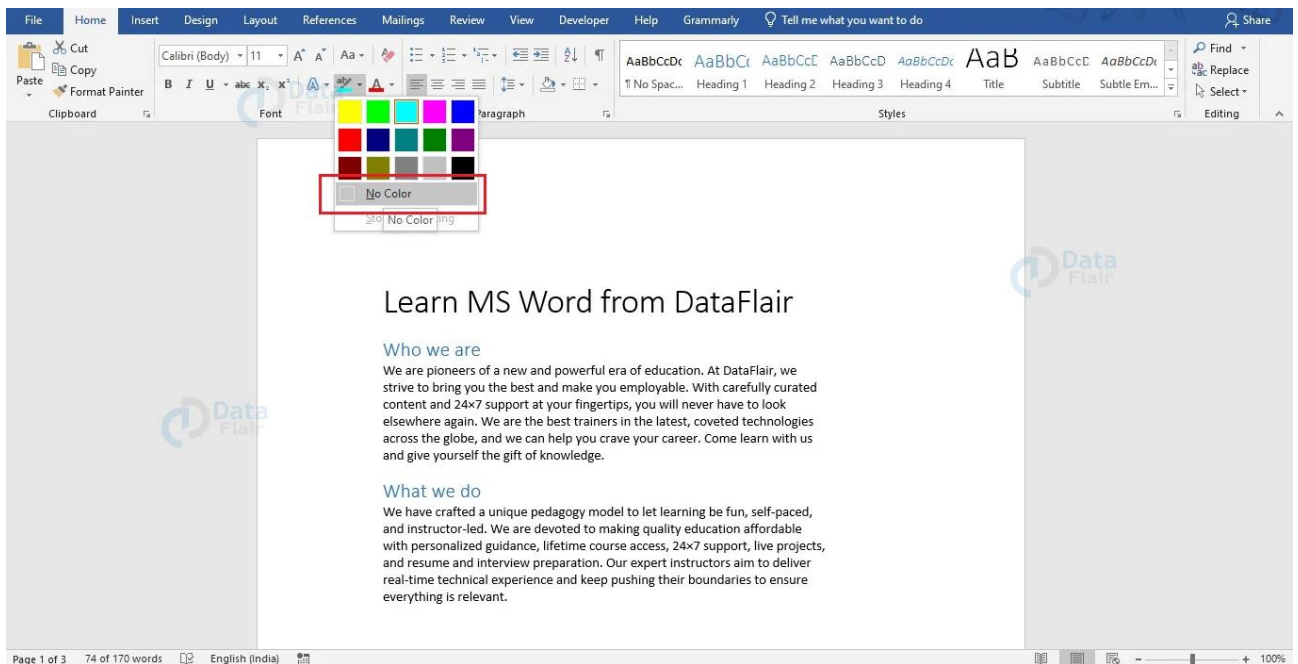
You will now see that the selected text is highlighted with the color that you chose.





To remove the highlight, select the highlighted part and open the dropdown along the **Text Highlight Color** button.

Select **No Color** option and your highlight will be removed.

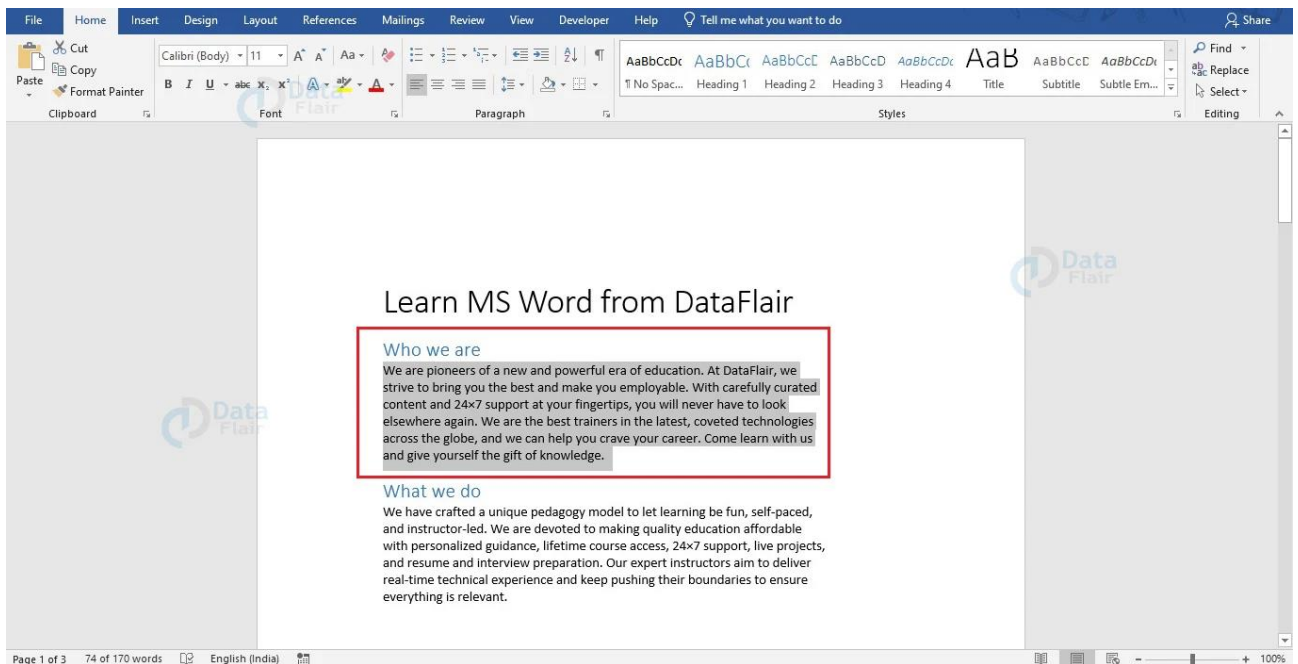


## To Change a Text Case

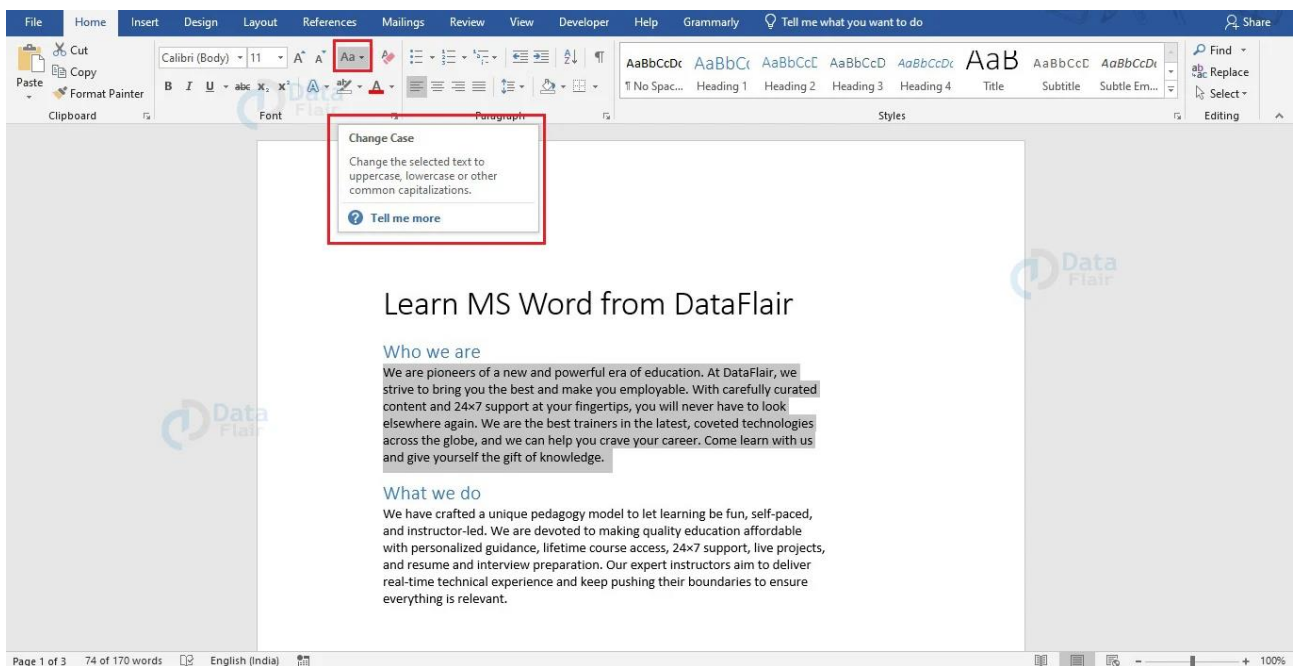
Changing the text case is one of the most basic formatting tasks you can come across while using Word for studies or work. Here are the steps to follow to change the text case in Word.

1. Select the text for changing the case.



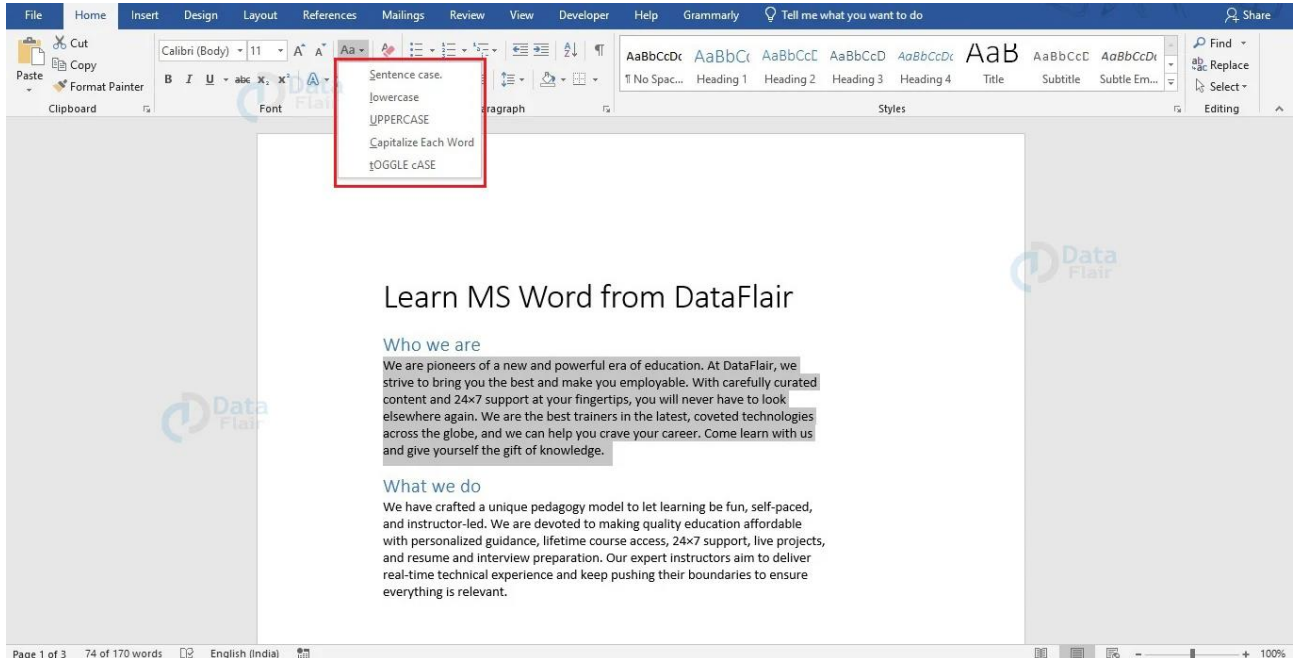


2. Under the Home tab, choose the **Change Case** option. The respective dropdown menu appears.





3. From the dropdown menu, select the appropriate choice to change the text case as required.



The different options that appear in the dropdown menu, and their description are as follows:

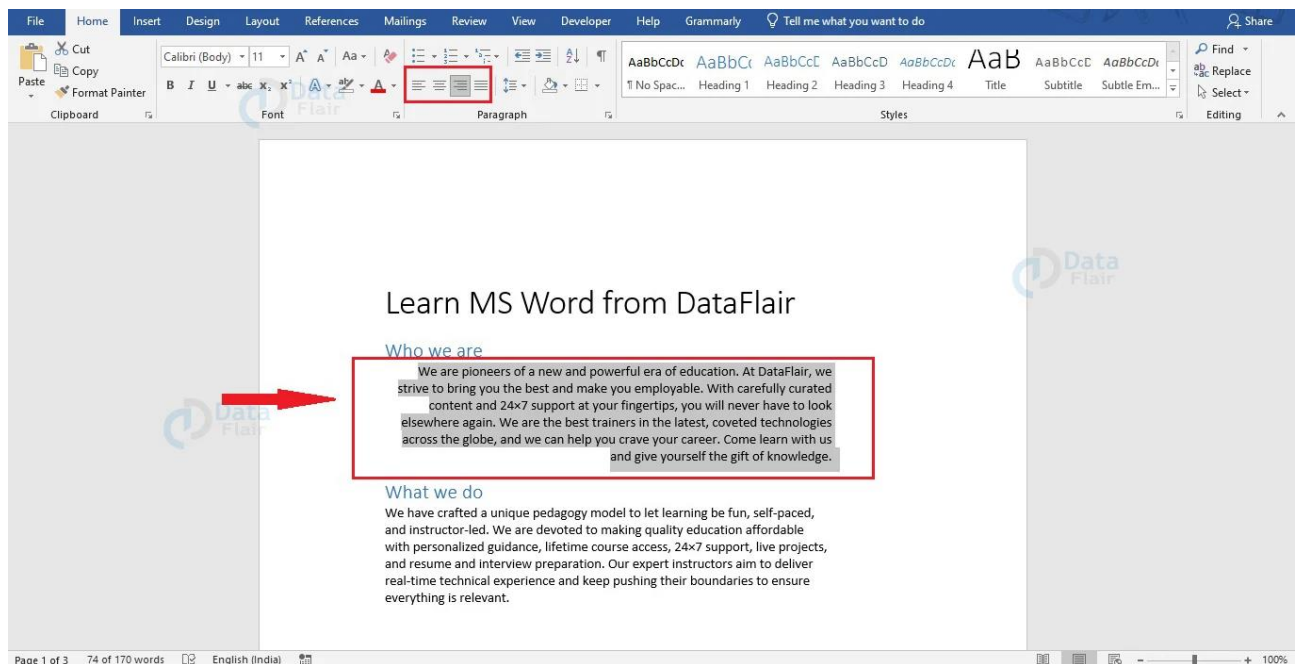
- **Sentence case.:** It capitalizes the first word of a sentence while keeping all others as lowercase. If a word in between starts with uppercase, it is treated as a proper noun.
- **lowercase:** It changes all the selected text to lower case.
- **UPPERCASE:** Changes selected text to uppercase.
- **Capitalize Each Word:** Use this option to capitalize the first letter of each word.
- **tOGGLE cASE:** Text in uppercase is changed to lowercase, and vice versa



## To Format Text Alignment

Word offers 4 types of text alignment. They are Left Alignment, Centre Alignment, Right Alignment, and Justified Alignment. You can format the alignment of text from the Paragraph group under the Home tab. However, make a note that the alignment formatting applies to the whole paragraph. Even if you choose a part of a paragraph, the alignment of the whole paragraph would change.

Left Alignment is the default alignment of every Word document. To change the alignment of your text, select the paragraph and choose the necessary alignment.



Otherwise, you can also select the paragraph and use the keyboard shortcuts to align the text.



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<b>Alignment</b>	<b>Keyboard Shortcut</b>
Left Alignment	Ctrl + L
Centre Alignment	Ctrl + E
Right Alignment	Ctrl + R
Justified Alignment	Ctrl + J

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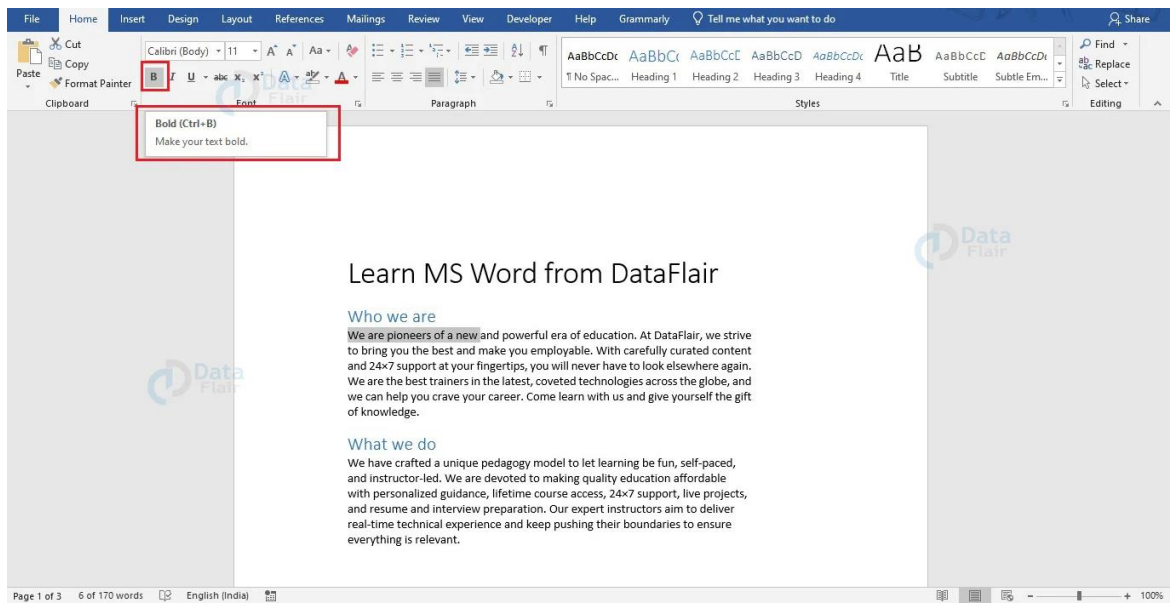
### **Special Formatting in Word**

There are a few special formattings in Word that are very useful for documentation purposes. **Bold**, **Underline**, **Italic**, **Strikethrough**, **Superscript**, and **Subscript** fall under special formatting features. We will look into how each of these affects your text and how you can apply the same to your text.

### **Making Text Bold in Word**

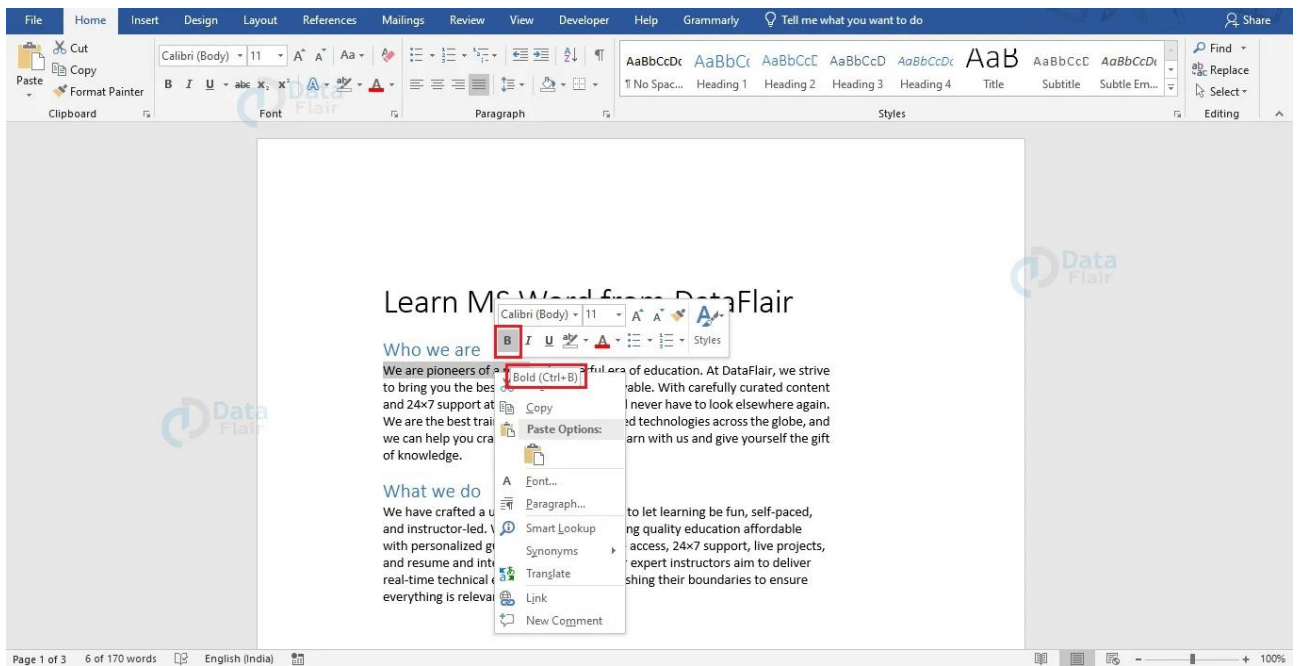
**Bold** refers to making the letters of the text thicker and more prominent. To make your text bold, select your text and do any of the following:

1. Select the **Bold** icon from the Font group under the Home tab.



Or,

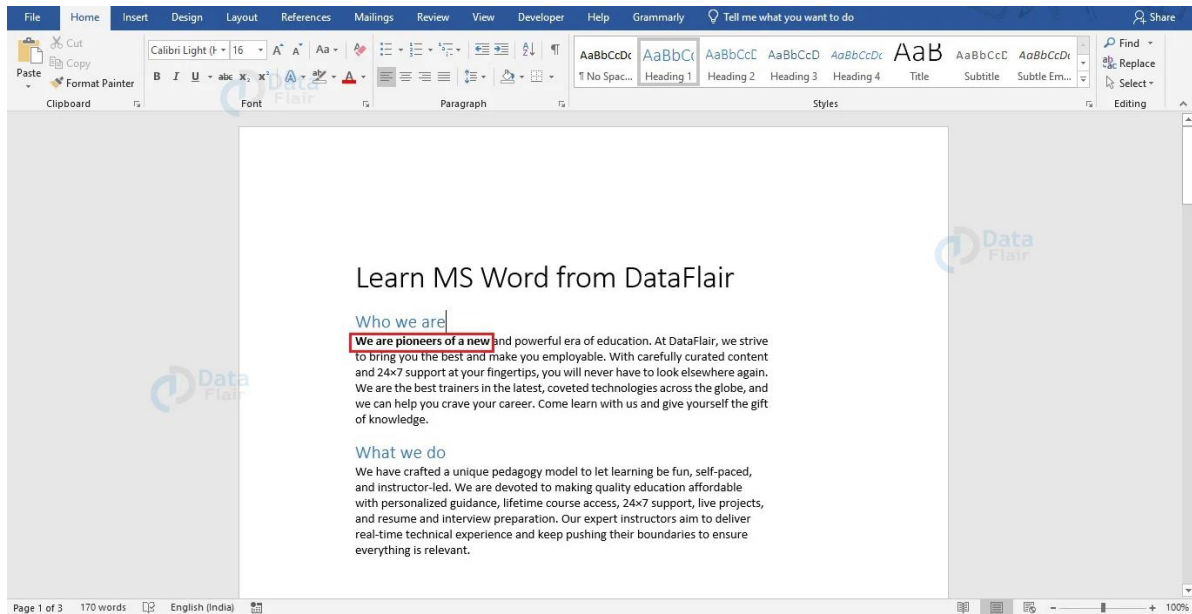
2. Right-click on your mouse to make the mini-menu appear. From there, select the icon for **Bold**.



Or,



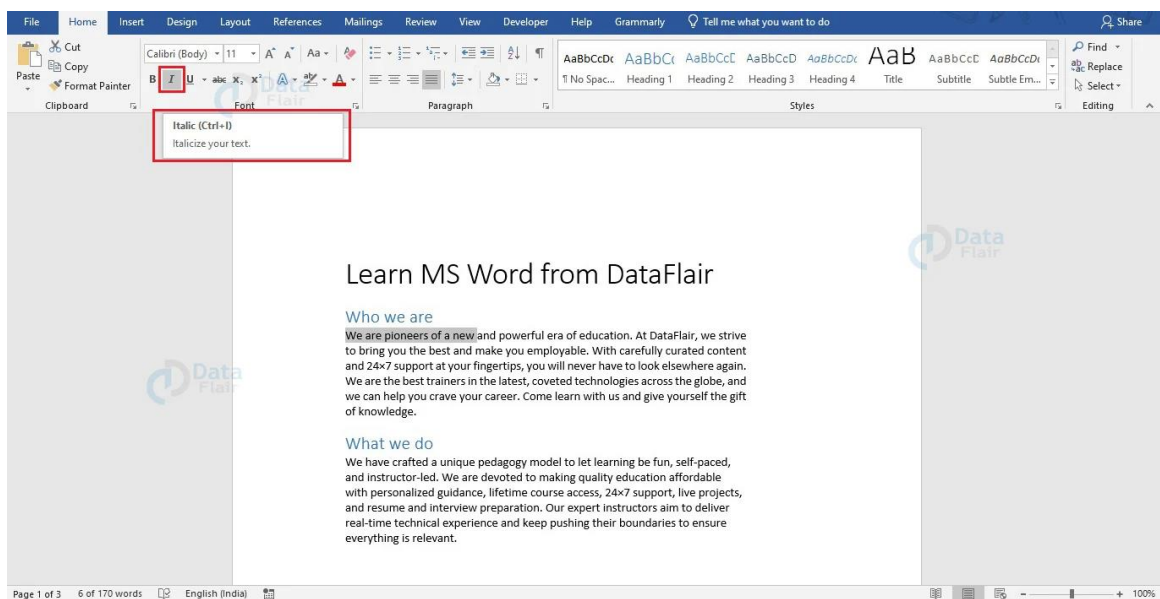
### 3. Use the keyboard shortcut **Ctrl + B**.



### Making Text Italic in Word

*Italic* makes the font slanting and italic. To italicize your text, select your text and do any one of the following:

1. Select the *Italic* icon from the Font group under the Home tab.

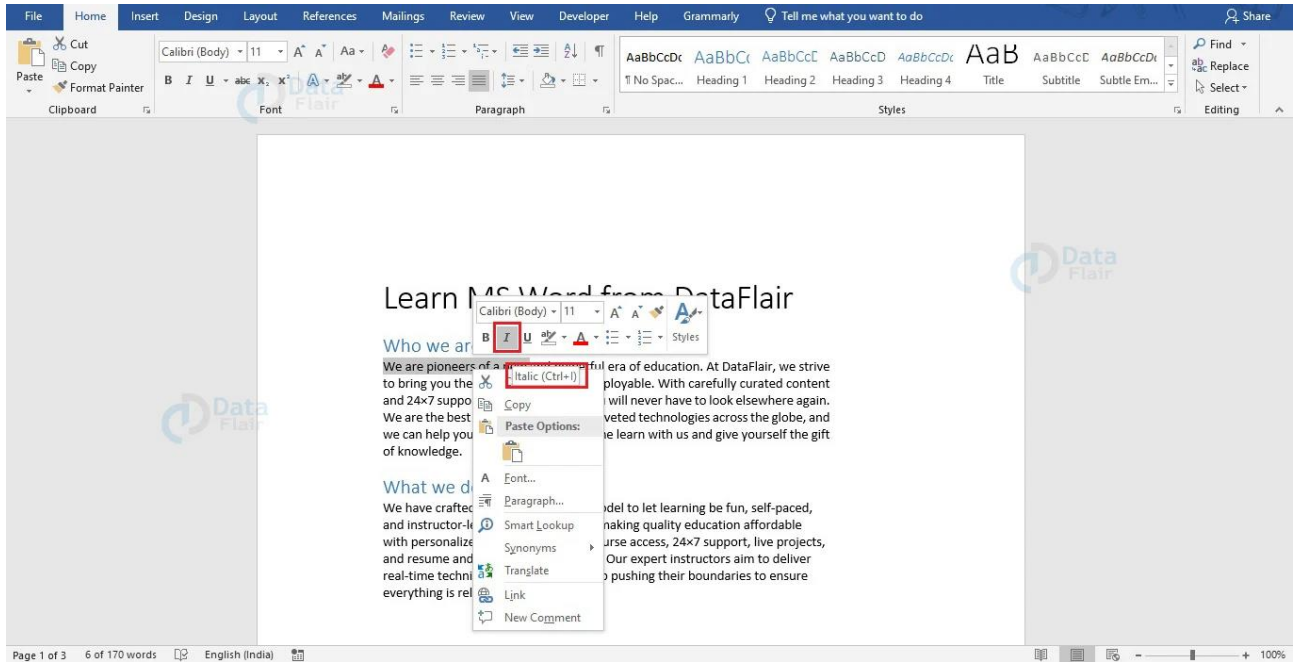


Or,



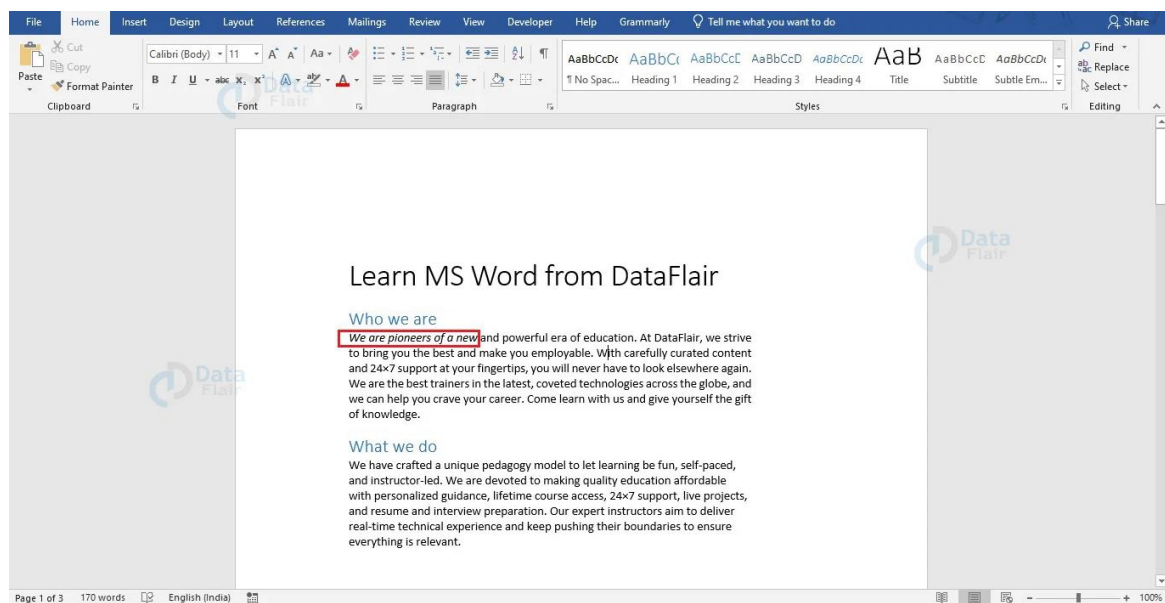


2. Right-click on your mouse to make the mini-menu appear. From there, select the icon for *Italic*.



Or,

3. Use the keyboard shortcut **Ctrl + I**.

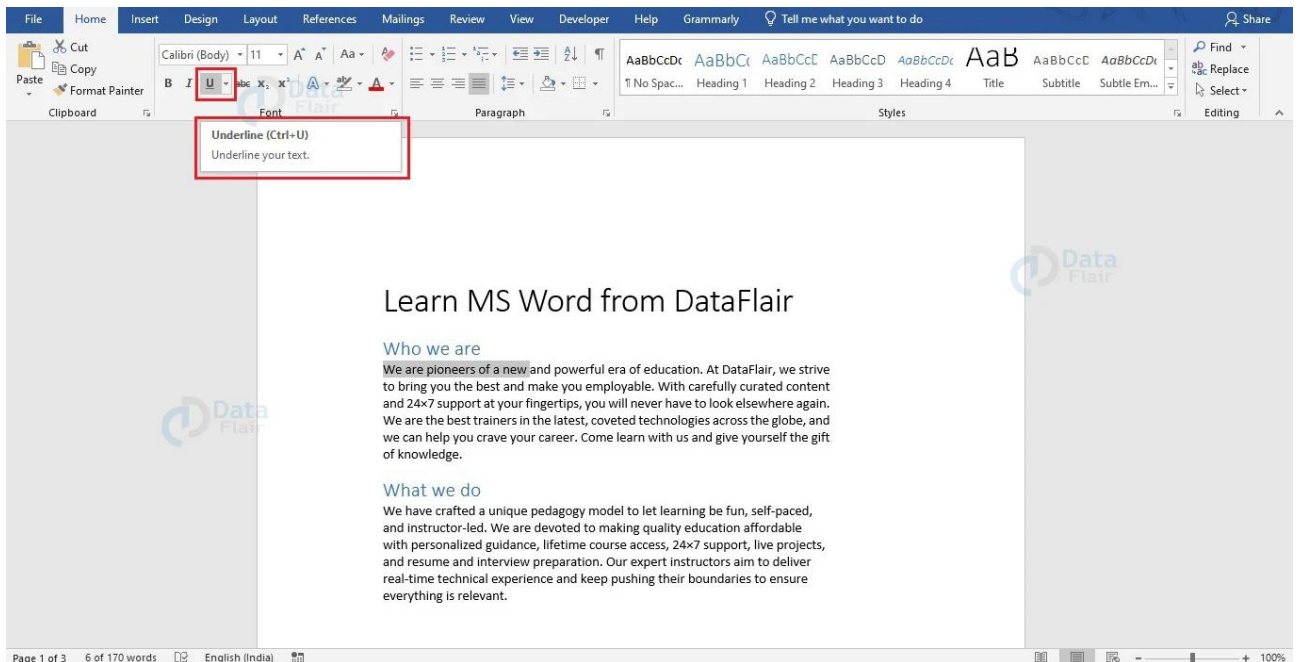




## Underlining Text in Word

The Underline icon is used to underline your text. You can do any one of the following to underline your text after you have selected it.

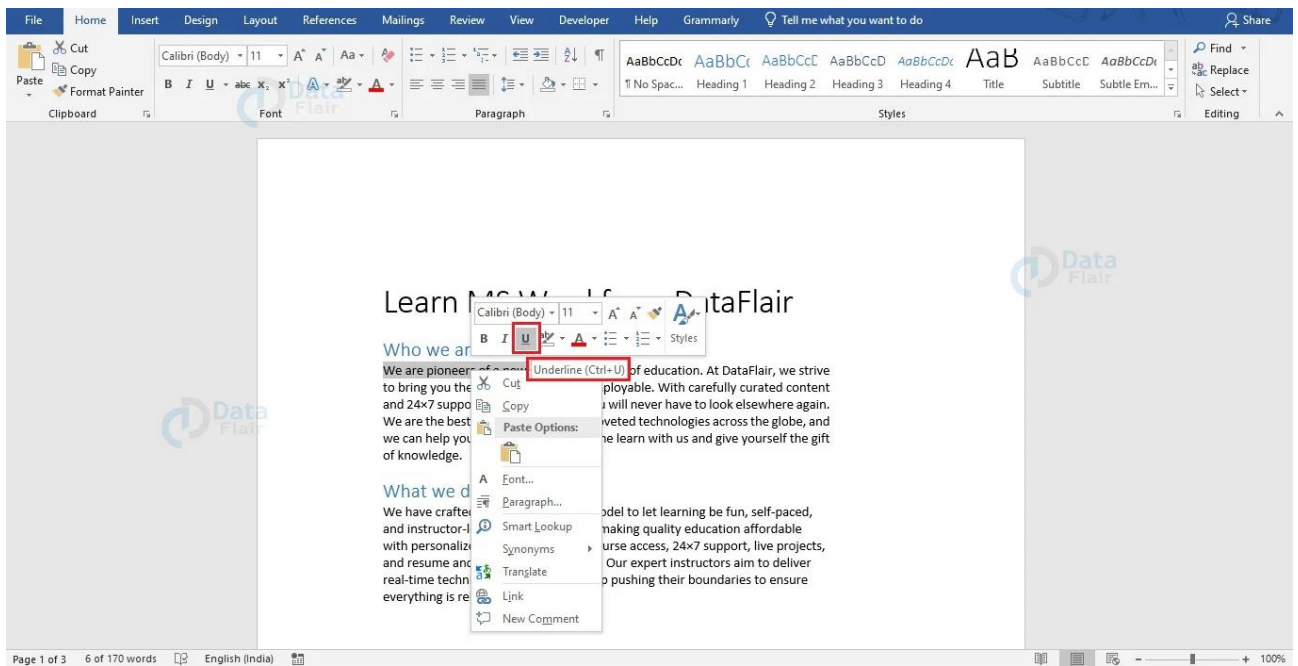
1. Select the Underline icon from the Font group under the Home tab. Here, you can also choose the type of underline you wish to apply.



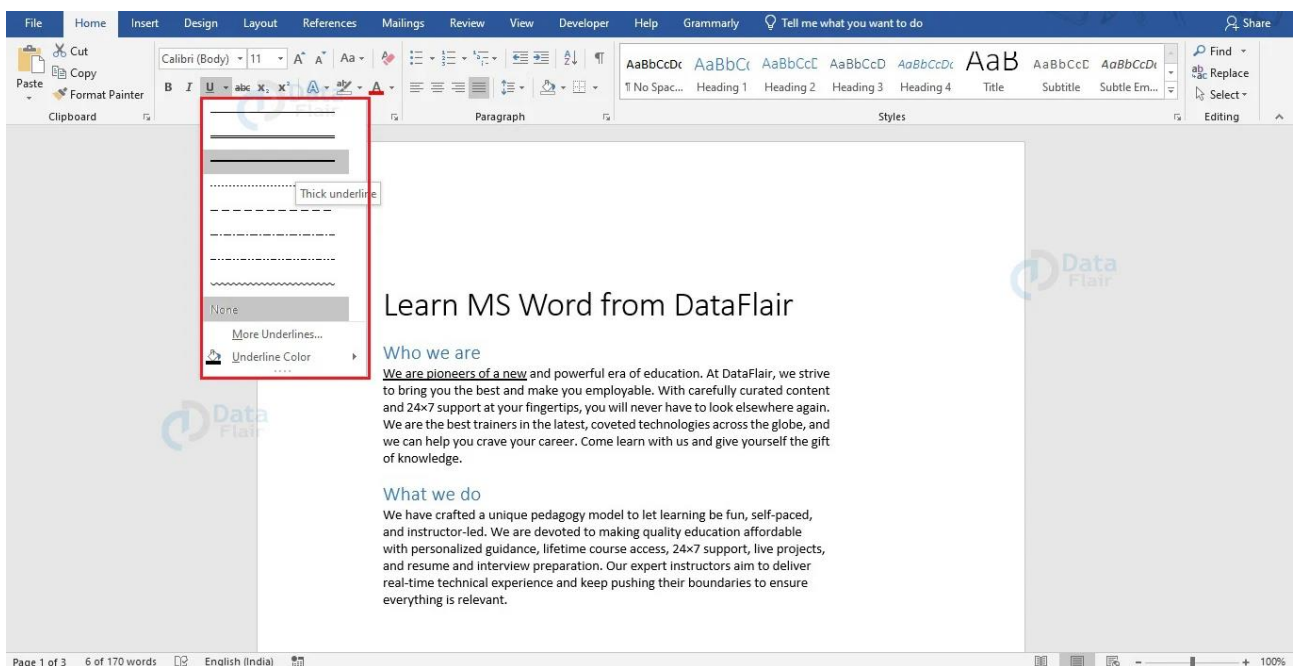
Or,

2. Right-click on your mouse to make the mini-menu appear. From there, select the icon for Underline.





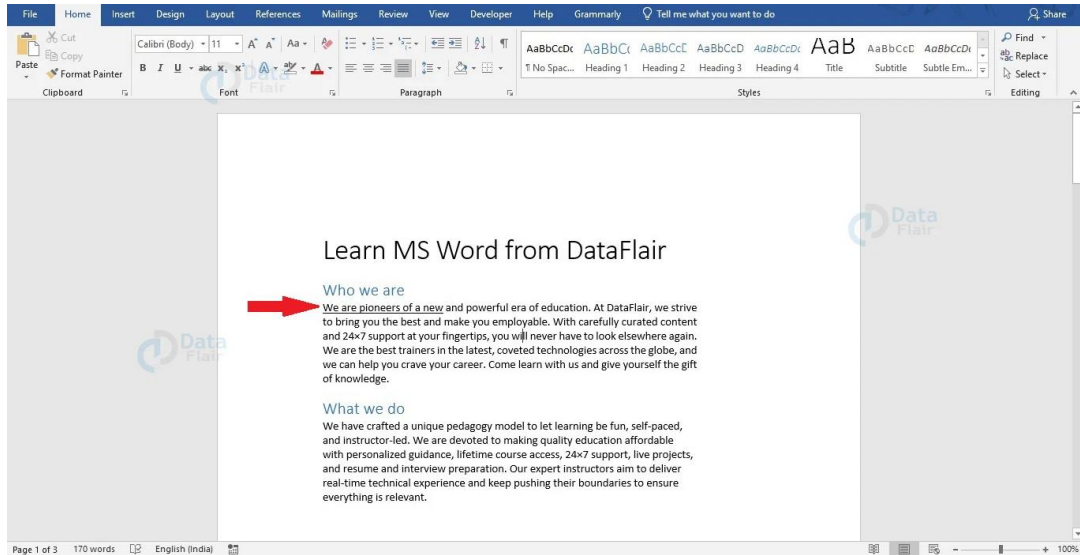
You can choose the style of underline from the drop-down menu associated with the **Underline** button in the **Font** group of **Home** tab.





Or,

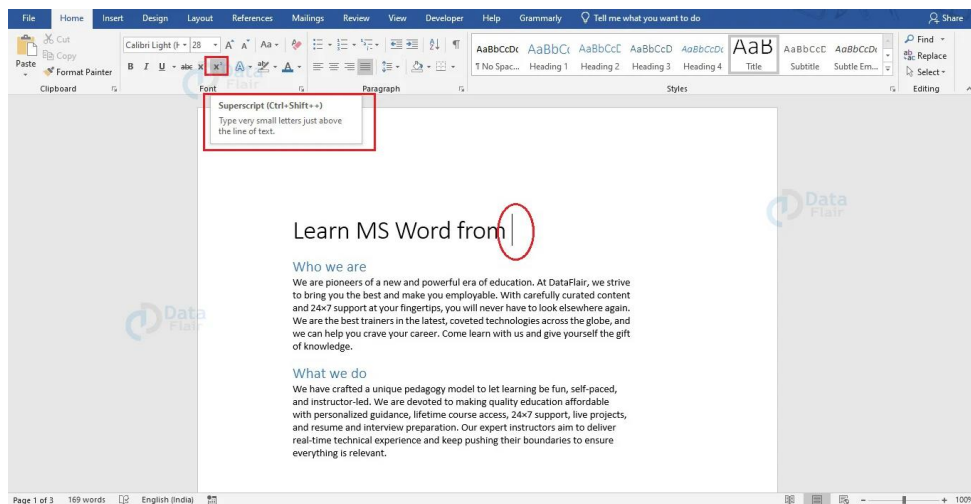
Use the keyboard shortcut **Ctrl + U**.



## Adding Superscript in Word

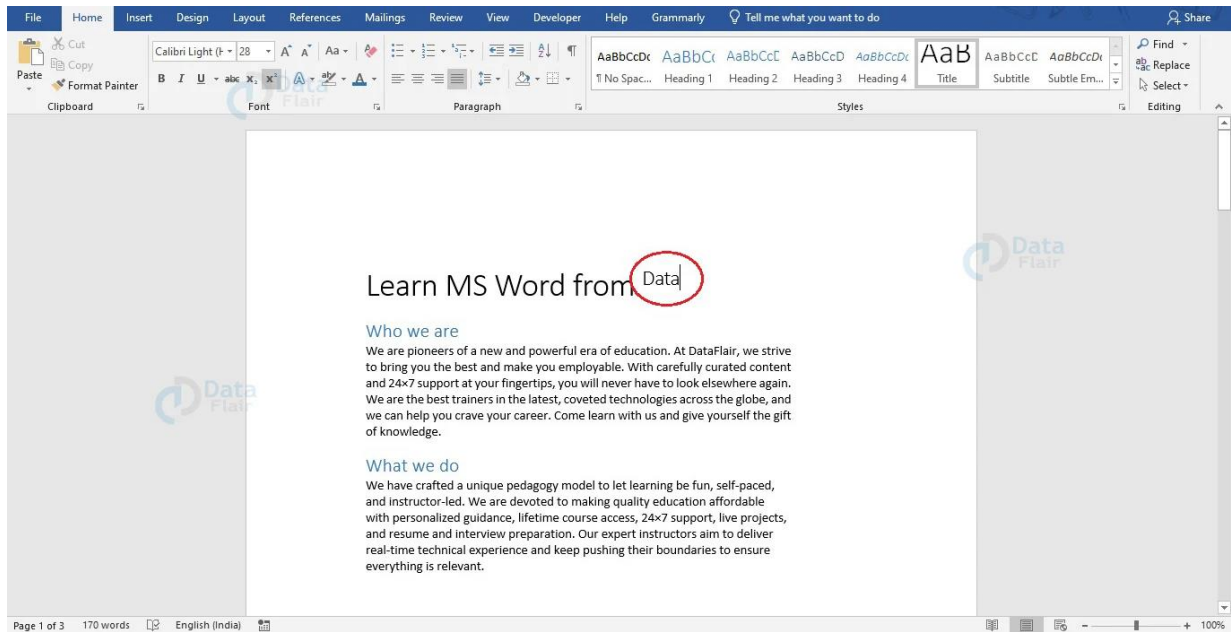
The ps while writing exponents in mathematics as well as while mentioning the specifications of chemicals in chemistry. The steps to use superscript in Word are given below.

1. Place your cursor at the position where you wish to insert **superscript** and click on the Superscript button.

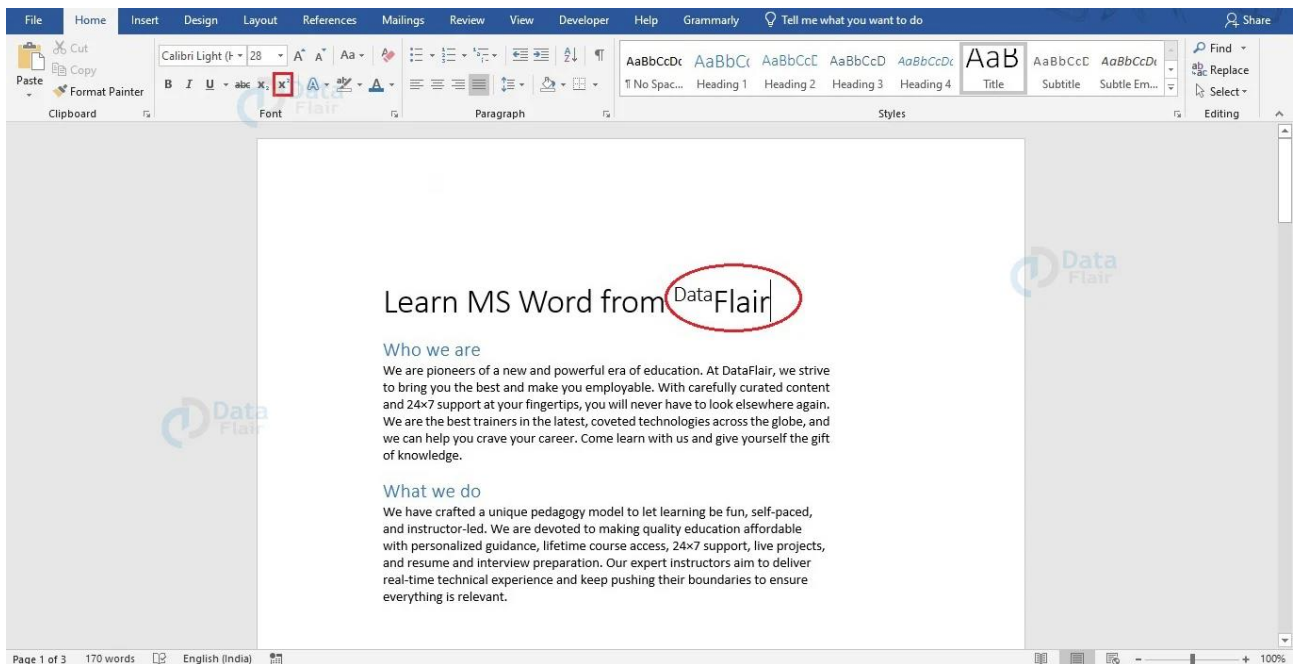




2. Click on the Start typing. This text will be written as superscript.

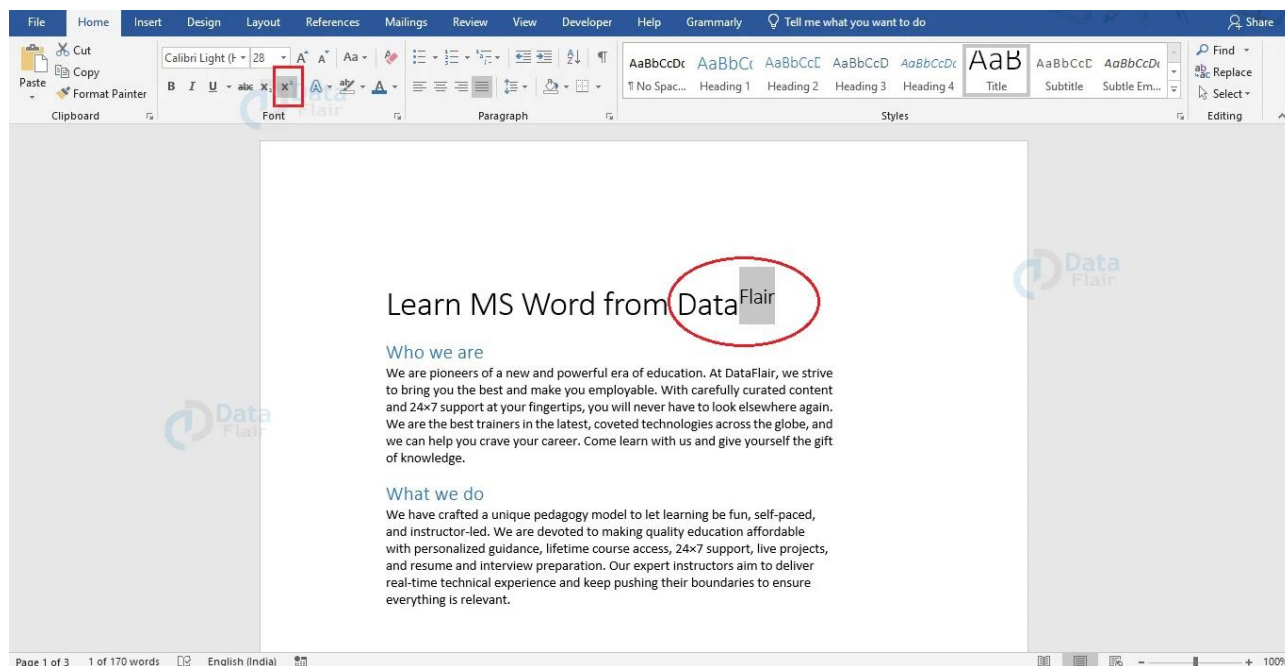


3. After you finish writing text in superscript and wish to go back to normal, click on the **Superscript** button again. Your cursor will go back to normal size and you will not be able to write normally again.





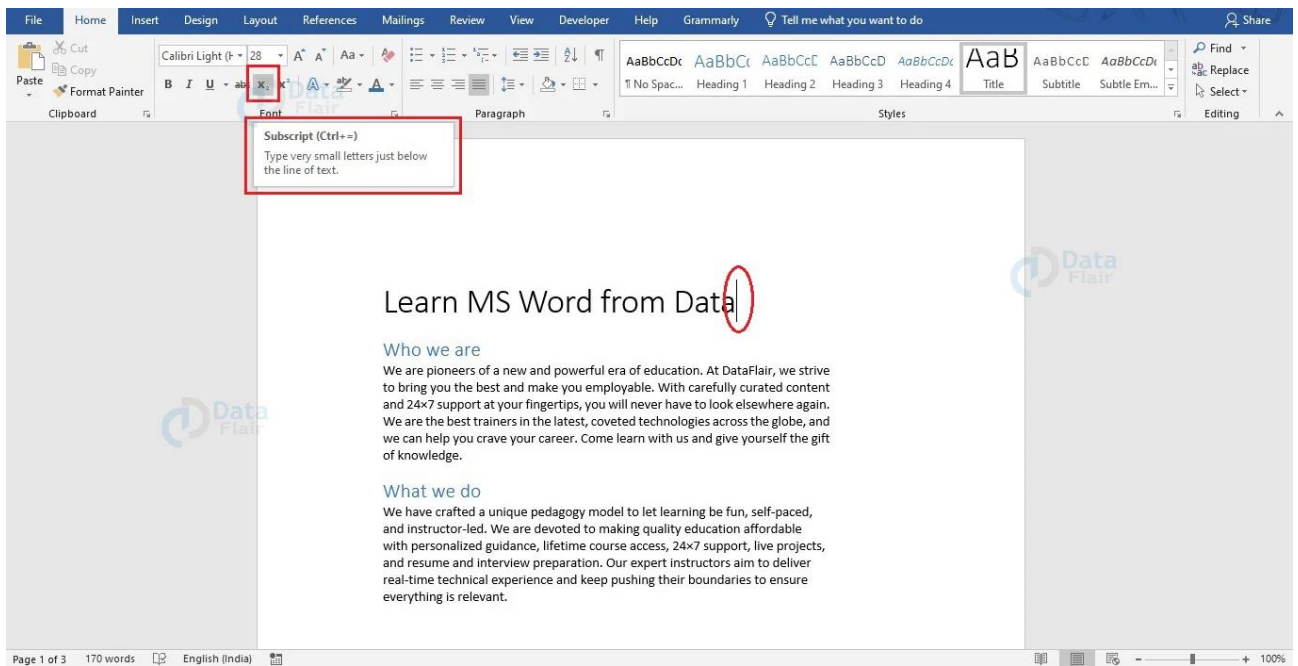
If you have already written text that you wish to convert to superscript, you can select it and click on the **Superscript** button under the **Font** group of the **Home** tab.



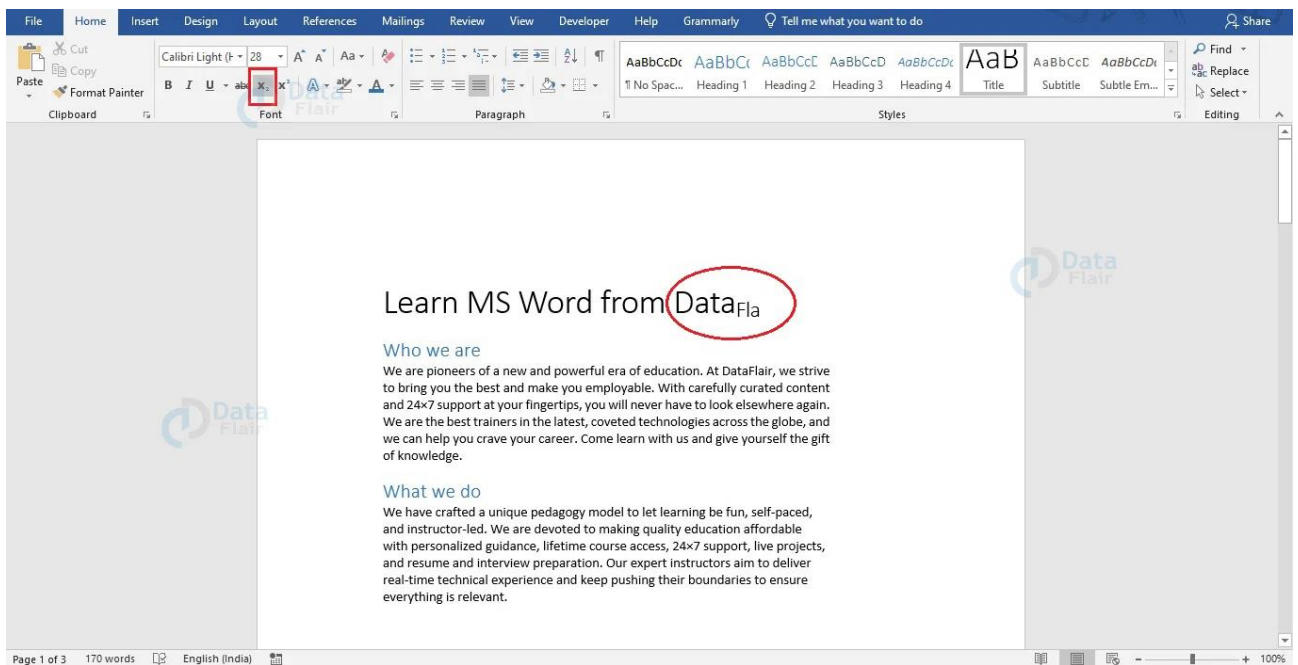
## Adding Subscript in Word

Similarly, you can use the **Subscript** button to type small letters or text below your line of text. It helps while writing chemical formulas or the atomic number of elements in Chemistry. The steps to use Subscript in Word are given below.

1. Place your cursor at the position where you wish to insert subscript and click on the **Subscript** button.



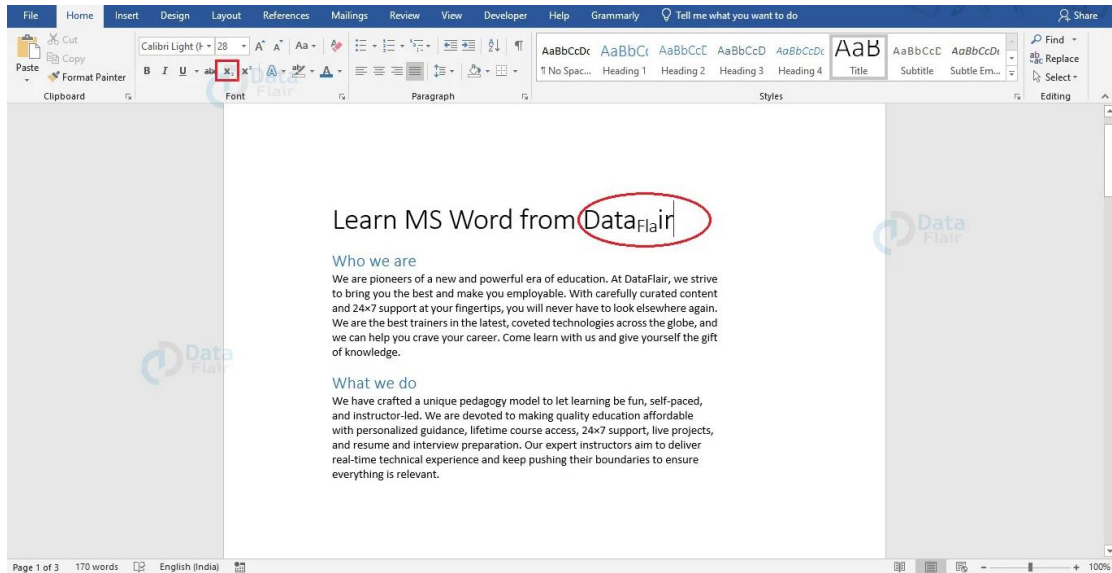
2. Click on the Start typing. This text will be written as subscript.



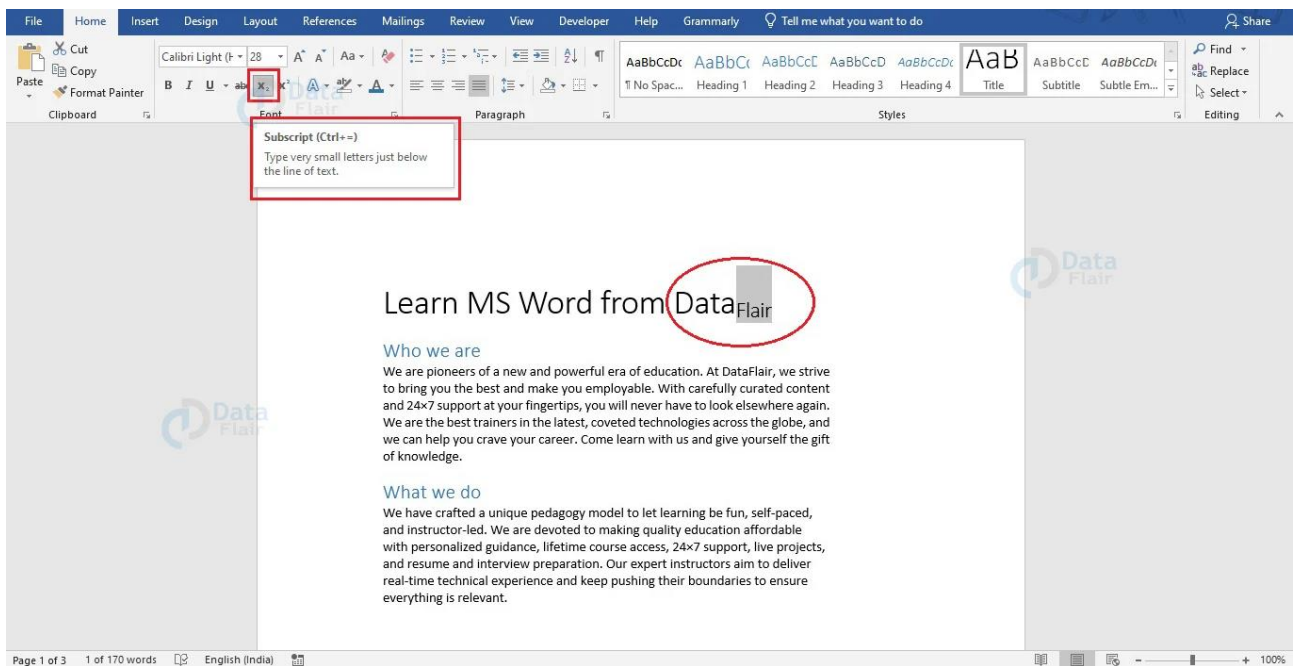




3. After you finish writing text in subscript and wish to go back to normal, click on the **Subscript** button again. Your cursor will go back to normal size and you will not be able to write normally again.



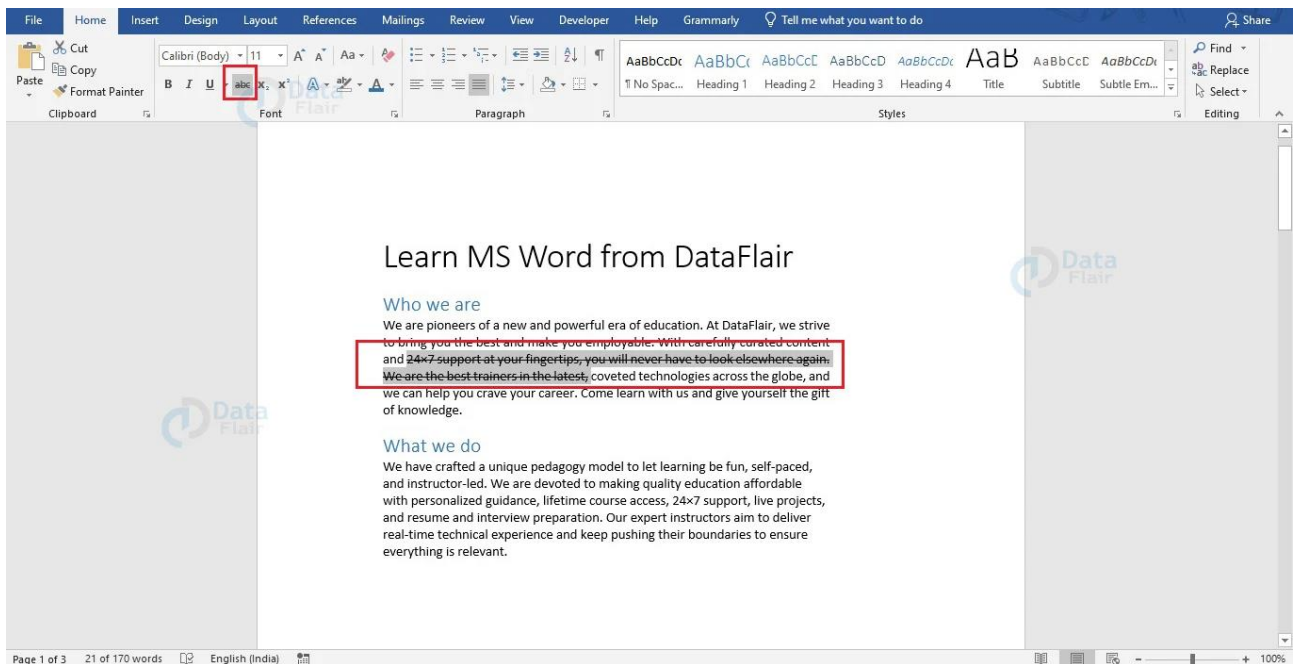
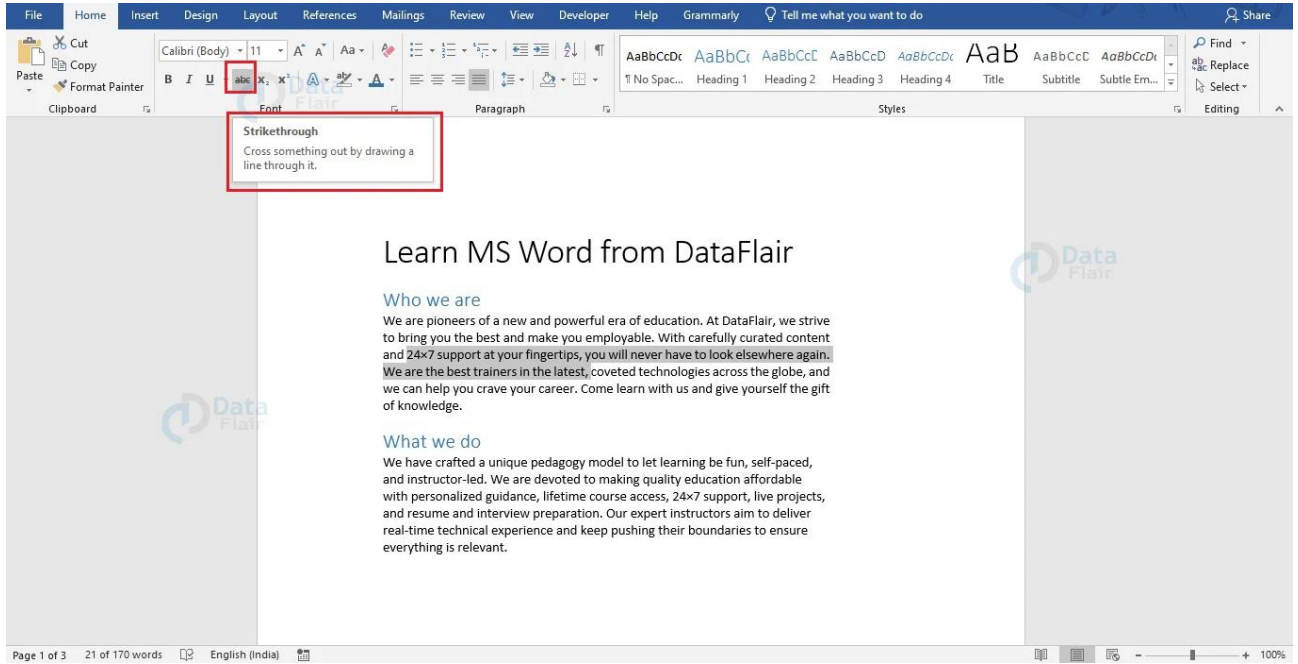
If you have already written text that you wish to convert to subscript, you can select it and click on the **Subscript** button under the **Font** group of the **Home** tab.





## Strikethrough in Word

To strike through text in a Word document, select the text and click on the Strikethrough button under the **Font** group of **Home** tab.

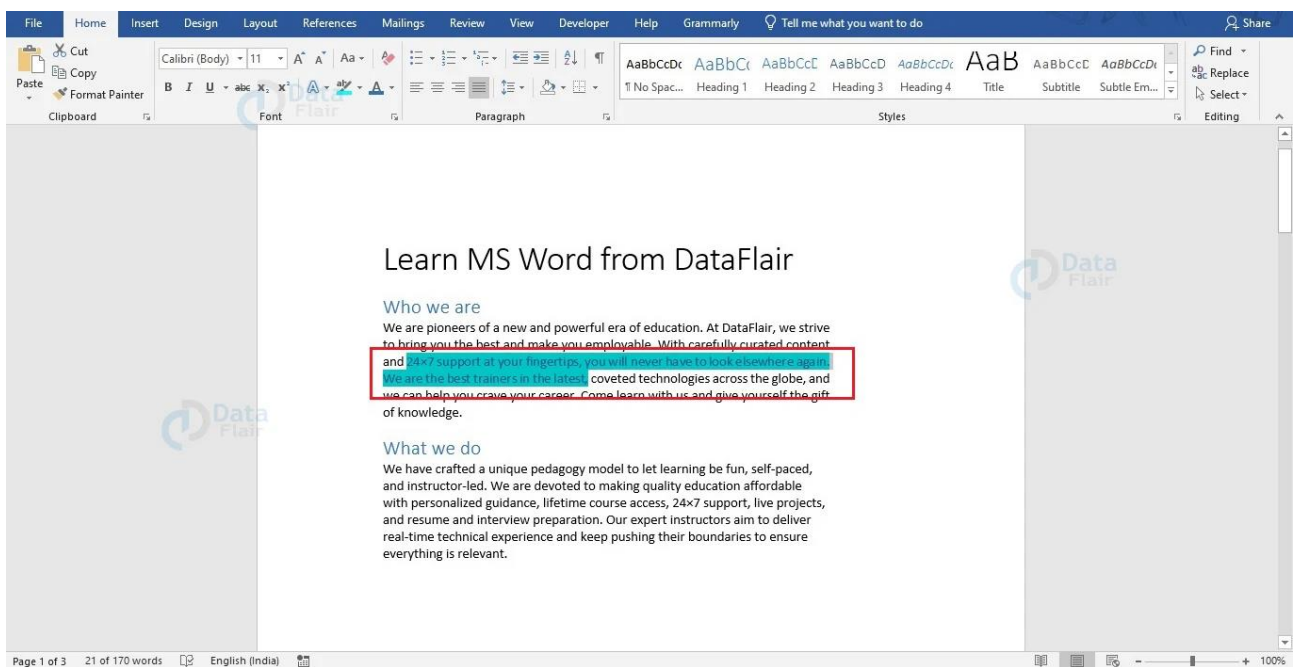




## Format Painter in Word

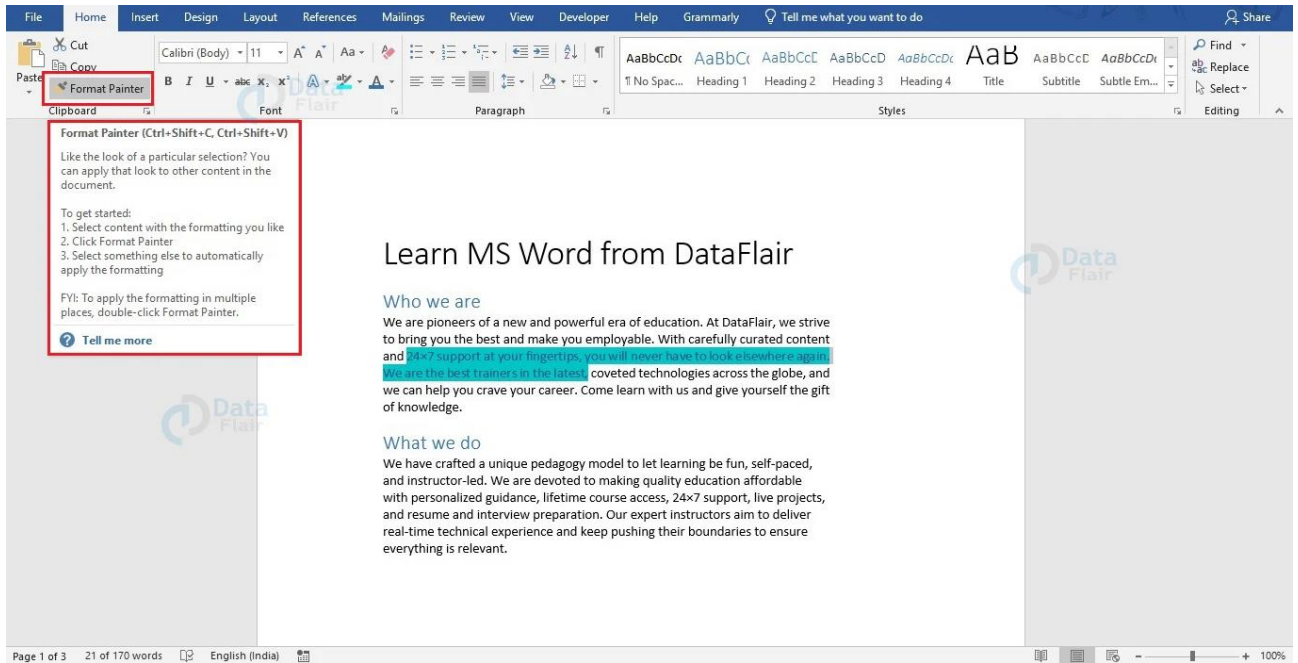
In Word, Format Painter is an advanced tool that allows users to copy the formatting of a particular section of their document and paste the formatting to another section. As such, the two sections of your document will have similar formatting. Follow the steps given below to use the Format Painter feature in Word.

1. Choose the section whose formatting you wish to copy.

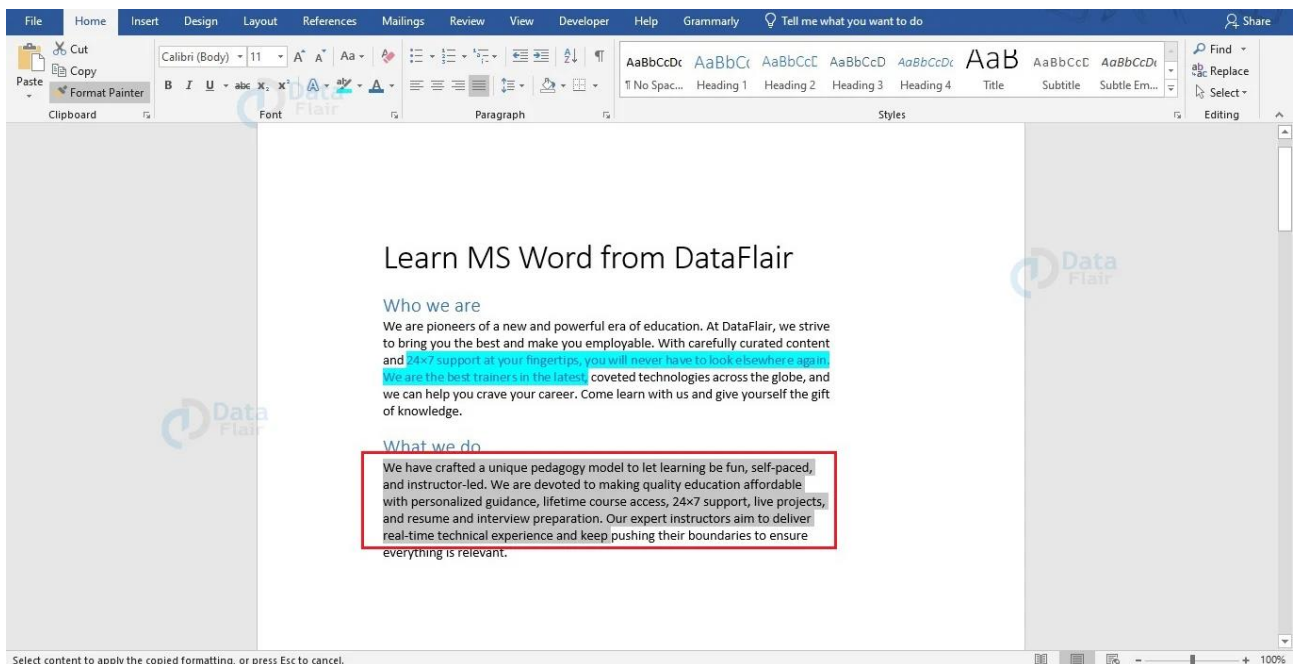


2. Click on the **Format Painter** option under the **Clipboard** section of the **Home** tab. This copies the formatting of the initial section. You can also use the keyboard shortcut **Ctrl + Shift + C** for copying the formatting of the initial section.



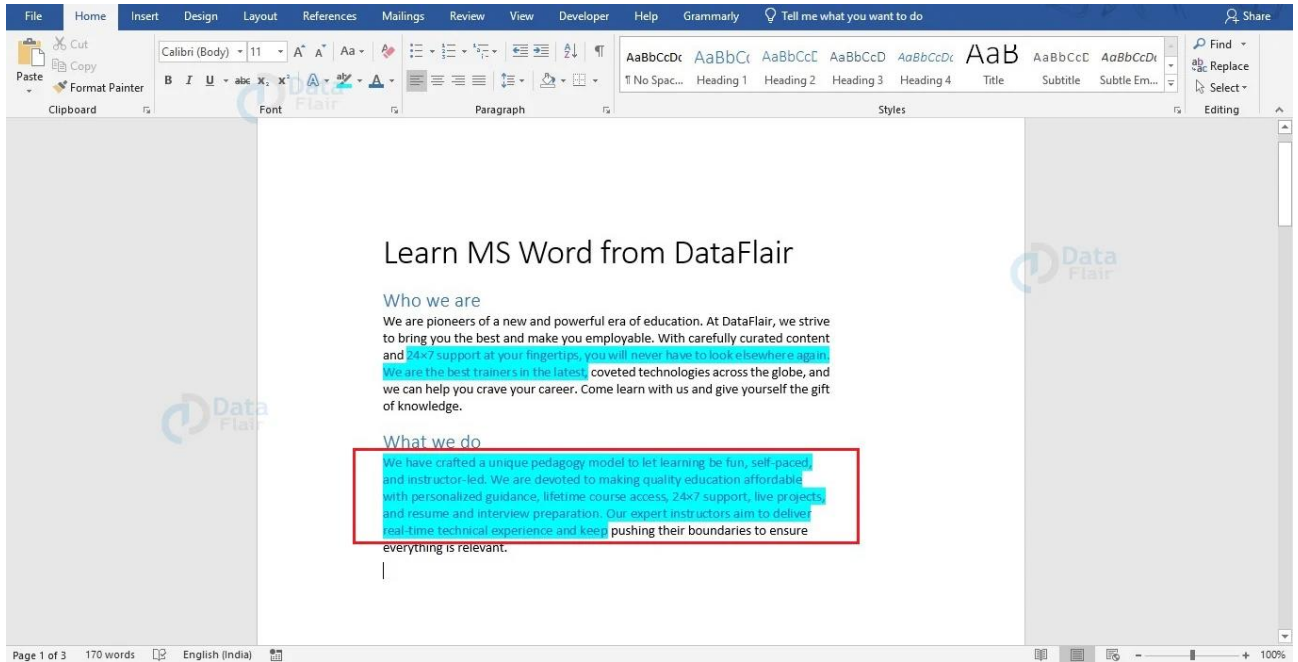


3. If you hover over the destination section, you will notice that your mouse pointer changes to a brush. Select the destination section to paste the formatting of the initial section.





4. If you have copied the formatting using the keyboard shortcut, then select the destination section and use the keyboard shortcut **Ctrl + Shift + V** to paste the formatting.



If you wish to paste the same formatting to multiple parts of your document, then follow the steps below.

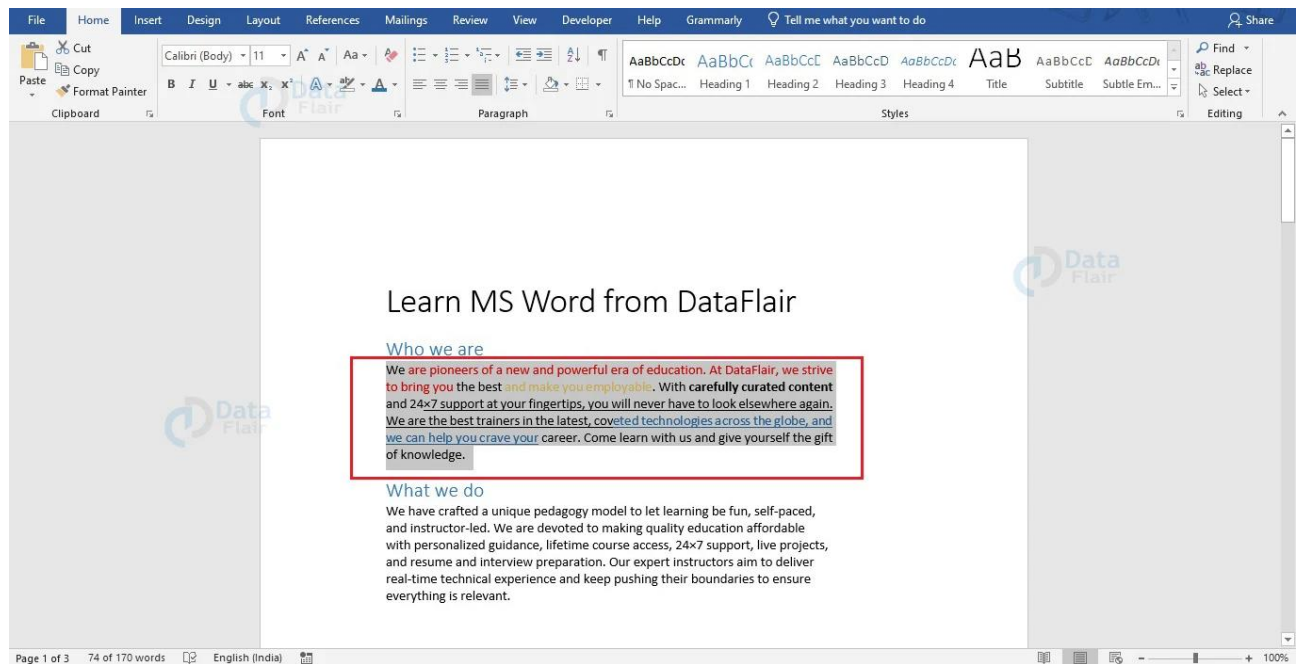
1. Select the text section whose format you wish to copy.
2. Double click on the **Format Painter** option under the **Clipboard** group of **Home** tab of your Word window.
3. Paste the formatting to other sections of your document by selecting them.
4. Once done, use the **Esc** key, or click on the **Format Painter** option under the **Clipboard** group of **Home** tab to exit.



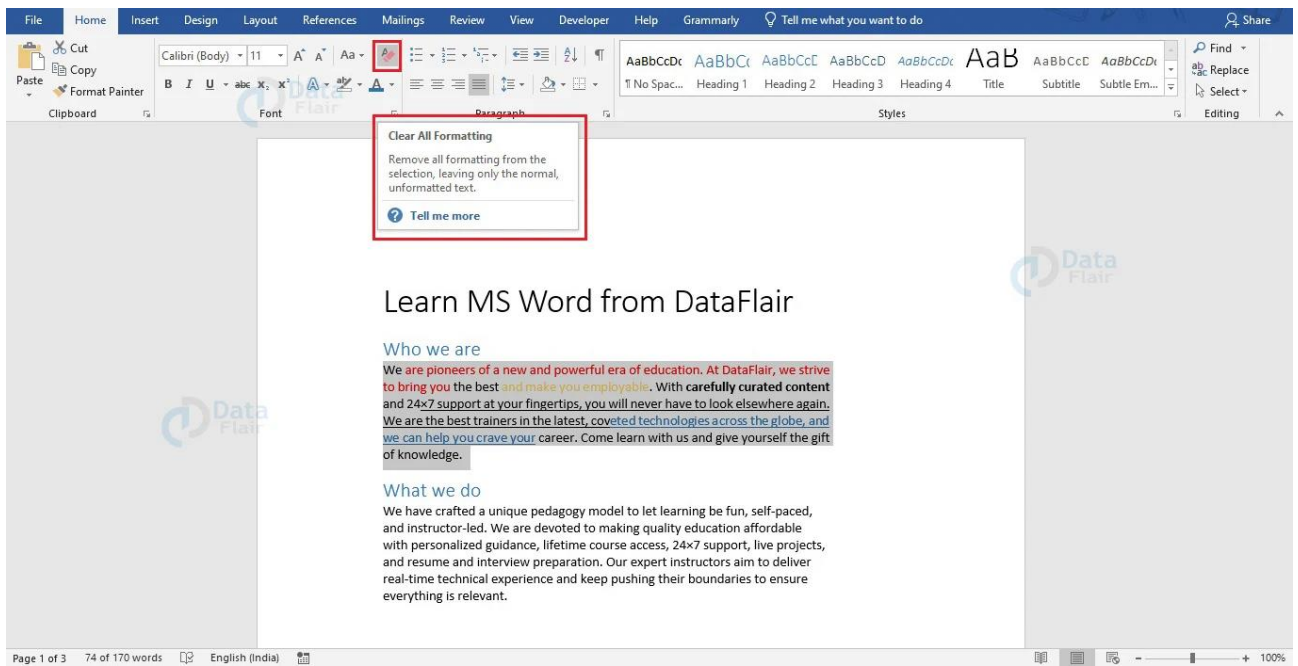
## Clear Formatting in Word

In Word, you can clear the formatting that you have applied to the text in your document by following the steps given below.

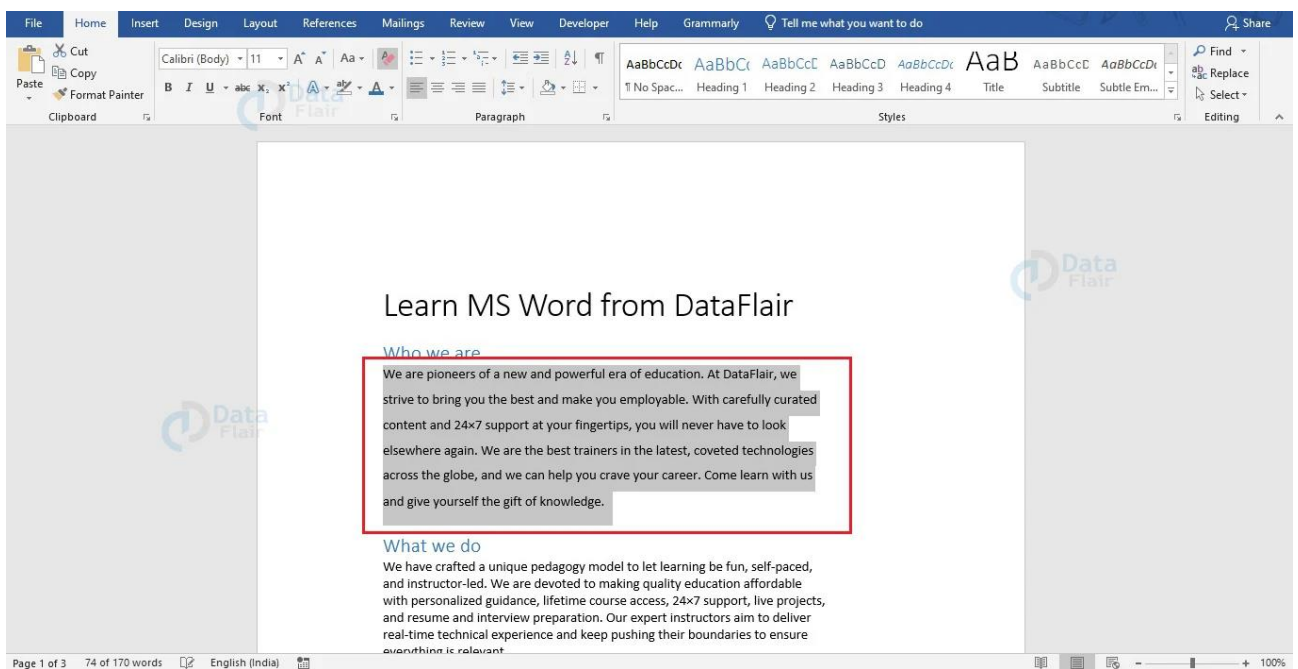
1. Select the text in your document where you wish to clear the formatting. You can select the whole document if you wish to reset the formatting of the whole document.



2. Click the **Clear All Formatting** button under the **Font** group of the **Home** tab to clear formatting. Alternatively, you can also use the keyboard shortcut **Ctrl + SPACEBAR**.



Being able to reset your formatting lets you take control whenever you make some errors unconsciously.



Since you now know how to format text in Word, you can use these tools to format your document properly. Properly formatting text in Word will help you draw the reader's

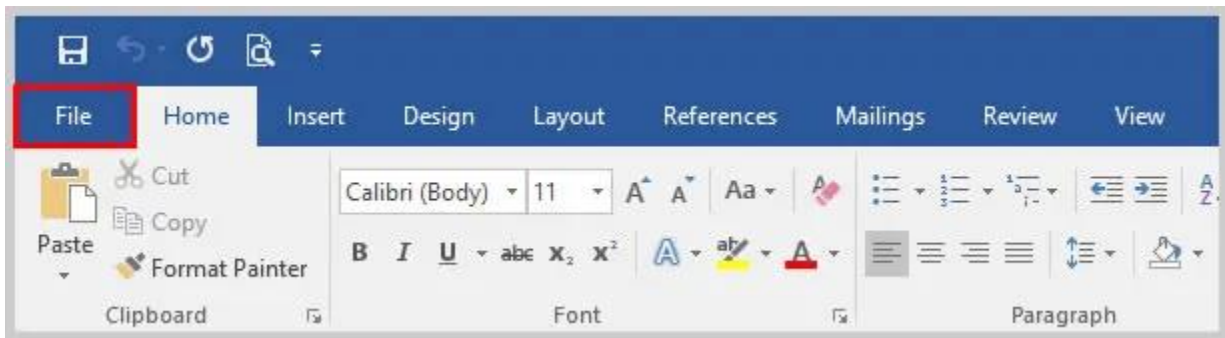


attention to the important parts and also have a better effect during presentations. Try out these formatting tools in Word to become better acquainted with them.

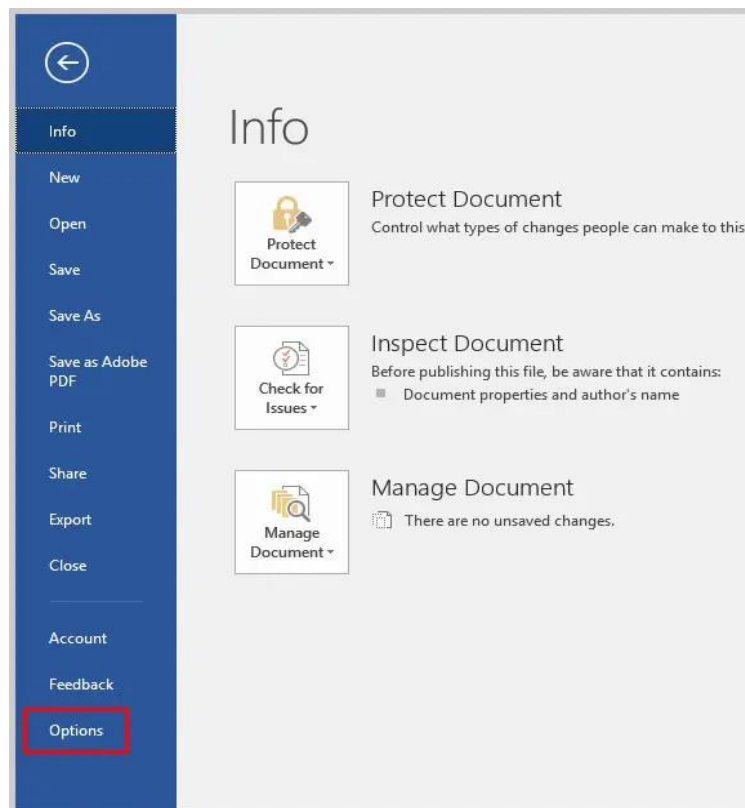
## How to Use the Spelling and Grammar Check in Microsoft Word

### How to Include or Exclude Grammar

1. Select the **File** tab.

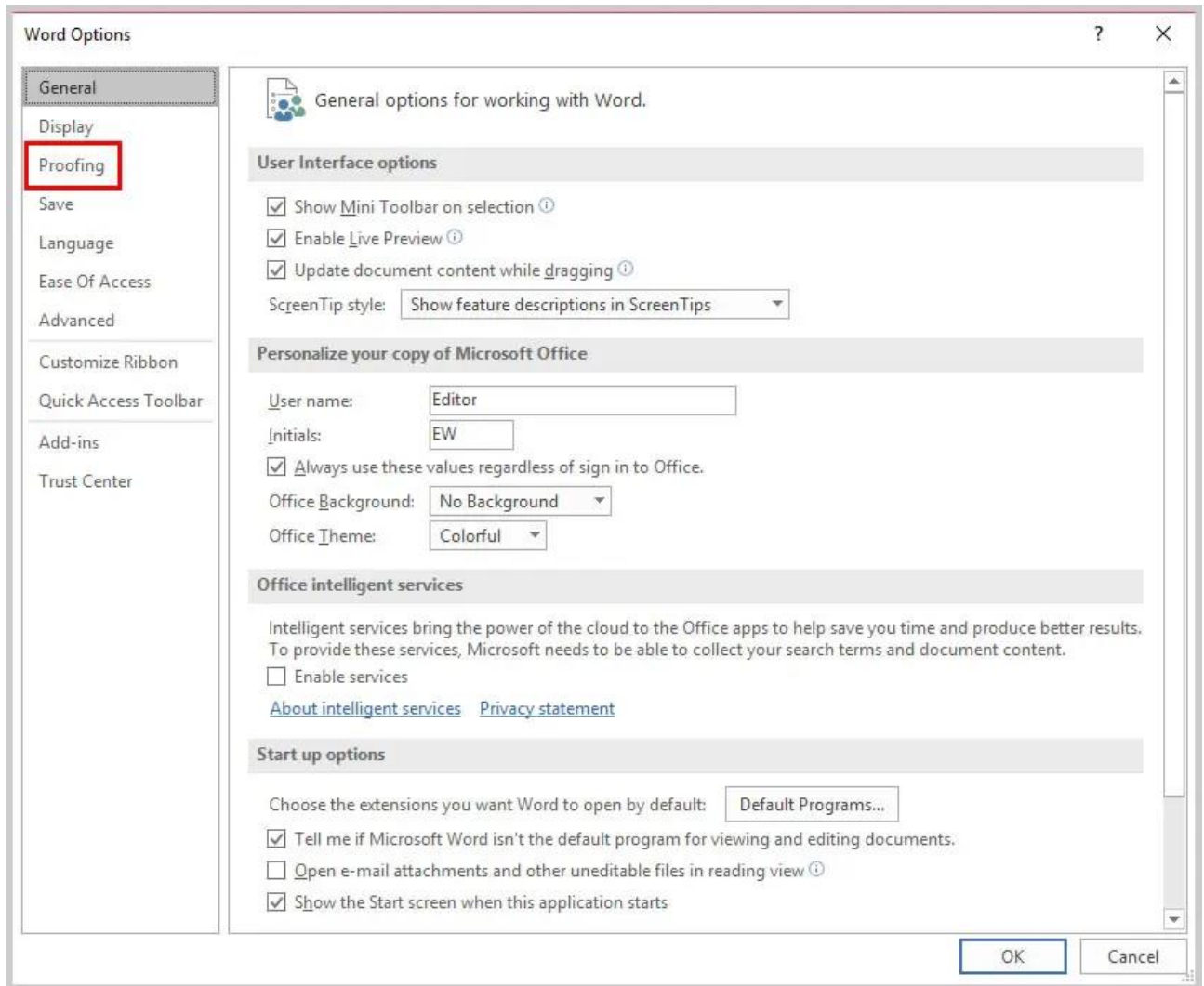


2. Select **Options** in the Backstage view.





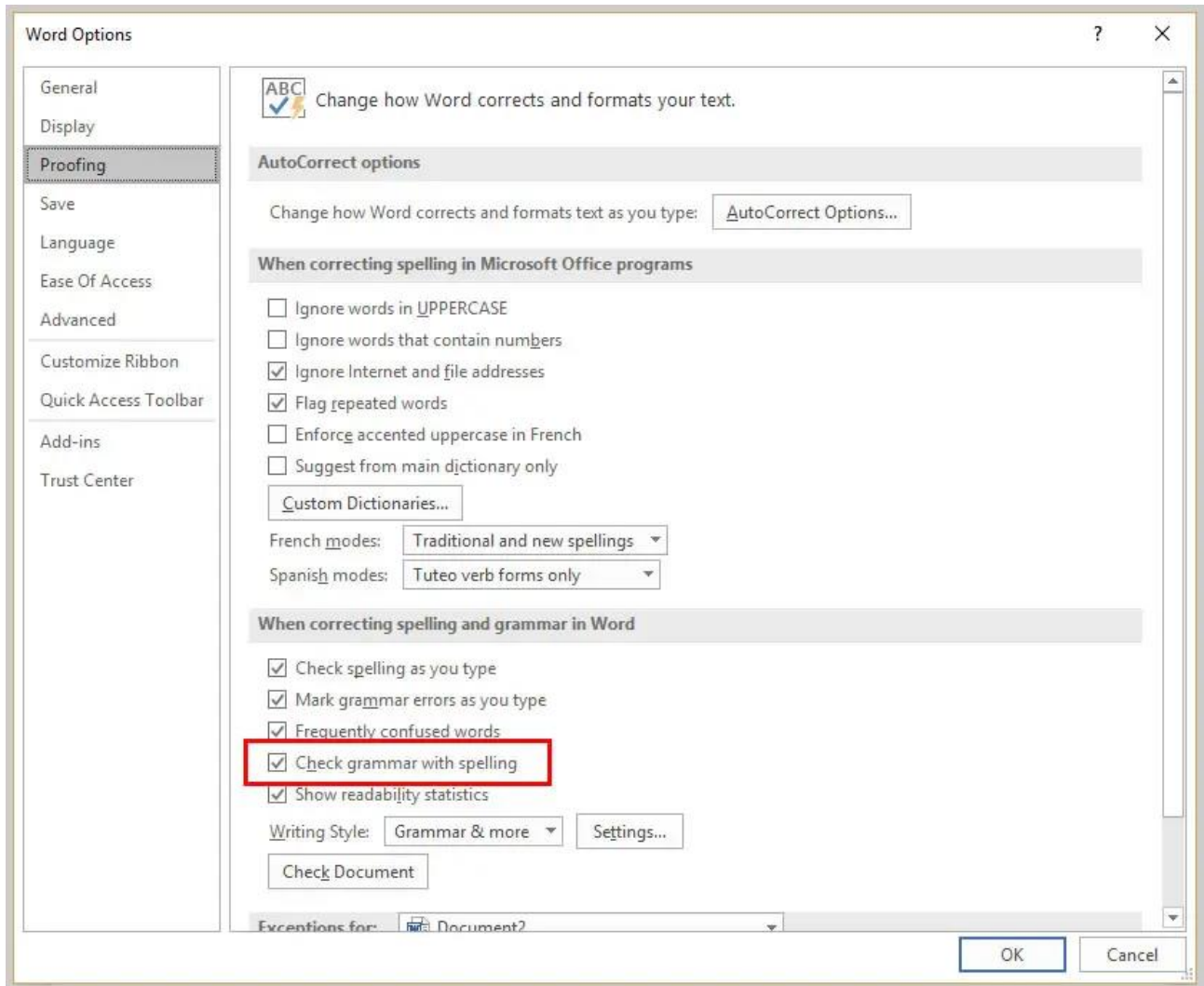
3. Select **Proofing** in the Word Options dialog box.





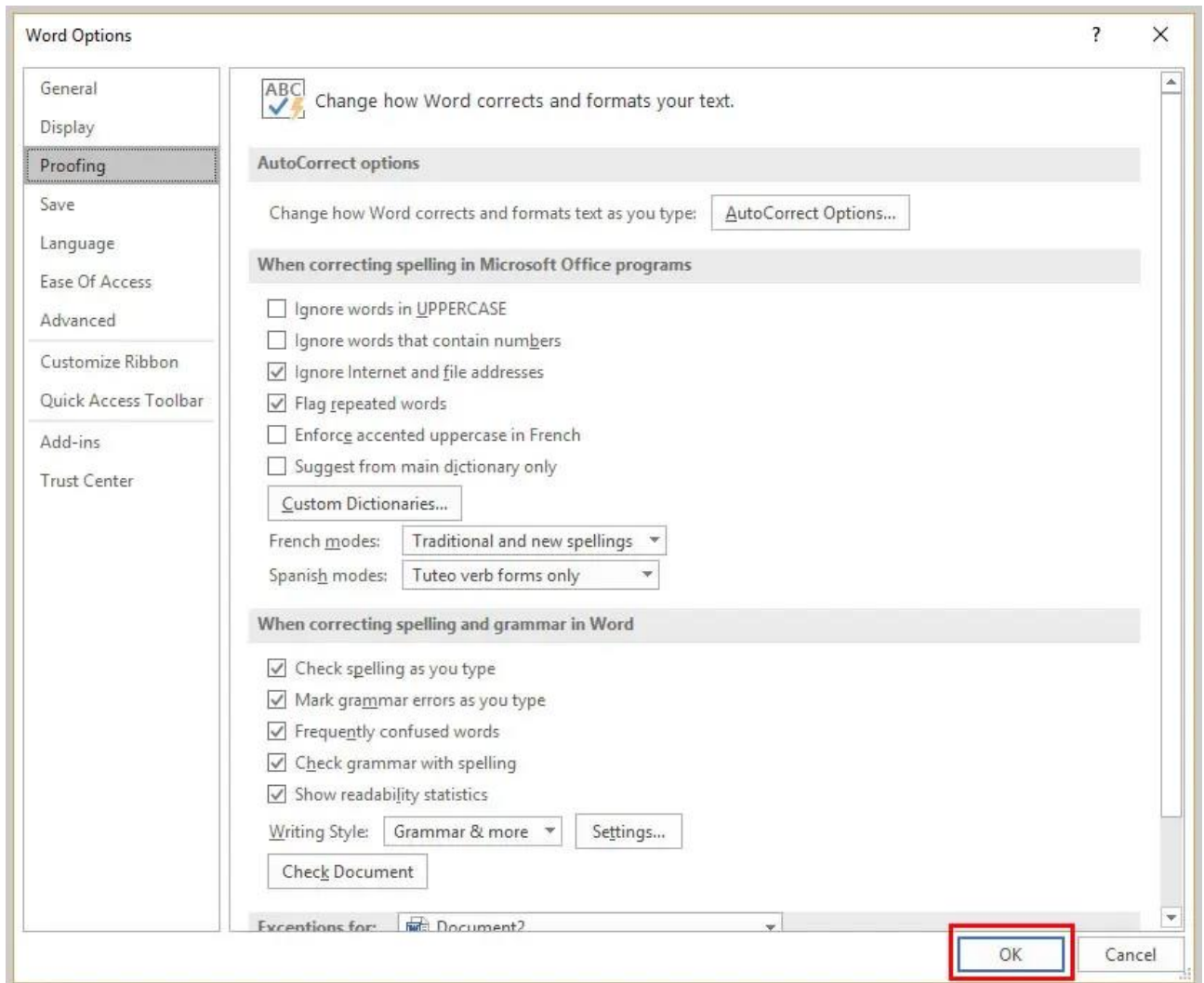


#### 4. Select or deselect **Check grammar with spelling**.



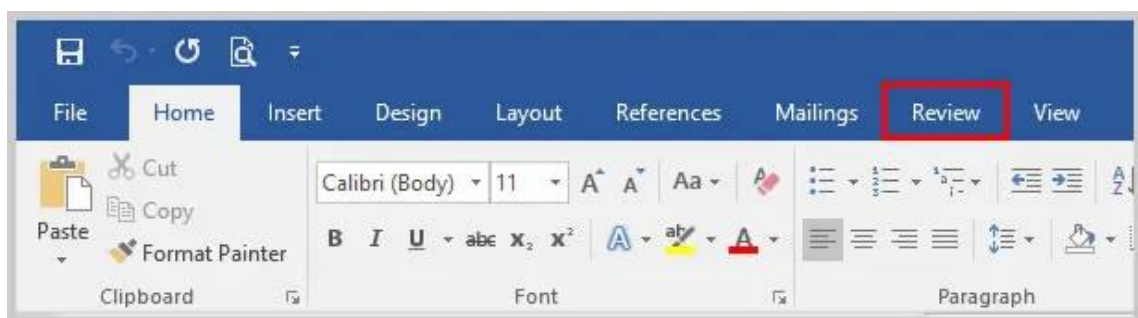


5. Select the **OK** button to save your selection and close the Word Options dialog box.



## To Run the Spelling and Grammar Check

1. Select the **Review** tab.







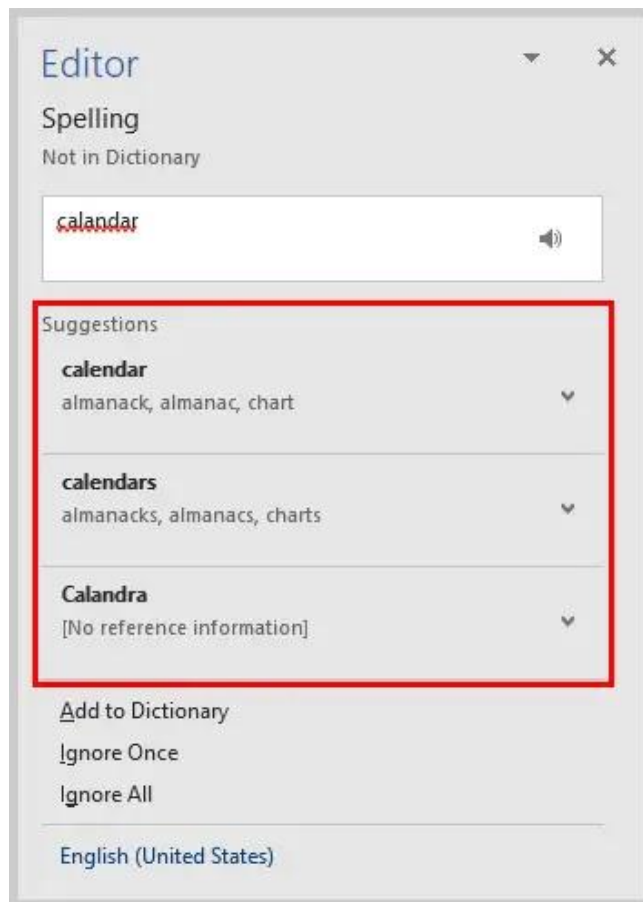
## 2. Select **Spelling & Grammar**.



## 3. Choose the appropriate option for each spelling and grammar error detected.

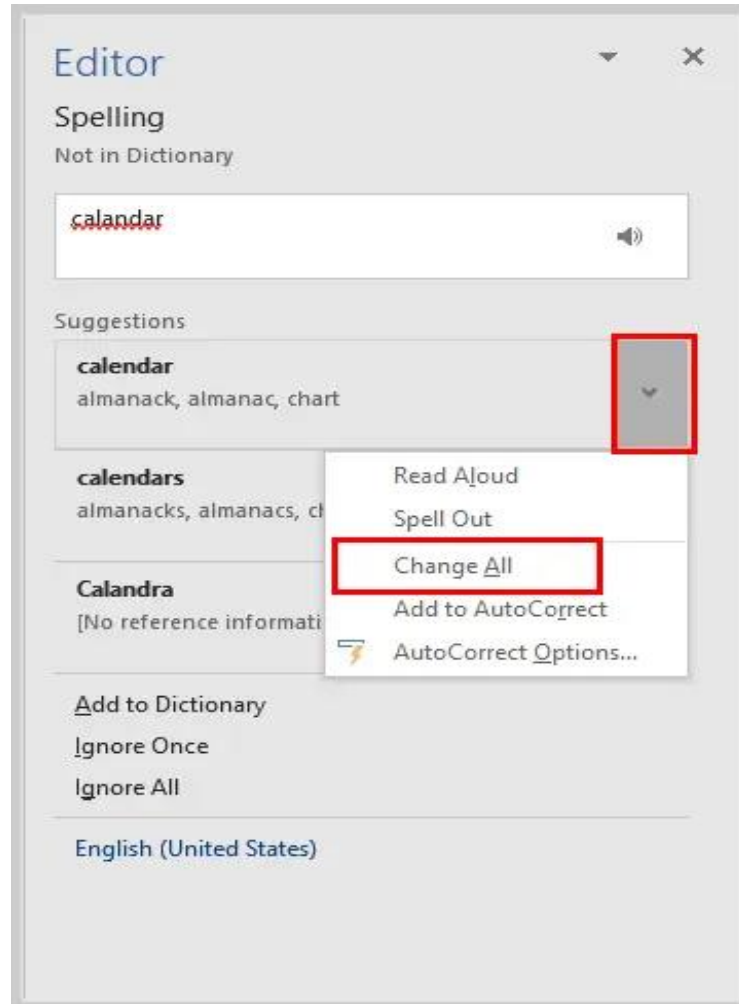
### Spelling Errors

Choose an option from the suggestions list to change that instance of the spelling error.

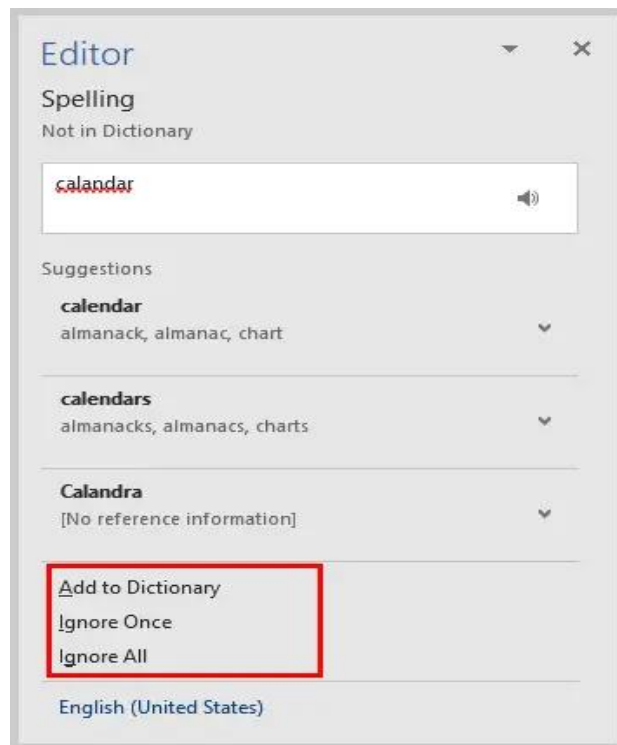




Or, open the drop-down menu for a suggestion and select **Change All** to change every instance of the spelling error to that suggestion.



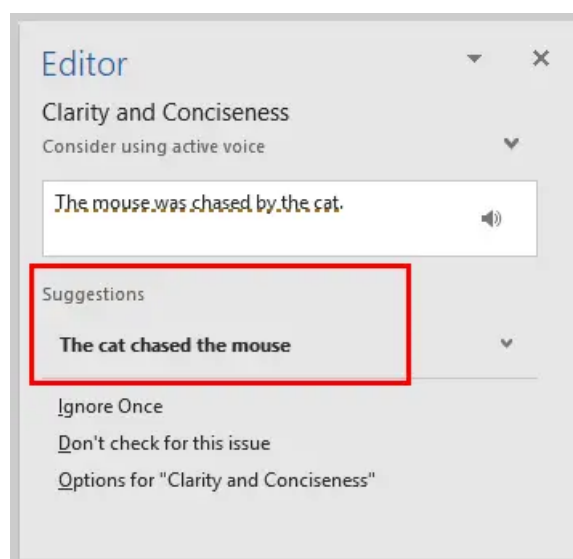
You can also choose (a) **Add to Dictionary** to add the word with its current spelling to your custom dictionary, (b) **Ignore Once** to ignore that instance of the spelling error, or (c) **Ignore All** to ignore every instance of the spelling error.



Occasionally, Word will be unable to provide any suggestions; however, when that lapse occurs, the software will still offer the opportunity to add the word to your custom dictionary, ignore the word once, or ignore every instance of the word.

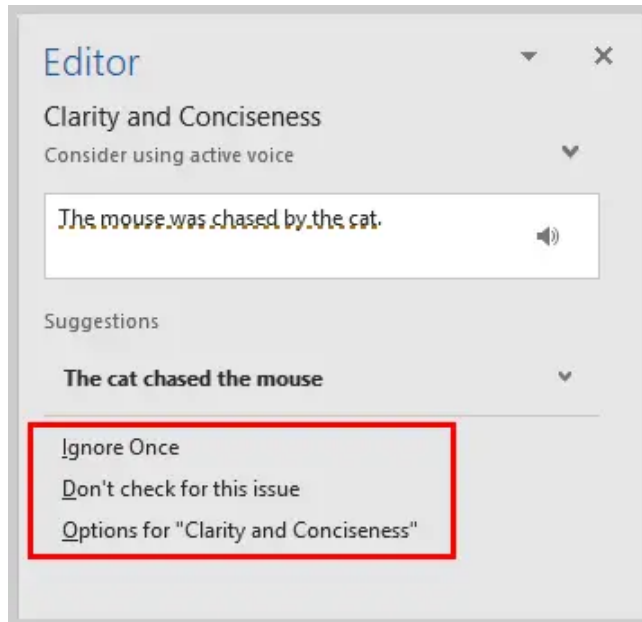
## Grammar Errors

Choose an option from the suggestions list to change that instance of the grammar error.

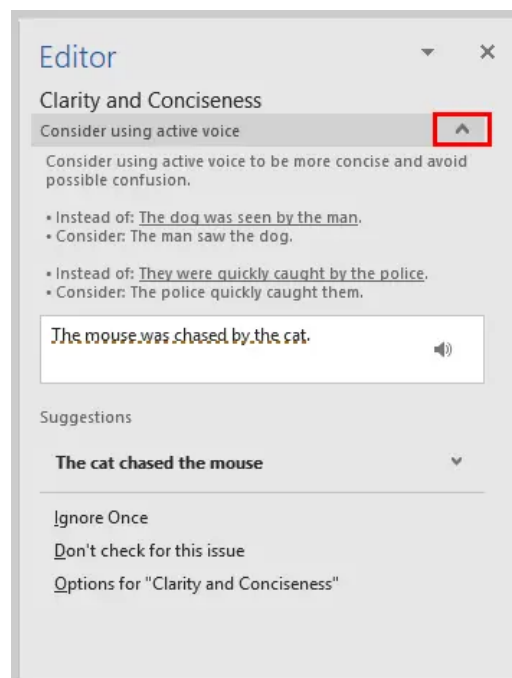




Or, select (a) **Ignore Once** to ignore that instance of the grammar error, (b) **Don't check for this issue** to stop checking for that type of grammar error, or (c) **Options for "Clarity and Conciseness"** to open the Grammar Settings dialog box where you can customize the grammar check.

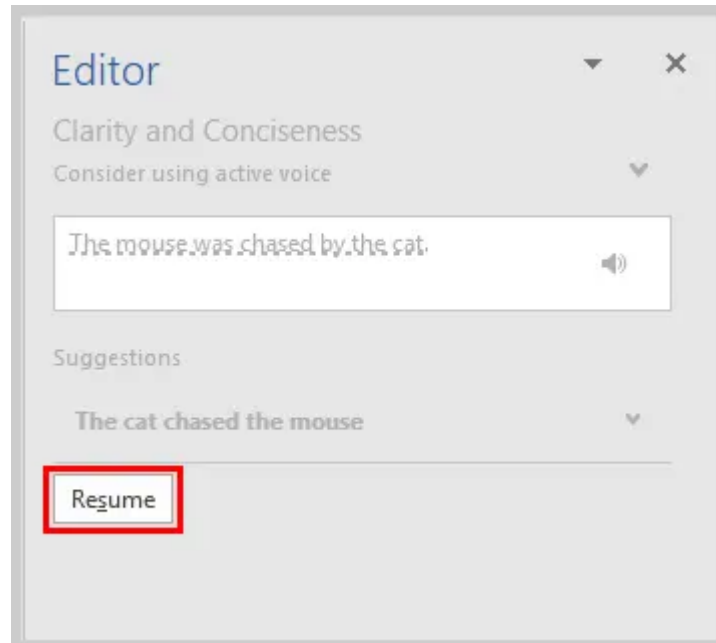


If you want to learn about the grammar error and see examples, open the drop-down menu above the text box.





**Pro Tip:** The spelling and grammar check will automatically pause itself if you edit the text during the check. Select the **Resume** button when you are ready to restart the check.



If you have chosen to include readability statistics in your proofing options, the Readability Statistics dialog box will appear after you complete the spelling and grammar check.

### **Working with Tables in MS Word**

Microsoft Word or MS-WORD is a graphical word processing program that users can type with. It allows the users to type and save documents very similar to other word processors. There are many versions of MS-word in market, which the user can install as per te. In this tutorial, we will learn about the tables in MS-Word.

Tables in MS Word are made up of rows and columns with an organized arrangement of text. These tables can be used to align numbers in columns and then various operations can be performed on them. Tables can also be used to create page



layouts. **Rows** in a table are series of data banks laid out horizontally in a table or spreadsheet. **Columns** are vertical series of cells in a chart, table, or spreadsheet.

## TO CREATE A TABLE

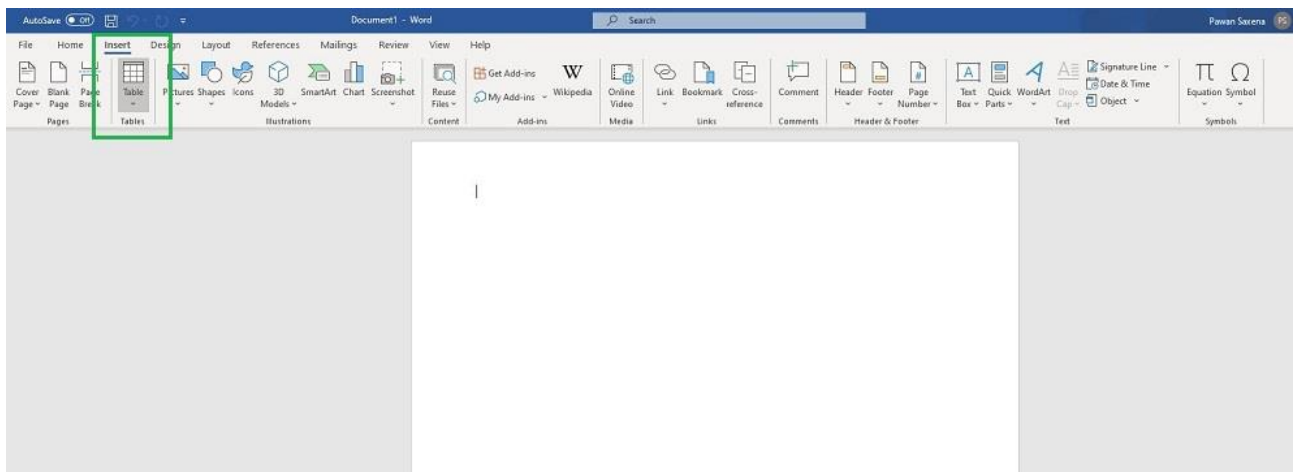
**Tables in MS Word can be created in the following two ways:**

1. Using the Grid
2. Using Table Dialogue Box

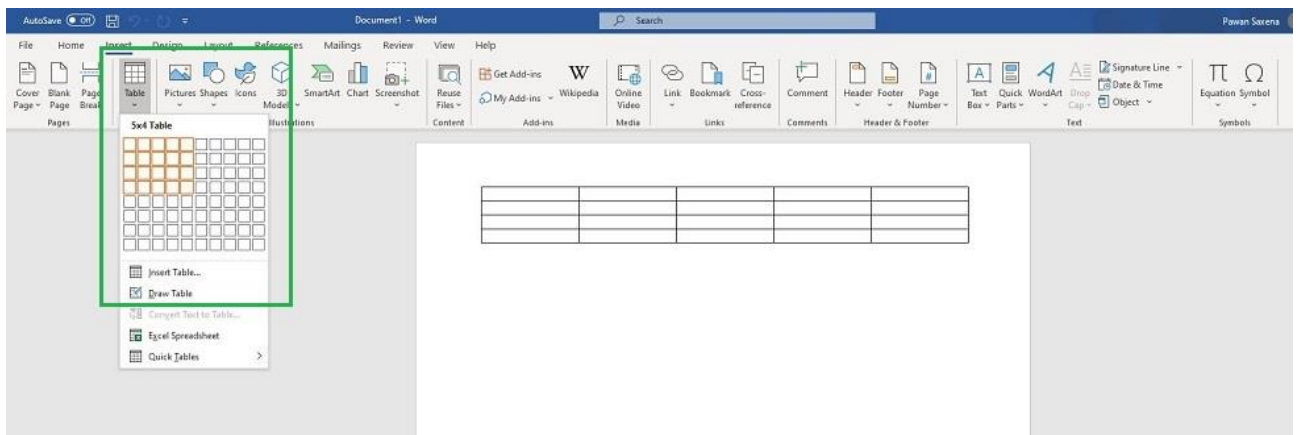
### Using the Grid

Following are the steps of creating a table using the Grid provided in MS Word:

**Step 1:** Go to the **Insert tab** and click on the **Table** button.



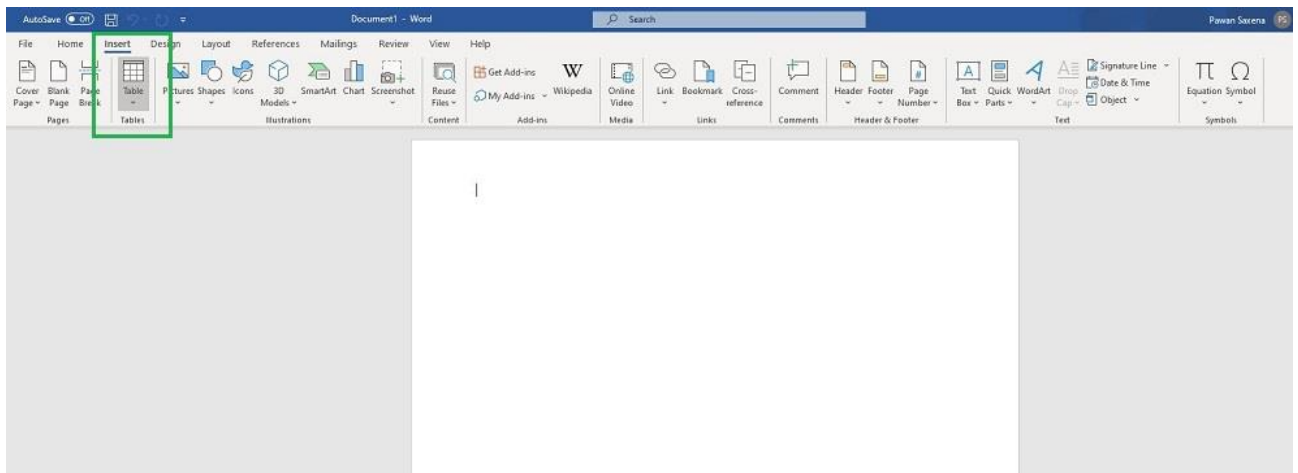
**Step 2:** In the dropdown menu, select the number of rows and columns from the Grid.



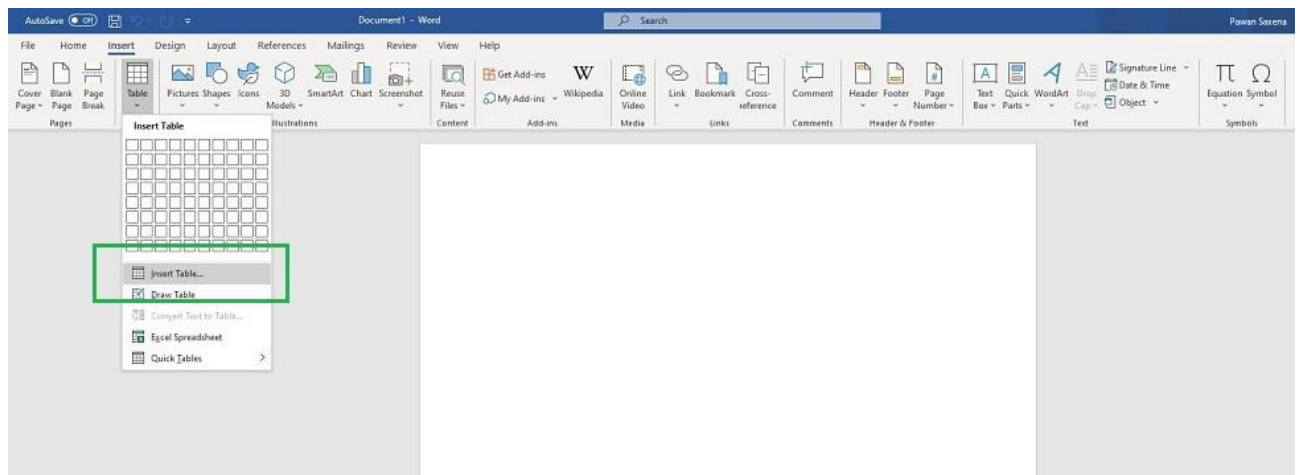
## Using Table Dialogue Box

Following are the steps of creating a table using Table Dialogue Box in MS Word:

**Step 1:** Go to the **Insert tab** and click on the **Table** button.



**Step 2:** Under the grid, you will see an **Insert Table** button. Click on it.



**Step 3:** In the Insert Table Dialogue box, mention the number of rows and number of columns as per the requirement and click on **OK** button.

How to Modify a Table?

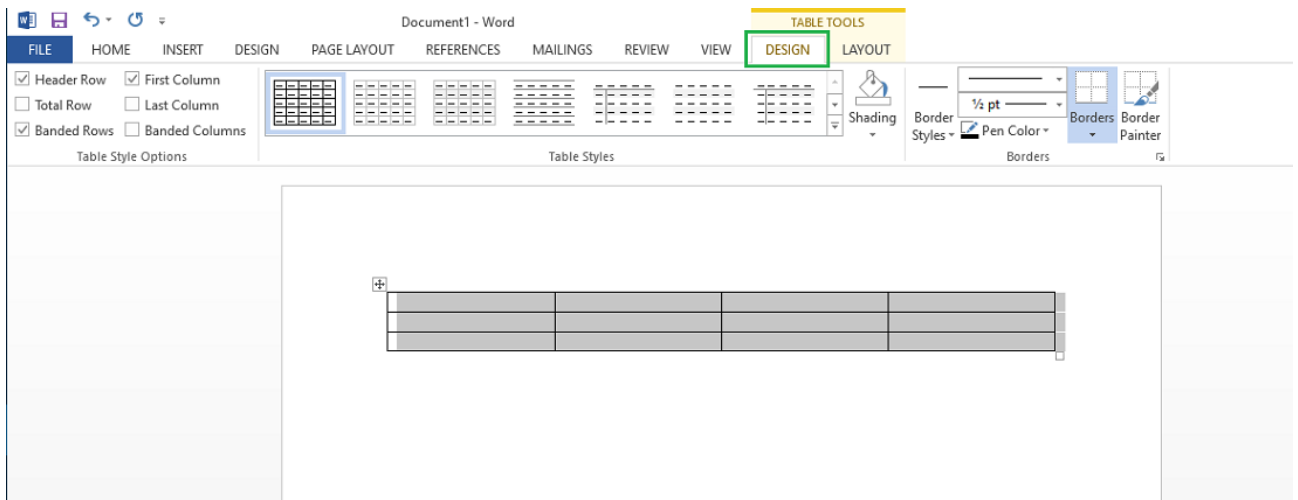
We can also edit/modify a table to make it more creative. Multiple operations can be performed on a table like changing the layout, splitting of cells, merging the cells, applying borders, etc. Here, we will see some of the operations performed on a table in MS Word.

### **Changing Layout of a Table**

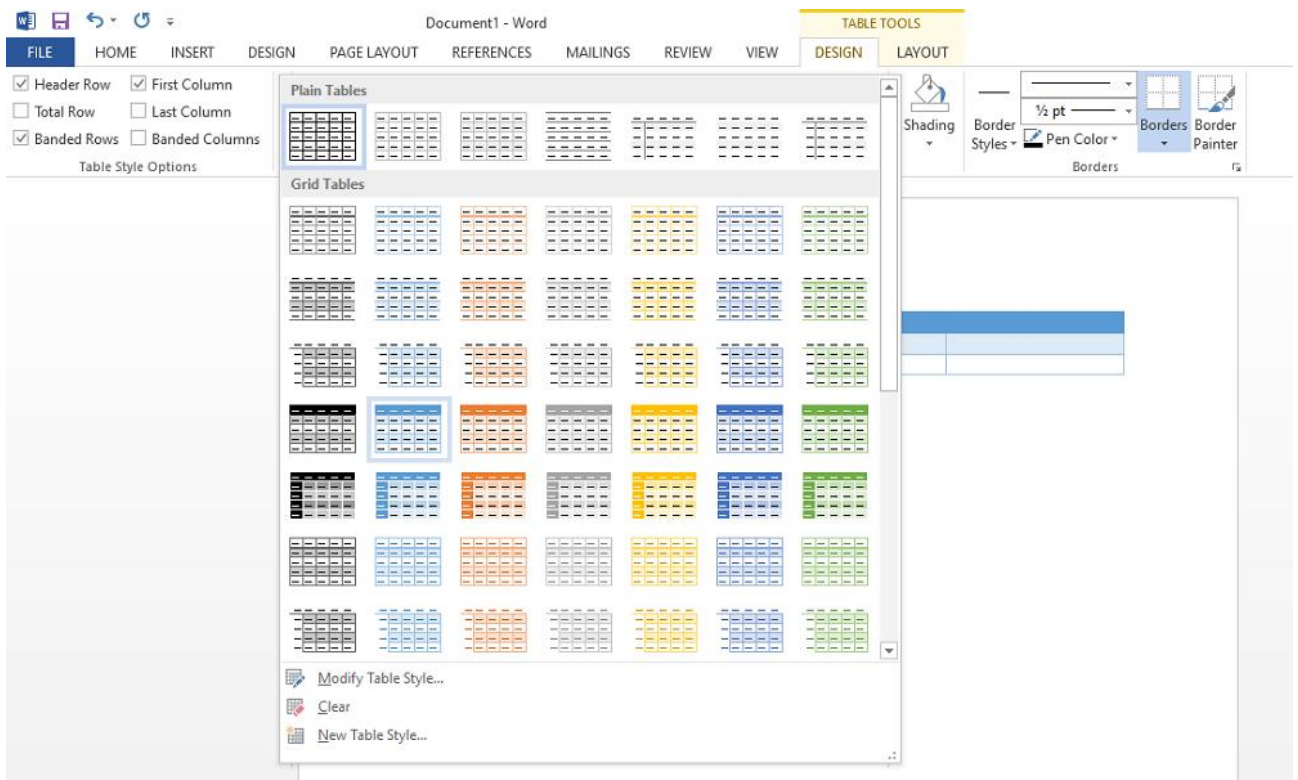
Changing the layout of a table can be done with the help of the following steps:

**Step 1:** Select the table for which the layout is to be changed. Go to the **design tab**.

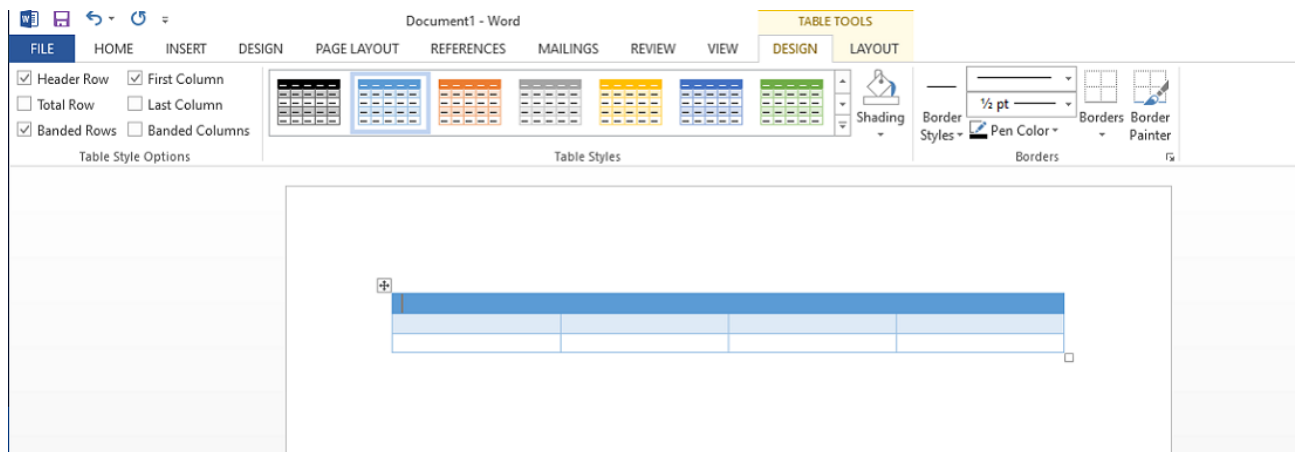




**Step 2:** Click on the dropdown menu to get various different types of layouts for your table.



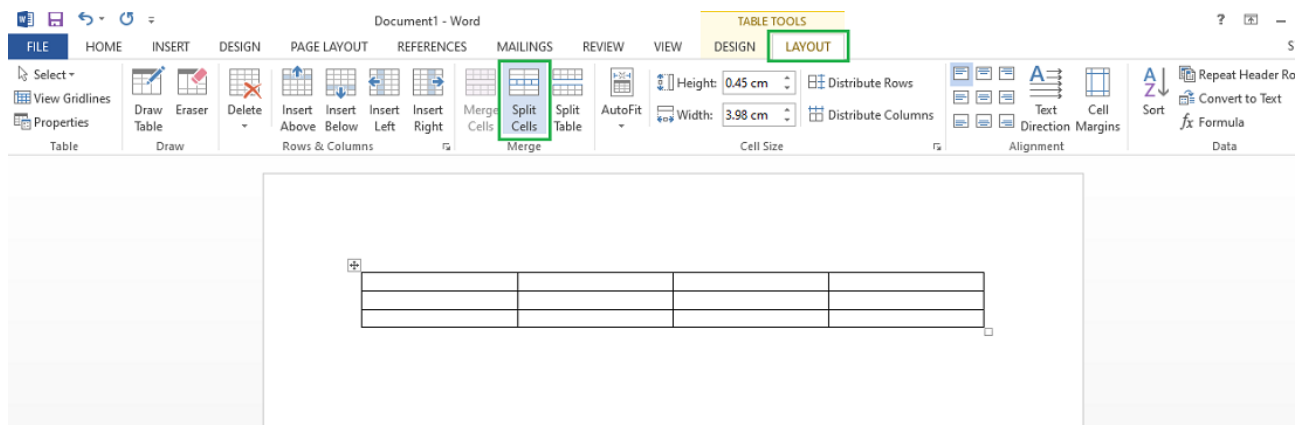
**Step 3:** Select any layout as per the need.



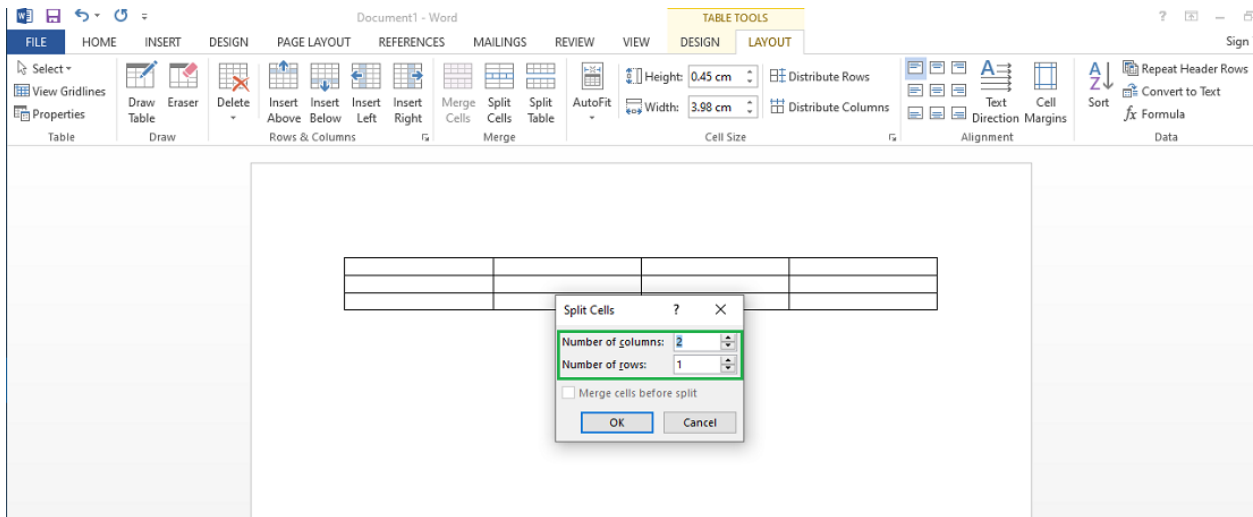
## Splitting the Cell

Splitting of a cell can be done with the help of the following steps:

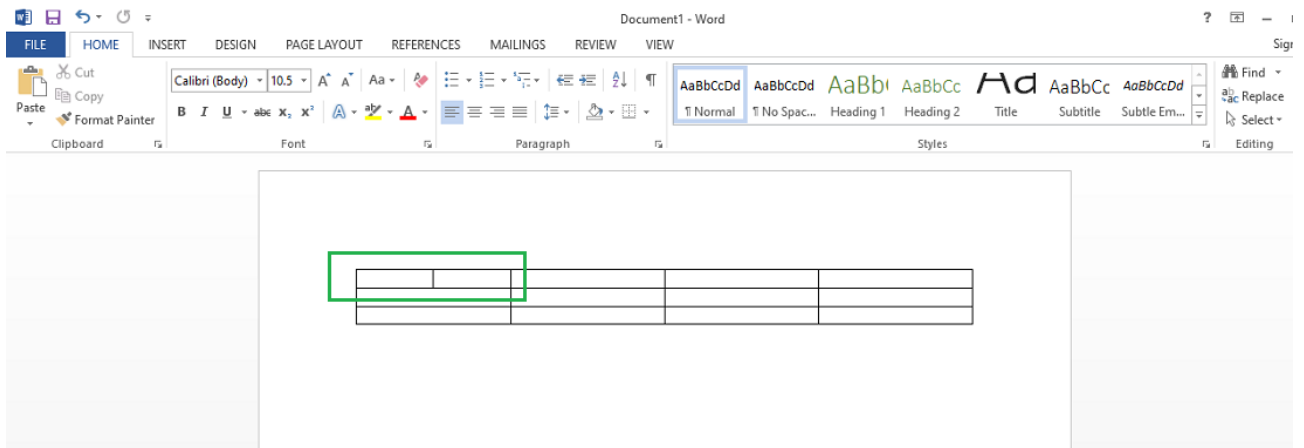
**Step 1:** Select the cell that you want to split into multiple cells. Then go to the **Layout** tab and click on the **Split Cells** button.



**Step 2:** In the **dialogue box**, mention the new dimensions as per the requirement.



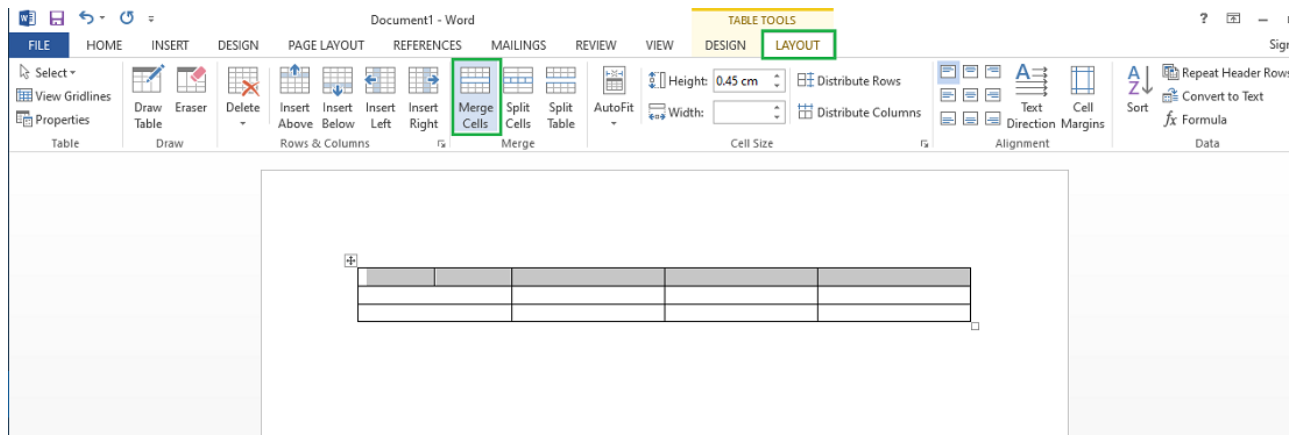
**Step 3:** Click on the **Ok** button.



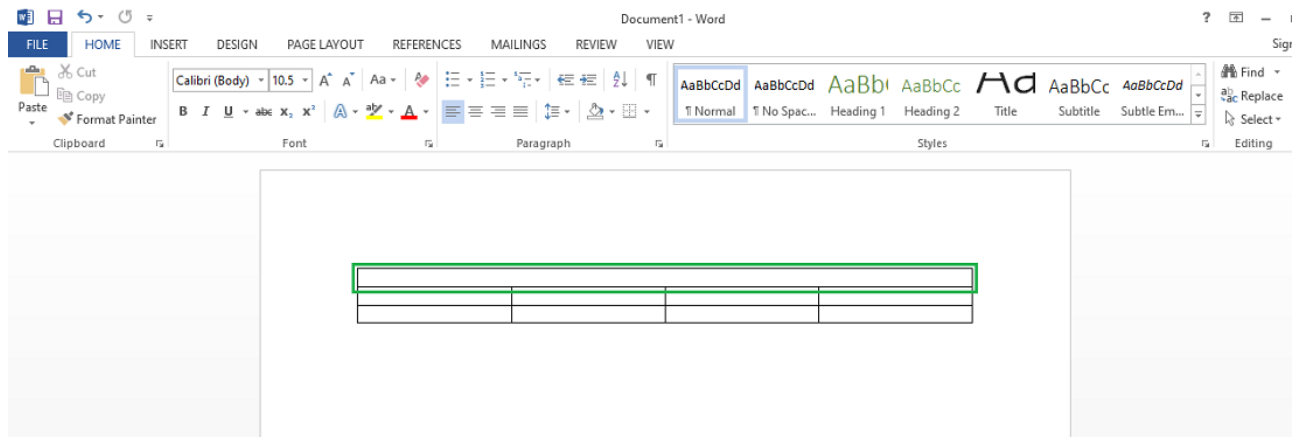
## Merging the Cells

Merging of various cells can be done by the following steps:

**Step 1:** Select all the cells that are to be merged into a single cell. Then go over the **layout** tab, and you will see a **Merge Cell** button.



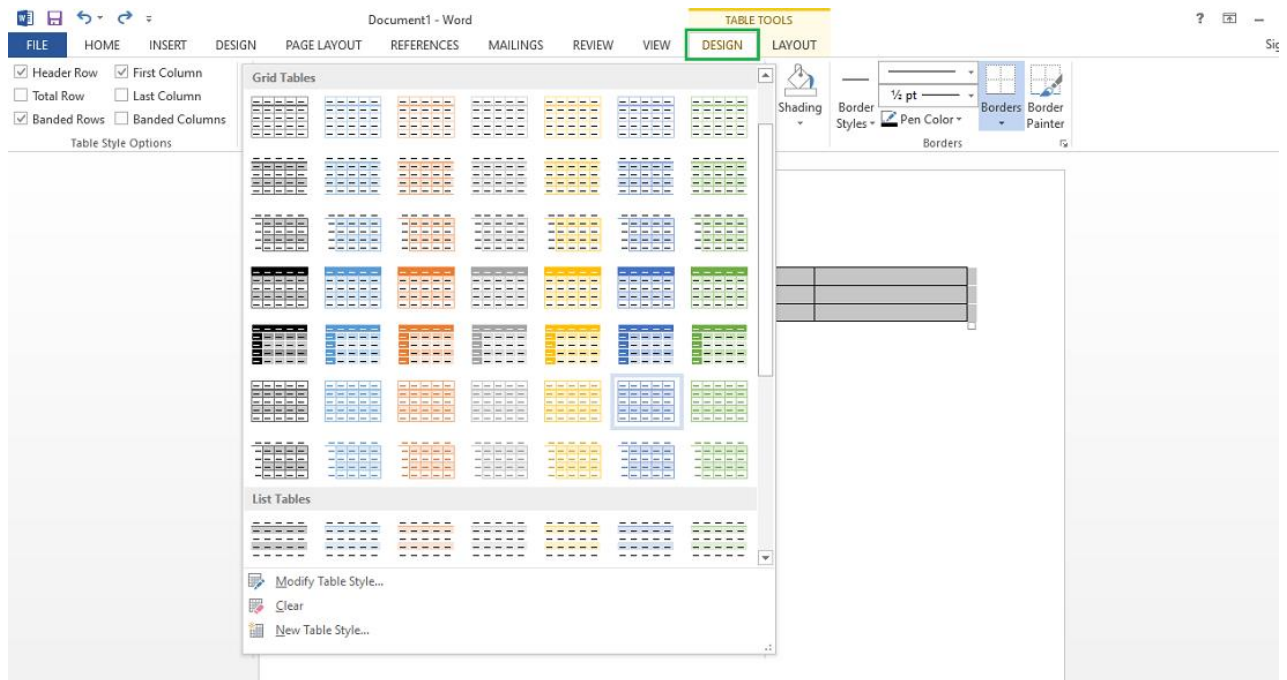
**Step 2:** Now click on the Merge Cell button and the selected cells will be merged.



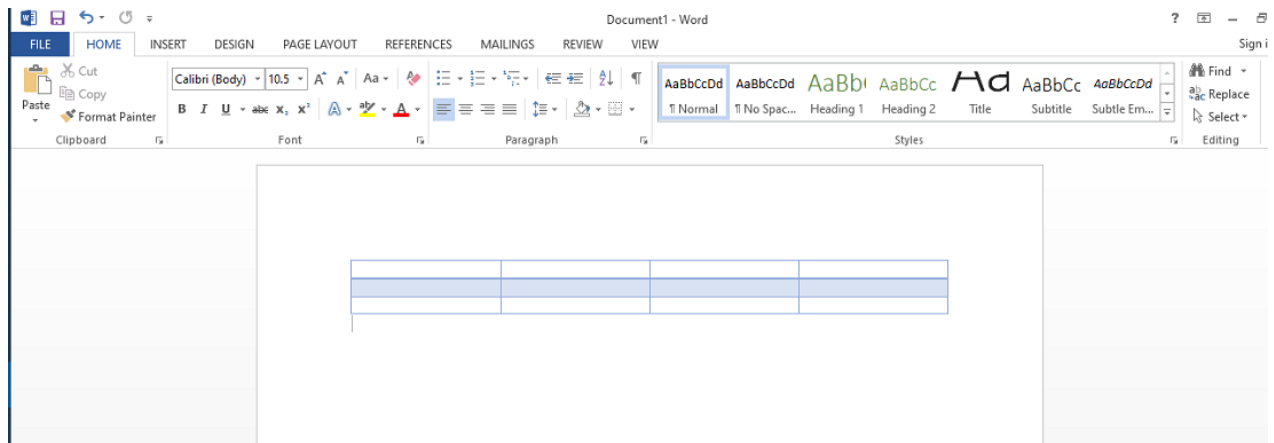
## Applying Borders and Styles on a Table

Borders and styles can also be applied to a table in a similar way as the layout of a table is changed. Go through the following steps to do the same:

**Step 1:** Select the entire table and go over the **design tab**.



**Step 2:** Select the style that you want to apply to your table.

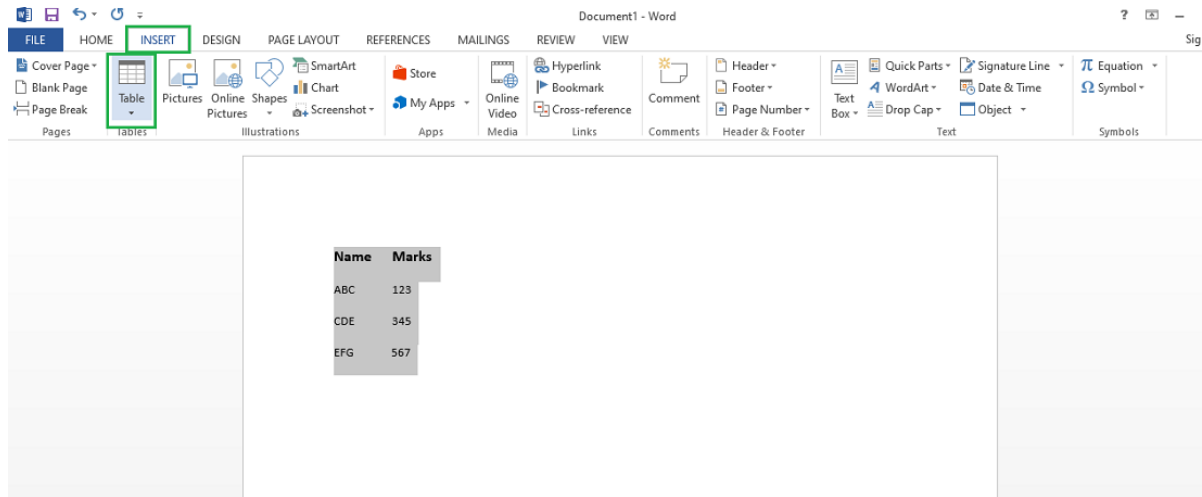


## Converting Text to a Table

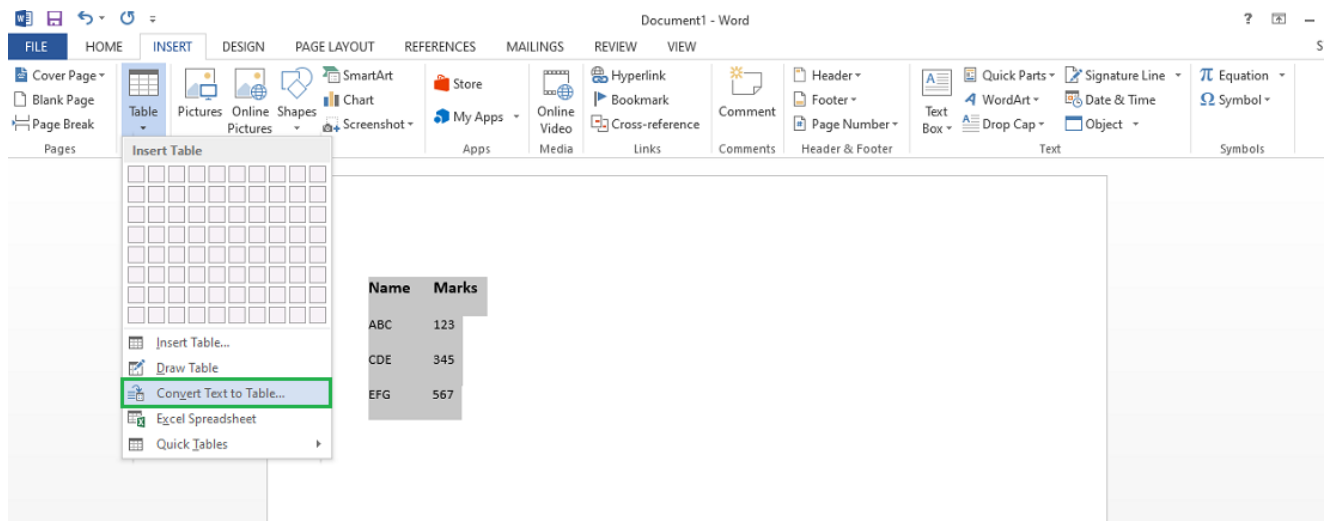
MS Word allows the conversion of existing text into a table with the help of the following steps:



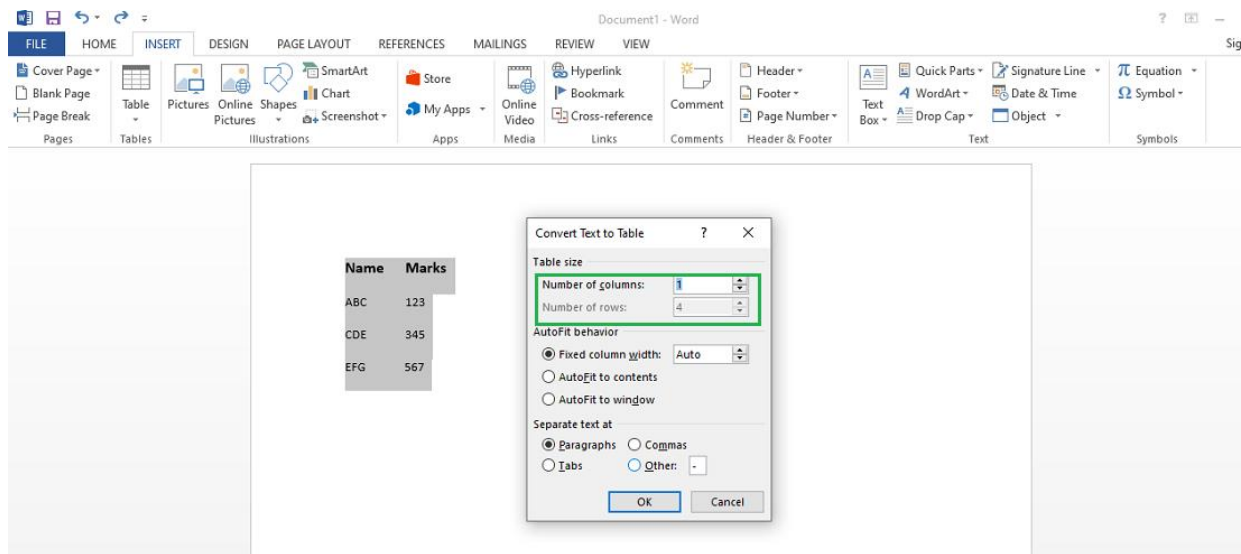
**Step 1:** Select the text that is to be converted into the table. Now go to the **Insert Tab** and you will see a **Table** button.



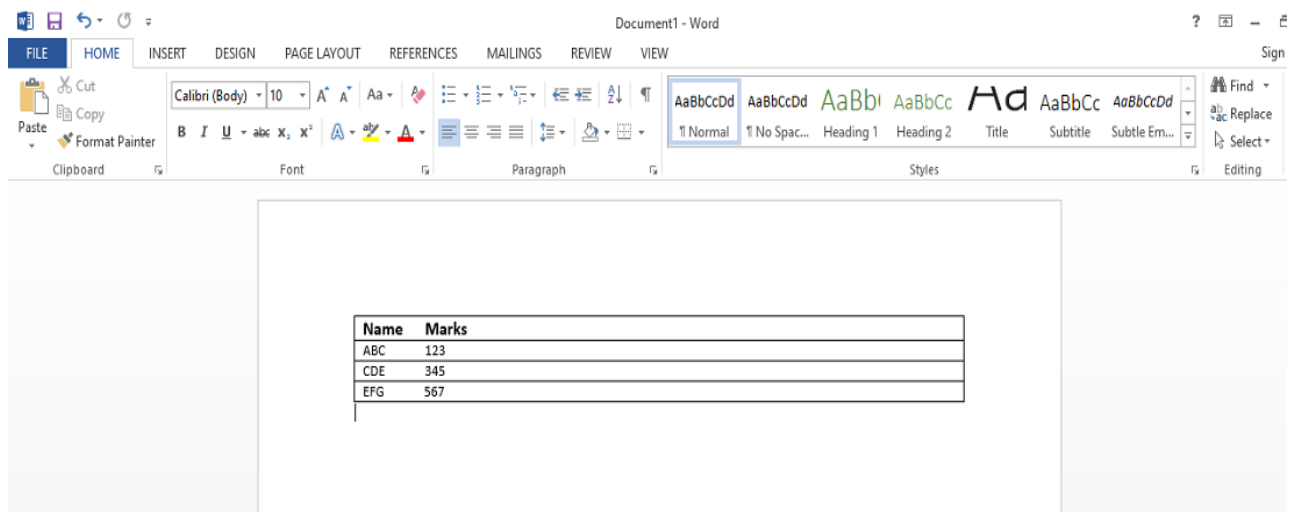
**Step 2:** Click on the **Insert Table** button and in the drop-down menu, click on the **Convert Text to Table** button.



**Step 3:** In the dialogue box, mention the dimensions of the required table and other data that is required.



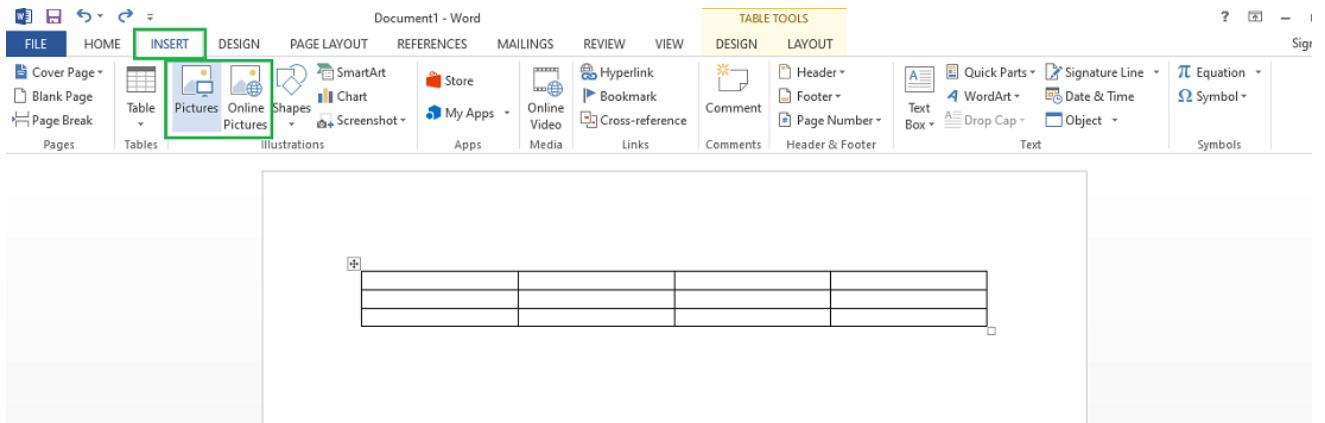
**Step 4:** Click on the **OK** button and the selected text will be converted to a Table.



## Inserting Images in a Table

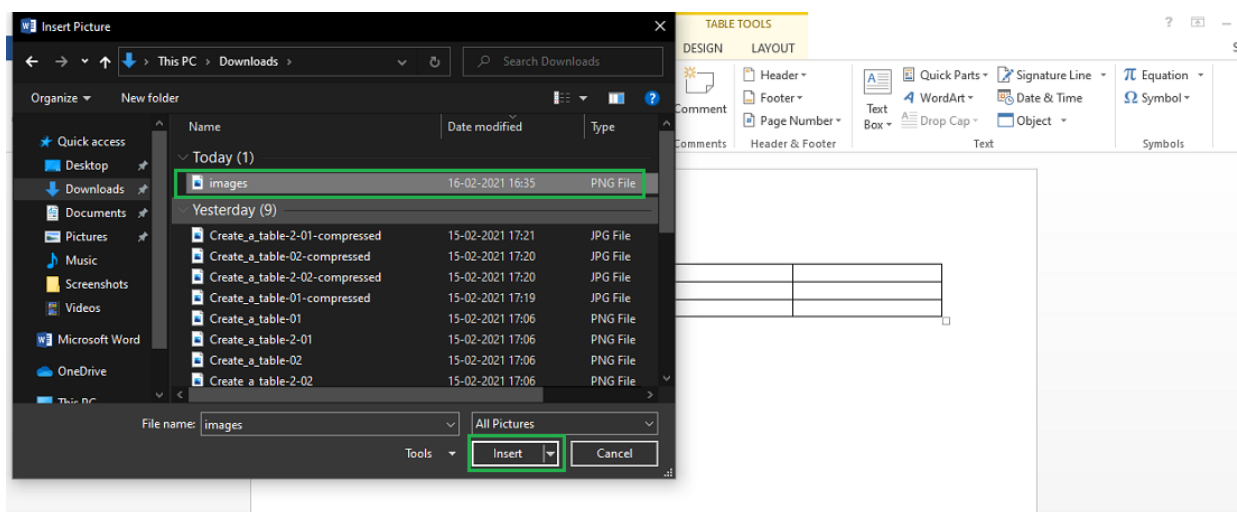
MS Word allows adding images inside the table cells. To insert an image in a table, go through the following steps:

**Step 1:** Select the cell in which you want to add the Image. Go to the **Insert tab** and select the **Pictures** button.



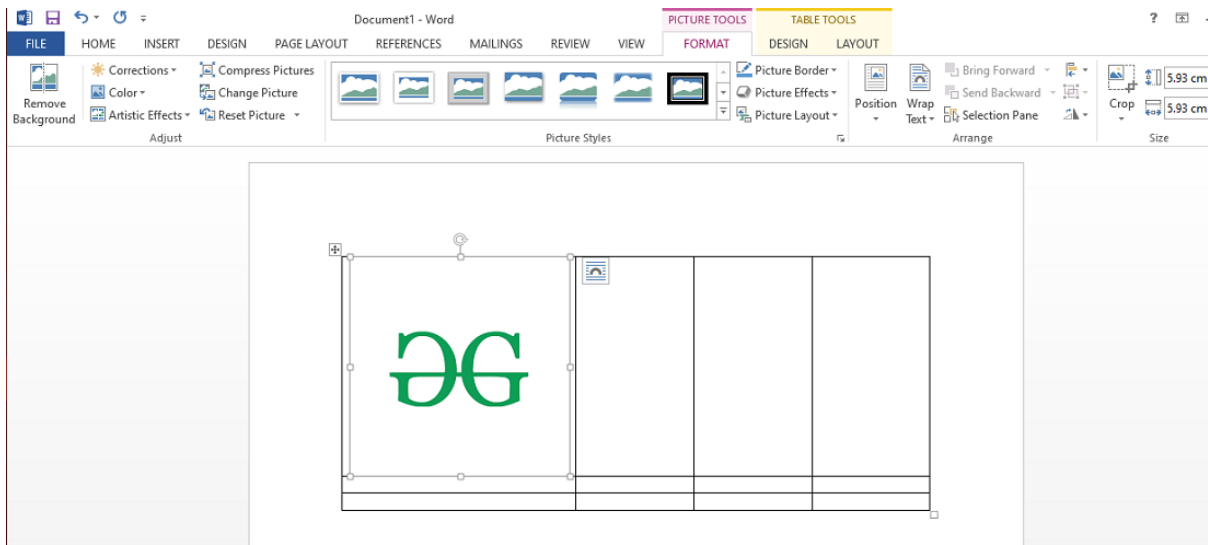
**Step 2:** You can either choose a picture from your device or select one online.

**Step 3:** Choose a picture from the browser window and click on the Insert button.



**Step 4:** Selected Image will be added in the cell selected.

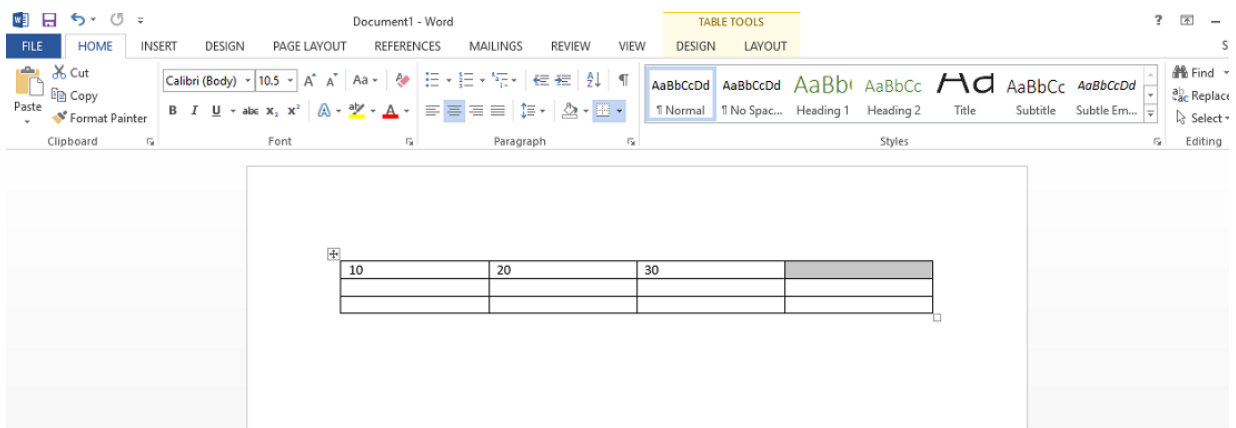




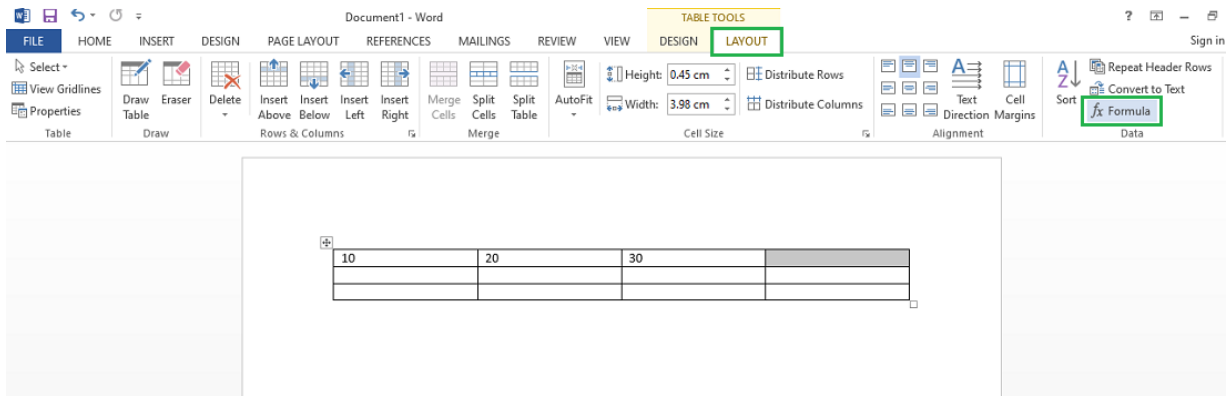
## Performing Calculations in a Table

Mathematical calculations can also be performed on the values present in the table. Microsoft provides various formulas to perform these operations. By default, the sum of the values lying in the rows to the left or column lying above are calculated by Word. Following are the steps to do the same:

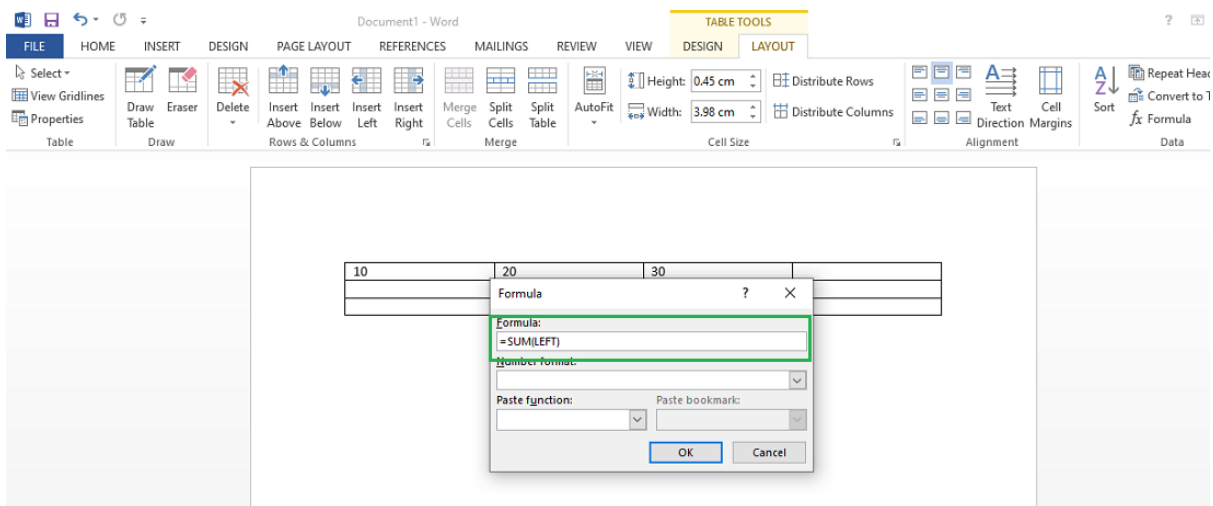
**Step 1:** Select the cell in which the result of the mathematical operations is required.



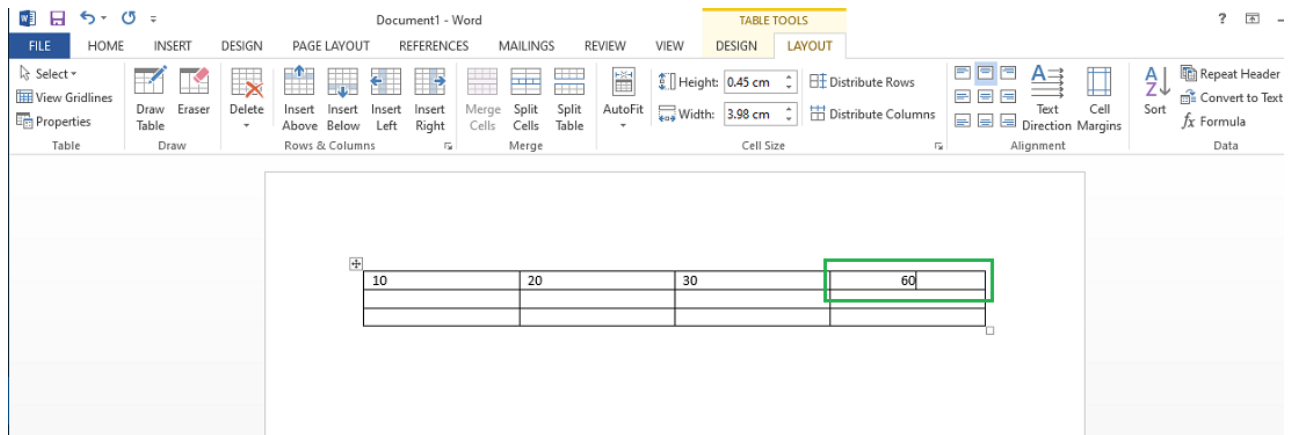
**Step 2:** Now go to the **Layout tab** and select the **formula** button.



**Step 3:** In the dialogue box, define the formula for the mathematical operation, the default formula is the sum of the values to the left or above.



**Step 4:** After defining the formula, click on the OK button to apply the formula on the cells given in the formula.

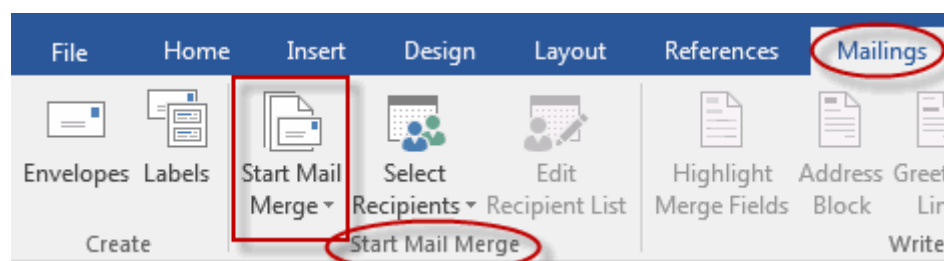


## To Use Mail Merge in Microsoft Word

Mail Merge is most often used to print or email form letters to multiple recipients. Using Mail Merge, you can easily customize form letters for individual recipients. Mail merge is also used to create envelopes or labels in bulk.

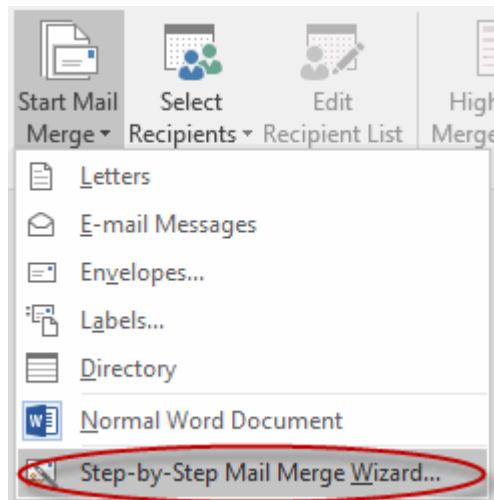
This feature works the same in all modern versions of Microsoft Word: 2010, 2013, and 2016.

1. In a blank Microsoft Word document, click on the **Mailings** tab, and in the **Start Mail Merge** group, click **Start Mail Merge**.



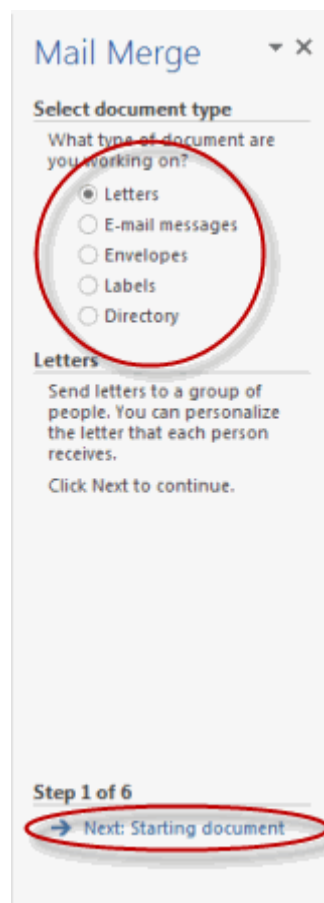


## 2. Click **Step-by-Step Mail Merge Wizard**



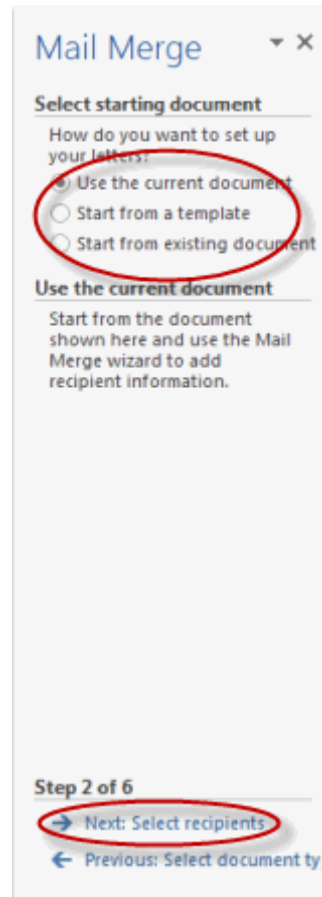
## 3. Select your document type. In this demo we will select **Letters**.

Click **Next:Starting**





4. Select the starting document. In this demo we will use the current (blank) document. Select **Use the current document** and then click **Next: Select recipients**.



1. Note that selecting **Start from existing document** (which we are not doing in this demo) changes the view and gives you the option to choose your document. After you choose it, the Mail Merge Wizard reverts to **Use the current document**.



5. Select recipients. In this demo we will create a new list, so select **Type a new list** and then click **Create**.

Mail Merge

**Select recipients**

- Use an existing list
- Select from Outlook contacts
- Type a new list

**Type a new list**

Type the names and addresses of recipients.

[Create...](#)

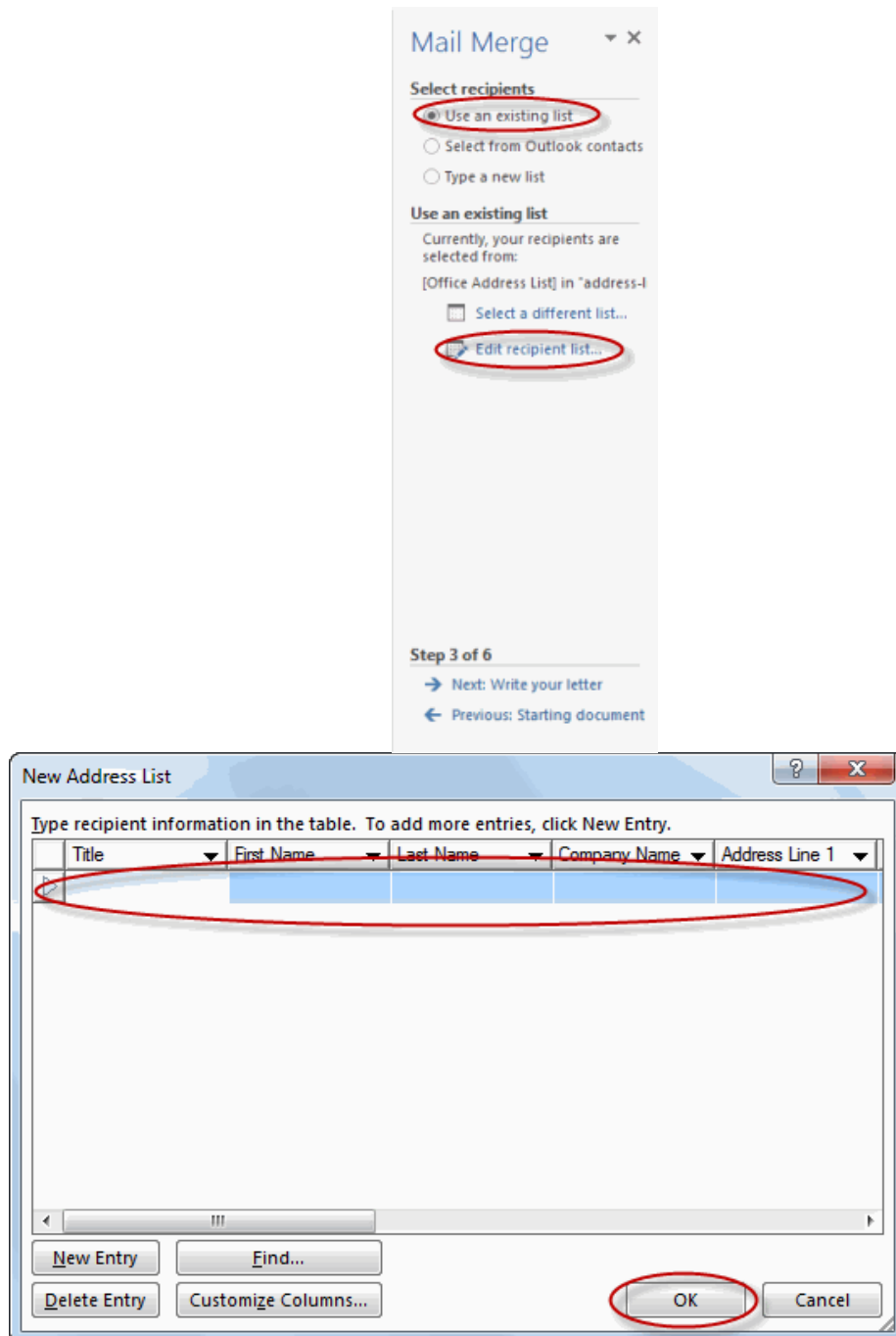
Step 3 of 6

→ Next: Write your letter

← Previous: Starting document



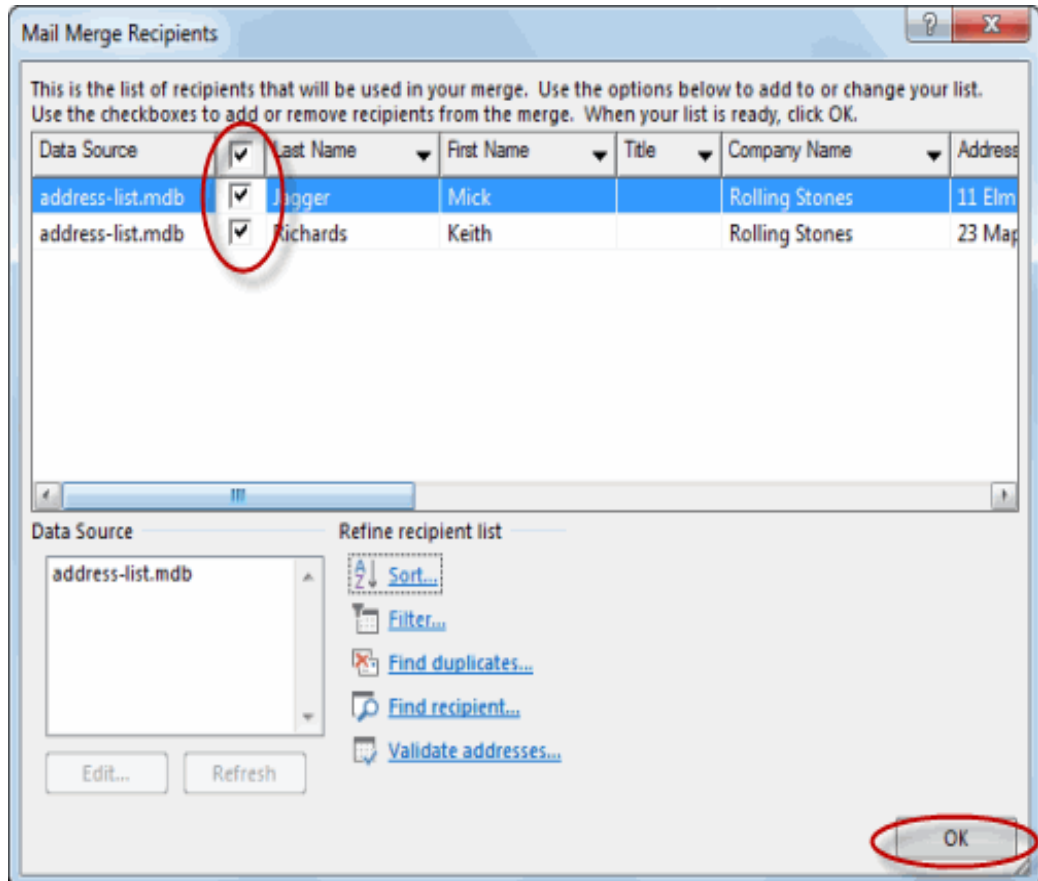
1. Create a list by adding data in the **New Address List** dialog box and clicking **OK**.



2. Save the list.
3. Note that now that a list has been created, the Mail Merge Wizard reverts to **Use an existing list** and you have the option to edit the recipient list.



4. Selecting **Edit recipient list** opens up the **Mail Merge Recipients** dialog box, where you can edit the list and select or unselect records. Click **OK** to accept the list as is.



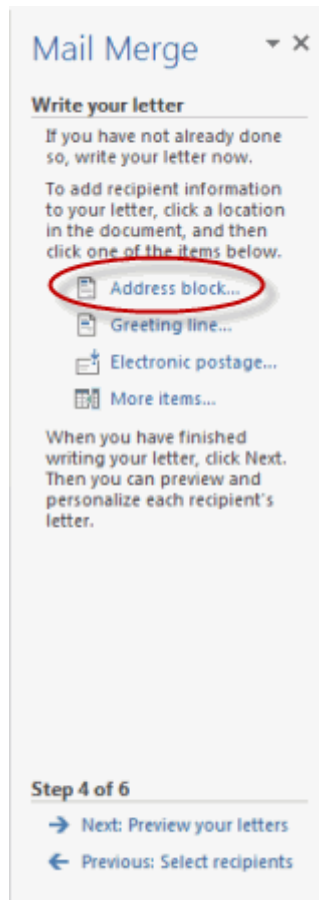
5. Click **Next: Write your letter.**

6. Write the letter and add custom fields.

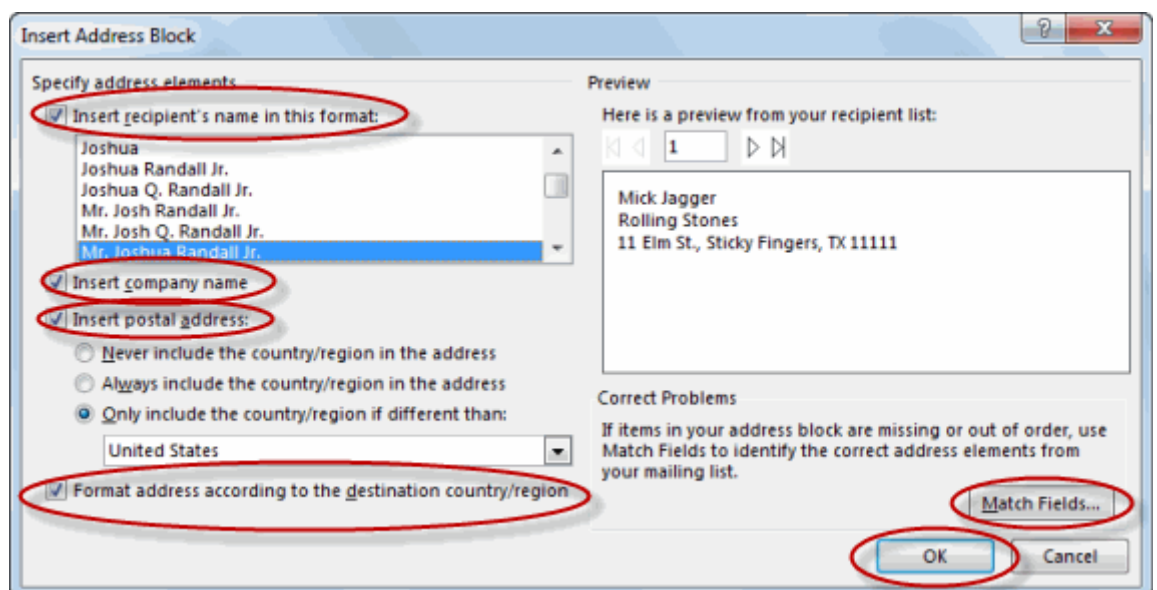




1. Click **Address block** to add the recipients' addresses at the top of the document.



2. In the **Insert Address Block** dialog box, check or uncheck boxes and select options on the left until the address appears the way you want it to.





- Note that you can use **Match Fields** to correct any problems. Clicking **Match Fields** opens up the **Match Fields** dialog box, in which you can associate the fields from your list with the fields required by the wizard.

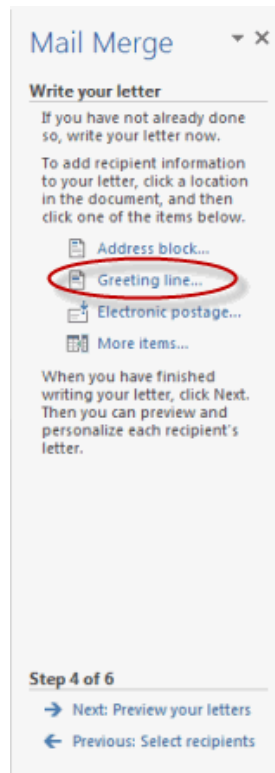
The image shows a Windows-style dialog box titled "Match Fields". It contains instructions on how to map recipient list fields to required address block fields. The "Required for Address Block" section lists fields like Courtesy Title, First Name, Last Name, Suffix, Company, Address 1, Address 2, City, State, Postal Code, and Country or Region, each with a corresponding dropdown menu. The "Optional information" section includes a checkbox for "Remember this matching for this set of data sources on this computer". At the bottom are "OK" and "Cancel" buttons.

Required for Address Block	Recipient List Field
Courtesy Title	Title
First Name	First Name
Last Name	Last Name
Suffix	(not matched)
Company	Company Name
Address 1	Address Line 1
Address 2	Address Line 2
City	City
State	State
Postal Code	ZIP Code
Country or Region	Country or Region

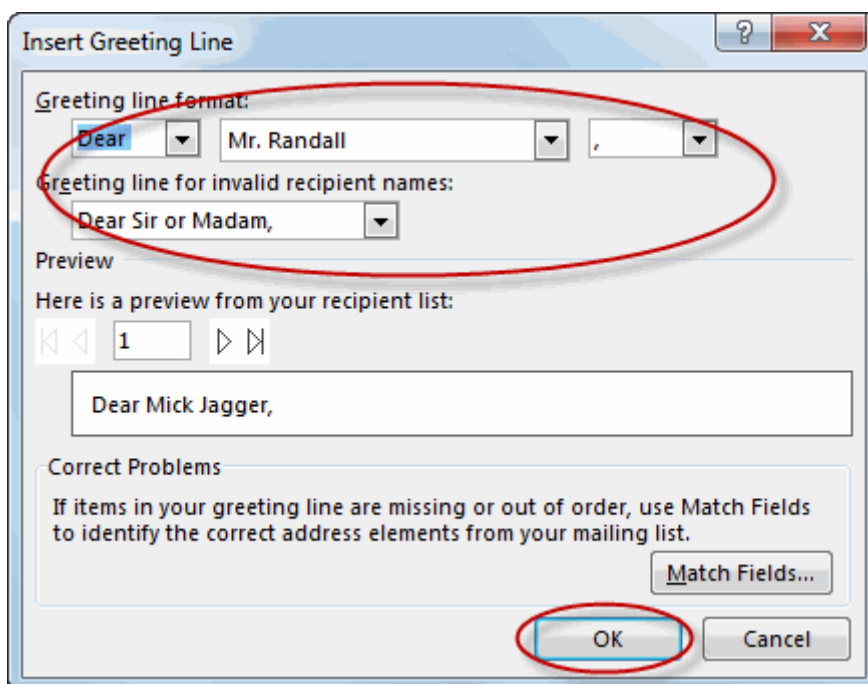
Remember this matching for this set of data sources on this computer



7. Press Enter on your keyboard and click **Greeting line...** to enter a greeting.



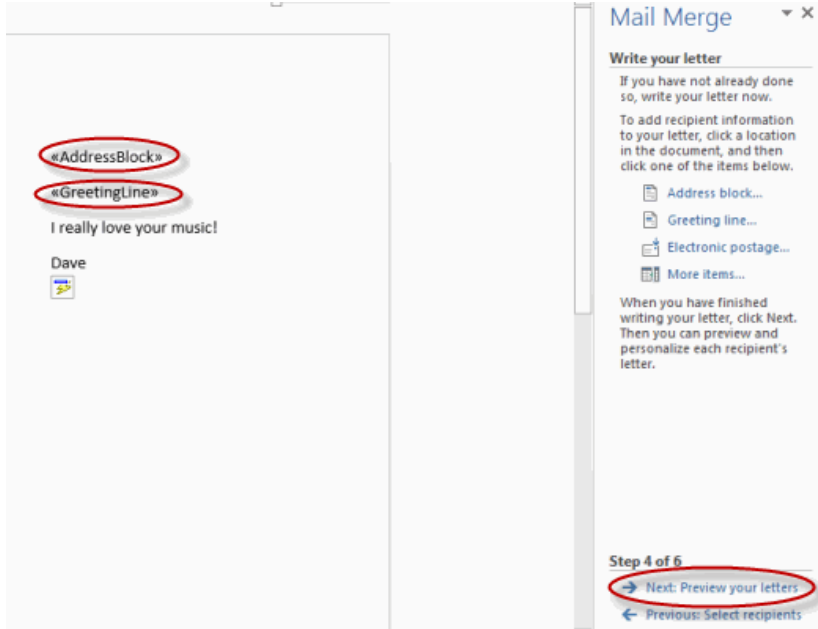
8. In the **Insert Greeting Line** dialog box, choose the greeting line format by clicking the drop-down arrows and selecting the options of your choice, and then click **OK**.



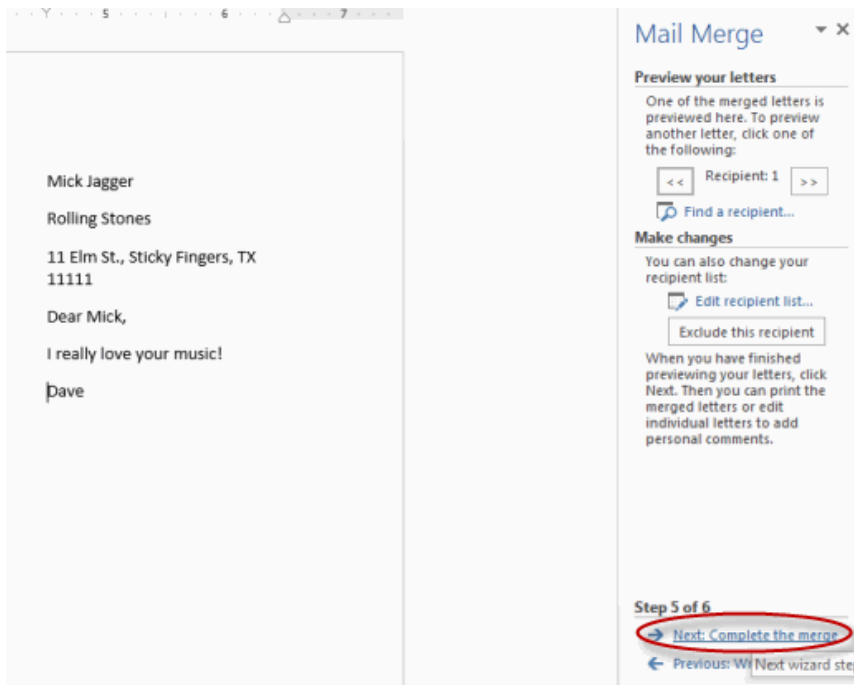


9. Note that the address block and greeting line are surrounded by chevrons (« »).

Write a short letter and click **Next: Preview your letters.**

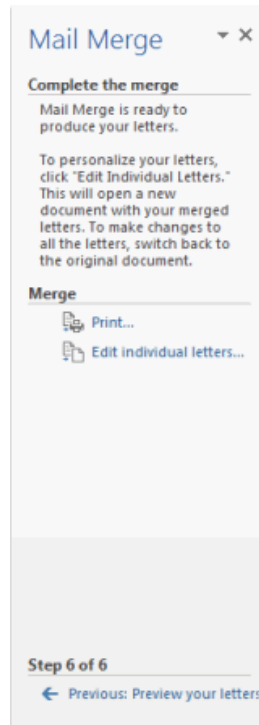


• Preview your letter and click **Next: Complete the merge.**





- Click **Print** to print your letters or **Edit individual letters** to further personalize some or all of the letters.



**To use the Mail Merge feature in Word to create and to print form letters that use the data from an Excel worksheet**

When you use the Word Mail Merge feature, Word merges a main document with a recipient list to generate a set of output documents:

- The main document contains the basic text that is the same in all of the output documents. It may contain a letterhead, text, and instructions in merge fields for inserting text (such as recipient names and addresses) that vary from one output document to another.



- 
- The recipient list is a database that contains the data that is to be merged into the output documents. For example, the recipient list is a Microsoft Access database file or an Excel worksheet.
  - This database is typically a list of names, addresses, phone numbers, and other categories of personal information.
  - The output documents are the result of the mail merge. The text in an output document can be the same in all output documents, but you can apply formatting to specific documents.

### **Step 1: Set Up the Excel Data File**

Before you proceed with the Mail Merge Wizard, make sure that your Excel worksheet is well structured for this purpose. Note the following requirements for the data table:

- The first row should contain field names for each column -- for example, Title, Salutation, First Name, Middle Name, Last Name, Address1, and Address2.
- Each field name should be unique.
- Each row should provide information about a particular item. For example, in a mailing list, each row might include information about a particular recipient.
- The table should contain no blank rows.

Create your Excel data file, and then arrange it by using the fields that you want to use for your letter, as shown in the following sample data file.

After you create your Excel data file, save it, and then close the data file.



---

## Step 2: Set Up the Main Document

1. In Microsoft Office Word 2003 and in earlier versions of Word, point to **Letters and Mailings** on the Tools menu, and then click Mail Merge Wizard. In Microsoft Office Word 2007, click **Start Mail Merge** in the **Start Mail Merge** group on the **Mailings** tab, and then click **Step by Step by Mail Merge Wizard**.

2. Under **Select document type**, click **Letters**.

The active document becomes the main document. The main document contains the text and graphics that are the same for each version of the merged document. For example, the return address and the salutation in a form letter are the same for each version.

3. Click **Next: Starting document**.

4. Use one of the following methods:

- Start with the document that is currently shown in the document window. To do this, click **Use the current document**.

You can then either type the letter in the document window or wait until the wizard prompts you to do so in a later step.

- Start with a template. To do this, follow these steps:
  - i. Click **Start from a template**.
  - ii. Click **Select template**.
  - iii. On the Mail Merge tab, select the template that you want in the Select Template dialog box, and then click OK.
- Start with an existing document. To do this, follow these steps:



- 
- i. Click **Start from existing document**.
  - ii. In the **Start from existing** box, select the document that you want, and then click Open.
  - iii. If you do not see the document, click **More files**, and then click Open. In the Open dialog box, locate the document that you want, and then click Open.
5. Click **Next: Select recipients**.

### **Step 3: Specify the Excel Data Source**

1. Under **Select recipients**, click **Use an existing list**.
2. Click **Browse**.
3. In the **Select Data Source** dialog box, locate and then click the Excel worksheet that you want to use.  
  
By default, Word opens the "My Data Sources" folder.
4. Click Open.
5. If your Excel worksheet contains information about multiple tabs, select the tab that contains the information that you want, and then click OK.
6. All entries in the data source appear in the Mail Merge Recipients dialog box. Here, you can refine the list of recipients to include in the merge.

### **Step 4: Select the Recipients**

1. In the Mail Merge Recipients dialog box, select the recipients that you want to include.  
  
To do this, use one of the following methods:





- 
- Use the check boxes to designate recipients.

This method is most useful if the list is short. Click to select the check boxes next to the recipients that you want to include, and then click to clear the check boxes next to the recipients that you want to exclude.

Note If you know that you want to include most of the list in your merge, click Select All, and then click to clear particular records. Similarly, if you want to include only a few records in the list, click Clear All, and then select the records that you want.

- Sort items in the list.

This method is useful if you want to see items in alphabetical or numeric order.

Click the column heading of the element by which you want to sort. For example, if you want to display the list alphabetically by last name, click the Last Name column heading.

- Filter items in the list.

This method is useful if the list contains records that you know you do not want to see or include in the merge. After you have filtered the list, you can use the check boxes to include and exclude records, as described earlier. To filter the list, follow these steps:

- i. Click the arrow next to the column heading of the element that you want to filter by.
- ii. Click any of the following:



- 
- (Blanks): This option displays all the records in which the corresponding field is blank.
  - (Nonblanks): This option displays all the records in which the corresponding field contains information.
  - If the data source contains records that share the same information, and if there are 10 or fewer unique values in the column, you can filter by specific information. For example, if there are multiple addresses that list Australia as the country, you can filter by Australia.
  - The Mail Merge Recipients dialog box displays only the designated records. To display all the records again, click (All).

## Notes

- For advanced sorting and filtering, click the arrow next to any column name, and then click (Advanced). Use the Filter Records and Sort Records tabs to set up the sorting or filtering query that you want.
  - If you have installed address validation software, click Validate in the Mail Merge Recipients dialog box to validate your recipients' addresses.
2. Click OK to return to the Mail Merge Wizard.  
Word uses the recipients that you designated for the merge.
  3. Click **Next: Write your letter**.



---

## Step 5: Complete the Letter and Add Merge Fields

If you have not already done this, type the text that you want to appear in every form letter in the main document.

### Insert Merge Fields

Insert merge fields where you want to merge names, addresses, and other information from the data source. To insert merge fields, follow these steps:

1. In the main document, click where you want to insert the field.
2. Insert any of the following:
  - Address block with name, address, and other information:
    - i. Click **Address block**.
    - ii. In the Insert Address Block dialog box, select the address elements that you want to include and the formats that you want, and then click OK. For help on an option, click the question mark, and then click the option.
    - iii. For help on an option, click the question mark, and then click the option. If the Match Fields dialog box appears, Word may be unable to find some of the information it needs for the address block. Click the arrow next to **(not available)**, and then select the field from your data source that corresponds to the field required for the mail merge.
  - Greeting line:
    - i. Click Greeting line.



- 
- ii. Select the greeting line format that includes the salutation, name format, and following punctuation.
  - iii. Select the text that you want to appear in the cases in which Word cannot interpret the recipient's name. For example, Word cannot interpret the name when the data source contains no first or last name for a recipient, but only a company name.
  - iv. Click OK.
  - v. If the Match Fields dialog box appears, Word may be unable to find some of the information it needs for the greeting line. Click the arrow next to (not available), and then select the field from your data source that corresponds to the field required for the mail merge.
    - Other fields of information:
      - i. Click More items.
      - ii. Use one of the following methods:
        - Click Address Fields to select from address fields that will automatically map to corresponding fields in your data source, even if the data source's fields do not have the same name as your fields.
        - Click Database Fields to select from fields that always take data directly from a column in a database.
      - iii. In the Fields box, click the field that you want.
      - iv. Click Insert, and then click Close.
      - v. If the Match Fields dialog box appears, Word may not be able to find some of the information it needs to insert the field. Click the arrow next to **(not**
-



---

**available**), and then select the field from your data source that corresponds to the field required for the mail merge.

Note If you insert a field from the Database Fields list, and if you later switch to a data source that does not have a column with the same name, Word cannot insert that field information into the merged document.

- **Electronic postage:**

To add electronic postage, you must first install an electronic postage program, such as one that you can purchase from a third-party provider on the Web. To use electronic postage, follow these steps:

- i. Click **Electronic postage**.

If you do not have an electronic postage program installed, Word prompts you to install one, and offers to connect to the following Microsoft Office Web site:

- ii. Insert the postage according to the program's instructions.

- To add electronic postage, you must first install an electronic postage program, such as one that you can purchase from a third-party provider on the Web. To use electronic postage, follow these steps:  
**Postal bar code:** You must select a letter or envelope type that supports the POSTNET bar code. To use the Postal bar code, follow these steps:

- i. Click **Postal Bar Code**.

- ii. In the **Insert Postal Bar Code** dialog box, select the appropriate address fields.

**Note** The Postal Bar Code option appears only if you are using the U.S. language version of Word.



- 
- iii. Repeat steps a and b for all the fields that you want to insert. NOTES:
- You cannot type merge field characters (" ") or insert them by using the Symbol command on the Insert menu.
  - If the merge fields appear inside braces, such as { MERGEFIELD City }, Word is displaying field codes instead of field results. This does not affect the merge, but if you want to display the results instead, right-click the field code, and then click Toggle Field Codes on the shortcut menu.

For example, by using the sample database shown earlier, your letter might contain the AddressBlock and GreetingLine fields, and therefore your first page appears similar to the following:

February 26, 2002

**AddressBlock**

**GreetingLine**

Type your letter here.

Sincerely,

Type your name here

3. Note You can also use the Mail Merge toolbar to insert merge fields, work with your mail-merge main document, or run a mail merge. To display the Mail Merge toolbar,



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point to **Letters and Mailings** on the Tools menu, and then click **Show Mail Merge Toolbar**.

The Mail Merge toolbar provides additional commands that are not included in the Mail Merge Wizard task panes. For example, you can use the Insert Word Field menu on the Mail Merge toolbar to insert Word fields for controlling the merge process. For example, you can insert an IF field that inserts text only if a particular merge field has a specified value.

Alternatively, you can click Check For Errors to make Word run the mail merge and report any errors that are contained in the main document.

### *Change the Format of the Merged Data*

To format merged data, you must format the merge fields in the main document. Do not format the data in the data source, because its formatting is not retained when you merge the data into the document. To change the format of the merged data, follow these steps:

1. In the main document, select the field that contains the information that you want to format, including the enclosing merge field characters (<< >>).
2. In Word 2003 and in earlier versions of Word, click Font on the Format menu, and then select the options that you want.

In Word 2007, click the option that you want in the **Theme Fonts** box in the **Font** group on the **Home** tab.



---

## *Format by Using Field Codes*

To control other aspects of formatting, press ALT+F9 to display field codes, and then add switches to the merge fields. When you work with fields, a switch is a special instruction that causes a specific action to occur. Generally, a switch is added to a field to modify a result.

Examples of how to use switches are as follows:

- To display the number 34987.89 as \$34,987.89, add the Numeric Picture switch (\#).
- To print client names in uppercase letters, add the Format switch (\\*).
- To make sure that the merged information has the same font and point size that you apply to the merge field, add the Charformat switch (\\*).

## **Step 6: Save the Document**

After you have completed the main document and inserted all the merge fields, make sure that you save the document before proceeding. To do this, follow these steps:

1. In Word 2003 and in earlier versions of Word, click **Save As** on the File menu.  
In Word 2007, click the **Microsoft Office Button**, and then click **Save As**.
2. Name the document, and then click **Save**.
3. Click **Next: Preview your letters**.





---

## Step 7: Preview the Letters and Fine-Tune the Recipient List

When the wizard displays the "Step 5 Mail Merge" task pane, the wizard replaces each of the merge fields in the main document that has the actual text from the first entry of the recipient list. Therefore, you can see how your first output document will look. For example, if you were to continue to use the sample database shown earlier, the first page should resemble the following page after you click **Next: Preview your letters:**

February 26, 2002

Andrew Fuller  
908 W. Capital Way  
Tacoma 98401

Dear Andrew Fuller,

Type your letter here.

Sincerely,

Type your name here To preview additional entries, use one of the following methods:

- To preview the items in order, click the left or right arrow buttons.
- To locate and preview a specific item, click **Find a recipient**, and then enter the search criteria in the Find Entry dialog box.

Fine-tune the recipient list if you want. To do this, use one of the following methods:

- To exclude a particular recipient from the merge operation, click **Exclude this recipient**.



- 
- To change the list of recipients, click **Edit recipient list**, and then make your changes in the **Mail Merge Recipients** dialog box.

### **Step 8: Complete the Merge**

To complete the merge, use any of the following methods.

#### ***Personalize Individual Letters***

To personalize individual items, you actually complete the merge, and then edit the information that you want in the resulting merged document. To do this, follow these steps:

1. Click **Edit individual letters**.
2. In the **Merge to New Document** dialog box, select the records that you want to merge.
3. Click OK.  
Word creates and opens a new merged document. Your main document also remains open, and you can switch back to it if you want to change all the documents.
4. Scroll to the information that you want to edit, and then make your changes.
5. Print or save the document just as you would any regular document.

#### ***Print the Letters***

To print the letters, use one of the following methods:

- If you personalized the items and if the merged document is active, follow these steps:
  - a. In Word 2003 and in earlier versions of Word, click Print on the File menu.  
In Word 2007, click the **Microsoft Office Button**, and then click **Print**.



- 
- b. Select the options that you want.
- If you want to print directly from the Mail Merge Wizard, follow these steps:
    - a. In Step 6 of the Mail Merge Wizard (**Complete the merge**), click Print.
    - b. In the **Merge to Printer** dialog box, use one of the following methods, and then click OK:
      - To print all the documents, click All.
      - To print the document that you see in the document window, click **Current record**.
      - To print a range of documents, click From, and then type the record numbers in the From and To boxes.
    - c. In the Print dialog box, select the options that you want.

### *Save the Merged Letters for Later Use*

If you want to edit merged letters or to save them for later use, you can collect them into a single document. To do this, follow these steps:

1. Click **Edit individual letters**.
2. In the **Merge to a New Document** dialog box, use one of the following methods, and then click OK:
  - To merge all the documents, click All.
  - To merge only the document that you see in the document window, click **Current record**.
  - To merge a range of documents, click From, and then type the record numbers in the From and To boxes.



- 
3. Word opens a single new document that contains all the individual letters. You can then save the document for later use, just as you would any regular document.

## UNIT – III

### MS POWER POINT

#### INTRODUCTION TO MICROSOFT POWERPOINT

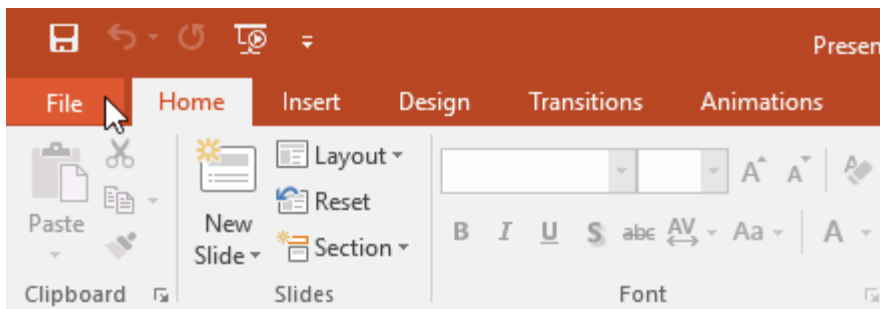
Information can be displayed using an electronic presentation application. This information is usually presented as a slide show - the data is displayed on a slide that may be viewed on a computer monitor or projected onto a screen using an LCD projector. A presentation might consist of multiple slides that are exhibited one after the other. The presentation tool in MS Office is MS PowerPoint. Microsoft PowerPoint is a popular presentation application, although there are alternatives such as Corel Presentations OpenOffice.org, Impress, etc.

PowerPoint files are called **presentations**. Whenever you start a new project in PowerPoint, you'll need to **create a new presentation**, which can either be **blank** or from a **template**. You'll also need to know how to **open an existing presentation**.

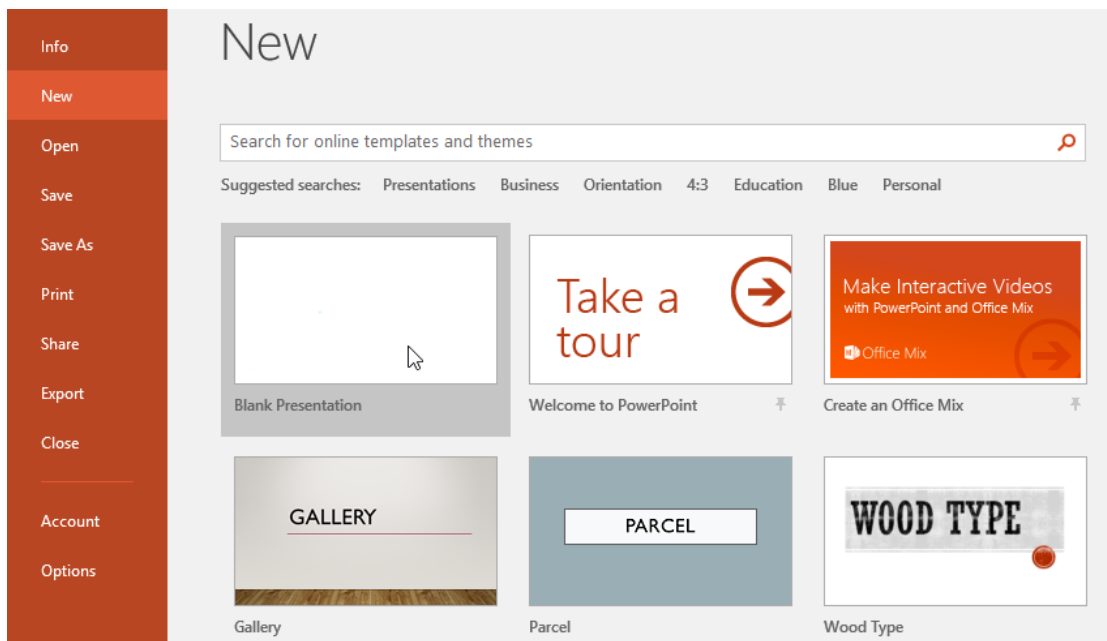
#### **To create a new presentation:**

When beginning a new project in PowerPoint, you'll often want to start with a new blank presentation.

1. Select the **File** tab to go to **Backstage view**.



2. Select **New** on the left side of the window, then click **Blank Presentation**.



3. A new presentation will appear.

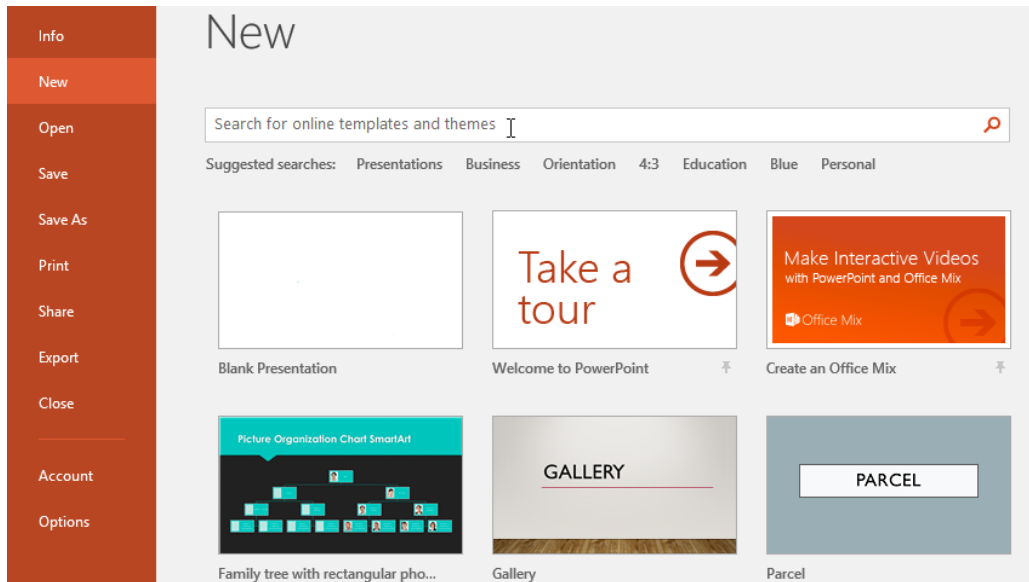
### **TO CREATE A NEW PRESENTATION FROM A TEMPLATE:**

A **template** is a **predesigned presentation** you can use to create a new slide show quickly. Templates often include **custom formatting** and **designs**, so they can save you a lot of time and effort when starting a new project.

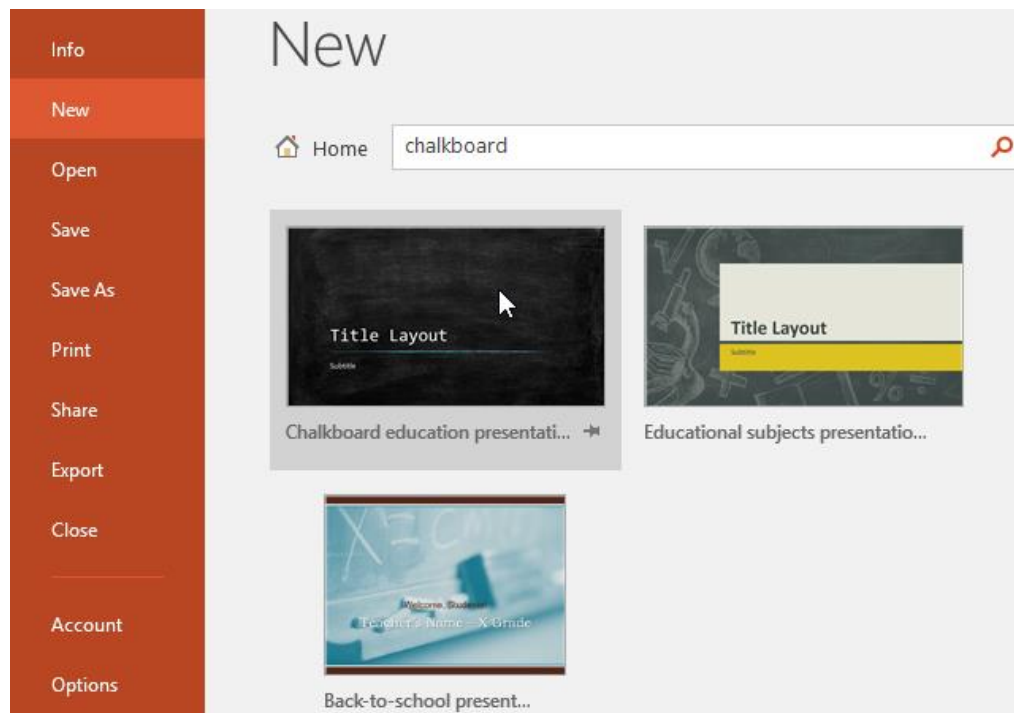
1. Click the **File** tab to access **Backstage view**, then select **New**.



- You can click a suggested search to find templates or use the **search bar** to find something more specific. In our example, we'll search for the keyword **chalkboard**.

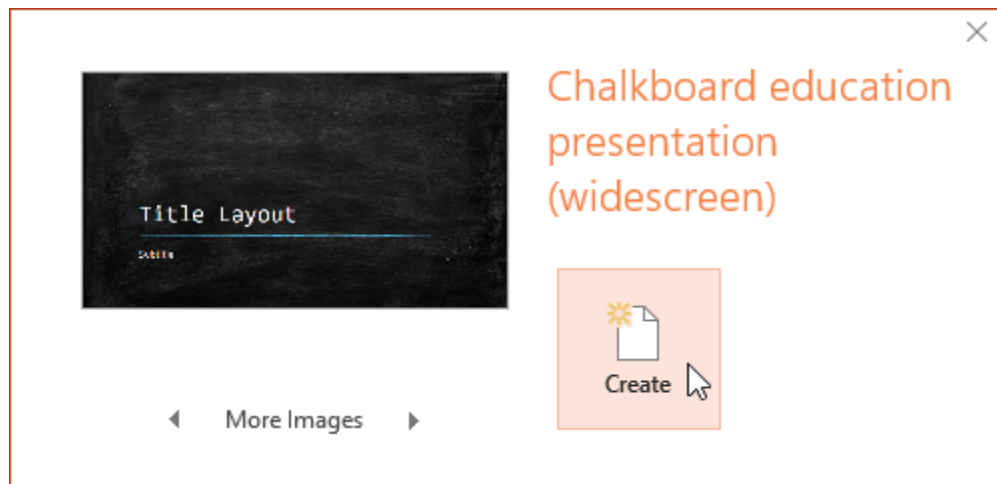


- Select a **template** to review it.





4. A **preview** of the template will appear, along with **additional information** on how the template can be used.
5. Click **Create** to use the selected template.

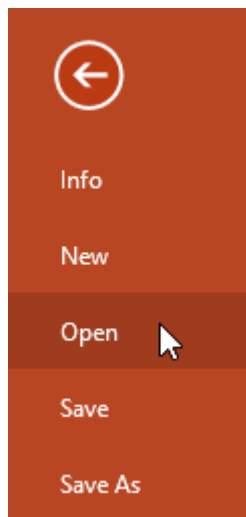


6. A new presentation will appear with the **selected template**.

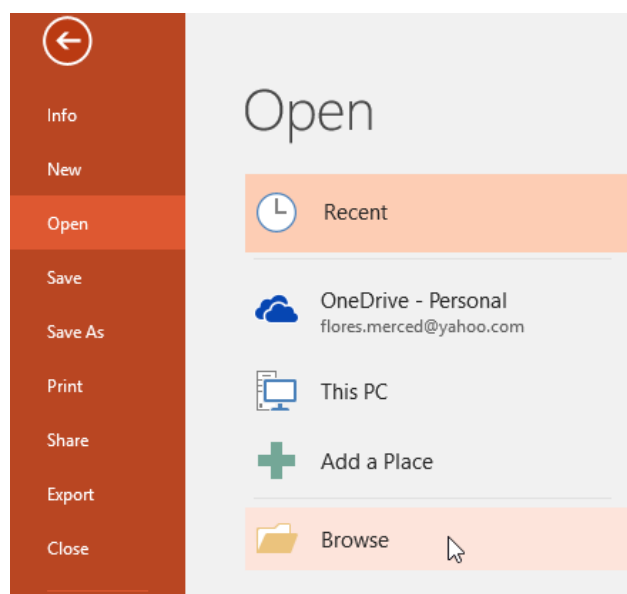
### To open an existing presentation:

In addition to creating new presentations, you'll often need to open a presentation that was previously saved. To learn more about saving presentations, review our lesson on **Saving Presentations**.

1. Select the **File** tab to go to **Backstage view**, then click **Open**.

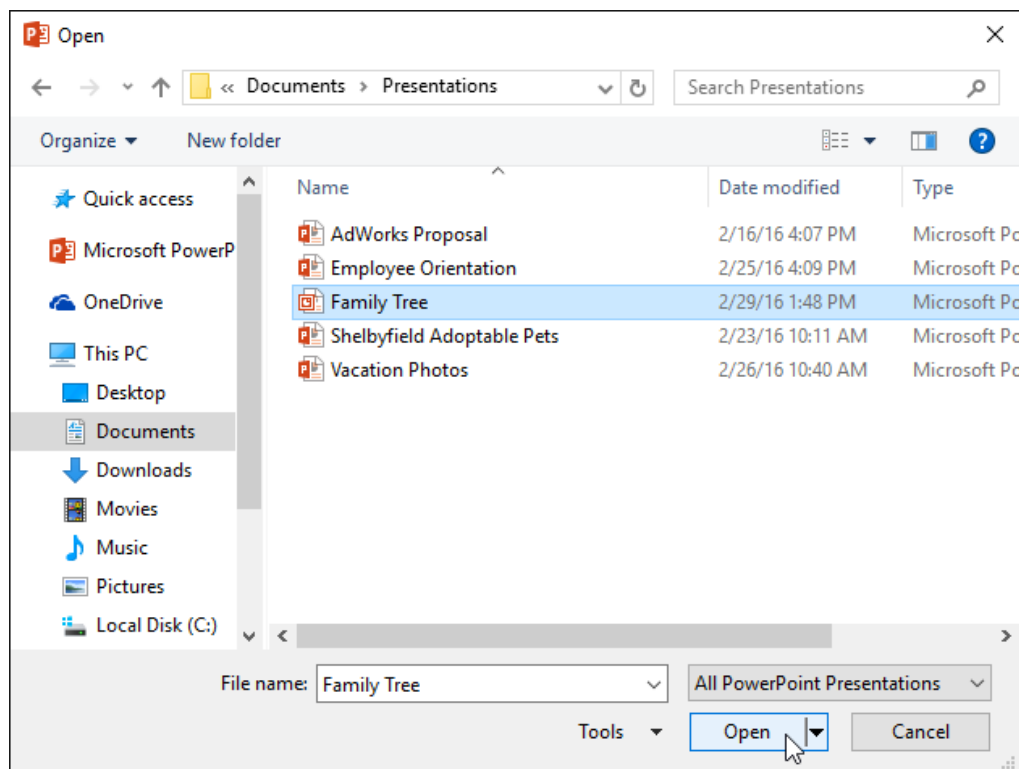


2. Click **Browse**. You can also choose **OneDrive** to open files stored on your OneDrive.



3. The **Open** dialog box will appear. Locate and select your **presentation**, then click **Open**.





Most features in Microsoft Office, including PowerPoint, are geared toward saving and sharing documents **online**. This is done with **OneDrive**, which is an online storage space for your documents and files. If you want to use OneDrive, make sure you're signed in to PowerPoint with your Microsoft account. Review our lesson on **Understanding OneDrive** to learn more.

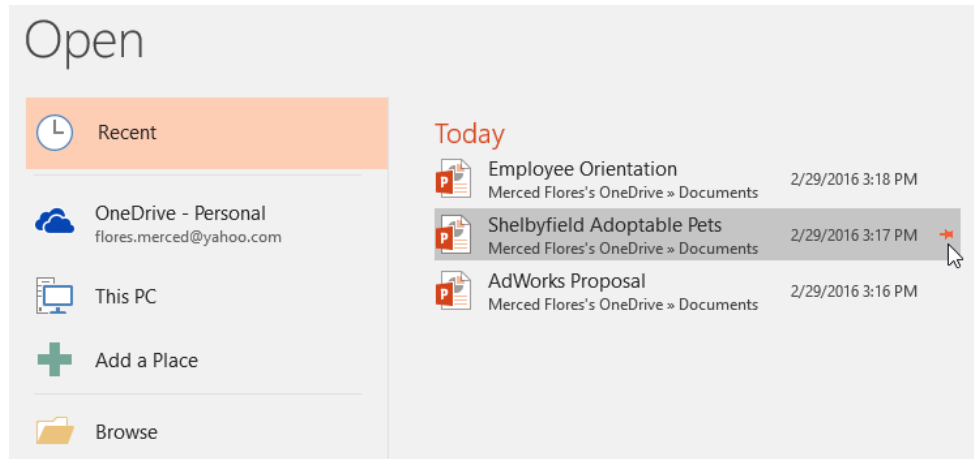
### **To pin a presentation:**

If you frequently work with the **same presentation**, you can **pin it** to Backstage view for easy access.

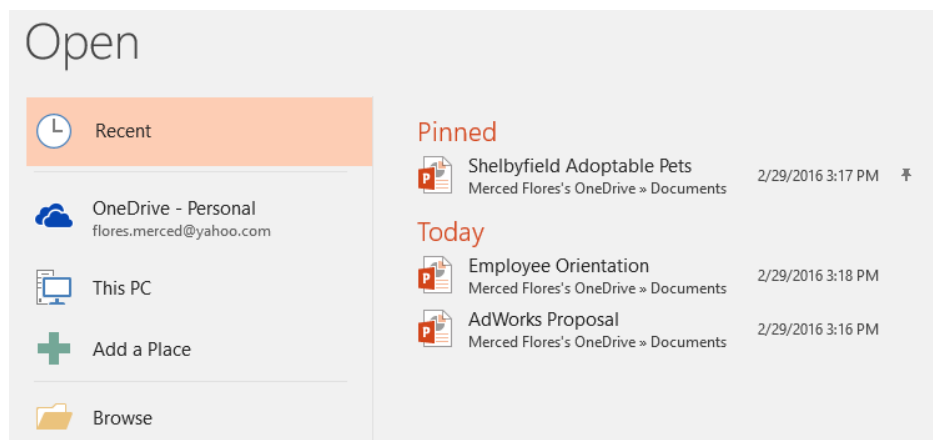
1. Select the **File** tab to go to **Backstage view**, then click **Open**. Your **Recent Presentations** will appear.



2. Hover the mouse over the **presentation** you want to pin, then click the **pushpin icon**.



3. The presentation will stay in the **Recent presentations** list until it is unpinned. To **unpin** a presentation, click the pushpin icon again.



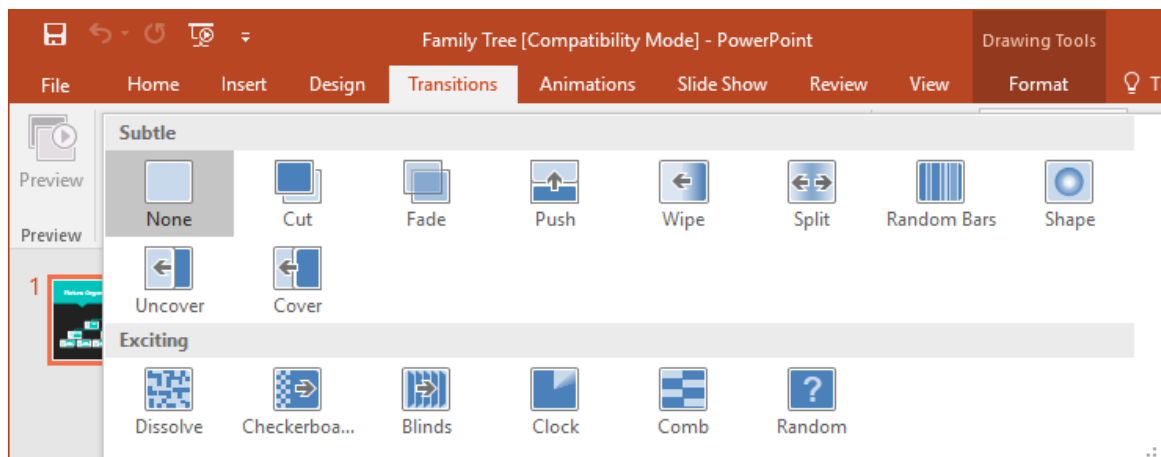
## Compatibility Mode

Sometimes you may need to work with presentations that were created in earlier versions of PowerPoint, like PowerPoint 2003 or PowerPoint 2000. When you open these types of presentations, they will appear in **Compatibility Mode**.



Compatibility Mode **disables** certain features, so you'll only be able to access commands found in the program that was used to create the presentation. For example, if you open a presentation created in PowerPoint 2003, you can only use tabs and commands found in PowerPoint 2003.

In the image below, you can see at the top of the window that the presentation is in Compatibility Mode. This will disable some current PowerPoint features, including newer types of slide transitions.



To exit Compatibility Mode, you'll need to **convert** the presentation to the current version type. However, if you're collaborating with others who only have access to an earlier version of PowerPoint, it's best to leave the presentation in Compatibility Mode so the format will not change.

You can review this [support page](#) from Microsoft to learn more about which features are disabled in Compatibility Mode.

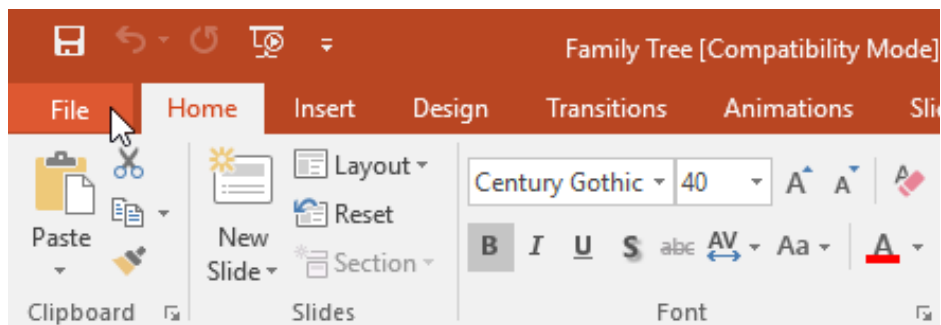


## To convert a presentation:

If you want access to the newer features, you can **convert** the presentation to the current file format.

Note that converting a file may cause some changes to the **original layout** of the presentation.

1. Click the **File** tab to access Backstage view.

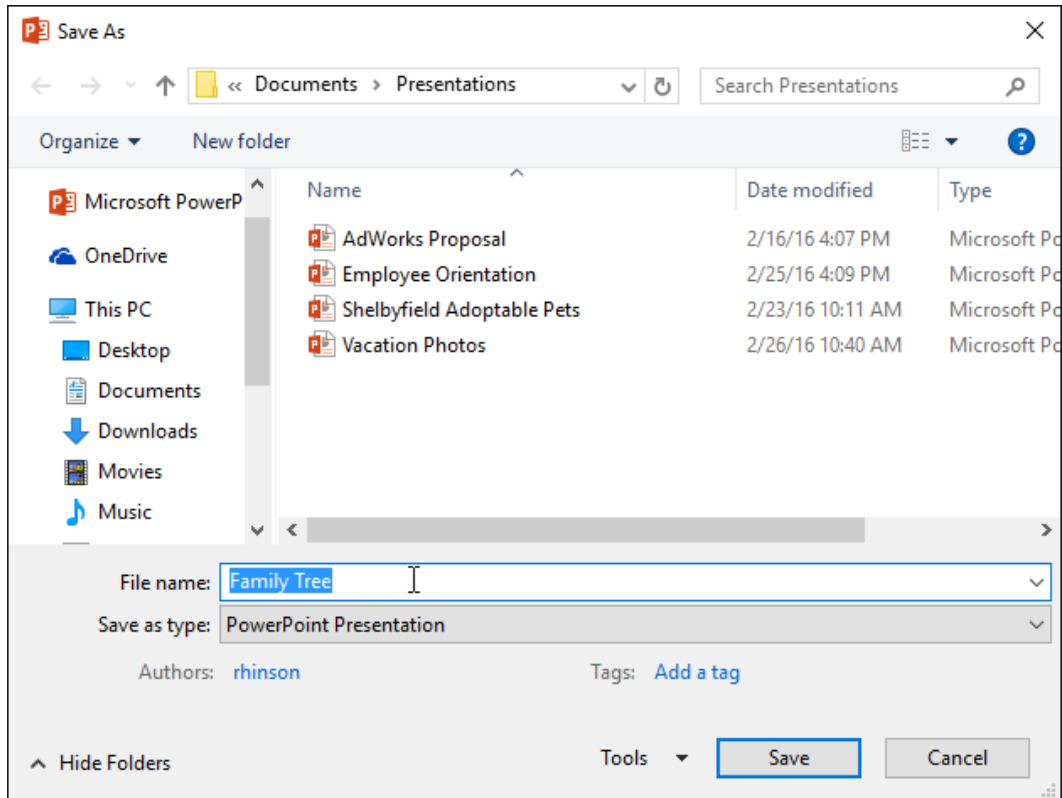


2. Locate and select the **Convert** command.





3. The **Save As** dialog box will appear. Select the **location** where you want to save the presentation, enter a **file name**, and click **Save**.



4. The presentation will be converted to the newest file type.

### Challenge

1. Open our **practice presentation**.
2. Notice that the presentation opens in **Compatibility Mode**. **Convert** it to the current file format. If a dialog box appears asking if you would like to close and reopen the file in order to see the new features, choose **Yes**.
3. In Backstage view, **pin** a file or folder.



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## Save and Save As

PowerPoint offers two ways to save a file: **Save** and **Save As**. These options work in similar ways, with a few important differences.

- **Save:** When you create or edit a presentation, you'll use the **Save** command to save your changes. You'll use this command most of the time. When you save a file, you'll only need to choose a file name and location the first time. After that, you can just click the Save command to save it with the same name and location.
- **Save As:** You'll use this command to create a **copy** of a presentation while keeping the original. When you use Save As, you'll need to choose a different name and/or location for the copied version.

## About OneDrive

Most features in Microsoft Office, including PowerPoint, are geared toward saving and sharing documents **online**. This is done with **OneDrive**, which is an online storage space for your documents and files. If you want to use OneDrive, make sure you're signed in to PowerPoint with your Microsoft account. Review our lesson on **Understanding OneDrive** to learn more.

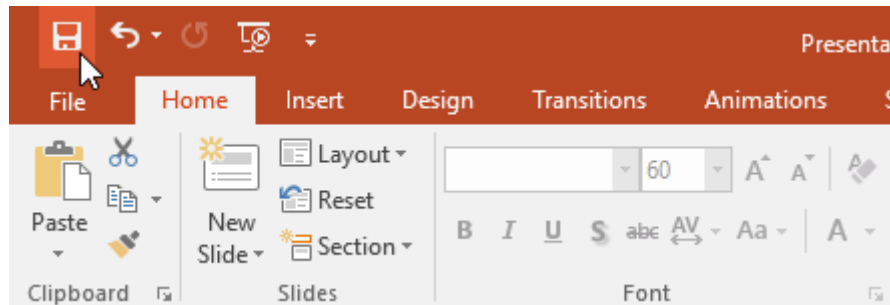
### To save a presentation:

It's important to **save your presentation** whenever you start a new project or make changes to an existing one. Saving early and often can prevent your work from being lost. You'll



also need to pay close attention to **where you save** the presentation so it will be easy to find later.

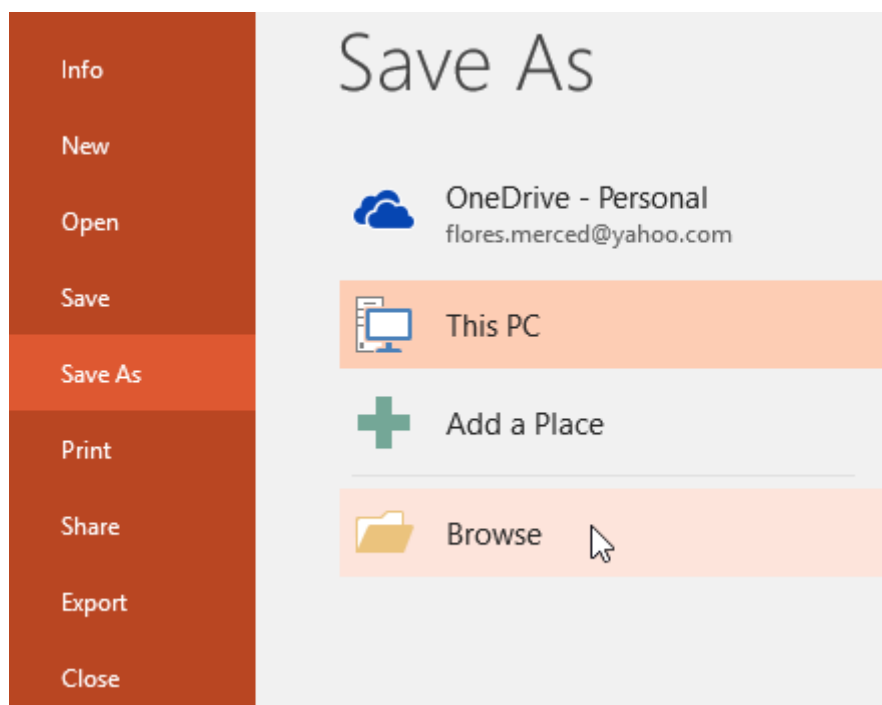
1. Locate and select the **Save** command on the **Quick Access Toolbar**.



2. If you're saving the file for the first time, the **Save As** pane will appear in **Backstage view**.

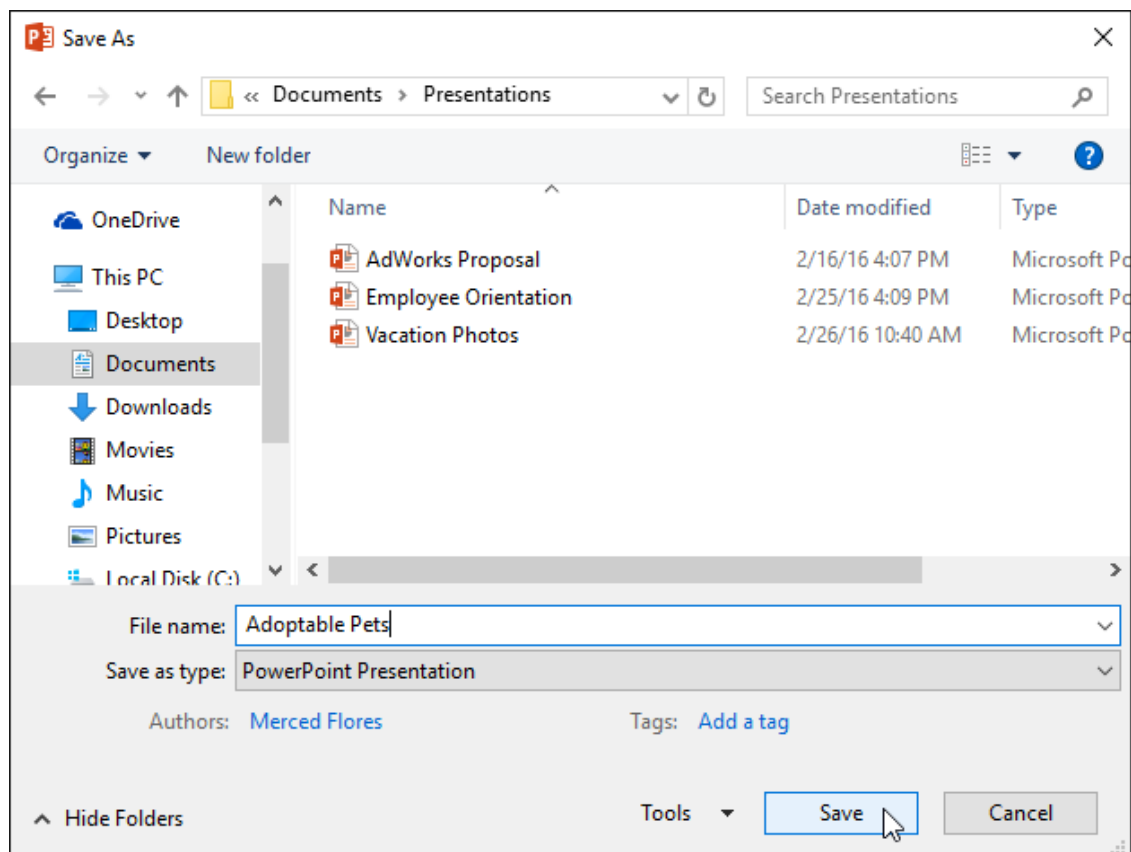
3. You'll then need to choose **where to save** the file and give it a **file name**.

Click **Browse** to select a location on your computer. You can also click **OneDrive** to save the file to your OneDrive.





4. The **Save As** dialog box will appear. Select the **location** where you want to save the presentation.
5. Enter a **file name** for the presentation, then click **Save**.



6. The presentation will be **saved**. You can click the **Save** command again to save your changes as you modify the presentation.

You can also access the **Save** command by pressing **Ctrl+S** on your keyboard.

### Using **Save As** to make a copy

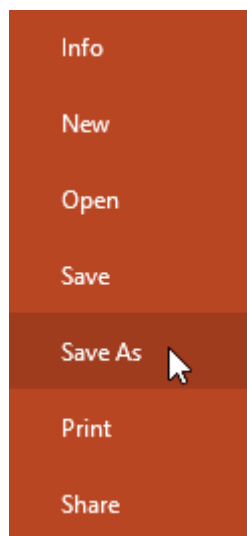
If you want to save a **different version** of a presentation while keeping the original, you can create a **copy**. For example, if you have a file named **Client Presentation** you





could save it as **Client Presentation 2** so you'll be able to edit the new file and still refer back to the original version.

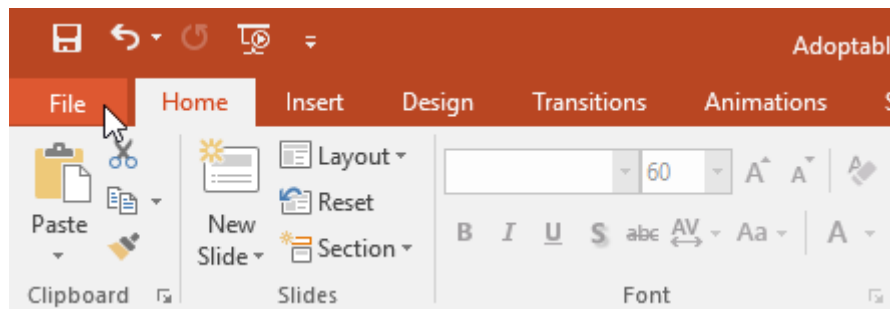
To do this, you'll click the **Save As** command in Backstage view. Just like when saving a file for the first time, you'll need to choose **where to save** the file and give it a new **file name**.



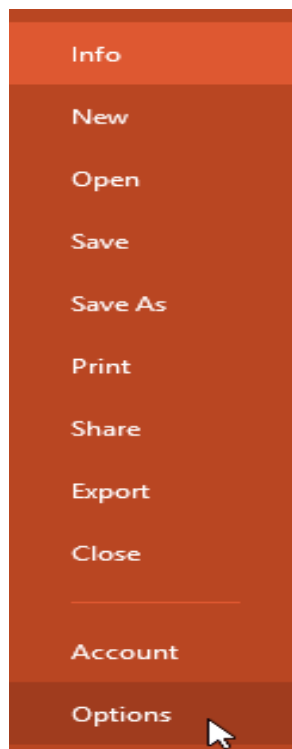
### **To change the default save location:**

If you don't want to use **OneDrive**, you may be frustrated that OneDrive is selected as the default location when saving. If you find this inconvenient, you can change the **default save location** so **This PC** is selected by default.

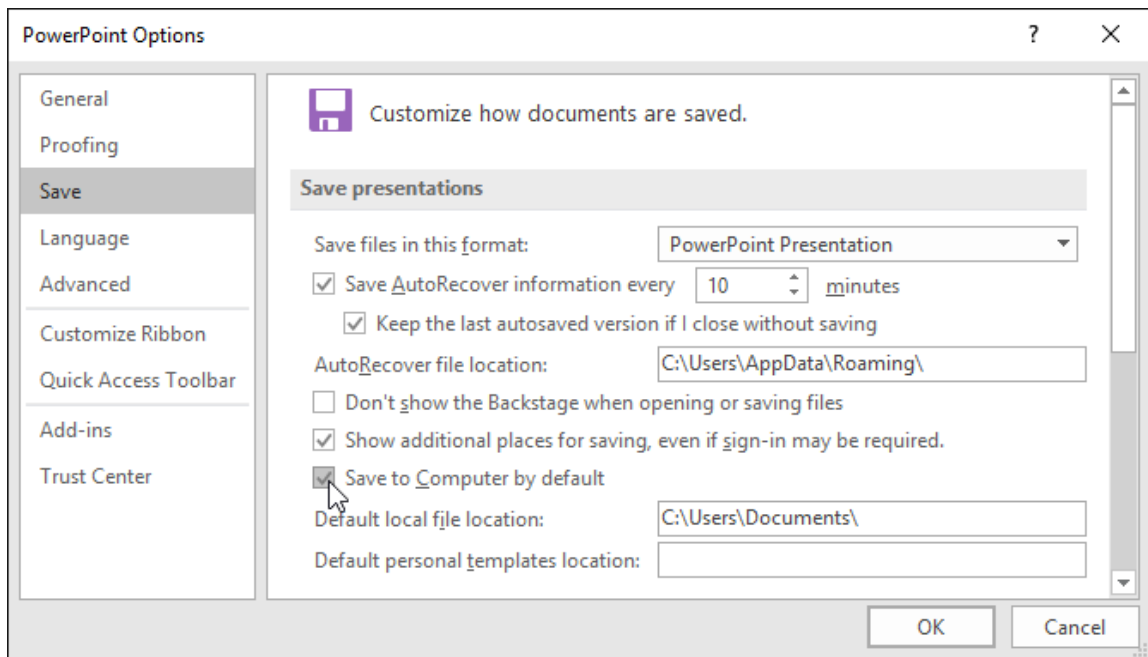
1. Click the **File** tab to access **Backstage view**.



2. Click **Options**.



3. The **PowerPoint Options** dialog box will appear. Select **Save**, check the **box** next to **Save to Computer by default**, then click **OK**. The default save location will be changed.

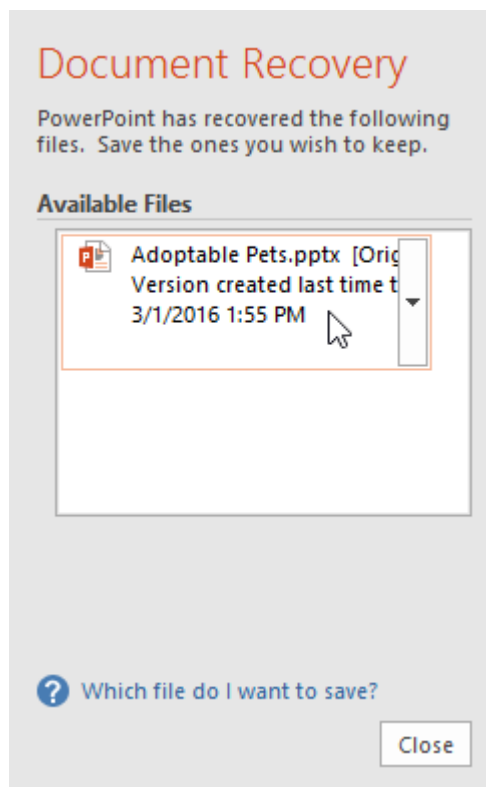


## Using AutoRecover

PowerPoint automatically saves your presentations to a temporary folder while you are working on them. If you forget to save your changes or if PowerPoint crashes, you can restore the file using **AutoRecover**.

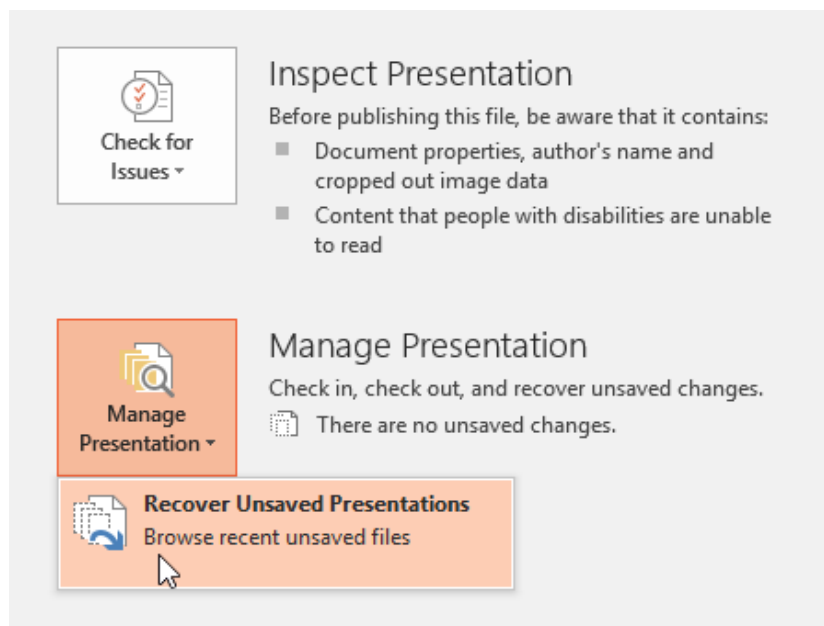
### To use AutoRecover:

1. Open PowerPoint. If **autosaved versions** of a file are found, the **Document Recovery** pane will appear.
2. Click to **open** an available file. The presentation will be recovered.



By default, PowerPoint autosaves every 10 minutes. If you are editing a presentation for less than 10 minutes, PowerPoint may not create an autosaved version.

If you don't see the file you need, you can browse all autosaved files from **Backstage view**. Just select the **File** tab, click **Manage Presentation**, then choose **Recover Unsaved Presentations**.



## Exporting presentations

By default, PowerPoint presentations are saved in the **.pptx** file type. However, there may be times when you need to use **another file type**, such as a **PDF** or **PowerPoint 97-2003 presentation**. It's easy to **export** your presentation from PowerPoint to a variety of file types.

- **PDF:** This saves the presentation as a **PDF document** instead of a PowerPoint file.
- **Video:** This saves the presentation as a video.
- **Package for CD:** This saves the presentation in a folder along with the Microsoft PowerPoint Viewer, a special slide show player anyone can download.
- **Handouts:** This prints a handout version of your slides.

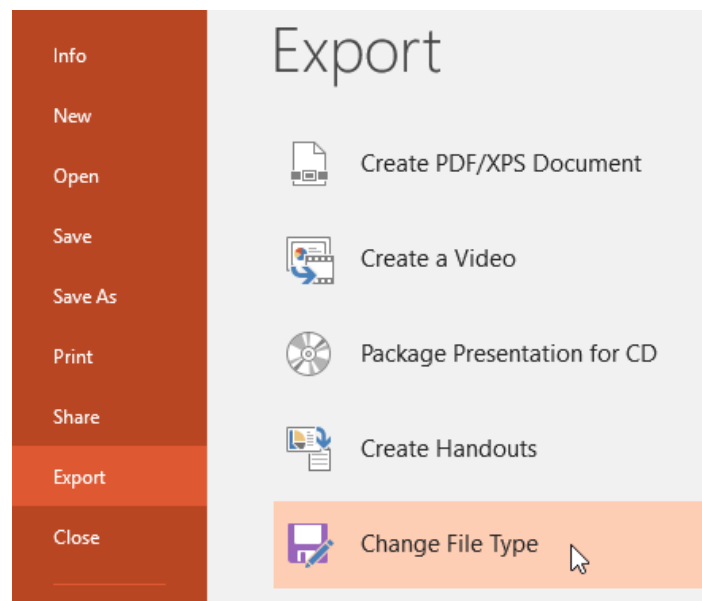


- **Other file type:** This saves in other file types, including **PNG** and **PowerPoint 97-2003**.

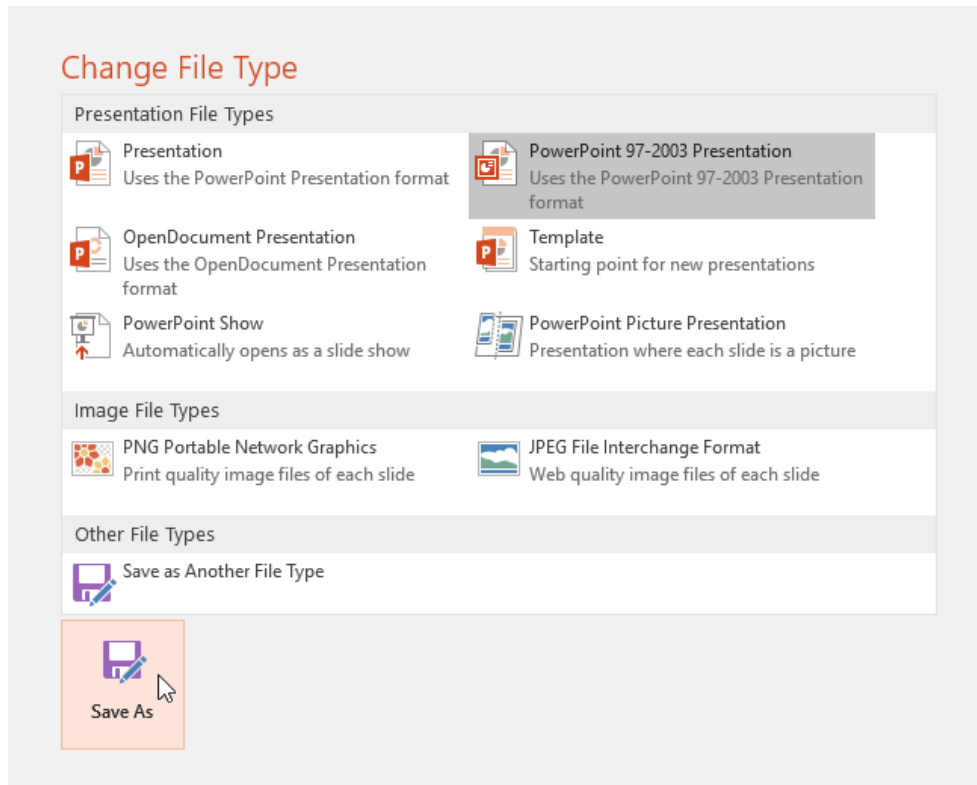
### To export a presentation:

In our example, we'll save the presentation as a **PowerPoint 97-2003** file.

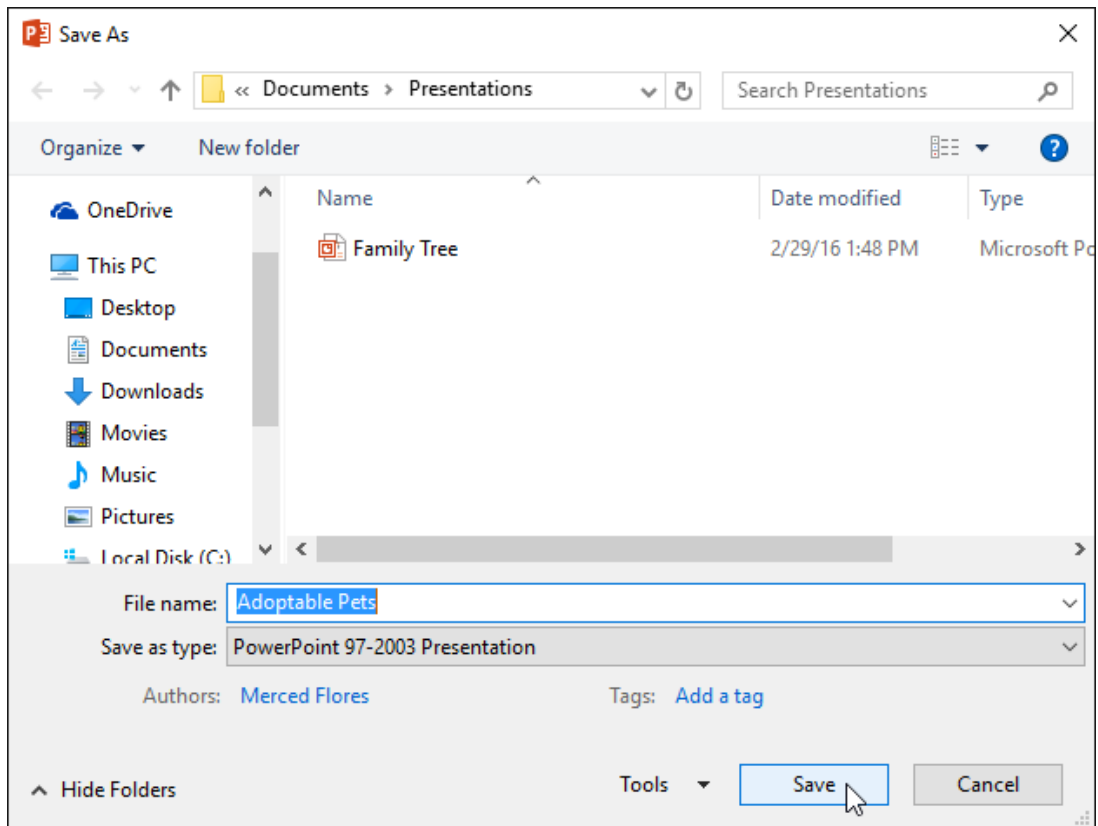
1. Click the **File** tab to access **Backstage view**.
2. Click **Export**, then choose the desired option. In our example, we'll select **Change File Type**.



3. Select a **file type**, then click **Save As**.

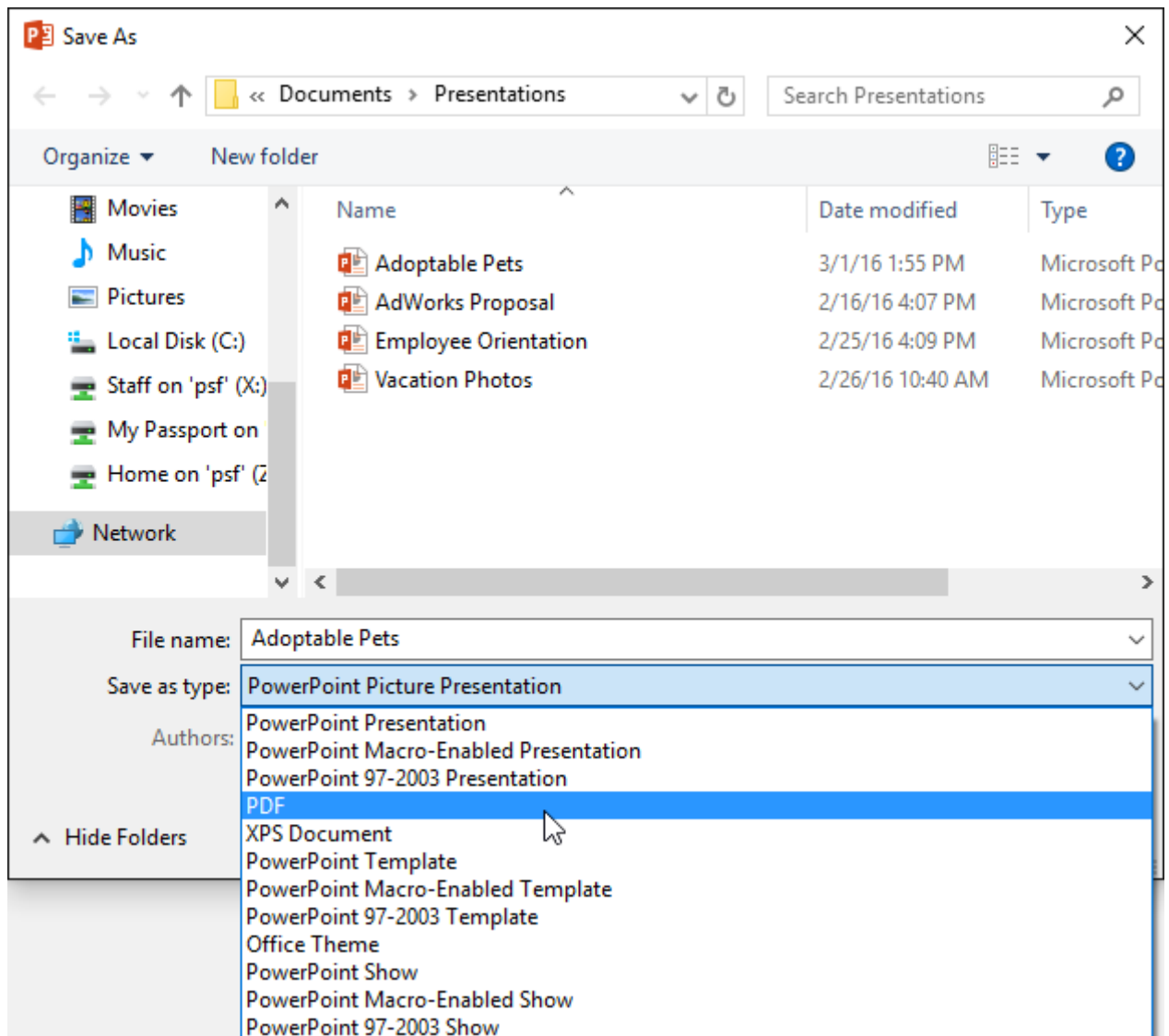


4. The **Save As** dialog box will appear. Select the **location** where you want to export the presentation, type a **file name**, then click **Save**.



You can also use the **Save as type** drop-down menu in the **Save As** dialog box to save presentations in a variety of file types. Be careful to choose a file type others will be able to open.





## Sharing presentations

PowerPoint makes it easy to **share and collaborate** on presentations using **OneDrive**. In the past, if you wanted to share a file with someone you could send it as an email attachment. While convenient, this system also creates **multiple versions** of the same file, which can be difficult to organize.



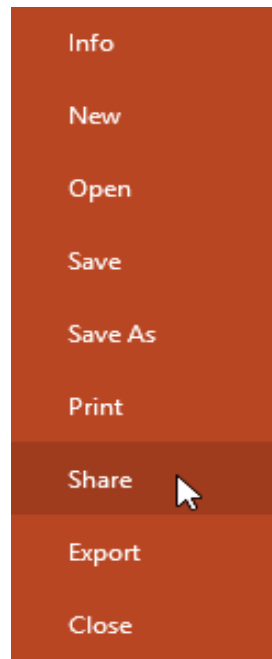
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When you share a presentation from PowerPoint, you're actually giving others access to the **exact same file**. This lets you and the people you share with **edit the same presentation** without having to keep track of multiple versions.

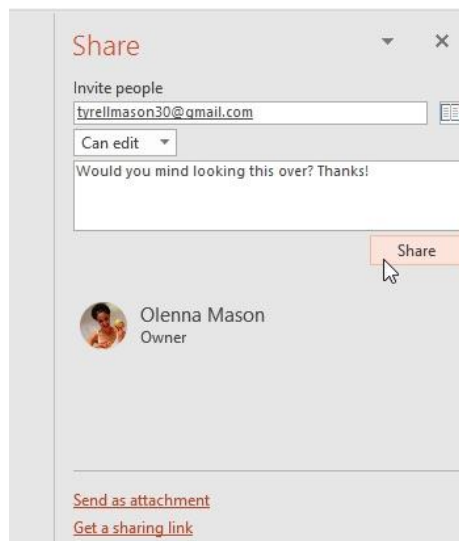
In order to share a presentation, it must first be **saved to your OneDrive**.

### To share a presentation:

1. Click the **File** tab to access **Backstage view**, then click **Share**.

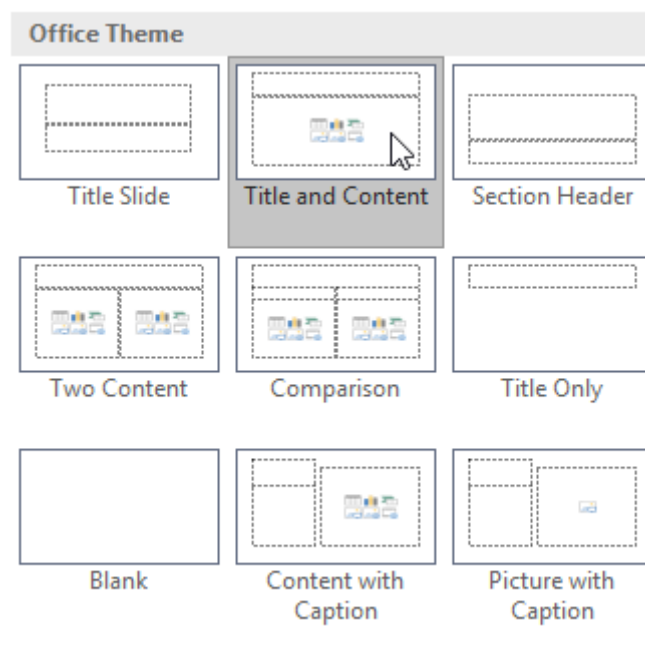


PowerPoint will return to Normal view and open the **Share** panel on the right side of the window. From here, you can invite people to share your document, see a list of who has access to the document, and set whether they can edit or only view the document.



## Understanding slides and slide layouts

When you insert a **new slide**, it will usually have **placeholders** to show you where content will be placed. Slides have different **layouts** for placeholders, depending on the type of information you want to include. Whenever you create a new slide, you'll need to choose a slide layout that fits your content.

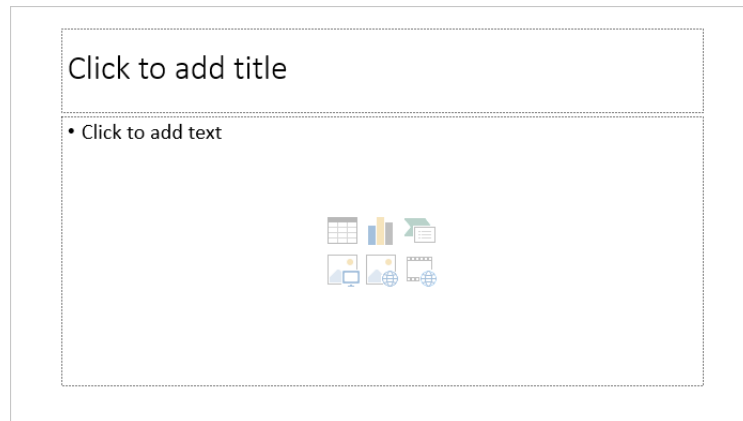




Placeholders can contain different types of content, including text, images, and videos.

Many placeholders have **thumbnail icons** you can click to add specific types of content.

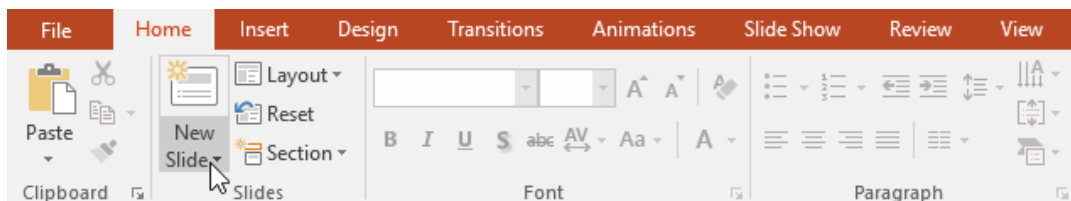
In the example below, the slide has placeholders for the **title** and **content**.



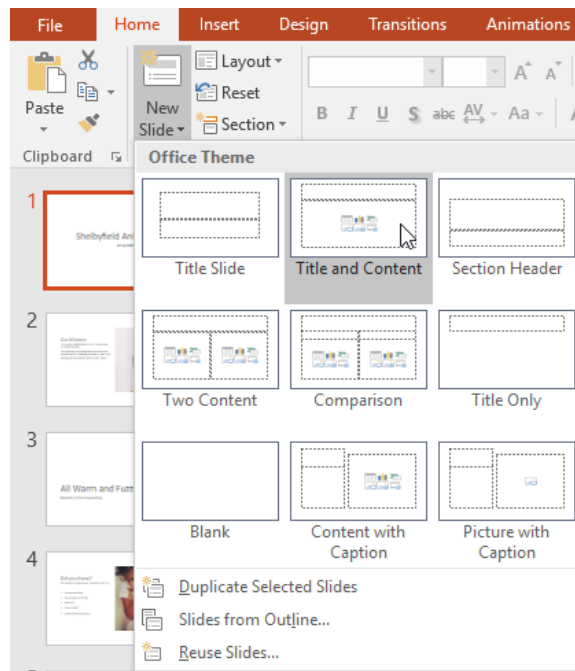
### To insert a new slide:

Whenever you start a new presentation, it will contain **one slide** with the **Title Slide** layout. You can insert as many slides as you need from a variety of layouts.

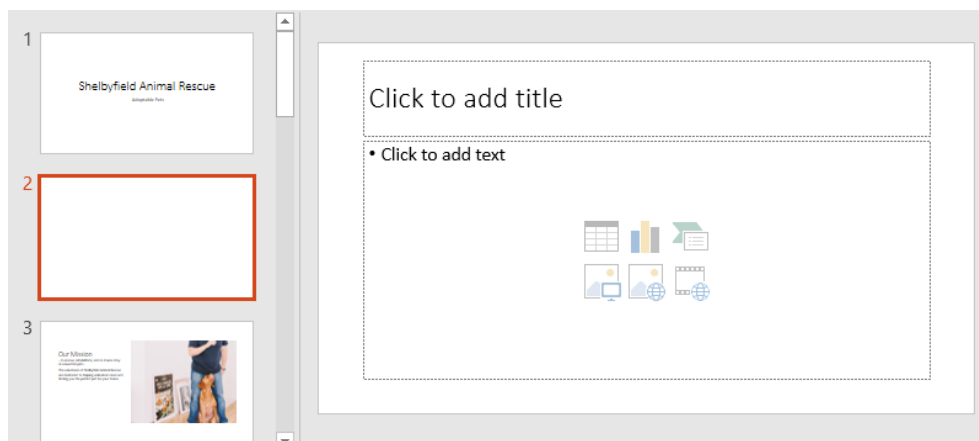
1. From the **Home** tab, click the **bottom half** of the **New Slide** command.



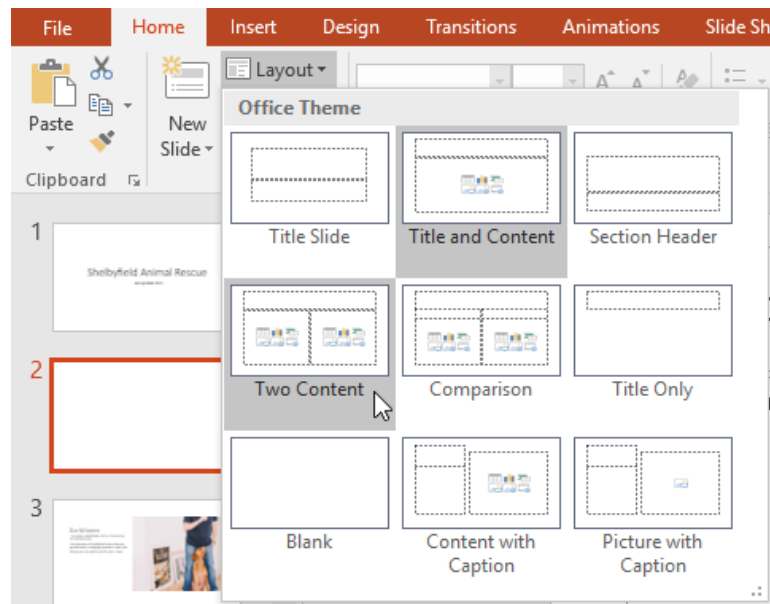
2. Choose the desired **slide layout** from the menu that appears.



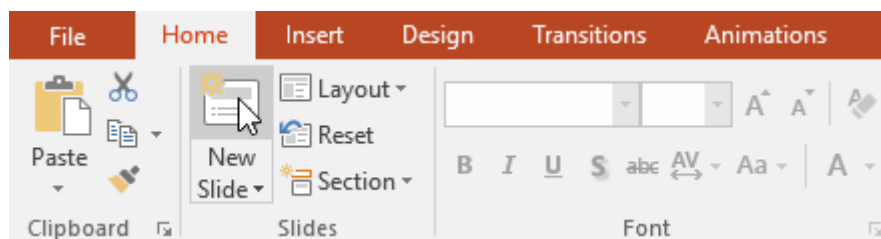
3. The new slide will appear. Click any **placeholder** and begin typing to add text. You can also click an **icon** to add other types of content, like a **picture** or **chart**.



To change the layout of an existing slide, click the **Layout** command, then choose the desired layout.

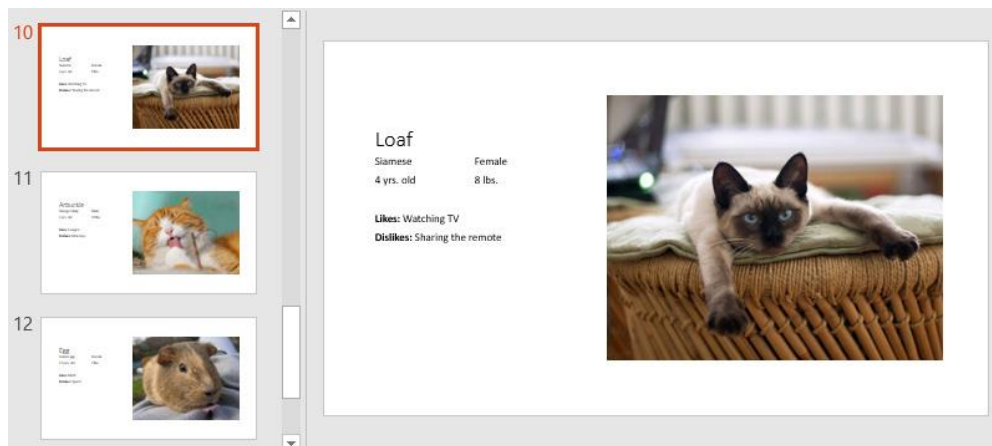


To quickly add a slide that uses the same layout as the selected slide, click the **top half** of the **New Slide** command.



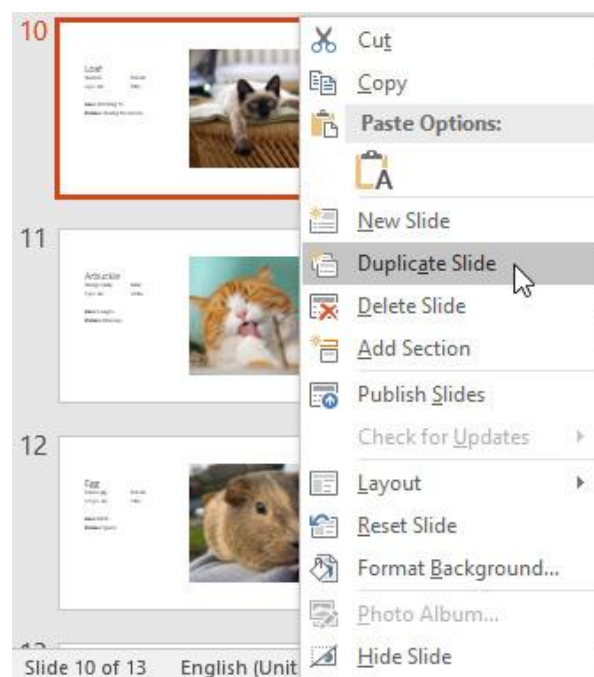
## Organizing slides

PowerPoint presentations can contain as many slides as you need. The **Slide Navigation pane** on the left side of the screen makes it easy to **organize** your slides. From there, you can **duplicate**, **rearrange**, and **delete** slides in your presentation.



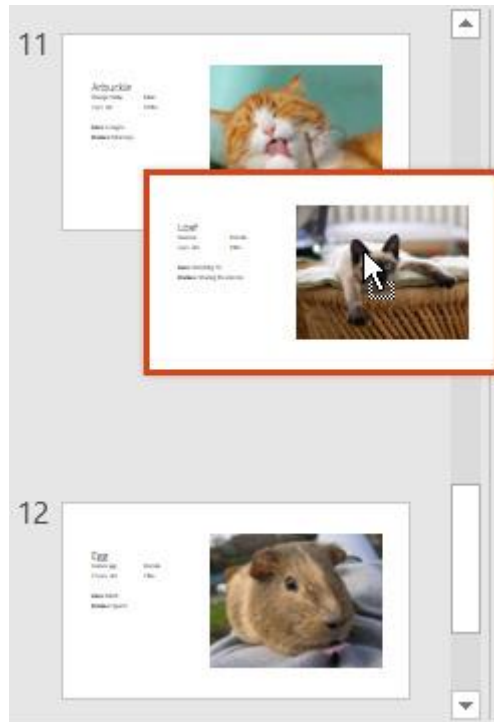
### *Working with slides*

- **Duplicate slides:** If you want to copy and paste a slide quickly, you can **duplicate** it. To duplicate slides, select the slide you want to **duplicate**, right-click the mouse, and choose **Duplicate Slide** from the menu that appears. You can also duplicate **multiple slides** at once by selecting them first.





- **Move slides:** It's easy to change the **order** of your slides. Just click and drag the **desired slide** in the Slide Navigation pane to the desired position.



- **Delete slides:** If you want to remove a slide from your presentation, you can **delete** it. Simply select the slide you want to delete, then press the **Delete** or **Backspace** key on your keyboard.

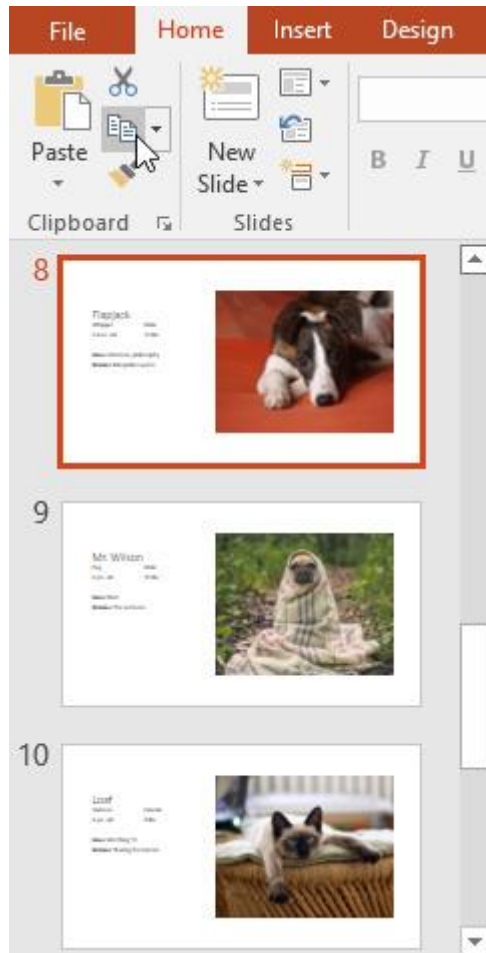
***To copy and paste slides:***

If you want to create several slides with the same layout, you may find it easier to **copy and paste** a slide you've already created instead of starting with an empty slide.

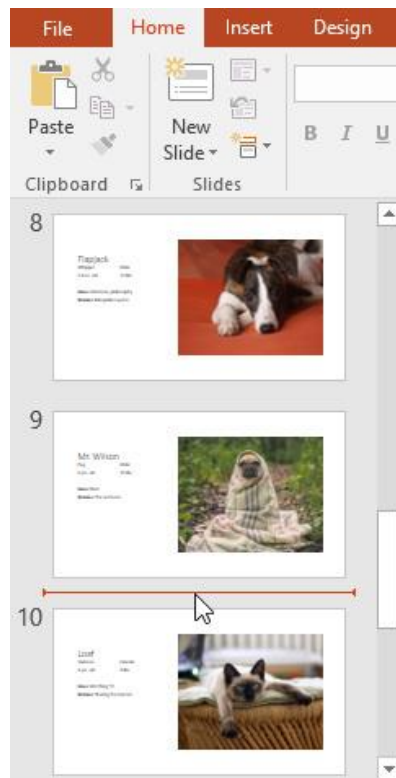




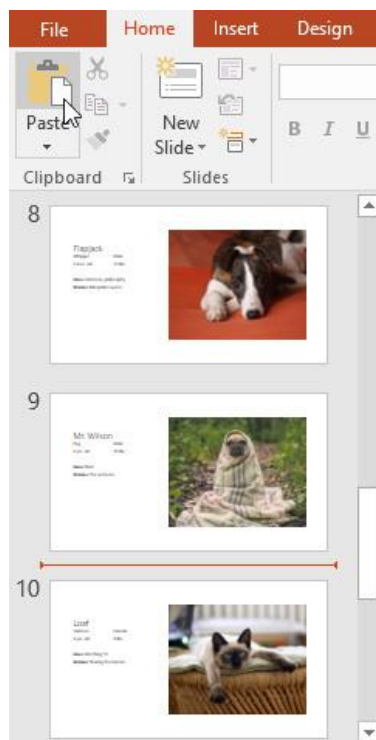
1. Select the **slide** you want to copy in the Slide Navigation pane, then click the **Copy** command on the **Home** tab. You can also press **Ctrl+C** on your keyboard.



2. In the Slide Navigation pane, click just below a slide (or between two slides) to choose a paste location. A **horizontal insertion point** will appear.

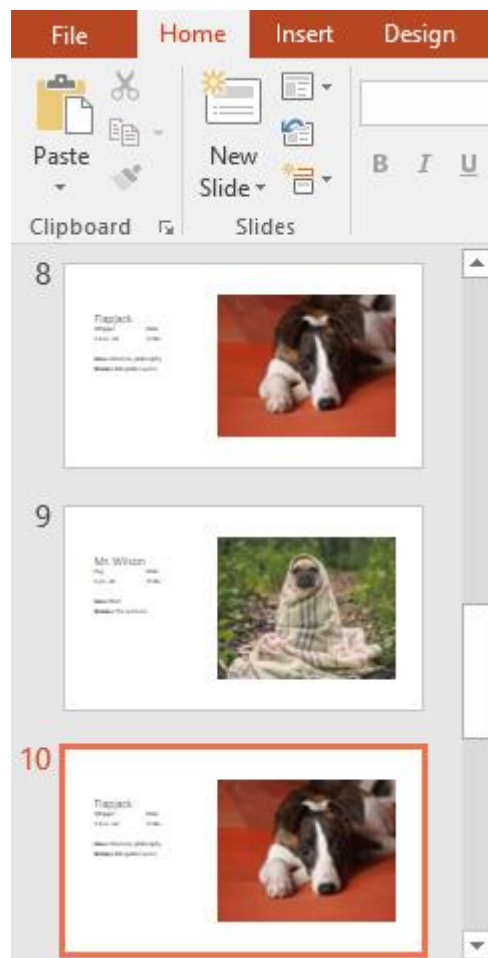


3. Click the **Paste** command on the **Home** tab. You can also press **Ctrl+V** on your keyboard.





4. The slide will appear in the selected location.



### Customizing slide layouts

Sometimes you may find that a slide layout doesn't exactly fit your needs. For example, a layout might have too many—or too few—placeholders. You might also want to change how the placeholders are arranged on the slide. Fortunately, PowerPoint makes it easy to adjust slide layouts as needed.



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## Adjusting placeholders

- **To select a placeholder:** Hover the mouse over the edge of the placeholder and click (you may need to click the text in the placeholder first to see the border). A selected placeholder will have a **solid line** instead of a dotted line.



- **To move a placeholder:** Select the placeholder, then click and drag it to the desired location.

## Shelbyfield Animal Rescue



- **To resize a placeholder:** Select the placeholder you want to resize. **Sizing handles** will appear. Click and drag the **sizing handles** until the placeholder is the desired size. You can use the corner sizing handles to change the placeholder's **height** and **width** at the same time.



# Shelbyfield Animal Rescue

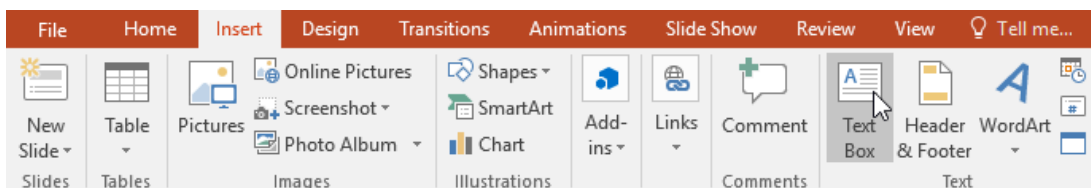


- **To delete a placeholder:** Select the placeholder you want to delete, then press the **Delete** or **Backspace** key on your keyboard.

## To add a text box:

Text can be inserted into both **placeholders** and **text boxes**. Inserting **text boxes** allows you to add to the slide layout. Unlike placeholders, text boxes always stay in the same place, even if you change the theme.

1. From the **Insert** tab, select the **Text Box** command.



2. Click and drag to draw the text box on the slide.



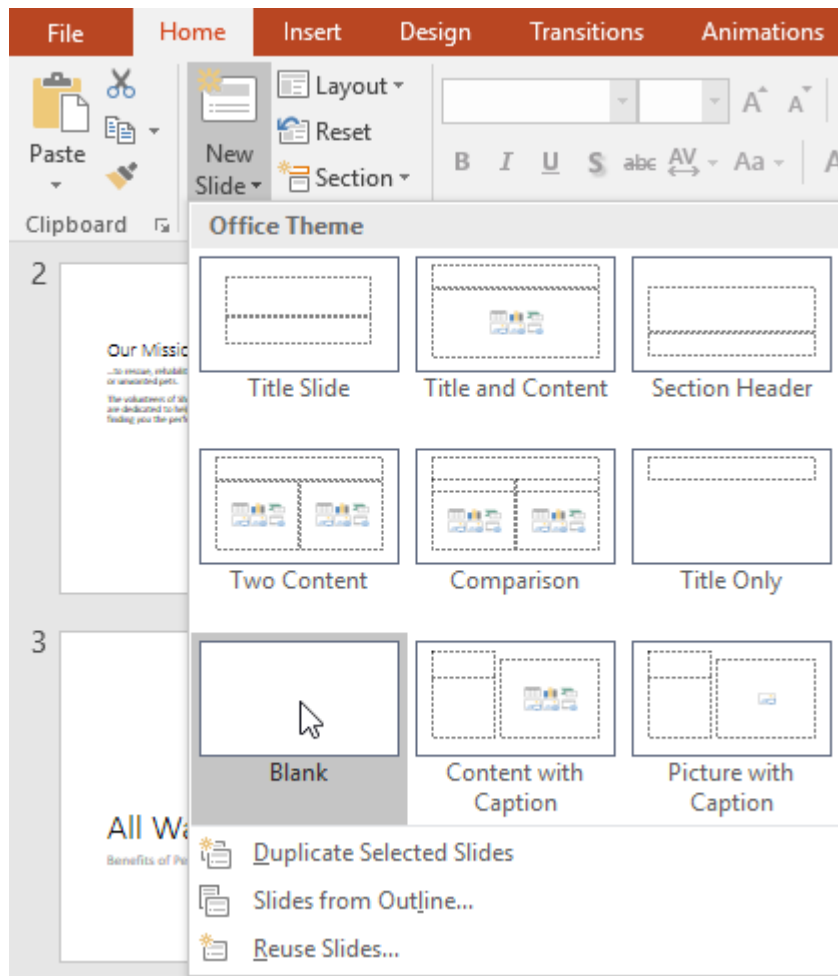
3. The text box will appear. To add text, simply click the text box and begin typing.



### *Using blank slides*

If you want even more control over your content, you may prefer to use a **blank slide**, which contains no placeholders. Blank slides can be customized by adding your own text boxes, pictures, charts, and more.

- To insert a blank slide, click the bottom half of the **New Slide** command, then choose **Blank** from the menu that appears.

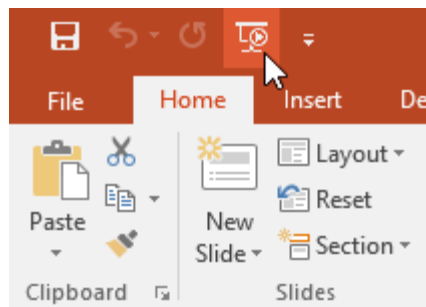


While blank slides offer more flexibility, keep in mind that you won't be able to take advantage of the predesigned layouts included in each theme.

### **To play the presentation:**

Once you've arranged your slides, you may want to **play** your presentation. This is how you will present your slide show to an audience.

1. Click the **Start From Beginning** command on the Quick Access Toolbar to see your presentation.



2. The presentation will appear in full-screen mode.
3. You can advance to the next slide by **clicking your mouse** or pressing the **spacebar** on your keyboard. You can also use the **arrow keys** on your keyboard to move forward or backward through the presentation.
4. Press the **Esc** key to exit presentation mode.

You can also press the **F5** key at the top of your keyboard to start a presentation.

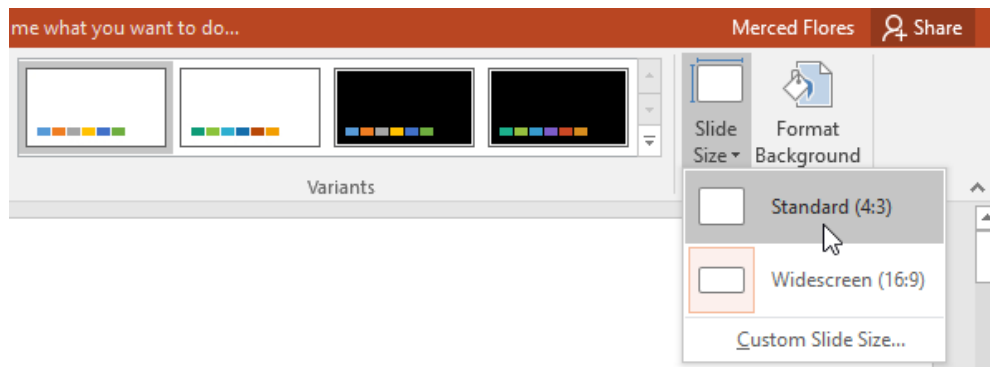
## Customizing slides

### *To change the slide size:*

By default, all slides in PowerPoint 2013 use a **16-by-9**—or **widescreen**—aspect ratio. You might know that widescreen TVs also use the 16-by-9 aspect ratio. Widescreen slides will work best with widescreen monitors and projectors. However, if you need your presentation to fit a **4-by-3** screen, it's easy to change the slide size to fit.

- To change the slide size, select the **Design** tab, then click the **Slide Size** command. Choose the desired slide size from the menu that appears, or click **Custom Slide Size** for more options.





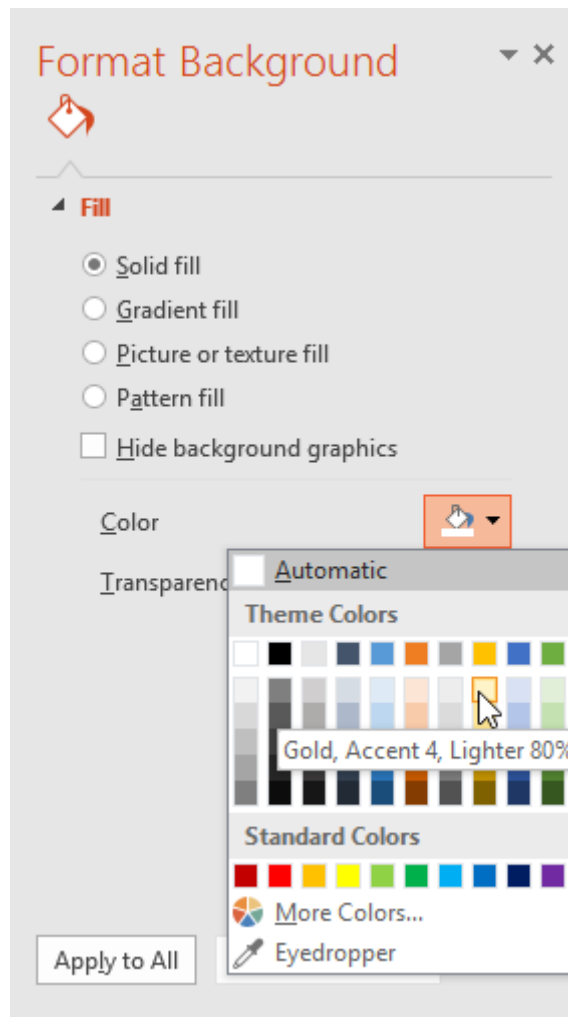
### To format the slide background:

By default, all slides in your presentation use a **white background**. It's easy to change the background style for some or all of your slides. Backgrounds can have a **solid, gradient, pattern, or picture fill**.

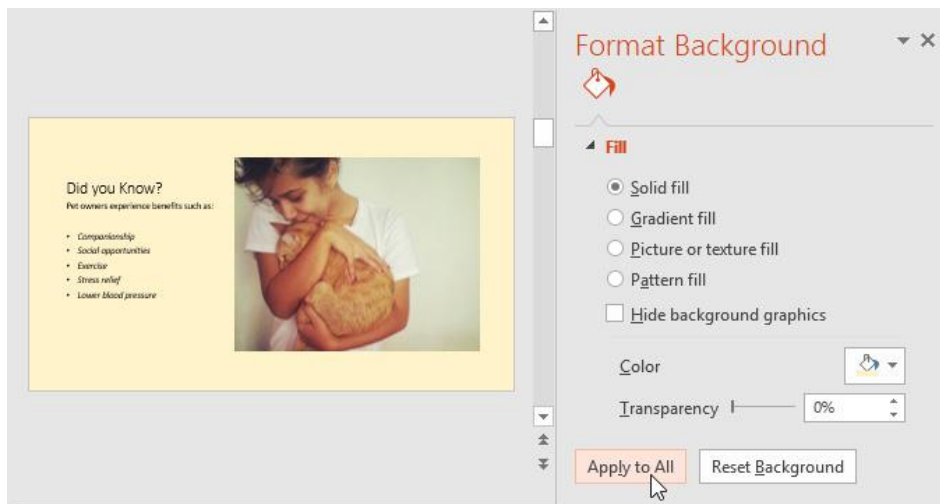
1. Select the **Design** tab, then click the **Format Background** command.



2. The **Format Background** pane will appear on the right. Select the desired fill options. In our example, we'll use a **Solid fill** with a **light gold** color.



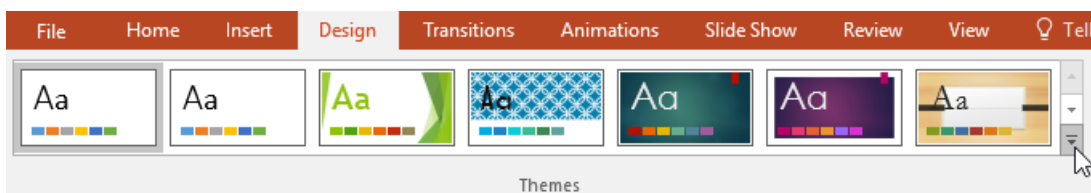
3. The background style of the selected slide will update.
4. If you want, you can click **Apply to All** to apply the same background style to all slides in your presentation.



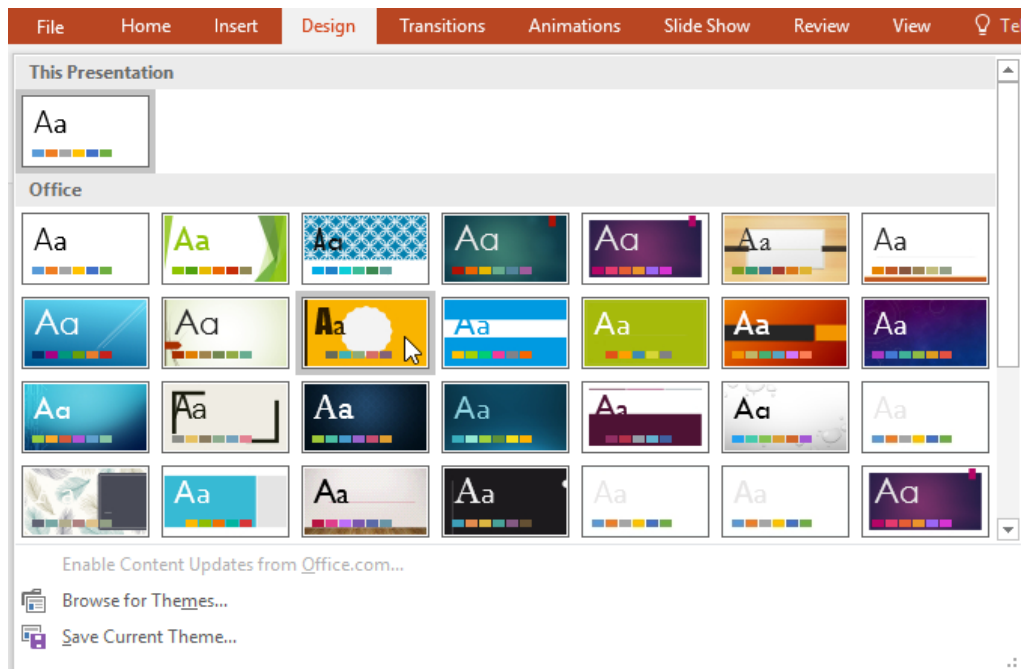
### *To apply a theme:*

A theme is a **predefined combination** of colors, fonts, and effects that can quickly change the look and feel of your entire slide show. Different themes also use different **slide layouts**, which can change the arrangement of your existing placeholders. We'll talk more about themes later in our **Applying Themes** lesson.

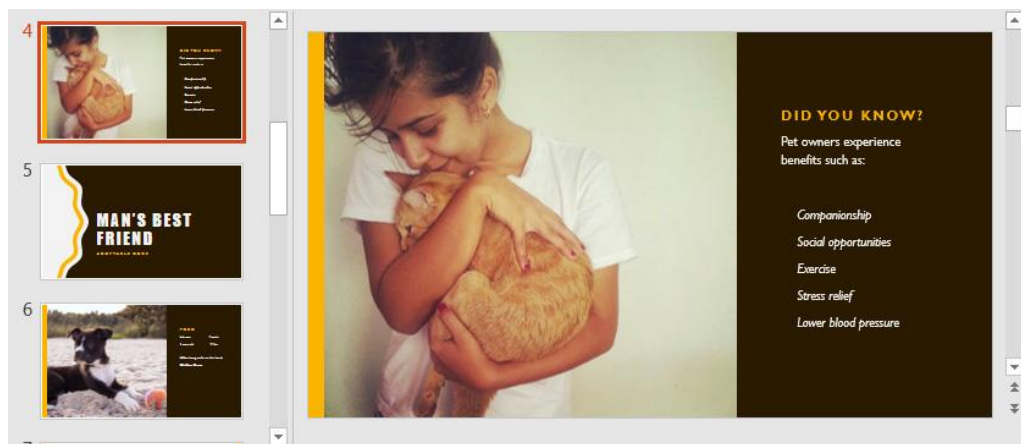
1. Select the **Design** tab on the Ribbon, then click the **More** drop-down arrow to see all of the available themes.



2. Select the **desired theme**.



3. The theme will be applied to your **entire presentation**.



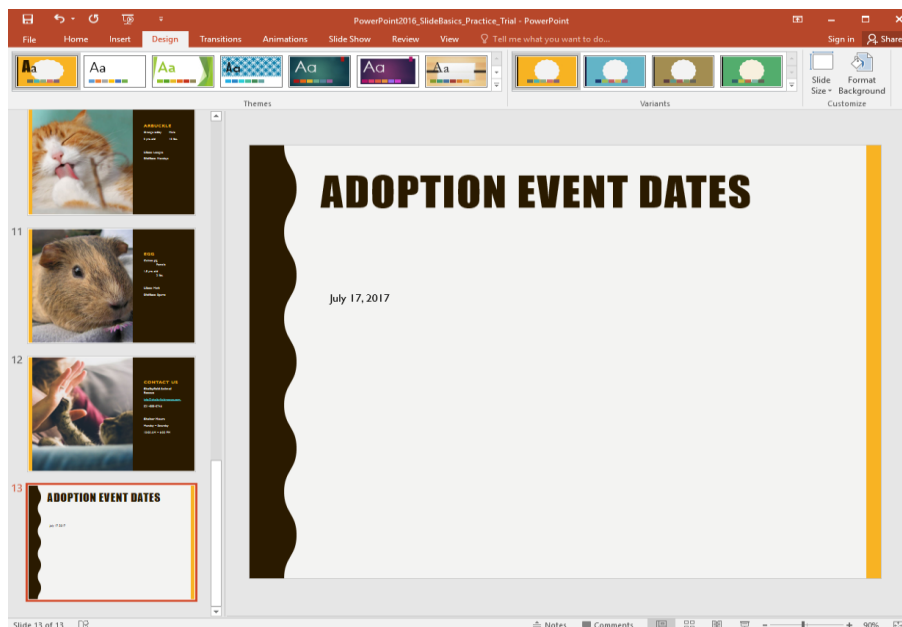
Try applying a few themes to your presentation. Some themes will work better than others, depending on your content.

## Challenge

1. Open our **practice presentation**.



2. Change the **theme** of the presentation.
3. **Delete** slide 7. This slide should be blank.
4. Add a new slide with the **Title and Content** layout to the end of the presentation.
5. In the **Title** placeholder, type **Adoption Event Dates**.
6. Select the **Content** placeholder and delete it.
7. **Insert** a text box and type **July 17, 2017** inside it.
8. Change the slide size to **Standard (4:3)**. A dialog box will appear asking if you want to maximize or ensure fit. Choose **Ensure Fit**.
9. When you're finished, your presentation should look something like this:





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## Presenting Your Slide Show

Once your slide show is complete, you'll need to learn how to **present it** to an audience. PowerPoint offers several tools and features to help make your presentation smooth, engaging, and professional.

Optional: Download our **practice presentation**.

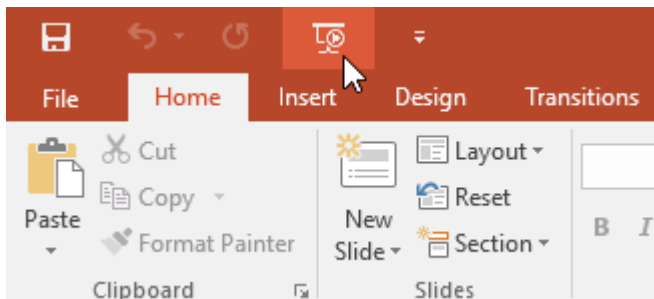
### Presenting a slide show

Before presenting your slide show, you'll need to think about the type of **equipment** that will be available for your presentation. Many presenters use **projectors** during presentations, so you might want to consider using one as well. This allows you to control and preview slides on one monitor while presenting them to an audience on another screen.

#### To start a slide show:

There are several ways you can begin your presentation:

- Click the **Start From Beginning** command on the Quick Access Toolbar, or press the **F5** key at the top of your keyboard. The presentation will appear in full-screen mode.

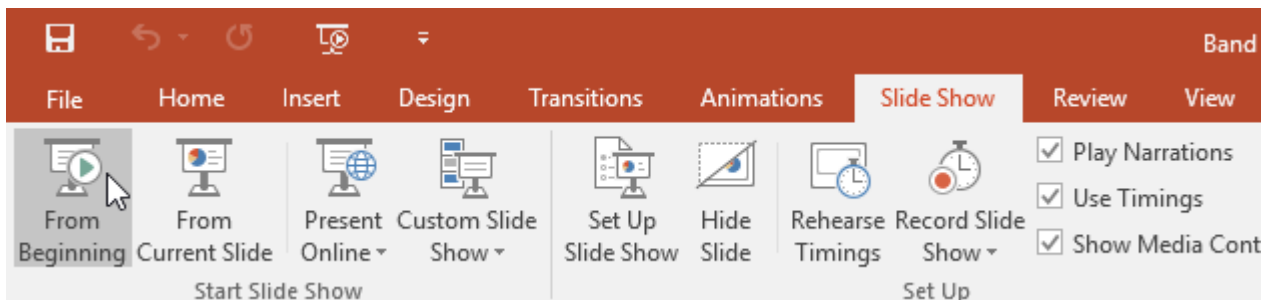




- Select the **Slide Show view** command at the bottom of the PowerPoint window to begin a presentation from the current slide.



- Go to the **Slide Show** tab on the Ribbon to access additional options. From here, you can start the presentation **from the current slide** and access **advanced presentation options**.



### ***To advance and reverse slides:***

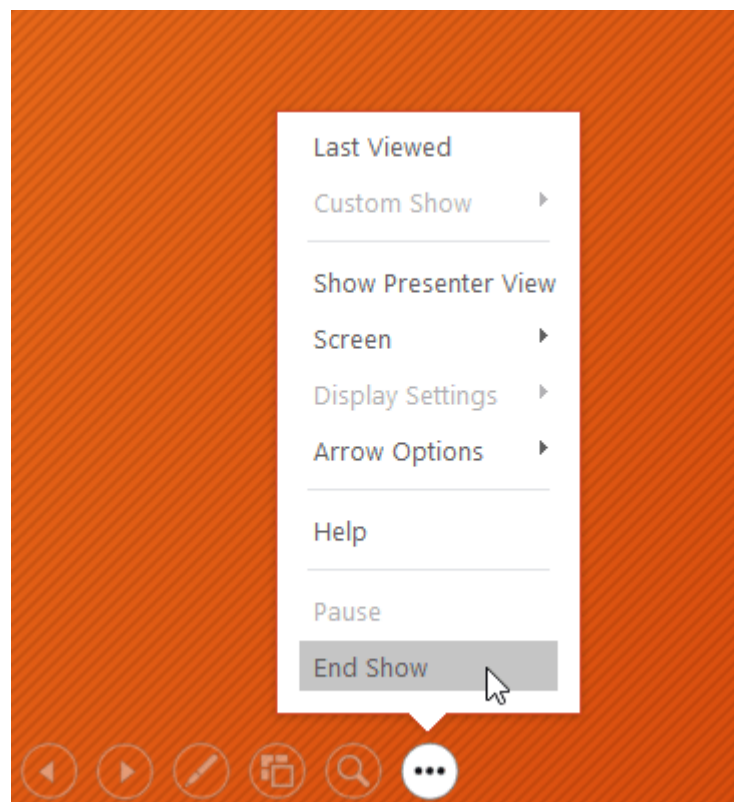
You can advance to the next slide by **clicking your mouse** or pressing the **spacebar** on your keyboard. You can also use the **arrow keys** on your keyboard to move forward or backward through the presentation.

You can also hover your mouse over the bottom-left and click the **arrows** to move forward or backward.



*To stop a slide show:*

You can exit presentation mode by pressing the **Esc** key on your keyboard. You can also click the **Slide Show Options** button in the bottom-left and select **End Show**.



The presentation will also end after the **last slide**. You can click the mouse or press the spacebar to return to Normal view.





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End of slide show, click to exit.

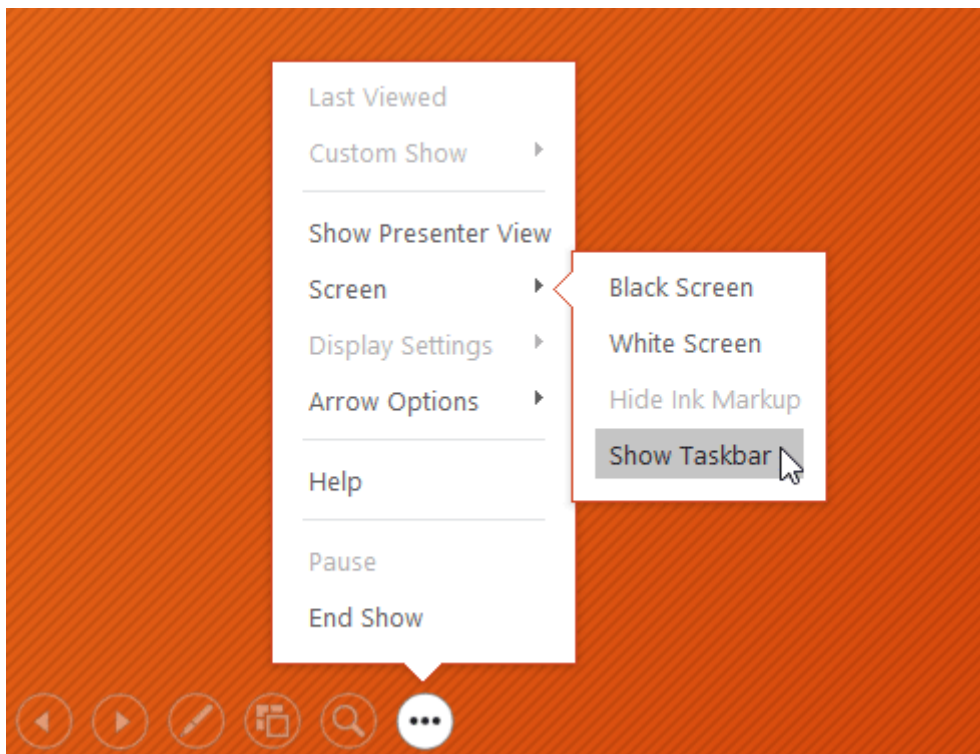
## **Presentation tools and features**

PowerPoint provides convenient tools you can use while presenting your slide show. For example, you can change your mouse pointer to a **pen** or **highlighter** to draw attention to items in your slides. In addition, you can **jump around** to slides in your presentation or access other programs from your **taskbar** if needed.

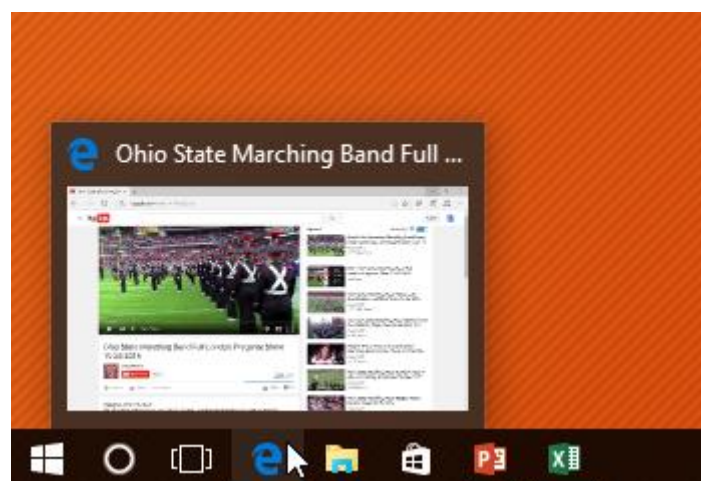
### ***To show the taskbar:***

Sometimes you may need to access the Internet or other files and programs on your computer during your presentation. PowerPoint allows you to access your **taskbar** without ending the presentation.

1. Locate and select the **Slide Options button** in the bottom-left corner.
2. Select **Screen**, then click **Show Taskbar**.



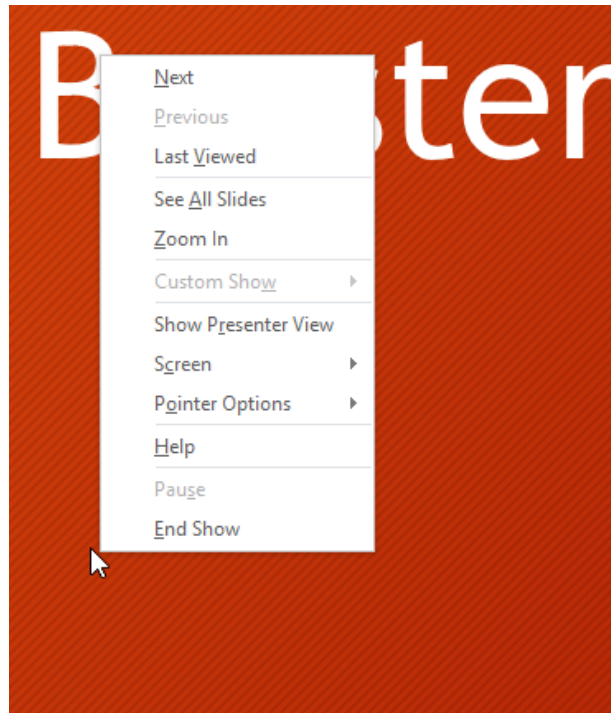
3. Your **taskbar** will appear. Choose a program you want to open, like a web browser. When you're done, close the window or click the PowerPoint icon on the taskbar to return to the presentation.





## *Slide options*

You can also access any of the menu items above by **right-clicking** anywhere on the screen during your slide show.



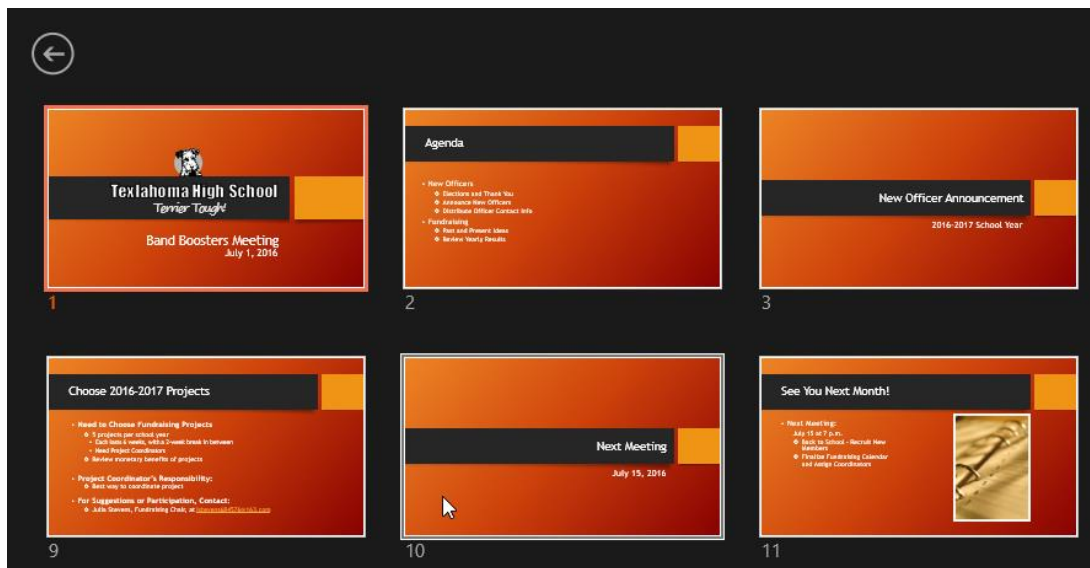
## *To skip to a nonadjacent slide:*

You can jump to slides **out of order** if needed.

1. Locate and select the **See All Slides** button in the bottom-left corner.



2. **Thumbnail versions** of each slide will appear. Select the slide you want to jump to.

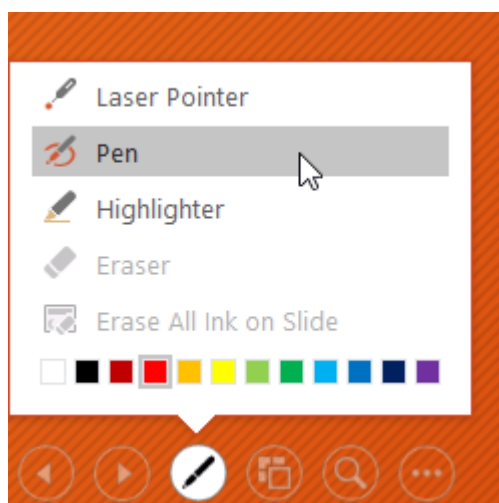


3. The selected slide will appear.

**To access drawing tools:**

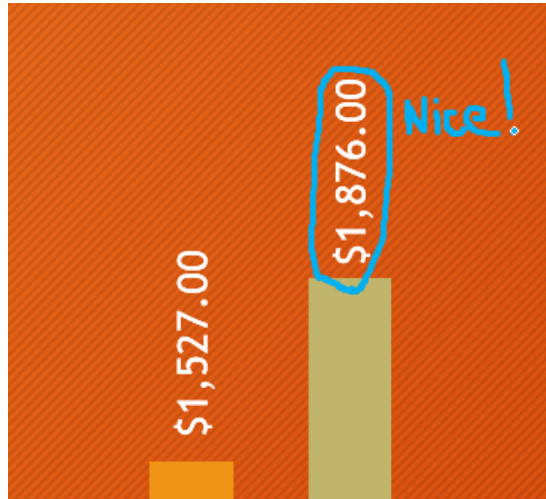
Your mouse pointer can act as **pen** or **highlighter** to draw attention to items in your slides.

1. Locate and select the **Pen Tools** button in the bottom-left corner.
2. Select **Pen** or **Highlighter** based on your preference. You can also choose a different **color** from the menu.

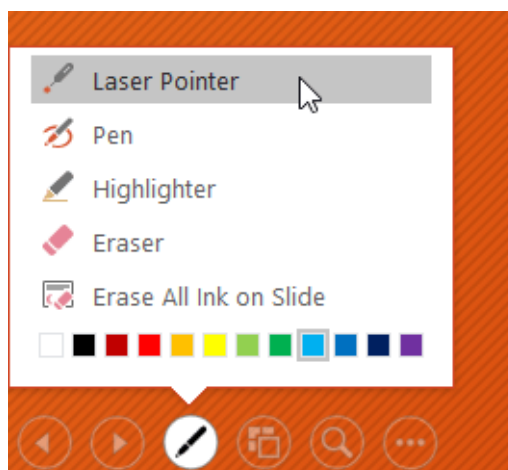




3. Click and drag the mouse to **mark** your slides. You can also press **Ctrl+P** on your keyboard to access the pen tool while presenting your slide show.



You can also use the **laser pointer** feature to draw attention to certain parts of your slide. Unlike the pen and highlighter, the laser pointer will not leave markings on your slides. To use the laser pointer, select it from Pen Tools, or press and hold the **Ctrl** key and the left mouse button.

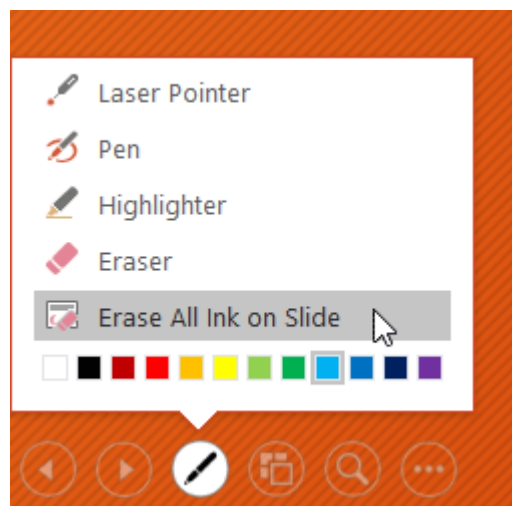




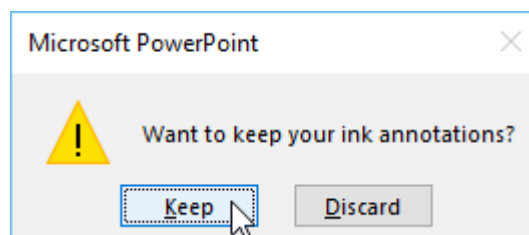
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*To erase ink markings:*

1. Locate and select the **Pen Tools** button in the bottom-left corner.
2. Select **Eraser** to erase individual ink markings, or select **Erase All Ink on Slide** to erase all markings.



When you end a slide show, you'll also have the option to **Keep** or **Discard** any ink annotations made during your presentation. If you keep ink markings, they'll appear as **objects** on your slides in Normal view.



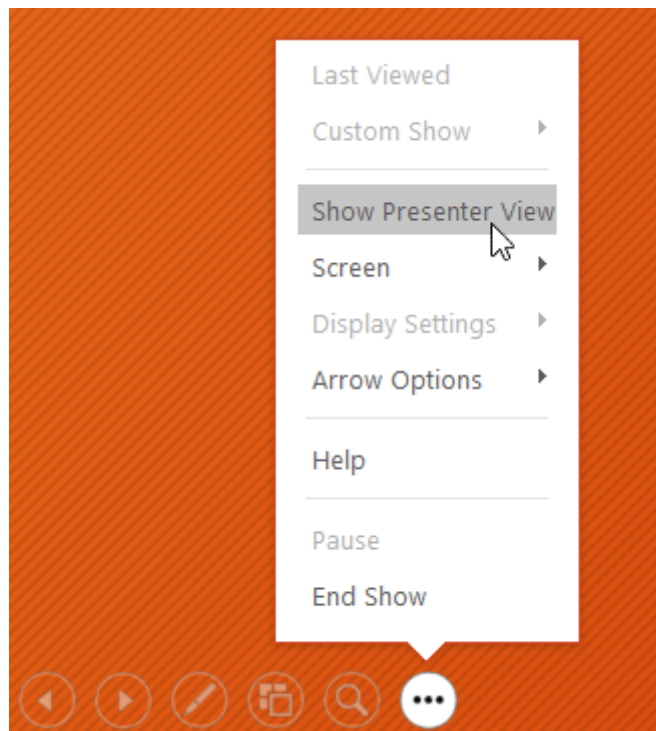


## Presenter view

If you're presenting your slide show with a second display—like a projector—you can use **Presenter view**. Presenter view gives you access to a special set of controls on your screen that the audience won't see, allowing you to easily reference **slide notes**, preview the **upcoming slide**, and much more.

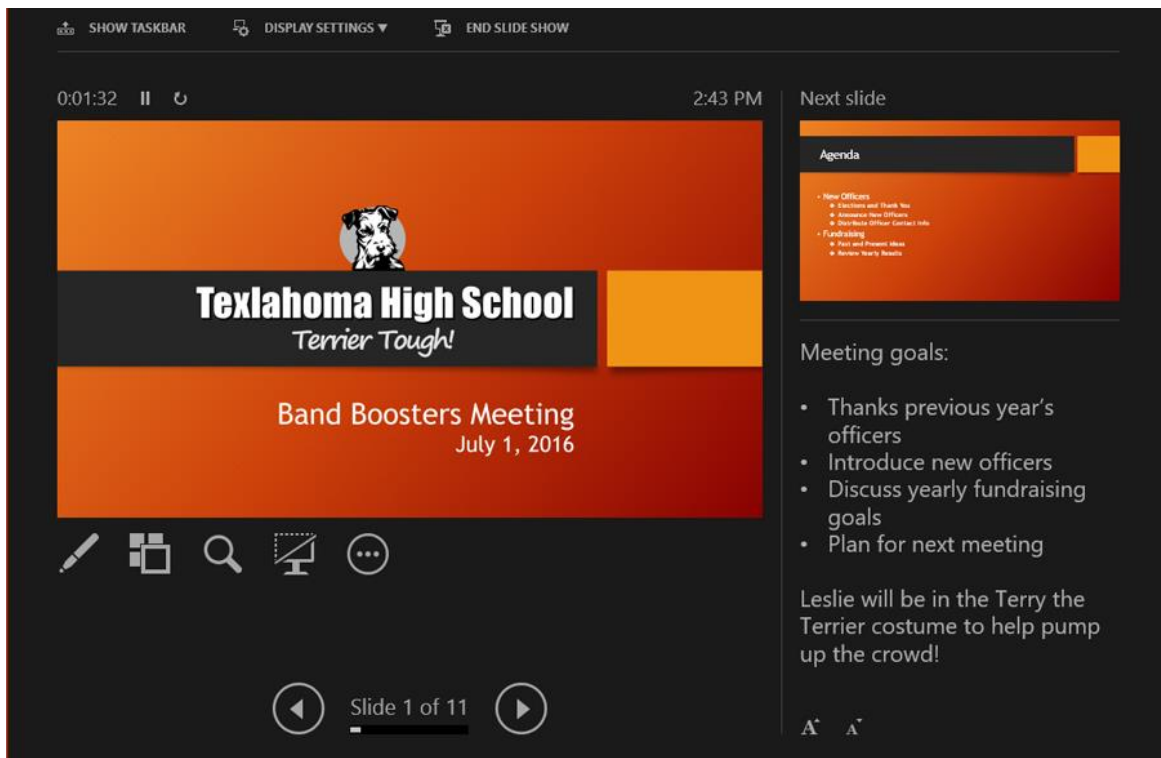
### *To access Presenter view:*

Start your slide show as you normally would, then click the **Slide Options** button and select **Presenter View**. You can also press **Alt+F5** on your keyboard to start the slide show in Presenter view.



Click the buttons in the interactive below to learn more about using Presenter view.



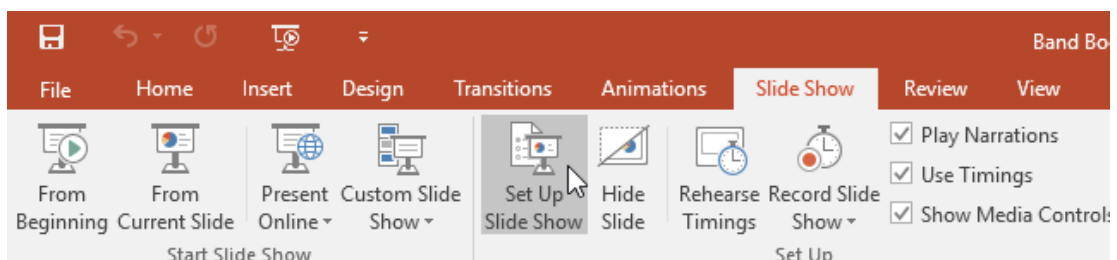


## Slide show setup options

PowerPoint has various options for setting up and playing a slide show. For example, you can set up an unattended presentation that can be displayed at a kiosk and make your slide show repeat with continuous looping.

*To access slide show setup options:*

1. Select the **Slide Show** tab, then click the **Set Up Slide Show** command.

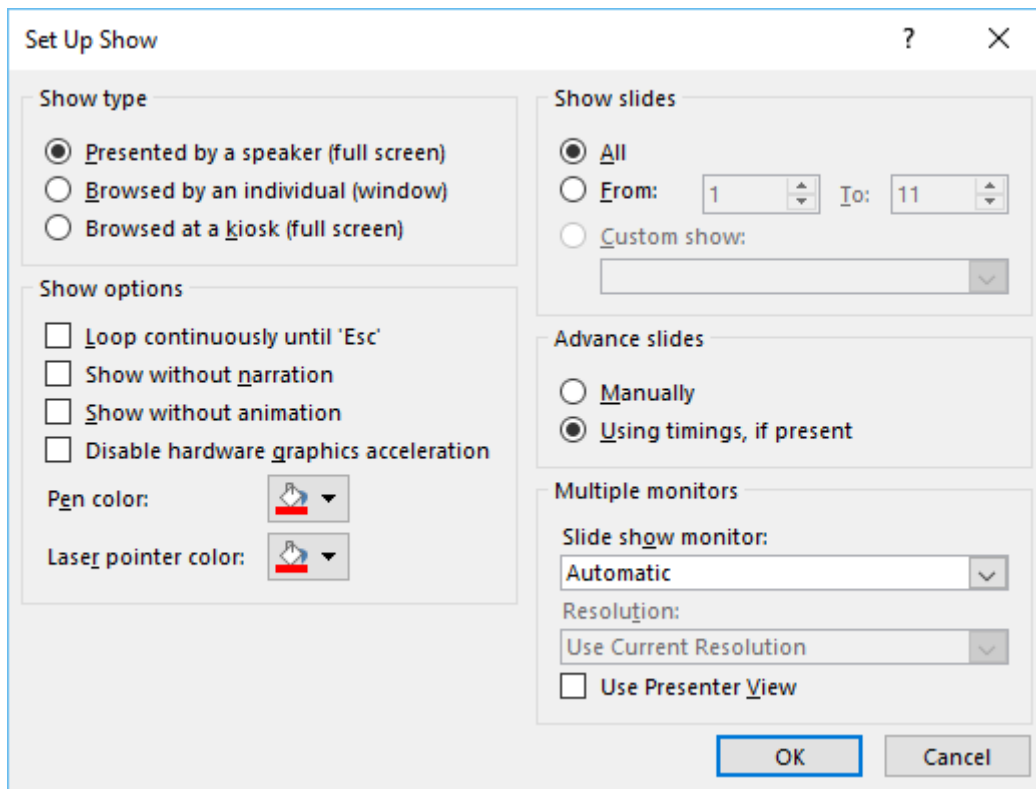






2. The **Set Up Show** dialog box will appear. From here, you can select the desired options for your presentation.

Click the buttons in the interactive below to learn about various options for setting up and playing a slide show.

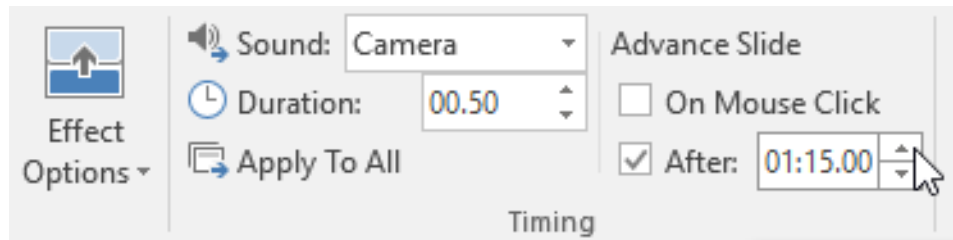


## Multiple Monitors

If you have more than one monitor, you can choose which one to display the slide show on. It's usually best to leave this setting on **Automatic**.



To advance slides automatically, you'll need to customize the slide timing on the **Transitions** tab. Review our lesson on [Applying Transitions](#) to learn how.



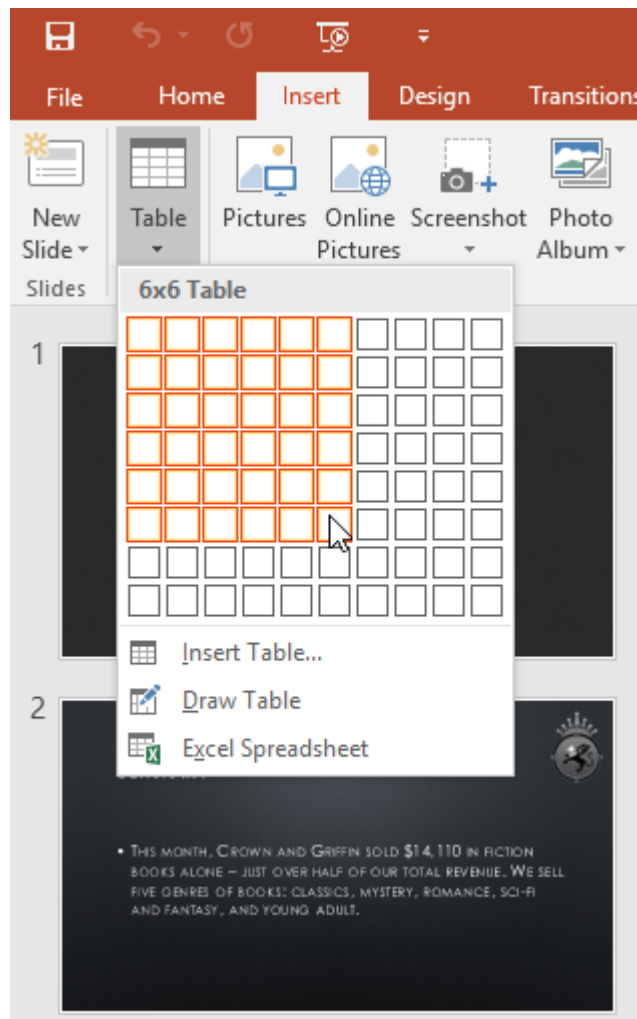
## Tables

**Tables** are another tool you can use to display information in PowerPoint. A table is a grid of cells arranged in **rows** and **columns**. Tables are useful for various tasks, including presenting text information and numerical data. You can even **customize** tables to fit your presentation.

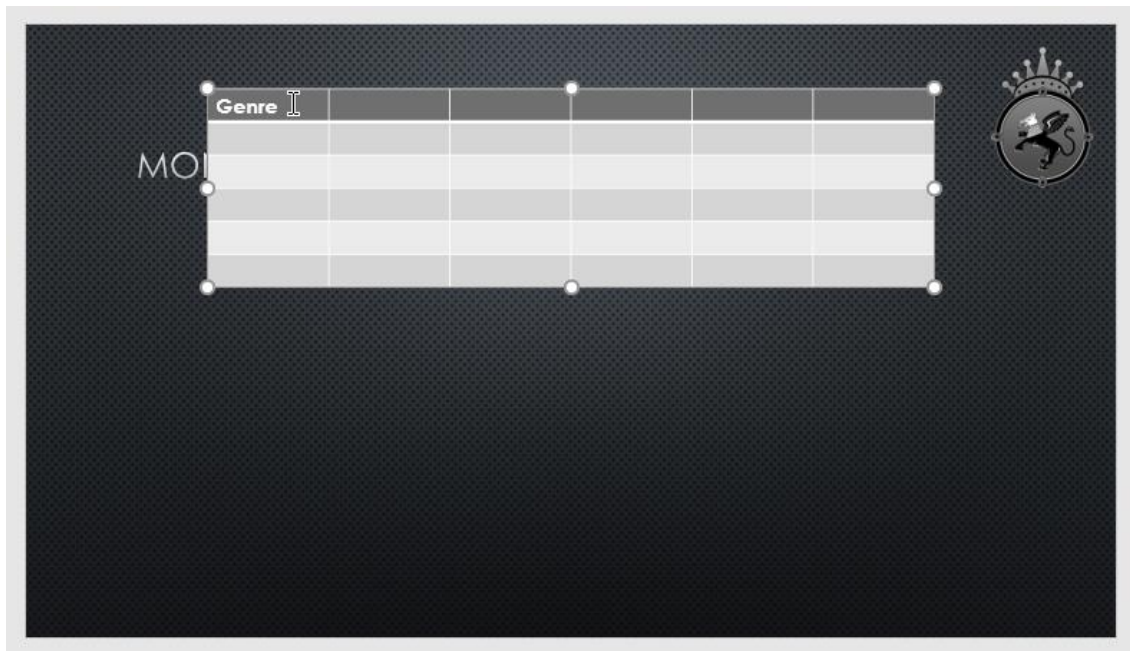
Optional: Download our **practice presentation**.

### *To insert a table:*

1. From the **Insert** tab, click the **Table** command.
2. Hover the mouse over the grid of squares to select the desired number of **columns** and **rows** in the table. In our example, we'll insert a table with **six rows** and **six columns** (6x6).



3. The table will appear on the currently selected slide. In our example, that's slide 3.
4. Click anywhere in the table and begin typing to add text. You can also use the **Tab** key or the **arrow keys** on your keyboard to navigate through the table.



You can also insert a table by clicking the **Insert Table** command in a **placeholder**.



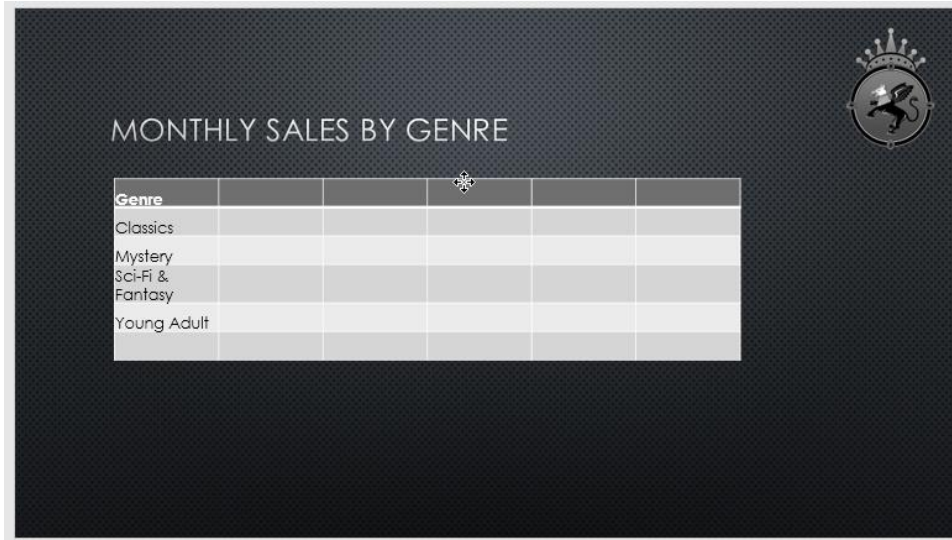
## Modifying tables

PowerPoint includes several options for customizing tables, including **moving** and **resizing**, as well as **adding rows** and **columns**.



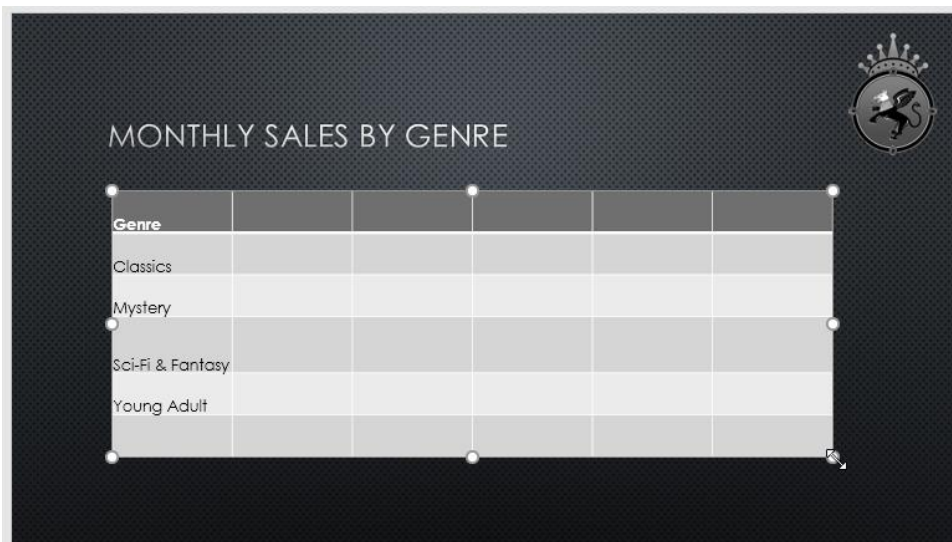
**To move a table:**

- Click and drag the **edge** of a table to **move it** to a new location on a slide.



**To resize a table:**

- Click and drag the **sizing handles** until the table is the desired size.





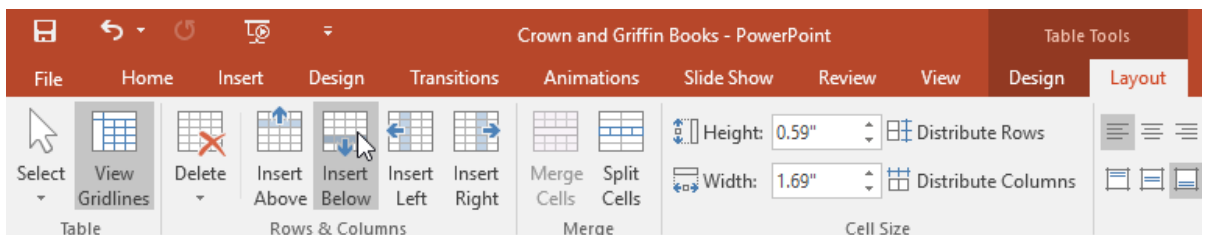
### ***To add a row or column:***

1. Click a cell **adjacent** to the location where you want to add a row or column.

In our example, we'll select the cell that says **Mystery**.

Genre					
Classics					
Mystery					
Sci-Fi & Fantasy					
Young Adult					

2. Click the **Layout** tab on the right side of the Ribbon.
3. Locate the **Rows & Columns** group. If you want to insert a new **row**, select either **Insert Above** or **Insert Below**. If you want to insert a new **column**, select either **Insert Left** or **Insert Right**.



4. The new row or column will appear.



Genre					
Classics					
Mystery					
Sci-Fi & Fantasy					
Young Adult					

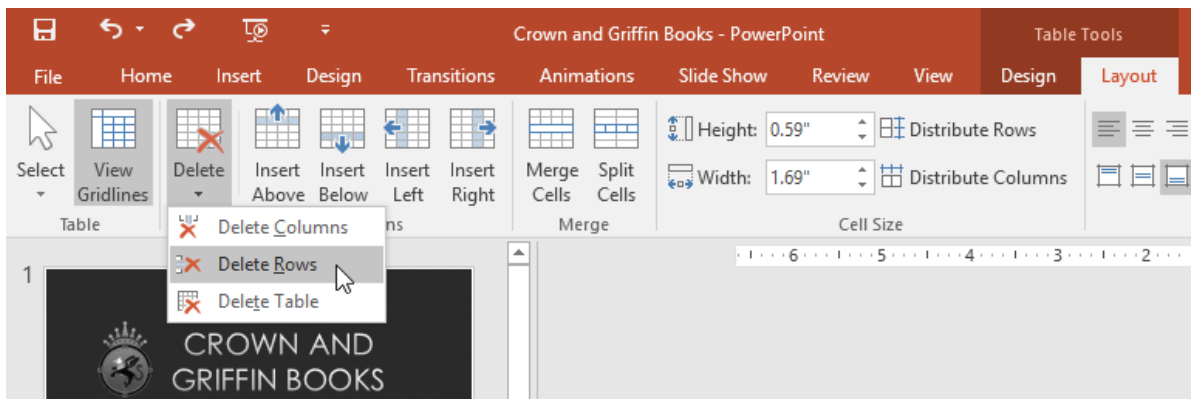
*To delete a row or column:*

1. Select the desired row or column. In our example, we'll select the **empty row** at the bottom of the table.

Genre					
Classics					
Mystery					
Romance					
Sci-Fi & Fantasy					
Young Adult					

2. From the **Layout** tab in the **Rows & Columns** group, click the **Delete** command, then select **Delete Rows** or **Delete Columns** from the menu.





3. The selected row or column will be deleted.

Genre				
Classics				
Mystery				
Romance				
Sci-Fi & Fantasy				
Young Adult				

You can also access the **Insert** and **Delete** commands by right-clicking a table.

Genre		
Classics	\$2,225.00	\$2,326.00
Mystery		\$2,640.00
Romance	\$4,390.00	\$3,022.00
Sci-Fi & Fantasy	\$1,730.00	\$1,109.00





### ***To delete a table:***

- Click the edge of the table you want to delete, then press the **Backspace** or **Delete** key on your keyboard.

### **Modifying tables with the Layout tab**

When you select a table, the **Design** and **Layout** tabs will appear on the right side of the Ribbon. You can make a variety of changes to a table using the commands on the **Layout** tab.

Click the buttons in the interactive below to learn about the different commands on the Layout tab.

Genre	January	February	March	April	May
Classics	\$1,580.00	\$2,225.00	\$2,326.00	\$2,017.00	\$2,134.00
Mystery	N/A		\$2,640.00	\$2,985.00	\$3,428.00
Romance	\$3,236.00	\$4,390.00	\$3,022.00	\$3,009.00	\$4,474.00
Sci-Fi & Fantasy	\$1,730.00	\$1,730.00	\$1,109.00	\$1,355.00	\$1,686.00
Young Adult	\$1,358.00	\$1,685.00	\$1,893.00	\$2,065.00	\$2,388.00



## Text Direction

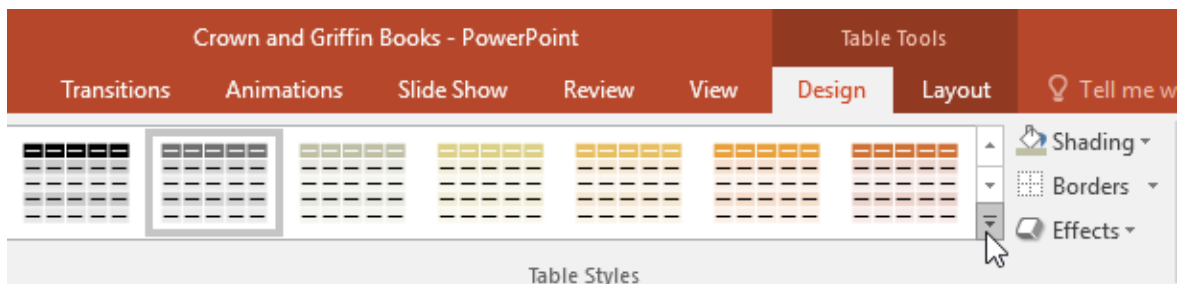
Changing the **text direction** can add style to your table. It can also help to **save space** if you need to fit more columns in your table.

## Customizing tables

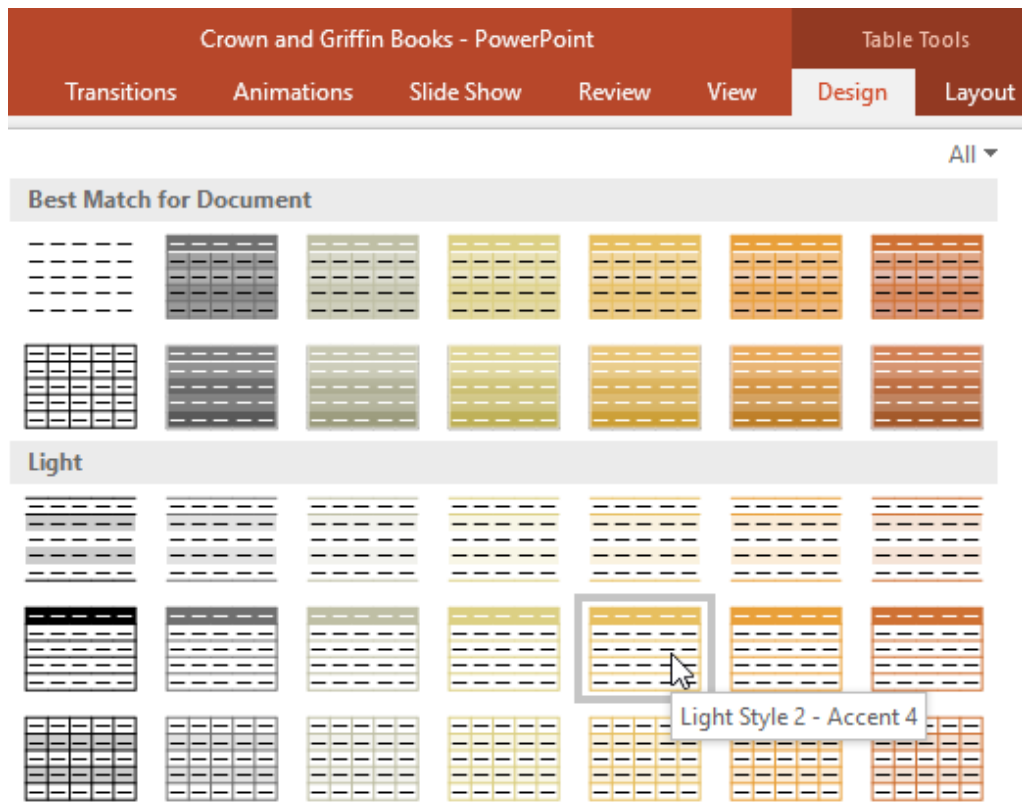
PowerPoint makes it easy to change the look and feel of your tables. For example, you can quickly apply different **table styles** and customize the **table borders**.

### *To apply a table style:*

1. Select **any cell** in your table, then click the **Design** tab on the right side of the Ribbon.
2. Locate the **Table Styles** group, then click the **More** drop-down arrow to see available table styles.



3. Select the desired style.



4. The selected table style will be applied.

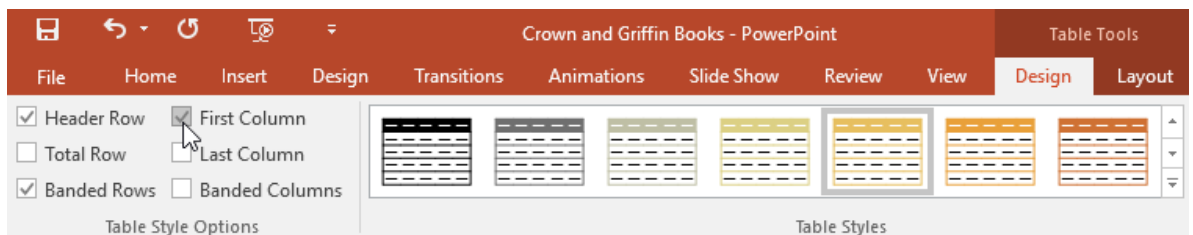
Genre	January	February	March	April	May
Classics	\$1,580.00	\$2,225.00	\$2,326.00	\$2,017.00	\$2,134.00
Mystery		N/A	\$2,640.00	\$2,985.00	\$3,428.00
Romance	\$3,236.00	\$4,390.00	\$3,022.00	\$3,009.00	\$4,474.00
Sci-Fi & Fantasy	\$1,730.00	\$1,730.00	\$1,109.00	\$1,355.00	\$1,686.00
Young Adult	\$1,358.00	\$1,685.00	\$1,893.00	\$2,065.00	\$2,388.00



### ***To change table style options:***

You can turn various options **on** or **off** to change the appearance of the table. There are several options: **Header Row**, **Total Row**, **Banded Rows**, **First Column**, **Last Column**, and **Banded Columns**.

1. Select **any cell** in your table.
2. From the **Design** tab, **check** or **uncheck** the desired options in the **Table Style Options** group.



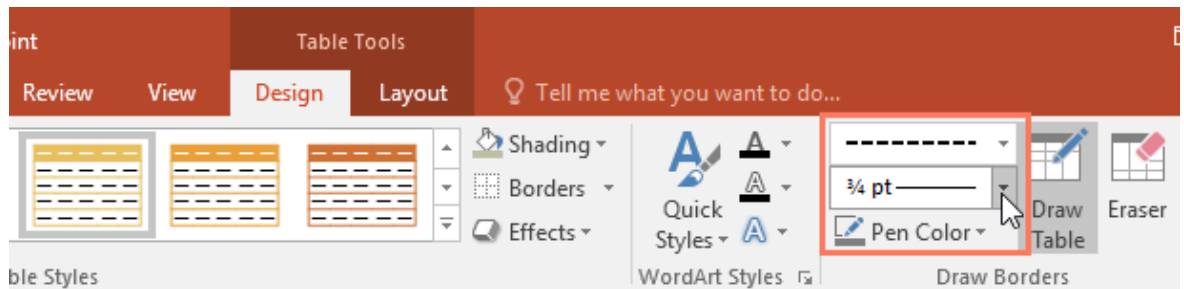
These options can affect your table style in various ways, depending on the type of content in your table. You may need to experiment with a few options to find the exact style you want.

### ***To add borders to a table:***

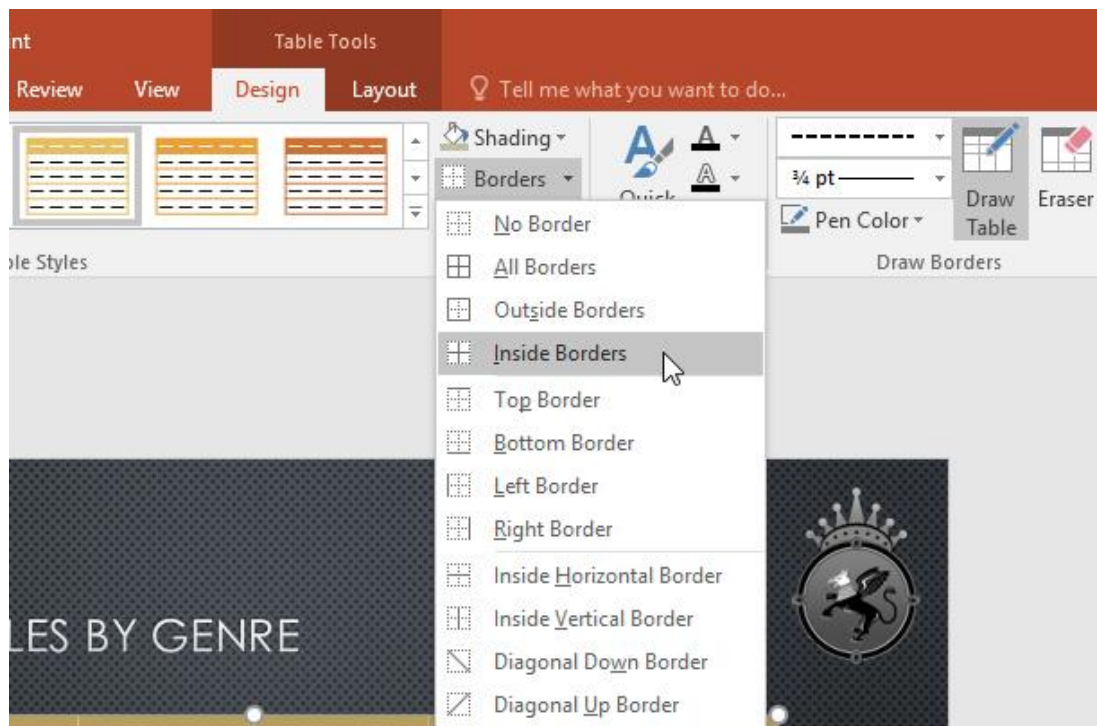
You can add **borders** to help define different sections of a table. Certain table styles may include borders automatically, but it's easy to add them manually or customize them. You can control the border **weight**, **color**, and **line style** for some or all of a table.



1. Select the cells where you want to add borders. In our example, we'll select **every cell** in our table.
2. From the **Design** tab, select the desired **Line Style**, **Line Weight**, and **Pen Color**.



3. Click the **Borders** drop-down arrow, then select the desired **border type**.



4. The border will be added to the selected cells.



Genre	January	February	March	April	May
Classics	\$1,580.00	\$2,225.00	\$2,326.00	\$2,017.00	\$2,134.00
Mystery	N/A		\$2,640.00	\$2,985.00	\$3,428.00
Romance	\$3,236.00	\$4,390.00	\$3,022.00	\$3,009.00	\$4,474.00
Sci-Fi & Fantasy	\$1,730.00	\$1,730.00	\$1,109.00	\$1,355.00	\$1,686.00
Young Adult	\$1,358.00	\$1,685.00	\$1,893.00	\$2,065.00	\$2,388.00

5. To **remove** borders, select the desired cells, click the **Borders** command, and select **No Border**.

## Charts

A Chart is a tool you can use to **communicate data graphically**. Including a chart in a presentation allows your audience to see the **meaning behind the numbers**, which makes it easy to visualize **comparisons** and **trends**.

Optional: Download our **practice presentation** for this lesson.

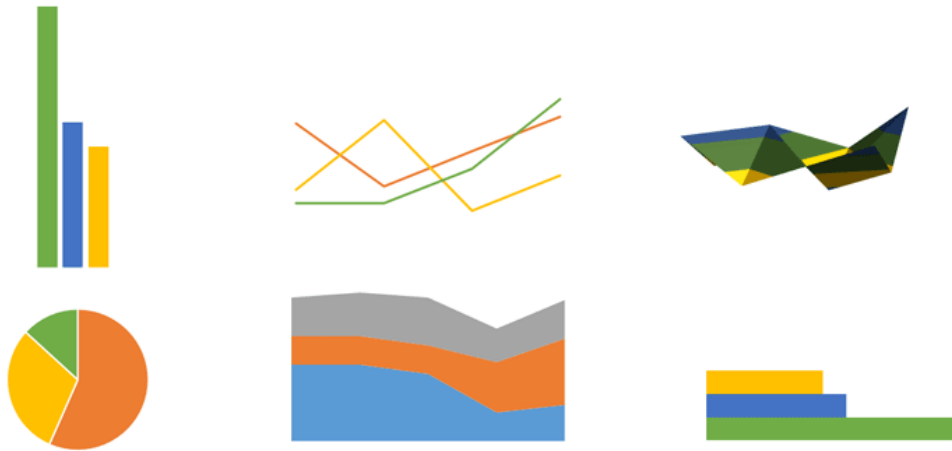
### Types of charts

PowerPoint has several types of charts, allowing you to choose the one that best fits your data. To use charts effectively, you'll need to understand how different charts are used.

Click the arrows in the slideshow below to learn more about the types of charts in PowerPoint.



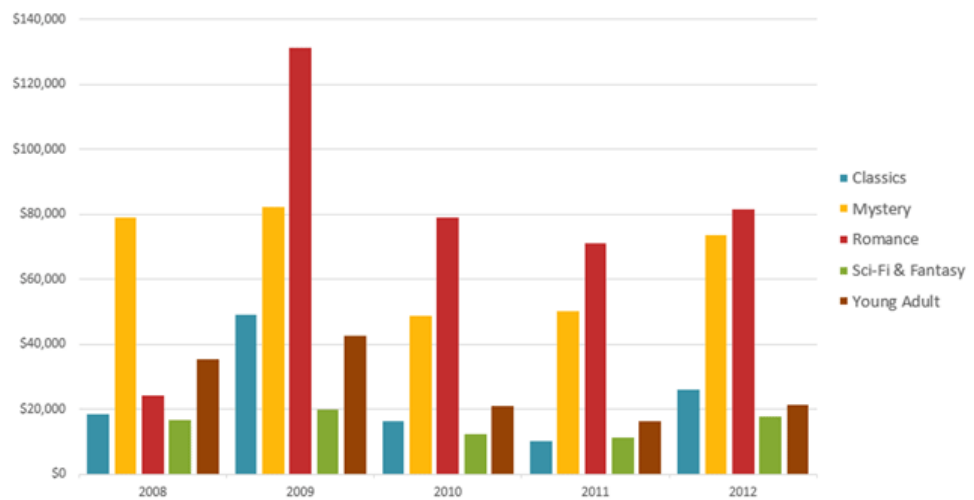
# Types of Charts



PowerPoint has a variety of chart types, each with its own advantages.

Click the arrows to see some of the different types of charts available in PowerPoint.

# Column

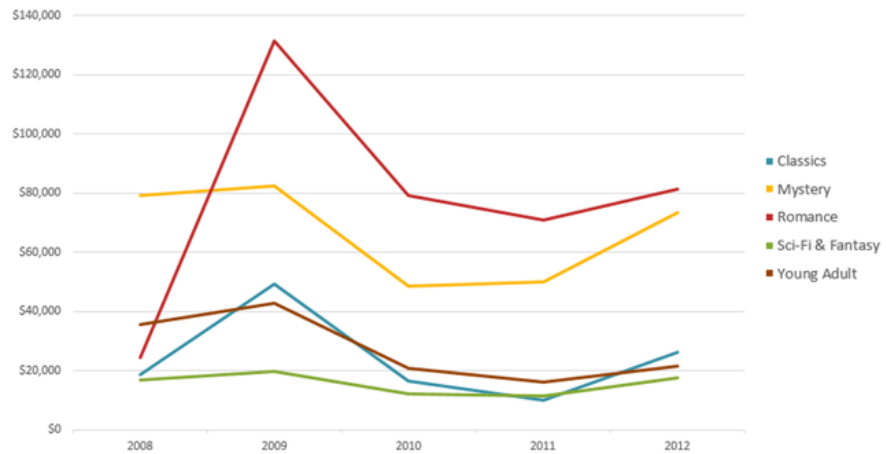






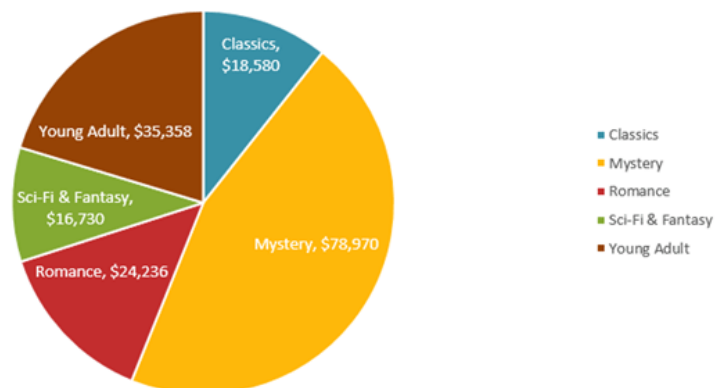
Column charts use vertical bars to represent data. They can work with many different types of data, but they're most frequently used for comparing information.

## Line



Line charts are ideal for showing trends. The data points are connected with lines, making it easy to see whether values are increasing or decreasing over time.

## Pie

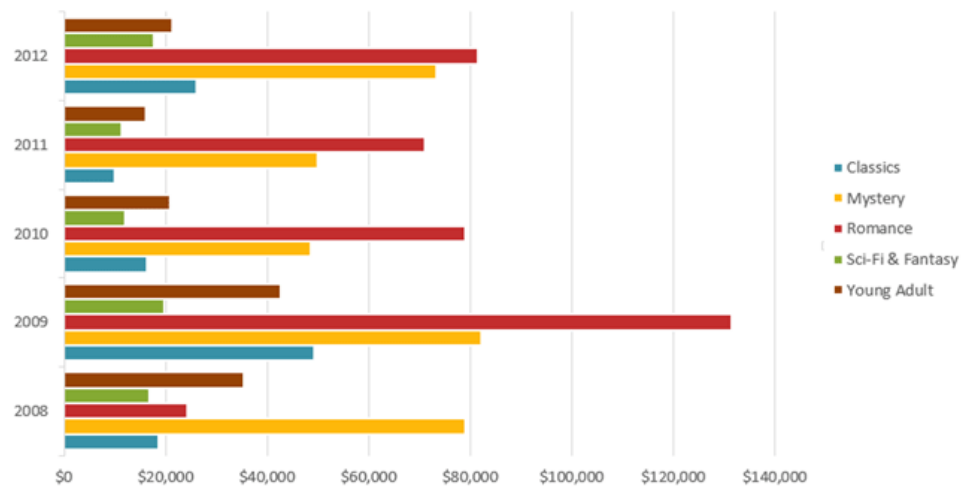






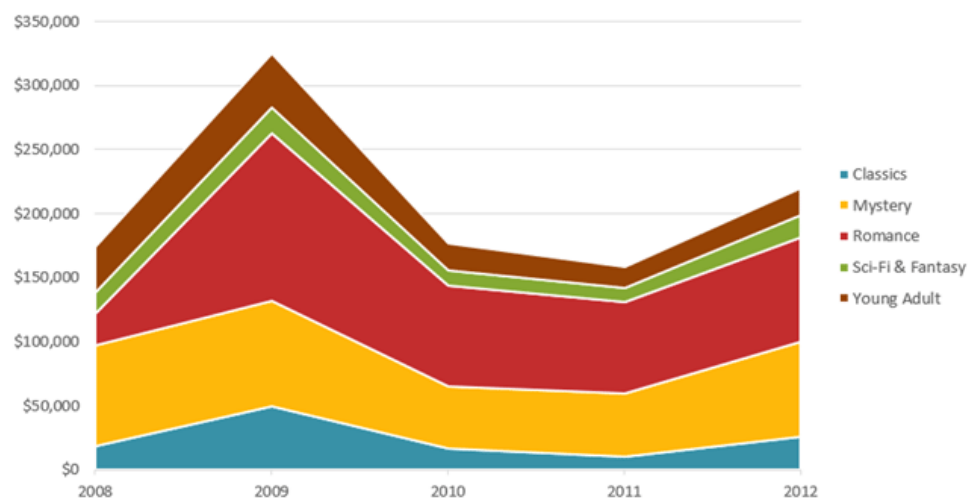
Pie charts make it easy to compare proportions. Each value is shown as a slice of the pie, so it's easy to see which values make up the percentage of a whole.

## Bar



Bar charts work just like column charts, but they use horizontal bars instead of vertical bars.

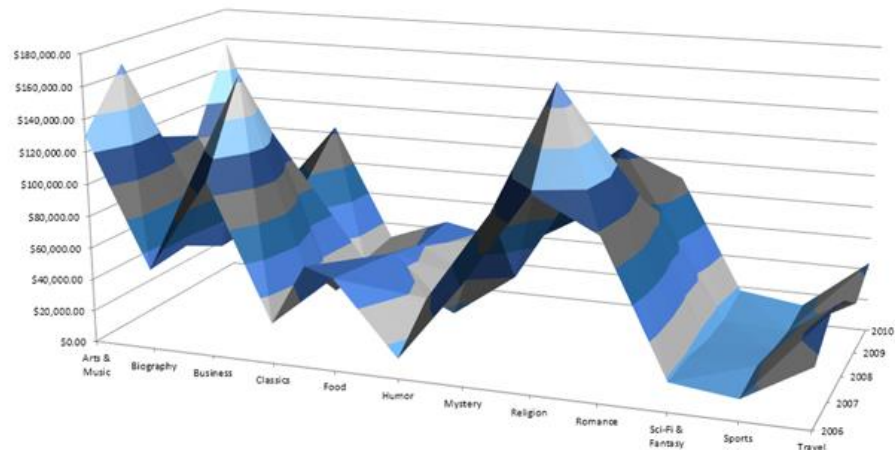
## Area





Area charts are similar to line charts, except the areas under the lines are filled in.

## Surface



Surface charts allow you to display data across a 3D landscape. They work best with large data sets, allowing you to see a variety of information at the same time.

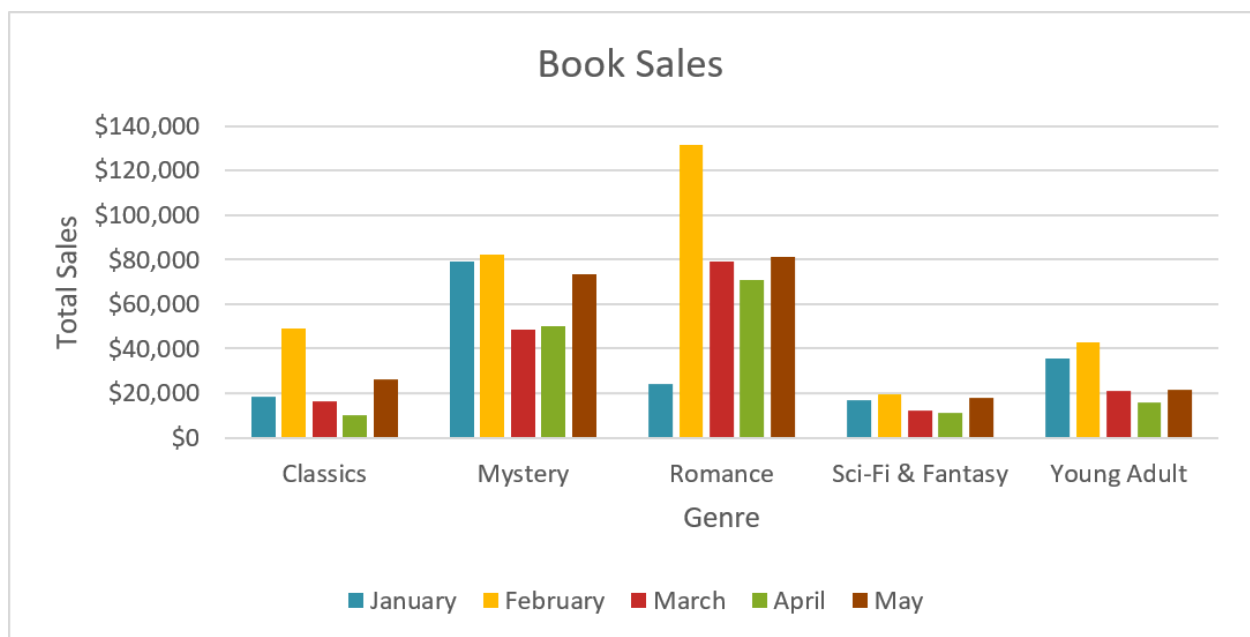




## Identifying the parts of a chart

In addition to chart types, you'll need to understand how to **read a chart**. Charts contain several different elements-or parts-that can help you interpret data.

Click the buttons in the interactive below to learn about the different parts of a chart.



## Legend

The **legend** identifies which data series each **color** on the chart represents. In this example, the legend identifies the different months in the chart.



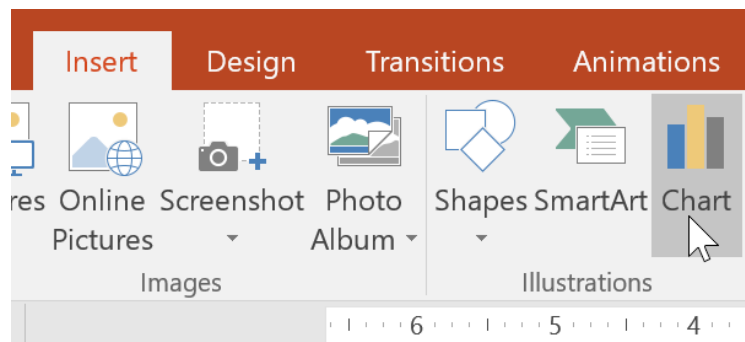
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## Inserting charts

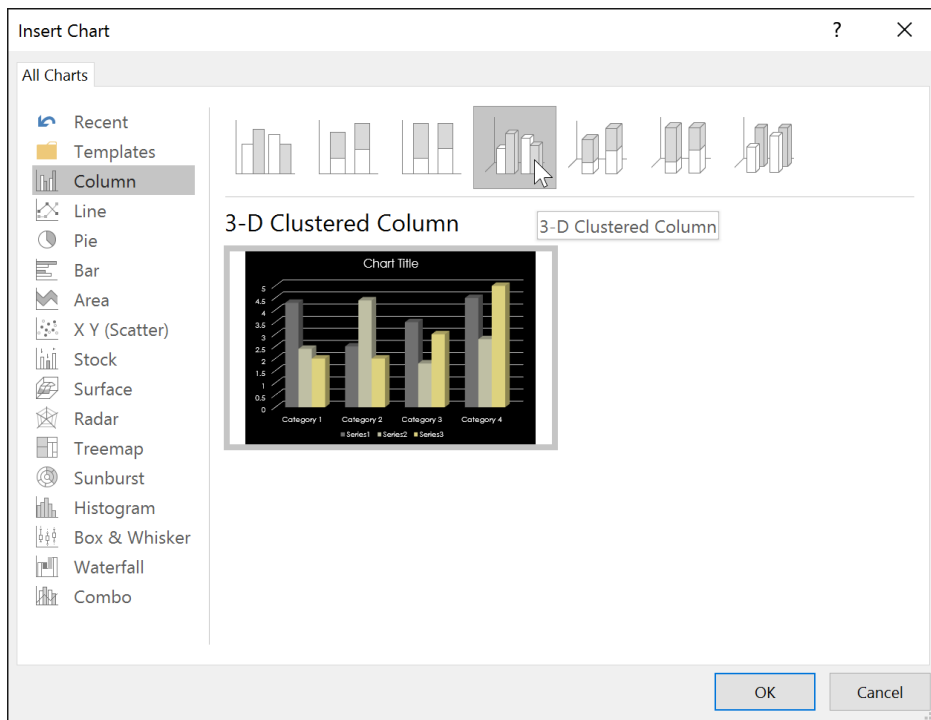
PowerPoint uses a **spreadsheet** as a placeholder for entering chart data, much like **Excel**. The process of entering data is fairly simple, but if you are unfamiliar with Excel you might want to review our Excel **Cell Basics** lesson.

### *To insert a chart:*

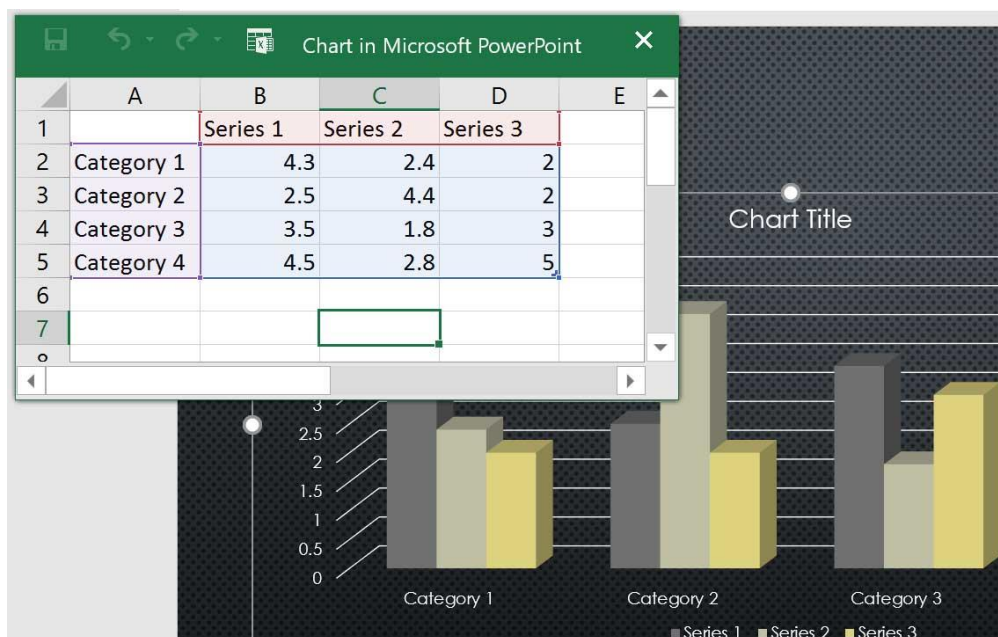
1. Select the **Insert** tab, then click the **Chart** command in the **Illustrations** group.



2. A dialog box will appear. Select a **category** from the left pane, and review the **charts** that appear in the right pane.
3. Select the desired **chart**, then click **OK**.



4. A chart and spreadsheet will appear. The data that appears in the spreadsheet is **placeholder source data** you will replace with your own information. The source data is used to create the chart.





5. Enter **data** into the worksheet.

	A	B	C	D	E	F
1		Series 1	Series 2	Series 3		
2	Classics	4.3	2.4	2		
3	Romance	2.5	4.4	2		
4	Sci-Fi & Fantasy		1.8	3		
5	Category 4	4.5	2.8	5		
6						
7						
8						
9						

6. Only the data enclosed by the blue lines will appear in the chart, but this area will expand automatically as you continue to type.

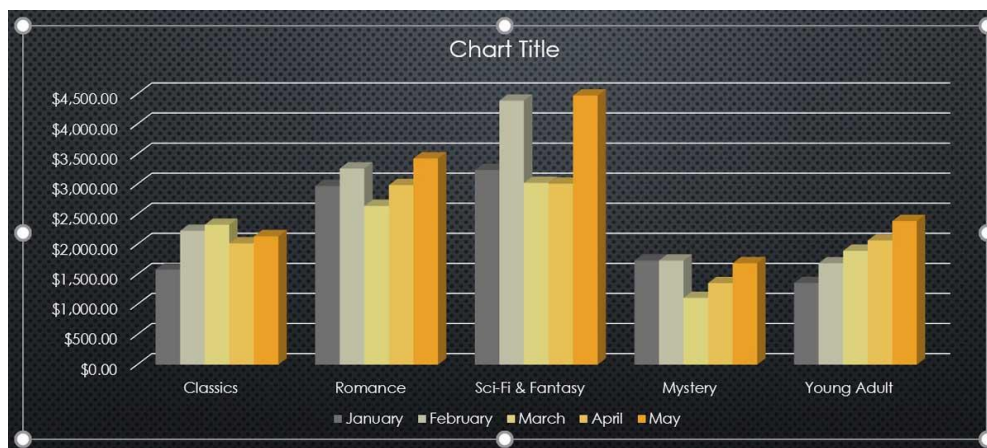
	A	B	C	D	E	F
1		January	February	March		
2	Classics	4.3	2.4	2		
3	Romance	2.5	4.4	2		
4	Sci-Fi & Fantasy	3.5	1.8	3		
5	Mystery	4.5	2.8	5		
6	Young Adult					
7						
8						
9						

7. When you're done, click **X** to close the spreadsheet.

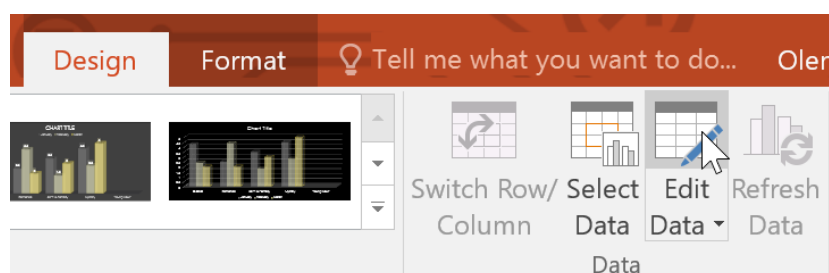


	A	B	C	D	E	F
1		January	February	March	April	May
2	Classics	4.3	2.4	2		
3	Romance	2.5	4.4	2		
4	Sci-Fi & Fant	3.5	1.8	3		
5	Mystery	4.5	2.8	5		
6	Young Adult					
7						
8						
9						

8. The chart will be completed.



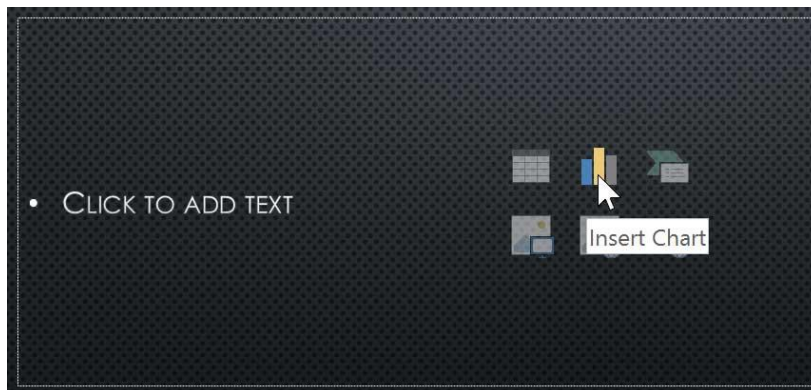
You can edit the chart data at any time by selecting your chart and clicking the **Edit Data** command on the **Design** tab.





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You can also click the **Insert Chart** command in a placeholder to insert a new chart.



### *Creating charts with existing Excel data*

If you already have data in an existing **Excel file** you want to use for a chart, you can transfer the data by **copying** and **pasting** it. Just open the spreadsheet in Excel, select and copy the desired data, and paste it into the source data area for your chart.

You can also **embed** an existing Excel chart into your PowerPoint presentation. This may be useful when you know you'll need to update the data in your Excel file and want the chart to automatically update whenever the Excel data is changed.

Read our guide on **Embedding an Excel Chart** for more information.

### **Modifying charts with chart tools**

There are many other ways to customize and organize your charts. For example, PowerPoint allows you to change the **chart type**, **rearrange** a chart's data, and even change the **layout** and **style** of a chart.

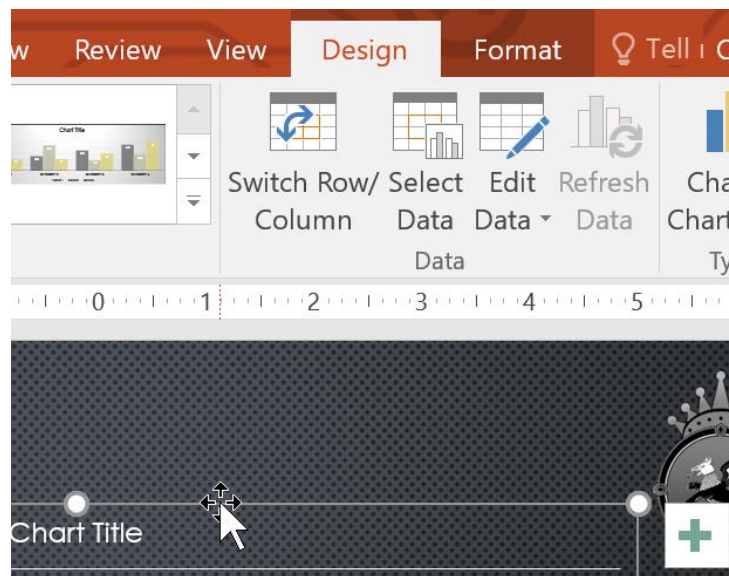




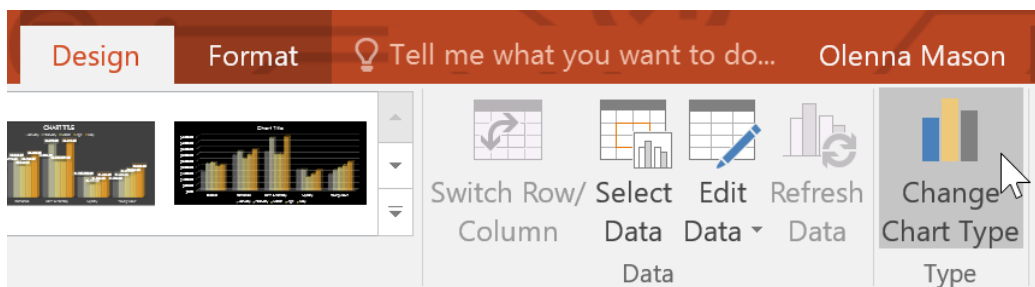
### ***To change the chart type:***

If you find that your data isn't working with a certain chart, it's easy to switch to a new **chart type**. In our example, we'll change our chart from a **column** chart to a **line** chart.

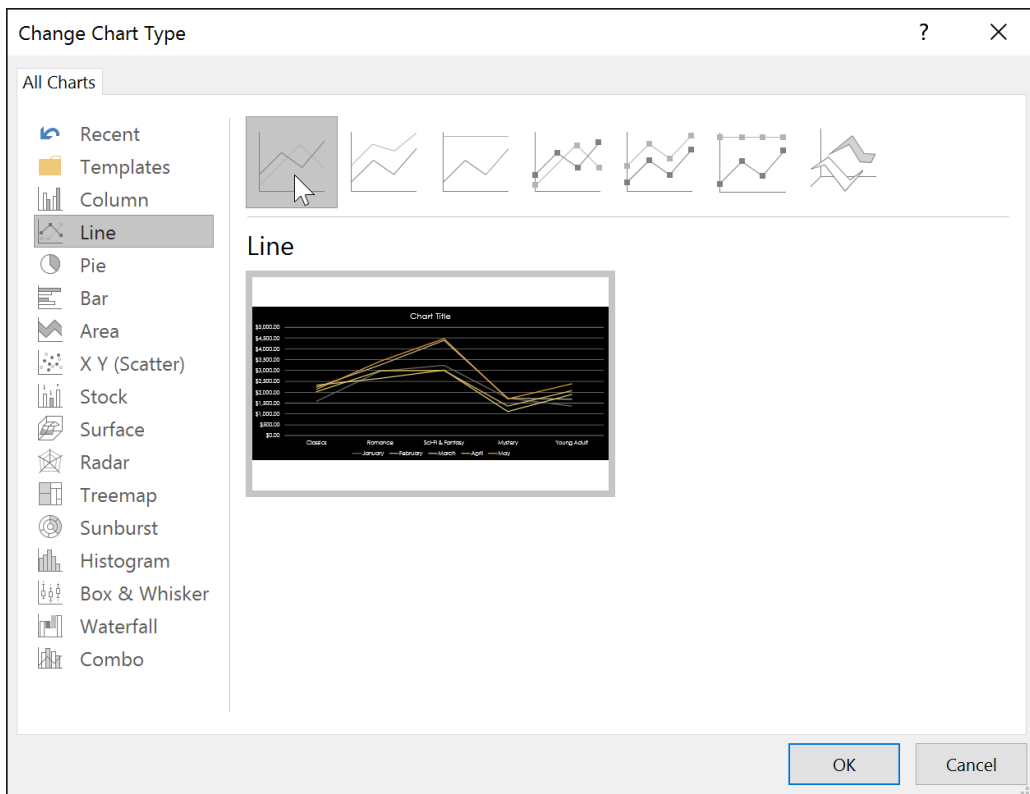
1. Select the chart you want to change. The **Design** tab will appear on the right side of the Ribbon.



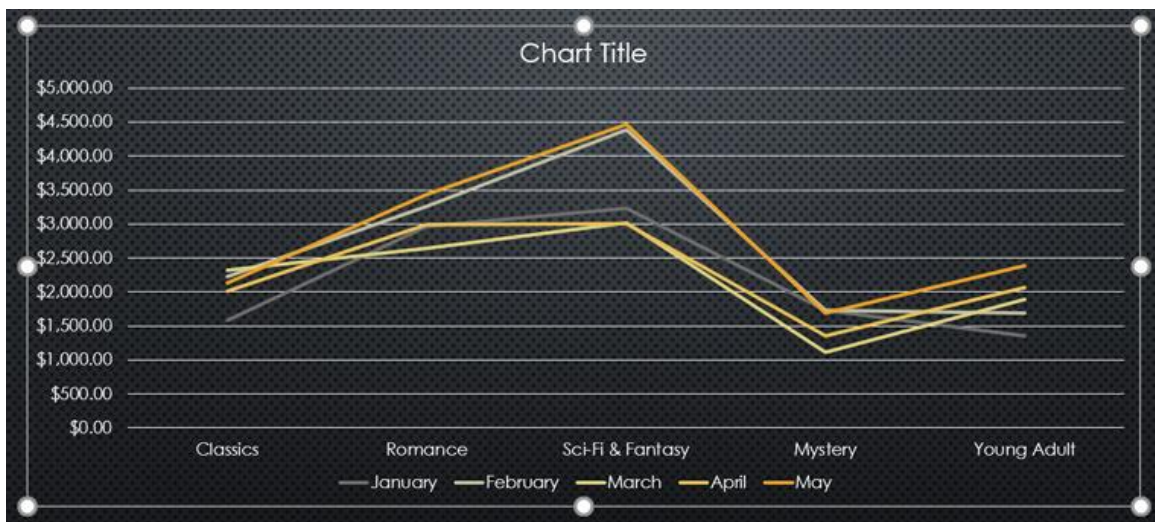
2. From the **Design** tab, click the **Change Chart Type** command.



3. A dialog box will appear. Select the desired chart **type**, then click **OK**.



4. The new chart type will appear.



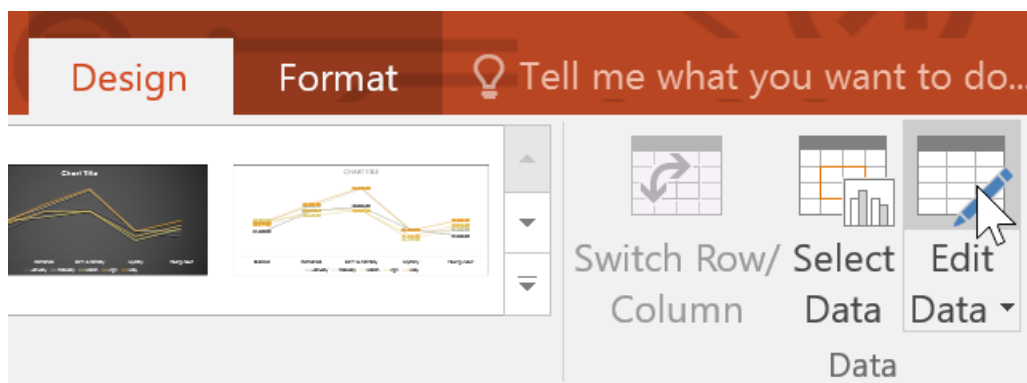
**To switch row and column data:**

Sometimes you may want to change the way charts **group** your data. For example, in the chart below the book sales data is grouped **by genre**, with lines for **each month**. However,

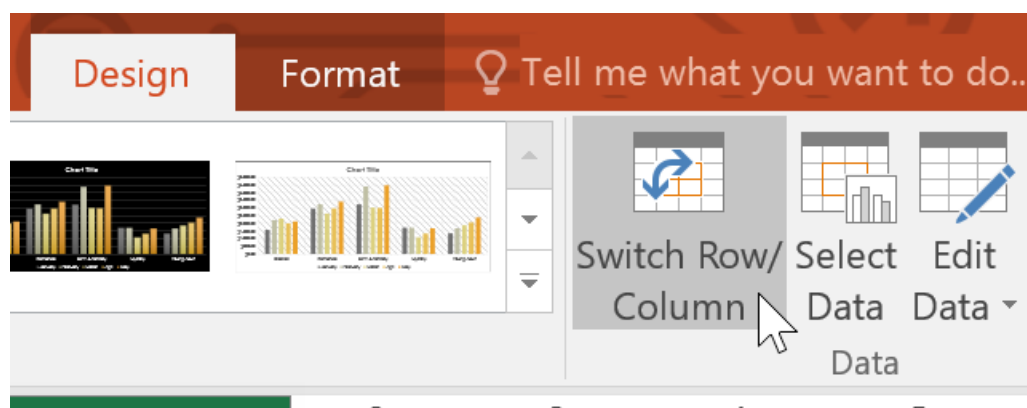


we could switch the rows and columns so the chart will group the data **by month**, with lines for **each genre**. In both cases, the chart contains the same data; it's just organized differently.

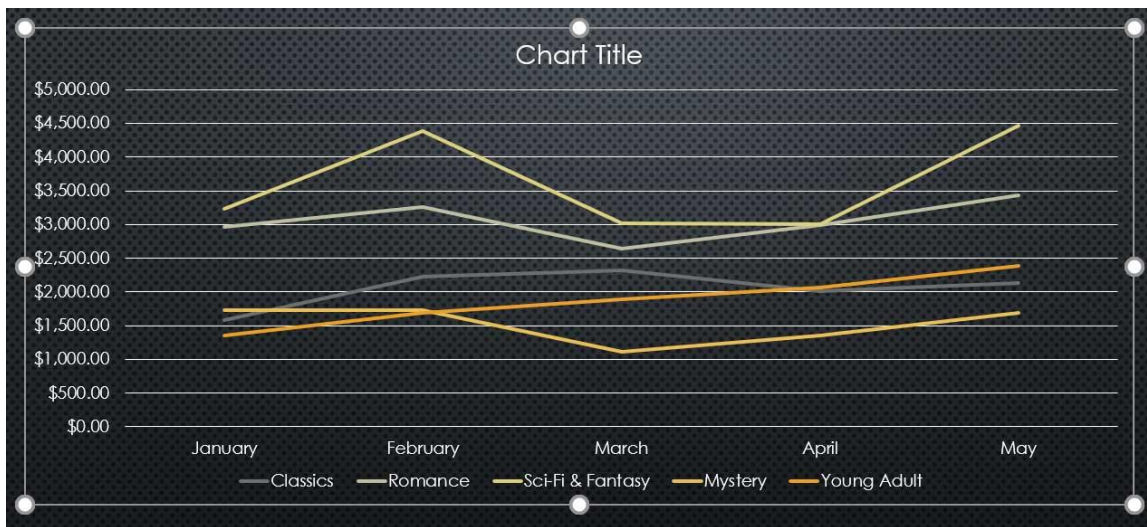
1. Select the **chart** you want to modify. The **Design** tab will appear.
2. From the **Design** tab, select the **Edit Data** command in the **Data** group.



3. Click the **chart** again, then select the **Switch Row/Column** command in the **Data** group.



4. The rows and columns will be **switched**. In our example, the data is now grouped by month, with lines for each genre.

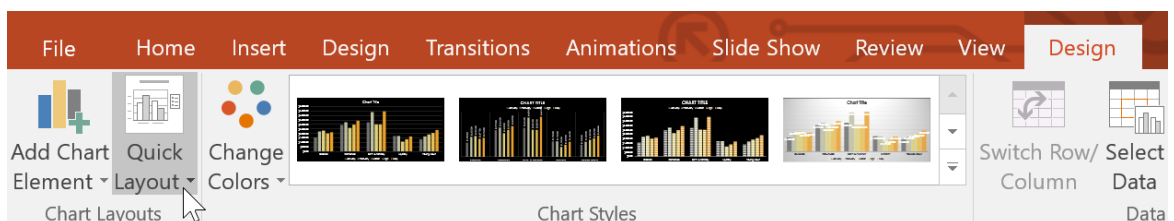


We've noticed that when **numerical data** has been entered in the **first column** of the spreadsheet, switching rows and columns may cause unexpected results. One solution is to **type an apostrophe before each number**, which tells the spreadsheet to format it as **text** instead of a numerical value. For example, the year **2016** would be entered as **'2016**.

### *To change the chart layout:*

Predefined chart layouts allow you to modify chart elements—including **chart titles, legends, and data labels**—to make your chart easier to read.

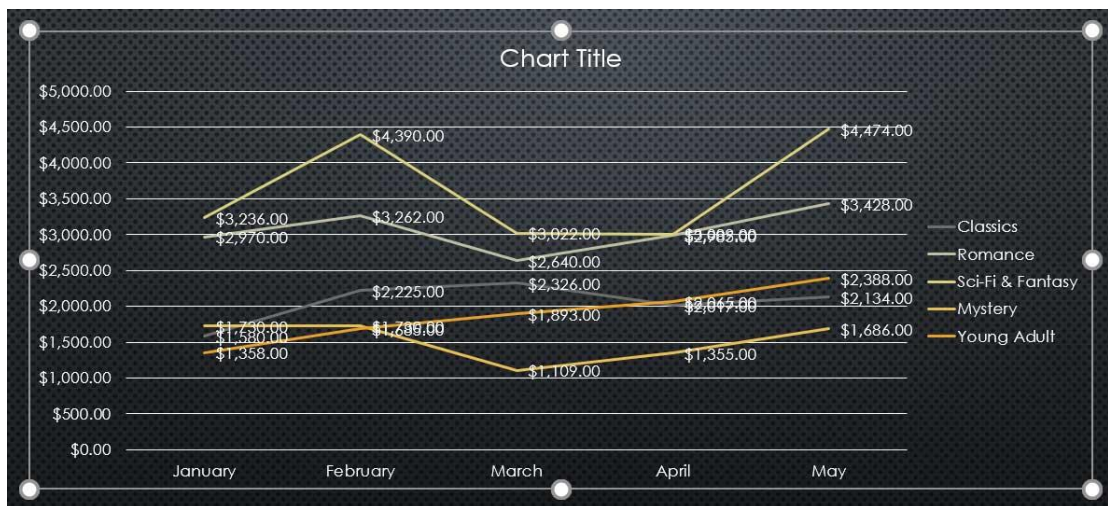
1. Select the **chart** you want to modify. The **Design** tab will appear.
2. From the **Design** tab, click the **Quick Layout** command.



3. Select the desired predefined layout from the menu that appears.



4. The chart will update to reflect the new layout.



To change a chart element (like the chart title), click the element and begin typing.

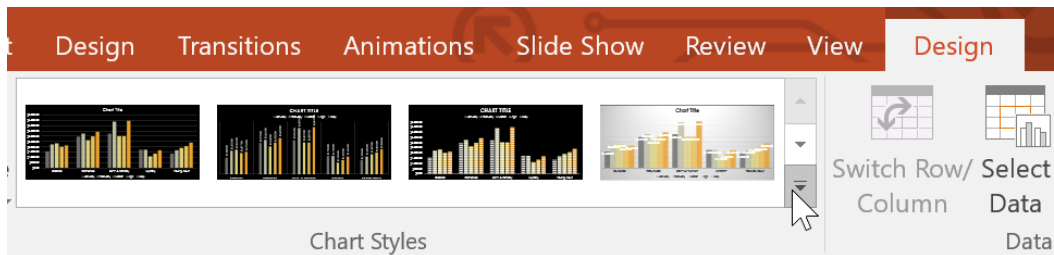




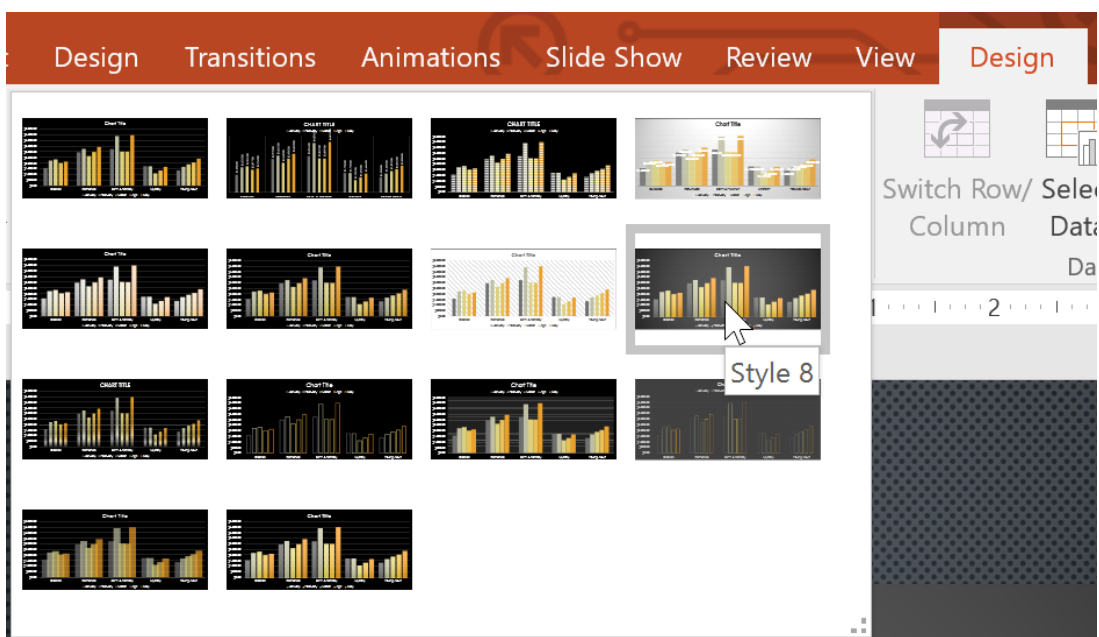
*To change the chart style:*

**Chart styles** allow you to quickly modify the look and feel of your chart.

1. Select the **chart** you want to modify. The **Design** tab will appear.
2. From the **Design** tab, click the **More** drop-down arrow in the **Chart Styles** group.



3. Select the desired style from the menu that appears.





4. The chart will appear in the selected style.



You can also use the chart formatting shortcut buttons to quickly **add chart elements**, change the **chart style**, and **filter** the chart data.





## UNIT – IV

### MS EXCEL AN INTRODUCTION

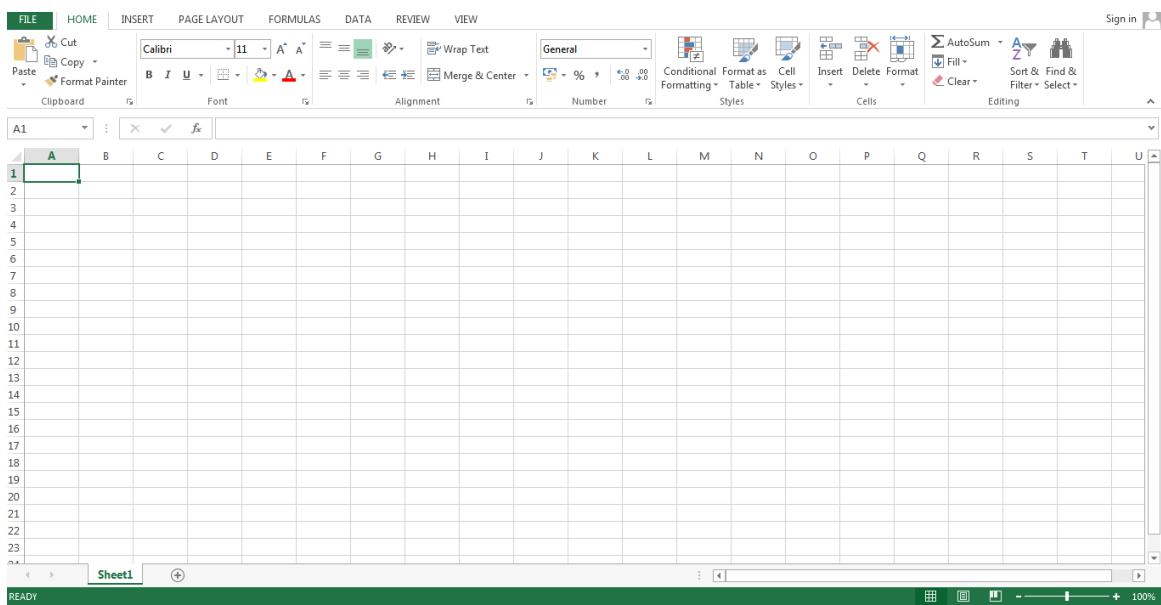
#### AN INTRODUCTION TO MS EXCEL

MS Excel is a commonly used Microsoft Office application. It is a spreadsheet program which is used to save and analyse numerical data.

Important features of MS Excel, along with an overview of how to use the program, its benefits and other important elements. A few sample MS Excel question and answers are also given further below in this article for the reference of Government exam aspirants.

#### Basics of MS Excel

MS Excel is a spreadsheet program where one can record data in the form of tables. It is easy to analyse data in an Excel spreadsheet. The image given below represents how an Excel spreadsheet looks like:







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## To open MS Excel

To open MS Excel on your computer, follow the steps given below:

- Click on Start
- Then All Programs
- Next step is to click on MS Office
- Then finally, choose the MS-Excel option

Alternatively, you can also click on the Start button and type MS Excel in the search option available.

## A Cell

A spreadsheet is in the form of a table comprising rows and columns. The rectangular box at the intersection point between rows and columns forms a cell. Given below is an image of a cell:

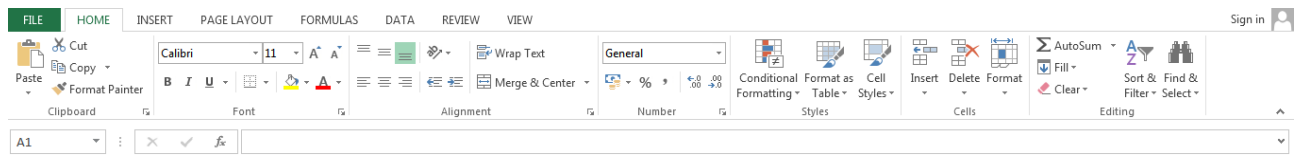
## Cell Address

The cell address is the name by which a cell can be addressed. For example, if row 7 is interested in column G, then the cell address is G7.

## FEATURES OF MS EXCEL

Various editing and formatting can be done on an Excel spreadsheet. Discussed below are the various features of MS Excel.

The image below shows the composition of features in MS Excel:



- **Home**

- Comprises options like font size, font styles, font colour, background colour, alignment, formatting options and styles, insertion and deletion of cells and editing options

- **Insert**

- Comprises options like table format and style, inserting images and figures, adding graphs, charts and sparklines, header and footer option, equation and symbols

- **Page Layout**

- Themes, orientation and page setup options are available under the page layout option

- **Formulas**

- Since tables with a large amount of data can be created in MS excel, under this feature, you can add formulas to your table and get quicker solutions

- **Data**

- Adding external data (from the web), filtering options and data tools are available under this category



- 
- **Review**
    - Proofreading can be done for an excel sheet (like spell check) in the review category and a reader can add comments in this part
  - **View**
    - Different views in which we want the spreadsheet to be displayed can be edited here. Options to zoom in and out and pane arrangement are available under this category

## **BENEFITS OF USING MS EXCEL**

MS Excel is widely used for various purposes because the data is easy to save, and information can be added and removed without any discomfort and less hard work.

Given below are a few important benefits of using MS Excel:

- **Easy To Store Data:** Since there is no limit to the amount of information that can be saved in a spreadsheet, MS Excel is widely used to save data or to analyse data. Filtering information in Excel is easy and convenient.
- **Easy To Recover Data:** If the information is written on a piece of paper, finding it may take longer, however, this is not the case with excel spreadsheets. Finding and recovering data is easy.
- **Application of Mathematical Formulas:** Doing calculations has become easier and less time-taking with the formulas option in MS excel



- 
- **More Secure:** These spreadsheets can be password secured in a laptop or personal computer and the probability of losing them is way lesser in comparison to data written in registers or piece of paper.
  - **Data at One Place:** Earlier, data was to be kept in different files and registers when the paperwork was done. Now, this has become convenient as more than one worksheet can be added in a single MS Excel file.
  - **Neater and Clearer Visibility of Information:** When the data is saved in the form of a table, analysing it becomes easier. Thus, information in a spreadsheet that is more readable and understandable.

### **MS Excel – Points To Remember**

There are certain things which one must know with respect to MS Excel, its applications and usage:

- An MS Excel file is saved with an extension of .xls
- Companies with large staff and workers use MS Excel as saving employee information becomes easier
- Excel spreadsheets are also used in hospitals where the information of patients can be saved more easily and can be removed conveniently once their medical history is cleared
- The sheet on which you work is called a Worksheet
- Multiple worksheets can be added in a single Excel file



- This is a data processing application

Aspirants can also prepare themselves by regularly solving mock tests and question papers to analyse the standard of examination and excelling in them. Refer to the links below, for the same:

## **INTRODUCTION TO EXCEL SPREADSHEET**

A spreadsheet is a computer application that is designed to add, display, analyze, organize, and manipulate data arranged in rows and columns. It is the most popular application for accounting, analytics, data presentation, etc. Or in other words, spreadsheets are scalable grid-based files that are used to organize data and perform calculations. People all across the world use spreadsheets to create tables for personal and business usage. You can also use the tool's features and formulas to help you make sense of your data. You could, for example, track data in a spreadsheet and see sums, differences, multiplication, division, and fill dates automatically, among other things. Microsoft Excel, Google sheets, Apache open office, LibreOffice, etc are some spreadsheet software. Among all these software, Microsoft Excel is the most commonly used spreadsheet tool and it is available for Windows, macOS, Android, etc.

A Collection of spreadsheets is known as a workbook. Every Excel file is called a workbook. Every time when you start a new project in Excel, you'll need to create a new workbook. There are several methods for getting started with an Excel workbook. To create a new worksheet or access an existing one, you can either start from scratch or utilize a pre-designed template.



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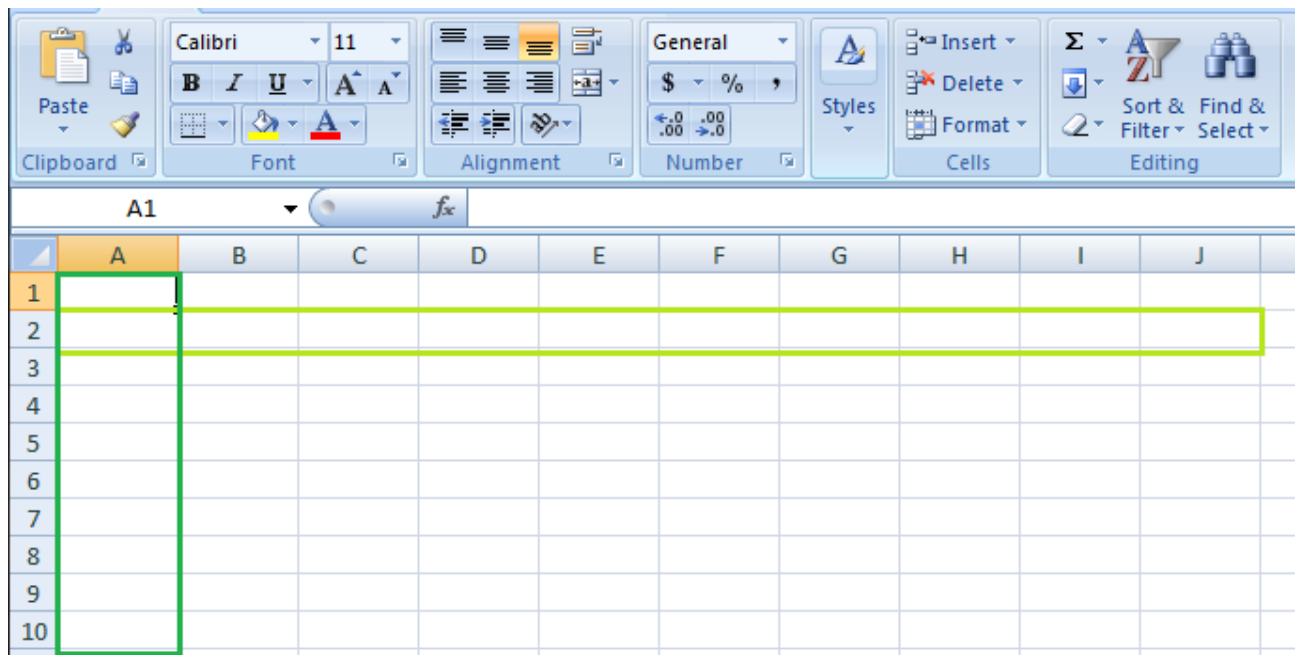
A Single Excel worksheet is a tabular spreadsheet that consists of a matrix of rectangular cells grouped in rows and columns. It has a total of 1,048,576 rows and 16,384 columns, resulting in 17,179,869,184 cells on a single page of a Microsoft Excel spreadsheet where you may write, modify, and manage your data.

In the same way as a file or a book is made up of one or more worksheets that contain various types of related data, an Excel workbook is made up of one or more worksheets. You can also create and save an endless number of worksheets. The major purpose is to collect all relevant data in one place, but in many categories (worksheet).

## **FEATURE OF SPREADSHEET**

As we know that there are so many spreadsheet applications available in the market. So these applications provide the following basic features:

**1. Rows and columns:** Rows and columns are two distinct features in a spreadsheet that come together to make a cell, a range, or a table. In general, columns are the vertical portion of an excel worksheet, and there can be 256 of them in a worksheet, whereas rows are the horizontal portion, and there can be 1048576 of them.



The color light green is used to highlight Row 3 while the color green is used to highlight Column B. Each column has 1048576 rows and each row has 256 columns.

**2. Formulas:** In spreadsheets, formulas process data automatically. It takes data from the specified area of the spreadsheet as input then processes that data, and then displays the output into the new area of the spreadsheet according to where the formula is written. In Excel, we can use formulas simply by typing “=Formula Name(Arguments)” to use predefined Excel formulas. When you write the first few characters of any formula, Excel displays a drop-down menu of formulas that match that character sequence. Some of the commonly used formulas are:

- =SUM(Arg1: Arg2): It is used to find the sum of all the numeric data specified in the given range of numbers.
- =COUNT(Arg1: Arg2): It is used to count all the number of cells(it will count only number) specified in the given range of numbers.



- =MAX(Arg1: Arg2): It is used to find the maximum number from the given range of numbers.
- =MIN(Arg1: Arg2): It is used to find the minimum number from the given range of numbers.
- =TODAY(): It is used to find today's date.
- =SQRT(Arg1): It is used to find the square root of the specified cell.

For example, you can use the formula to find the average of the integers in column C from row 2 to row 7:

= AVERAGE(D2:D7)

The range of values on which you want to average is defined by D2:D6. The formula is located near the name field on the formula tab.

The screenshot displays the Microsoft Excel interface. The formula bar at the top shows the formula `=AVERAGE(D2:D7)` entered in cell D9, which is highlighted with a green circle. Below the formula bar, the spreadsheet grid is visible, showing column D with values 2, 3, 4, 5, 6, and 7 in rows 2 through 7. The result of the formula, 4.5, is displayed in cell D9. The ribbon at the top includes the Clipboard, Font, Alignment, Number, Styles, Cells, and Editing tabs.





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We wrote `=AVERAGE(D2:D6)` in cell D9, therefore the average becomes  $(2 + 3 + 4 + 5 + 6 + 7)/6 = 27/6 = 4.5$ . So you can quickly create a workbook, work on it, browse through it, and save it in this manner.

**3. Function:** In spreadsheets, the function uses a specified formula on the input and generates output. Or in other words, functions are created to perform complicated math problems in spreadsheets without using actual formulas. For example, you want to find the total of the numeric data present in the column then use the SUM function instead of adding all the values present in the column.

**4. Text Manipulation:** The spreadsheet provides various types of commands to manipulate the data present in it.

**5. Pivot Tables:** It is the most commonly used feature of the spreadsheet. Using this table users can organize, group, total, or sort data using the toolbar. Or in other words, pivot tables are used to summarize lots of data. It converts tons of data into a few rows and columns.

## USE OF SPREADSHEETS

The use of Spreadsheets is endless. It is generally used with anything that contains numbers. Some of the common use of spreadsheets are:

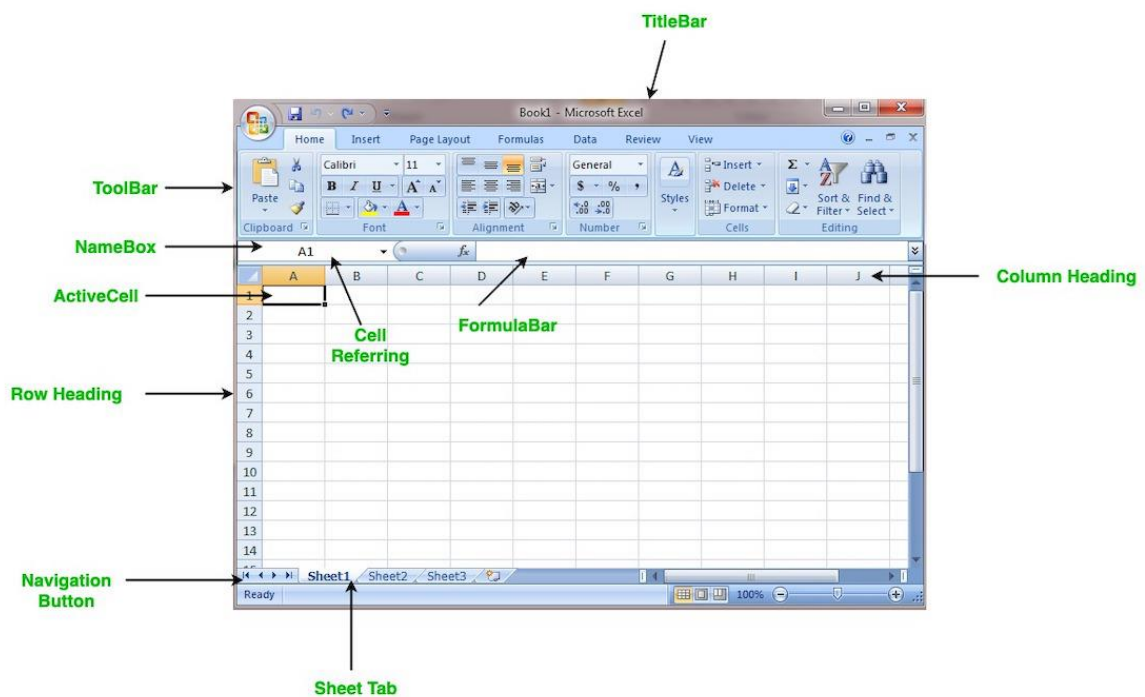
- **Finance:** Spreadsheets are used for financial data like it is used for checking account information, taxes, transaction, billing, budgets, etc.
- **Forms:** Spreadsheet is used to create form templates to manage performance review, timesheets, surveys, etc.



- **School and colleges:** Spreadsheets are most commonly used in schools and colleges to manage student's data like their attendance, grades, etc.
- **Lists:** Spreadsheets are also used to create lists like grocery lists, to-do lists, contact detail, etc.
- **Hotels:** Spreadsheets are also used in hotels to manage the data of their customers like their personal information, room numbers, check-in date, check-out date, etc.

## COMPONENTS OF SPREADSHEETS

The basic components of spreadsheets are:



1. **TitleBar:** The title bar displays the name of the spreadsheet and application.
2. **Toolbar:** It displays all the options or commands available in Excel for use.
3. **NameBox:** It displays the address of the current or active cell.



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**4. Formula Bar:** It is used to display the data entered by us in the active cell. Also, this bar is used to apply formulas to the data of the spreadsheet.

**5. Column Headings:** Every excel spreadsheet contains 256 columns and each column present in the spreadsheet is named by letters or a combination of letters.

**6. Row Headings:** Every excel spreadsheet contains 65,536 rows and each row present in the spreadsheet is named by a number.

**7. Cell:** In a spreadsheet, everything like a numeric value, functions, expressions, etc., is recorded in the cell. Or we can say that an intersection of rows and columns is known as a cell. Every cell has its own name or address according to its column and rows and when the cursor is present on the first cell then that cell is known as an active cell.

**8. Cell referring:** A cell reference, also known as a cell address, is a way for describing a cell on a worksheet that combines a column letter and a row number. We can refer to any cell on the worksheet using cell references (in excel formulae). As shown in the above image the cell in column A and row 1 is referred to as A1. Such notations can be used in any formula or to duplicate the value of one cell to another (by using = A1).

**9. Navigation buttons:** A spreadsheet contains first, previous, next, and last navigation buttons. These buttons are used to move from one worksheet to another workbook.

**10. Sheet tabs:** As we know that a workbook is a collection of worksheets. So this tab contains all the worksheets present in the workbook, by default it contains three worksheets but you can add more according to your requirement.

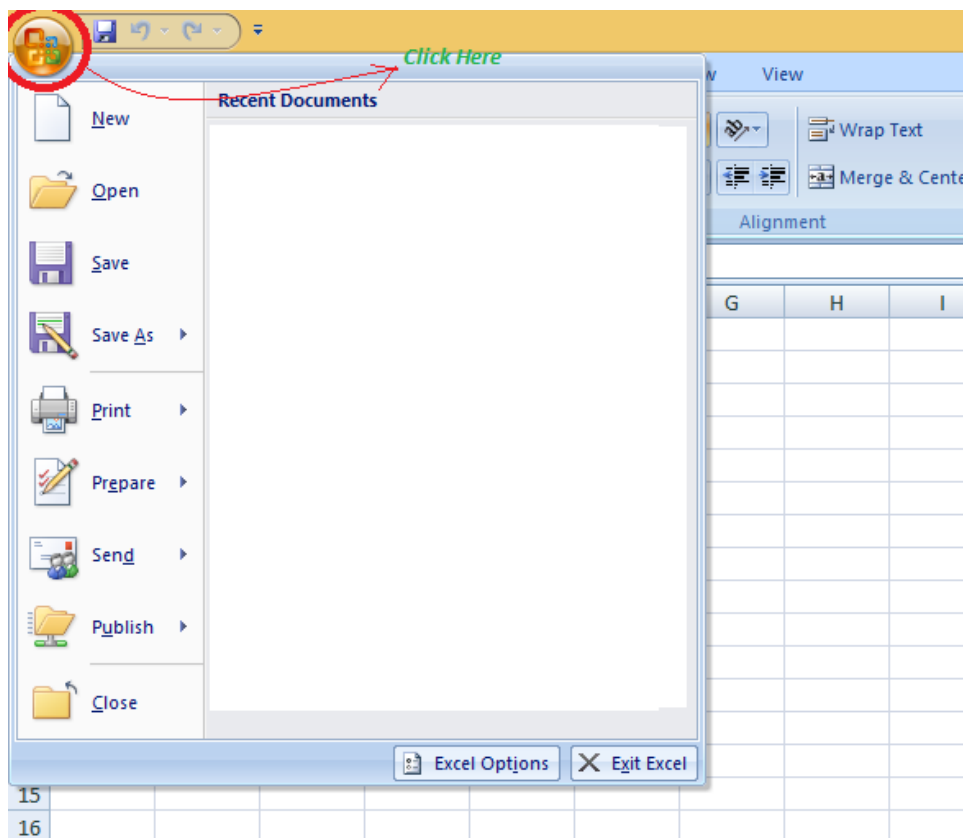


## CREATE A NEW SPREADSHEET OR WORKBOOK

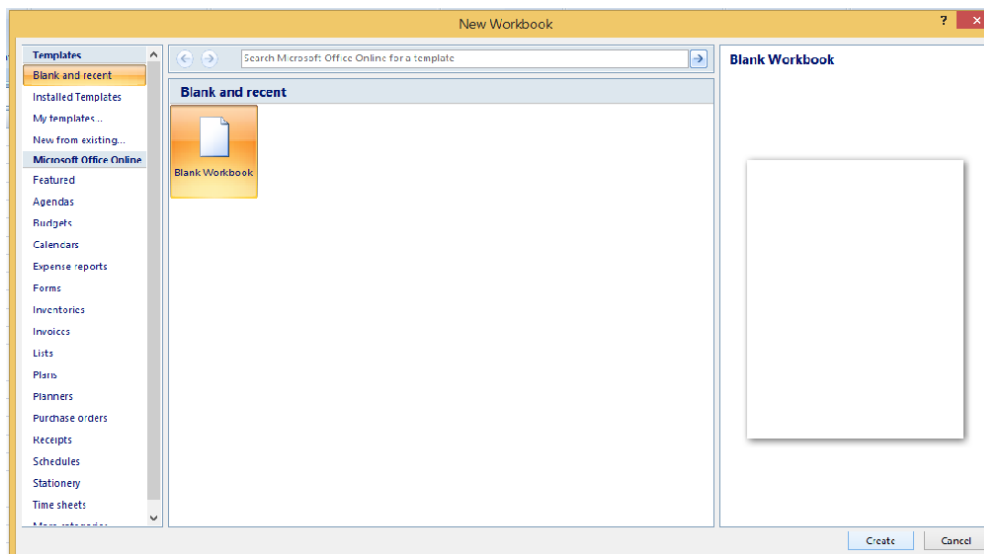
To create a new spreadsheet follow the following steps:

**Step 1:** Click on the top-left, Microsoft office button and a drop-down menu appear.

**Step 2:** Now select New from the menu.



Step 3: After selecting the New option a New Workbook dialogue box will appear and then in Create tab, click on the blank Document.



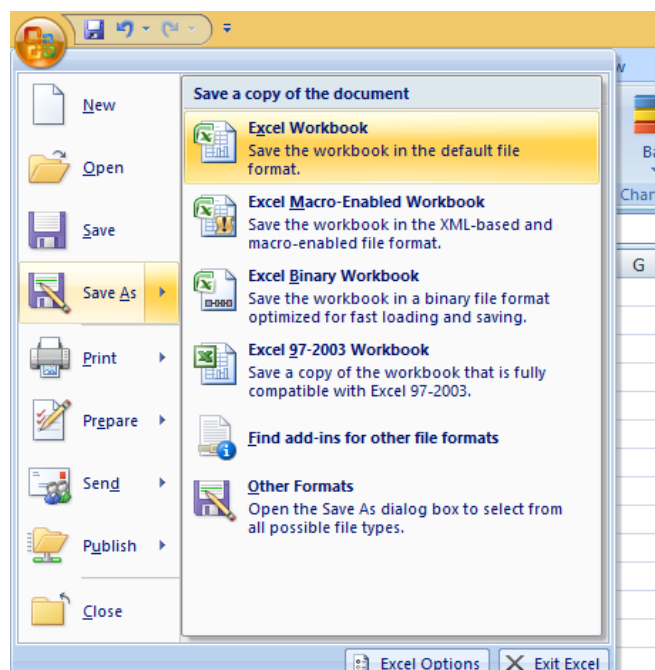
A new blank worksheet is created and is shown on your screen.

Note: When you open MS Excel on your computer, it creates a new Workbook for you.

## Saving The Workbook

In Excel we can save a workbook using the following steps:

**Step 1:** Click on the top-left, Microsoft office button and we get a drop-down menu:





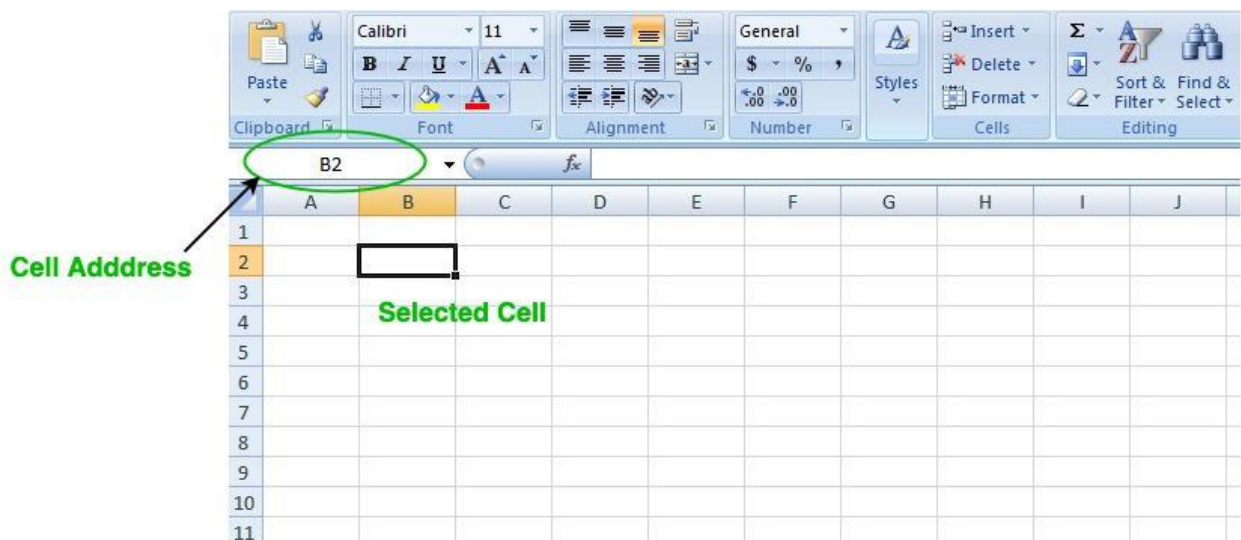
**Step 2:** Now Save or Save As are the options to save the workbook, so choose one.

- **Save As:** To name the spreadsheet and then save it to a specific location. Select Save As if you wish to save the file for the first time, or if you want to save it with a new name.
- **Save:** To save your work, select Save/ click ctrl + S if the file has already been named.

So this is how you can save a workbook in Excel.

### Inserting text in Spreadsheet

Excel consists of many rows and columns, each rectangular box in a row or column is referred to as a Cell. So, the combination of a column letter and a row number can be used to find a cell address on a worksheet or spreadsheet. We can refer to any cell in the worksheet using these addresses (in excel formulas). The name box on the top left(below the Home tab) displays the cell's address whenever you click the cell.

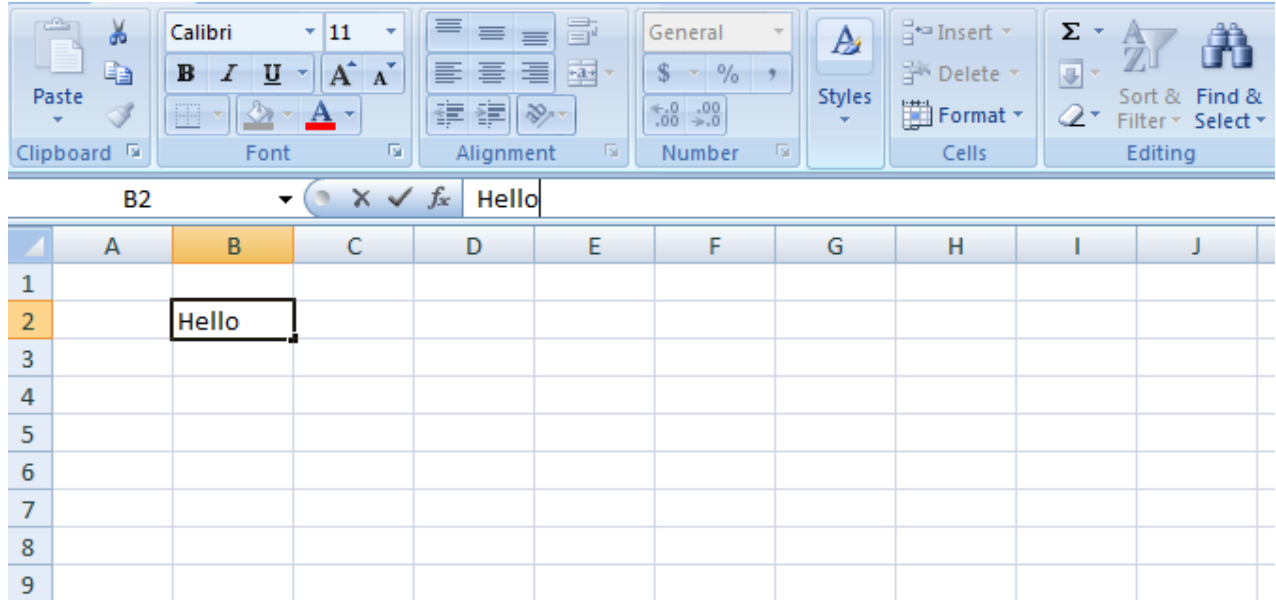


To insert the data into the cell follow the following steps:

**Step 1:** Go to a cell and click on it



**Step 2:** By typing something on the keyboard, you can insert your data (In that selected cell).



Whatever text you type displays in the formula bar as well (for that cell).

### Edit/ Delete Cell Contents in the Spreadsheet

To delete cell content follow the following steps:

**Step 1:** To alter or delete the text in a cell, first select it.

**Step 2:** Press the Backspace key on your keyboard to delete and correct text.

Alternatively, hit the Delete key to delete the whole contents of a cell. You can also edit and delete text using the formula bar. Simply select the cell and move the pointer to the formula bar.



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## ENTERING, EDITING, AND MANAGING DATA

### ENTERING DATA

You will begin building the workbook shown in **Figure 1.1** by manually entering data into the worksheet. The following steps explain how the column headings in Row 2 are typed into the worksheet:

1. Click cell location A2 on the worksheet.
2. Type the word **Month**.
3. Press the RIGHT ARROW key. This will enter the word into cell A2 and activate the next cell to the right.
4. Type **Unit Sales** and press the RIGHT ARROW key.
5. Repeat step 4 for the words **Average Price** and then again for **Sales Dollars**.

**Figure 1.15** shows how your worksheet should appear after you have typed the column headings into Row 2. Notice that the word **Price** in cell location C2 is not visible. This is because the column is too narrow to fit the entry you typed. We will examine formatting techniques to correct this problem in the next section.



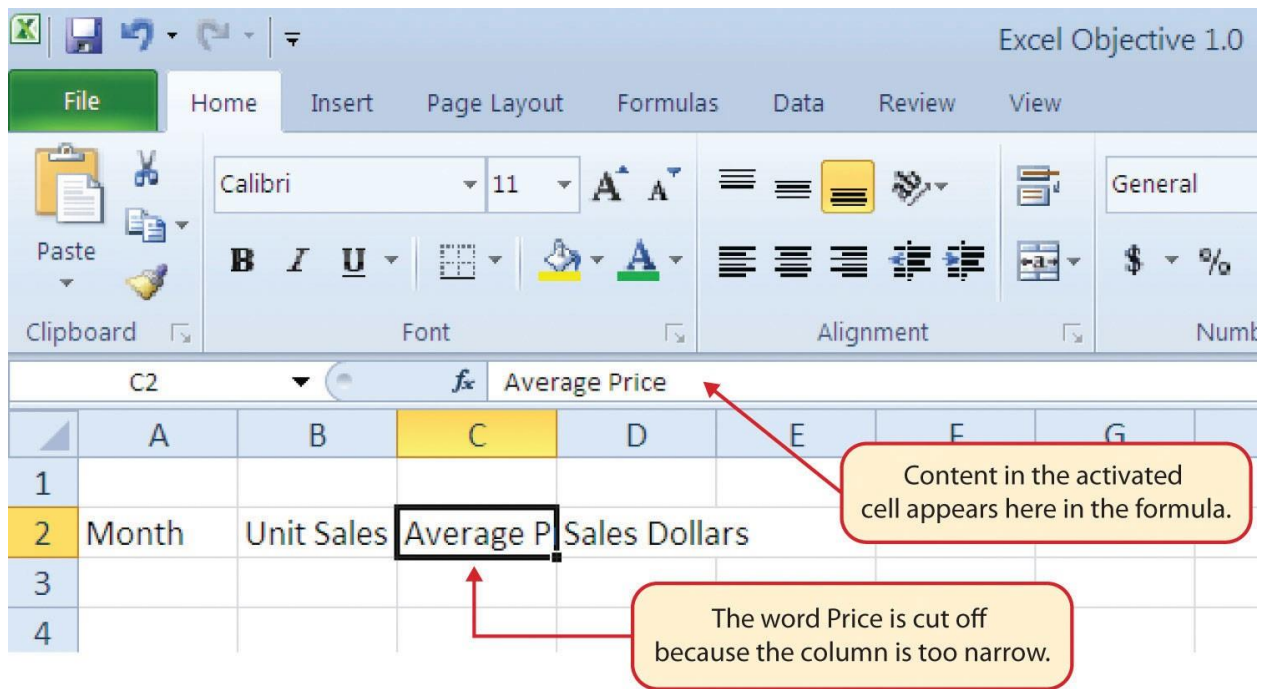


Figure 1.15 Entering Column Headings into a Worksheet

## Column Headings

It is critical to include column headings that accurately describe the data in each column of a worksheet. In professional environments, you will likely be sharing Excel workbooks with coworkers. Good column headings reduce the chance of someone misinterpreting the data contained in a worksheet, which could lead to costly errors depending on your career.

1. Click cell location B3.
2. Type the number **2670** and press the ENTER key. After you press the ENTER key, cell B4 will be activated. Using the ENTER key is an efficient way to enter data vertically down a column.



3. Enter the following numbers in cells B4 through  
B14: **2160, 515, 590, 1030, 2875, 2700, 900, 775, 1180, 1800, and 3560.**
4. Click cell location C3.
5. Type the number **9.99** and press the ENTER key.
6. Enter the following numbers in cells C4 through  
C14: **12.49, 14.99, 17.49, 14.99, 12.49, 9.99, 19.99, 19.99, 19.99, 17.49, and 14.99.**
7. Activate cell location D3.
8. Type the number 26685 and press the ENTER key.
9. Enter the following numbers in cells D4 through  
D14: **26937, 7701, 10269, 15405, 35916, 26937, 17958, 15708, 23562, 31416,**  
and **53370.**
10. When finished, check that the data you entered matches **Figure 1.16.**

### **Avoid Formatting Symbols When Entering Numbers**

When typing numbers into an Excel worksheet, it is best to avoid adding any formatting symbols such as dollar signs and commas. Although Excel allows you to add these symbols while typing numbers, it slows down the process of entering data. It is more efficient to use Excel's formatting features to add these symbols to numbers after you type them into a worksheet.

### **Data Entry**

It is very important to proofread your worksheet carefully, especially when you have entered numbers. Transposing numbers when entering data manually into a worksheet is a



common error. For example, the number **563** could be transposed to **536**. Such errors can seriously compromise the integrity of your workbook.

**Figure 1.16** shows how your worksheet should appear after entering the data. Check your numbers carefully to make sure they are accurately entered into the worksheet.

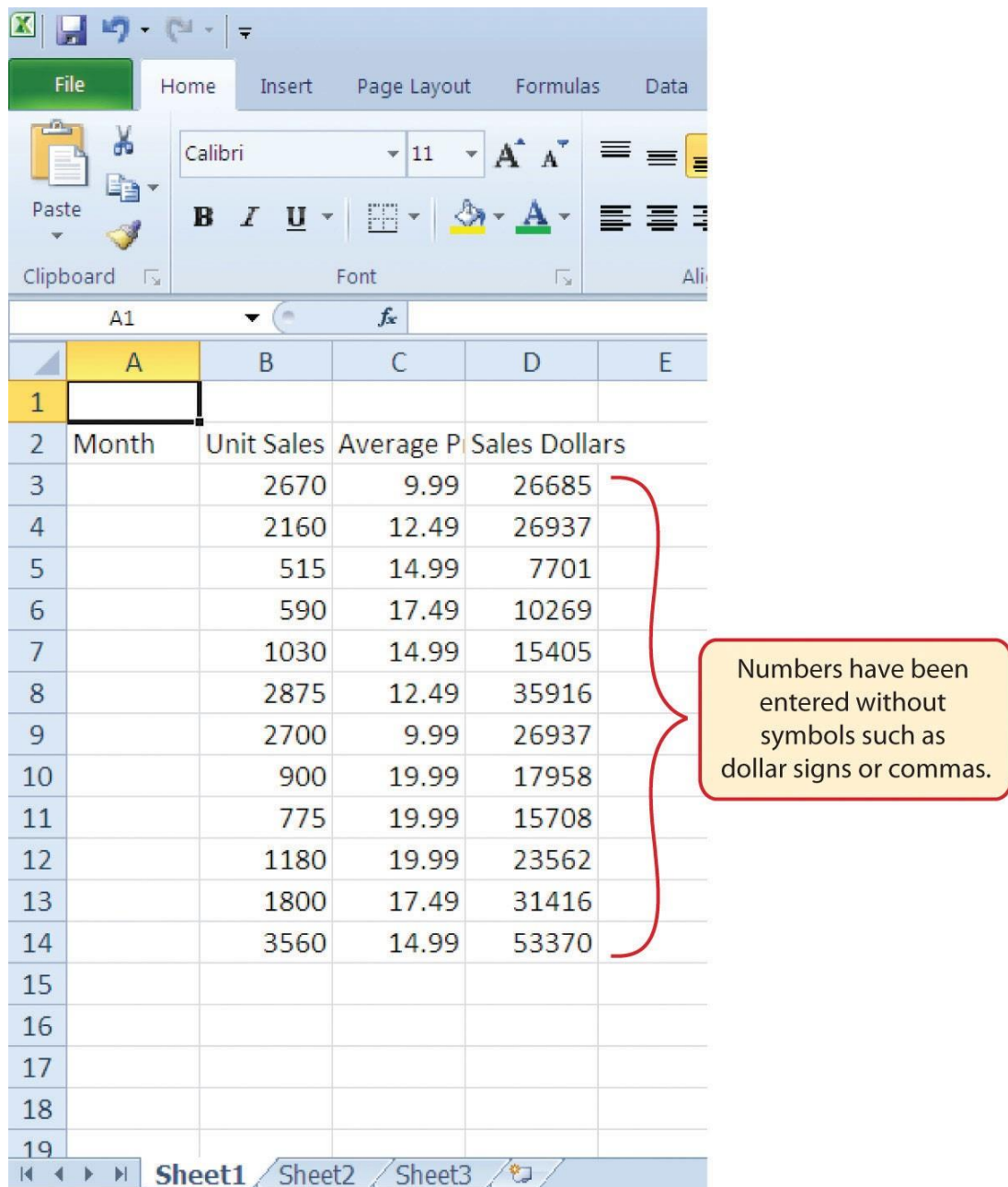


Figure 1.16 Completed Data Entry for Columns B, C, and D



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## EDITING DATA

Data that has been entered in a cell can be changed by double clicking the cell location or using the Formula Bar. You may have noticed that as you were typing data into a cell location, the data you typed appeared in the Formula Bar. The Formula Bar can be used for entering data into cells as well as for editing data that already exists in a cell. The following steps provide an example of entering and then editing data that has been entered into a cell location:

1. Click cell A15 in the Sheet1 worksheet.
2. Type the abbreviation **Tot** and press the ENTER key.
3. Click cell A15.
4. Move the mouse pointer up to the Formula Bar. You will see the pointer turn into a cursor. Move the cursor to the end of the abbreviation **Tot** and left click.
5. Type the letters **al** to complete the word Total.
6. Click the checkmark to the left of the Formula Bar (see **Figure 1.17**). This will enter the change into the cell.
7. Double click cell A15.
8. Add a space after the word Total and type the word Sales.
9. Press the ENTER key.

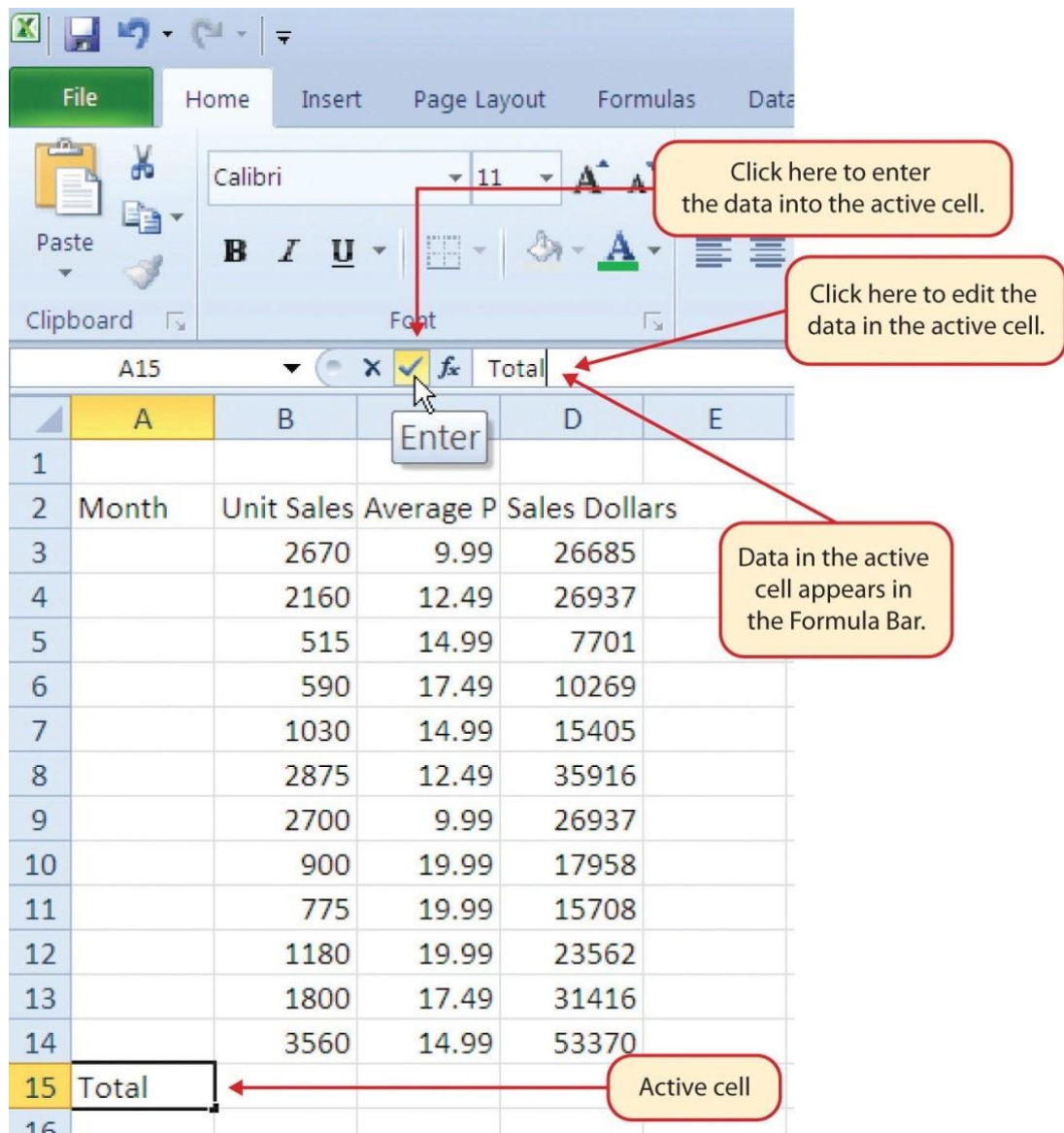


Figure 1.17 Using the Formula Bar to Edit and Enter Data

## Editing Data in a Cell

- Activate the cell that is to be edited and press the F2 key on your keyboard.

## AUTO FILL

The Auto Fill feature is a valuable tool when manually entering data into a worksheet. This feature has many uses, but it is most beneficial when you are entering data



in a defined sequence, such as the numbers 2, 4, 6, 8, and so on, or nonnumeric data such as the days of the week or months of the year. The following steps demonstrate how Auto Fill can be used to enter the months of the year in Column A:

1. Click cell A3 in the Sheet1 worksheet.
2. Type the word **January** and press the ENTER key.
3. Activate cell A3 again.
4. Move the mouse pointer to the lower right corner of cell A3. You will see a small square in this corner of the cell; this is called the Fill Handle (See **Figure 1.18**) When the mouse pointer gets close to the Fill Handle, the white block plus sign will turn into a black plus sign.

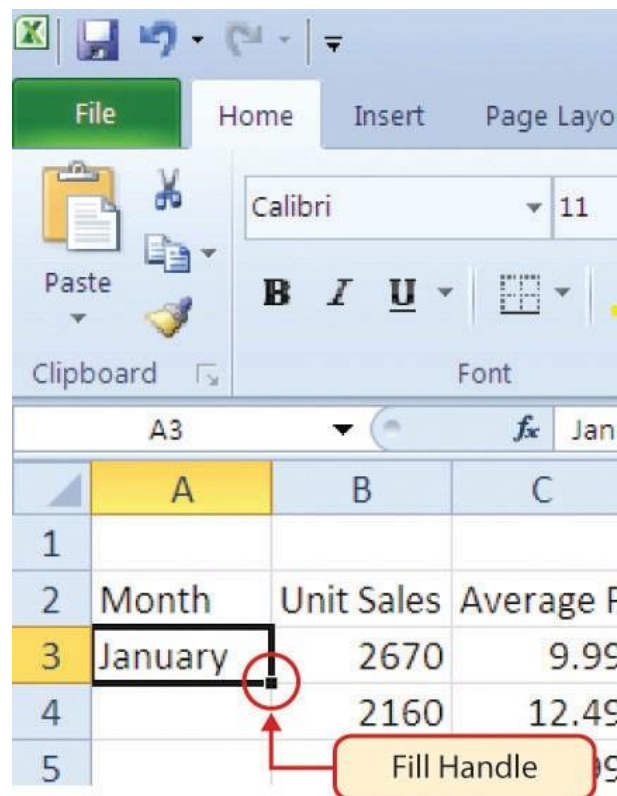
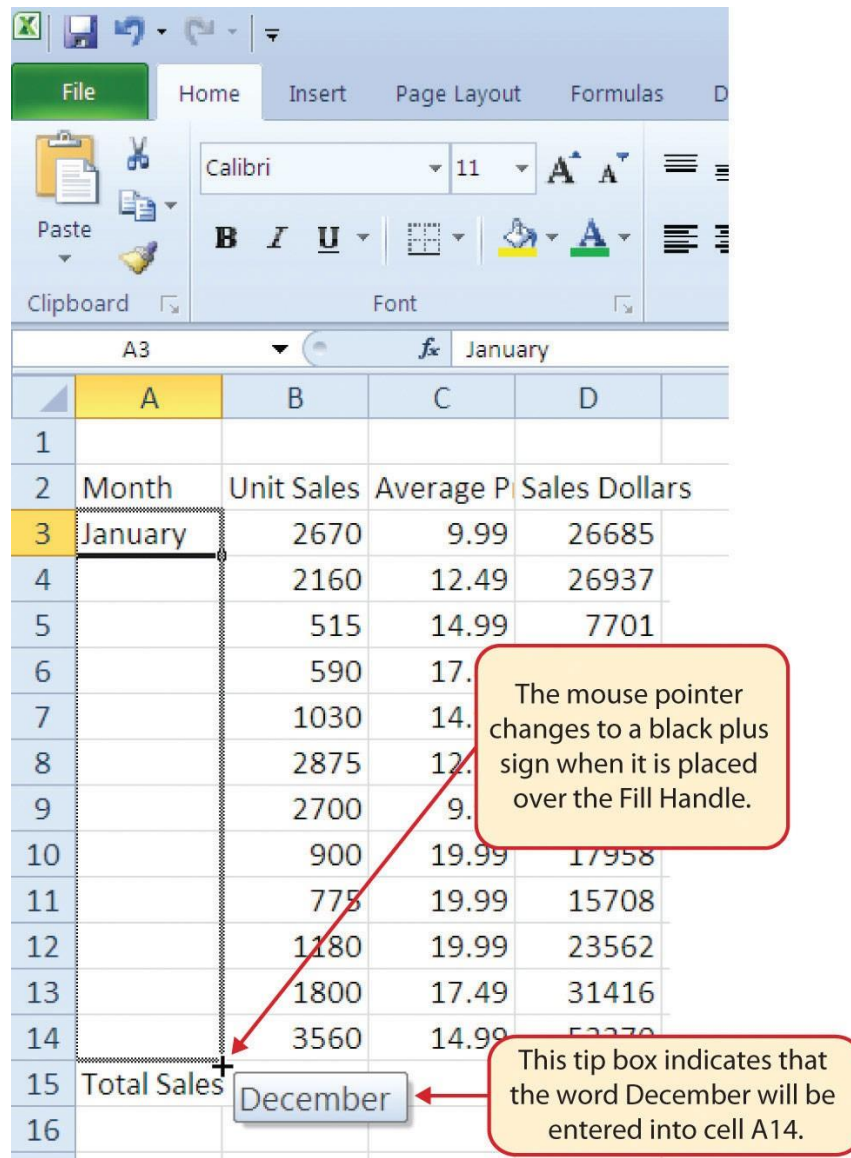


Figure 1.18 Fill Handle





Left click and drag the Fill Handle to cell A14. Notice that the Auto Fill tip box indicates what month will be placed into each cell (see **Figure 1.19**). Release the left mouse button when the tip box reads “December.”



*Figure 1.19 Using Auto Fill to Enter the Months of the Year*

Once you release the left mouse button, all twelve months of the year should appear in the cell range A3:A14, as shown in **Figure 1.20**. You will also see the Auto Fill Options button. By clicking this button, you have several options for inserting data into a group of cells.

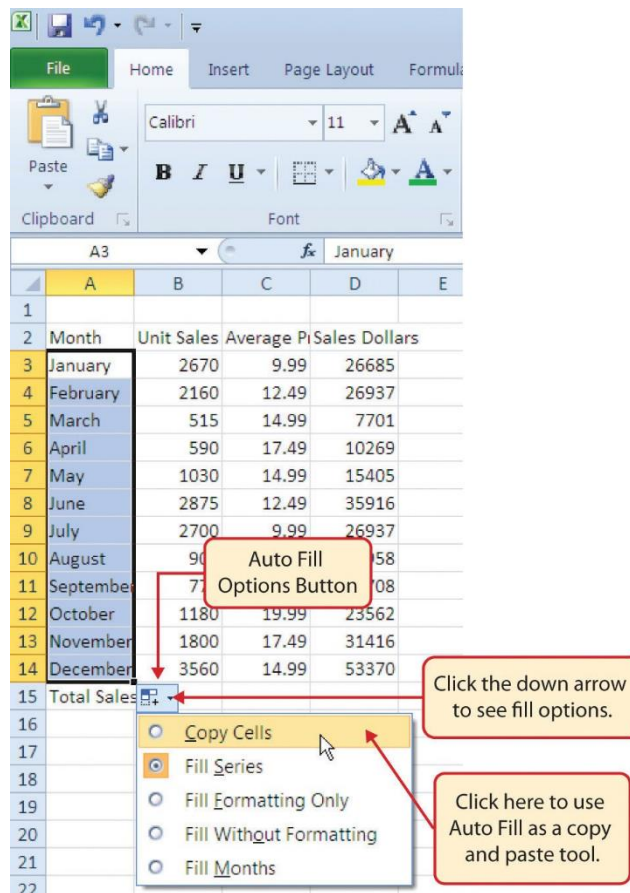


Figure 1.20 Auto Fill Options Button

1. Click the Auto Fill Options button.
  2. Click the Copy Cells option. This will change the months in the range A4:A14 to January.
  3. Click the Auto Fill Options button again.
  4. Click the Fill Months option to return the months of the year to the cell range A4:A14.
- The Fill Series option will provide the same result.





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## DELETING DATA AND THE UNDO COMMAND

There are several methods for removing data from a worksheet, a few of which are demonstrated here. With each method, you use the Undo command. This is a helpful command in the event you mistakenly remove data from your worksheet. The following steps demonstrate how you can delete data from a cell or range of cells:

1. Click cell C2 by placing the mouse pointer over the cell and clicking the left mouse button.
2. Press the **DELETE** key on your keyboard. This removes the contents of the cell.
3. Highlight the range C3:C14 by placing the mouse pointer over cell C3. Then left click and drag the mouse pointer down to cell C14.
4. Place the mouse pointer over the Fill Handle. You will see the white block plus sign change to a black plus sign.
5. Click and drag the mouse pointer up to cell C3 (see **Figure 1.21**). Release the mouse button. The contents in the range C3:C14 will be removed.

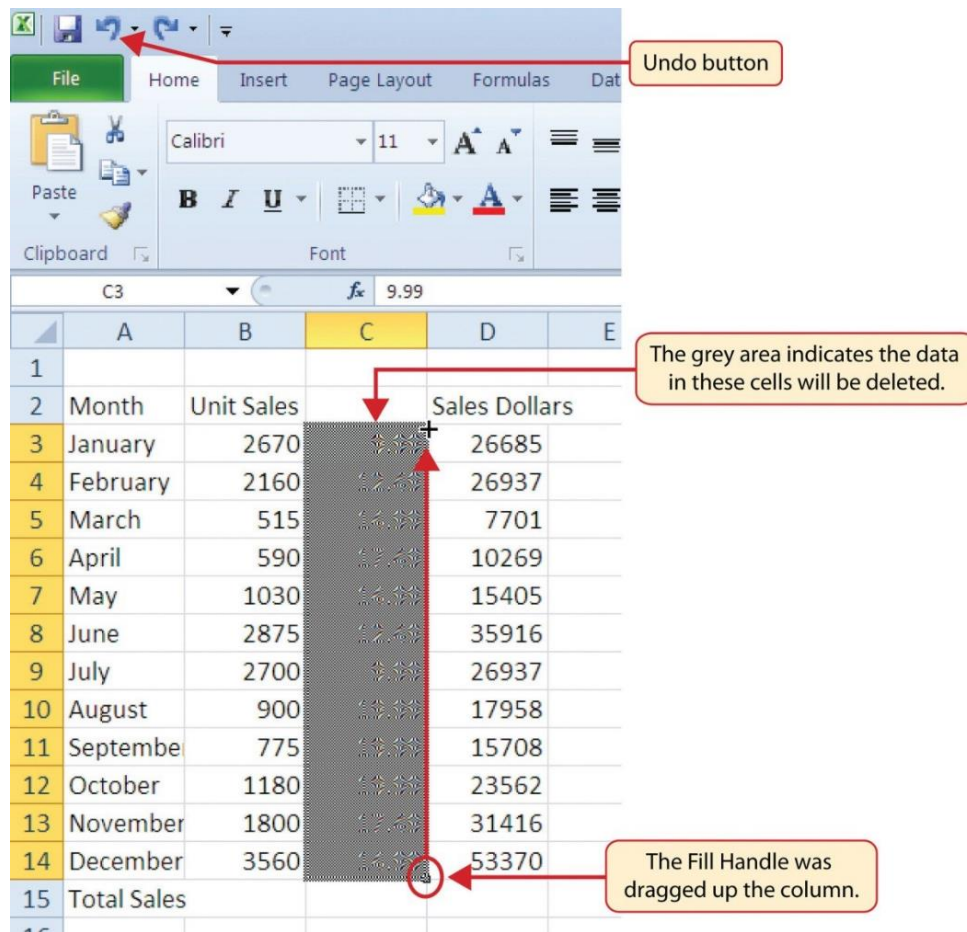


Figure 1.21 Using Auto Fill to Delete Contents of Cell

1. Click the Undo button in the Quick Access Toolbar (see **Figure 1.2**). This should replace the data in the range C3:C14.
2. Click the Undo button again. This should replace the data in cell C2.

## Keyboard Shortcuts

### Undo Command

- Hold down the CTRL key while pressing the letter Z on your keyboard.
- Highlight the range C2:C14 by placing the mouse pointer over cell C2. Then left click and drag the mouse pointer down to cell C14.



- Click the Clear button in the Home tab of the Ribbon, which is next to the Cells group of commands (see **Figure 1.22**). This opens a drop-down menu that contains several options for removing or clearing data from a cell. Notice that you also have options for clearing just the formats in a cell or the hyperlinks in a cell.
- Click the Clear All option. This removes the data in the cell range.
- Click the Undo button. This replaces the data in the range C2:C14.

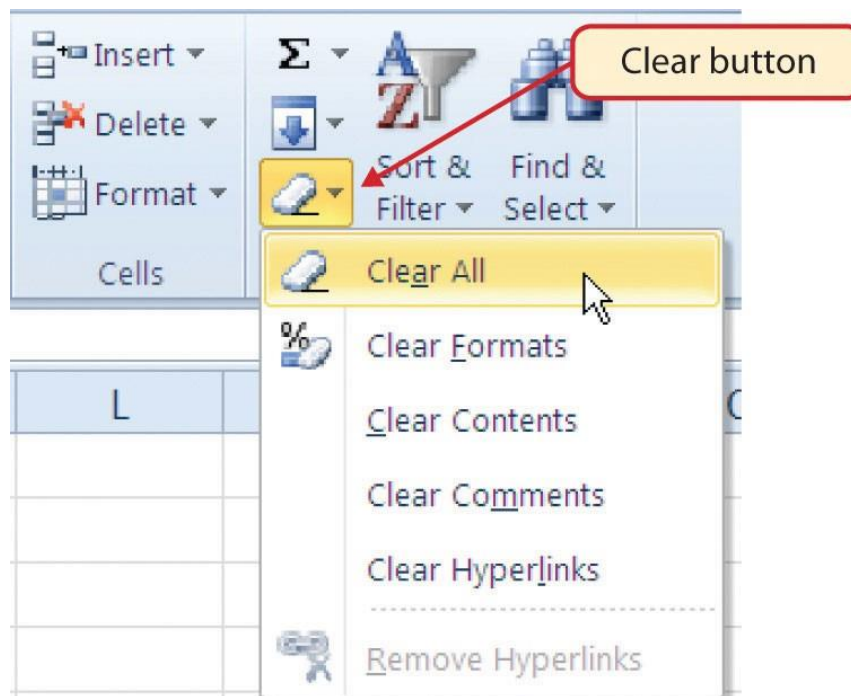


Figure 1.22 Clear Command Drop-Down Menu

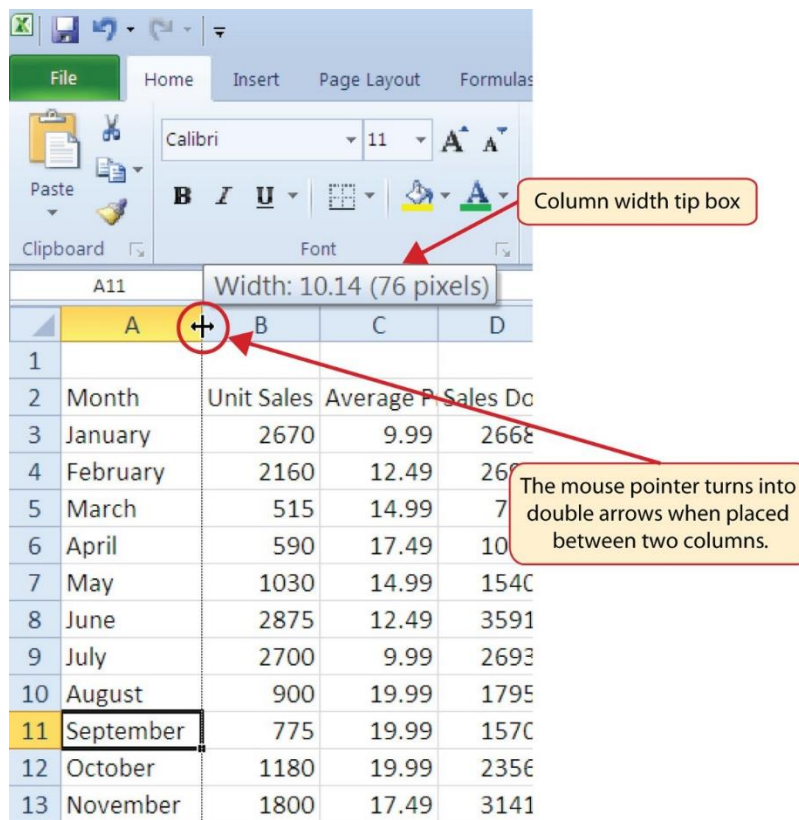
## ADJUSTING COLUMNS AND ROWS

There are a few entries in the worksheet that appear cut off. For example, the last letter of the word September cannot be seen in cell A11. This is because the column is too narrow for this word. The columns and rows on an Excel worksheet can be adjusted to



accommodate the data that is being entered into a cell. The following steps explain how to adjust the column widths and row heights in a worksheet:

1. Bring the mouse pointer between Column A and Column B in the Sheet1 worksheet, as shown in **Figure 1.23**. You will see the white block plus sign turn into double arrows.
2. Click and drag the column to the right so the entire word September in cell A11 can be seen. As you drag the column, you will see the column width tip box. This box displays the number of characters that will fit into the column using the Calibri 11-point font which is the default setting for font/size.
3. Release the left mouse button.



*Figure 1.23 Adjusting Column Widths*



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You may find that using the click-and-drag method is inefficient if you need to set a specific character width for one or more columns. Steps 1 through 6 illustrate a second method for adjusting column widths when using a specific number of characters:

1. Click any cell location in Column A by moving the mouse pointer over a cell location and clicking the left mouse button. You can highlight cell locations in multiple columns if you are setting the same character width for more than one column.
2. In the Home tab of the Ribbon, left click the Format button in the Cells group.
3. Click the Column Width option from the drop-down menu. This will open the Column Width dialog box.
4. Type the number **13** and click the OK button on the Column Width dialog box. This will set Column A to this character width (see **Figure 1.24**).
5. Once again bring the mouse pointer between Column A and Column B so that the double arrow pointer displays and then double-click to activate AutoFit. This features adjusts the column width based on the longest entry in the column.
6. Use the Column Width dialog box (step 6 above) to reset the width to 13.

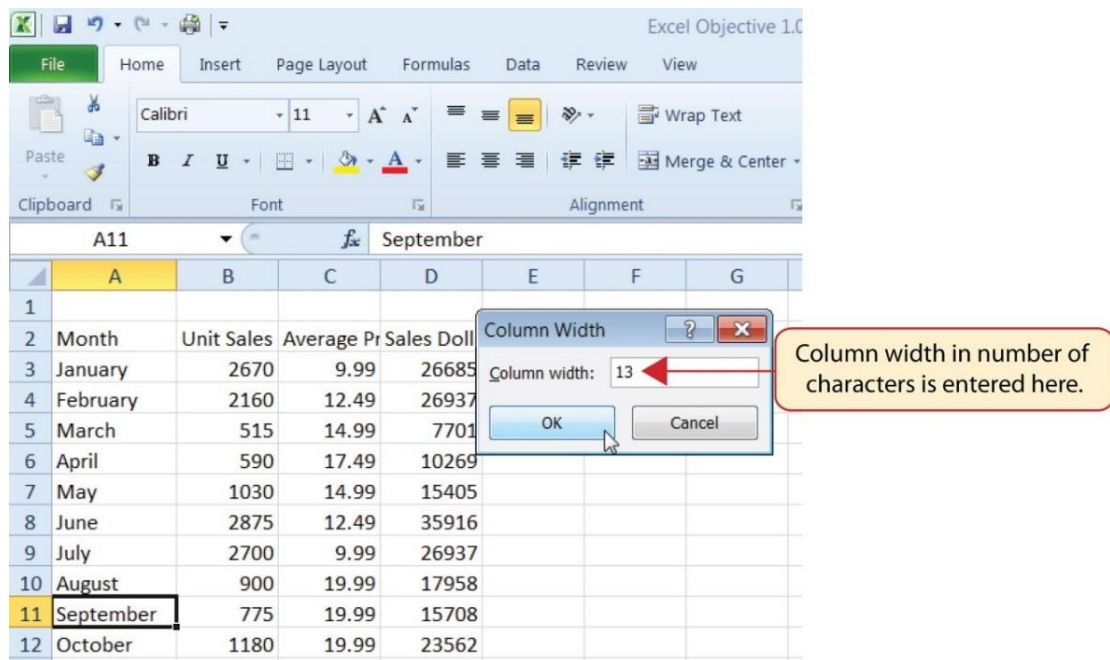


Figure 1.24 Column Width Dialog Box

Steps 1 through 4 demonstrate how to adjust row height, which is similar to adjusting column width:

1. Click cell A15 by placing the mouse pointer over the cell and clicking the left mouse button.
2. In the Home tab of the Ribbon, left click the Format button in the Cells group.
3. Click the Row Height option from the drop-down menu. This will open the Row Height dialog box.
4. Type the number **24** and click the OK button on the Row Height dialog box. This will set Row 15 to a height of 24 points. A point is equivalent to approximately 1/72 of an inch. This adjustment in row height was made to create space between the totals for this worksheet and the rest of the data.



Figure 1.25 shows the appearance of the worksheet after Column A and Row 15 are adjusted.

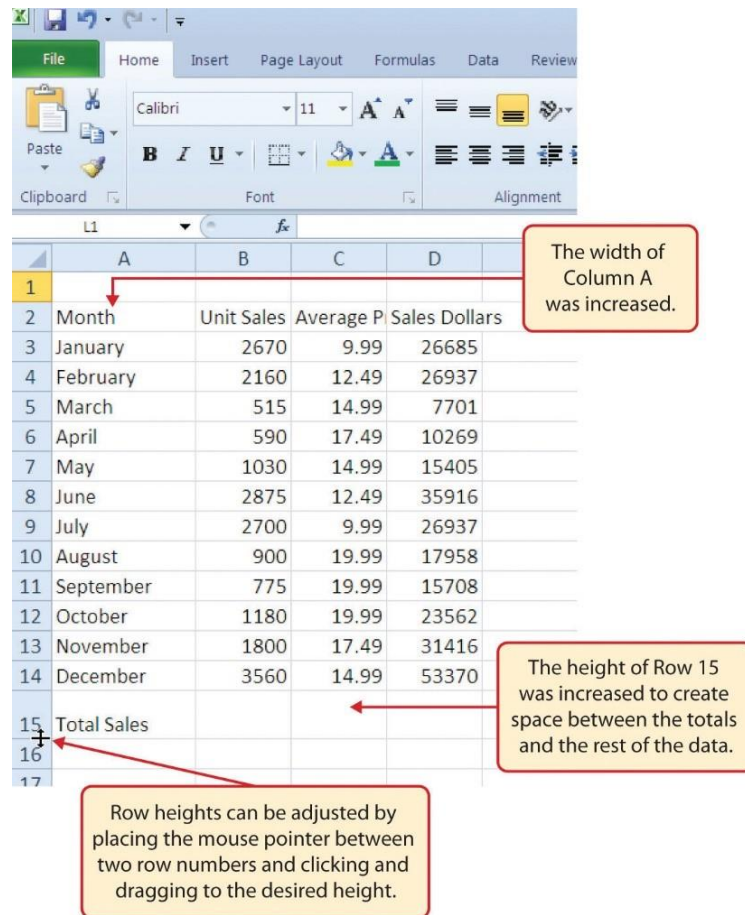


Figure 1.25 GMW Sales Data with Column A and Row 15 Adjusted

## HIDING COLUMNS AND ROWS

In addition to adjusting the columns and rows on a worksheet, you can also hide columns and rows. This is a useful technique for enhancing the visual appearance of a worksheet that contains data that is not necessary to display. These features will be demonstrated using the GMW Sales Data workbook. However, there is no need to have





hidden columns or rows for this worksheet. The use of these skills here will be for demonstration purposes only.

1. Click cell C1 in the Sheet1 worksheet by placing the mouse pointer over the cell location and clicking the left mouse button.
2. Click the Format button in the Home tab of the Ribbon.
3. Place the mouse pointer over the Hide & Unhide option in the drop-down menu. This will open a submenu of options.
4. Click the Hide Columns option in the submenu of options (see **Figure 1.26**). This will hide Column C.

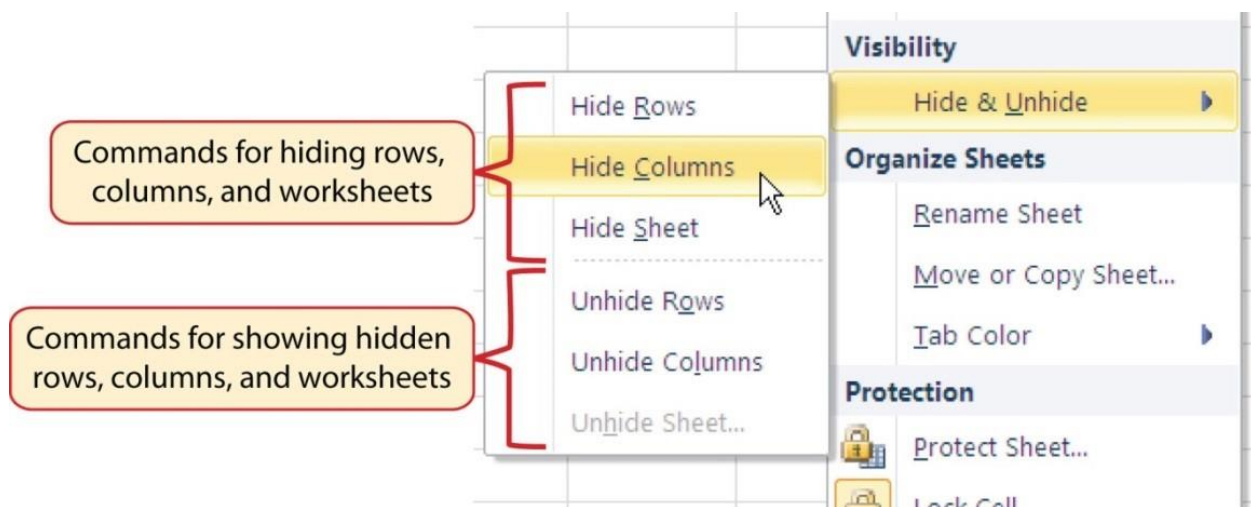


Figure 1.26 Hide & Unhide Submenu

**Figure 1.27** shows the workbook with Column C hidden in the Sheet1 worksheet.

You can tell a column is hidden by the missing letter C.



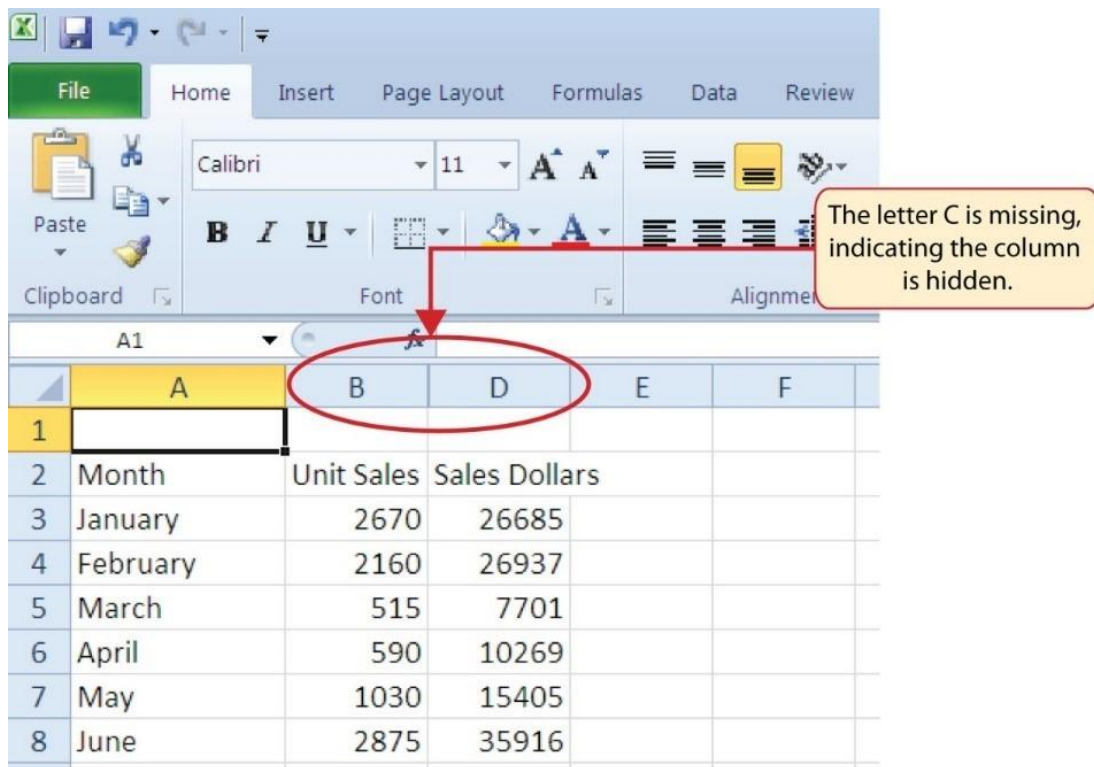


Figure 1.27 Hidden Column

To unhide a column, follow these steps:

1. Highlight the range B1:D1 by activating cell B1 and clicking and dragging over to cell D1.
2. Click the Format button in the Home tab of the Ribbon.
3. Place the mouse pointer over the Hide & Unhide option in the drop-down menu.
4. Click the Unhide Columns option in the submenu of options. Column C will now be visible on the worksheet.

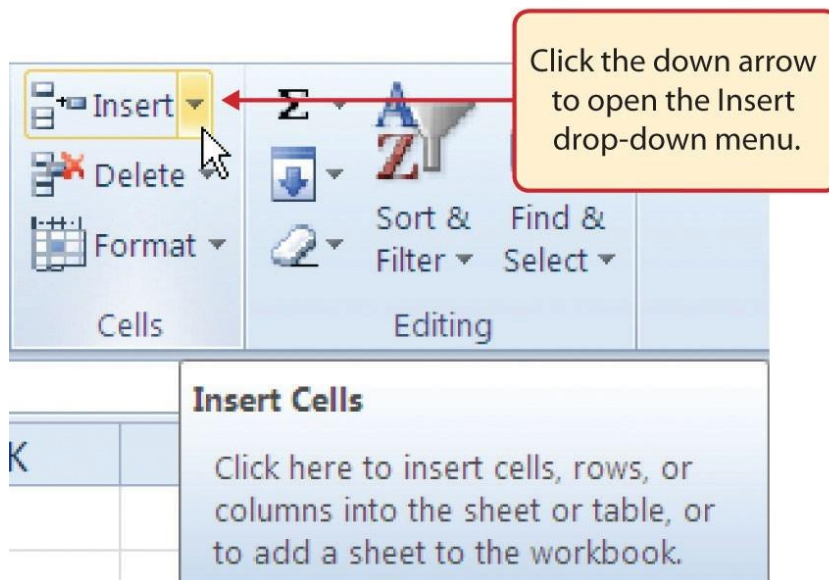
## INSERTING COLUMNS AND ROWS

Using Excel workbooks that have been created by others is a very efficient way to work because it eliminates the need to create data worksheets from scratch. However,

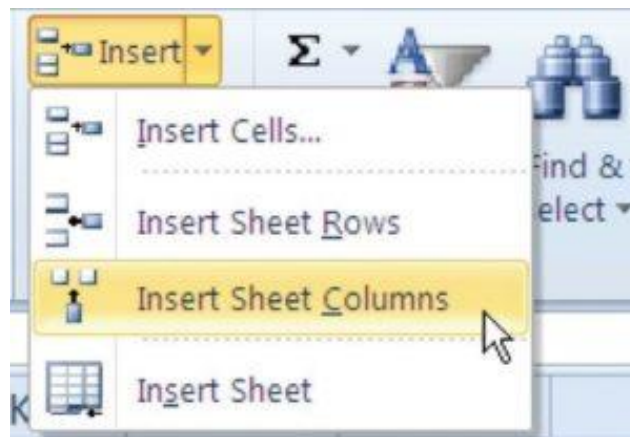


you may find that to accomplish your goals, you need to add additional columns or rows of data. In this case, you can insert blank columns or rows into a worksheet. The following steps demonstrate how to do this:

1. Click cell C1 in the Sheet1 worksheet by placing the mouse pointer over the cell location and clicking the left mouse button.
2. Click the down arrow on the Insert button in the Home tab of the Ribbon.



3. Click the Insert Sheet Columns option from the drop-down menu. A blank column will be inserted to the left of Column C. The contents that were previously in Column C now appear in Column D. Note that columns are always inserted to the left of the activated cell.



4. Click cell A3 in the **Sheet1** worksheet by placing the mouse pointer over the cell location and clicking the left mouse button.

5. Click the down arrow on the Insert button in the Home tab of the Ribbon

6. Click the Insert Sheet Rows option from the drop-down menu. A blank row will be inserted above Row 3. The contents that were previously in Row 3 now appear in Row 4. Note that rows are always inserted above the activated cell.

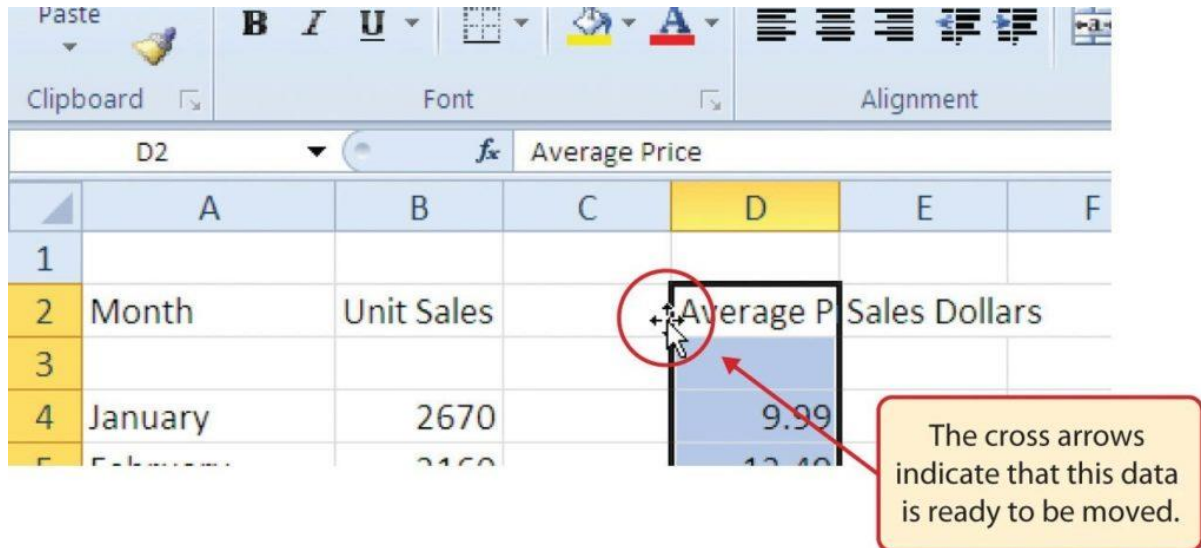
## MOVING DATA

Once data are entered into a worksheet, you have the ability to move it to different locations. The following steps demonstrate how to move data to different locations on a worksheet:

1. Highlight the range D2:D15 by activating cell D2 and clicking and dragging down to cell D15.



2. Bring the mouse pointer to the left edge of cell D2. You will see the white block plus sign change to cross arrows. This indicates that you can left click and drag the data to a new location.



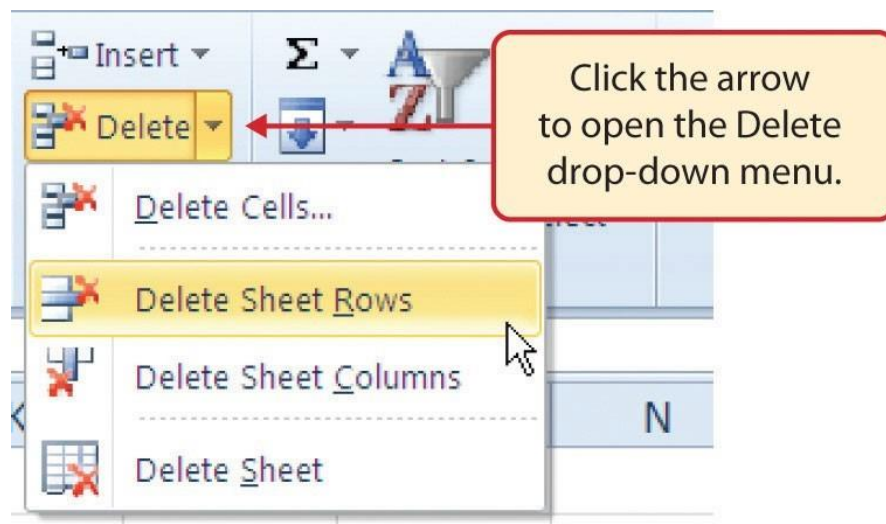
3. Left Click and drag the mouse pointer to cell C2.
4. Release the left mouse button. The data now appears in Column C.
5. Click the Undo button in the Quick Access Toolbar. This moves the data back to Column D.

## DELETING COLUMNS AND ROWS

You may need to delete entire columns or rows of data from a worksheet. This need may arise if you need to remove either blank columns or rows from a worksheet or columns and rows that contain data. The methods for removing cell contents were covered earlier and can be used to delete unwanted data. However, if you do not want a blank row or column in your workbook, you can delete it using the following steps:



1. Click cell A3 by placing the mouse pointer over the cell location and clicking the left mouse button.
2. Click the down arrow on the Delete button in the Cells group in the Home tab of the Ribbon.



3. Click the Delete Sheet Rows option from the drop-down menu. This removes Row 3 and shifts all the data (below Row 2) in the worksheet up one row.
4. Click cell C1 by placing the mouse pointer over the cell location and clicking the left mouse button.
5. Click the down arrow on the Delete button in the Cells group in the Home tab of the Ribbon.
6. Click the Delete Sheet Columns option from the drop-down menu (see **Figure 1.31**). This removes Column C and shifts all the data in the worksheet (to the right of Column B) over one column to the left.
7. Save the changes to your workbook by clicking either the **Save** button on the Home ribbon; or by selecting the **Save** option from the File menu.



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## UNIT – V

### INTRODUCTION TO INTERNET

#### HISTORY OF INTERNET

The Internet is the most commonly used term in today's world and plays a very important role in the everyday life of people. But there are many questions, answers to which people need to know. In this article, we shall help you find answers to these questions; discuss the evolution of the Internet, its usage, benefits, history and how the Internet works.

In terms of Computer Awareness, the Internet is one of the most important topics in competitive exams. Thus, candidates preparing for exams like Banking, Insurance, SSC, etc. must read on to learn more about the Internet.

Let us first answer a few of the most important questions which arise with regard to the Internet.

#### INTERNET

A global system of interconnected computers, using a standardised Internet Protocol suite for communication and sharing information is called the Internet.

#### ISP

ISP stands for Internet Service Provider. This helps in providing direct access for using the internet from your office or home, connected through landlines. With the introduction of Wi-fi and broadband, connecting to the Internet has become wireless.



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## **World Wide Web**

World Wide Web or 'www' is a collection of webpages which can easily be published on the Internet and read by millions of its users. To know the difference between World Wide Web (www) and Internet, candidates can visit the linked article.

## **IP address**

The Internet Protocol address is a numerical identification code assigned for any device connected to a network. It acts as an identification interface for Internet users.

## **Web Browser**

A Web browser is a software application for accessing the information on the World Wide Web. The commonly used web browsers include Google Chrome, Internet Explorer, Mozilla Firefox, etc.

## **EVOLUTION OF THE INTERNET**

The Internet completely revolutionised communication and technology across the Globe. Initially, computerised devices were only used for large industries but later its usage increased massively.

It is also mandatory for people to know that it is not possible for a single person to develop something as broad and wide as the Internet all by himself/herself. It was a combined effort of multiple researchers and programmers that the Internet was discovered.



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Given below are a few important points which played an extremely important role in the development of the Internet and making it one of the most widely used resources across the world.

- The first development was the introduction of host-to-host network interactions. This was first observed in ARPANET in 1969. It was developed by Advanced Research Projects Agency (APRA) of the Department of Defence, U.S. It was one of the first general usage of computer networks.
- Next step was commercialising the usage and making the transistors and transmitters fit in smaller devices for convenient Internet usage for the general public. This was introduced in the 1970s
- Moving forward, satellites and wireless communication was the main target. Defence Advanced Research Projects Agency (formerly ARPA), supported satellite-based radio packets for mobile usage of networks
- The next was the development of Transmission Control Protocol (TCP). This enabled different machines and networks across the world to assemble data packets. It was in the 1980s that the TCP/IP approach was adapted by researchers and technologists, following the footsteps of the U.S. Department of Defence
- With the introduction of personal computers, the demand for commercial Internet usage increased. This was the time when Ethernet and other Local Area Networks came in the foreground





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- In 1993, the web browser was introduced, which followed the point-and-click approach and is now a widely used operation for Internet users
  - The late 1990s was the time when thousands of Internet Service Providers has taken up the market and most of them were from the U.S.
  - And then the 21st century brought in an amalgamation of technology and wireless Internet accessibility for its users. Wherein, wireless broadband services came in as a boon for Internet users

Amid all these developments which were made, a lot of successes and failures came in but today, the Internet is one such commodity which has made lives easier and brought in a wider pace for development across the globe.

## WAYS TO CONNECT TO INTERNET

The different ways in which one can connect to the Internet are discussed below in brief:

- **Dial-Up** – In such connections, users are required to link their phone line to a computer to access the Internet. Under this connection, the user cannot make or receive phone calls through tier home phone service
- **Broadband** – Provided either through cable or phone companies, Broadband is a high-speed internet connection which is widely used today
- **Wireless Connection** – Wi-fi and Mobile service providers fall under this category. Internet connectivity is made via radio waves and the Internet can be connected



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anywhere, irrespective of the location. Given below are a few examples of wireless connection:

- **Wi-fi** – Wireless Fidelity or wi-fi allows high-speed internet connectivity without the use of wires
- **Mobile Phones** – All smartphones are now equipped with an option for Internet connectivity which can be availed using Internet vouchers and packs. No external connection or wire is required for these
- **Satellite** – Where broadband connections are unavailable, satellites are used for wireless Internet connectivity
- **Integrated Services Digital Network** – ISDN allows users to send audio or video data using telephone lines

## INTERNET CONNECTION PROTOCOLS

Protocols are a set of rules that help in governing the way in which any particular body or technology works.

Internet Connection Protocols can be divided into three major types:

- **TCP/IP Network Model** – Transmission Control Protocol (TCP) and Internet Protocol (IP) are the most widely used protocols for connecting networks. It divides any message into a series of packets which are sent from source to destination
- **File Transfer Protocol** – Program files, multimedia files, text files, documents, etc. can be transferred from one device to another, using FTP



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- **Hypertext Transfer Protocol** – Used for transferring a hypertext from one device to two or more devices. HTML tags are used for creating links and these links may be in the form of text or images

## **PROS AND CONS OF USING THE INTERNET**

Intentionally or unintentionally, Internet usage is a part in the day to day lives of every individual. The Internet has made lives easy and comfortable, but at the same time made human being dependable for the smallest or biggest of information. Discussed below are the uses of the internet, along with a few cons that it brings along.

### **Pros of Internet**

- **Easy Access to Information** – Information on anything and everything are available online. The Internet makes it convenient to learn about new things at any point in time and get details on various subjects, irrespective of time and place
- **Platform for Online Education** – With the advanced technology, even students and adults wish to learn new things and gaining knowledge at various online portals has become more accessible
- **Job Hunting** – Employers can look for employees on the internet and the job seekers can apply online for jobs using the Internet
- **Platform to become an Entrepreneur** – Today, thousands of people have started their own websites and getting good business and users/customers by making their



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own websites and selling products or services. This has become accessible due to Internet connectivity

- **Visual and Graphical Representation of Things** – Various researches have shown that a person tends to get more engaged with a graphical representation of things. Internet has made this facility also convenient for both user and creator
- **Reduced the parameter of Distance** – Social media has reduced the distance between people as communication has become much easier because of Internet connection

With the Internet being an extremely essential part of daily life, it is important that a person is well aware of the disadvantages of the Internet and its excess usage.

### **Cons of Internet**

- **Dependency** – The dependency of people for looking things and information online has increased massively since the introduction of Internet and its easy access
- **Cyber Crime** – People do not just use internet for learning purposes, cybercrime has also been at a distinctive high because of effortless availability of resources
- **Distraction** – People can easily find online games, interesting information, etc. online which may be a cause of distraction for many
- **Bullying and Trolls** – Online platforms are being used for unethical practices like bullying people and trolling them

All the information provided in this article regarding the Internet will bring in a broader perspective of connectivity, networks and protocols which are necessary for Internet usage.



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Analysing and studying the information given here shall prove to be highly useful for people belonging to all age groups.

## **Computer Virus**

A Computer virus is a kind of malicious computer program, which when executed, replicates itself and inserts its own code. When the replication is done, this code infects the other files and program present on your system.

These computer viruses are present in various types and each of them can infect a device in a different manner.

Apart from being aware of what a computer virus is, this topic is even important for candidates preparing for Government exams. Major competitive exams in the country comprise Computer Knowledge as an integral part of the syllabus and questions based on virus and anti-virus can also be expected in these exams.

Thus, to excel in the upcoming Govt exams, aspirants must go through this article in detail and carefully study the different types of viruses.

A Computer virus is a program which can harm our device and files and infect them for no further use. When a virus program is executed, it replicates itself by modifying other computer programs and instead enters its own coding. This code infects a file or program and if it spreads massively, it may ultimately result in crashing of the device.

Across the world, Computer viruses are a great issue of concern as they can cause billions of dollars' worth harm to the economy each year.



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Since the computer virus only hits the programming of the device, it is not visible. But there are certain indications which can help you analyse that a device is virus-hit. Given below are such signs which may help you identify computer viruses:

- **Speed of the System** – In case a virus is completely executed into your device, the time taken to open applications may become longer and the entire system processing may start working slowly
- **Pop-up Windows** – One may start getting too many pop up windows on their screen which may be virus affected and harm the device even more
- **Self Execution of Programs** – Files or applications may start opening in the background of the system by themselves and you may not even know about them
- **Log out from Accounts** – In case of a virus attack, the probability of accounts getting hacked increase and password protected sites may also get hacked and you might get logged out from all of them
- **Crashing of the Device** – In most cases, if the virus spreads in maximum files and programs, there are chances that the entire device may crash and stop working

## **TYPES OF COMPUTER VIRUS**

Discussed below are the different types of computer viruses:

- **Boot Sector Virus** – It is a type of virus that infects the boot sector of floppy disks or the Master Boot Record (MBR) of hard disks. The Boot sector comprises all the



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files which are required to start the Operating system of the computer. The virus either overwrites the existing program or copies itself to another part of the disk.

- **Direct Action Virus** – When a virus attaches itself directly to a .exe or .com file and enters the device while its execution is called a Direct Action Virus. If it gets installed in the memory, it keeps itself hidden. It is also known as Non-Resident Virus.
- **Resident Virus** – A virus which saves itself in the memory of the computer and then infects other files and programs when its originating program is no longer working. This virus can easily infect other files because it is hidden in the memory and is hard to be removed from the system.
- **Multipartite Virus** – A virus which can attack both, the boot sector and the executable files of an already infected computer is called a multipartite virus. If a multipartite virus attacks your system, you are at risk of cyber threat.
- **Overwrite Virus** – One of the most harmful viruses, the overwrite virus can completely remove the existing program and replace it with the malicious code by overwriting it. Gradually it can completely replace the host's programming code with the harmful code.
- **Polymorphic Virus** – Spread through spam and infected websites, the polymorphic virus are file infectors which are complex and are tough to detect. They create a modified or morphed version of the existing program and infect the system and retain the original code.



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- **File Infector Virus** – As the name suggests, it first infects a single file and then later spreads itself to other executable files and programs. The main source of this virus are games and word processors.
  - **Spacefiller Virus** – It is a rare type of virus which fills in the empty spaces of a file with viruses. It is known as cavity virus. It will neither affect the size of the file nor can be detected easily.
  - **Macro Virus** – A virus written in the same macro language as used in the software program and infects the computer if a word processor file is opened. Mainly the source of such viruses is via emails.

### **Protect Your Computer from Virus**

The most suitable way of making your computer virus-free is by installing an Anti-virus software. Such software help in removing the viruses from the device and can be installed in a computer via two means:

- Online download
- Buying an Anti-virus software and installing it

### **Anti-Virus**

An anti-virus is a software which comprises programs or set of programs which can detect and remove all the harmful and malicious software from your device. This anti-virus software is designed in a manner that they can search through the files in a computer and determine the files which are heavy or mildly infected by a virus.





Given below is a list of few of the major antivirus software which is most commonly used:

- Norton Antivirus
- F-Secure Antivirus
- Kaspersky Antivirus
- AVAST Antivirus
- Comodo Antivirus
- McAfee Antivirus

### Differences between WWW and Internet

WWW (World Wide Web)	Internet
The World Wide Web is the common system for navigating the internet. It is not the only system that can be used for such access, but it is by far the most common one.	The internet is a public network of network with a maze of wired and wireless connections between separate groups of servers computers and countless devices from around the world
The World Wide Web is distinguished from other systems through its use of HTTP (Hypertext Transfer Protocol). It can be safely said that the HTTP is the language of the World Wide Web	Along with Internters, there also exist the Intranets, which is the same type of information network but more privatized in order to control access.
WWW is more software-oriented as compared to the Internet	Internet is primarily hardware-based.
The HTTP along with being the language of the World Wide Web also governs it by dealing with linking of files, documents and other resources	The internet is governed by a set of rules and regulations collectively known as Internet Protocol (IP). The IP deals with data transmitted through the internet.



The invention of the World Wide Web can be credited to Sir Tim Berners Lee. During his work at the European Organization for Nuclear Research in 1989, he had developed the basic idea of the WWW to merge the evolving technologies of computers, data networks and hypertext into a powerful and easy to use global information system.

The first workable prototype of the Internet was the ARPANET (Advanced Research Project Agency Network) in the late 1960s. After its adoption on January 1st 1983, researchers began to develop a “network of networks” which evolved into the modern form of the Internet

### **Difference Between Internet, Intranet and Extranet**

The major difference between the internet, intranet and extranet is that the internet, also known as the world wide web, is a global network of computer networks, and intranet, on the other hand, is an internet network that only corporate workers have access to. However, the extranet is an extension of the intranet. In this article, we will discuss the basic difference between internet, intranet and extranet in the sections below.

<b>Internet</b>	<b>Intranet</b>	<b>Extranet</b>
Internet is open to the public, but the other two are heavily censored.	An intranet may be accessed via the Internet, although its authentication requires logging in.	Extranets are mostly used by businesses and organizations to limit access to secret information.
It is owned by no one.	It is owned by a particular company/ organization.	It is owned by single/ multiple organizations.
Everyone who is linked has access to it.	Only members of the organization have access to it.	Only members of the organization and external members with logins have access.



Its goal is to provide information all across the world.	Its goal is to communicate information within the company.	Its goal is to allow members and external members to share information.
It is used by the public.	It is used by employees of the organization.	It is used by the members having login information.
It is more cost-effective to utilize.	It is less cost-effective.	It is also less cost-effective.

## **WEB PAGE**

A document which can be displayed in a web browser such as Firefox, Google Chrome, Opera, Microsoft Internet Explorer or Edge, or Apple's Safari. These are also often called just "pages."

## **WEBSITE**

A collection of web pages which are grouped together and usually connected together in various ways. Often called a "web site" or a "site."

## **WEB SERVER**

A computer that hosts a website on the Internet.

## **SEARCH ENGINE**

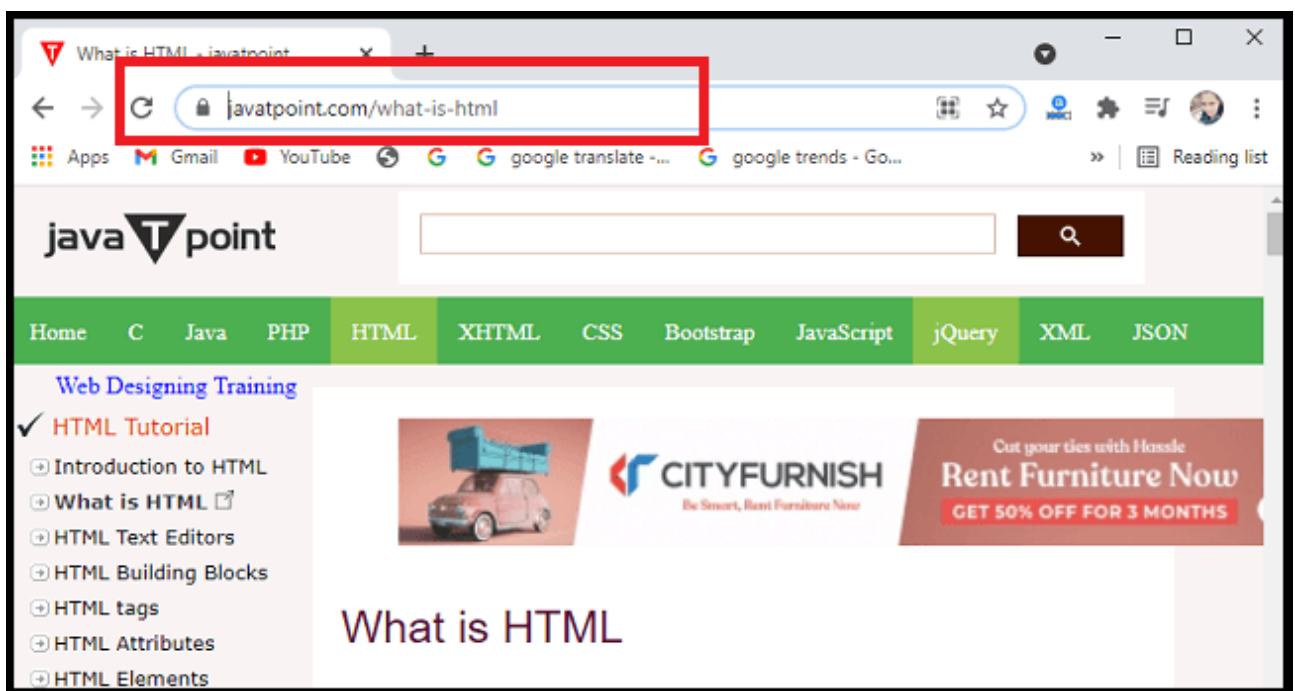
A web service that helps you find other web pages, such as Google, Bing, Yahoo, or DuckDuckGo. Search engines are normally accessed through a web browser (e.g. you can perform search engine searches directly in the address bar of Firefox, Chrome, etc.) or through a web page (e.g. bing.com or duckduckgo.com).



## Webpage

A Web page is a single hypertext document available on World Wide Web (WWW). It is composed of HTML elements and displayed on the user's browser such as **Mozilla, Firefox, Chrome**

A Webpage is a document written in HTML and can be viewed on any web browser. It is contained within the web server, which can be accessed by entering the URL for that web page, and once it is loaded, it appears on the user's web browser. Each webpage is linked with a unique URL; hence two pages cannot have the same URL.



A Webpage may contain *text, links for other pages, graphics, videos, etc.* Moreover, it is mainly used to provide information to the user in text, images, etc.

*A webpage is a part of a website; it means a website contains different web pages.* Such as **javaTpoint.com** is a website, and the page currently you are accessing is the webpage.



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It can be understood as an example of a book. So, a Website is like a complete book, and a webpage is like a page of that book.

The WWW or Internet contains millions of web pages, and daily, a lot is being added. Tim Berners-Lee developed **the first webpage**.

Let's understand some basic terms that are used with Webpage:

- **WebSite:** A website is a collection of several web pages. These pages are linked together with hyperlinks. A website has a unique domain name, and we can access it by entering that domain name in the URL.
- **Search Engine:** A search engine is an internet service that helps users find any information available on the internet. Some examples of search engines are **Google, Yahoo, Bing**, It is usually accessed with the help of Web browser.
- **Web Browser:** A web browser or simply browser is application software used to access the internet. Some examples of Web browsers are **Google Chrome, Microsoft Internet Explorer, Safari, etc.** It does two things:
  - It connects to a web server on the internet and requests a page that the user wants to view; once it finds that page, it displays it on its device.
  - It can interpret the set of HTML tags within a page to display the page in the correct format.



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- **Webserver:** A web server can be understood as a computer that hosts or provide a website on the internet. It contains webserver software and component files of a website such as *HTML document, images, CSS stylesheet, and JS files*.
  - **HTML:** HTML is an abbreviation of Hyper-Text Markup Language. A markup language is a computer language that specifies how a page should be formatted. With the help of HTML, one can specify fonts, colors, images, headings, and everything that he wants to display on a page displayed by the browser.

## CHARACTERISTICS OF A WEB PAGE

Following are some characteristics of a Web page:

- ✓ A simple webpage can be created very quickly.
- ✓ It takes very little time to create a webpage compared to a Website.
- ✓ A web page and a website should be compatible with any device, such as Mobile, Desktop, Laptop, etc.
- ✓ The search engine provides a web page through a link, and when a user clicks on that link, it is redirected to the webpage of a website.
- ✓ A webpage can have any type of information including videos, and audios.
- ✓ It can be made up of only HTML(Hypertext Markup Language), or CSS, or JavaScript for dynamic and attractive behavior.



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## DIFFERENCE BETWEEN A WEBPAGE AND A WEBSITE

Since both Websites and Web pages are related to each other, some users may use them interchangeably, but they are much different from each other. The basic difference between them is that *webpage is a single web document, whereas a Website is a collection of different web pages*. Here are some more differences between both of them:

Website	Webpage
A website is a collection of different web pages that are linked together with hyperlinks.	A webpage is a single hypertext document.
It consists of more than one webpage.	It is a single document that is displayed on the user's browser.
To develop a website, developers need more skills and more time compared to a webpage.	To develop a webpage, developers need basic HTML knowledge and less time.
A website is accessed through its domain name, and it does not include any extension in the URL.	A webpage is accessed through a unique URL with some extension.
It can contain information for different entities, such as Javatpoint.com, which contains information about different technologies.	It can contain information for a single entity, such as currently viewing a web page containing information about this page only.
It is a little challenging to create a perfect website and requires lots of programming.	It is very simple to create a webpage.



Some examples of the website are Javatpoint.com, Amazon.com, etc.

Some examples of Webpages are the currently viewing page, contact page, registration page, the home page, etc.

## **TYPES OF A WEB PAGE**

There are mainly two types of a Web page based on functionality:

- ❖ **Static Webpage**
- ❖ **Dynamic Webpage**

### **Static Webpage**

Static webpages are those webpages that cannot be modified or altered by the client. These are also known as stationary or flat web pages. They are displayed on the client's browser in the same format and manner as they are saved in the webserver. Users can only load the page and read the information but cannot perform any change on the page.

A static webpage is generally made up of HTML and CSS only.

### **Dynamic Webpage**

As the name suggests, Dynamic webpages are dynamic, which means it shows different information at different point of time.

The dynamic webpage shows different content each time it is viewed. There are two types of Dynamic web pages, which are:

- ❖ **Server-Side Dynamic Webpage:** These web pages are created using Server-side scripting. These pages are changed when they are visited or viewed. Some examples





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of server-side pages are **login pages, submission forms, shopping carts, etc.** Various scripting languages such as **PHP, ASP.Net, JSP, etc.**, can be used for server-side scripting.

- ❖ **Client-side Dynamic Webpage:** These web pages are created using Client-side scripting. These pages get changed in response to actions that occur within that page, such as mouse or keyboard action. Scripting languages such as **JavaScript, Dart, etc.**, can be used for client-Side scripting.

Apart from these two Webpages, there are some examples of common web pages that can be found on most of the websites, and these are as follow:

- ❖ **Home Page:** The home page of any website is one of the most important pages. It is called a home page because this is like a starting point from where users can go anywhere on that website. This page usually contains links to the important zones of the site. It can also be known as the **index page**.
- ❖ **Feed Page:** The feed page is usually found in those websites that update content. It is used to provide information to users for the latest information that has been updated.
- ❖ **Menu Page:** The menu page is created to accomplish the navigation goal. The page contains a collection of different links that give access to different categories and zones.



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- ❖ **About-us Page:** This page contains brief information and details of the company, product, or website. It allows the visitors to know the details of the website that they are using.
  - ❖ **Registration Page:** The registration page allows users to create an account by signing up, and hence they can create a personalized account. It helps the company to know the visitor and provide personalized offers and deals to them.
  - ❖ **Contacts Page:** This is a simple page made for the visitors to contact the website owner. For any issue or any feedback, users can use this page.
  - ❖ **Landing Page:** This is one of the special types of a Web page used as a core part of a website or as an individual page. The main aim of creating this page is to convert the visitors into the lead. It represents clear and focused content on a specific goal.

## CREATE A SIMPLE WEBPAGE

Creating a simple webpage is very easy; anyone with basic knowledge of computers and HTML can create it. But before creating a webpage, you should be aware of the below points:

- ❖ A simple webpage can be created using HTML code only. Such pages are simple but not interactive and have very few functionalities.
- ❖ To make your webpage interactive and add functionality, you need to learn and use scripting languages, such as **PHP, Python**, etc.
- ❖ A web page can also be created using Notepad, but it is recommended to use IDEs for advanced uses such as **Atom, Sublime Text editor, PyCharm**,



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## Follow the below steps to create your webpage:

1. Open the Notepad application on your computer.
2. Write Below code on it.

```
<!DOCTYPE html>

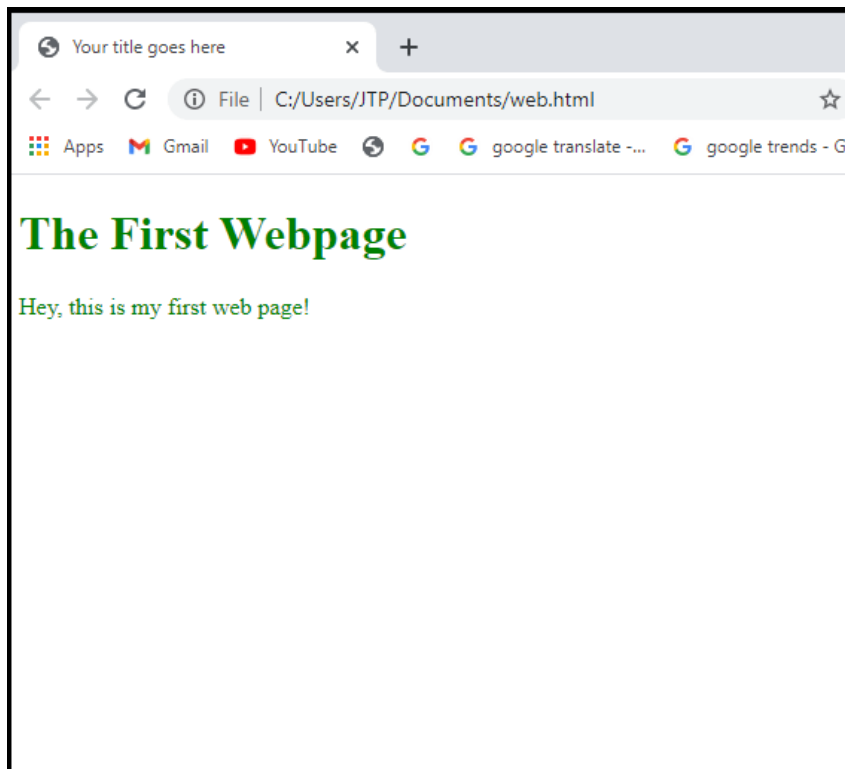
<html>
<head>
<title>Your title goes here</title>
</head>
<body bgcolor="white" text="red">
<h1>first Web page</h1>
<p>This is my first web page!</p>
</body>
</html>
```

In the above code, the following tags are used:

- **<!DOCTYPE html>**: It is used for document type declaration, which means which version of HTML you are using. It indicates the browser that which language it is supposed to interpret.
- **<html>**: it indicates the start and of the HTML code.
- **<head>**: It can have different types of information such as title, meta tag, etc.; this information will not appear on the webpage.
- **<body>**: This tag contains other tags on the webpage, and users can see them. In above code, we have included **<h1>** heading tag and **<p>** paragraph tags.



- Save the file with any name and **.html extension**. For example, save it with **html** name.
- Go to the saved file (web.html), double click or right-click and run it.
- It will open on your default browser and will display the below output:



You can also add more tags for different elements, such as add images, background images, border, table, table, etc., using HTML.

After creating the page, you can also make changes in your file through the editor. Just make the change, save the file again, and reload the page; those changes will appear on the screen.



## CREATE AN E-MAIL ACCOUNT


E-mail is a great way to send and receive information over the Internet. However, as there are many different e-mail and webmail clients, the steps used to start an account differ. To learn how to create a new e-mail account (and associated e-mail ID) in various programs, choose from the list below and follow the instructions.

### Google Gmail

1. Go to the Gmail website.
2. At the bottom of the sign in screen, click the [Create account](#) link.
3. On the account creation screen, **fill out all the fields (A)** and then click **Next (B)**.

4. On the next screen, fill out your **birth date and gender (A)** and any other information you are comfortable with, then click **Next (B)**.



 Phone number (optional)

This won't make your number visible to others

Recovery email address (optional)

We'll use it to keep your account secure

Month	Day	Year	A
March	31	1950	

Your birthday

Gender


Male


ComputerHope.com

Why we ask for [this information](#)

Back B NEXT

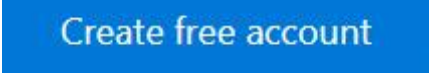
5. Read **Google's Privacy and Terms**, then click the  button.

6. Click the  button until you've moved through the features menu.

7. Click the  button, allowing you to access your new account.

Outlook.com (formerly Hotmail)

1. Open an Internet browser and head to [Outlook.com](#).

2. Click the  button.



3. On the next screen, choose a username (**A**) and a domain (**B**), and then click **Next** (**C**).

ComputerHope.com

Microsoft

Create account

**A** computerhope123 @outlook.com **B**

**C** Next

4. Choose a password, and then click the **Next** button.
5. Type your name, and then click the **Next** button.
6. Choose a country, type in your birthdate, and then click the **Next** button.
7. Choose a country code, type in a phone number, and then click the **Send code** button.
8. Enter the access code and click the **Next** button.
9. Navigate through the rest of the prompts and your account is opened.



## Yahoo! Mail



To access Yahoo! mail, you need to create a Yahoo! account. Here's how.

1. Navigate to the Yahoo! account sign up page.
2. Fill out the required fields (A) and then click the **Continue (B)** button.

### Sign up

**A**

First name	Last name	
Email address	@yahoo.com	
<a href="#">I'd rather use my own email address</a>		
Password		
+1	▼ Mobile phone number	
Birth Month	▼ Day	Year
Gender (optional)		

By clicking "Continue", you agree to the [Terms \(Updated\)](#) and [Privacy Policy \(Updated\)](#)

**B**





**Continue**

Already have an account? [Sign in](#)

ComputerHope.com

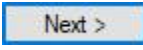
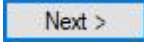




3. Click the  button.
4. Enter the five-digit key, and then click the  button.
5. Click the  button.
6. Click the  **Mail** icon.

## Microsoft Outlook



1. Open Outlook.
2. In the *Add Account Setup* window, make sure the circle next to **E-mail Account** is selected.
3. Fill out the form, and then click the  button.
4. Once the setup process is done, check the box next to **Change account settings**, and then click the  button.
5. Click **More settings**.
6. Click the **Advanced tab**.
7. Next to Root folder path: type Inbox.
8. Click **OK**, and then **Finish**.



## Mozilla Thunderbird



1. Open Thunderbird.
2. Click **Tools**, and then select **Account settings** from the drop-down menu that appears.
3. Click the circle next to **Email account** and then click **Next**.
4. Enter your name and an e-mail address that you want to use.
5. Select POP or IMAP for your server.
6. Enter your **e-mail address** for the incoming and outgoing user names, and then click **Next**.
7. Choose an **Account Name**.
8. Verify your account information and then click **Finish**.
9. Choose an **Outgoing server**.