Certificate in Computer Applications (CCA)

CCA-101: Fundamentals of IT & Programming

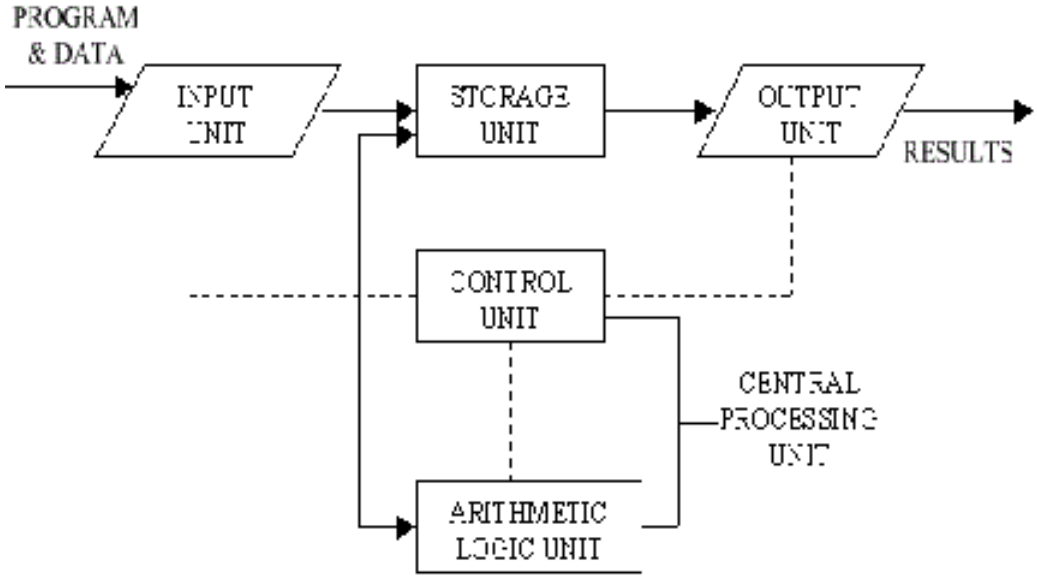
ASSIGNMENT -1

Q.1. What are the four fundamental parts of computer? Explain it with the help of diagram.

Answer A computer can process data, pictures, sound and graphics. They can solve highly complicated problems quickly and accurately. A computer as shown in Fig. performs basically five major computer operations or functions irrespective of their size and make. These are

1) it accepts data or instructions by way of input,
2) it stores data,
3) it can process data as required by the user,
4) it gives results in the form of output, and
5) it controls all operations inside a computer.

We discuss below each of these Computer operation



1. Input:

This is the process of entering data and programs in to the computer system. You should know that computer is an electronic machine like any other machine which takes as inputs raw data and performs some processing giving out processed data. Therefore, the input unit takes data from us to the computer in an organized manner for processing.

2. **Storage:**

   The process of saving data and instructions permanently is known as storage. Data has to be fed into the system before the actual processing starts. It is because the processing speed of Central Processing Unit (CPU) is so fast that the data has to be provided to CPU with the same speed. Therefore, the data is first stored in the storage unit for faster access and processing. This storage unit or the primary storage of the computer system is designed to do the above functionality. It provides space for storing data and instructions.

3. **Processing:**

   The task of performing operations like arithmetic and logical operations is called processing. The Central Processing Unit (CPU) takes data and instructions from the storage unit and makes all sorts of calculations based on the instructions given and the type of data provided. It is then sent back to the storage unit.

4. **Output:**

   This is the process of producing results from the data for getting useful information. Similarly, the output produced by the computer after processing must also be kept somewhere inside the computer before being given to you in human readable form. Again, the output is also stored inside the computer for further processing.

5. **Control:**

   The manner how instructions are executed and the above operations are performed. Controlling of all operations like input, processing and output are performed by control unit. It takes care of step-by-step processing of all operations inside the computer.

Q.2: Discuss about the classification of computers based on size and capacity. Classification of Computer Based on Size.

Ans. Computers are classified on different parameters, such as, storage capacity, processing speed and component (CPU) used in computers. Depending upon the components used and features of different computers, they are classified into four groups, Microcomputers, Minicomputers, Mainframe computers and Supercomputers.

Micro Computers

Micro Computer is a computer whose CPU (Central Processing Unit) is a microprocessor. All the components of a microprocessor are on a single integrated circuit chip. Micro computer can be categorized as the desktop, programmable and workstation. The microprocessor-based computers are called third generation computers. They are the backbone of the modern computer era. The first- and second-generation computers are based on vacuum tubes and bipolar junction transistors.

Desktop Computers

Desktop computer is a type of microcomputer. A desktop computer has a keyboard for input data, a LCD or CRT monitor to display information and Central processing unit tower contains storage, memory, different types of drives, such as, CD drive, hard drive, etc. A desktop computer is mainly used at home and office applications.

Programmable Computers (PDA)

Personal digital assistance is a type of hand held programmable digital computer. It is used as notepads, address books and can connect to world web wave to share information. A PDA is equipped with mobile phone hence, called smallest computer.

Workstation

A workstation computer has greater memory capability and more extensive mathematical abilities. It is connected with other workstation

computers or personal computer to exchange data and mostly used for scientific applications. It also supports multitasking applications.

Mini Computers

Minicomputers were introduced in early 1960s. They were faster than microcomputers. Basically, these computers were mainly multi-user systems, where many users work on the systems. Generally, these types of computers had larger memories and greater storage capacity. They had large instruction set and address field. These kinds of computers have efficient storage for handling of text, in comparison to lower bit machines. Due to more efficient processor, speed and memory size, minicomputer was used in variety of applications and could support business applications along with the scientific applications. Minicomputer was a multi-user system which means more than one user could use this system simultaneously.

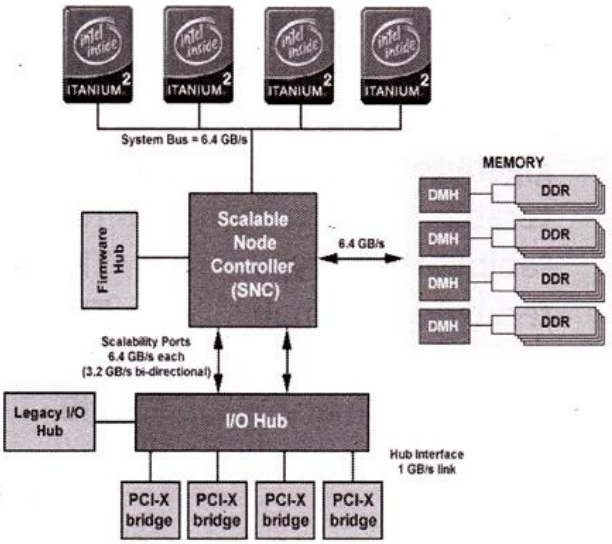
Comparison of Micro and Mini computers

Features	**Microcomputer**	**Minicomputer**
Primary memory	Shall memory	Larger memory
Word length	Small word length	Larger word length
Cost low	Low	High
Processor	Low	High

Mainframe Computers

Mainframe computers are large and expensive machines. The word length of mainframe computers may be 48, 60 or 64 bits, memory capacity being in some megabytes and storage capacity in some terabytes. Generally, they handle huge volumes of information and data. In terms of speed, they are having significant processing capacity. They

are used in research organizations, large industries, airlines reservation where a large database has to be maintained.



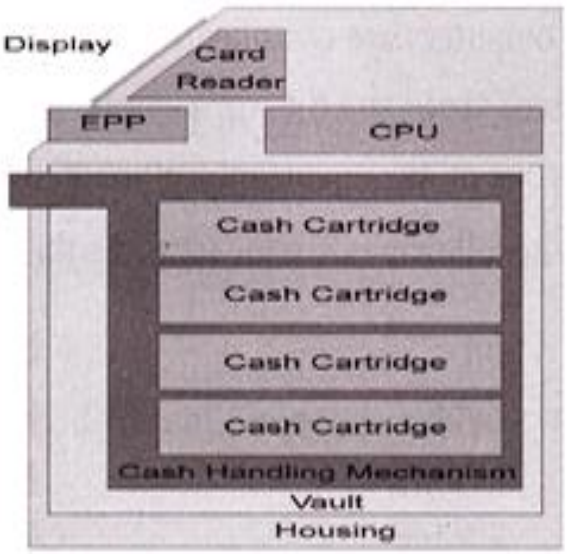
Super Computers

Super Computers are the fastest computer in current era. The processing capabilities of super computer lies in the range of GIPS2, word length 64-128 or may be in 256 or so. The memory capacity of super computer is in some gigabytes or in terabytes. The storage capacity of this type of computer is in exabytes.

The parallel processing of a super computer makes it very fast because it contains number of CPU that operates parallel. They are used at some research centres and government agencies involving sophisticated scientific and engineering tasks.

Super computers are used for the followings*:*

- Weapons research and development
- Nuclear and plasma physics
- Rocket research and development
- Atomic research
- Aerodynamics



Q.3: What is the meaning of computer generation? How many Computer Generations are defined? What technologies were/are used?

Ans. Generation of Computer –

1. FIRST GENERATION –

- **Introduction:**
  1. 1946-1959 is the period of first-generation computer.
  2. J.P. Eckert and J.W. Mauchy invented the first successful electronic computer called ENIAC, ENIAC stands for "Electronic Numeric Integrated and Calculator".

- **Advantages*:***
  1. It made use of vacuum tubes which are the only electronic component available during those days.
  2. These computers could calculate in milliseconds.

- **Disadvantages:**
  1. These were very big in size; weight was about 30 tones.
  2. These computers were based on vacuum tubes.
  3. These computers were very costly.
  4. It could store only a small amount of information due to the presence of magnetic drums.

2. SECOND GENERATION –

- **Introduction:**
  1. 1959-1965 is the period of second-generation computer.
  2. Second generation computers were based on Transistor instead of vacuum tubes.
- **Advantages:**
  1. Due to the presence of transistors instead of vacuum tubes, the size of electron component decreased. This resulted in reducing the size of a computer as compared to first generation computers.
  2. Assembly language and punch cards were used for input.
  3. Low cost than first generation computers.

4. Better speed, calculate data in microseconds.
5. Better portability as compared to first generation

- **Disadvantages:**
  1. A cooling system was required.
  2. Constant maintenance was required.
  3. Only used for specific purposes.

3. THIRD GENERATION –

- **Introduction:**
  1. 1965-1971 is the period of third generation computer.
  2. These computers were based on Integrated circuits.
  3. IC was invented by Robert Noyce and Jack Kilby In 1958-1959.
  4. IC was a single component containing number of transistors.
- **Advantages*:***
  1. These computers were cheaper as compared to second-generation computers.
  2. They were fast and reliable.
  3. Use of IC in the computer provides the small size of the computer.
  4. IC not only reduce the size of the computer but it also improves the performance of the computer as compared to previous computers.
  5. This generation of computers has big storage capacity.
- **Disadvantages:**
  1. IC chips are difficult to maintain.
  2. The highly sophisticated technology required for the manufacturing of IC chips.
  3. Air conditioning is required.

4. FOURTH GENERATION –

- **Introduction:**
  1. 1971-1980 is the period of fourth generation computer.
  2. This technology is based on Microprocessor.
  3. A microprocessor is used in a computer for any logical and arithmetic function to be performed in any program.

4. Graphics User Interface (GUI) technology was exploited to offer more comfort to users.

- **Advantages:**
    1. Fastest in computation and size get reduced as compared to the previous generation of computer.
    2. Heat generated is negligible.
    3. Small in size as compared to previous generation computers.
    4. Less maintenance is required.
    5. All types of high-level language can be used in this type of computers.
- **Disadvantages:**
    1. The Microprocessor design and fabrication are very complex.
    2. Air conditioning is required in many cases due to the presence of ICs.
    3. Advance technology is required to make the ICs.

5. FIFTH GENERATION –

- **Introduction:**
    1. The period of the fifth generation in 1980-onwards.
    2. This generation is based on artificial intelligence.
    3. The aim of the fifth generation is to make a device which could respond to natural language input and are capable of learning and self-organization.
    4. This generation is based on ULSI (Ultra Large-Scale Integration) technology resulting in the production of microprocessor chips having ten million electronic components.
- **Advantages:**
    1. It is more reliable and works faster.
    2. It is available in different sizes and unique features.
    3. It provides computers with more user-friendly interfaces with multimedia features.
- **Disadvantages:**
    1. They need very low-level languages.
    2. They may make the human brains dull and doomed.

Q.4: Differentiate between Volatile & Non- Volatile memories.

Ans. Below are the differences between volatile and non-volatile memory –

S.	Volatile Memory	Non-Volatile Memory
1.	Volatile memory is the type of memory in which data is lost as it is powered-off.	Non-volatile memory is the type of memory in which data remains stored even if it is powered-off.
2.	Contents of Volatile memory is stored temporarily.	Contents of Non-volatile memory is stored permanently.
3.	It is faster than non-volatile memory.	It is slower than volatile memory.
4.	**RAM (Random Access Memory)** is an example of volatile memory.	**ROM (Read Only Memory)** is an example of non-volatile memory.
5.	In volatile memory, data can be easily transferred in comparison to non-volatile memory.	In non-volatile memory, data cannot be easily transferred in comparison to volatile memory.
6.	In Volatile memory, process can read and write.	In Non-volatile memory, process can only read.
7.	Volatile memory generally has less storage capacity.	Non-volatile memory generally has more storage capacity than volatile memory.

S.	Volatile Memory	Non-Volatile Memory
8.	In volatile memory, the program's data are stored which are currently in process by the CPU.	In non-volatile memory, any kind of data which has to be saved permanently are stored.
9.	Volatile memory is more costly per unit size.	Non-volatile memory is less costly per unit size.
10.	Volatile memory has a huge impact on the system's performance.	Non-volatile memory has a huge impact on a system's storage capacity.

Q.5: Distinguish among system software, application software and open-source software on the basis of their features.

Ans. **SYSTEM SOFTWARE –**

system software is a type of computer program that is designed to run a computer's hardware and application programs. If we think of the computer system as a layered model, the system software is the interface between the hardware and user applications. The operating system (OS) is the best-known example of system software. The OS manages all the other programs in a computer.

Other examples of system software include:

- The BIOS (basic input/output system) gets the computer system started after you turn it on and manages the data flow between the operating system and attached devices such as the hard disk, video adapter, keyboard, mouse and printer.

- The boot program loads the operating system into the computer's main memory or random-access memory (RAM).
- An assembler takes basic computer instructions and converts them into a pattern of bits that the computer's processor can use to perform its basic operations.
- A device driver controls a particular type of device that is attached to your computer, such as a keyboard or a mouse. The driver program converts the more general input/output instructions of the operating system to messages that the device type can understand.

APPLICATION SOFTWARE –

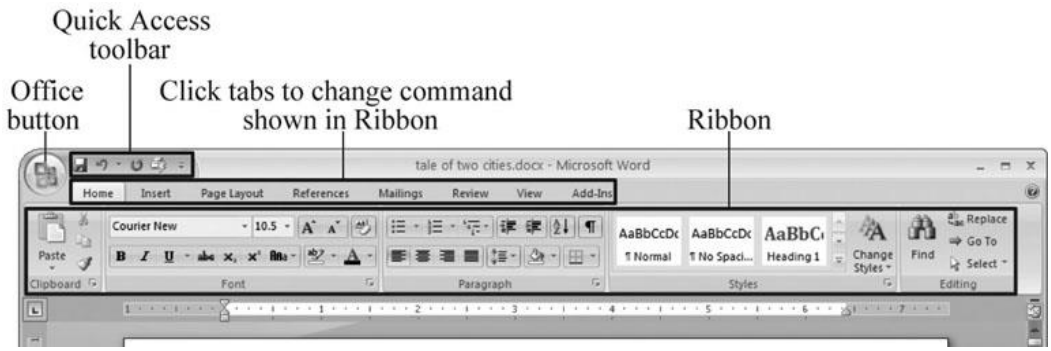
On other hand Application Software is the type of software which runs as per user request. It runs on the platform which is provide by system software. While in case of Application software high level language is used for their development as they are developed as some specific purpose software.

On other hand Application software is used by user to perform specific task. On other hand Application software are installed according to user's requirements. On other hand in application software user can interacts with it as user interface is available in this case. On other hand in application software can't run independently. They can't run without the presence of system software. On other hand some examples of application software's are word processor, web browser, media player, etc.

Q6. **a)** Create a file in MS-word to insert a paragraph about yourself and save it with file name "yourself". Describe all steps involved in it.

Ans. **Creating a New Document –**

When you start Word without opening an existing document, the program gives you an empty one to work in. If you're eager to put words to page, then type away. Sooner or later, though, you'll want to start *another* new document. Word gives you three ways to do so:



Creating a New Blank Document –

Say you want a new blank document, just like the one Word shows you when you start the program. No problem—here are the steps:

- **Choose Office button → New**.

  The New Document dialog box appears.

- **In the upper-left corner of the large "Create a new Word document" panel, click "Blank document"**

  The New Document box presents a seemingly endless number of options, but don't panic. The "Blank document" option you want is on the left side of the first line.

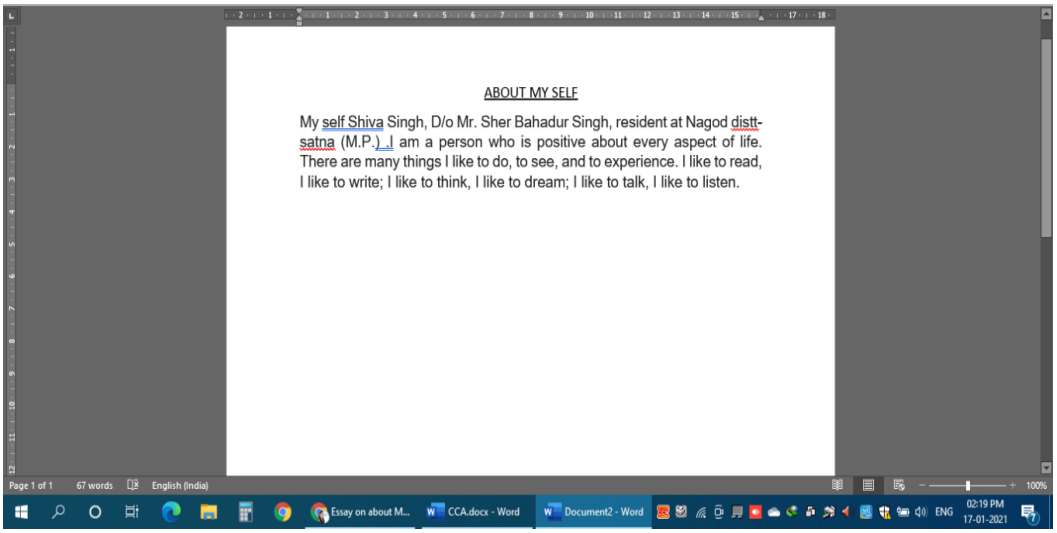
- **At the bottom of the New Document dialog box, click Create**.

  The dialog box disappears, and you're gazing at the blank page of a new Word document.

Saving and Closing Documents –

From the earliest days of personal computing, the watchword has been "save early, save often." There's nothing more frustrating than working half the day and then having the Great American Novel evaporate into the digital ether because your power goes out. So, here are some tips to protect your work from disasters human-made and natural:

- Name and save your document shortly after you first create it. You'll see the steps to do so later in this section.
- Get in the habit of doing a quick save with Alt+F, S (think *F*ile *S*ave) when you pause to think or get up to go to the kitchen for a snack. (Note for old-timers: Ctrl+S still works for a quick save too.)
- If you're leaving your computer for an extended period of time, save and close your document with Alt+F, C (think *F*ile *C*lose).



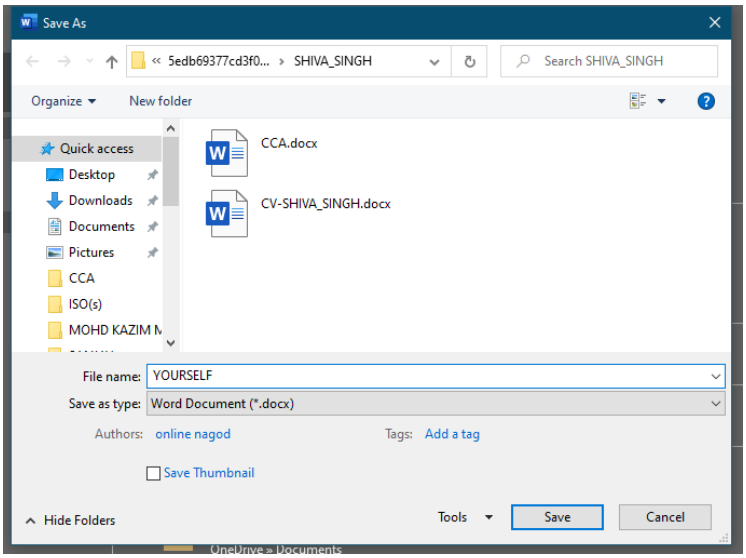
Saving by keyboard shortcut –

- **Ctrl+S**. If you're an old hand at Word, this keyboard shortcut may already be burned in your brain. It still works with Word and other Office programs. This command quickly saves the document and lets you get back to work.

- **Alt+F, S**. This keyboard shortcut does the exact same thing as Ctrl+S. Unlike Ctrl+S, though, you get visual reminders of which keys to press when you press the Alt key. See the box above.

Saving by Menu Command –

- **Office button → Save**. If you don't want to use keyboard shortcuts, you can mouse your way to the same place using menus. Like the options above, this command saves your file with its current name.
- **Office button → Save As**. The Save As option lets you save your file with a new name. When you use this command, you create a new document with a new name that includes any changes you've made. (The individual steps are described in the next section.)



Q.6: b) Write steps regarding followings –

- To change the font style
- To change the font size
- To change the font colour
- To highlight (in yellow) the line that reads "need to get IMS's address".

Ans. To change the font style –

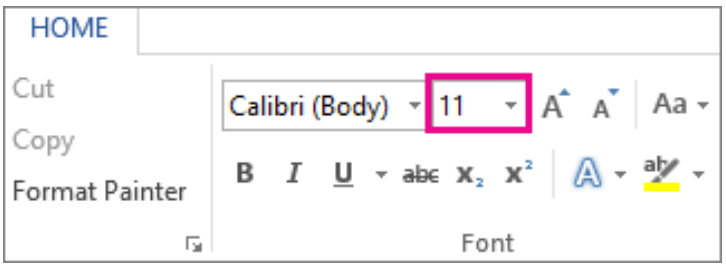
1. Open a new or existing Microsoft Word document.
2. Click the [Home] tab > Locate the "Font" group.

3. From the lower-right corner of the "Font" group, click the small arrow. The "Font" dialog box will open.
4. Choose the font style and size you would like Word to use by default (e.g., Times New Roman, Size: 12).
5. Click [Set As Default] > Select "All documents based on the Normal template?" > Click [OK].

Ans. To change the Font Size –

1. Select the text or cells with text you want to change. To select all text in a Word document, press Ctrl + A.

2. On the **Home** tab, click the font size in the **Font Size** box.



To change the Font Colour –

- Select the text that you want to change.
- On the **Home** tab, in the **Font** group, choose the arrow next to **Font Colour**, and then select a colour.

To highlight (in yellow) the line that reads “need to get IMS’s address” –

IMS Ghaziabad

Address: National Capital Region, GT Road, Industrial Area, Lal Kuan, Ghaziabad, Uttar Pradesh 201009

Phone: 0120 417 0600

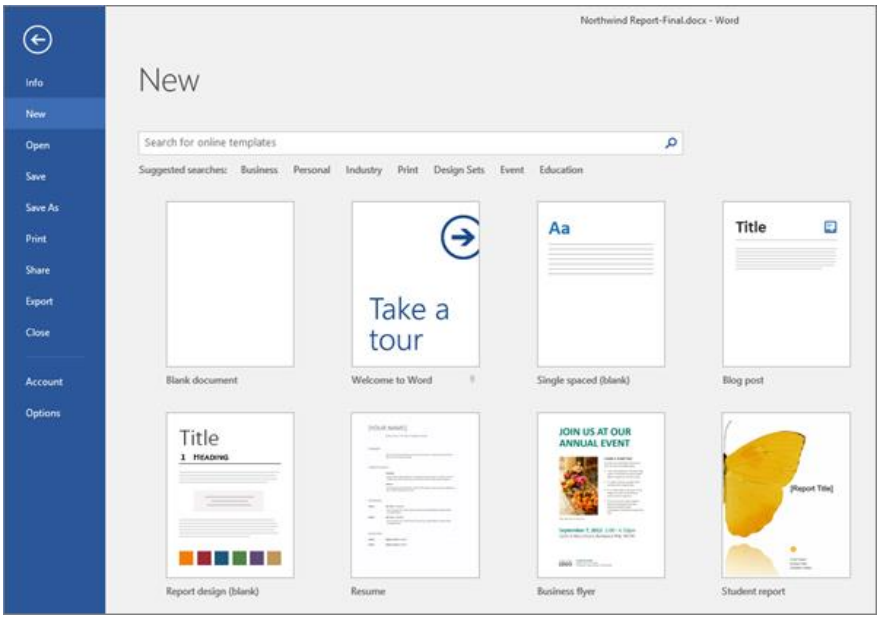
Q.7. Create a file in MS-Word for the following document and save it with file name ‘ms_word’. Describe all steps involved in it.

- Creating
- Editing
- Saving
- Printing any type of document

Ans.

Create a blank document –

- Open Word. Or, if Word is already open, select **File** > **New**.
- Select **Blank document**.



Edit a document in Word –

Click **Edit Document** > **Edit in Word for the web** to make changes to a document.

When you open a document from OneDrive, Word for the web displays it in Reading view. To make changes to your document, switch to Editing view, where you can add and delete content and do other things, such as:

- Add tables and pictures.
- Apply styles.
- Adjust formatting.
- Edit headers and footers.

Saving a document in word –

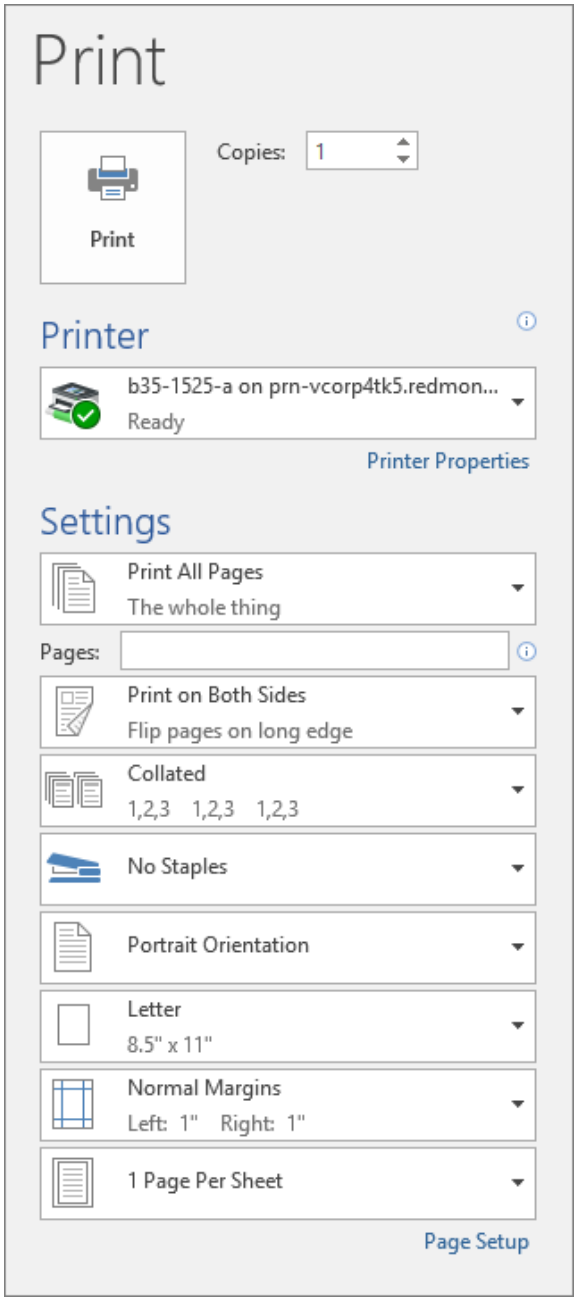
- Go to **File** > **Save As**.
- Select **OneDrive** so you can get to your document from anywhere.
    - Save personal files to **OneDrive - Personal**, and work files to your company OneDrive. You can also save to another location in the list like **This PC**.
- Enter a name, and select **Save**.

Printing a document in Word –

- Click **File** > **Print**.
- To preview each page, click the forward and backward arrows at the bottom of the page.

If the text is too small to read, use the zoom slider at the bottom of the page to enlarge it.

- Choose the number of copies, and any other options you want, and click the **Print** button.



Q8. Create a file in MS-word for the following document and save it with file name 'equations. Describe all steps involved in it.

Equations:

$X_2 + Y_5 = 30$

$Z^3 + Q^4 = 50$

$A_2 + B^8 = X_2 + Y^8$

Ans.

SUPERSCRIPT IN WORD –

A superscript is a character, symbol or number set slightly above the normal line of text. It is always smaller than the usual font and is typically found in mathematical or scientific formulas.

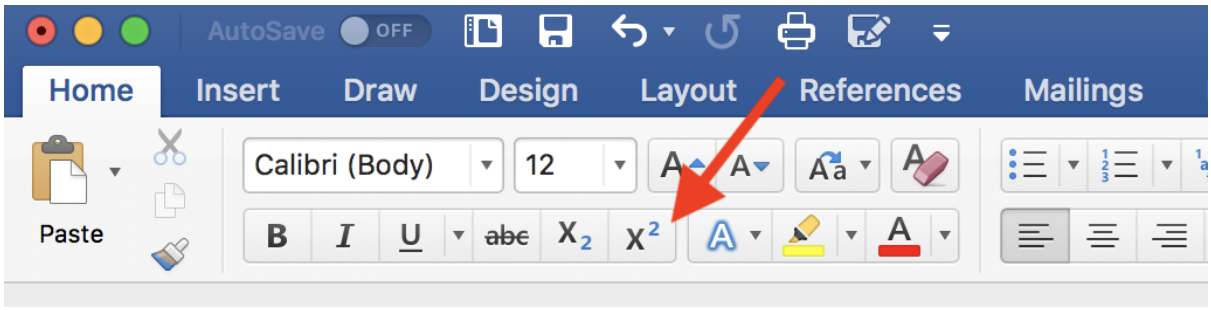
If you need a superscript in your Word document, here's how to go about it.

1. Place cursor where you want the Superscript to go -

Click where you'd like the superscript to appear. If you already typed what you want in the superscript, highlight that number, character or symbol.

2. Click the X2 button -

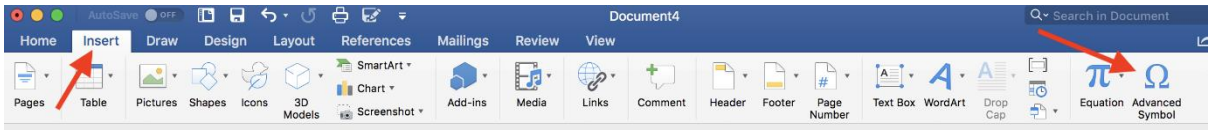
You can find the superscript button on the 'Home' tab. It's located near all the font options.



Or you can use the keyboard shortcut: press Ctrl and Shift, then hit +.

3. Type your Superscript –

Type whatever you want to be included in your superscript. It should immediately be set above the normal text line and be smaller.



4. Exit out of Superscript –

If you keep typing, everything will remain in the superscript. To get out of that mode, click on the superscript button again (or use the keyboard shortcut Ctrl+Shift++ again). Now you should be able to type normally.

<u>SUBSCRIPT IN WORD –</u>

A subscript is a character, symbol or number set slightly below the normal line of text. It is always smaller than the usual font and is typically found in mathematical or scientific formulas.

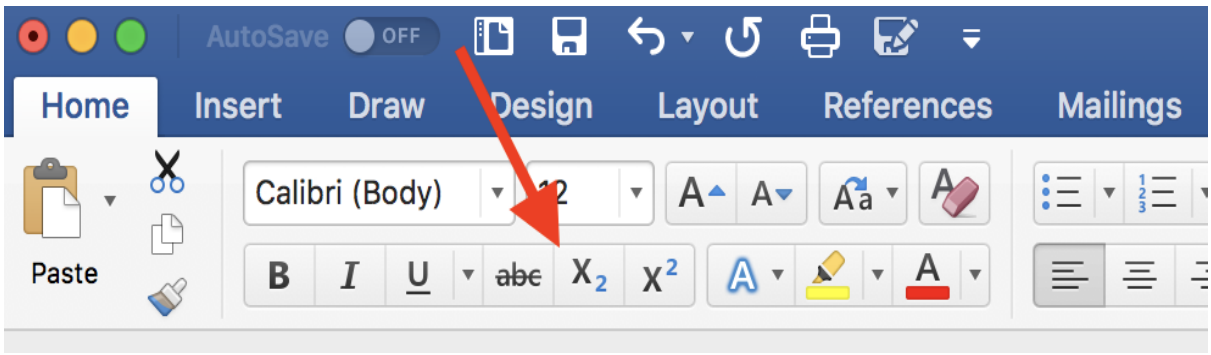
If you need a subscript in your Word document, here's how to do it.

1. Place cursor where you want the Subscript to go -

Click where you'd like the subscript to appear. If you already typed what you want in the superscript, highlight that number, character or symbol.

2. Click the X2 button -

You can find the subscript button on the 'Home' tab. It's located near all the font options.



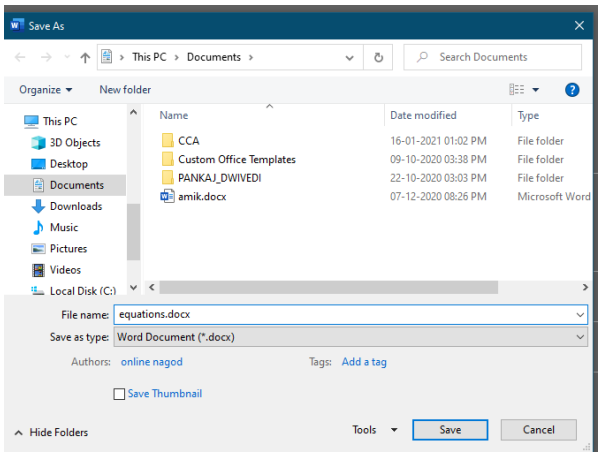
Or you can use the keyboard shortcut: press and hold Ctrl, then press =.

3. Type your Subscript -

Type whatever you want to be included in your subscript. It should immediately be set above the normal text line and be smaller.

4. Exit out of Subscript -

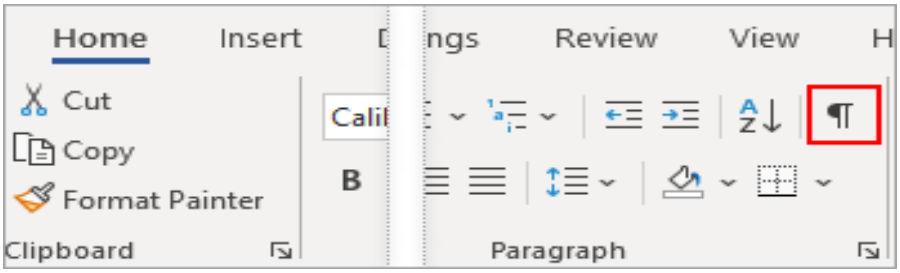
If you keep typing, everything will remain in the subscript. To get out of that mode, click on the subscript button again (or use the keyboard shortcut Ctrl+= again). Now you should be able to type normally.



Q.9. Create a file in MS-word that convert existing highlight text to table as shown below and save it as file name 'text_to_table'. Describe all steps involved in it.

Ans. Convert text to a table or a table to text –

To convert text to a table or a table to text, start by clicking the **Show/Hide** paragraph mark on the **Home** tab so you can see how text is separated in your document.



Convert text to a table –

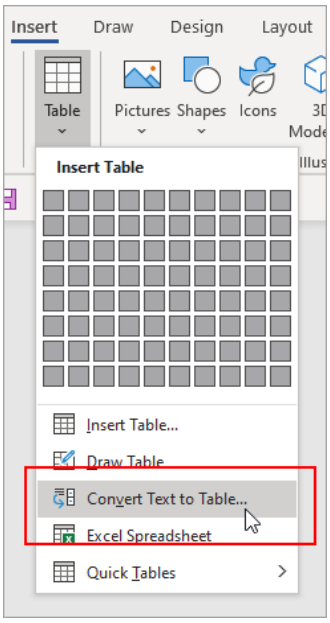
1. Insert separator characters—such as commas or tabs—to indicate where to divide the text into table columns.

2. Use paragraph marks to indicate where you want to begin a new table row.

   In this example, the tabs and paragraph marks will produce a table with 3 columns and 2 rows:

YELLOW	**GREEN**	**BLUE**
YELLOW	**GREEN**	**BLUE**

1. Select the text that you want to convert, and then click **Insert** > **Table** > **Convert Text to Table**.

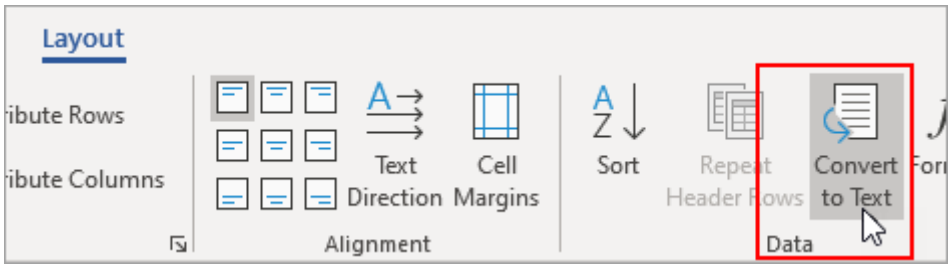


2. In the **Convert Text to Table** box, choose the options you want.

Under **Table size**, make sure the numbers match the numbers of columns and rows you want. Under **AutoFit behaviour**, choose how you want your table to look. Word automatically chooses a width for the table columns. If you want a different column width, choose one of these options:

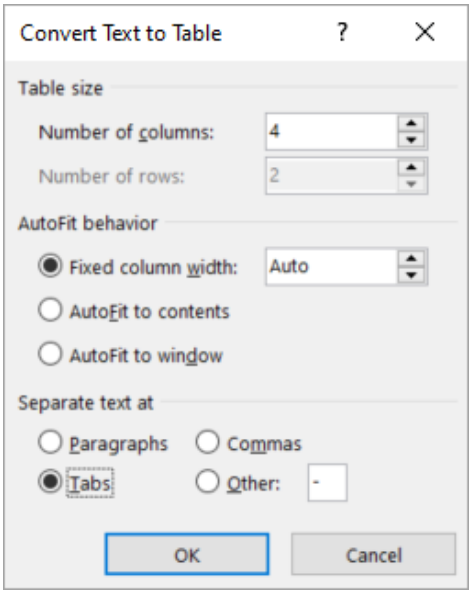
Under **Separate text at**, choose the separator character you used in the text.

3. Click **OK**. The text converted to a table should look something like this:



Convert a table to text –

1. Select the rows or table you want to convert to text.
2. On the **Layout** tab, in the **Data** section, click **Convert to Text.**
3. In the **Convert to Text** box, under **Separate text with**, click the separator character you want to use in place of the column boundaries. Rows will be separated by paragraph marks.
4. Click **OK**.



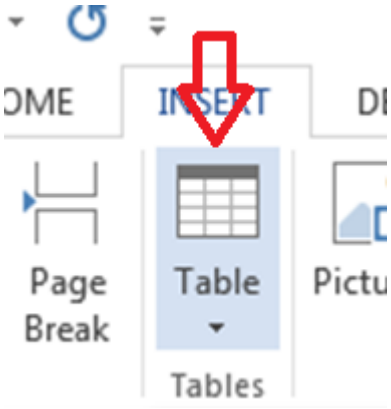
Q.10. Create a file in MS-Word to insert a table in the document. Describe all steps involved in it.

Ans. The basic steps for creating a standard table in Microsoft Word (2013) are:

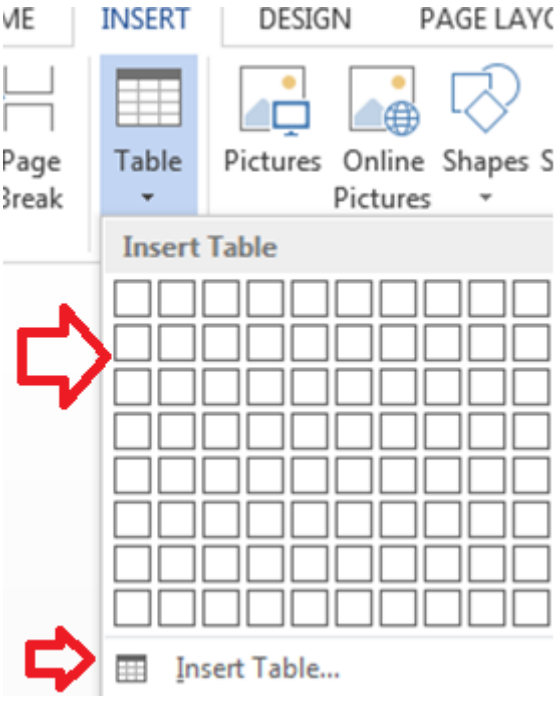
1. Open a blank Word document

2. In the top ribbon, press *Insert*

3. Click on the *Table* button



4. Either use the diagram to select the number of columns and rows you need, or click *Insert Table* and a dialog box will appear where you can specify the number of columns and rows.



5. The blank table will now appear on the page. Alter it as necessary. Standard features like **bold**, *italics*, and underline are still available! These items may be helpful for creating headings or calling out certain items in the table.

6. Follow these instructions for ensuring your table meets APA formatting guidelines.

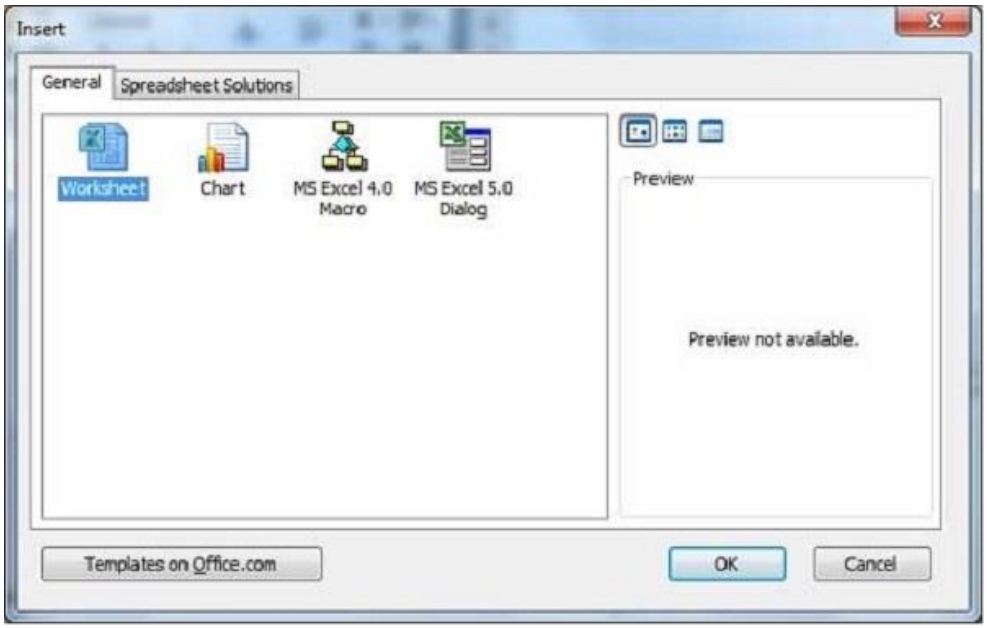
Q.11. Create a following worksheet in MS-excel and save it with name 'book1'.

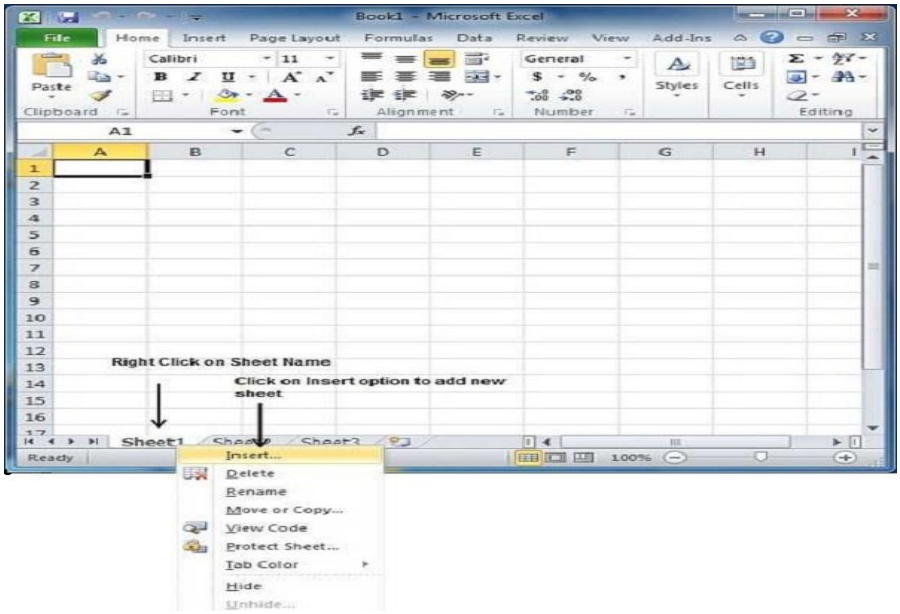
Ans. **Creating New Worksheet**

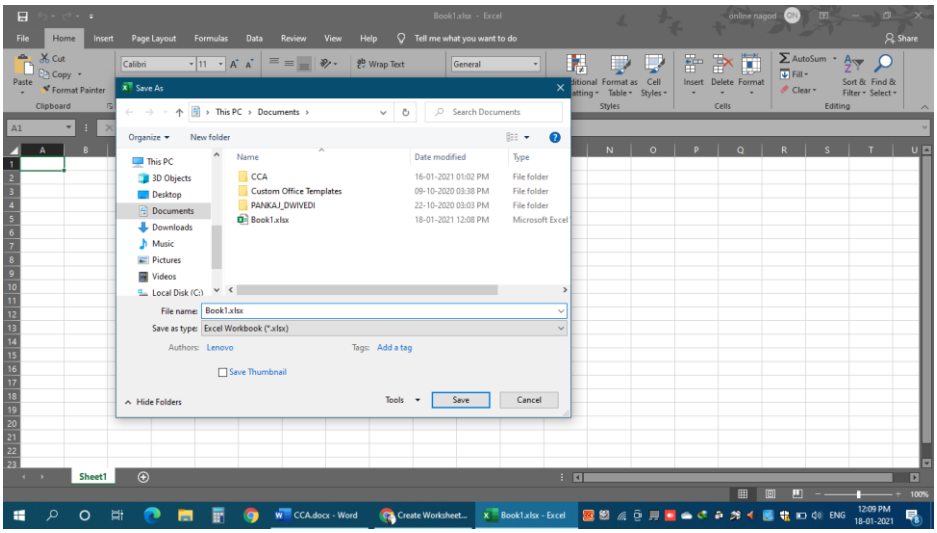
Three new blank sheets always open when you start Microsoft Excel. Below steps explain you how to create a new worksheet if you want to start another new worksheet while you are working on a worksheet, or you closed an already opened worksheet and want to start a new worksheet.

Step 1 – Right Click the **Sheet Name** and select **Insert** option.

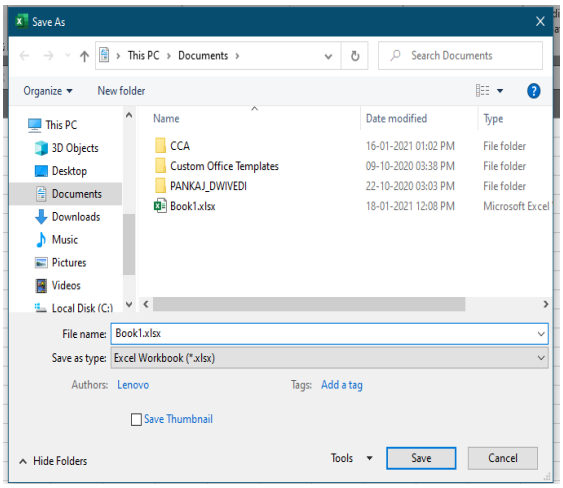
Step 2 – Now you'll see the Insert dialog with select **Worksheet** option as selected from the general tab. Click the **Ok** button.







Now you should have your blank sheet as shown below ready to start typing your text.



You can use a short cut to create a blank sheet anytime. Try using the **Shift+F11** keys and you will see a new blank sheet similar to the above sheet is opened.

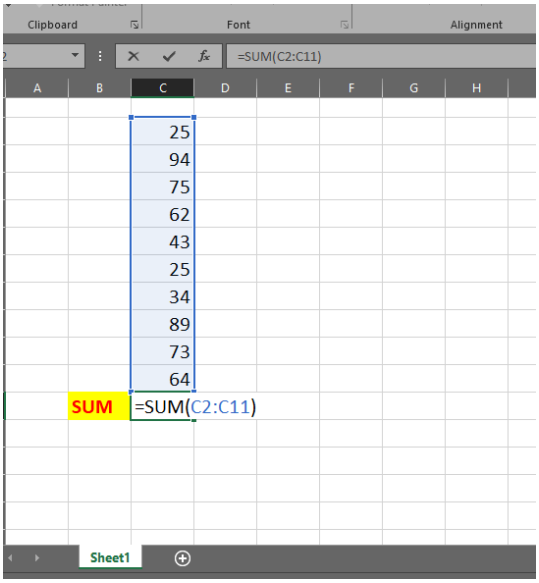
save it with name ‘book1’.

Q.12. Calculate the following things of a range (C2:C11) of data in the worksheet created in question no 10.

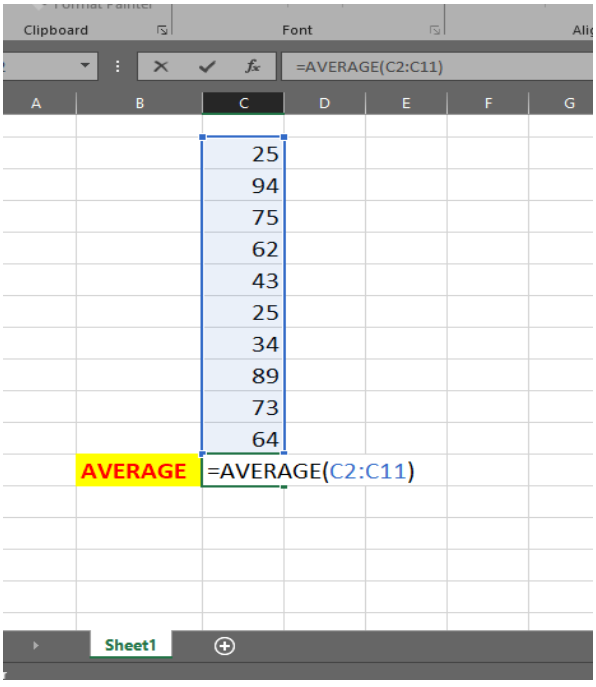
- the sum of the marks using AutoSum in a range of cells (C2:C11)
- average of the marks in a range of cells (C2:C11)
- highest marks in a range of cells (C2:C11)
- minimum marks in a range of cells (C2:C11)

Ans.

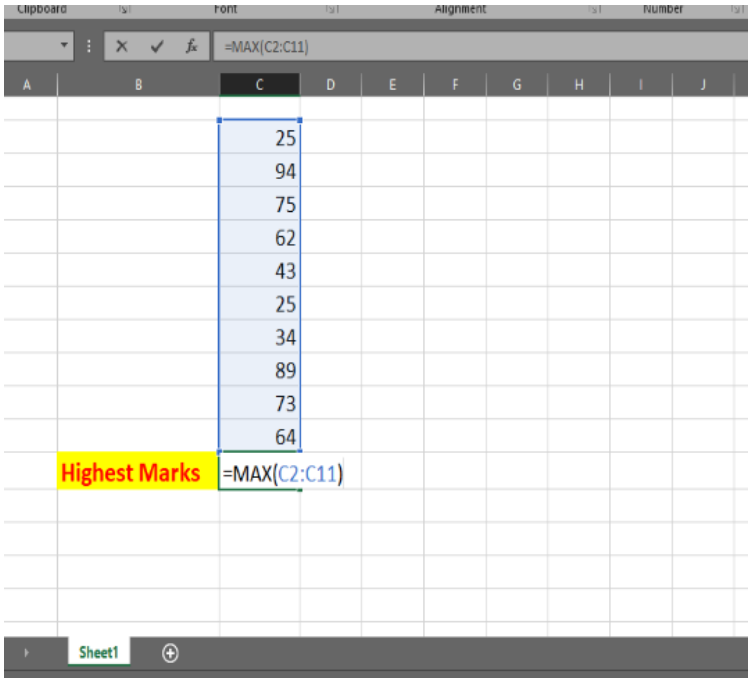
SUM –



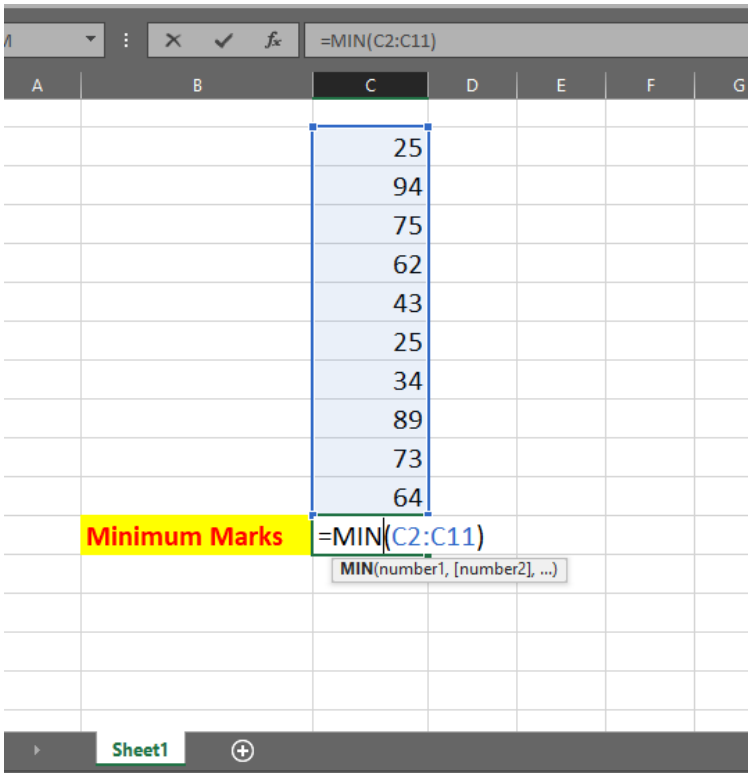
AVERAGE –



Highest Marks –



Minimum Marks –

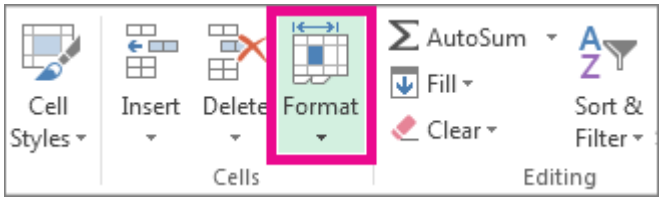


Q.13. a) Describe various steps involved in the following –

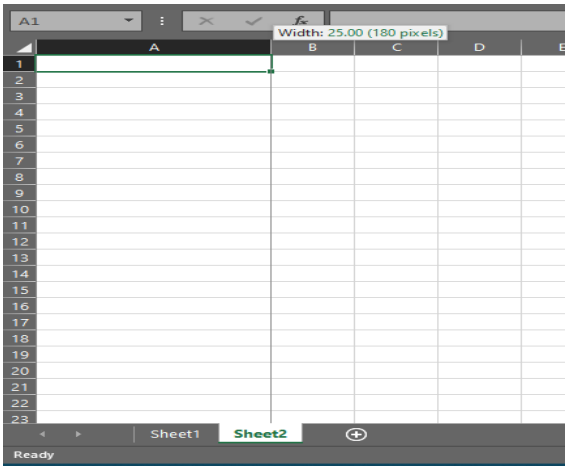
- **To modify column width of a worksheet**
- **To modify the row height of a worksheet**
- **To delete rows and columns of a worksheet**

Ans. Modify column width of a worksheet –

1. Select the column or columns that you want to change.
2. On the **Home** tab, in the **Cells** group, click **Format**.

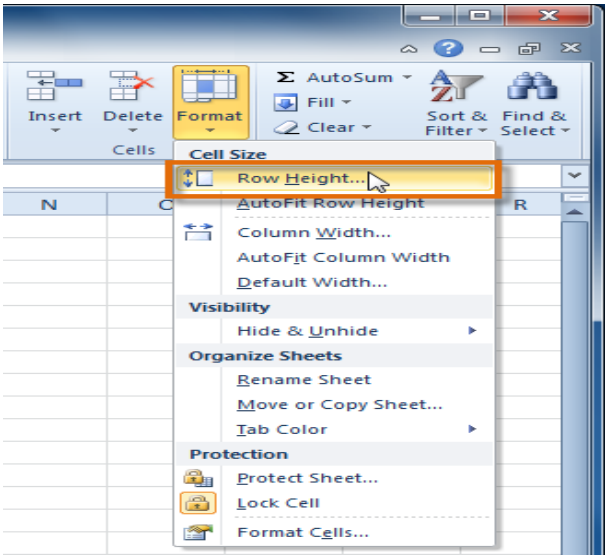


3. Under **Cell Size**, click **Column Width**.
4. In the **Column width** box, type the value that you want.
5. Click **OK**.

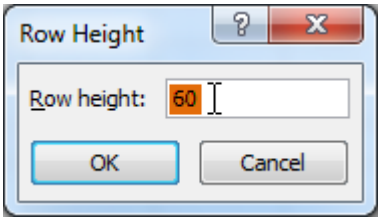


Modify the row height of a worksheet –

1. Select the rows you want to modify.
2. Click the **Format** command on the **Home** tab. The format drop-down menu appears.
3. Select **Row Height**.



1. The **Row Height** dialog box appears. Enter a specific measurement.

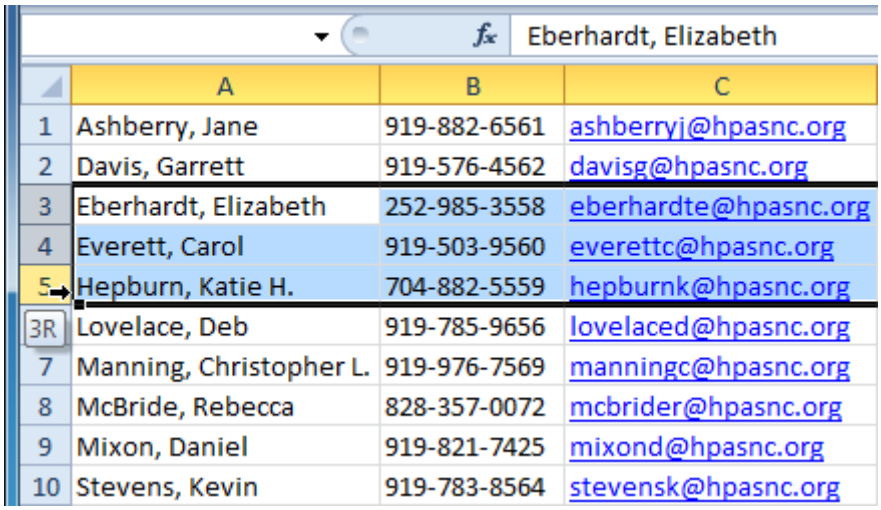


2. Click **OK**. The selected rows heights will be changed in your spreadsheet

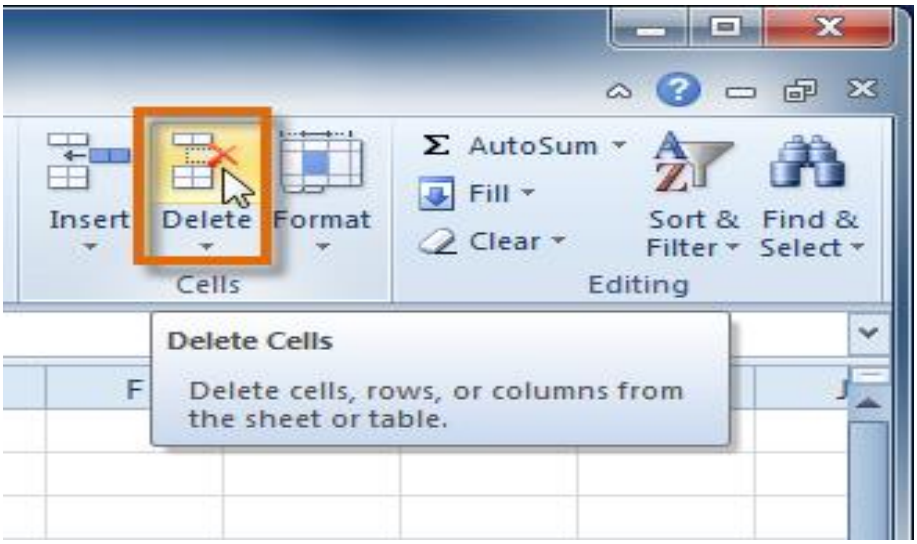
To delete rows and columns of a worksheet –

To delete rows:

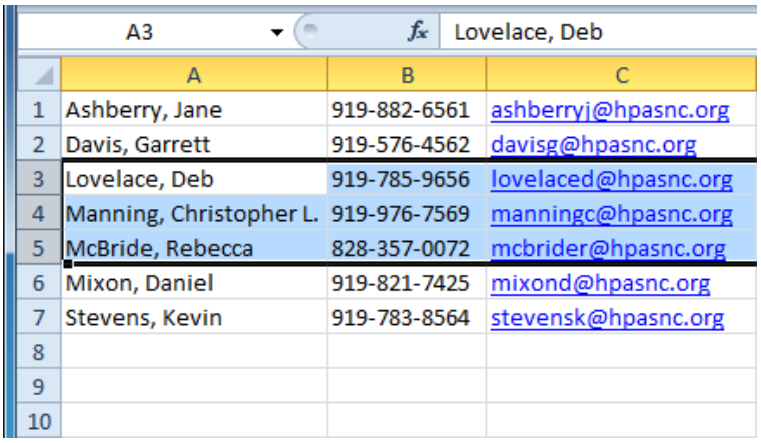
1. Select the rows you want to delete.



2. Click the **Delete** command on the **Home** tab.



3. The rows are deleted from your worksheet.

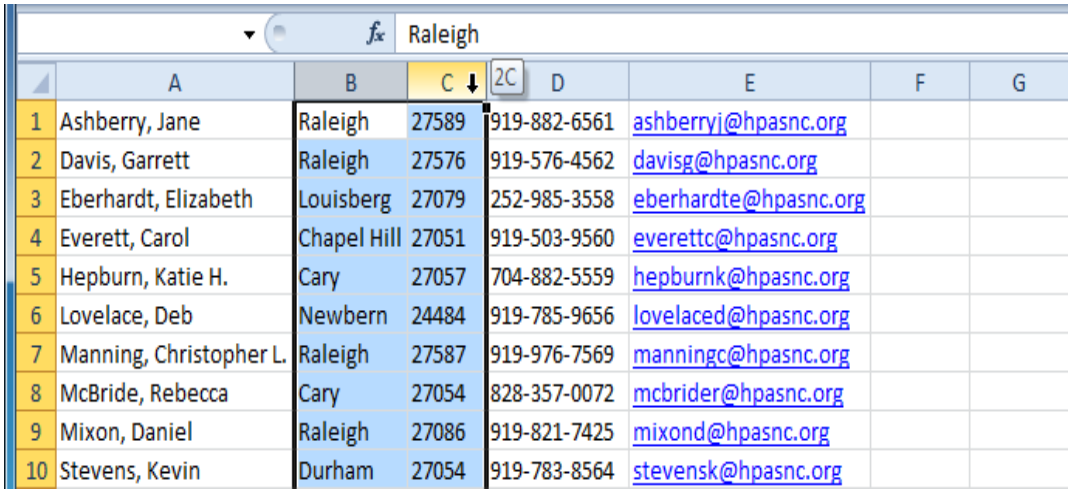


A3 | Lovelace, Deb

	A	B	C
1	Ashberry, Jane	919-882-6561	ashberryj@hpasnc.org
2	Davis, Garrett	919-576-4562	davisg@hpasnc.org
3	Lovelace, Deb	919-785-9656	lovelaced@hpasnc.org
4	Manning, Christopher L.	919-976-7569	manningc@hpasnc.org
5	McBride, Rebecca	828-357-0072	mcbrider@hpasnc.org
6	Mixon, Daniel	919-821-7425	mixond@hpasnc.org
7	Stevens, Kevin	919-783-8564	stevensk@hpasnc.org
8			
9			
10			

To delete columns –

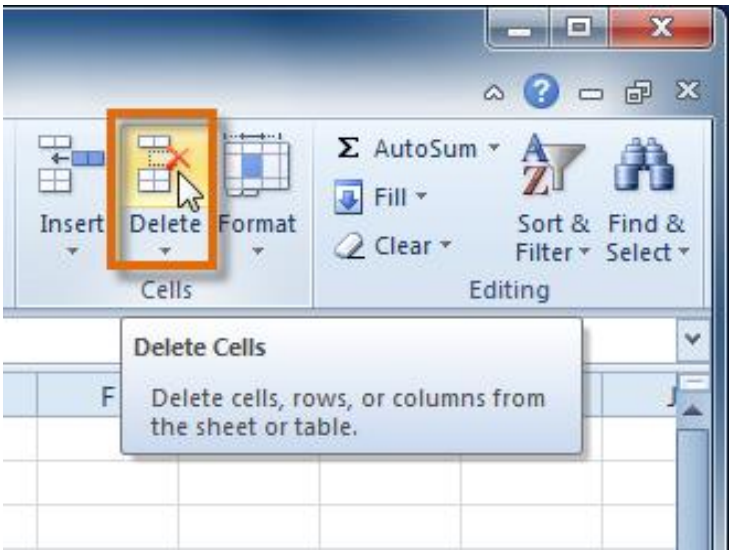
1. Select the columns you want to delete.



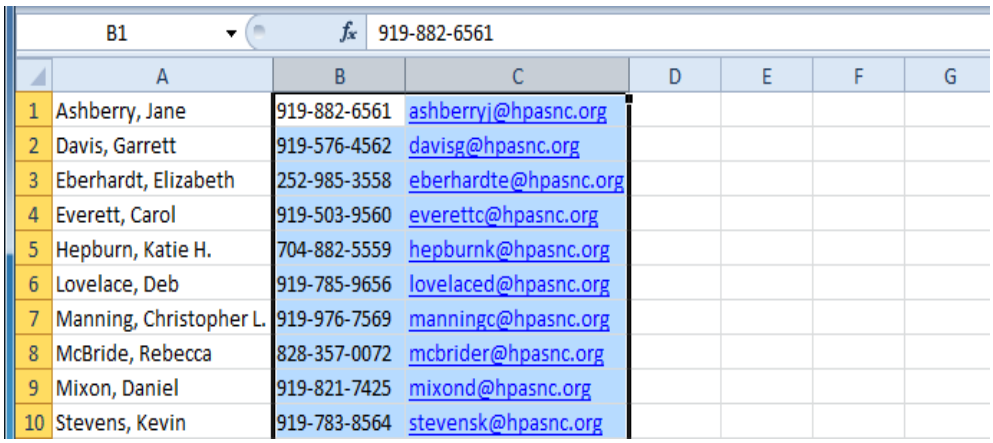
Raleigh

	A	B	C	D	E	F	G
1	Ashberry, Jane	Raleigh	27589	919-882-6561	ashberryj@hpasnc.org		
2	Davis, Garrett	Raleigh	27576	919-576-4562	davisg@hpasnc.org		
3	Eberhardt, Elizabeth	Louisberg	27079	252-985-3558	eberhardte@hpasnc.org		
4	Everett, Carol	Chapel Hill	27051	919-503-9560	everettc@hpasnc.org		
5	Hepburn, Katie H.	Cary	27057	704-882-5559	hepburnk@hpasnc.org		
6	Lovelace, Deb	Newbern	24484	919-785-9656	lovelaced@hpasnc.org		
7	Manning, Christopher L.	Raleigh	27587	919-976-7569	manningc@hpasnc.org		
8	McBride, Rebecca	Cary	27054	828-357-0072	mcbrider@hpasnc.org		
9	Mixon, Daniel	Raleigh	27086	919-821-7425	mixond@hpasnc.org		
10	Stevens, Kevin	Durham	27054	919-783-8564	stevensk@hpasnc.org		

2. Click the **Delete** command on the **Home** tab.



3. The columns are deleted from your worksheet.



B1 | 919-882-6561

	A	B	C	D	E	F	G
1	Ashberry, Jane	919-882-6561	ashberryj@hpasnc.org				
2	Davis, Garrett	919-576-4562	davisg@hpasnc.org				
3	Eberhardt, Elizabeth	252-985-3558	eberhardte@hpasnc.org				
4	Everett, Carol	919-503-9560	everettc@hpasnc.org				
5	Hepburn, Katie H.	704-882-5559	hepburnk@hpasnc.org				
6	Lovelace, Deb	919-785-9656	lovelaced@hpasnc.org				
7	Manning, Christopher L.	919-976-7569	manningc@hpasnc.org				
8	McBride, Rebecca	828-357-0072	mcbrider@hpasnc.org				
9	Mixon, Daniel	919-821-7425	mixond@hpasnc.org				
10	Stevens, Kevin	919-783-8564	stevensk@hpasnc.org				

Q13. b) **Describe following terms in the worksheet**

- **Absolute reference and relative reference in formula**
- **Cell address**

Ans. There are two types of cell references: **relative** and **absolute**. Relative and absolute references behave differently when copied and filled to other cells. Relative references **change** when a formula is copied to another cell. Absolute references, on the other hand, remain **constant** no matter where they are copied.

RELATIVE REFERENCES –

By default, all cell references are **relative references**. When copied across multiple cells, they change based on the relative position of rows and columns. For example, if you copy the formula **=A1+B1** from row 1 to row 2, the formula will become **=A2+B2.** Relative references are especially convenient whenever you need to **repeat** the same calculation across multiple rows or columns.

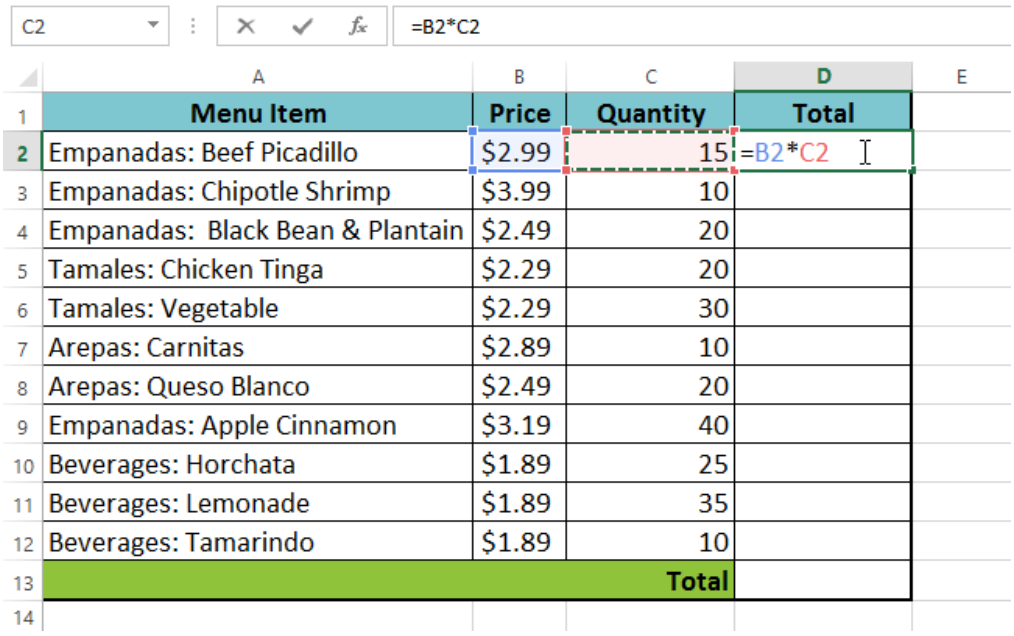
To create and copy a formula using relative references:

In the following example, we want to create a formula that will multiply each item's **price** by the **quantity**. Rather than create a new formula for each row, we can create a single formula in cell **D2** and then copy it to the other rows. We'll use relative references so the formula correctly calculates the total for each item.

1. Select the **cell** that will contain the formula. In our example, we'll select cell **D2**.

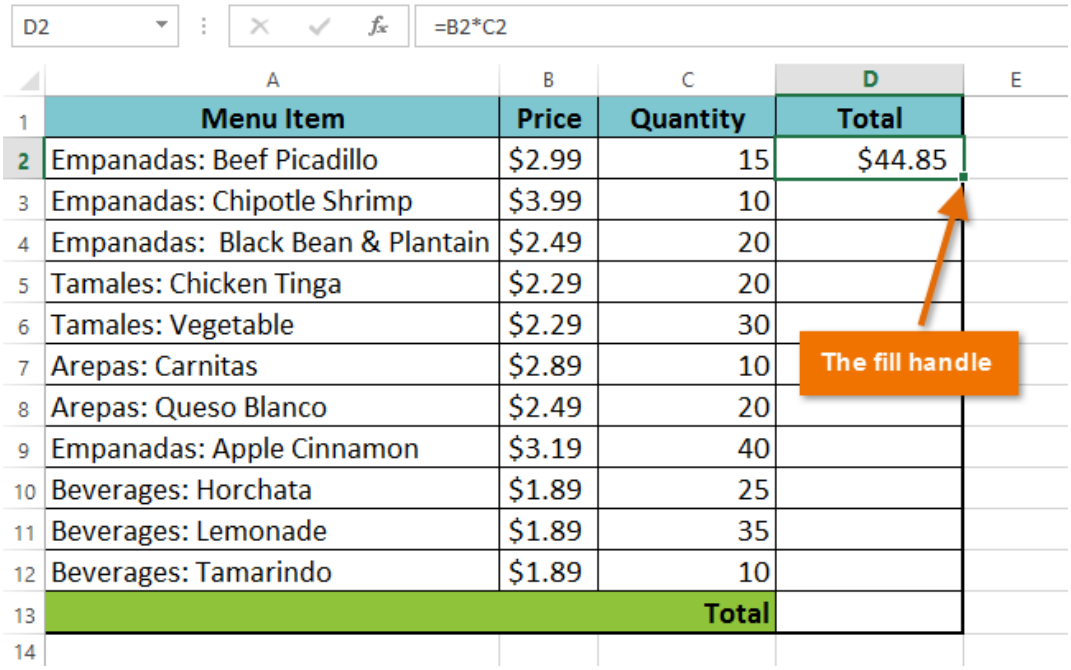
	A	B	C	D	E
1	Menu Item	Price	Quantity	Total	
2	Empanadas: Beef Picadillo	$2.99	15		
3	Empanadas: Chipotle Shrimp	$3.99	10		
4	Empanadas: Black Bean & Plantain	$2.49	20		
5	Tamales: Chicken Tinga	$2.29	20		
6	Tamales: Vegetable	$2.29	30		
7	Arepas: Carnitas	$2.89	10		
8	Arepas: Queso Blanco	$2.49	20		
9	Empanadas: Apple Cinnamon	$3.19	40		
10	Beverages: Horchata	$1.89	25		
11	Beverages: Lemonade	$1.89	35		
12	Beverages: Tamarindo	$1.89	10		
13			Total		
14					

2. Enter the **formula** to calculate the desired value. In our example, we'll type **=B2*C2**.



3. Press **Enter** on your keyboard. The formula will be **calculated**, and the result will be displayed in the cell.

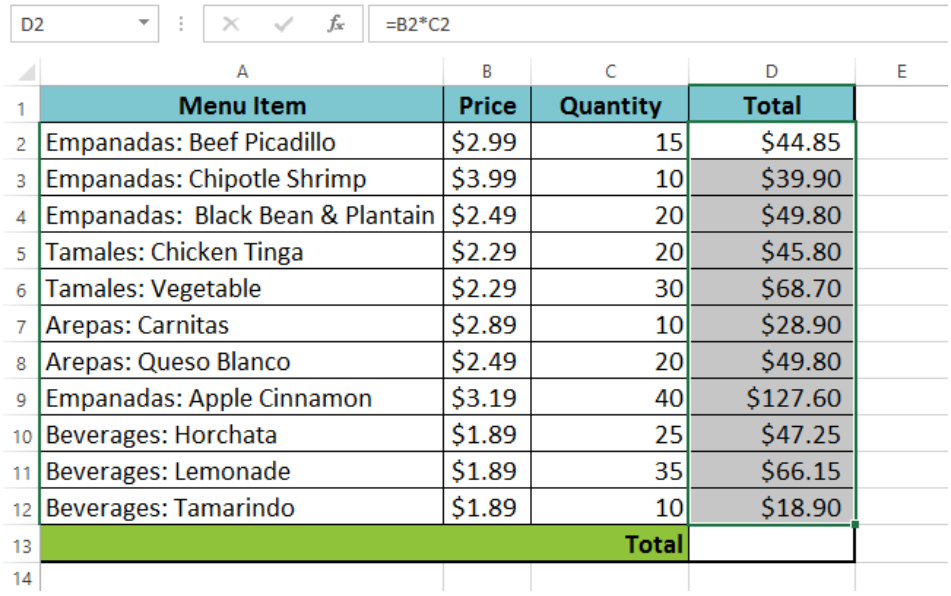
4. Locate the **fill handle** in the lower-right corner of the desired cell. In our example, we'll locate the fill handle for cell **D2**.



5. Click, hold, and drag the **fill handle** over the cells you wish to fill. In our example, we'll select cells **D3:D12**.

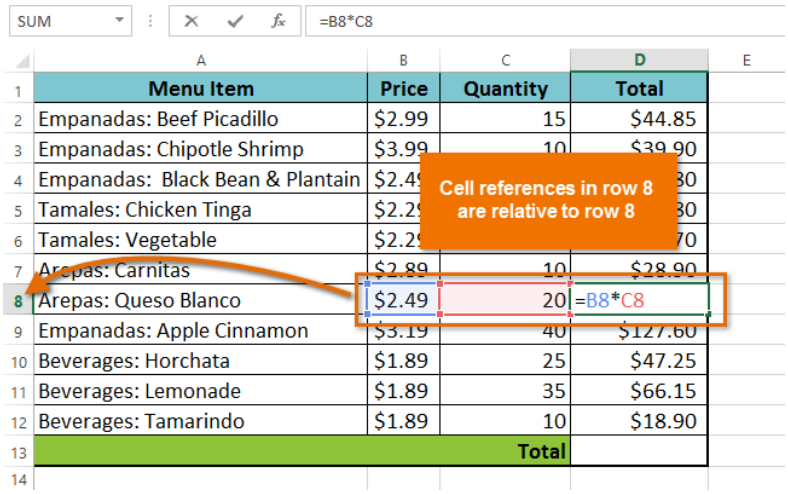
	A	B	C	D
1	Menu Item	Price	Quantity	Total
2	Empanadas: Beef Picadillo	$2.99	15	$44.85
3	Empanadas: Chipotle Shrimp	$3.99	10	
4	Empanadas: Black Bean & Plantain	$2.49	20	
5	Tamales: Chicken Tinga	$2.29	20	
6	Tamales: Vegetable	$2.29	30	
7	Arepas: Carnitas	$2.89	10	
8	Arepas: Queso Blanco	$2.49	20	
9	Empanadas: Apple Cinnamon	$3.19	40	
10	Beverages: Horchata	$1.89	25	
11	Beverages: Lemonade	$1.89	35	
12	Beverages: Tamarindo	$1.89	10	
13			Total	
14				

6. Release the mouse. The formula will be **copied** to the selected cells with **relative references** and the values will be calculated in each cell.



	A	B	C	D	E
1	Menu Item	Price	Quantity	Total	
2	Empanadas: Beef Picadillo	$2.99	15	$44.85	
3	Empanadas: Chipotle Shrimp	$3.99	10	$39.90	
4	Empanadas: Black Bean & Plantain	$2.49	20	$49.80	
5	Tamales: Chicken Tinga	$2.29	20	$45.80	
6	Tamales: Vegetable	$2.29	30	$68.70	
7	Arepas: Carnitas	$2.89	10	$28.90	
8	Arepas: Queso Blanco	$2.49	20	$49.80	
9	Empanadas: Apple Cinnamon	$3.19	40	$127.60	
10	Beverages: Horchata	$1.89	25	$47.25	
11	Beverages: Lemonade	$1.89	35	$66.15	
12	Beverages: Tamarindo	$1.89	10	$18.90	
13			Total		
14					

You can double-click the **filled cells** to check their formulas for accuracy. The relative cell references should be different for each cell, depending on its row.



	A	B	C	D	E
1	Menu Item	Price	Quantity	Total	
2	Empanadas: Beef Picadillo	$2.99	15	$44.85	
3	Empanadas: Chipotle Shrimp	$3.99	10	$39.90	
4	Empanadas: Black Bean & Plantain	$2.49		30	
5	Tamales: Chicken Tinga	$2.29		30	
6	Tamales: Vegetable	$2.29		70	
7	Arepas: Carnitas	$2.89	10	$28.90	
8	Arepas: Queso Blanco	$2.49	20	=B8*C8	
9	Empanadas: Apple Cinnamon	$3.19	40	$127.60	
10	Beverages: Horchata	$1.89	25	$47.25	
11	Beverages: Lemonade	$1.89	35	$66.15	
12	Beverages: Tamarindo	$1.89	10	$18.90	
13			Total		
14					

ABSOLUTE REFERENCES –

There may be times when you do not want a cell reference to change when filling cells. Unlike relative references, **absolute references** do not change when copied or filled. You can use an absolute reference to keep a row and/or column **constant**.

An absolute reference is designated in a formula by the addition of a **dollar sign ($)** before the column and row. If it precedes the column or row (but not both), it's known as a **mixed reference**.

A2	The column and the row do not change when copied
A$2	The row does not change when copied
$A2	The column does not change when copied

You will use the relative (**A2**) and absolute (**A2**) formats in most formulas. Mixed references are used less frequently.

When writing a formula in Microsoft Excel, you can press the **F4** key on your keyboard to switch between relative, absolute, and mixed cell references, as shown in the video below. This is an easy way to quickly insert an absolute reference.

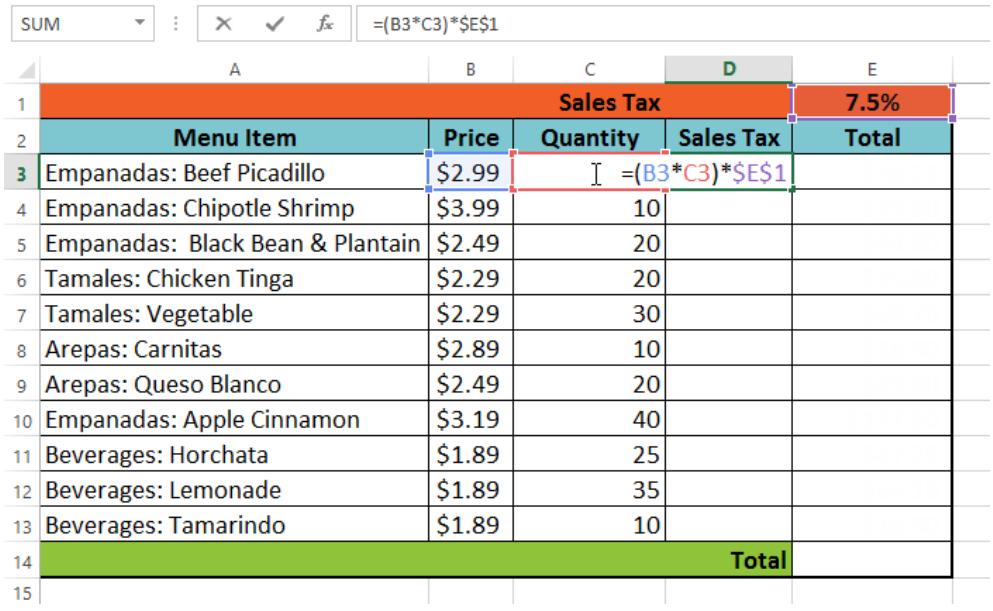
To create and copy a formula using absolute references:

In our example, we'll use the 7.5% sales tax rate in cell **E1** to calculate the sales tax for all items in **column D**. We'll need to use the absolute cell reference **E1** in our formula. Because each formula is using the same tax rate, we want that reference to remain constant when the formula is copied and filled to other cells in column D.

1. Select the **cell** that will contain the formula. In our example, we'll select cell **D3**.

	A	B	C	D	E
1				Sales Tax	7.5%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo	$2.99	15		
4	Empanadas: Chipotle Shrimp	$3.99	10		
5	Empanadas: Black Bean & Plantain	$2.49	20		
6	Tamales: Chicken Tinga	$2.29	20		
7	Tamales: Vegetable	$2.29	30		
8	Arepas: Carnitas	$2.89	10		
9	Arepas: Queso Blanco	$2.49	20		
10	Empanadas: Apple Cinnamon	$3.19	40		
11	Beverages: Horchata	$1.89	25		
12	Beverages: Lemonade	$1.89	35		
13	Beverages: Tamarindo	$1.89	10		
14				Total	
15					

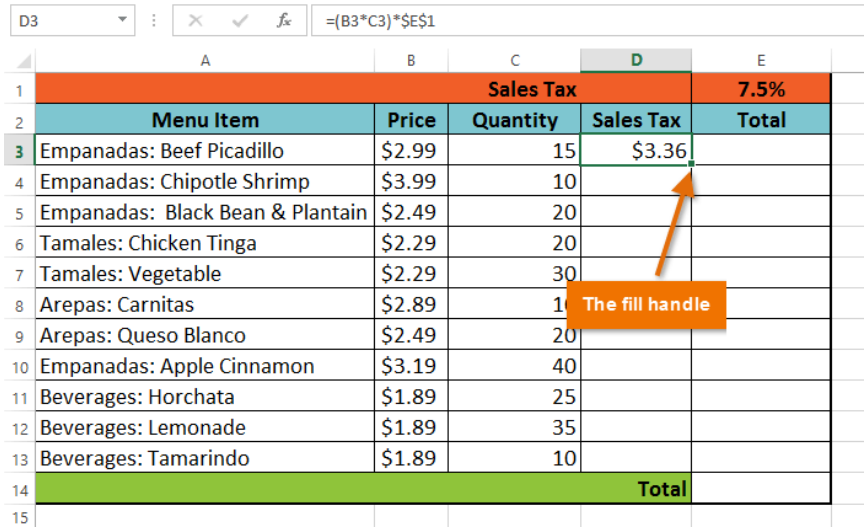
2. Enter the **formula** to calculate the desired value. In our example, we'll type =**(B3*C3)*E1**.



	A	B	C	D	E
1				Sales Tax	7.5%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo	$2.99	=(B3*C3)*E1		
4	Empanadas: Chipotle Shrimp	$3.99	10		
5	Empanadas: Black Bean & Plantain	$2.49	20		
6	Tamales: Chicken Tinga	$2.29	20		
7	Tamales: Vegetable	$2.29	30		
8	Arepas: Carnitas	$2.89	10		
9	Arepas: Queso Blanco	$2.49	20		
10	Empanadas: Apple Cinnamon	$3.19	40		
11	Beverages: Horchata	$1.89	25		
12	Beverages: Lemonade	$1.89	35		
13	Beverages: Tamarindo	$1.89	10		
14				Total	
15					

3. Press **Enter** on your keyboard. The formula will calculate, and the result will display in the cell.

4. Locate the **fill handle** in the lower-right corner of the desired cell. In our example, we'll locate the fill handle for cell **D3**.



	A	B	C	D	E
1				Sales Tax	7.5%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo	$2.99	15	$3.36	
4	Empanadas: Chipotle Shrimp	$3.99	10		
5	Empanadas: Black Bean & Plantain	$2.49	20		
6	Tamales: Chicken Tinga	$2.29	20		
7	Tamales: Vegetable	$2.29	30		
8	Arepas: Carnitas	$2.89	1		
9	Arepas: Queso Blanco	$2.49	20		
10	Empanadas: Apple Cinnamon	$3.19	40		
11	Beverages: Horchata	$1.89	25		
12	Beverages: Lemonade	$1.89	35		
13	Beverages: Tamarindo	$1.89	10		
14				Total	
15					

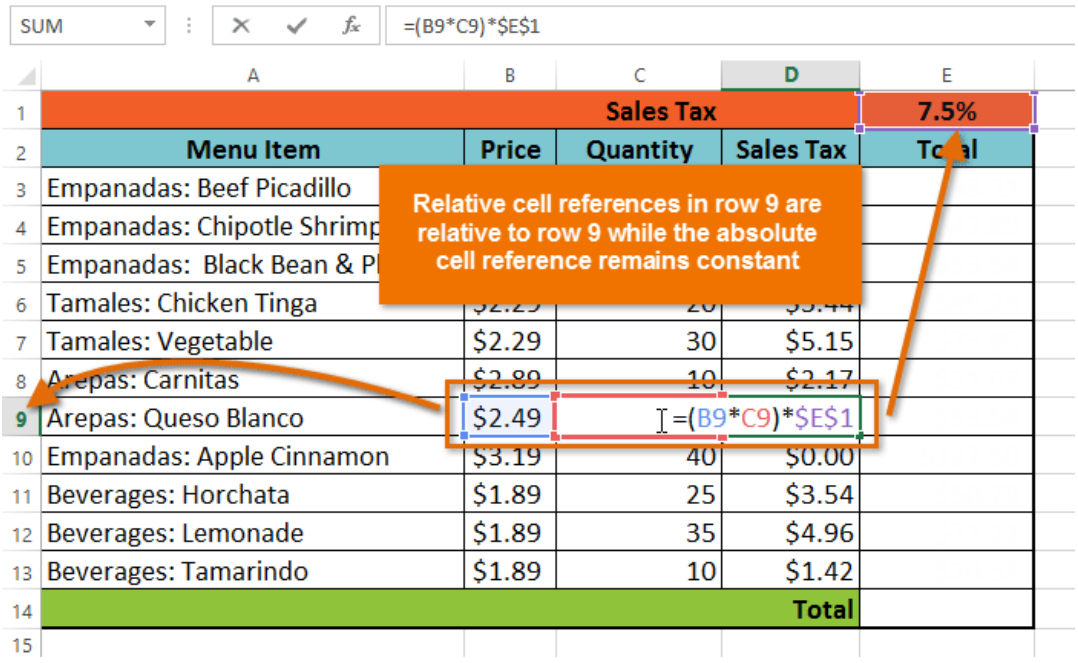
5. Click, hold, and drag the **fill handle** over the cells you wish to fill, cells **D4:D13** in our example.

	A	B	C	D	E
1					%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo	$2.99	15	$3.36	
4	Empanadas: Chipotle Shrimp	$3.99	10		
5	Empanadas: Black Bean & Plantain	$2.49	20		
6	Tamales: Chicken Tinga	$2.29	20		
7	Tamales: Vegetable	$2.29	30		
8	Arepas: Carnitas	$2.89	10		
9	Arepas: Queso Blanco	$2.49	20		
10	Empanadas: Apple Cinnamon	$3.19	40		
11	Beverages: Horchata	$1.89	25		
12	Beverages: Lemonade	$1.89	35		
13	Beverages: Tamarindo	$1.89	10		
14				Total	
15					

6. Release the mouse. The formula will be **copied** to the selected cells with an **absolute reference**, and the values will be calculated in each cell.

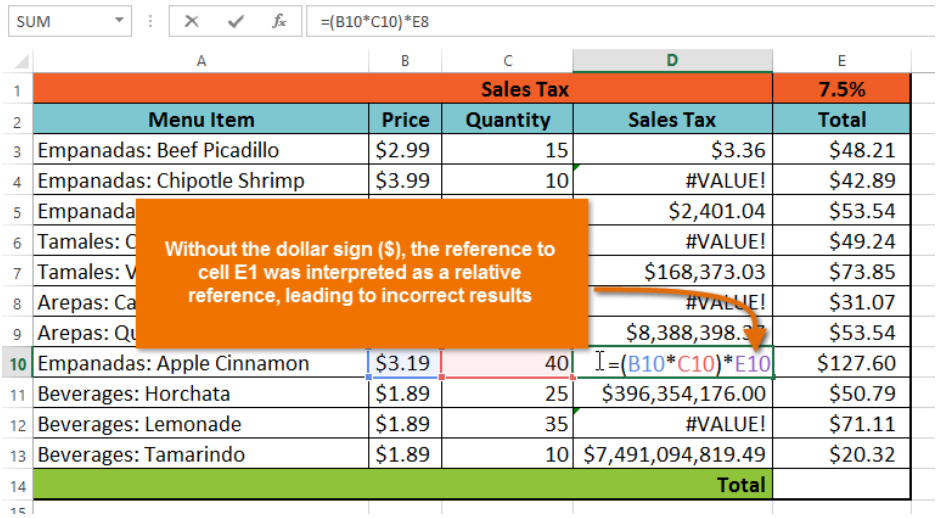
	A	B	C	D	E
1			Sales Tax		7.5%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo	$2.99	15	$3.36	
4	Empanadas: Chipotle Shrimp	$3.99	10	$2.99	
5	Empanadas: Black Bean & Plantain	$2.49	20	$3.74	
6	Tamales: Chicken Tinga	$2.29	20	$3.44	
7	Tamales: Vegetable	$2.29	30	$5.15	
8	Arepas: Carnitas	$2.89	10	$2.17	
9	Arepas: Queso Blanco	$2.49	20	$3.74	
10	Empanadas: Apple Cinnamon	$3.19	40	$9.57	
11	Beverages: Horchata	$1.89	25	$3.54	
12	Beverages: Lemonade	$1.89	35	$4.96	
13	Beverages: Tamarindo	$1.89	10	$1.42	
14				Total	
15					

You can double-click the **filled cells** to check their formulas for accuracy. The absolute reference should be the same for each cell, while the other references are relative to the cell's row.



	A	B	C	D	E
1			Sales Tax		7.5%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo				
4	Empanadas: Chipotle Shrimp				
5	Empanadas: Black Bean & P				
6	Tamales: Chicken Tinga				
7	Tamales: Vegetable	$2.29	30	$5.15	
8	Arepas: Carnitas				
9	Arepas: Queso Blanco	$2.49	=(B9*C9)*E1		
10	Empanadas: Apple Cinnamon	$3.19	40	$0.00	
11	Beverages: Horchata	$1.89	25	$3.54	
12	Beverages: Lemonade	$1.89	35	$4.96	
13	Beverages: Tamarindo	$1.89	10	$1.42	
14				Total	
15					

Be sure to include the **dollar sign ($)** whenever you're making an absolute reference across multiple cells. The dollar signs were omitted in the example below. This caused the spreadsheet to interpret it as a relative reference, producing an incorrect result when copied to other cells.



	A	B	C	D	E
1	Sales Tax				7.5%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo	$2.99	15	$3.36	$48.21
4	Empanadas: Chipotle Shrimp	$3.99	10	#VALUE!	$42.89
5	Empanada			$2,401.04	$53.54
6	Tamales: C			#VALUE!	$49.24
7	Tamales: V			$168,373.03	$73.85
8	Arepas: Ca			#VALUE!	$31.07
9	Arepas: Qu			$8,388,398.37	$53.54
10	Empanadas: Apple Cinnamon	$3.19	40	=(B10*C10)*E10	$127.60
11	Beverages: Horchata	$1.89	25	$396,354,176.00	$50.79
12	Beverages: Lemonade	$1.89	35	#VALUE!	$71.11
13	Beverages: Tamarindo	$1.89	10	$7,491,094,819.49	$20.32
14				Total	

CELL ADDRESS –

The cell ADDRESS function is categorized under Excel Lookup and Reference functions. It will provide a cell reference (its "address") by taking the row number and column letter. The cell reference will be provided as a string of text. The function can return an address in a relative or absolute format and can be used to construct a cell reference inside a formula.

As a financial analyst, cell ADDRESS can be used to convert a column number to a letter, or vice versa. We can use the function to address the first cell or last cell in a range.

FORMULA –

=ADDRESS(row_num, column_num, [abs_num], [a1], [sheet_text])

The formula uses the following arguments:

1. **Row_num** (required argument) – This is a numeric value specifying the row number to be used in the cell reference.

2. **Column_num** (required argument) – A numeric value specifying the column number to be used in the cell reference.

3. **Abs_num** (optional argument) – This is a numeric value specifying the type of reference to return.

4. 4. **A1**(optional argument) – This is a logical value specifying the A1 or R1C1 reference style. In R1C1 reference style, both columns and rows are labeled numerically. It can either be TRUE (reference should be A1) or FALSE (reference should be R1C1).

When omitted, it will take on the default value TRUE (A1 style).

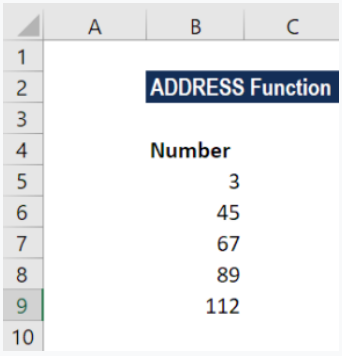
5. **Sheet_text** (optional argument) – Specifies the sheet name. If we omit the argument, it will take the current worksheet.

How to use the ADDRESS Function in Excel?

To understand the uses of the cell ADDRESS function, let us consider a few examples:

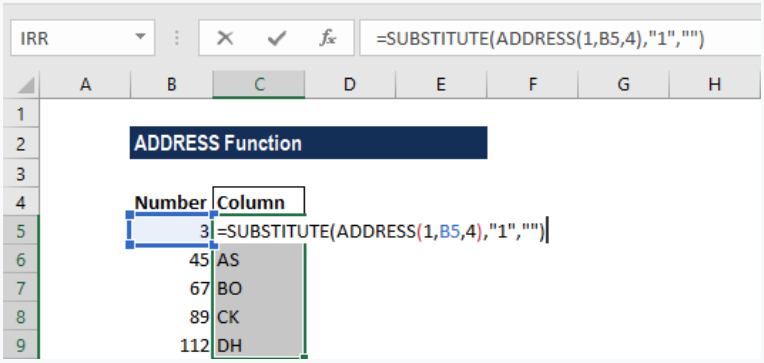
Example 1:

Suppose we wish to convert the following numbers into Excel column references:

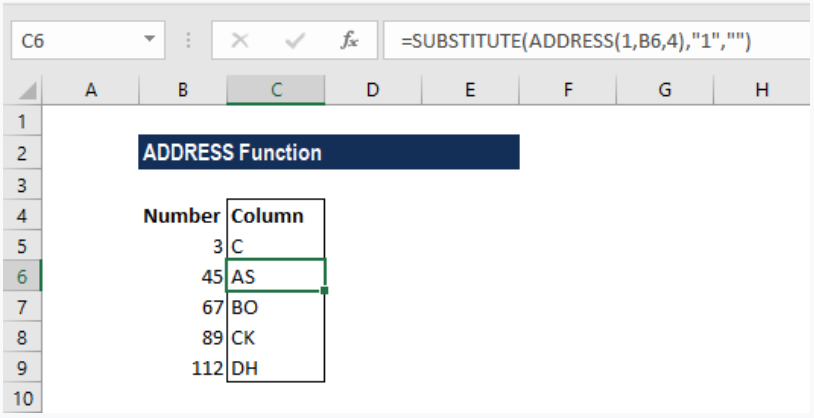


	A	B	C
1			
2		ADDRESS Function	
3			
4		Number	
5		3	
6		45	
7		67	
8		89	
9		112	
10			

The formula to use will be:



We get the results below:



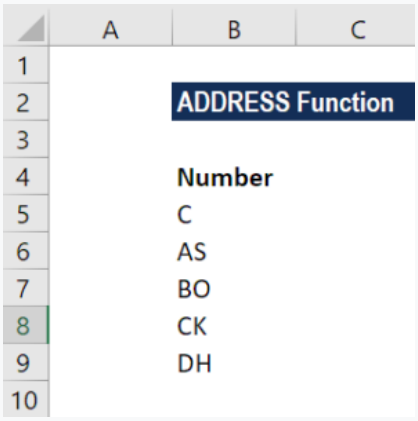
The ADDRESS function will first construct an address containing the column number. It was done by providing 1 for row number, a column number from B6, and 4 for the abs_num argument.

After that, we use the SUBSTITUTE function to take out the number 1 and replace with “”.

Example 2:

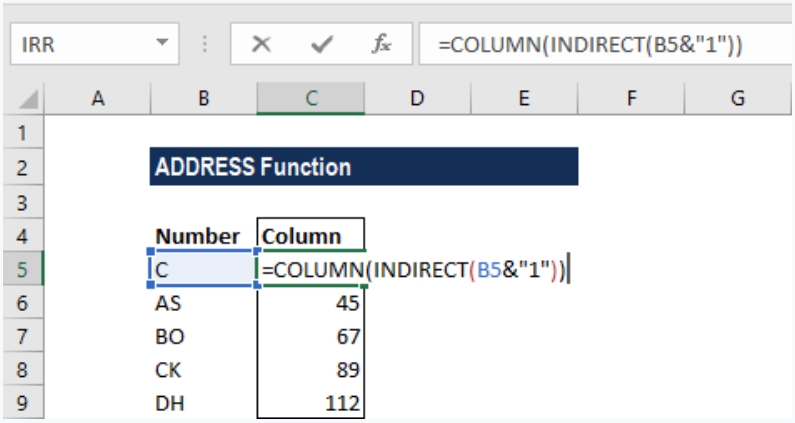
The ADDRESS function can be used to convert a column letter to a regular number, e.g., 21, 100, 126, etc. We can use a formula based on the INDIRECT and COLUMN functions.

Suppose we are given the following data:



	A	B	C
1			
2		ADDRESS Function	
3			
4		Number	
5		C	
6		AS	
7		BO	
8		CK	
9		DH	
10			

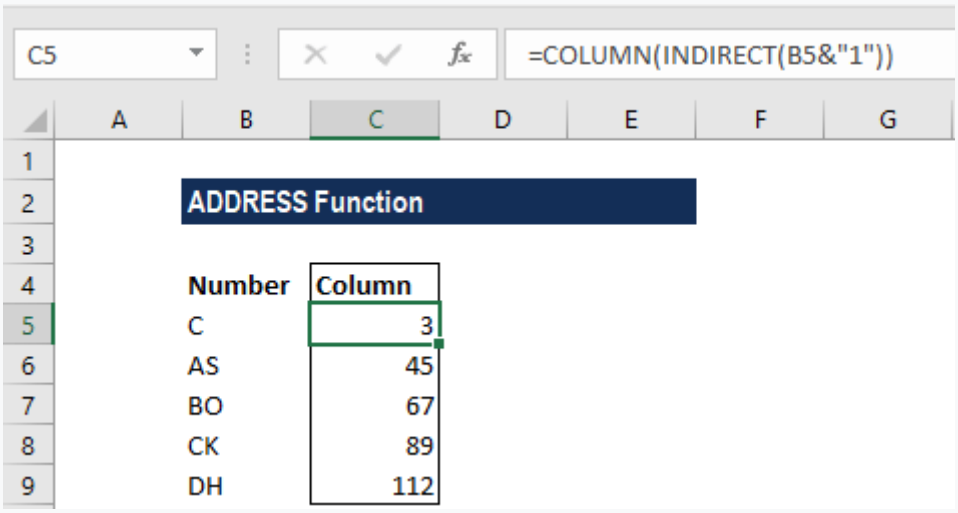
The formula to use will be:



IRR | =COLUMN(INDIRECT(B5&"1"))

	A	B	C	D	E	F	G
1							
2		ADDRESS Function					
3							
4		Number	Column				
5		C	=COLUMN(INDIRECT(B5&"1"))				
6		AS	45				
7		BO	67				
8		CK	89				
9		DH	112				

We get the results below:



C5 | =COLUMN(INDIRECT(B5&"1"))

	A	B	C	D	E	F	G
1							
2		ADDRESS Function					
3							
4		Number	Column				
5		C	3				
6		AS	45				
7		BO	67				
8		CK	89				
9		DH	112				

The INDIRECT function transforms the text into a proper Excel reference and hands the result off to the COLUMN function. Then, the COLUMN function evaluates the reference and returns the column number for the reference.

A few notes about the Cell ADDRESS Function:

1. If we wish to change the reference style that Excel uses, we should go to the File tab, click Options, and then select Formulas. Under Working with formulas, we can select or clear the R1C1 reference style checkbox.
2. #VALUE! error – Occurs when any of the arguments are invalid. We would get this argument if:
    - The row_num is less than 1 or greater than the number of rows in the spreadsheet;
    - The column_num is less than 1 or greater than the number of columns in the spreadsheet.

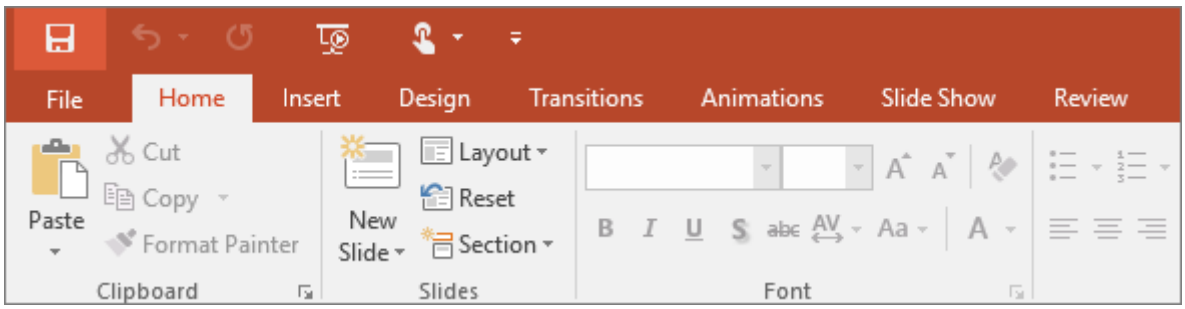
Q.14. a) What tools are available to customize our PowerPoint presentation?

Ans. What's on the ribbon tabs?

The ribbon tabs group tools and features together based on their purpose. For example, to make your slides look better, look for options on the Design tab. The tools that you use to animate things on your slide would be on the Animations tab.

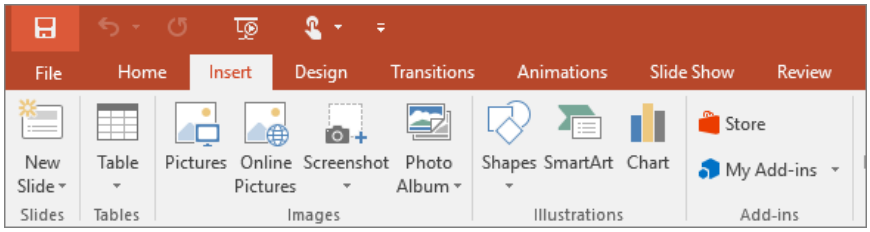
Here's a look at what you'll find in each of the PowerPoint ribbon tabs.

1. Home -



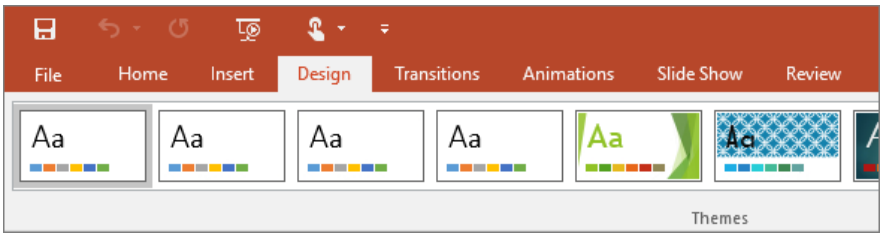
The Home tab holds the **Cut** and **Paste** features, **Font** and **Paragraph** options, and what you need to add and organize slides.

2. Insert -



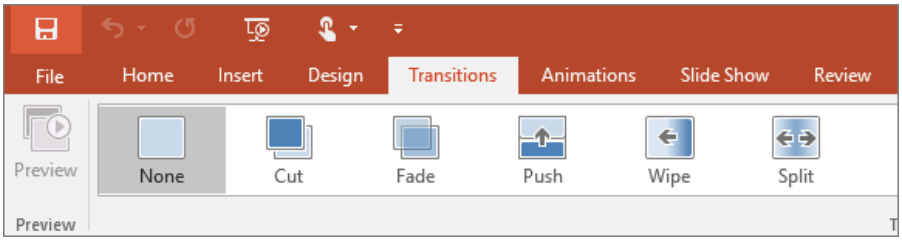
Click **Insert** to add something to a slide. This includes pictures, shapes, charts, links, text boxes, video and more.

3. Design -



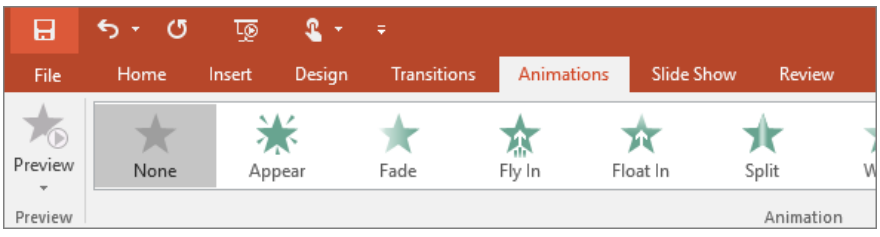
On the **Design** tab, you can add a theme or colour scheme, or format the slide background.

4. Transitions -



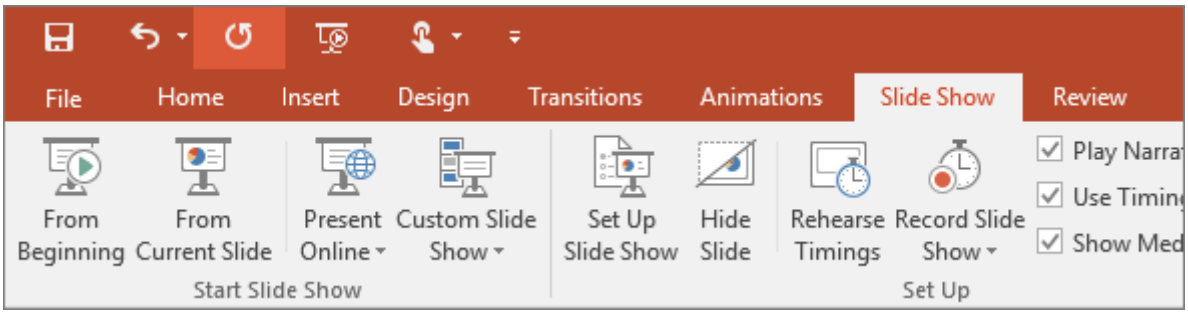
Set up how your slides change from one to the next on the **Transitions** tab. Find a gallery of the possible transitions in the **Transition to This Slide** group – click **More** at the side of the gallery to see all of them.

5. Animations -



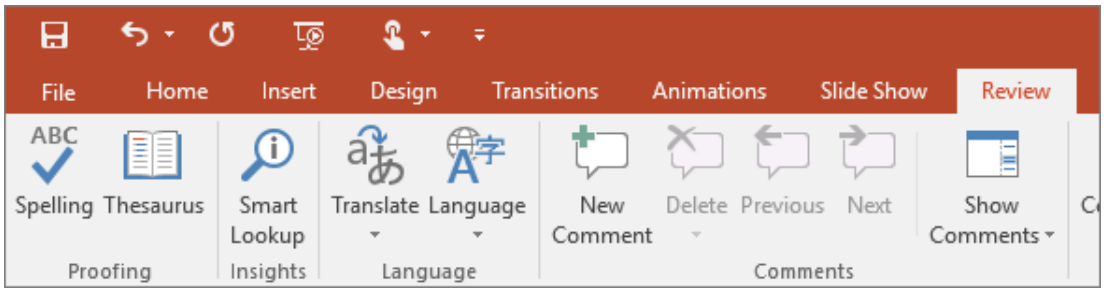
Use the **Animations** tab to choreograph the movement of things on your slides. Note that you can see many possible animations in the gallery in the Animation group, and see more of them by clicking **More** .

6. Slide Show -



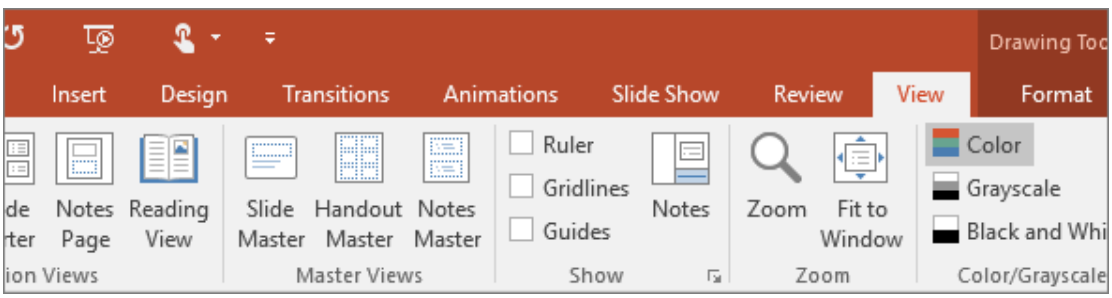
On the **Slide Show** tab, set up the way that you want to show your presentation to others.

7. Review -



The **Review** tab lets you add comments, run spell-check, or compare one presentation with another (such as an earlier version).

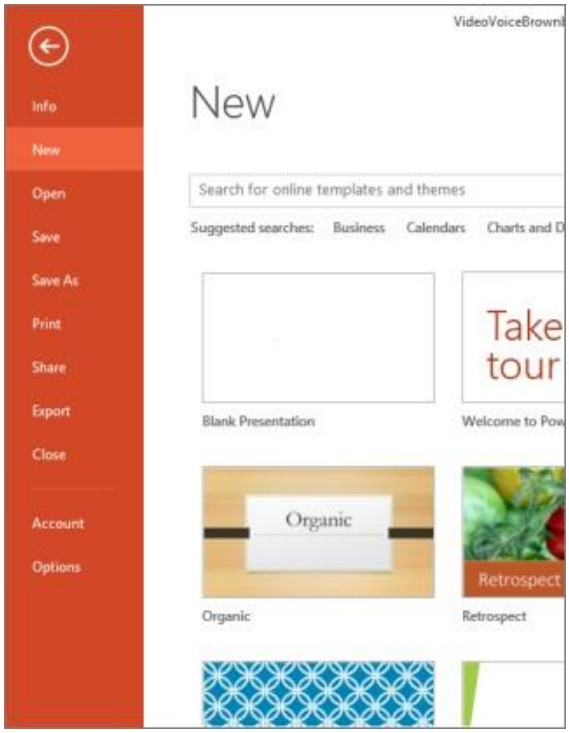
8. View -



Views allow you to look at your presentation in different ways, depending on where you are in the creation or delivery process.

9. File -

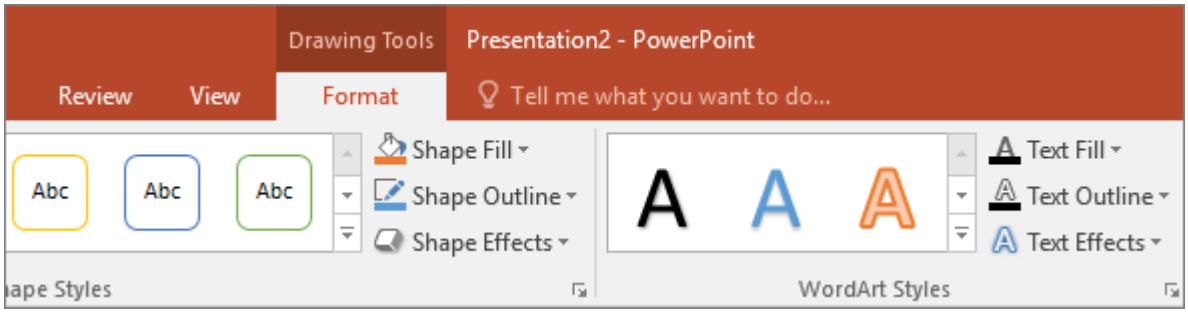
At one end of the ribbon is the **File** tab, which you use for the behind-the-scenes stuff you do with a file, such as opening, saving, sharing, exporting, printing and managing your presentation. Click the **File** tab to open a new view called the Backstage.



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

10. Tools tabs –

When you click some parts of your slides, such as pictures, shapes, SmartArt or text boxes, you might see a colourful new tab appear.



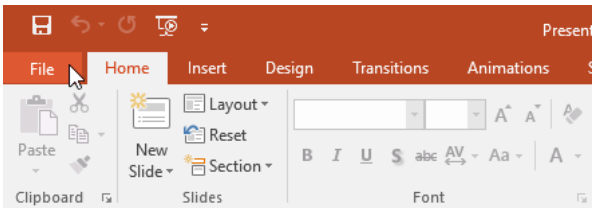
In the example above, the **Drawing Tools** tab appears when you click a shape or text box. When you click a picture, the **Picture Tools** tab appears. Other such tabs include SmartArt Tools, Chart Tools, Table Tools and Video Tools. These tabs disappear or change when you click something else in your presentation.

Q.14. b) Write the steps for the following action for creation of power point presentation.

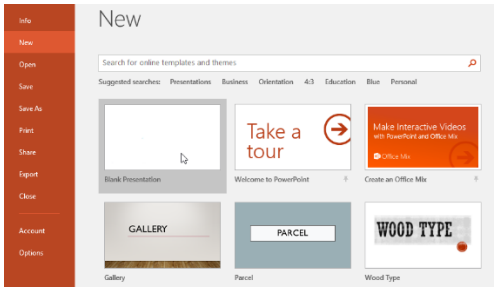
- **Open a Blank presentation**
- **Save the presentation as Lab1.pptx**
- **Add a Title to the first slide: the name of your college**
- **Type your first name and last name in the Subtitle section**
- **Add a New Slide which has a Title and Content**

Ans. To create a New Presentation:

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



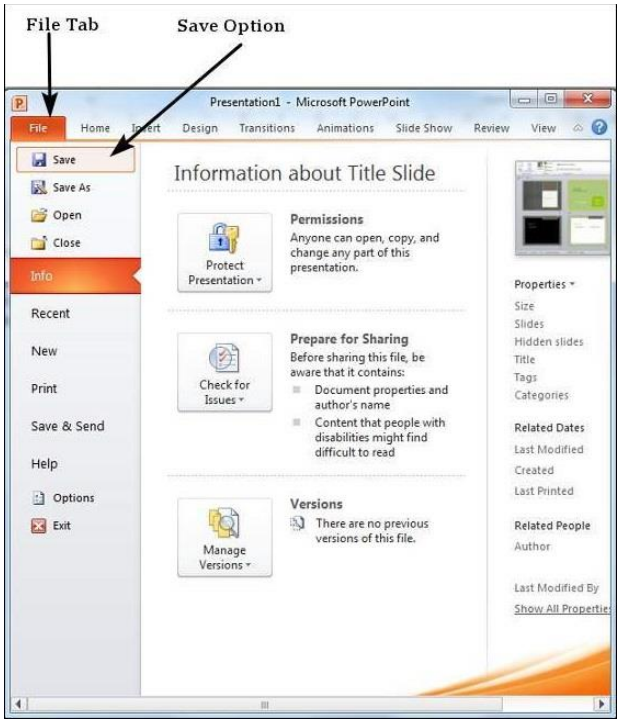
2. Select **New** on the left side of the window, then click **Blank Presentation**.



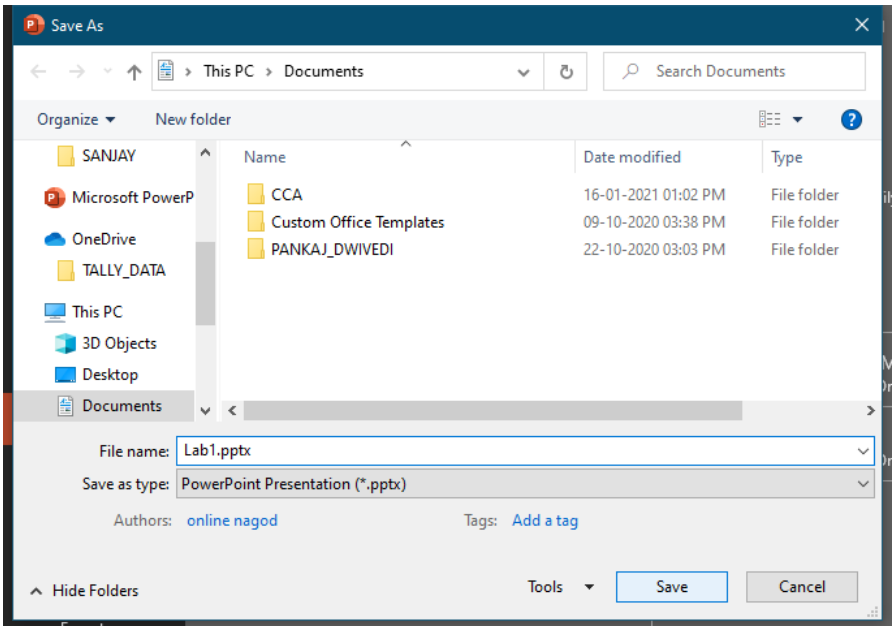
3. A new presentation will appear.

- **Save the presentation as Lab1.pptx**

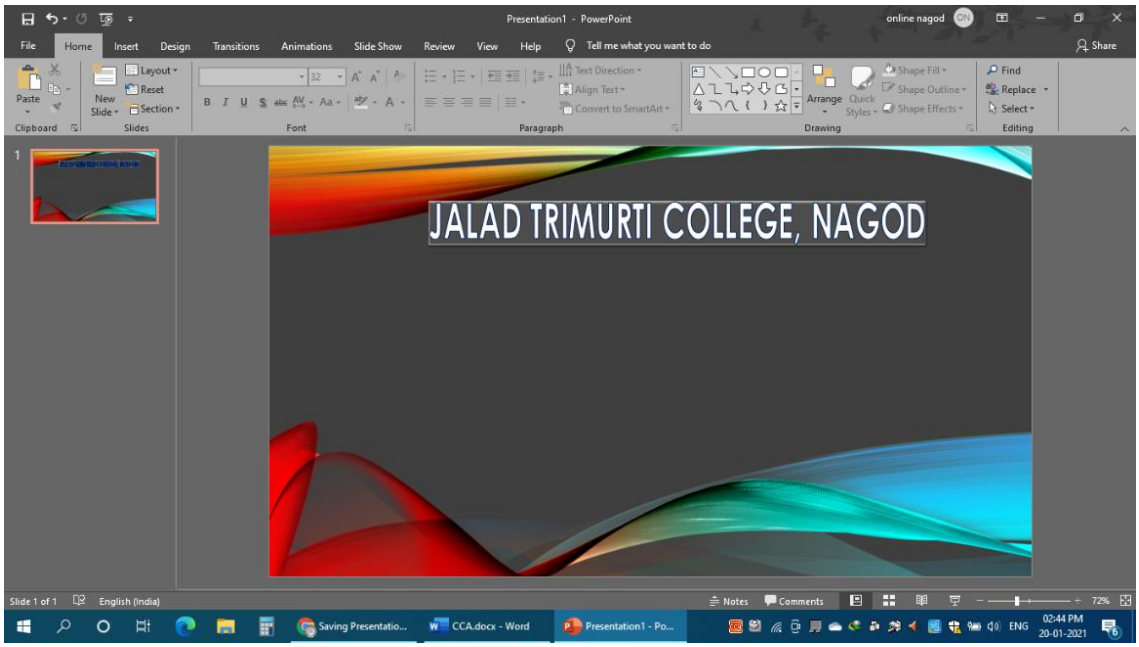
Step 1 – Click on the **File** tab to launch the **Backstage** view and select **Save**.



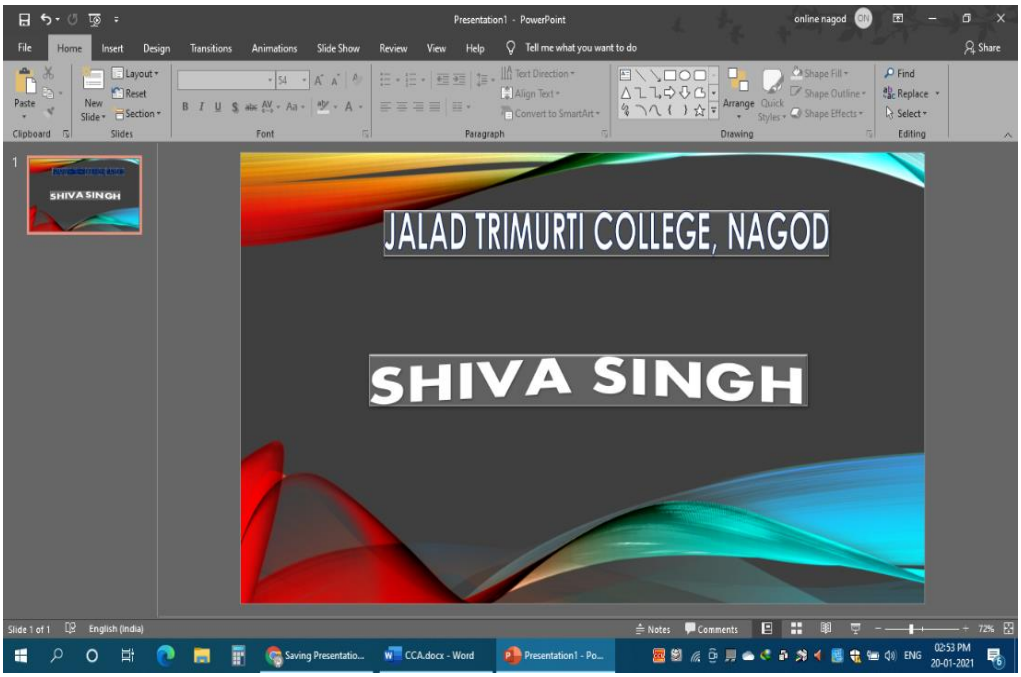
Step 2 – In the **Save As** dialog, type in the file name and click "Save



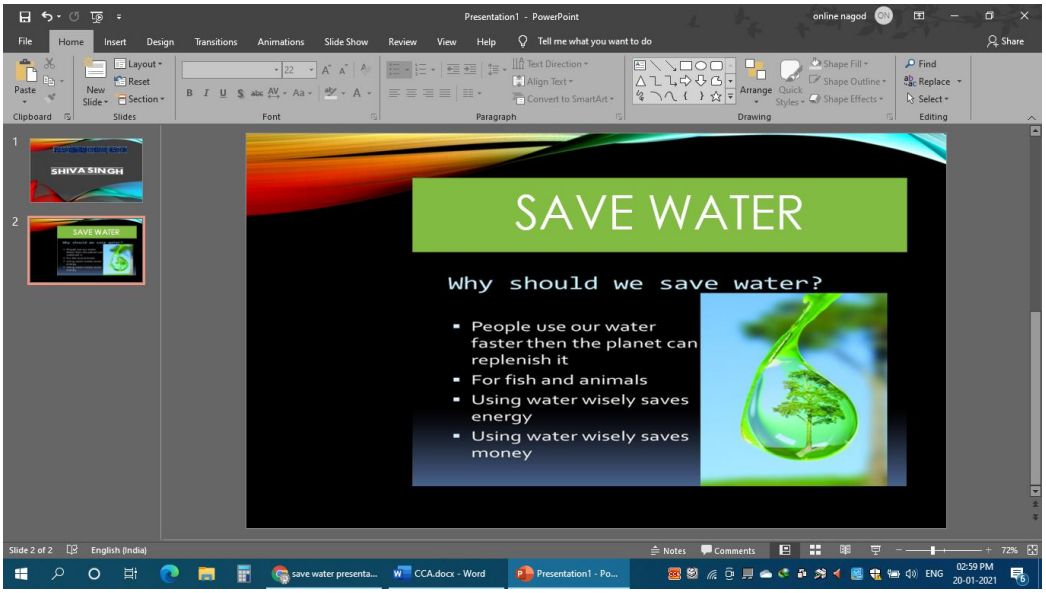
- **Add a Title to the first slide: the name of your college -**



- **Type your first name and last name in the Subtitle section -**



- **Add a New Slide which has a Title and Content -**

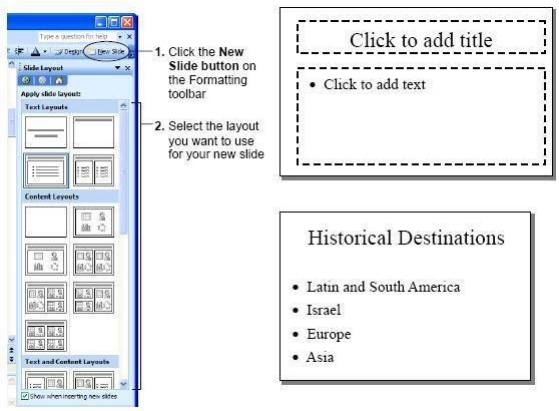


Q.15. Write steps for creation of a set of PowerPoint slides that demonstrates your skill to use the tools of PowerPoint. It should include the following things

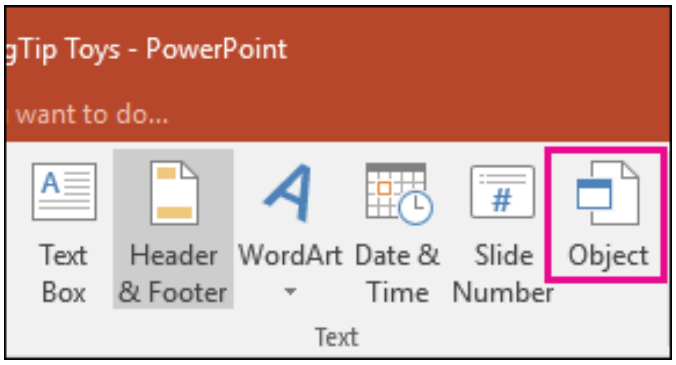
- **Title slide &bullet list**
- **Inserting Excel Sheet**
- **Clip art and Text**
- **Slide show effects**

Ans. Creating a simple bulleted list slide –

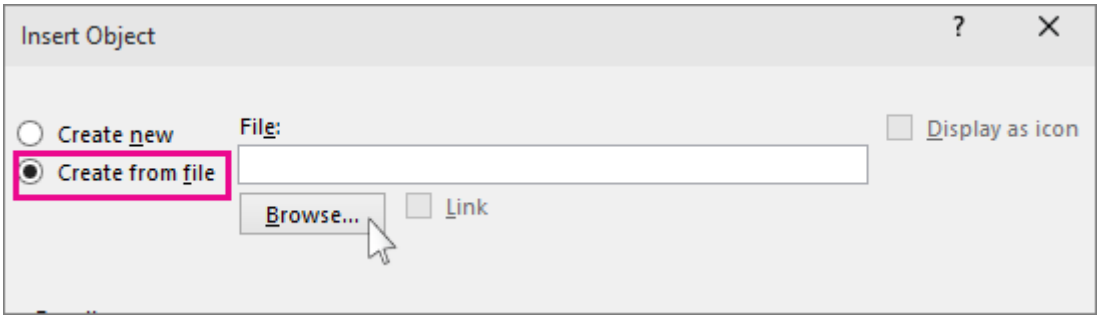
- **Inserting Excel Sheet**



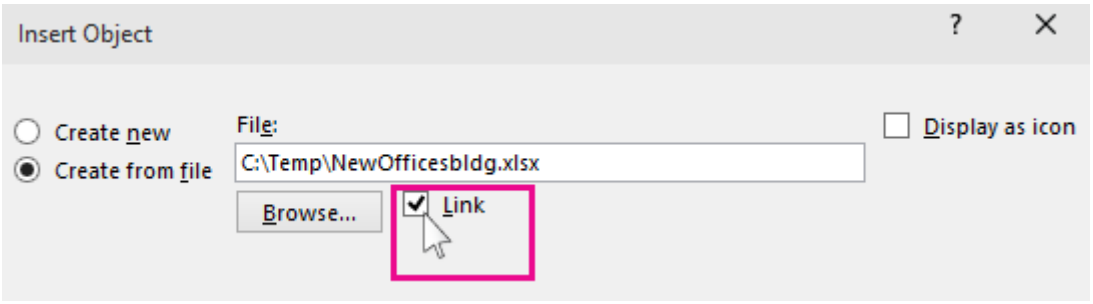
4. In PowerPoint, on the **Insert** tab, click or tap **Object**.



5. In the **Insert Object** dialog box, select **Create from file**



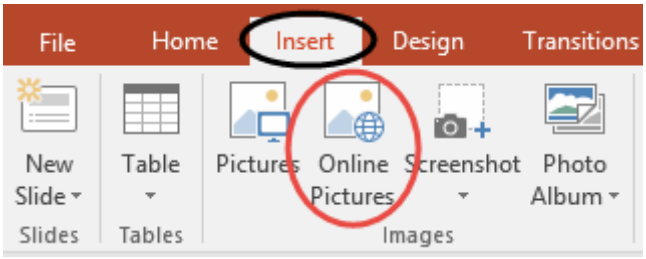
6. Click or tap **Browse**, and in the **Browse** box, find the Excel workbook with the data you want to insert and link to.
7. Before you close the **Insert Object** box, select **Link**, and click **OK**.



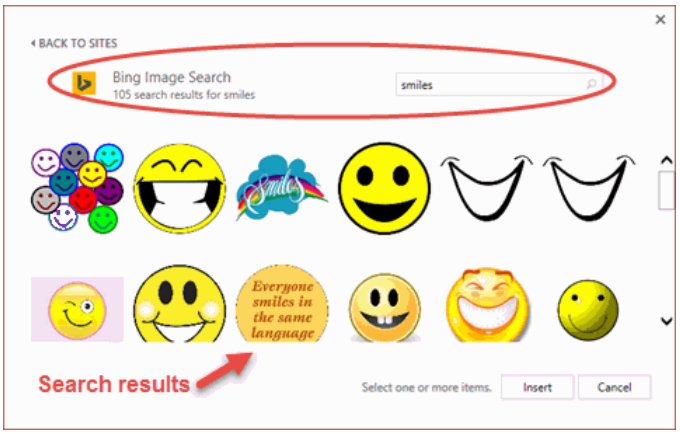
- **Clip art and Text**

Clip Art is a collection of media files (images, videos, audio, and animation files) that Microsoft includes with the PowerPoint application. If your computer has an Internet connection, then you can also access Bing.com to search for images. To insert clip art on a PowerPoint slide, follow the steps below.

1. Click in the slide where you want to insert a clip art file.
2. On the **Insert** tab, in the **Images** group, click **Online Pictures**.

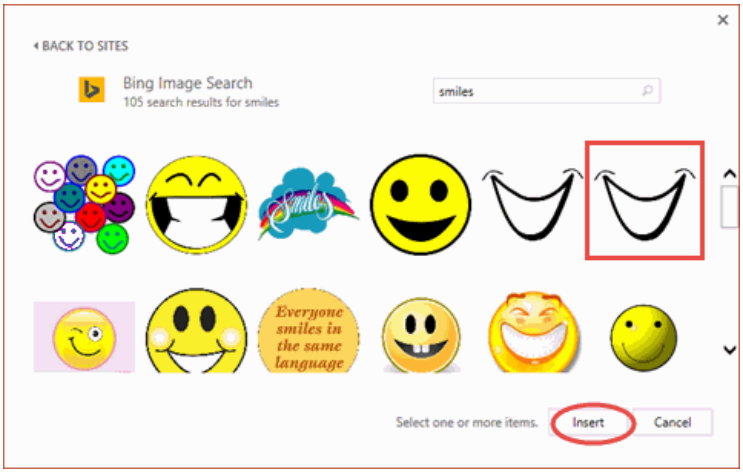


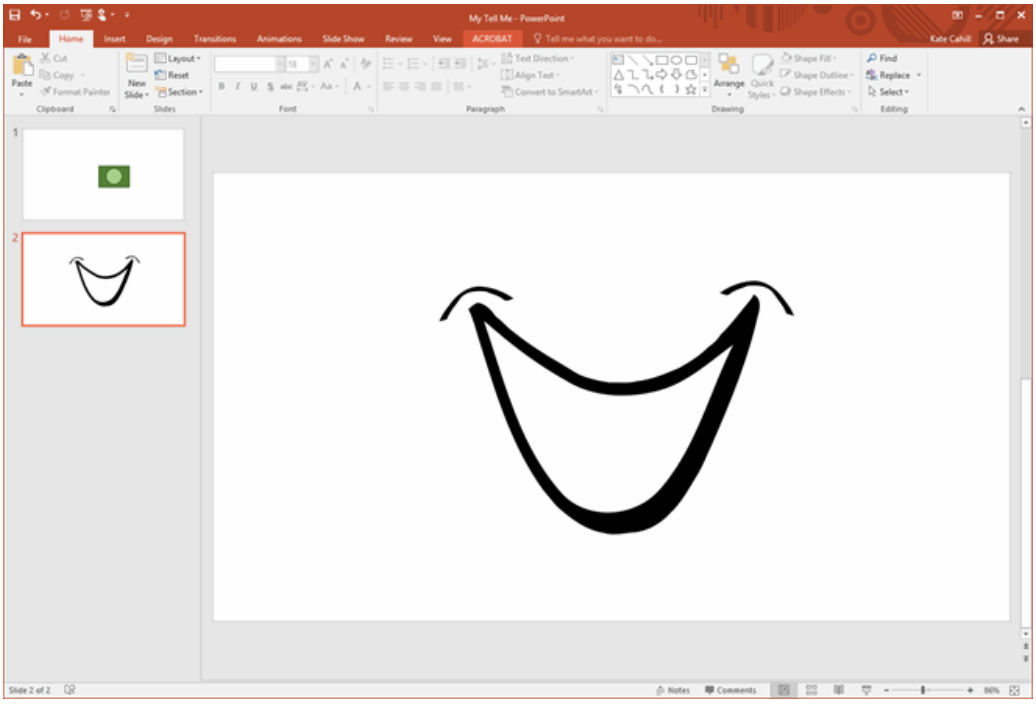
3. In the **Insert Pictures** dialog box (**Clip Art** task pane in PowerPoint 2007/2010), enter your search terms in the **Bing.com** field and press Enter.



4. Your search results load in the task pane.

5. Locate the clip art you want to insert in your slide and double-click on it or click the item and select **Insert**.




My Tell Me - PowerPoint
File
Home
Insert
Design
Transitions
Animations
Slide Show
Review
View
ACROBAT
Tell me what you want to do...
Kate Cahill
Share
Paste
Cut
Copy
Format Painter
Clipboard
New Slide
Layout
Reset
Section
Slides
Font
Text Direction
Align Text
Convert to SmartArt
Paragraph
Arrange
Quick Styles
Shape Fill
Shape Outline
Shape Effects
Drawing
Find
Replace
Select
Editing
1
2
Slide 2 of 2
Notes
Comments
86%

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