Introduction to Information & Communication Technologies

CL-1000

Lab 01

Features of MS Word and MS Excel

National University of Computer & Emerging Sciences - NUCES - Karachi

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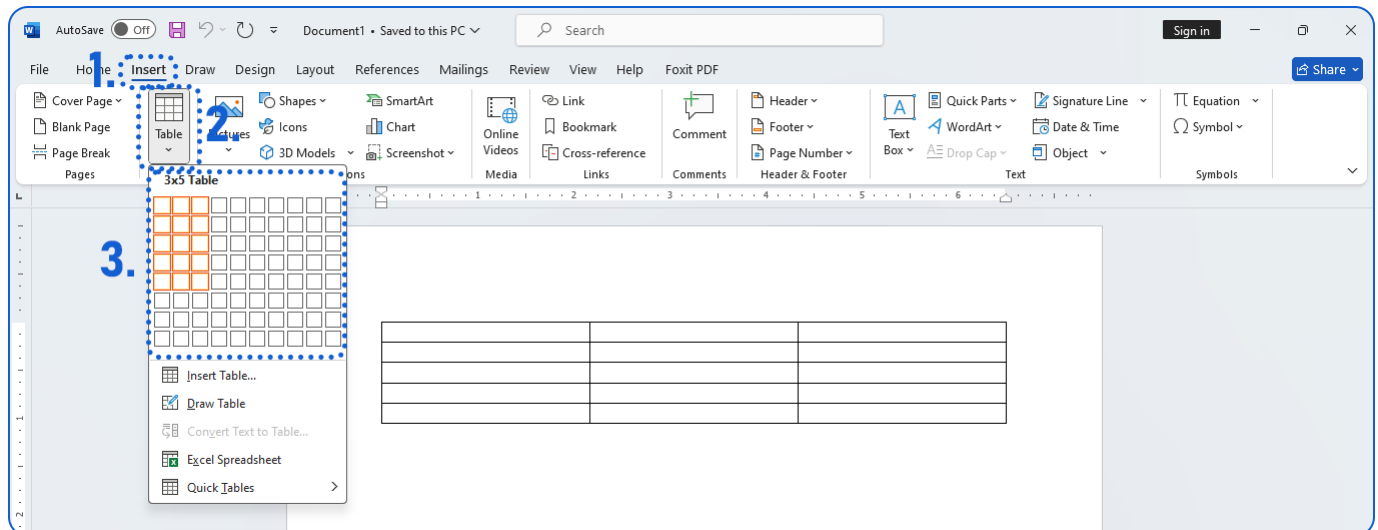| Course Code: CL-1000	Introduction to Information & Communication Technologies

Contents

1. Table Operations

1.1 Creating a Table

1. Click on the **Insert tab**.
2. Click on **Table**.
3. Select the grid size by hovering the cursor on the grid. The desired table will be inserted.
4. You can also manually define the number of rows and columns of a table by click on **Insert Table...**


1.2 Inserting Rows and Columns in a Table

1. After inserting the table, a tab named **Layout** will appear. Click on it.
2. You can insert the rows and columns at the desired direction from the **Rows & Columns** section. Or you can right-click to a **row/column/cell**, then click on **insert** to do the same.
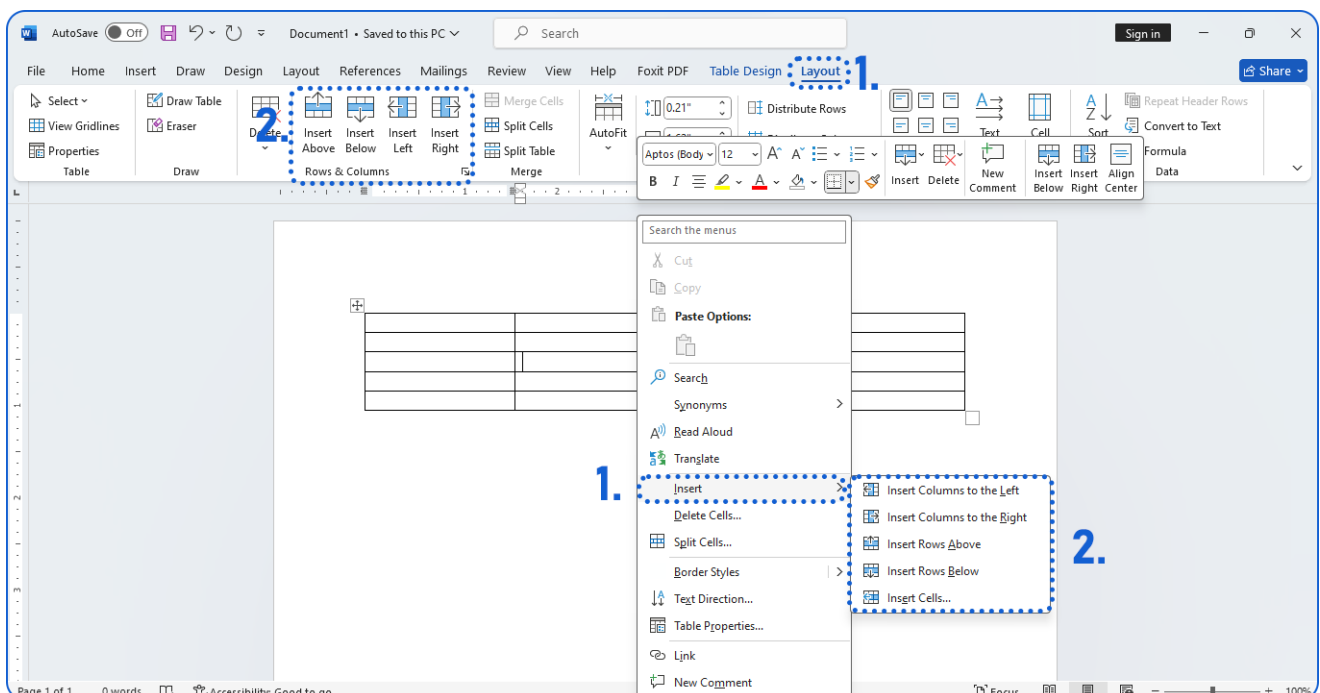
1.3 Deleting Rows and Columns of a Table

1. Select the desired row(s)/columns(s)/cells you want to delete.
2. Under the **Layout** tab, click on **Delete**. A drop-down menu will appear which allows you to delete the cells, rows, columns or the entire table.
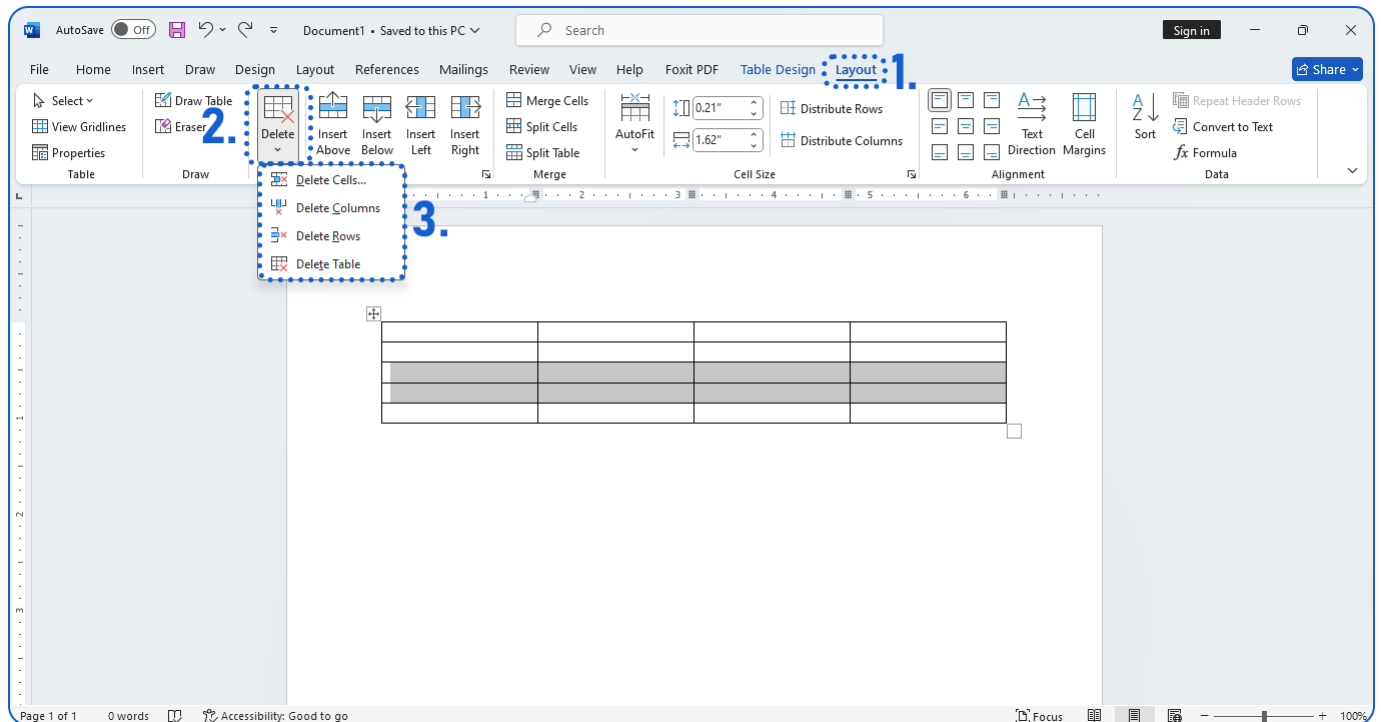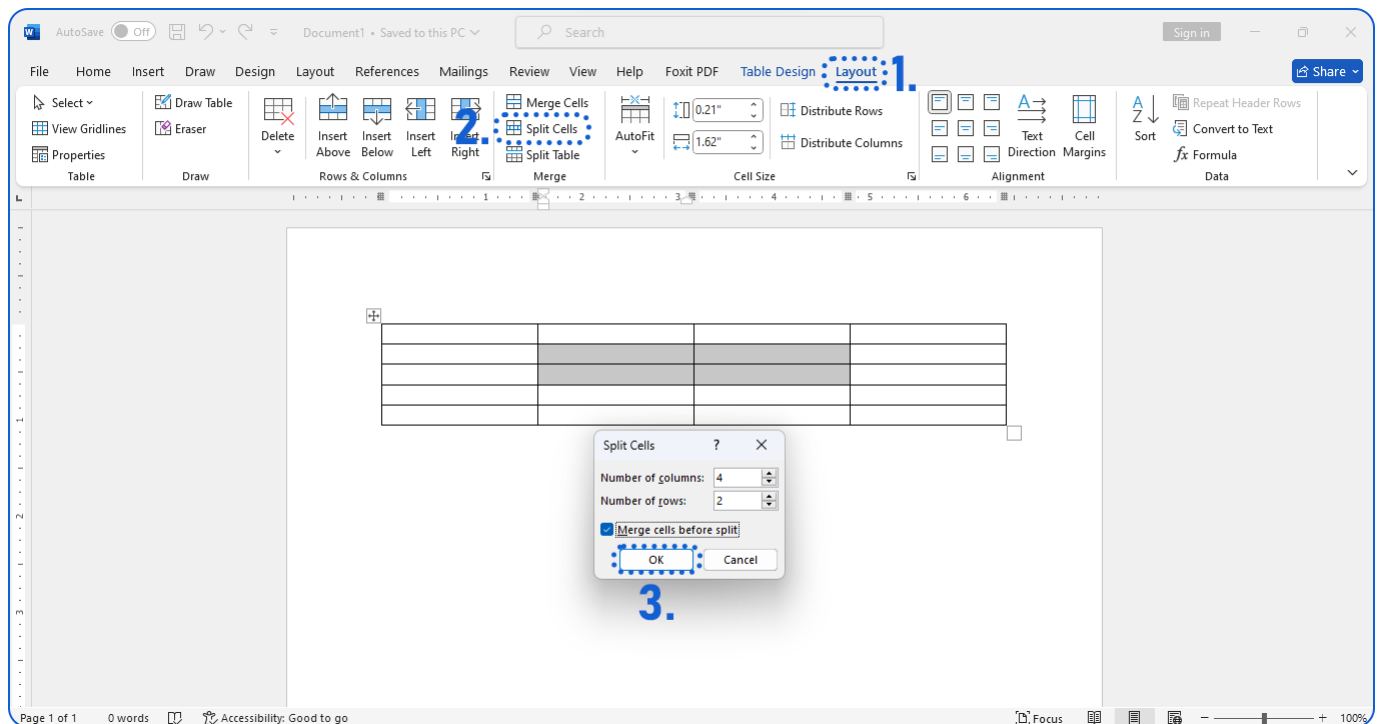

1.4 Merging Cells

1. Select the cells you want to merge.
2. Under the **Layout** tab, click **Merge**. Or, you can right-click on the selected cell and click on **Merge Cells**.
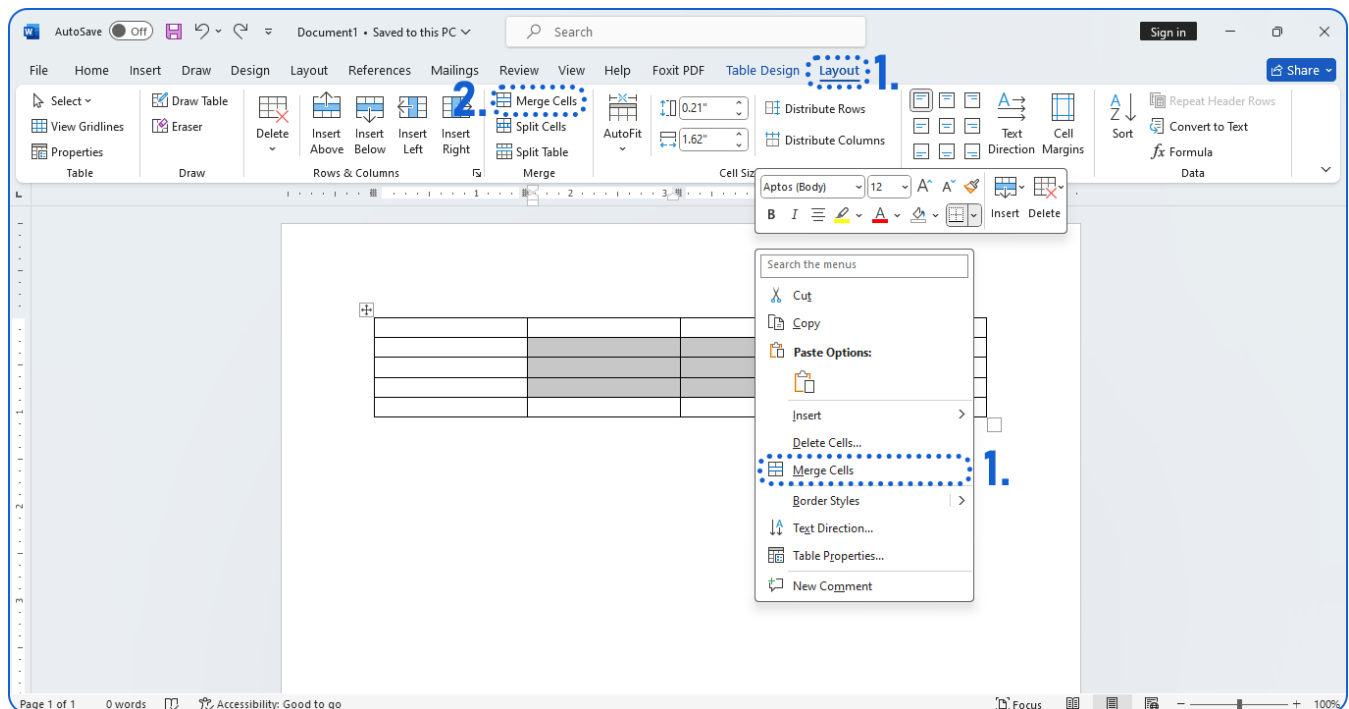
1.5 Splitting Cells

1. Select the cells you want to split.
2. Under the **Layout tab**, click on **Split**. A window will appear.
3. Insert the number of rows and columns in which you want to split the cells.


1.5 Changing Direction of Text in a Cell

1. Select the cell(s) to which you want to change the text direction.
2. Under the **Layout** tab, in the **Alignment** section, click on **Text Direction** to change the direction of the text to the direction you desire.
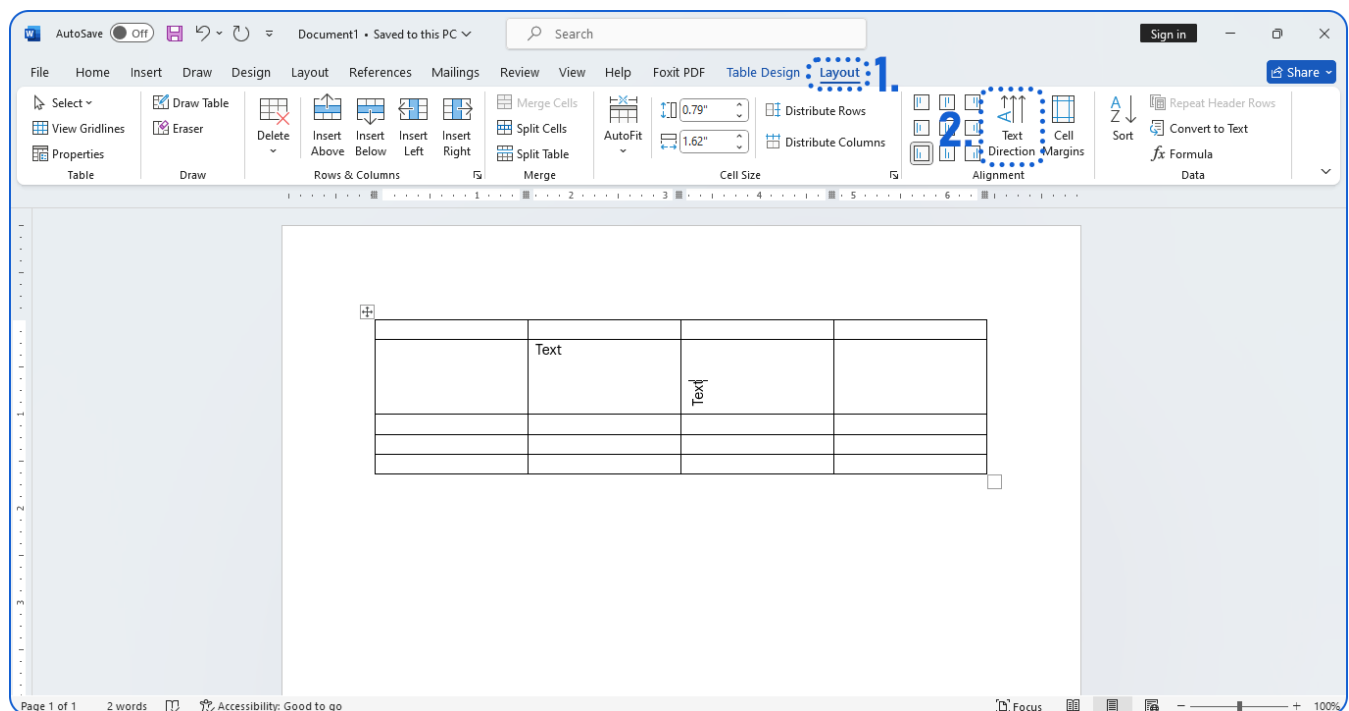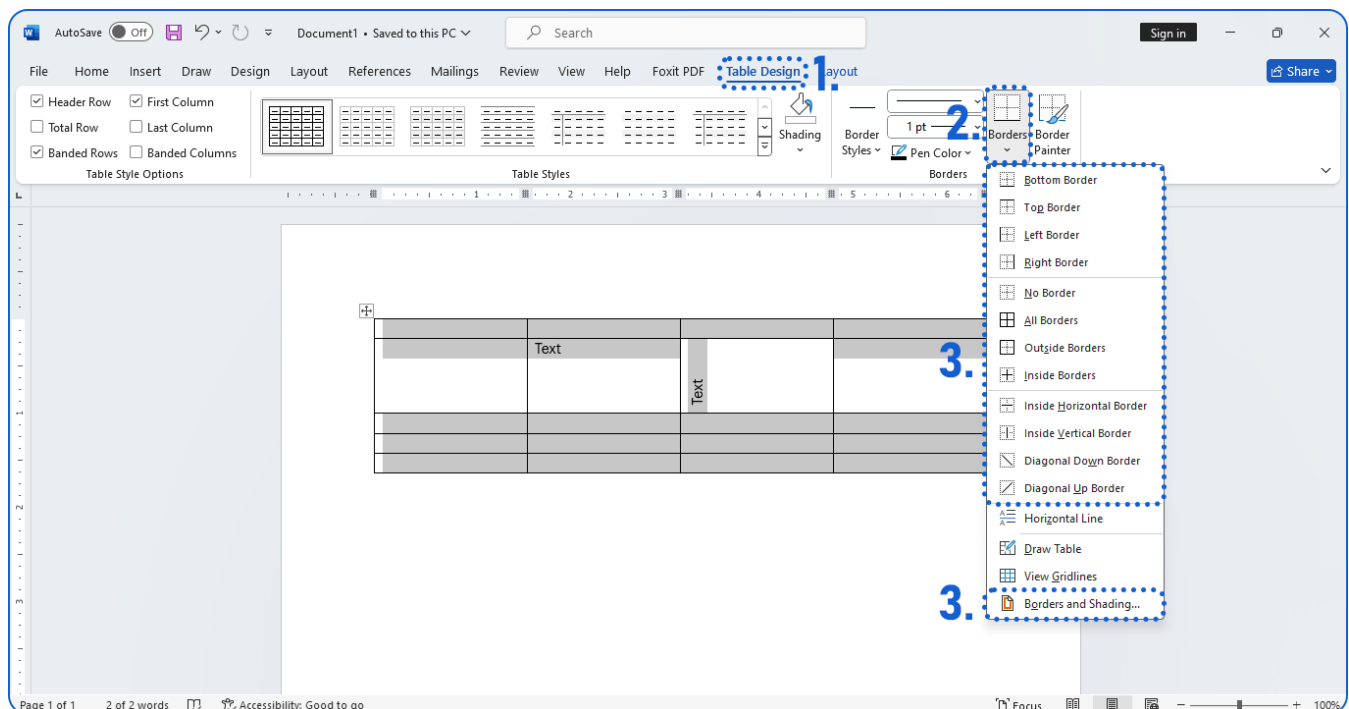
1.6 Apply Shading to Cells, Rows, and Columns

1. Select the row(s), columns(s) or cell(s) to apply shading on them.
2. Click on **Table Design** tab.
3. Click on **Shading** and choose your desire colour.
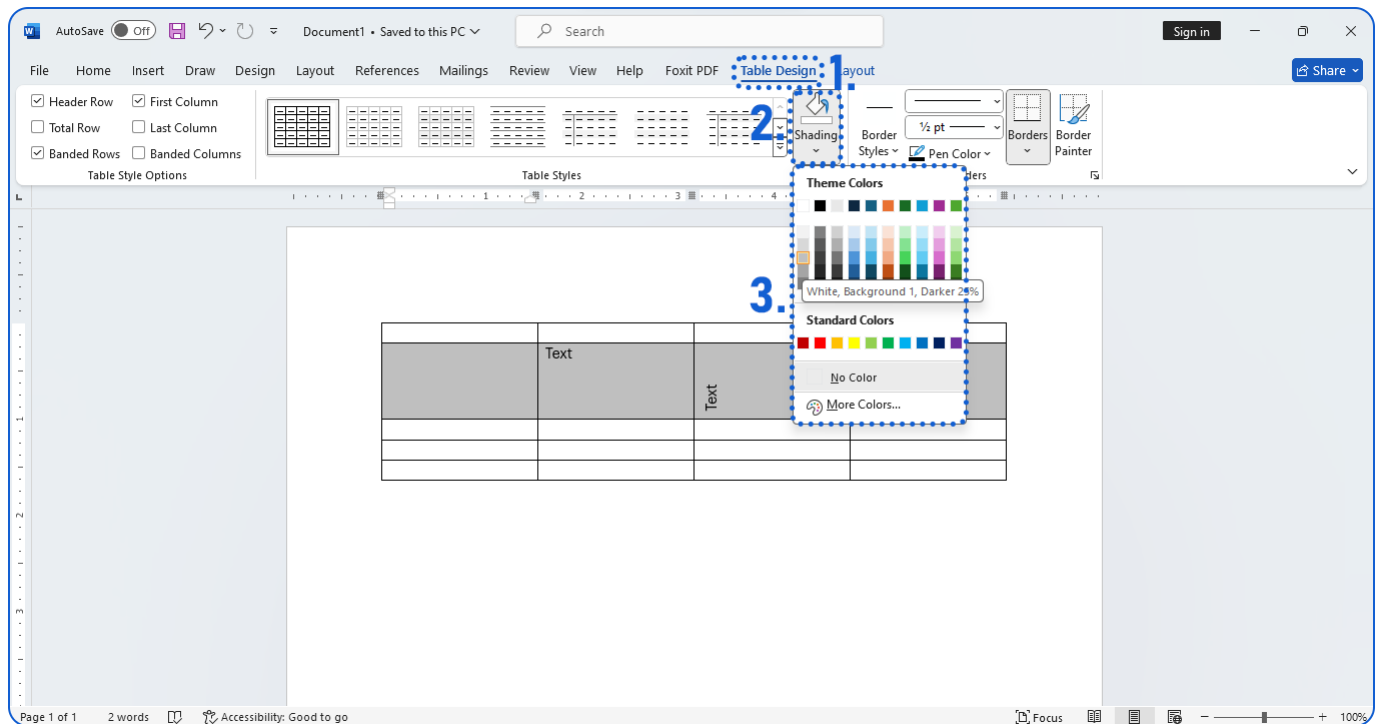
1.7 Apply Borders to Cells, Rows, and Columns

1. Select the row(s), columns(s) or cell(s) to apply border on them.
2. Under the **Table Design** tab, click on **Borders.**
3. Click or **Border and Shading...**

4. The **Border and Shading** window will open.
5. You can choose the border preset from **Setting** label, border style from the **Style** label, thickness of the border from the **Width** label and sides to which you want to apply the border.
6. Click on **OK** after the changes you have made.
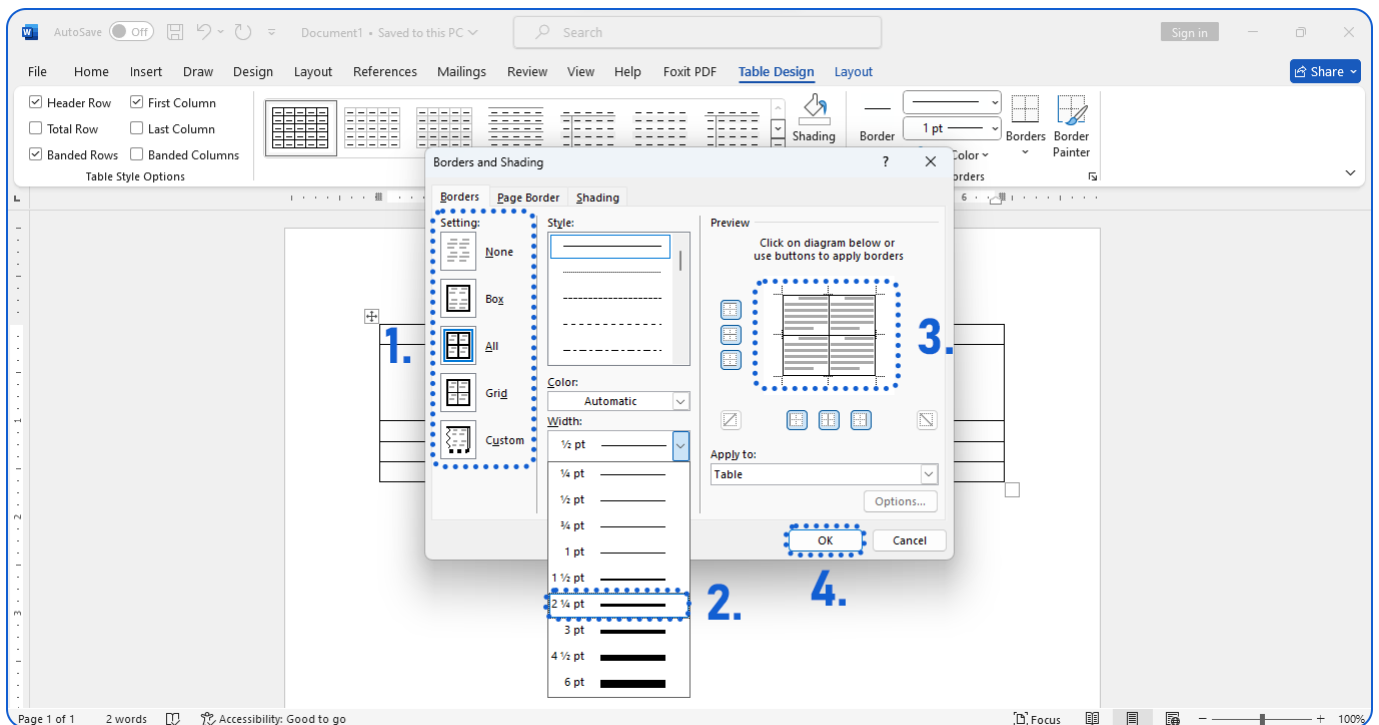
2. Apply Borders to a Page

1. Click on the **Home tab**.
2. In the **Paragraph** section, click on the **dotted-box**, located in the second row at right-most side of the section.
3. The **Borders and Shading** window will appear. Click on the **Page Border tab**.
4. Follow the same steps as you have followed to apply borders on tables. **(see section 1.7)**
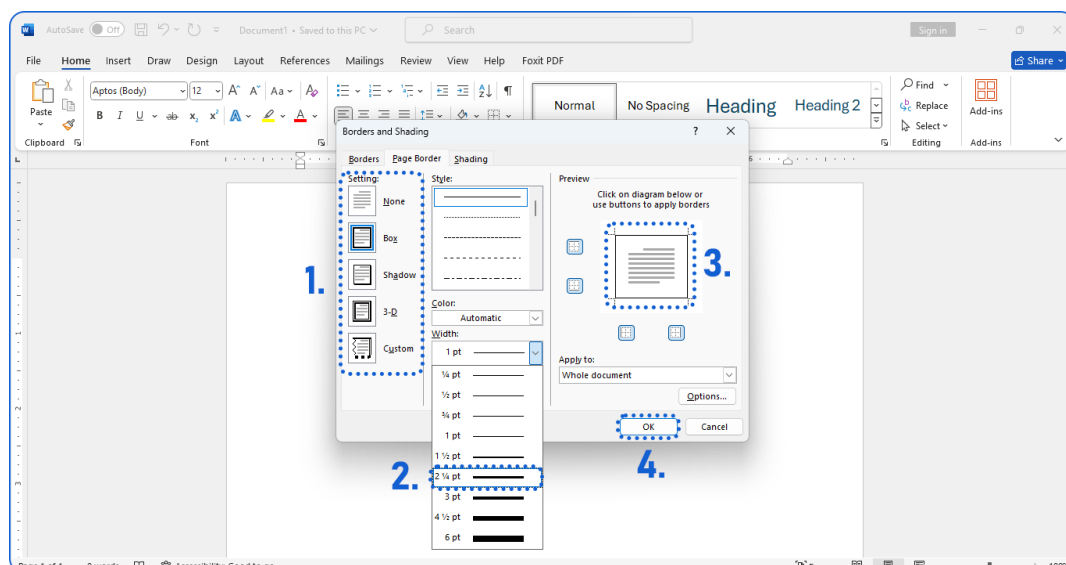
3. Apply Header, Footer and Page Numbers

1. Click on the **Insert** tab.
2. In the **Head and Footer** section, you have all the options to apply and format header, footer and page numbers.
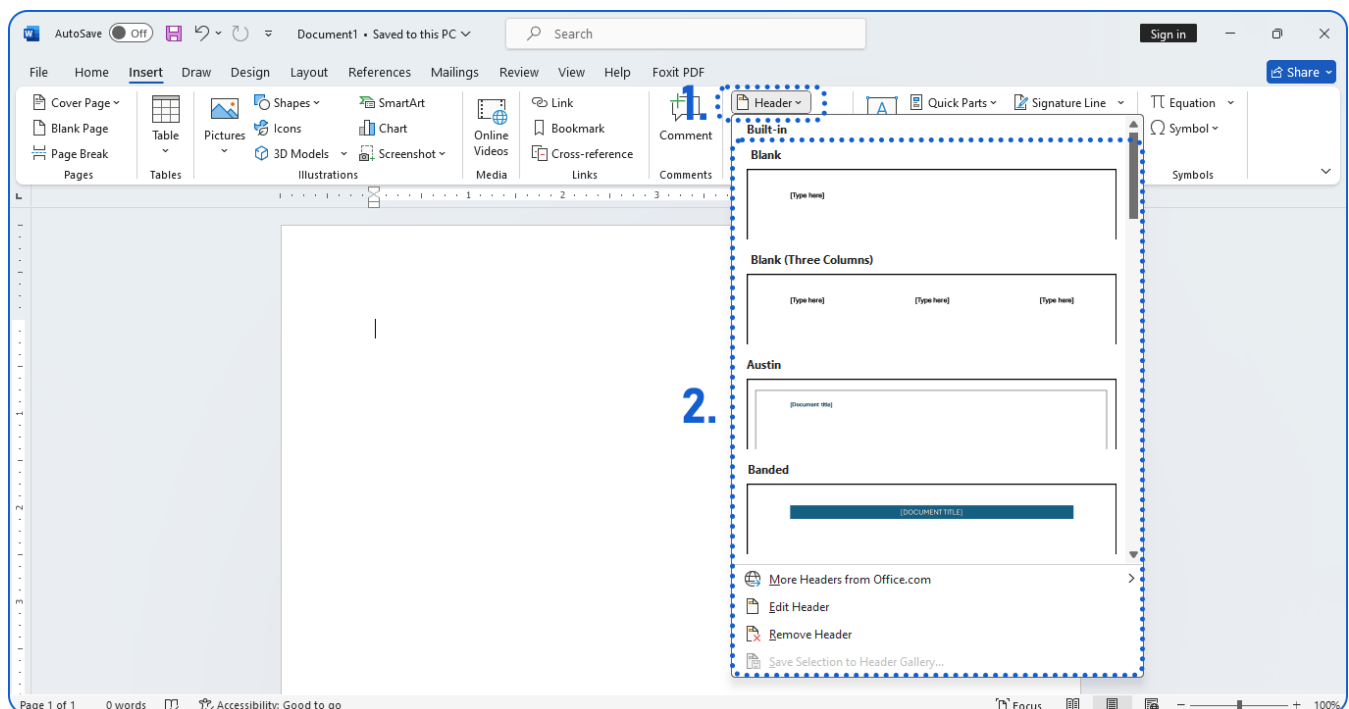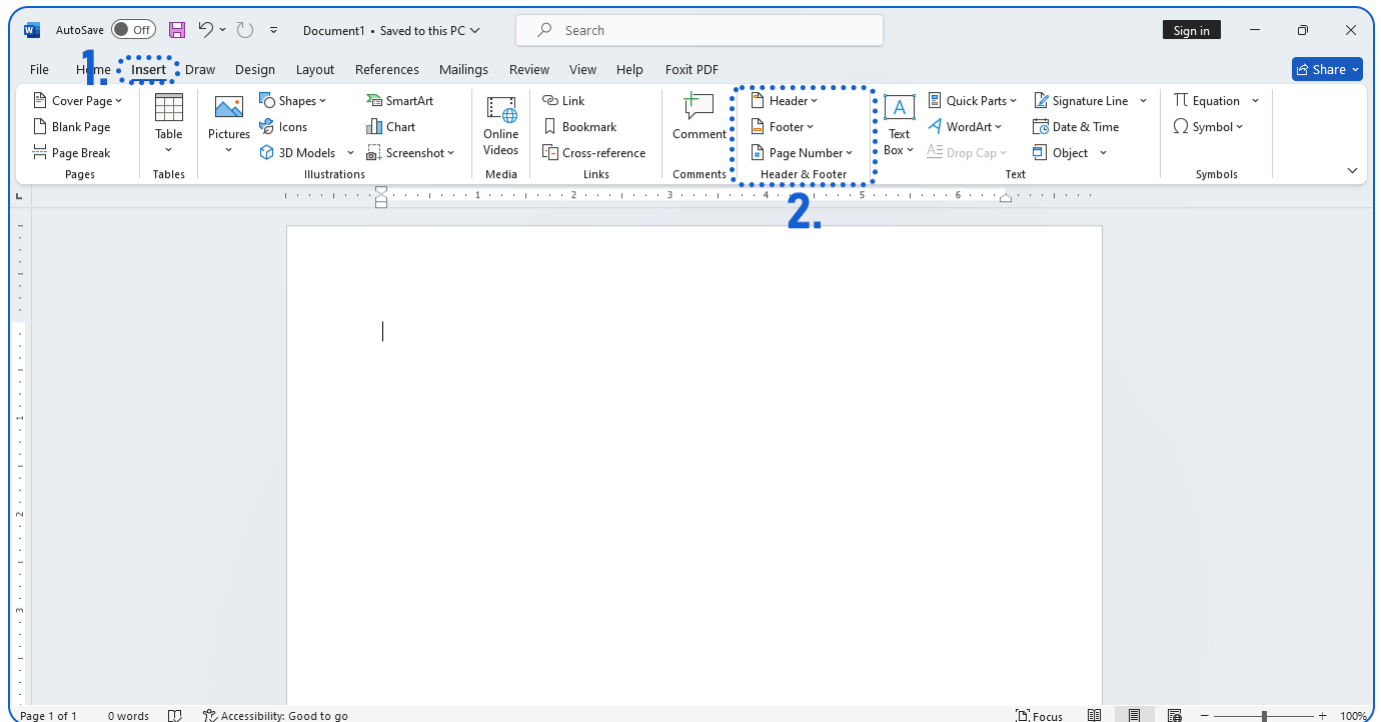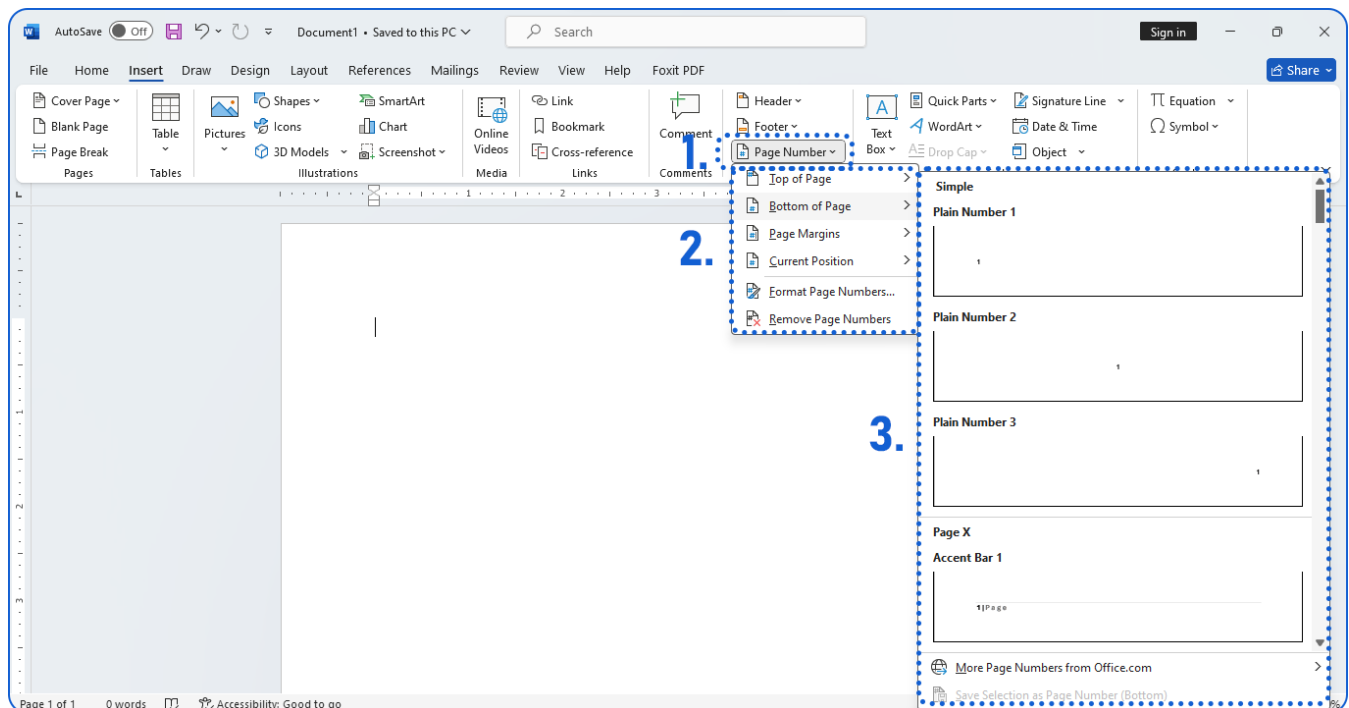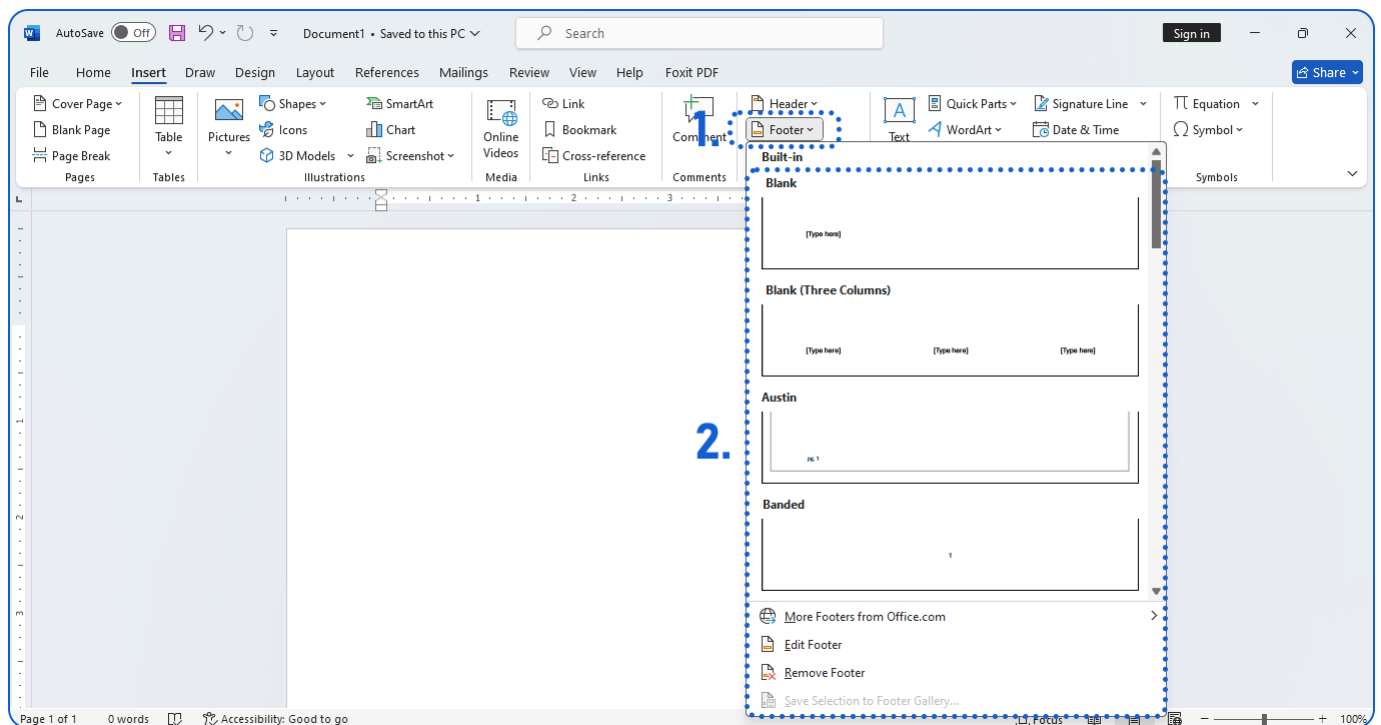
4. Inserting Symbols

1. Click on the **Insert** tab.
2. In the **Symbols** section, click on **Symbols.** A drop-down menu will appear.
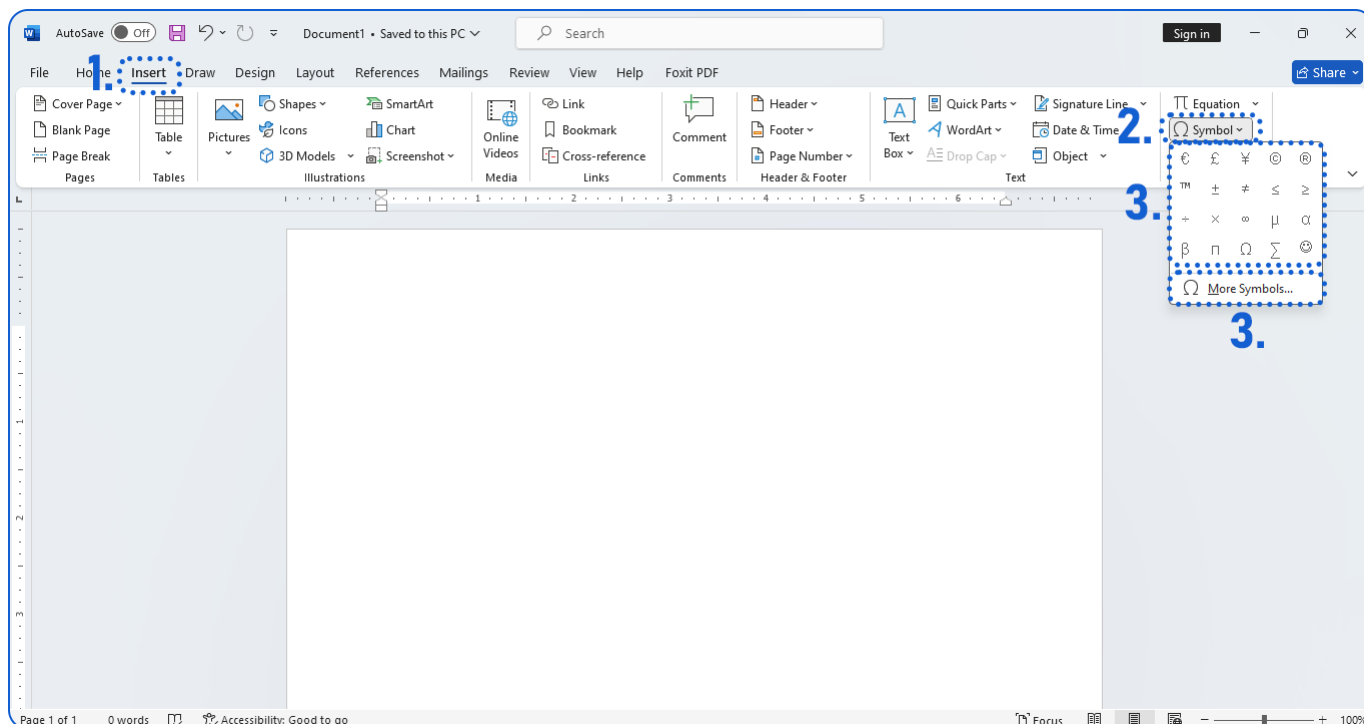3. You can select the most commonly used symbols suggested by **WORD** or you can click on **More Symbols...** to add other symbols.

4. The **Symbol** window will appear where you can choose the **font** for the symbol, and the **type** of symbols.
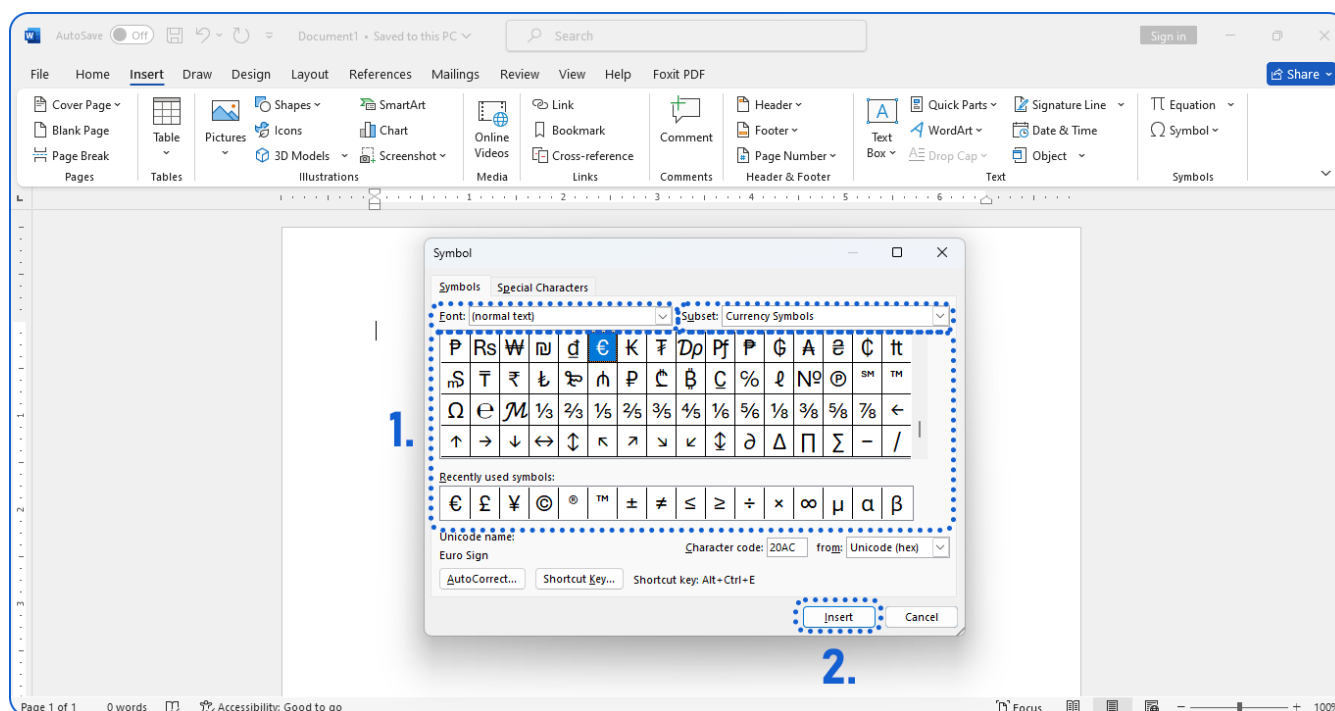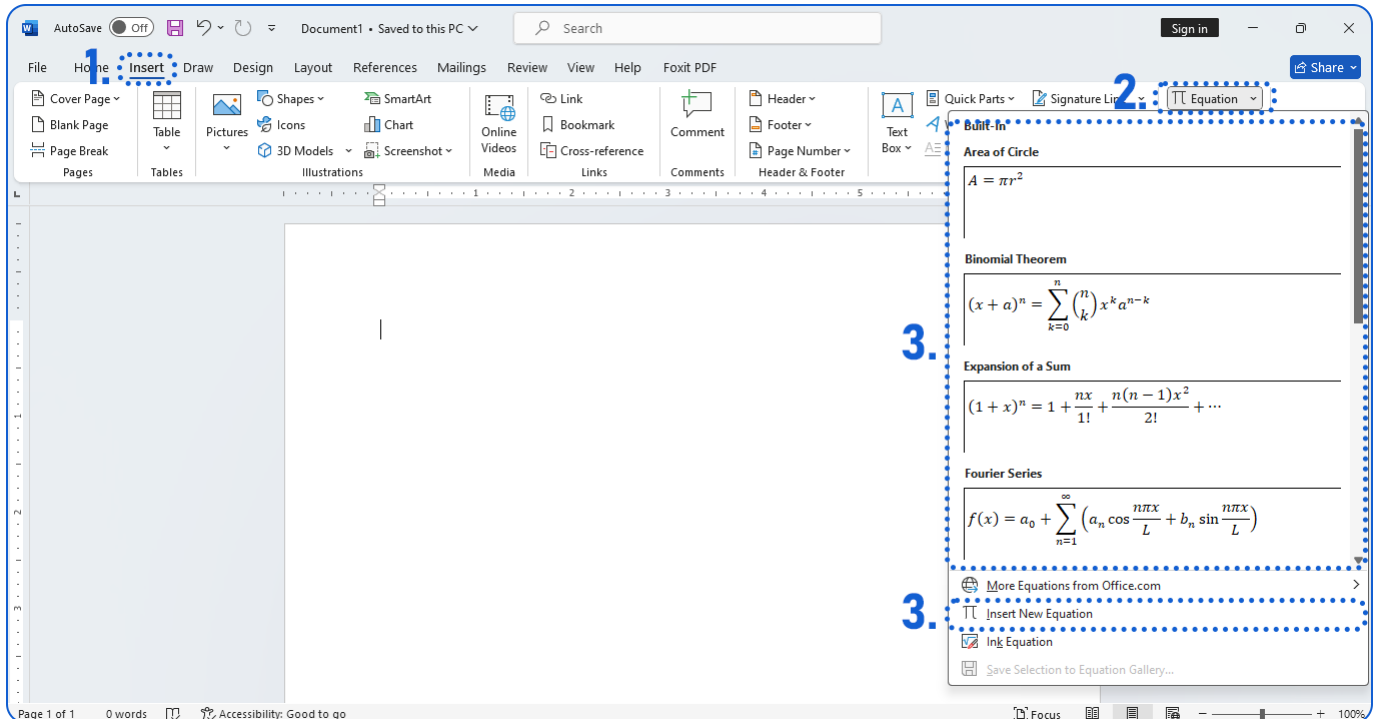5. Click on **Insert** after choosing the symbol.

5. Inserting Equations

1. Click on the **Insert** tab.
2. In the **Symbols** section, click on **Equation**. A drop-down menu will appear.
3. You have a list of equations to choose. Or you can click on **Insert New Equation** to type the equation manually.

4. Now you can type the equation in the equation editor.
5. You can insert symbols and pre-designed equations structures under the **Equation** tab from the **Symbols** and **Structures** sections.

The equation shown: $x^2 - 3x + 2 = 0$
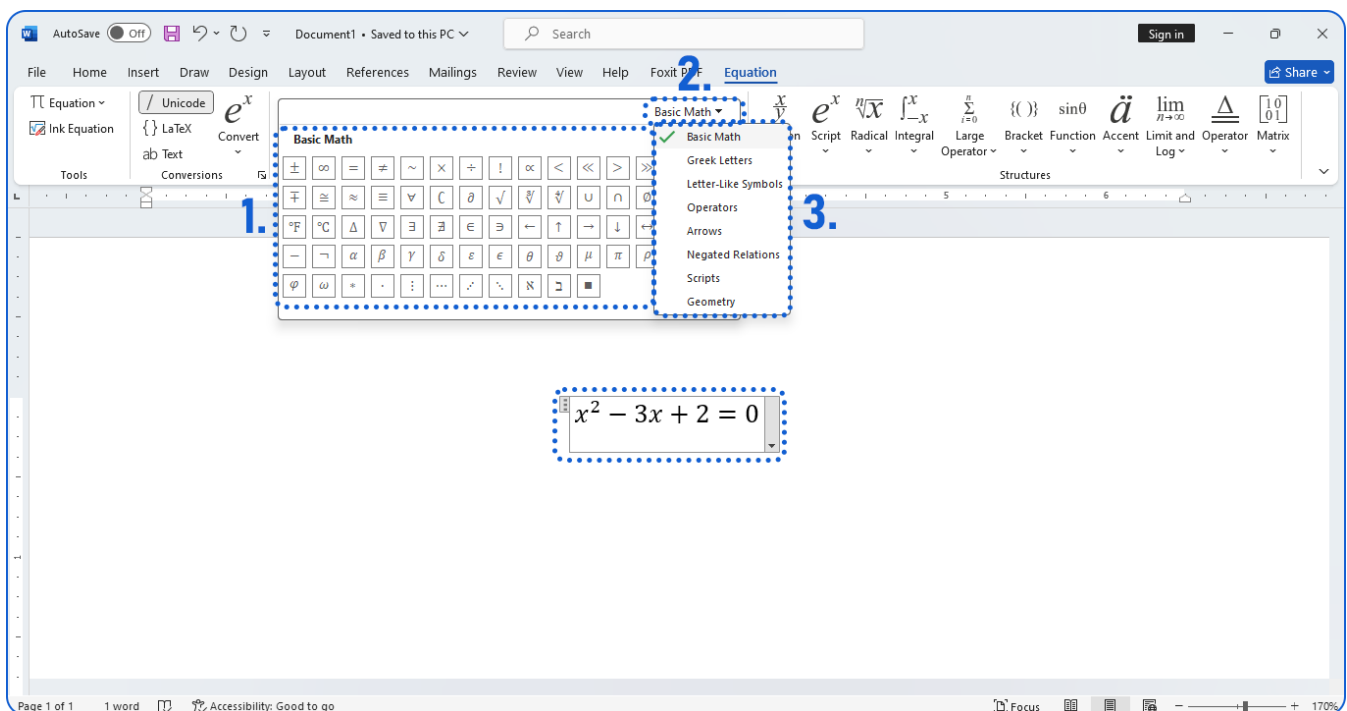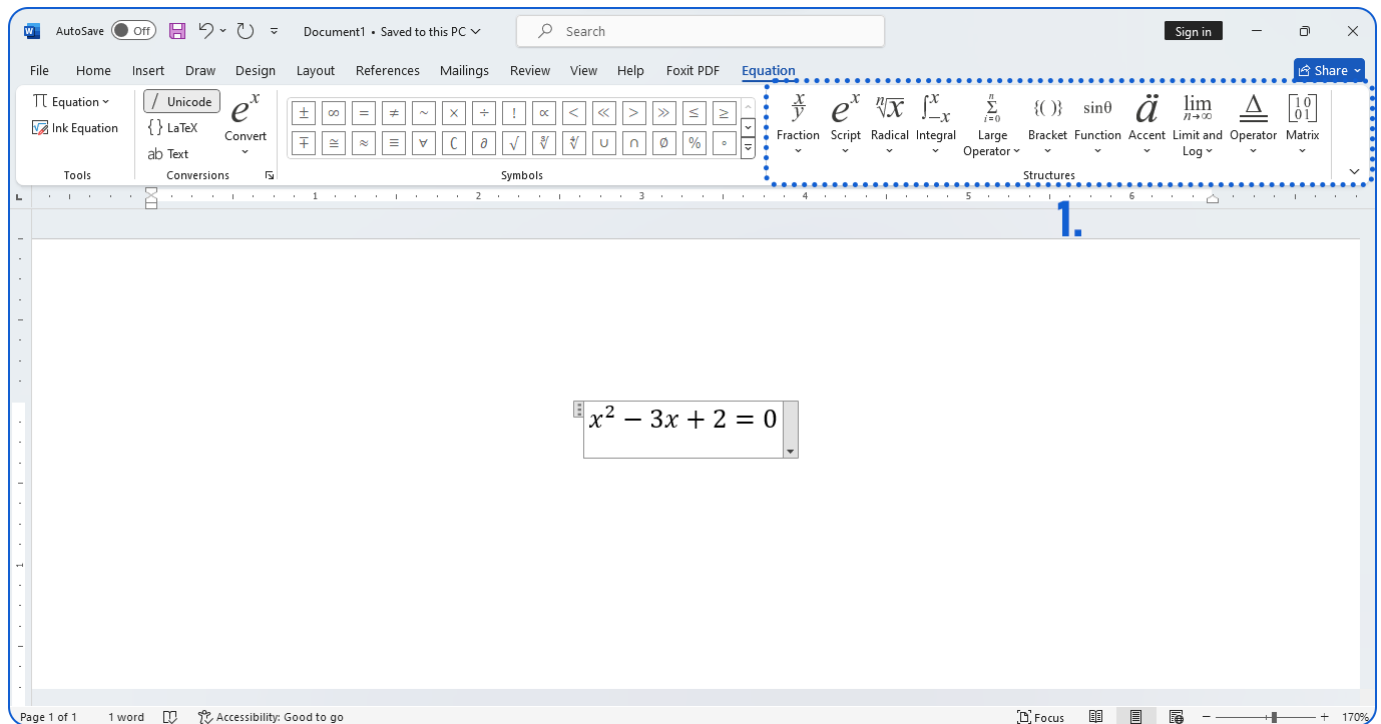
6. Inserting Images and Shapes

1. Click on the **Insert** Tab.
2. In the **Illustration** section, you have different options like inserting an image, inserting shaped and other options.

7.Inserting Bullets and Numbering
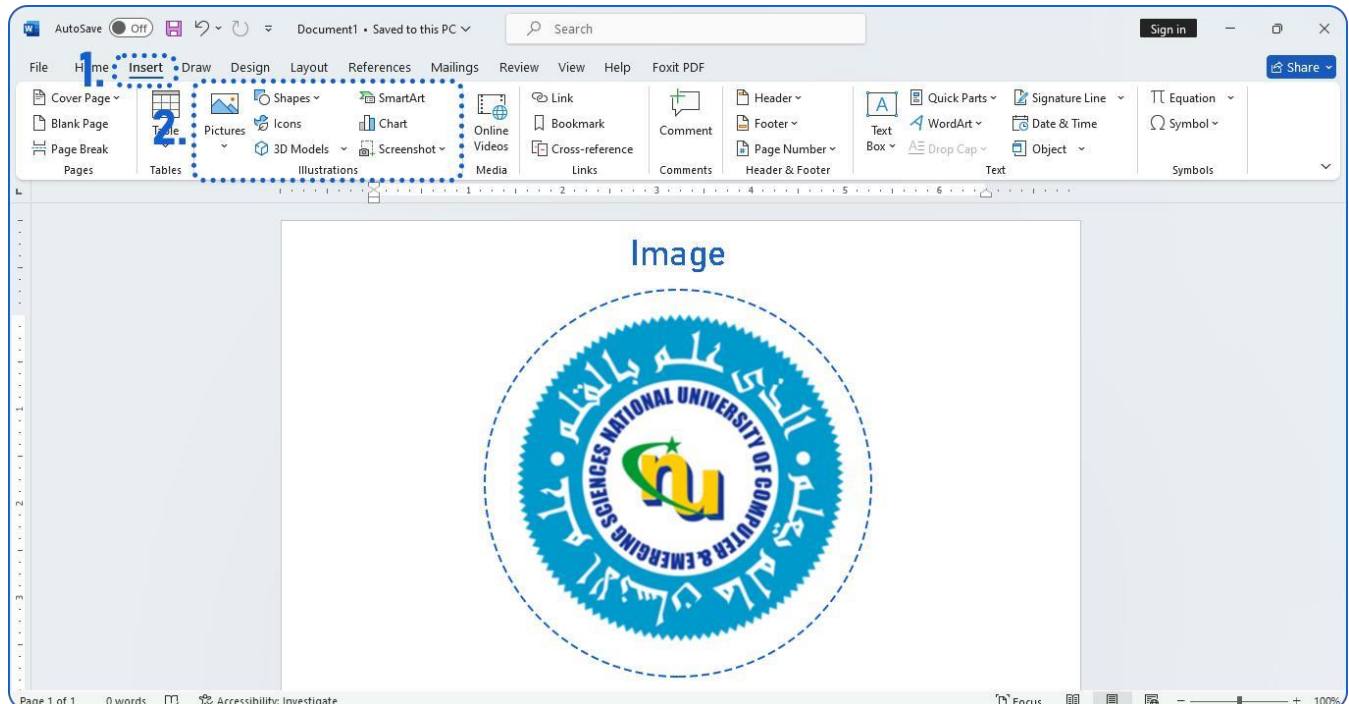
1. Select your text on which you want to apply bullets and numbering.
2. Click on the **Home tab**.
3. In the **Paragraph** section, click on the **bullet** icon to apply bullets on the select text.
4. Similarly, click on the **numbering** icon to apply number on your text.
5. You can also create intended bullets and numbering.
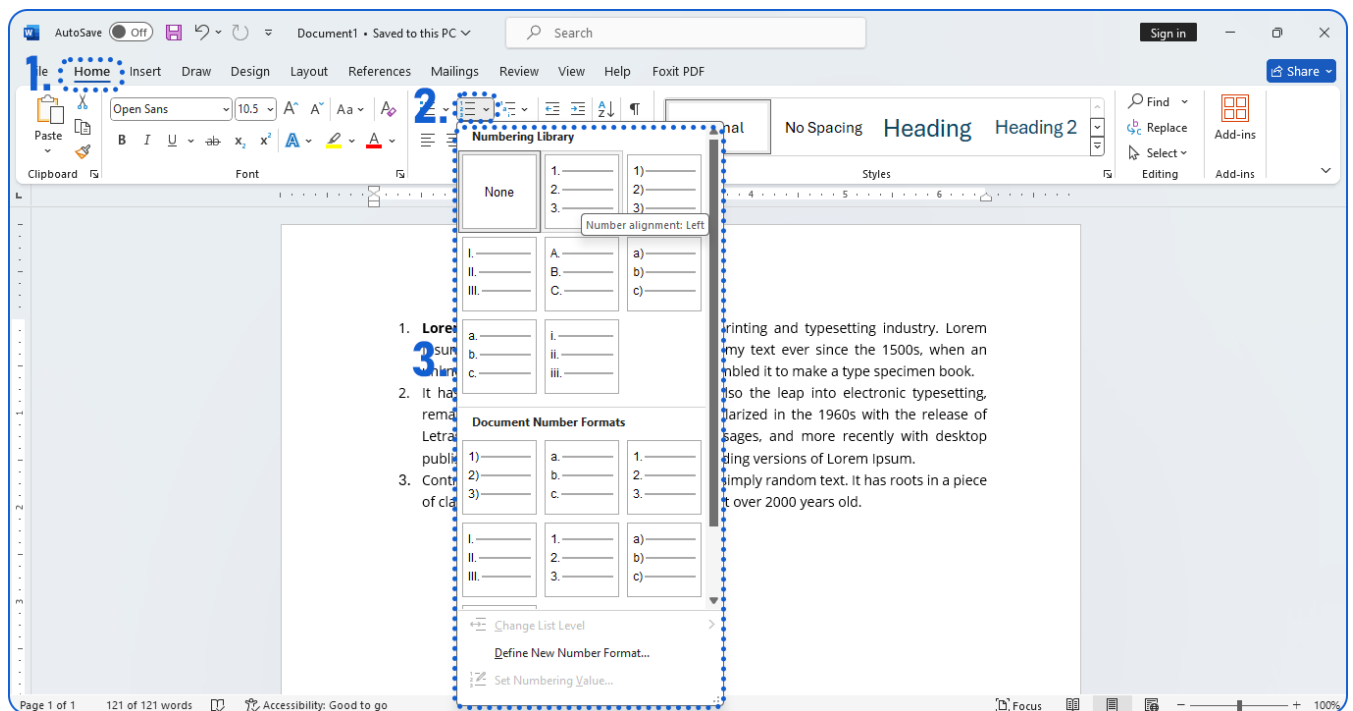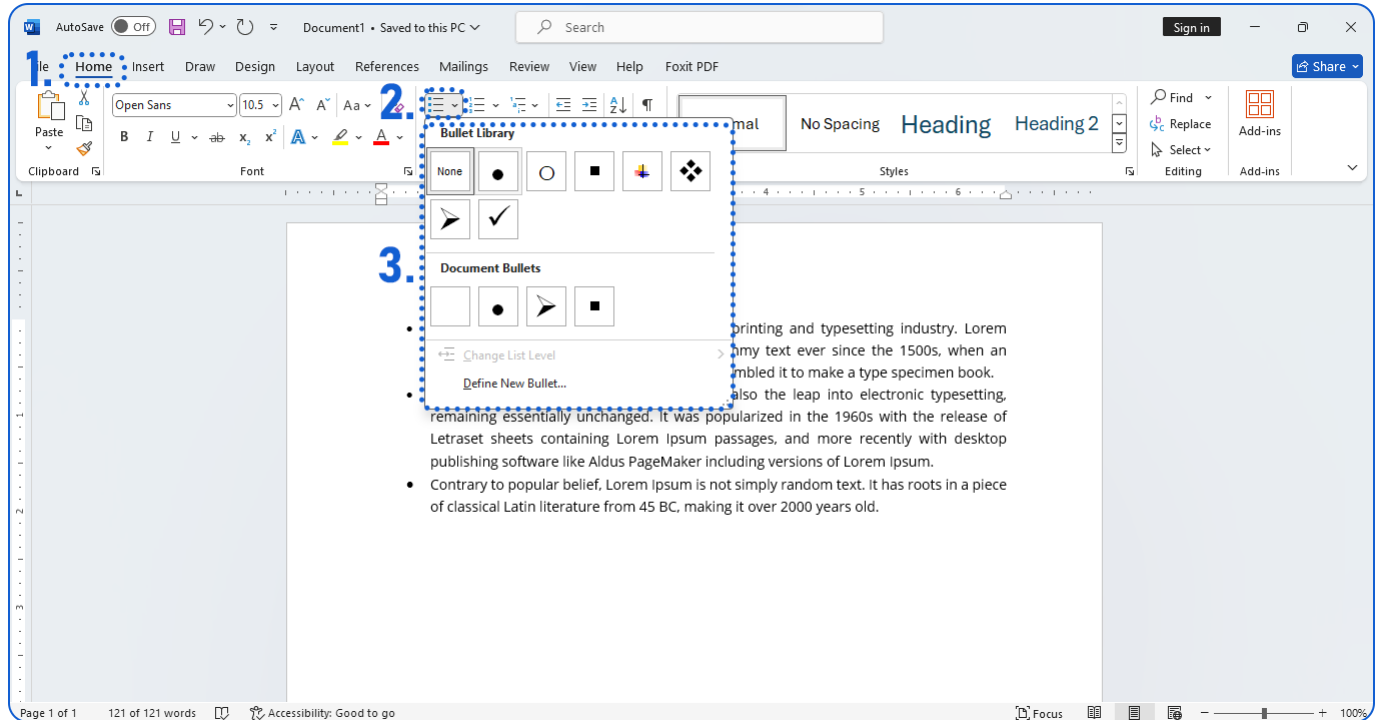
8. Introduction to Formulas in MS Excel

Excel uses standard operators for formulas: a plus sign for addition **(+)**, minus sign for subtraction **(-)**, asterisk for multiplication **(*)**, forward slash for division **(/)**, and caret **(^)** for exponents
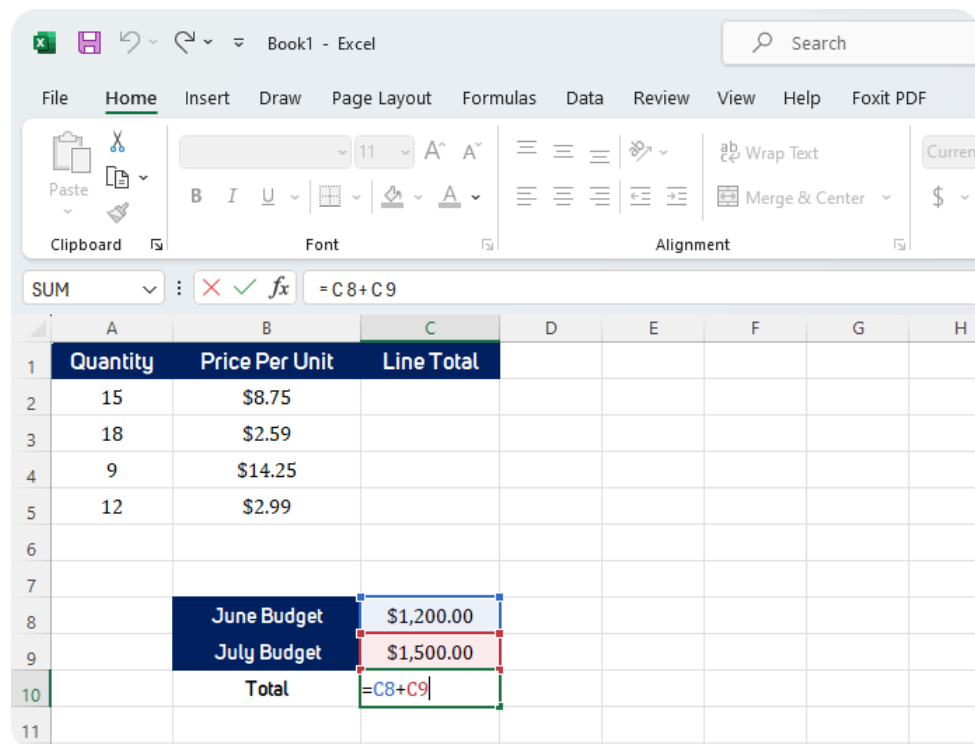
Operation	Operator/Symbol		Formula	Description
Addition	+		=A1 + A2	Adds cells A1 & A2
Subtraction	−		=C4-3	Subtracts 3 from cell C4
Multiplication	*		E7/J4	Divides cell E7 by J4
Division	/		=N10*1.05	Multiplies cell N10 by 1.05
Exponents	^		R5^2	Finds the square of cell R5

9. Create Formula

1. Select the cell that will contain the formula. In our example, we'll select cell **C10**.
2. Type the equals sign (**=**). Select cell addresses you want to add. Type the mathematical operator you want to use. In our example, we'll type the addition sign (**+**).

10. Functions

In order to work correctly, a function must be written a specific way, which is called the syntax. The basic syntax for a function is the equals sign (**=**), the function name (SUM, for example), and one or more arguments. Arguments contain the information you want to calculate. The function in the example below would add the values of the cell range **A1:A20**.

10.1 Creating a Function

There are a variety of functions available in Excel. Here are some of the most common functions you'll use:

SUM: This function adds all of the values of the cells in the argument.

AVERAGE: This function determines the average of the values included in the argument. It calculates the sum of the cells and then divides that value by the number of cells in the argument.

COUNT: This function counts the number of cells with numerical data in the argument. This function is useful for quickly counting items in a cell range.

MAX: This function determines the highest cell value included in the argument.

MIN: This function determines the lowest cell value included in the argument.
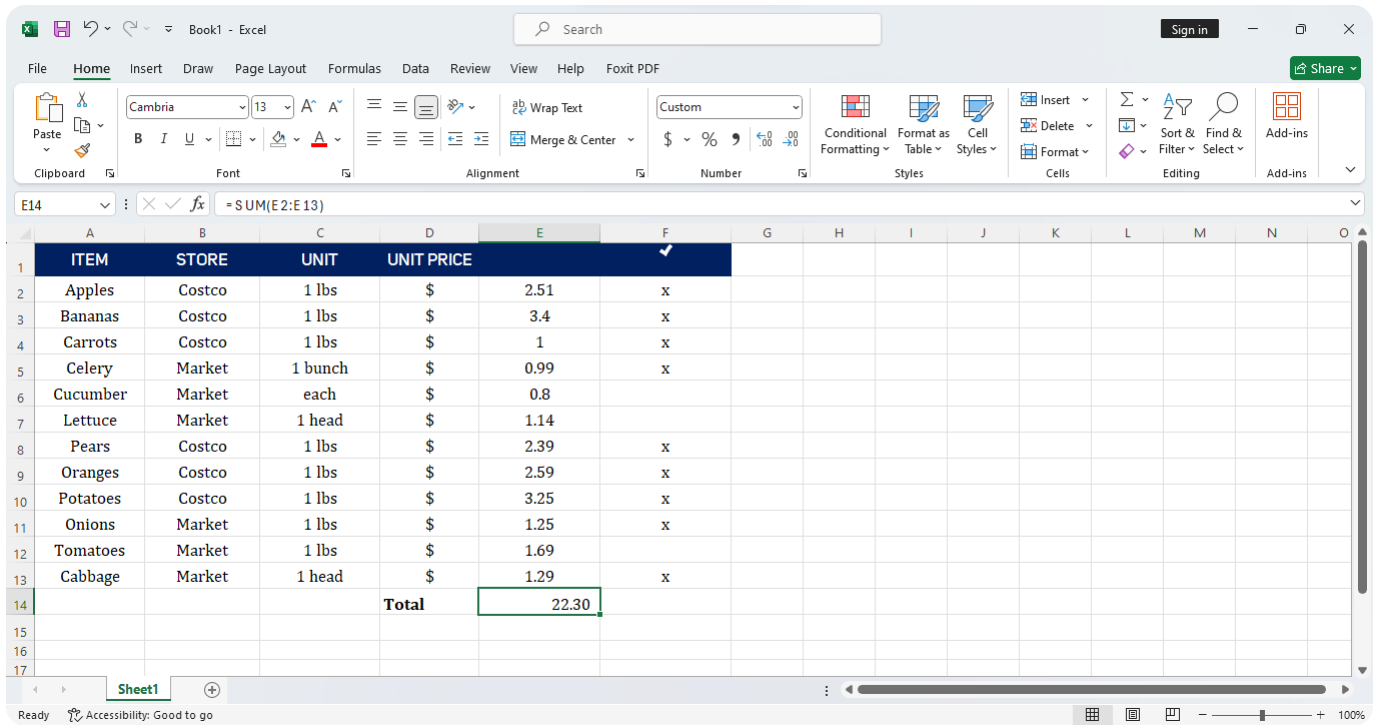
10.1 Creating a Function using the AutoSum Option

There are a variety of functions available in Excel. Here are some of the most common functions you'll use:

1. Click on the **Home** tab.
2. Select the cell that is below the numeric values you want to sum.
3. In the **Editing** group under the **Home** tab, click on the **summation** icon and then click on **Sum**.
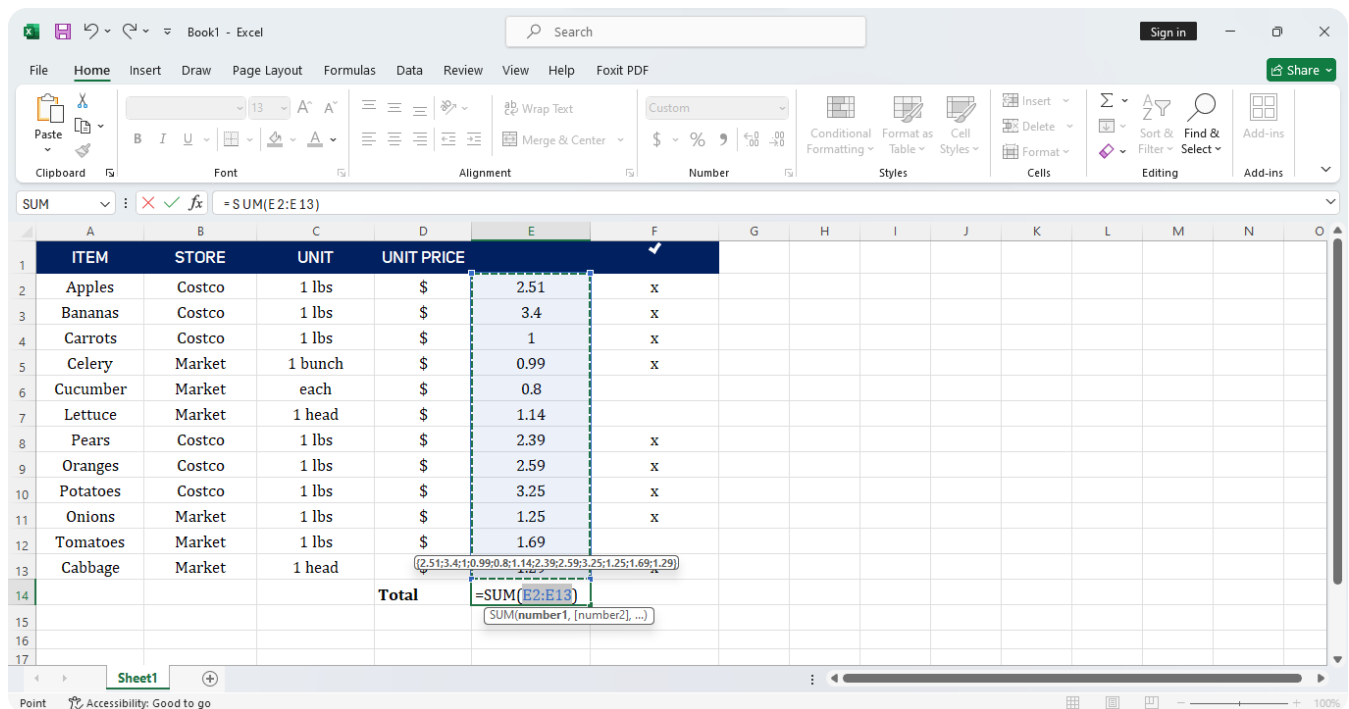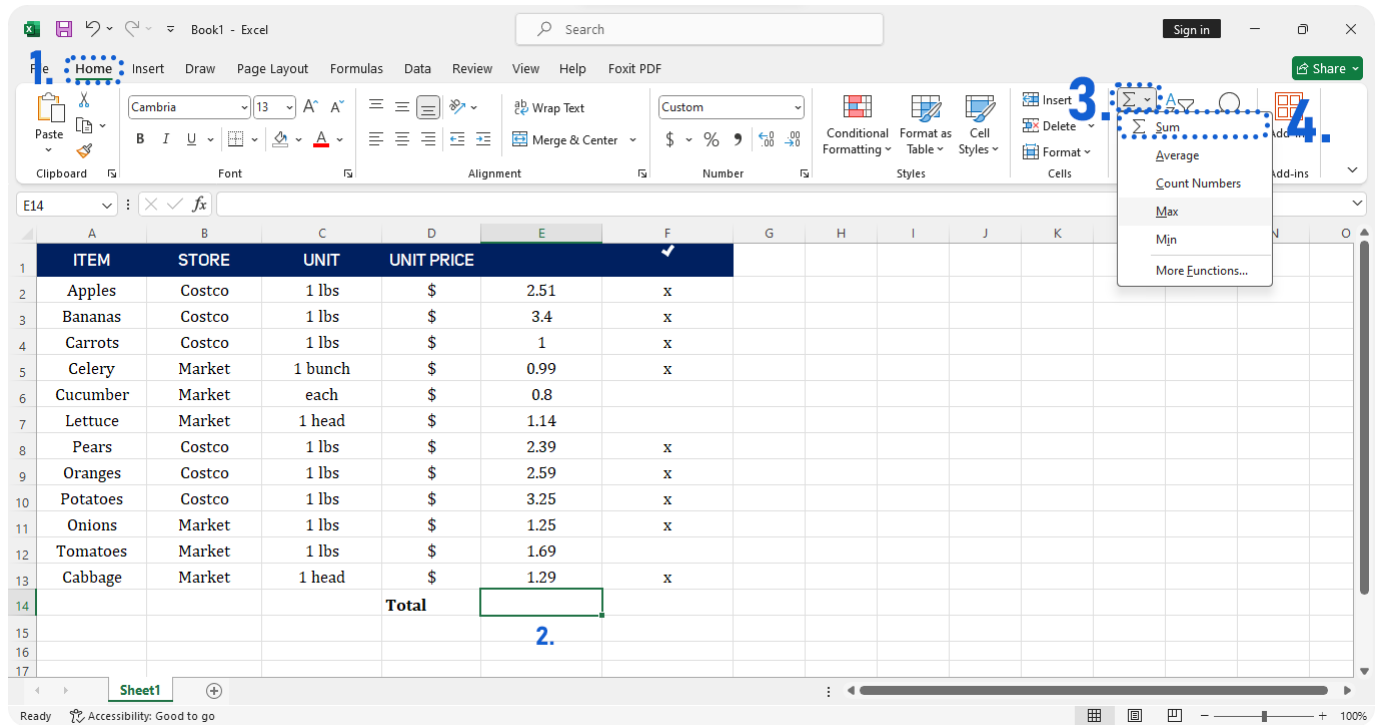
4. Press **Enter.**

Note: The AutoSum option can also be access under the Formulas tab.

10.2   Inserting a Function from the Function Library

1. Click on the **Home** tab.
2. Click on the cell you want to apply the function. In our case it is **E14.**
3. In the **Function Library** section, click on **More Functions**. A drop-down menu will appear.
4. Click on **Statistical.** Now click on **COUNTA**. (This function will count the non-empty cells.)
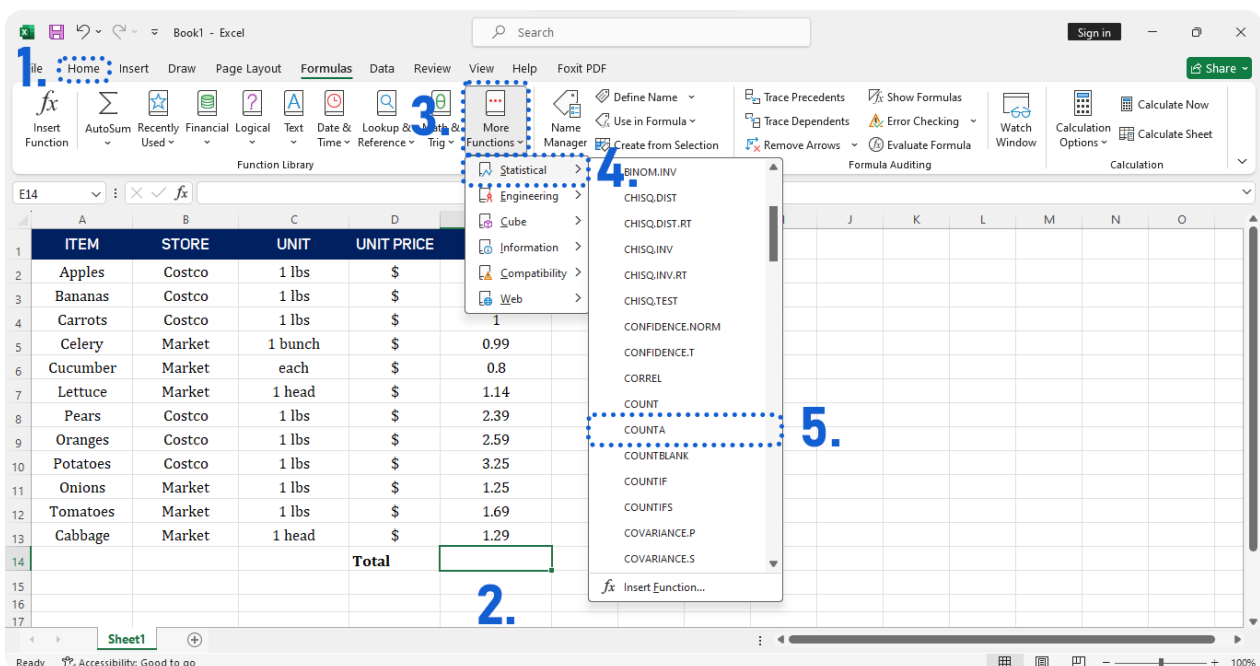
5. The **Function Arguments** window will appear. The range will automatically be selected.
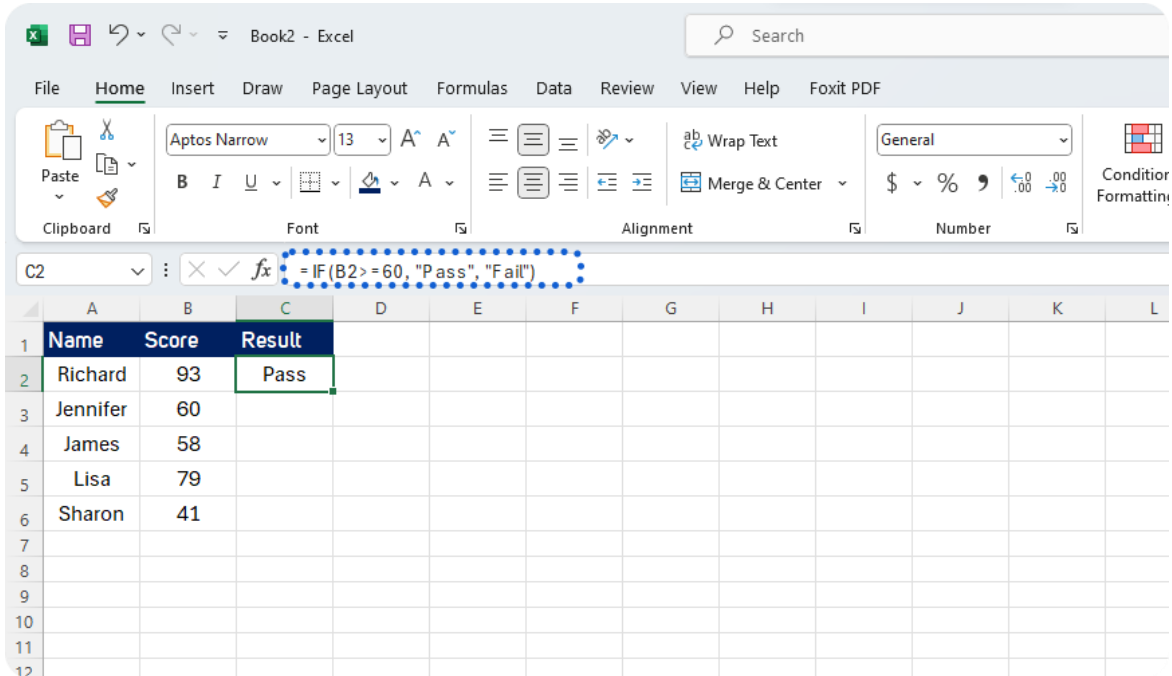6. Click on **OK**.
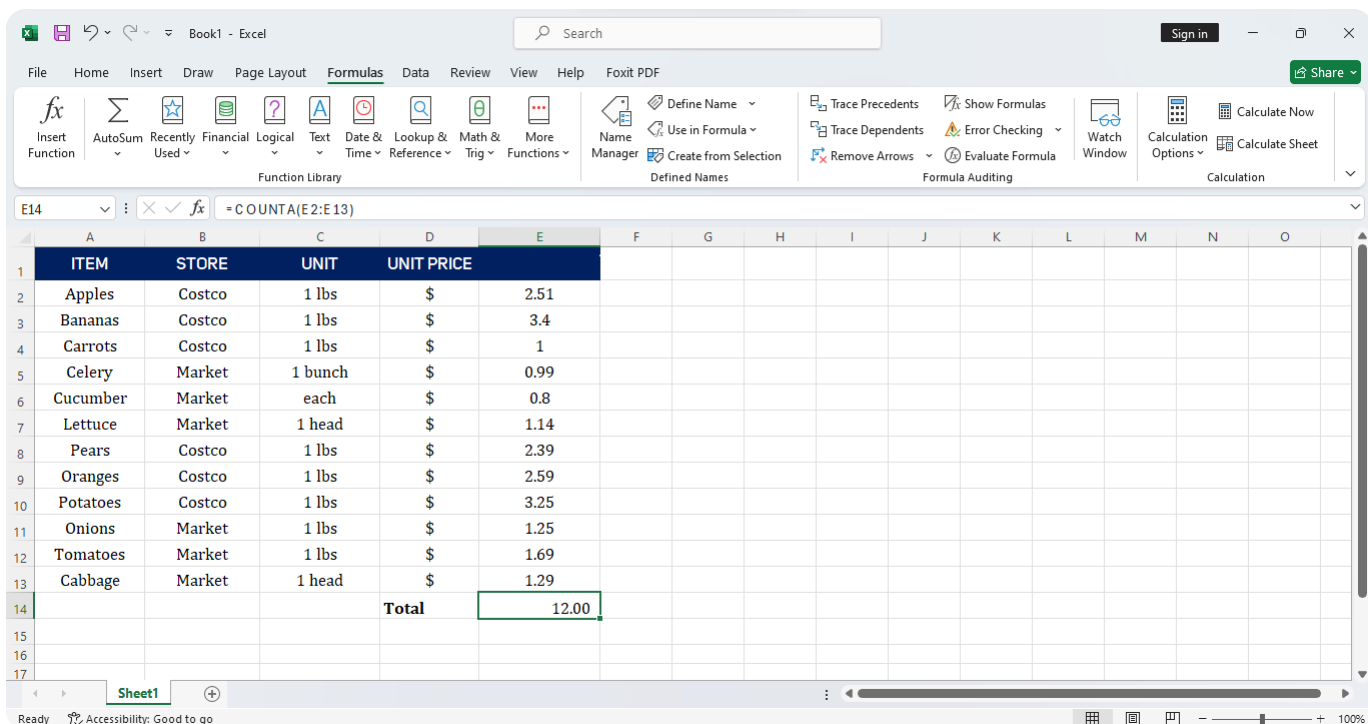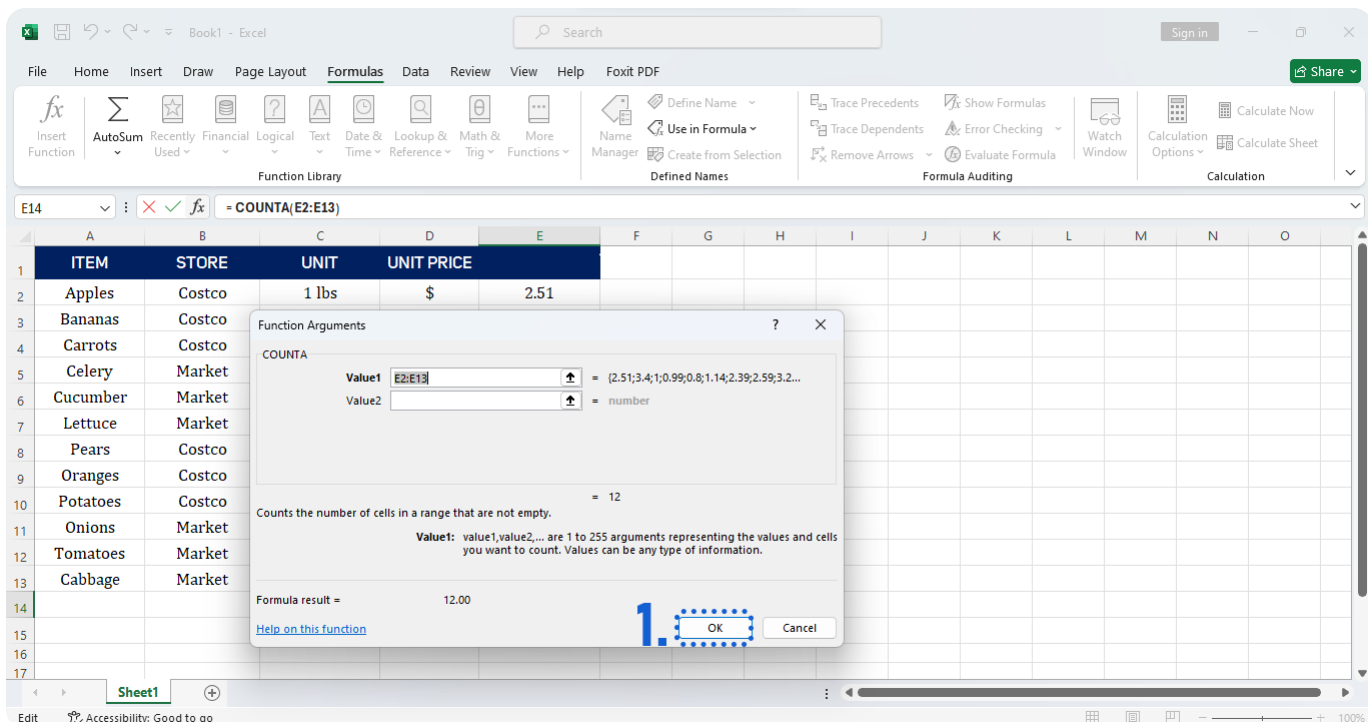
Hence, the items added to the cart are **12**.
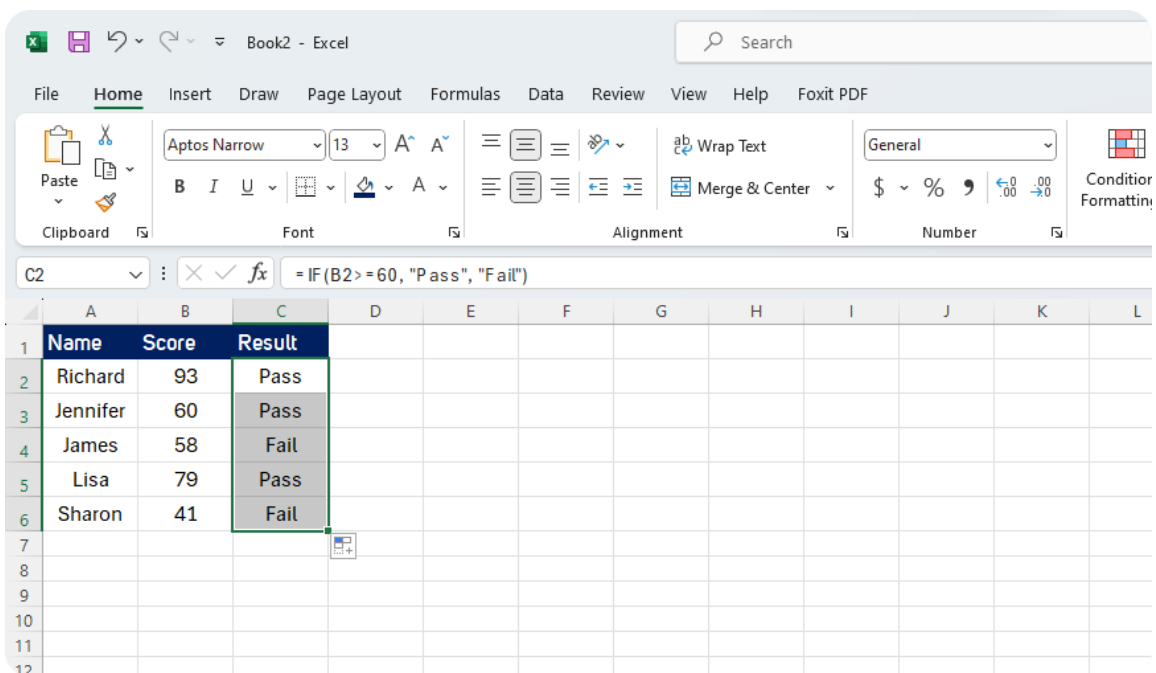
11. Logical Functions

11.1 IF

The **IF** function checks whether a condition is met, and returns one value if true and another value if false.

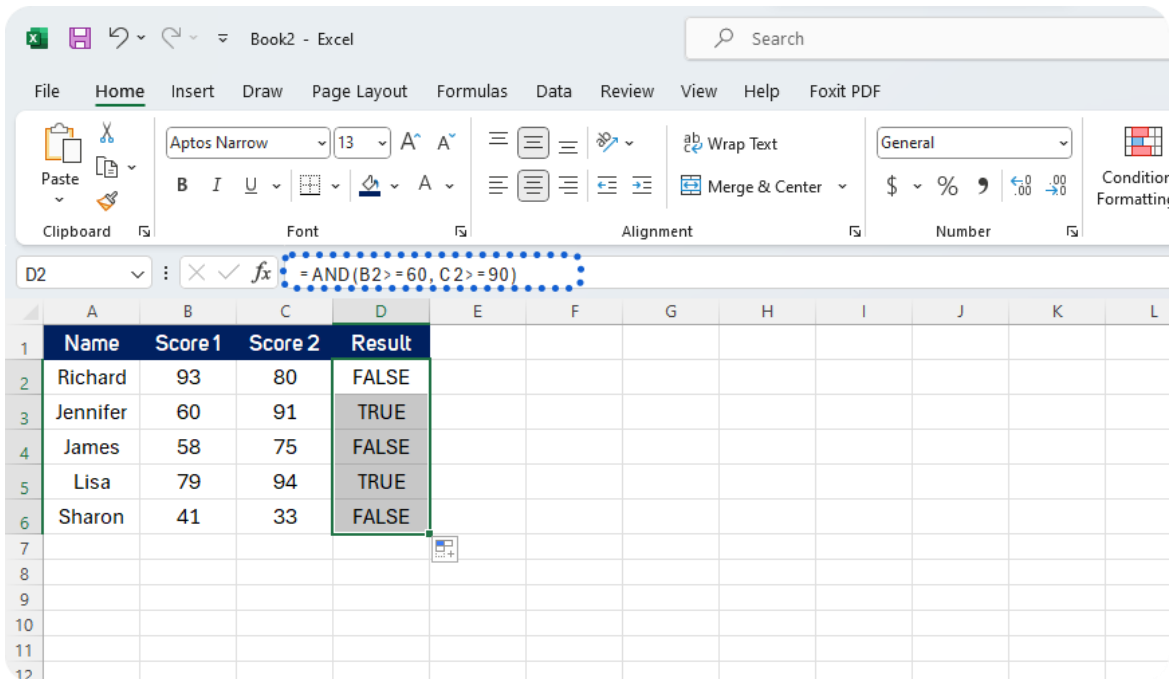For example, take a look at the **IF** function in cell **C2** below:

Now, drag the handle (the **+** sign at the bottom-right corner of the selected cell) to all the cells to apply the same formula to other values of **Score**.

11.2 AND

The **AND** Function returns **TRUE** if all conditions are true and returns **FALSE** if any of the conditions are false.
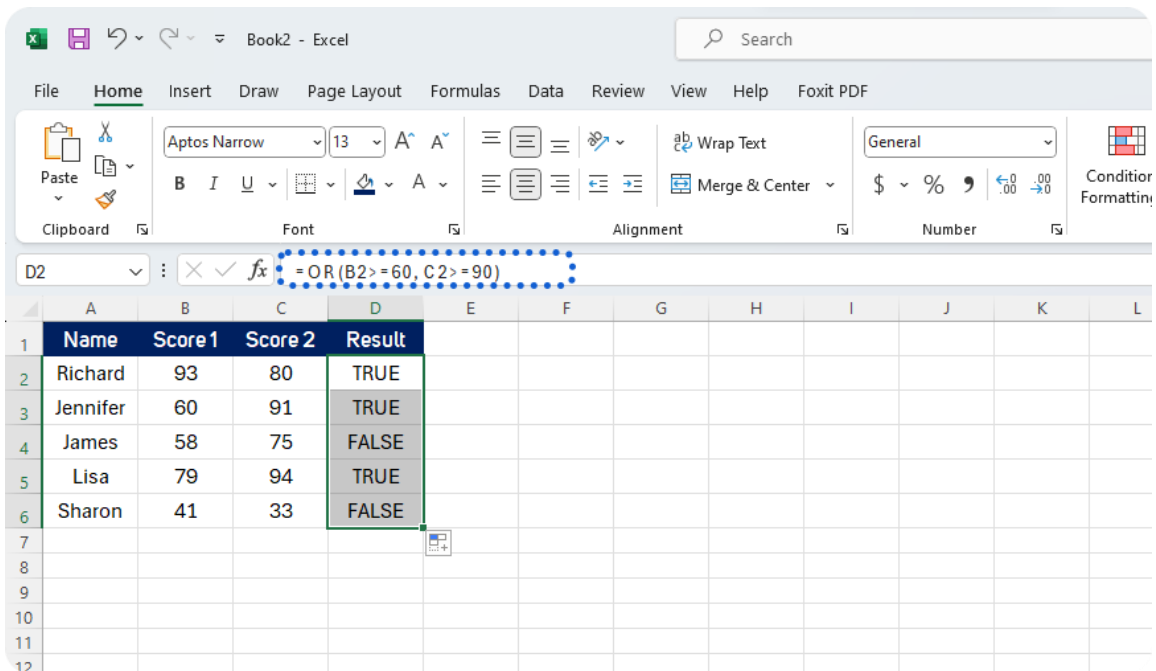

11.3 OR

The **OR** function returns **TRUE** if any of the conditions are **TRUE** and returns **FALSE** if all conditions are false.

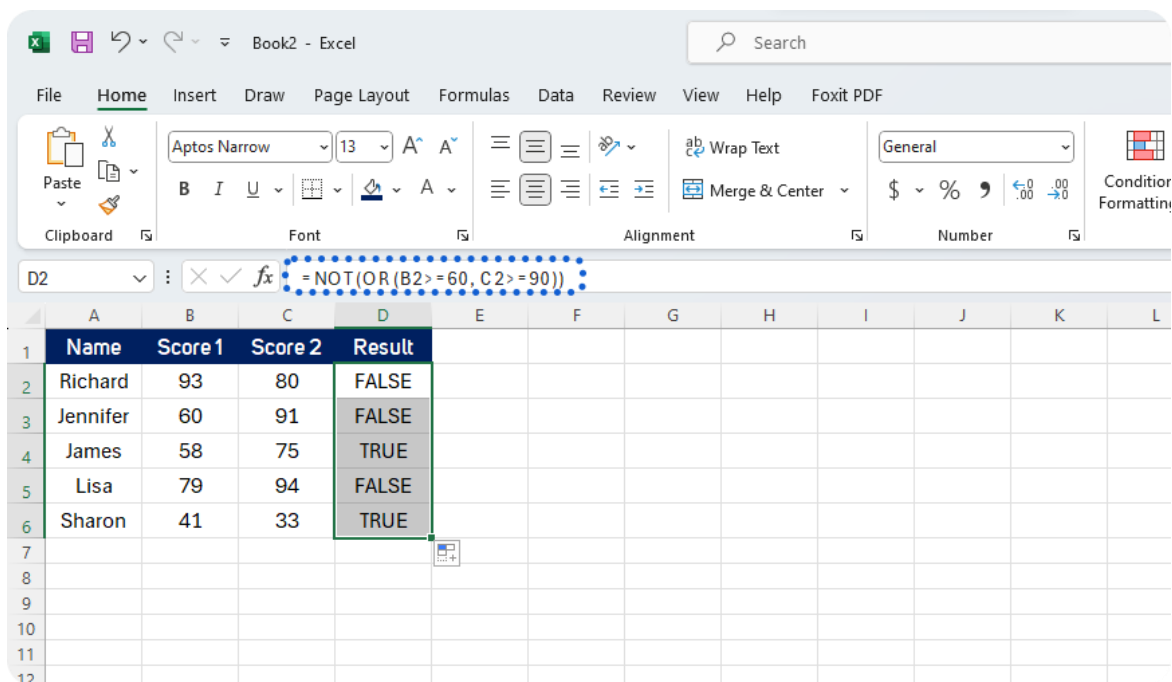## 11.4   NOT

The **NOT** function changes **TRUE** to **FALSE**, and **FALSE** to **TRUE**.

12. Freeze Rows

You may want to see certain rows or columns all the time in your worksheet, especially header cells. By freezing rows or columns in place, you'll be able to scroll through your content while continuing to view the frozen cells.

1. Click on the **View** tab.
2. To freeze the **first two rows**, (row 1 and 2) select the **3rd row** so that you can scroll all the rows except row 1 and 2.
3. Under the **Window section**, click on **Freeze Panes**.
4. In the drop-down menu, click on **Freeze Panes**.
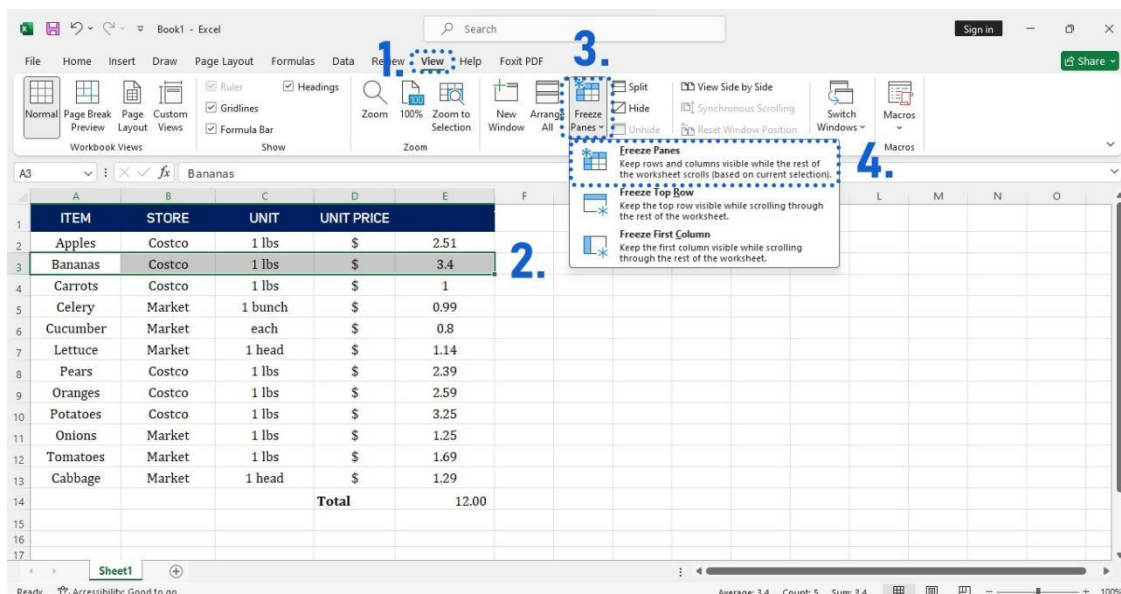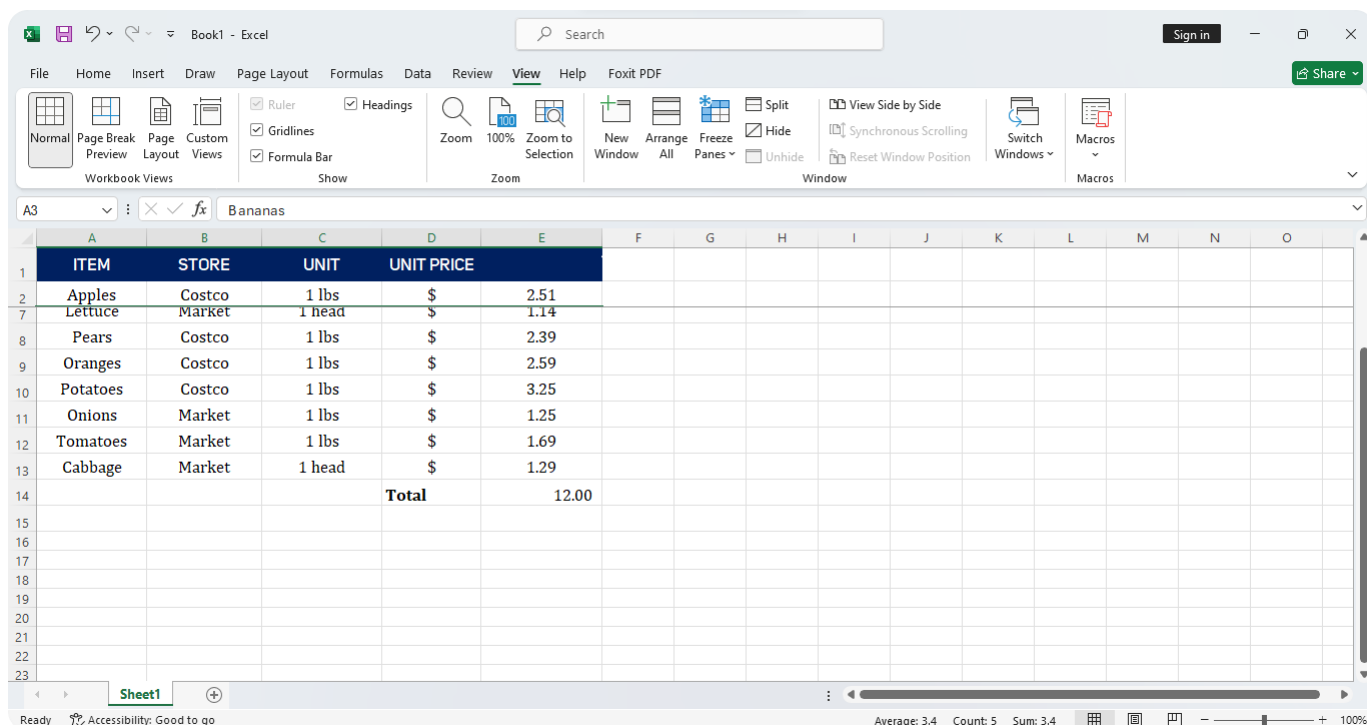
Note: Do the same to freeze the Columns.

Note: To unfreeze panes, simply click on Unfreeze Panes.

13. Sorting a Range

1. Click on the **Home** tab.
2. Select the column to sort.
3. In the **Editing** section, click on **Sort & Filter**.
4. You can sort from **Smallest to Largest**, **Largest to Smallest**, and **Custom Sort** based on your sorting criteria.
5. Select **Largest to Smallest** option to sort the data based on the **Quantity** column.
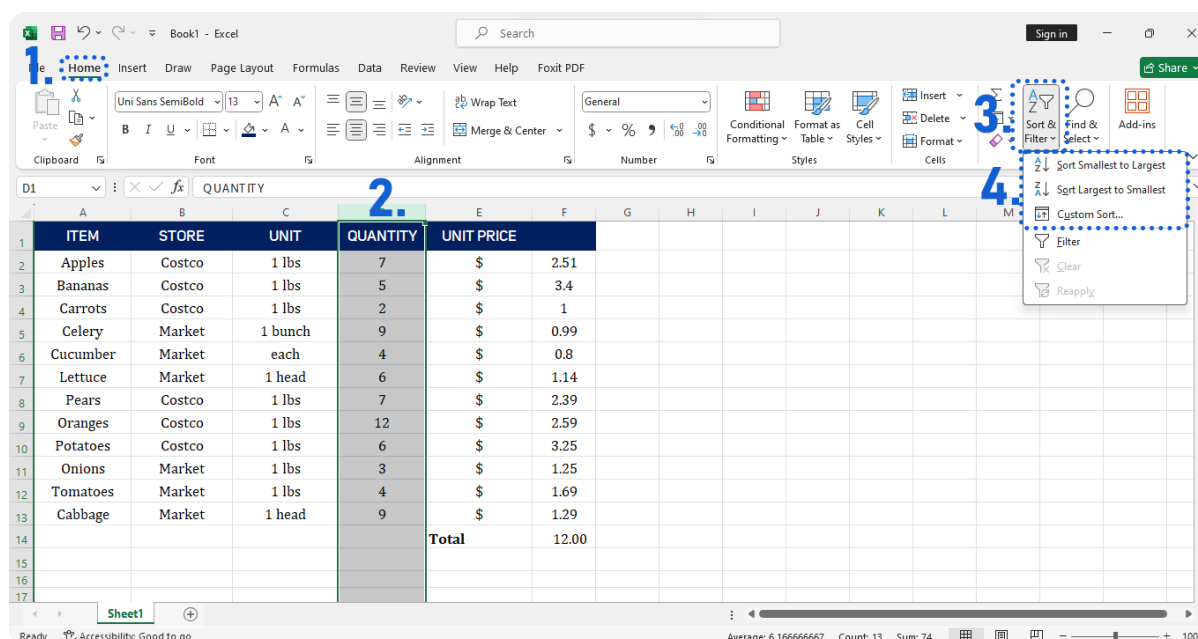
6. After this, the **Sort Warning** window will appear, click on **OK.**

Link: Grocery Data

14. Charts in Excel

1. Click on the **Insert tab**.
2. Select the range(s) of data for which you want to create the chart. In this example, the data to create chart of a **Sine Wave** is used.

Link: **Sine Wave Data**

3. In the **Charts** section, click on the **Scatter Chart** icon.
4. Select the 3rd option to create a smooth line chart.
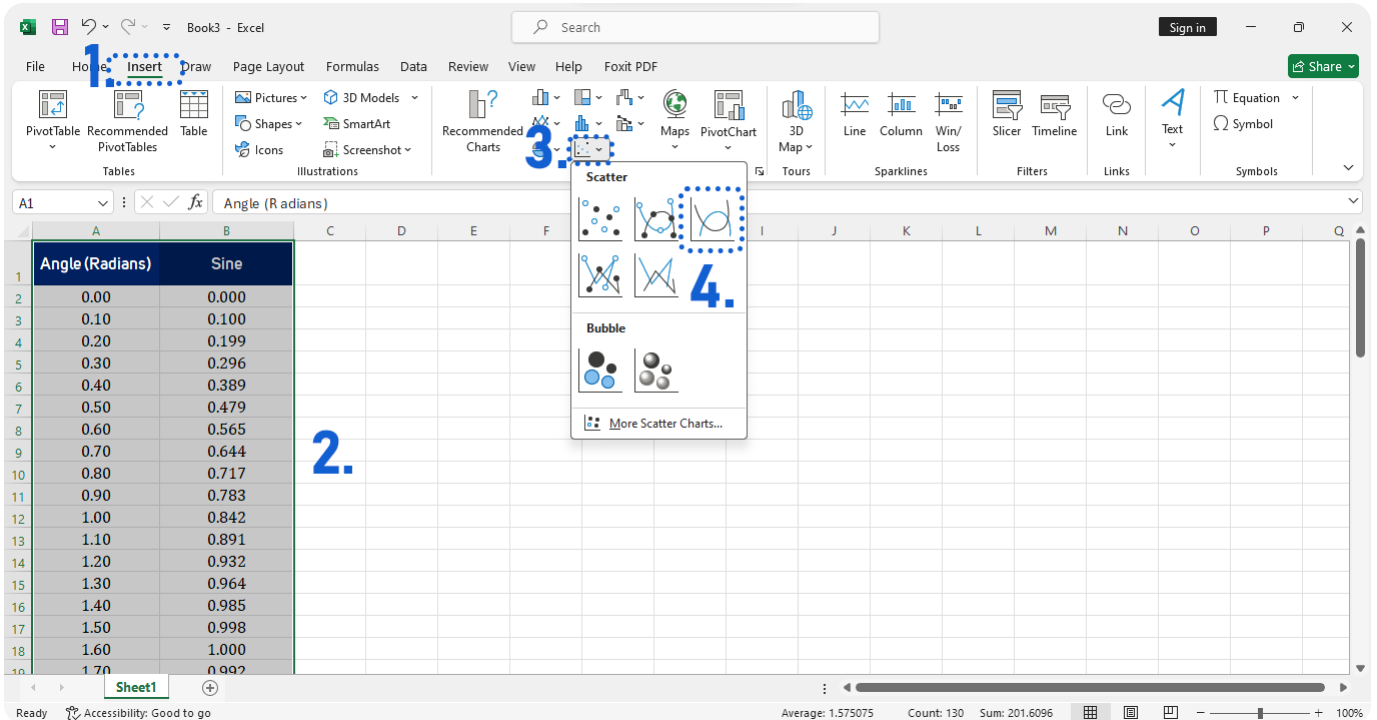
5. You can customize the **chart style**, charts element, chart title and many more.

Lab Activity

MS WORD:-

Question No 1:- Insert and Format image using these instructions:

 a) Insert an image related to a topic of your choice.
 b) Resize the image to a width of 20 inches while maintaining the aspect ratio.
 c) Apply a border around the image using a style of your choice.
 d) Add a caption below the image describing what it represents.
 e) Align the image to the center of the page.

 Question No 2:- Make a table using these instructions:

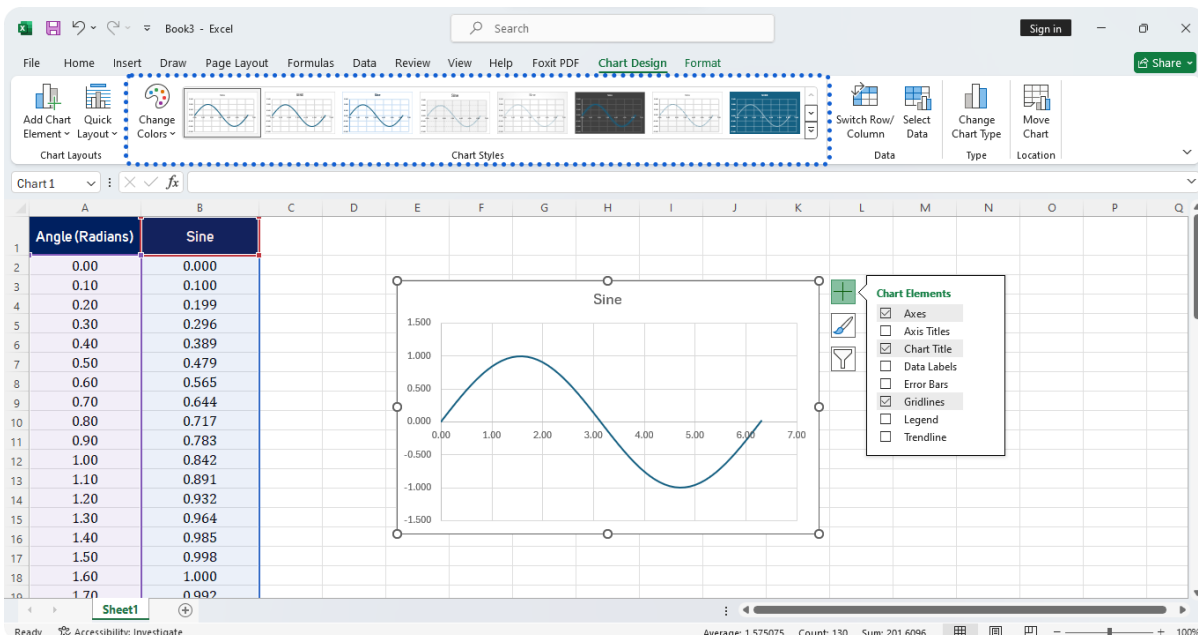**a)** Create a 3x4 table to display the names and ages of three people.
b) Enter the column headings: "Name" and "Age".
c) Fill in the table with sample data for three people.
d) Merge the top row cells to create a table title and type "Participants".
e) Center-align all the text within the table.

Question No 3:- Working with Headers and Footers:

 a) Insert a header at the top of the page with the text "Document Title" aligned to the left.
 b) Add the current date to the header, aligned to the right.
 c) Insert a footer at the bottom of the page with a page number centered.
 d) Change size to of Header text to 12.
 e) Save the document with the name "Header Footer Example".

MS Excel:-

Question No 1:- Table Creation:

a) Create a table with columns for "Item," "Quantity," and "Price."
b) Enter sample data for three items, including their quantity and price.
c) Calculate the total cost for each item by multiplying "Quantity" by "Price." Place this calculation in a new column named "Total Cost."

Question No 2:- If Function:

a) Create a table with columns for "Student Name," "Score," and "Pass/Fail."

b) Enter sample data for three students with their scores.

c) Use the IF function in the "Pass/Fail" column to determine if a student passes or fails based on the score:

       1.If the score is 60 or above, the result should be "Pass."

       2.If the score is below 60, the result should be "Fail."

       3.Formula Example: `=IF(B2 >= 60, "Pass", "Fail")` (Assuming scores are in column).

```
Question No 3:- Basic AND Function
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a) Create a table with columns for "Student Name," "Score 1," and "Score 2."

b) Enter data for three students with their scores.

c) Use the AND function in a new column named "Pass Status" to determine:

d) If both "Score 1" and "Score 2" are greater than 50, display "Pass."

e) Otherwise, display "Fail."

f) Formula Example: =IF(AND(B2 > 50, C2 > 50), "Pass", "Fail") (Assuming scores are in columns B and C).

Question No 4:- Create a Cosine graph in MS Excel.