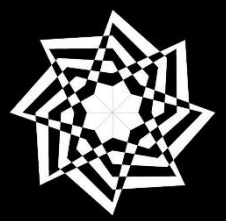


# Unit – 3

## Spreadsheets

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# Spreadsheets

- Spreadsheets are powerful digital tools used for organizing, analyzing, and storing data in tabular form. Applications like **Microsoft Excel**, **Google Sheets**, and **LibreOffice Calc** are commonly used spreadsheet software.
- Mastering spreadsheets is a valuable skill for both personal and professional tasks. Whether managing simple lists or conducting complex data analysis, spreadsheets offer versatile solutions to handle information efficiently.

# Key Features of Spreadsheets

- Cells, Rows, and Columns
  - Cells: Basic unit where data is entered. Each cell is identified by a column letter and row number (e.g., A1, B2).
  - Rows: Horizontal divisions (1, 2, 3...).
  - Columns: Vertical divisions (A, B, C...).

# Common Uses of Spreadsheets

- Accounting & Budgeting
- Inventory Management
- Project Planning
- Data Analysis
- Attendance Tracking
- Reporting and Dashboards

# Best Practices for Spreadsheets

- Keep data organized and consistent.
- Use headings and freeze top rows for easy navigation.
- Avoid unnecessary merging of cells as it can complicate data analysis.
- Regularly backup your spreadsheets.
- Document complex formulas using comments for clarity.

# What is a Spreadsheet?

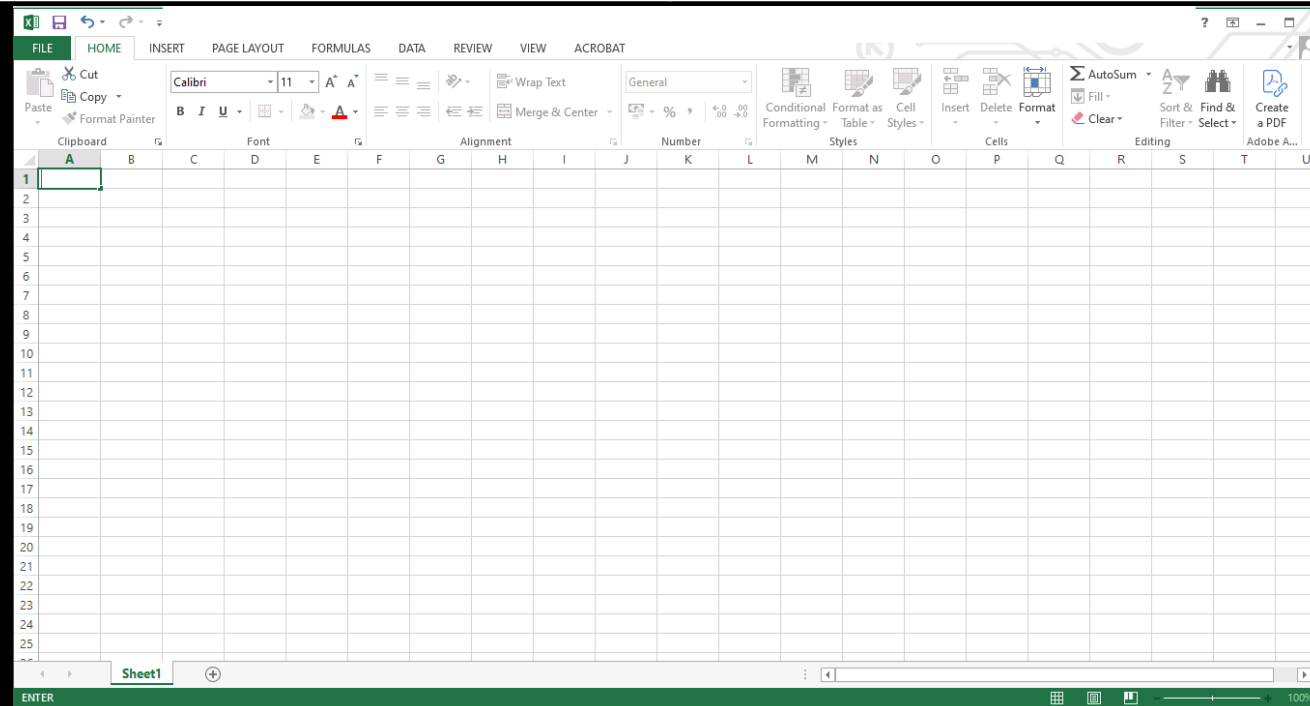
- A spreadsheet is a digital sheet that organizes and stores data in rows and columns. Each individual box where you can enter data is called a cell.
- Spreadsheets are used for calculations, data analysis, and record-keeping.
- They help users manage large amounts of data efficiently.
- Examples of Spreadsheet Software:
  - Microsoft Excel
  - Google Sheets
  - LibreOffice Calc
  - Apple Numbers

# What is a Workbook?

- A workbook is a file that contains one or more spreadsheets (also called worksheets).
- Think of a workbook as a notebook, and each spreadsheet inside it as a page in that notebook.
- In Excel, when we save a file (like Sales.xlsx), we're actually saving a workbook that may contain multiple sheets.

# Difference Between Workbook and Spreadsheet

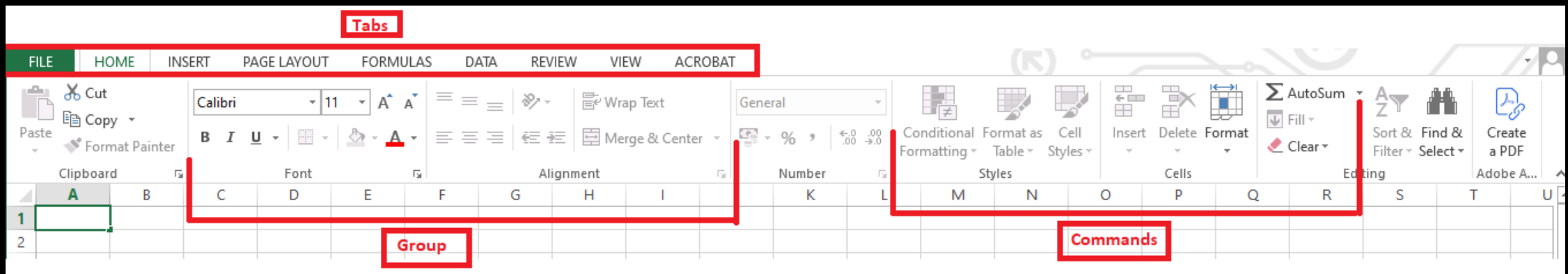
Workbook	Spreadsheet (Worksheet)
A complete file.	A single page inside the workbook.
Can contain multiple sheets.	Contains rows, columns, and cells for data.
Saved as .xlsx or similar file.	Not saved separately – it's part of a workbook.





# Ribbon

- Makes Excel easier to navigate.
- Groups related commands for quicker access.
- Provides visual access to almost all features in Excel.
- Reduces the need to memorize commands.
- The **Ribbon in Excel** is like a big organized menu on top of our screen that helps to find and use Excel's features easily.



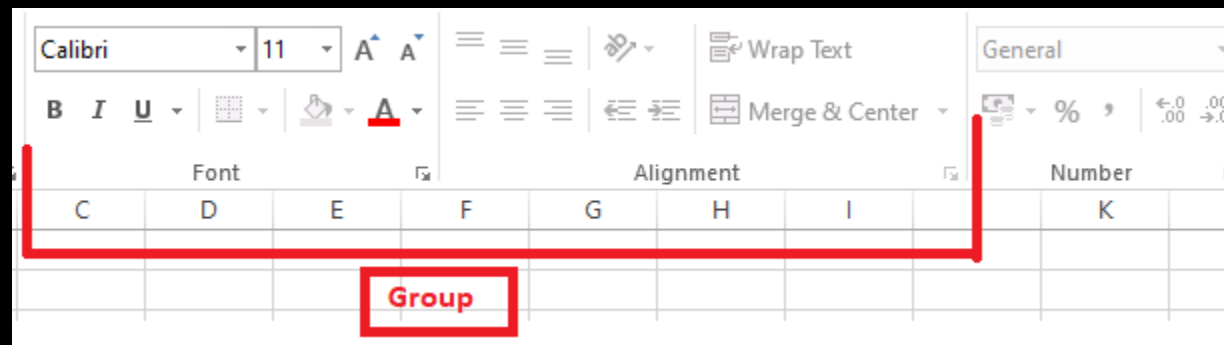
# Tabs

- The Ribbon is divided into several tabs, each representing a group of related commands:
  - Home (common tasks like copy, paste, formatting)
  - Insert (charts, tables, images)
  - Page Layout (margins, orientation, themes)
  - Formulas (functions, named ranges)
  - Data (sorting, filtering, data tools)
  - Review (comments, spell check, protection)
  - View (zoom, gridlines, window options)



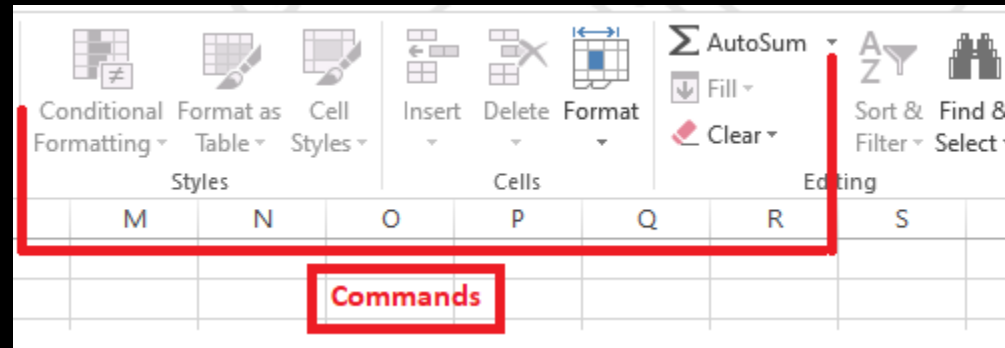
# Groups

- Within each tab, commands are organized into groups.
- Example: In the Home tab, the groups include:
  - Clipboard (cut, copy, paste)
  - Font (text formatting)
  - Alignment (text positioning)
  - Number (number formatting)
  - Styles (cell styles, conditional formatting)

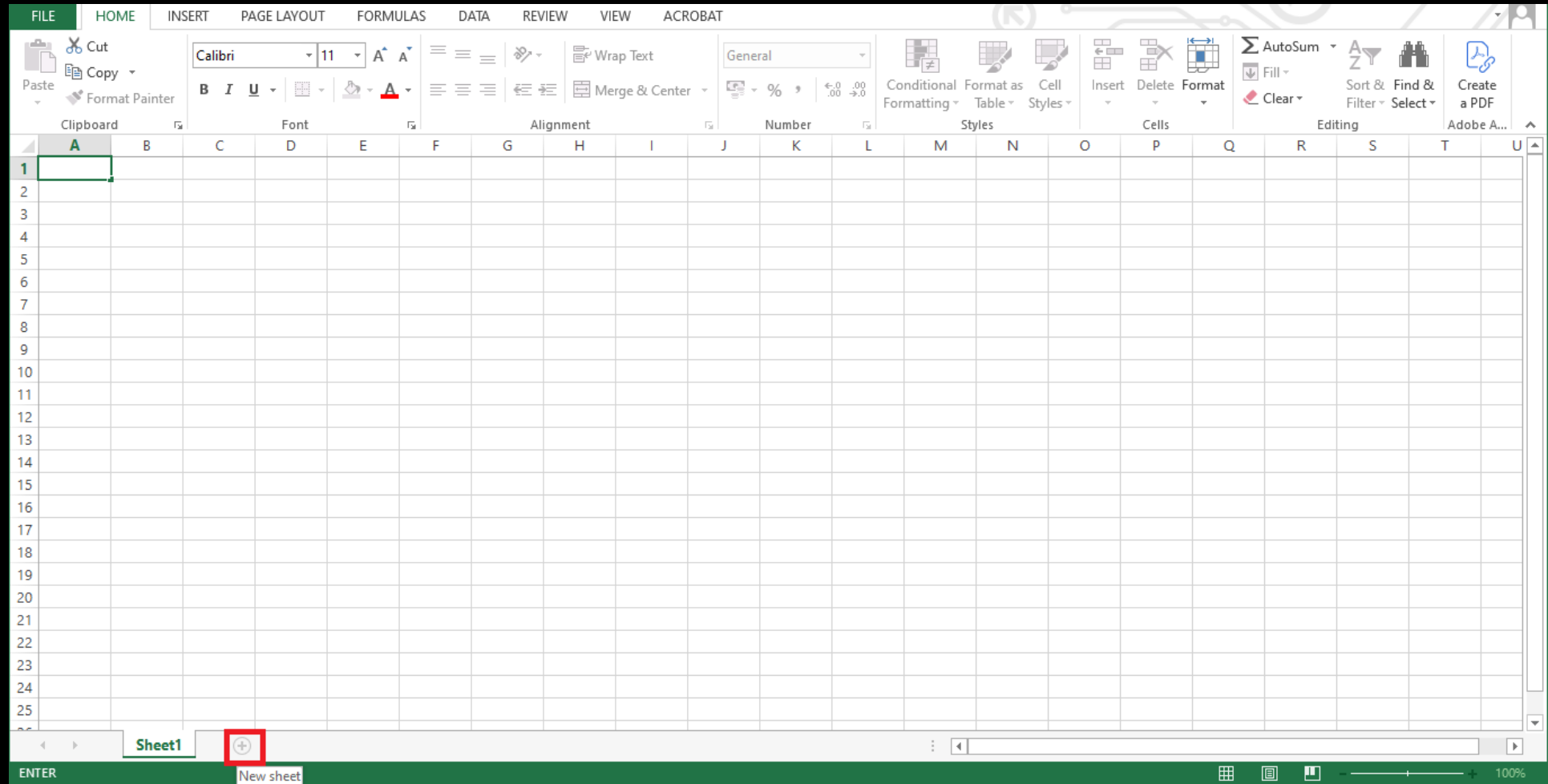


# Command Buttons

- Each group contains command buttons. Clicking a button performs a task (e.g., bold text, insert a chart, sum a column).



# Create worksheet entering sample data

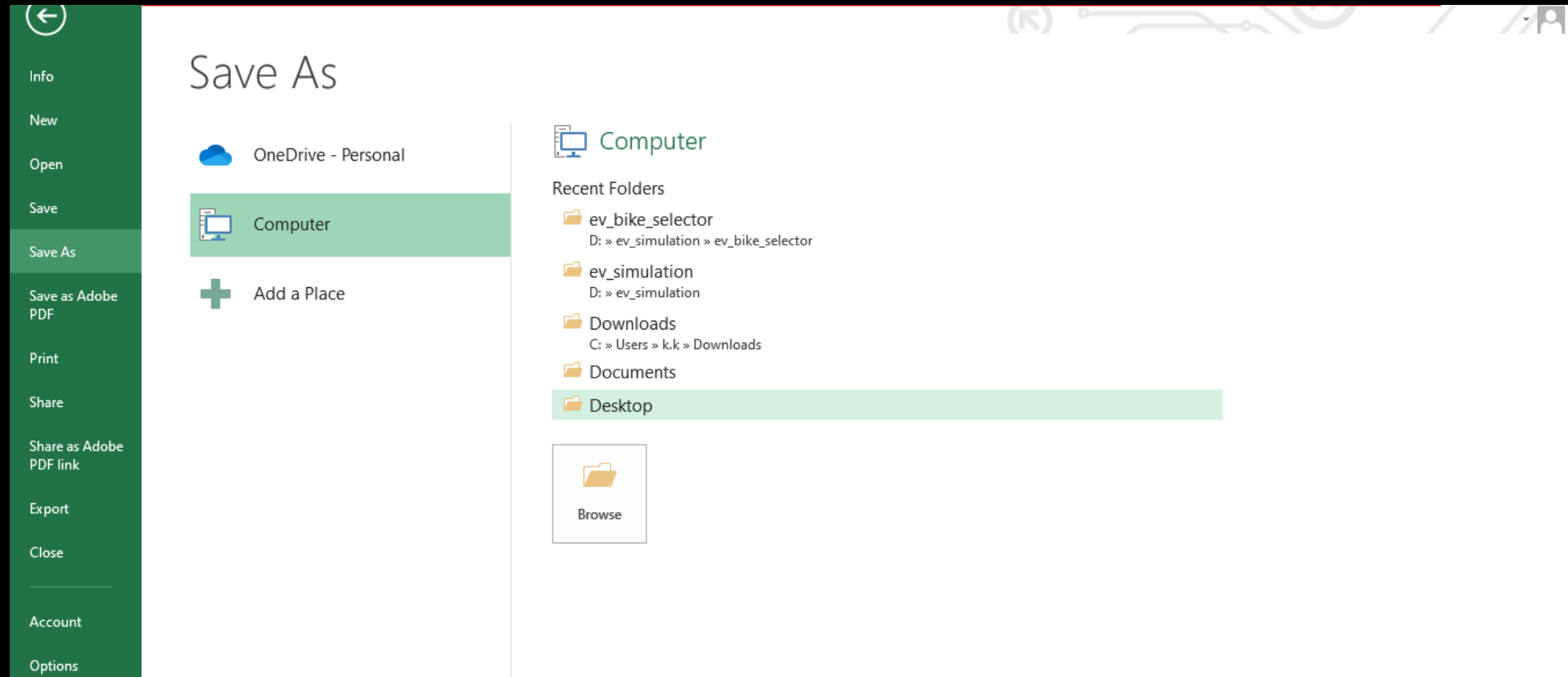
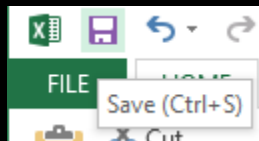


# How to Create a Worksheet and Enter Sample Data in Few Simple Steps

- Step 1: Open Excel or Google Sheets
  - Excel: Open Microsoft Excel from our computer.
  - Google Sheets: Go to [sheets.google.com](https://sheets.google.com) and click Blank to start.
- Step 2: Create a New Worksheet
  - A new worksheet is automatically created when you open Excel or Google Sheets.
  - To add another worksheet:
  - Click the “+” button near the sheet tabs at the bottom.
- Step 3: Enter data in cells
- Step 4: Save our Workbook
  - Excel:
    - Go to File > Save As > Choose location and name our file.
  - Google Sheets:
    - Changes are saved automatically to your Google Drive.

	A	B
1	Roll No.	Student Name
2	A01	
3	A02	
4	A03	
5	A04	
6	A05	

# How to Save a Worksheet



# How to Save a Worksheet

- 1. Click on File Menu
  - Top-left corner of Excel window.
- 2. Select Save or Save As
  - Save – Saves changes to the current file.
  - Save As – Saves a new copy of the file (choose folder, name, and format).
- 3. Choose a Location
  - Select your computer drive, a folder, or OneDrive (for cloud saving).
- 4. Enter File Name
  - Example: SalesData.xlsx.
- 5. Click Save
- Shortcut:
  - Press Ctrl + S anytime to save quickly.

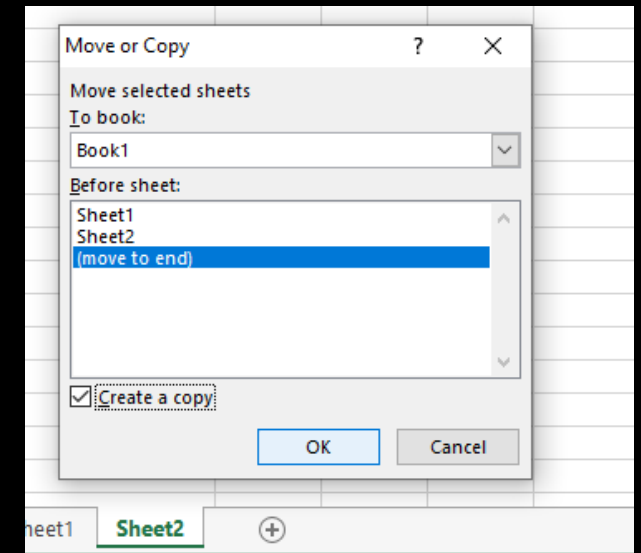
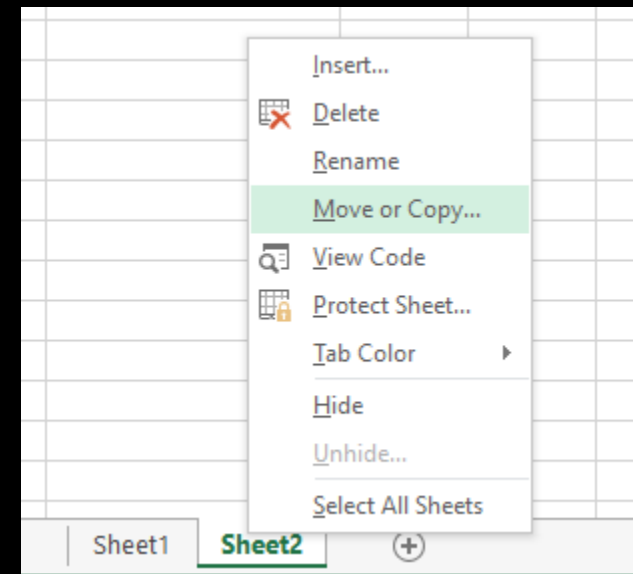


# How to Save New Changes in Worksheet

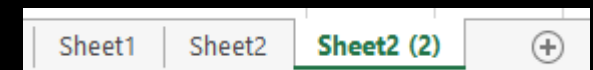
Software	Shortcut to Save Changes
Microsoft Excel	Press <b>Ctrl + S</b>
Google Sheets	Automatically saved (No action needed).

# How to Copy a Worksheet

- 1. Right-click the sheet tab (at the bottom) of the worksheet you want to copy.
- 2. Select Move or Copy.
- 3. In the dialog box:
  - Choose the location (before which sheet).
  - Tick the checkbox Create a copy.
- 4. Click OK.



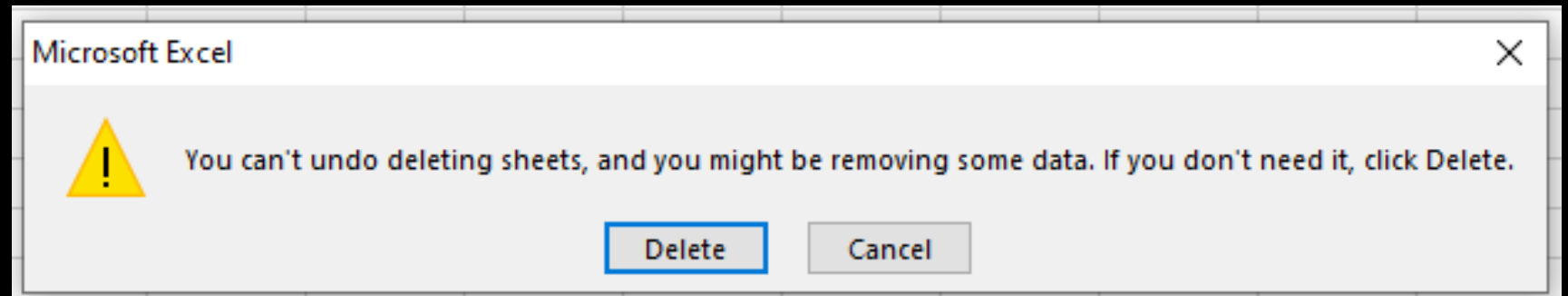
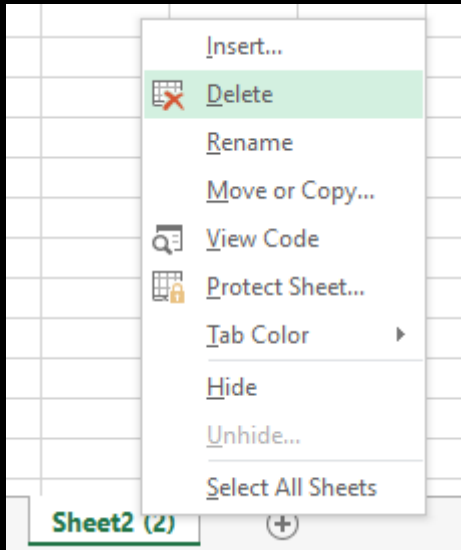
- A duplicate of your worksheet will appear with a name like Sheet1 (2).



# How to Delete a Worksheet

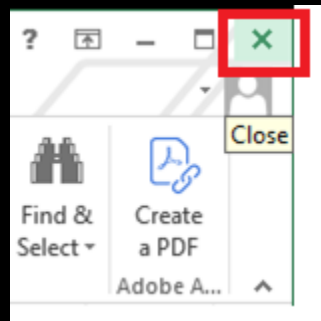
- Right-click the sheet tab (bottom of Excel window) of the worksheet you want to delete.
- Click Delete.
- Confirm if prompted (in older Excel versions).
- Warning: Deleted worksheets cannot be undone once saved, so be careful.

# How to Delete a Worksheet



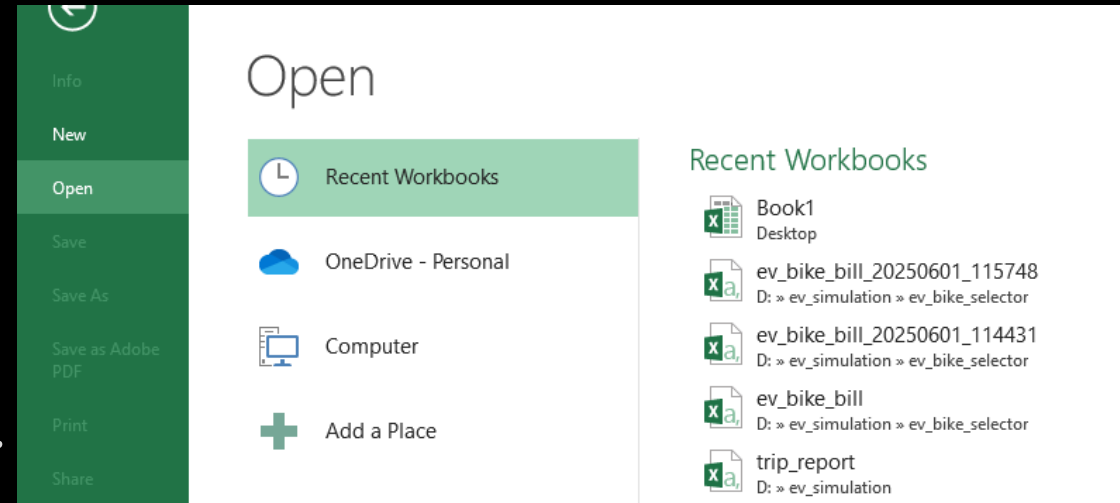
# How to Close a Workbook

- Click on File (top-left).
- Select Close, or click Exit to close Excel completely.
- Shortcut:
  - Press Ctrl + W to close the current workbook quickly.
- ⚠ If you have unsaved changes, Excel will prompt you to save before closing.



# How to Open a Workbook

- To Open a Workbook:
  - Open Excel.
  - Click File > Open.
  - Browse to the folder where your file is saved.
  - Select the file (e.g., SalesData.xlsx) and click Open.
- 
- Shortcut:
    - Press Ctrl + O to open the file dialog directly.



# How to Edit a Worksheet

- Editing a worksheet means changing its content, structure, or formatting.
- 1. Enter or Change Data
  - Click any cell (e.g., A1).
  - Type or edit the text or numbers.
  - Press Enter to confirm the change.
- 2. Modify Existing Data
  - Double-click on a cell to directly edit inside it.
  - OR
- 3. Click once and edit in the Formula Bar (above the sheet).
  - Insert or Delete Rows and Columns
  - Right-click on a row number or column letter.
  - Choose Insert or Delete as needed.

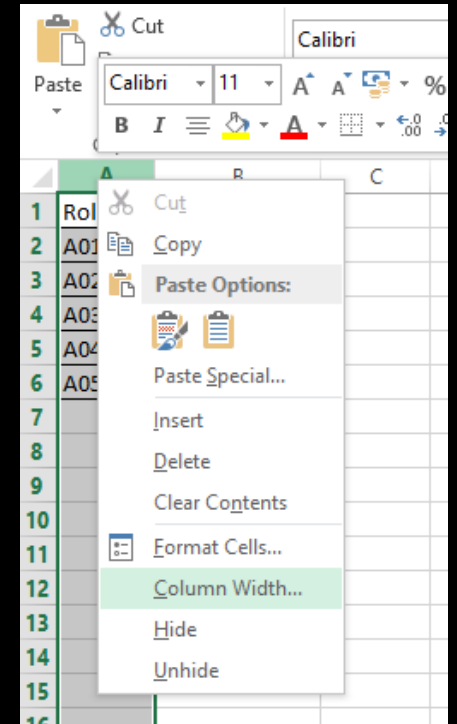
# How to Edit a Worksheet

- 4. Format Cells
  - Select cells or entire rows/columns.
  - Go to the Home tab (in Excel) and choose:
    - Font size, color, bold, italic
    - Borders
    - Background color
    - Number formatting (currency, percentage, etc.)
- 5. Rename Worksheet
  - Right-click the sheet tab (bottom of screen).
  - Select Rename and type the new name.
- 6. Move or Copy Data
  - Select data → Press Ctrl + C (Copy) or Ctrl + X (Cut).
  - Select new location → Press Ctrl + V (Paste).



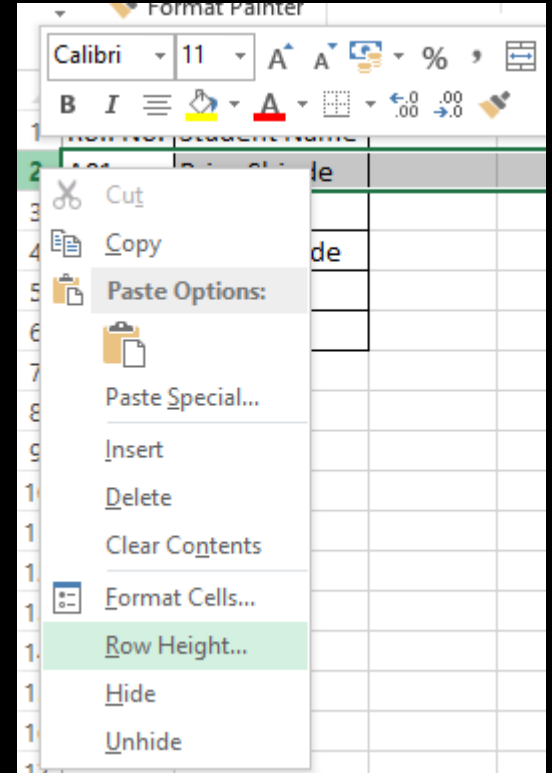
# How to Adjust Row Height and Column Width

- Adjust Column Width
  - Method 1: Manual Adjustment
    - Move your mouse to the column letter header (e.g., between columns A and B).
    - When the cursor changes to a double-sided arrow ( $\leftrightarrow$ ), click and drag to set the desired width.
  - Method 2: AutoFit (Excel only)
    - Double-click the boundary between two column headers.
    - Excel will automatically adjust the width to fit the longest content in that column.
  - Method 3: Specify Exact Width
    - Right-click the column letter.
    - Select Column Width.
    - Enter a specific number (e.g., 15, 25) and click OK.



# Adjust Row Height

- Method 1: Manual Adjustment
  - Move your mouse to the row number on the left side.
  - When the cursor changes to a double-sided arrow (↕), click and drag to adjust the height.
- Method 2: AutoFit Row Height (Excel only)
  - Double-click the boundary between two row numbers.
  - Row height adjusts automatically based on cell content.
- Method 3: Specify Exact Height
  - Right-click the row number.
  - Select Row Height.
  - Enter a number (e.g., 20) and click OK.

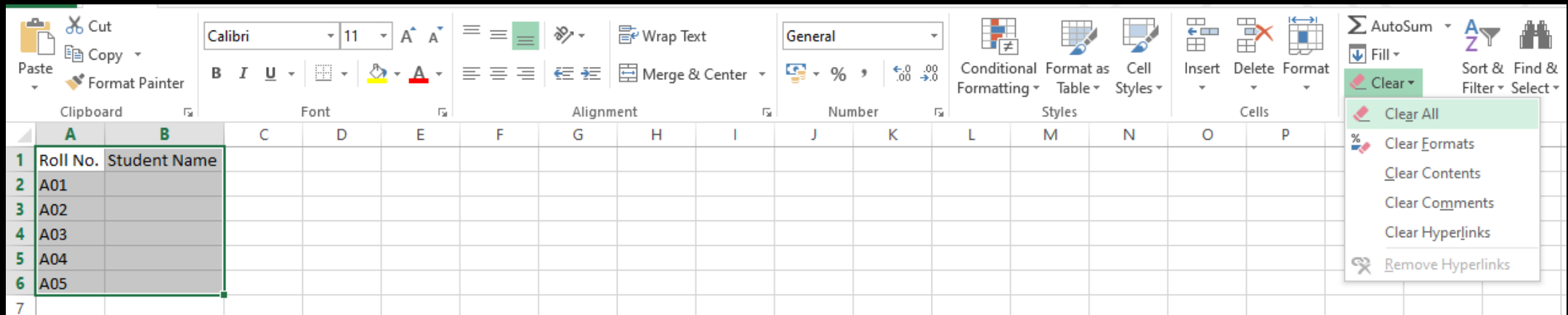


# How to Delete Data in a Worksheet

- To Delete Cell Data (Without Deleting Rows or Columns):
  - Select the cell(s), row(s), or column(s) where you want to delete the data.
  - Press Delete key on your keyboard.
    - → This clears the content but keeps the cells/structure.
- To Delete Entire Rows or Columns:
  - Right-click the row number or column letter.
  - Select Delete.
    - → This removes the entire row or column (not just the data).

## To Clear Specific Data:

- Home Tab (Excel):
  - Go to the Home tab.
  - Click Clear (in the Editing group).
  - Choose:
    - Clear All – Removes everything (data, formatting).
    - Clear Contents – Removes only the data.
    - Clear Formats – Removes formatting but keeps the data.
    - Clear Comments and Notes – Deletes comments/notes.



# Move Data in a Worksheet

## Move Data Using Cut and Paste

- Step 1: Select the cell(s), row(s), or column(s) you want to move.
- Step 2: Press Ctrl + X (or right-click and select Cut).
- Step 3: Click the destination cell where you want to move the data.
- Step 4: Press Ctrl + V (or right-click and select Paste).
- Result: Data is moved (not copied) from the original location.

# Move Data in a Worksheet

Drag and Drop Method (Excel & Google Sheets)

- Step 1: Select the cells to move.
- Step 2: Move your cursor to the edge of the selection (cursor changes to a four-sided arrow).
- Step 3: Click and drag the selected data to a new location.
- Step 4: Release the mouse button.

# Move Data in a Worksheet

## Moving Entire Rows or Columns

- Select the entire row or column.
- Cut using Ctrl + X.
- Select the new row/column position.
- Paste using Ctrl + V.

# Move Data in a Worksheet

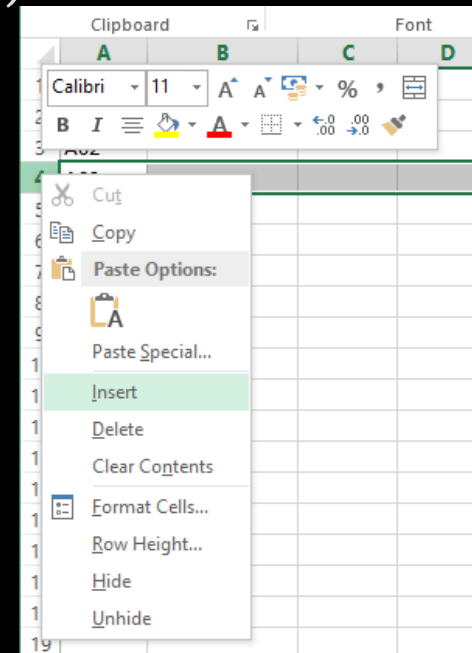
## Move Between Worksheets

- Cut the data from one sheet.
- Switch to another sheet tab.
- Paste the data where required.



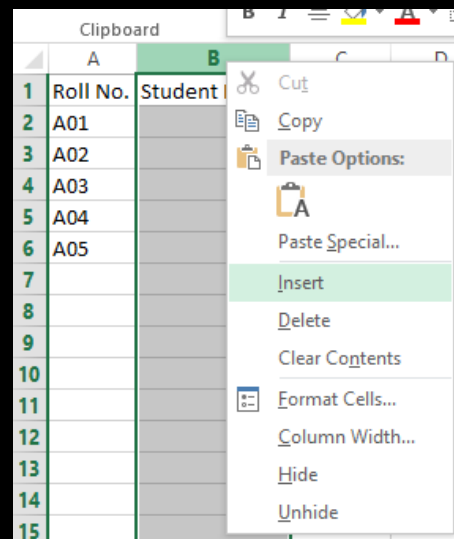
# Insert Row and Column in a Worksheet

- Insert a New Row
- In Microsoft Excel or Google Sheets:
- Step 1: Right-click the row number where you want to insert a row.
- Step 2: Choose Insert (in Excel) or Insert 1 above / below (in Google Sheets).
- → Result: A new blank row will be inserted above the selected row.



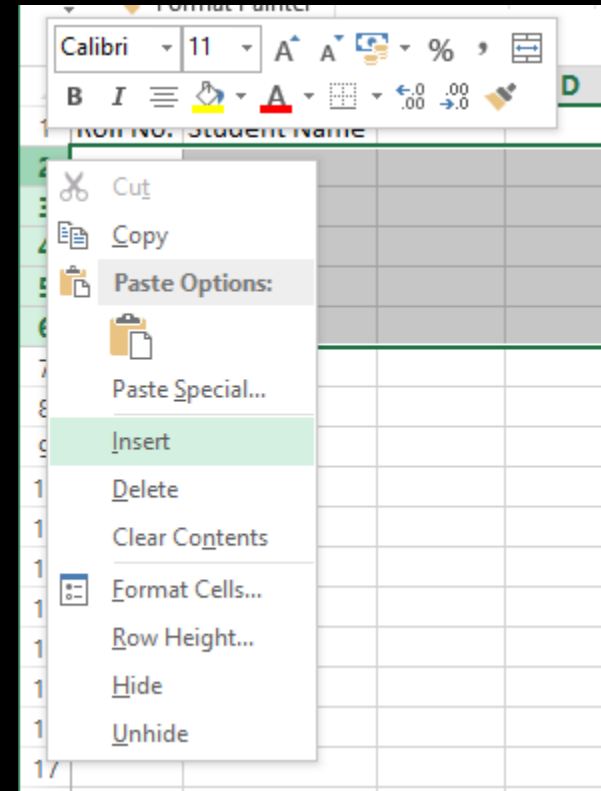
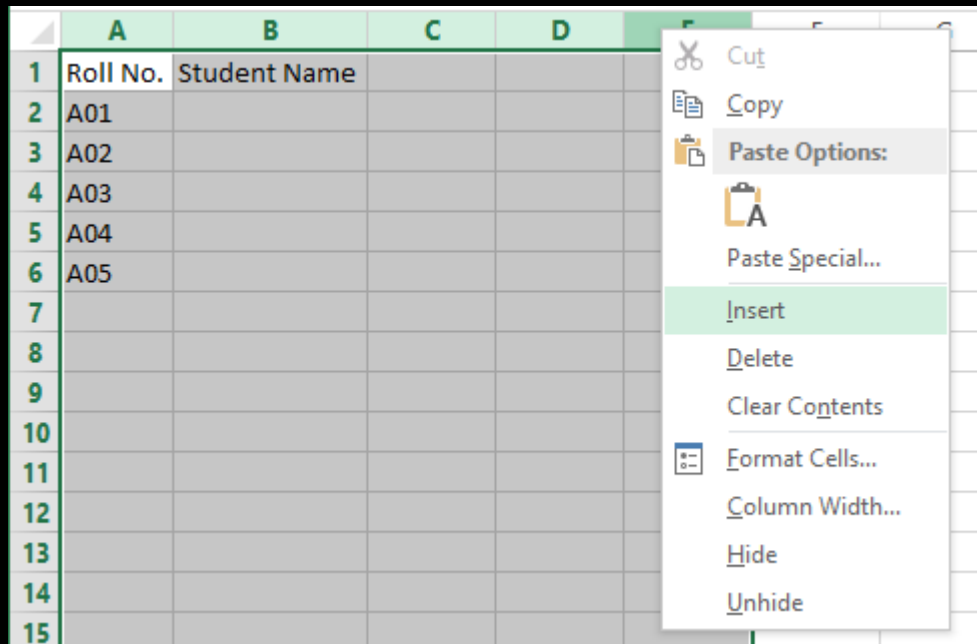
# Insert Row and Column in a Worksheet

- Insert a New Column
- In Microsoft Excel or Google Sheets:
- Step 1: Right-click the column letter where you want to insert a column.
- Step 2: Select Insert (in Excel) or Insert 1 left / right (in Google Sheets).
- → Result: A new blank column will be inserted to the left of the selected column.



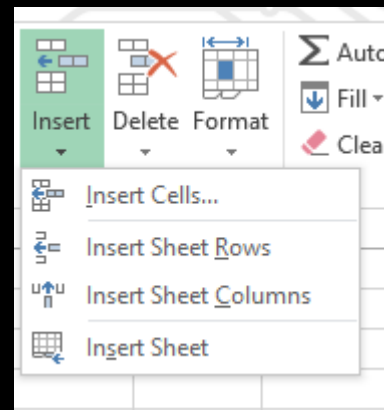
# Insert Row and Column in a Worksheet

- Insert Multiple Rows or Columns
- Select multiple row numbers or column letters.
- Right-click and choose Insert.
- Same number of new rows/columns as selected will be inserted.



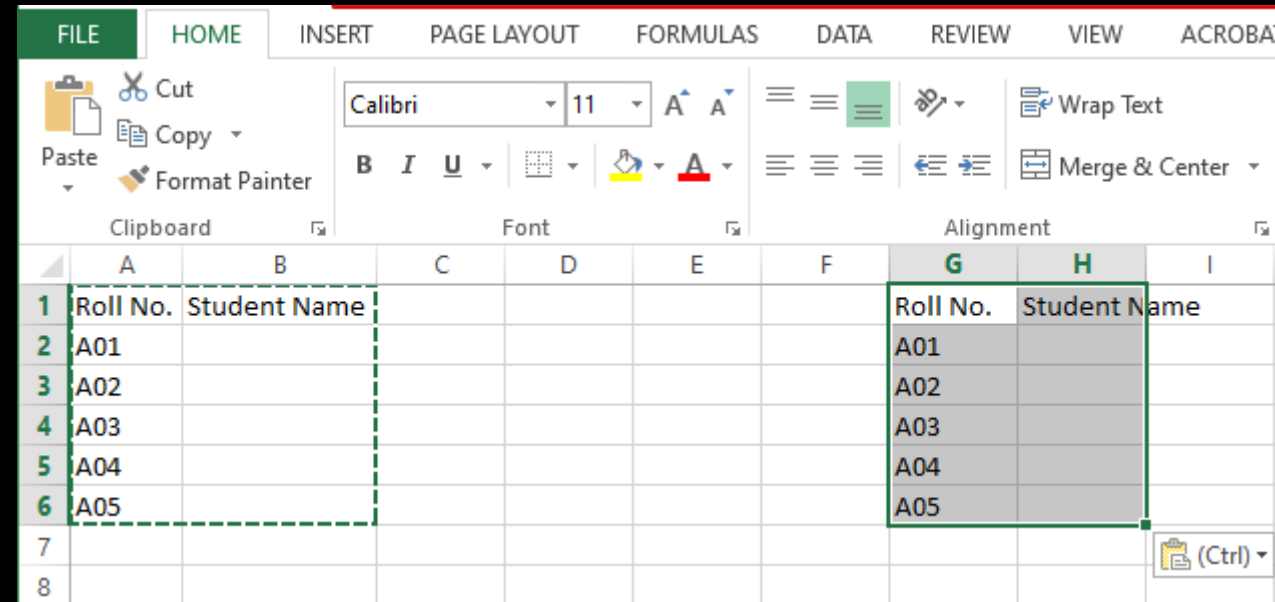
# Insert Row and Column in a Worksheet

- Using Menu (Excel Only)
- Go to the Home tab.
- In the Cells group, click Insert.
- Choose:
  - Insert Sheet Rows
  - Insert Sheet Columns



# Copy and Paste Data

- Using Mouse (Right-Click Method)
- Step 1: Select the cells you want to copy.
- Step 2: Right-click the selection.
- Step 3: Click Copy.
- Step 4: Go to the destination cell.
- Step 5: Right-click and choose Paste.



# Using Keyboard Shortcuts

Action	Shortcut
Copy	Ctrl + C
Cut (to move)	Ctrl + X
Paste	Ctrl + V

# Paste Special (Excel & Google Sheets)

- To paste in a specific way:
- Right-click at the destination.
- Choose Paste Special (options like: values only, formulas only, formatting only).

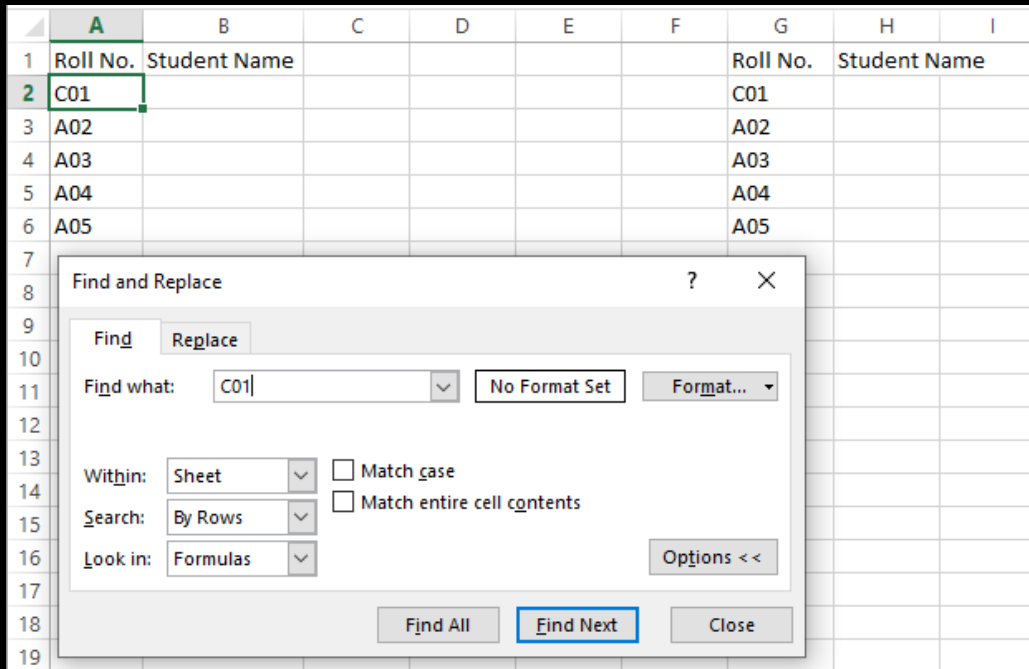
# Copy and Paste Between Sheets or Workbooks

- Copy (Ctrl + C) in one sheet.
- Switch to another sheet or workbook.
- Paste (Ctrl + V) in the desired location.



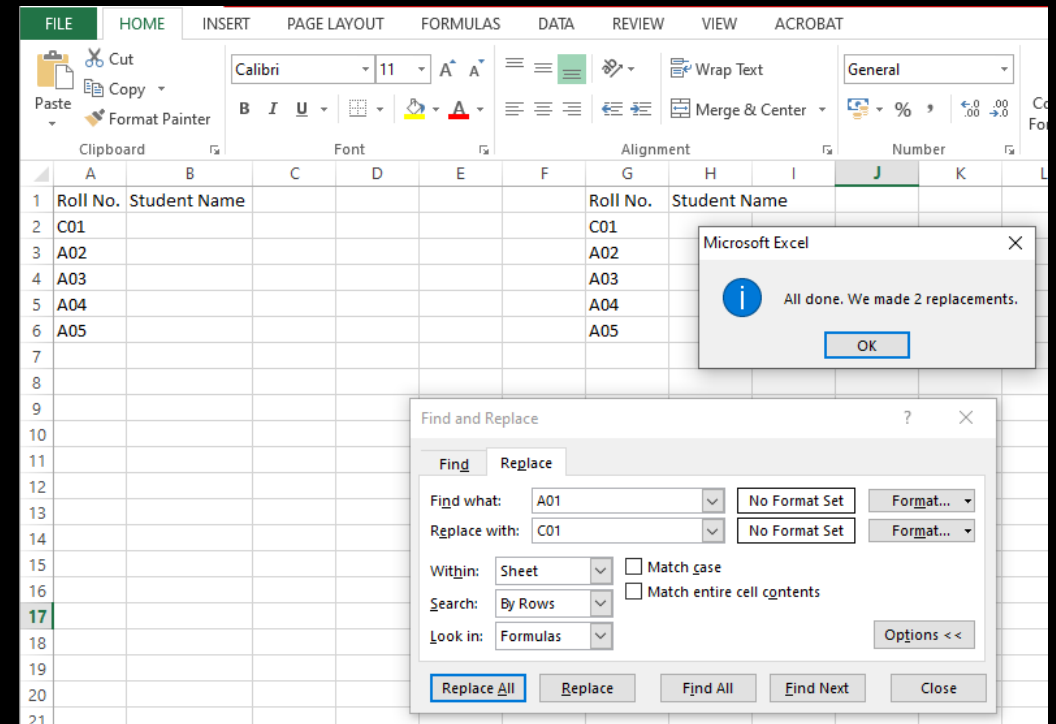
# Use Find and Replace in a Worksheet

- To Find Data:
  - Press Ctrl + F.
  - In the Find what box, type the text or number you want to find.
  - Click Find Next to locate it.



# To Find and Replace Data:

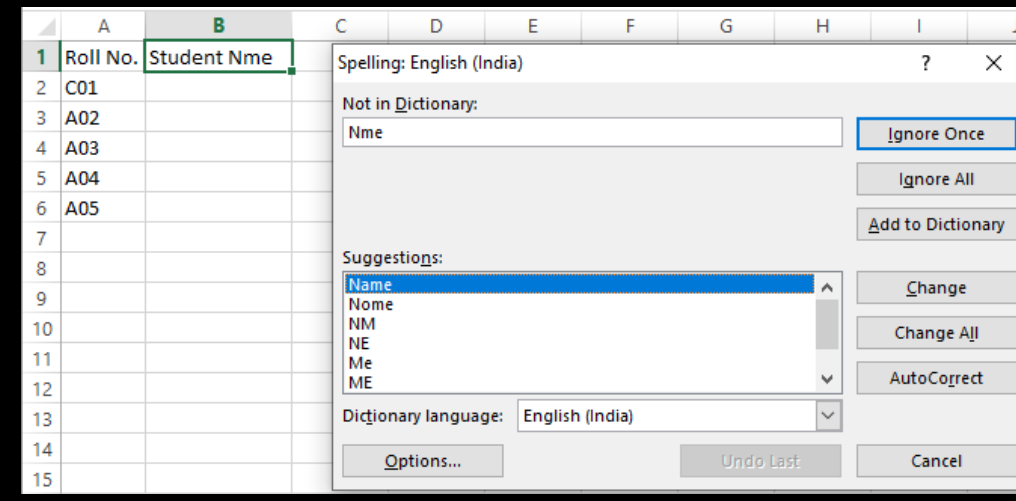
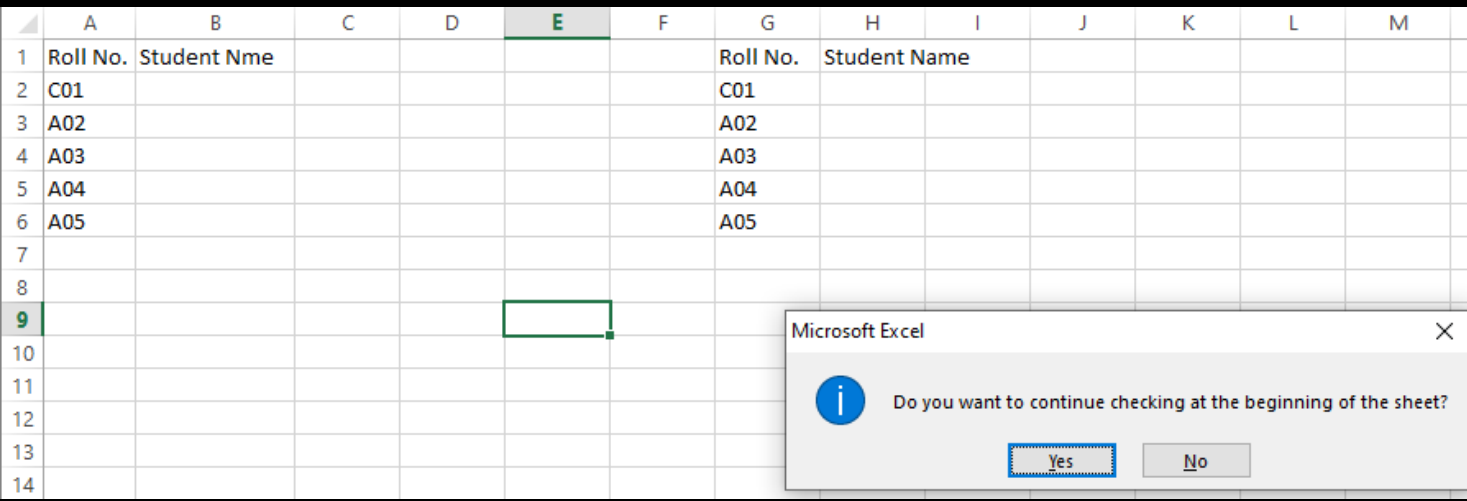
- Press Ctrl + H.
- In the Find what box, enter the word or value you want to replace.
- In the Replace with box, type the new word or value.
- Click:
  - Find Next – to review each occurrence.
  - Replace – to replace one instance.
  - Replace All – to replace all at once.



# Use Spell Check in a Worksheet

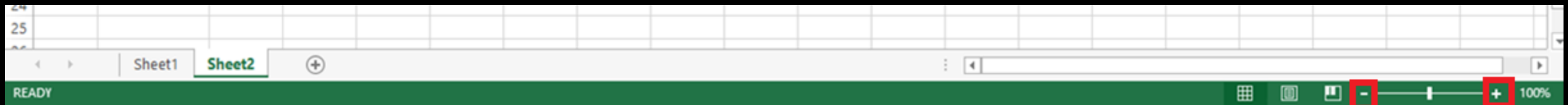
- Steps to Perform Spell Check:
  - Select the worksheet or specific cells where you want to check spelling.
  - Go to the Review Tab
    - Click Review from the top Ribbon.
    - Click Spelling.
  - Excel will check the sheet and suggest corrections.
  - Choose:
    - Change – Replace the word with the suggestion.
    - Ignore Once – Skip that instance.
    - Add to Dictionary – Accept the word permanently.

Shortcut Key: Press F7 to start spell check quickly.



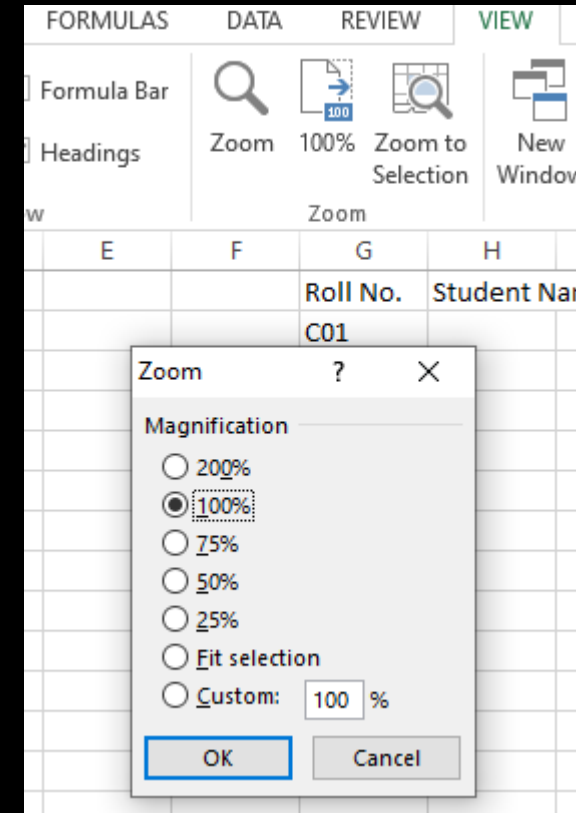
# Zoom In and Zoom Out in a Worksheet

- Method 1: Using Zoom Slider
  - Look at the bottom-right corner of the Excel window.
  - Use the Zoom Slider:
  - Slide right to zoom in.
  - Slide left to zoom out.



# Zoom In and Zoom Out in a Worksheet

- Method 2: From Ribbon
- Go to the View Tab.
- Click Zoom.
- Choose:
  - A specific percentage (e.g., 75%, 100%, 200%).
  - Zoom to Selection to focus on selected cells.



# Zoom In and Zoom Out in a Worksheet

- Method 3: Keyboard Shortcut (Excel Only)
- Hold Ctrl + Scroll Mouse Wheel:
  - Scroll up to zoom in.
  - Scroll down to zoom out.

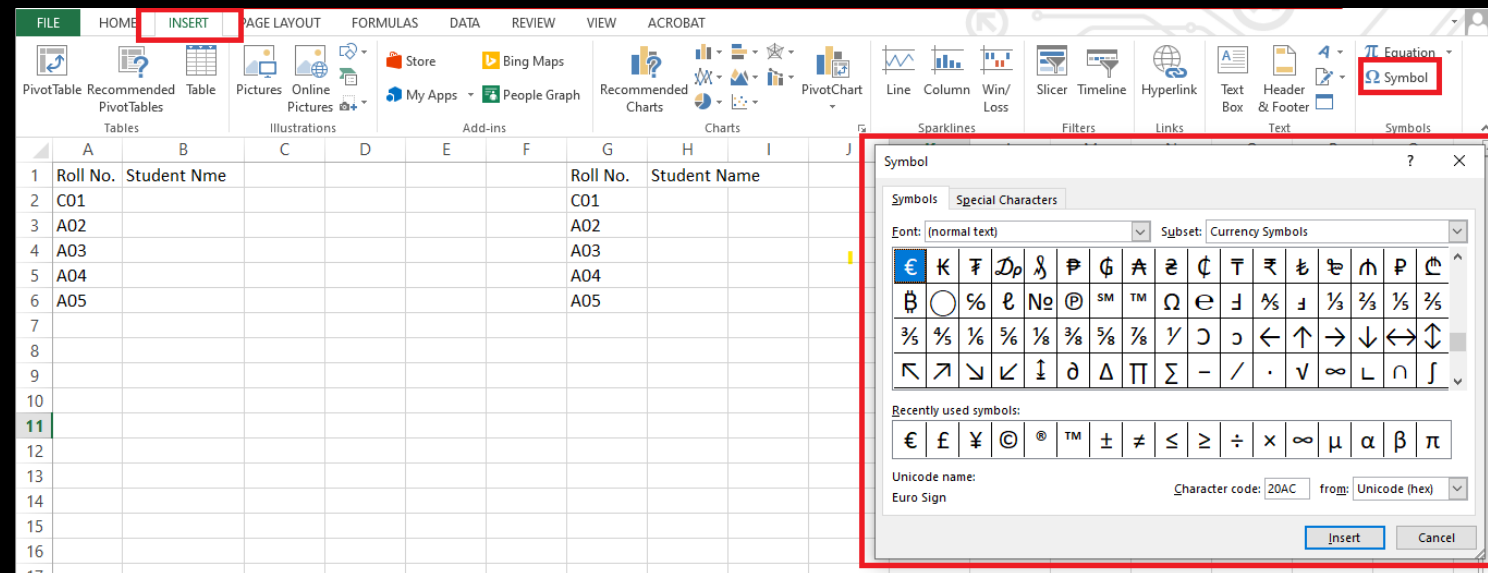
# Insert Special Symbols in a Worksheet

- Method 1: Insert Menu

- Click on the cell where you want to insert the symbol.
- Go to the Insert Tab on the Ribbon.
- Click Symbol (usually at the far right).
- Browse and select the desired symbol.
- Click Insert, then Close.

- Common Symbols:

- ✓ (Tick mark)
- © (Copyright)
- (Arrow)



# Insert Special Symbols in a Worksheet

- Method 2. Keyboard Shortcuts (For Some Symbols)
- Note: Ensure Num Lock is ON when using numeric pad shortcuts.

Symbol	Shortcut
Degree (°)	Alt + 0176 (Numeric Pad)
Trademark (™)	Alt + 0153
Registered (®)	Alt + 0174



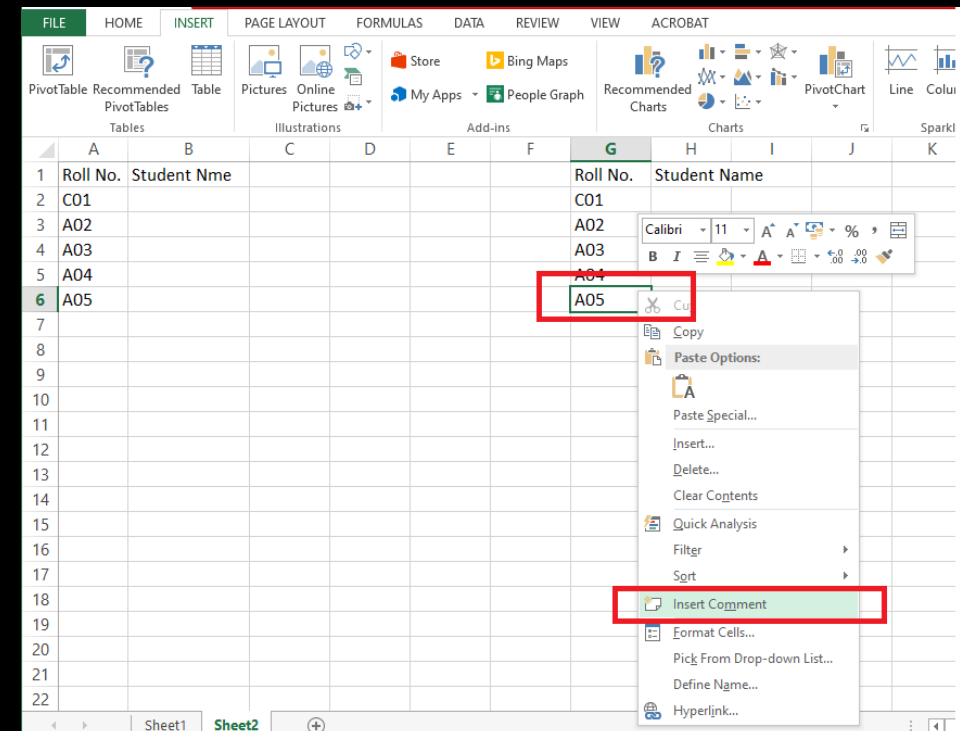
# Insert Special Symbols in a Worksheet

- Method 3: Copy-Paste Symbols
- Copy symbols from online sources or from Word:
- Example: ₹ ✓ © ∞ ★ →
- Paste directly into Excel cells.

# Insert Comments in a Worksheet

- Steps to Insert a Comment:
  - Right-click the cell where you want to add a comment.
  - Select New Comment (In older versions, it may say Insert Comment).
  - Type your comment in the comment box that appears.
  - Click outside the box to save the comment.
- Result: A small red triangle appears in the corner of the cell, showing a comment is attached.

Shortcut Key (Excel): Press Shift + F2 to add or edit a comment quickly.



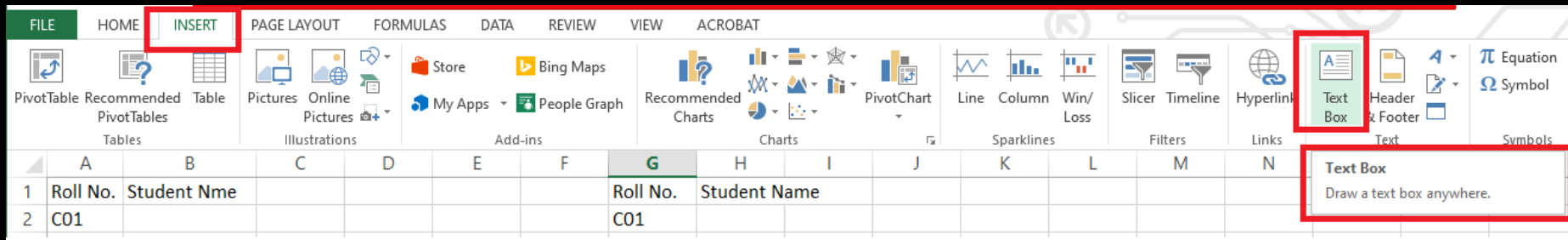
# Insert Comments in a Worksheet

Feature	Comments
Purpose	Used for discussions, collaboration
Can reply?	Yes (Google Sheets, Excel Online)
Visibility	Visible when hovered or clicked

Task	Excel Shortcut/Steps
Insert Comment	Right-click → New Commentor <b>Shift + F2</b>
View/Edit Comment	Hover or Right-click cell
Delete Comment	Right-click cell → Delete Comment

# Add a Text Box in a Worksheet

- Steps to Add a Text Box:
  - Go to the Insert Tab on the Ribbon.
  - Click Text Box (usually found in the Text group).
  - Your cursor will change to a plus sign (+).
  - Click and drag anywhere on the sheet to draw the text box.
  - Type your text inside the text box.



# Undo Redo Changes in a Worksheet

Action	Shortcut Key
Undo	Ctrl + Z
Redo	Ctrl + Y

## Using the Toolbar (Mouse Method)

- Look for the **Undo** arrow icon (↶) in the toolbar at the top.
- Click to undo your last action(s).
- To redo, click the **Redo** arrow icon (↷).



## Undo Multiple Steps :

Keep pressing Ctrl + Z to undo multiple recent actions step-by-step.

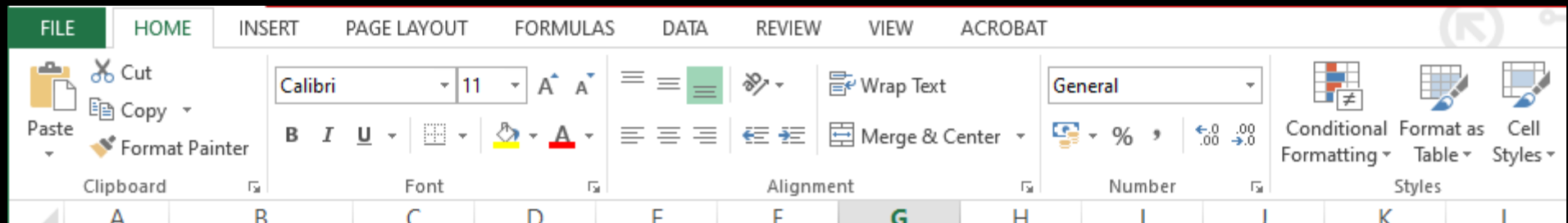
# Formatting Cells and Sheets in Excel

- Formatting makes your worksheet neat, professional, and easier to read by changing the appearance of data and the entire sheet.

Formatting Task	How to Apply
Font Style	Change font type, size, bold, italic from toolbar.
Font Color	Click font color button to apply color to text.
Cell Fill Color	Use paint bucket tool to add background color to cells.
Number Formatting	Format numbers as currency, percentage, date, time, etc.
Alignment	Align text left, center, or right inside cells.
Borders	Add borders to selected cells for better visibility.
Merge Cells	Select multiple cells > Click <b>Merge &amp; Center</b> .

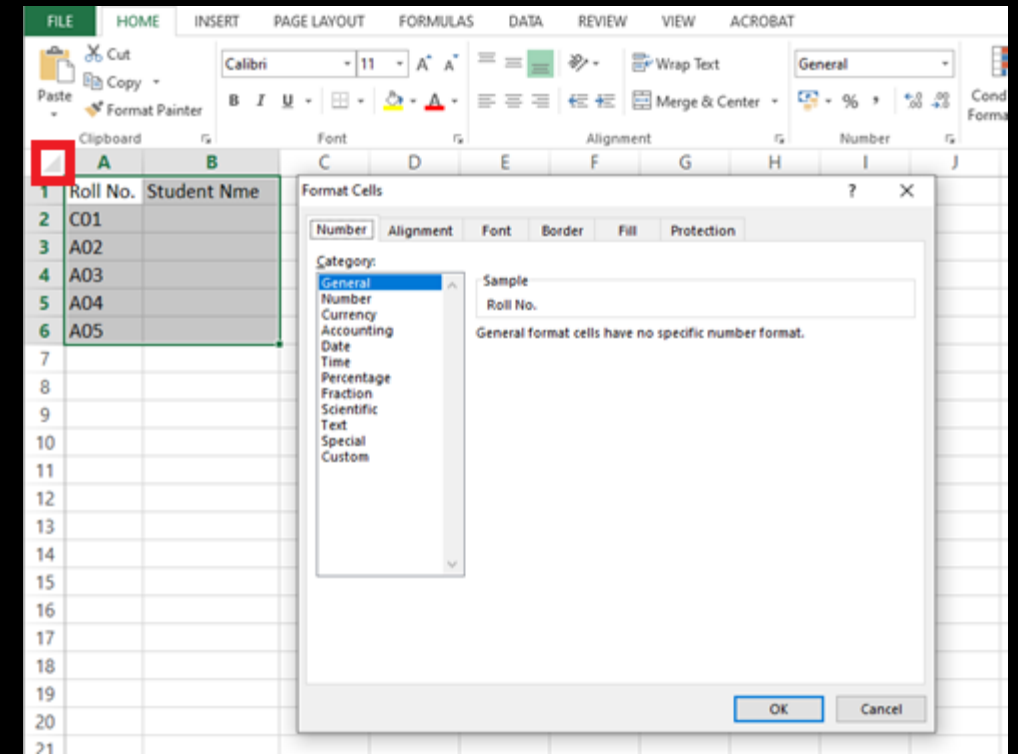
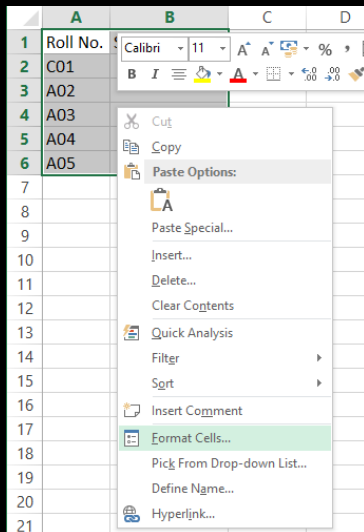
# Formatting Cells and Sheets in Excel

- Select cells.
- Use the Home tab (Excel)



# Sheet Formatting

- Formatting the Entire Sheet:
- Select All Cells:
  - Click the triangle icon at the top-left corner (between A and 1).
- Apply formatting:
  - Font style, font size, cell color, alignment, etc.





# Set Cell Type in Microsoft Excel

- Steps:
  - Select the cell(s) where you want to set the type.
  - Go to the Home tab.
  - In the Number group, click the drop-down list (shows "General" by default).
  - Choose the desired Cell Type, such as:
    - General – Default, accepts any type of data.
    - Number – For regular numbers.
    - Currency – For money amounts (₹, \$, etc.).
    - Accounting – For financial data.
    - Date – Formats as date (e.g., 20/07/2025).
    - Time – Formats as time (e.g., 10:30 AM).
    - Percentage – Converts and displays as %.
    - Fraction – Displays numbers as fractions.
    - Text – Treats everything as plain text.

# Set Fonts in Excel

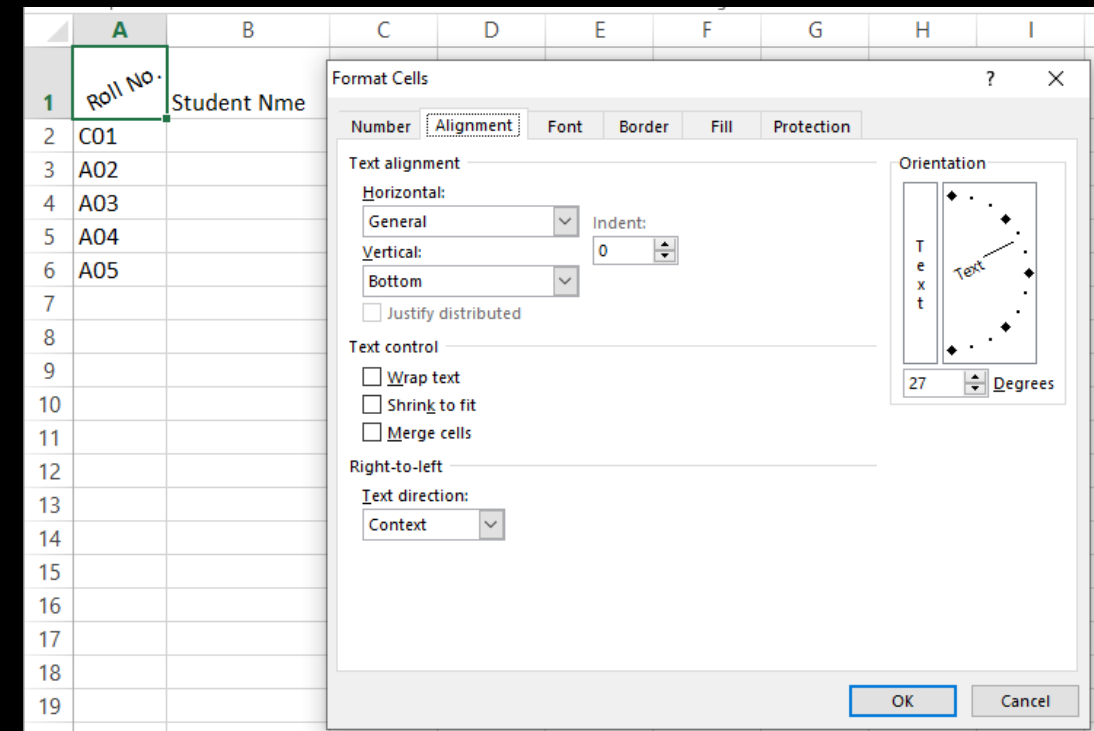
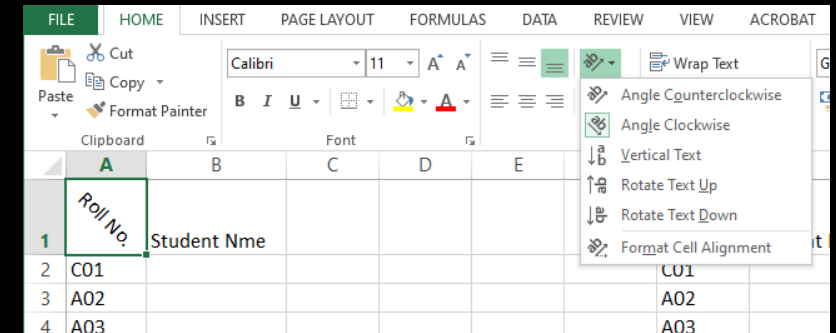
Shortcut : Ctrl+1 or Shift+Ctrl+F

- Select the cell(s), row(s), or entire sheet.
- Go to the Home tab on the Ribbon.
- In the Font group, choose:
  - Font Style (Arial, Calibri, Times New Roman, etc.).
  - Font Size.
  - Bold, Italic, or Underline.
  - Font Color.
- Click to apply the selected font settings.

Action	Shortcut
Bold	Ctrl + B
Italic	Ctrl + I
Underline	Ctrl + U

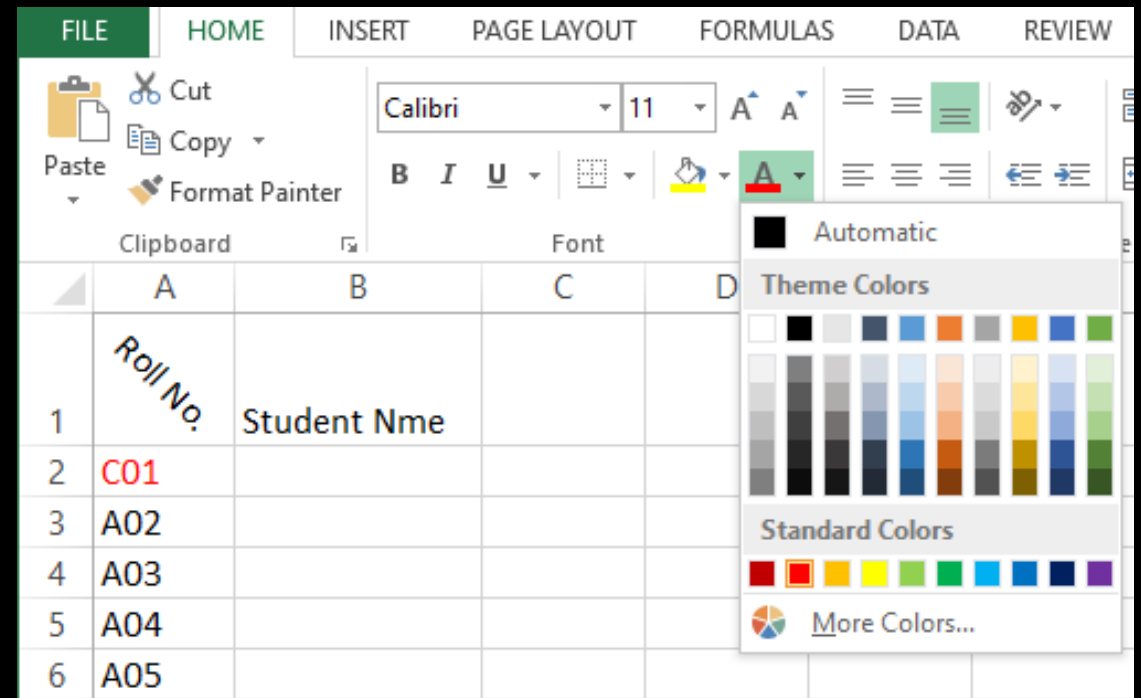
# Steps to Rotate Cell Text:

- Select the cell(s) whose text you want to rotate.
- Go to the Home tab.
- Find the Orientation button in the Alignment group (it looks like tilted text or "ab/c").
- Choose from options:
  - Angle Counterclockwise
  - Angle Clockwise
  - Vertical Text
  - Rotate Text Up
  - Rotate Text Down
  - Format Cell Alignment (for custom angles).
- Adjust as needed.



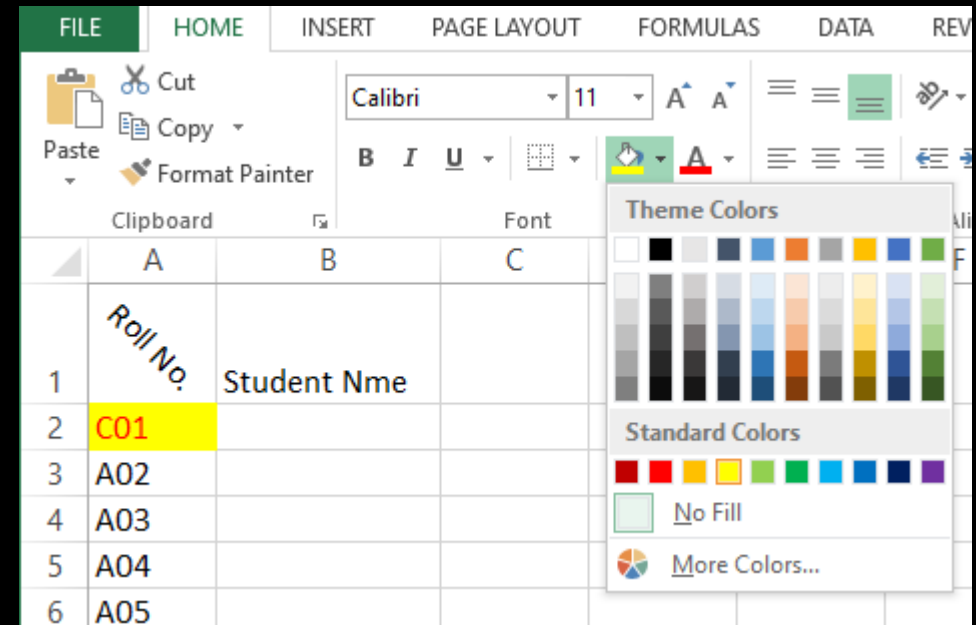
# Set Colors in Excel

- Set Font Color (Text Color)
- Step 1: Select the cell(s) where you want to change text color.
- Step 2: Click the Text Color (A) button in the toolbar.
- Step 3: Choose your desired color.



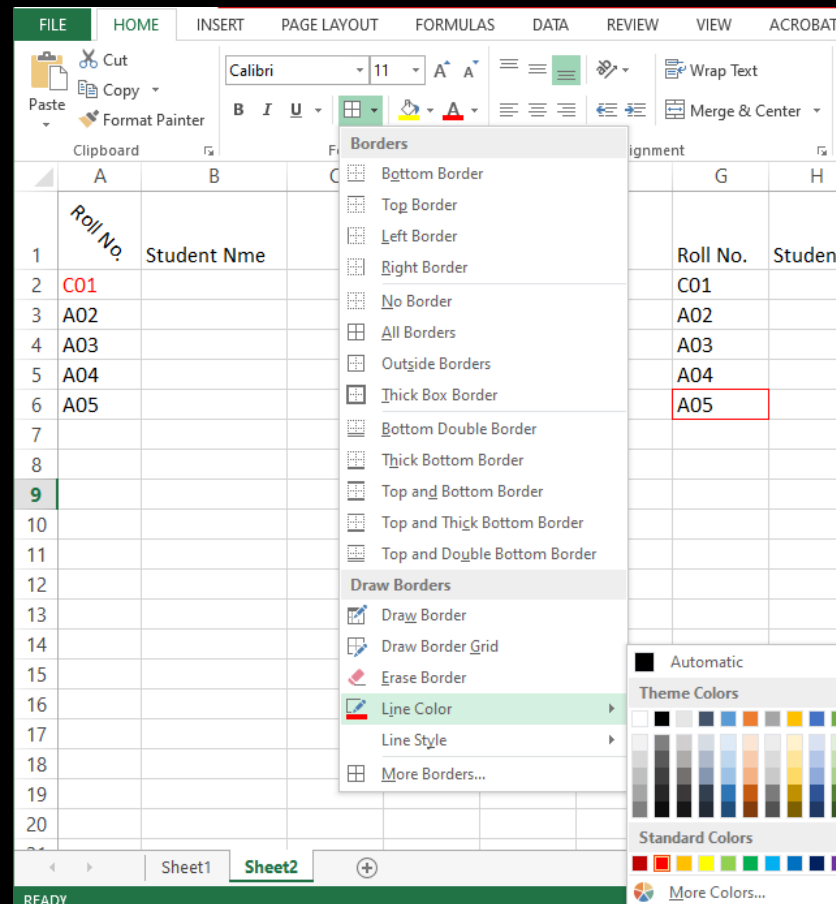
# Set Cell Fill Color (Background Color)

- Step 1: Select the cell(s).
- Step 2: Click the Fill Color (paint bucket) icon in the toolbar.
- Step 3: Pick a color to fill the background of the selected cells.



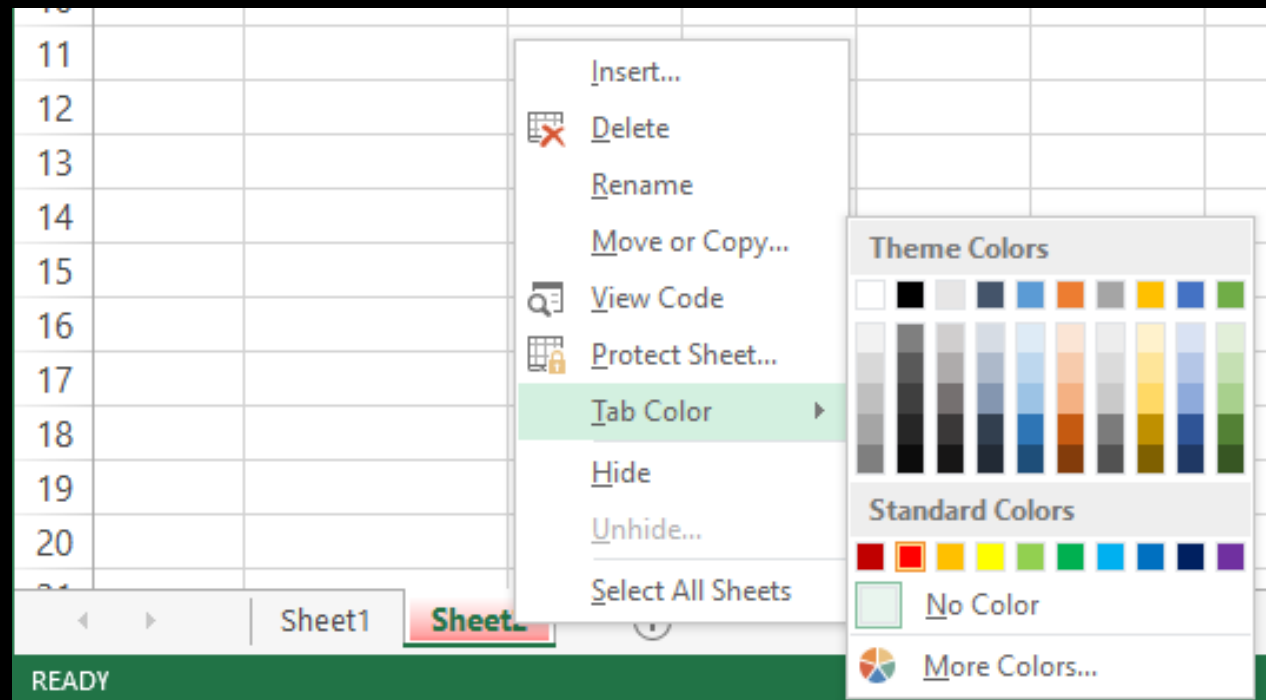
# Set Border Color (Optional)

- Select cells > Click Borders tool > Choose Border Color before applying borders.



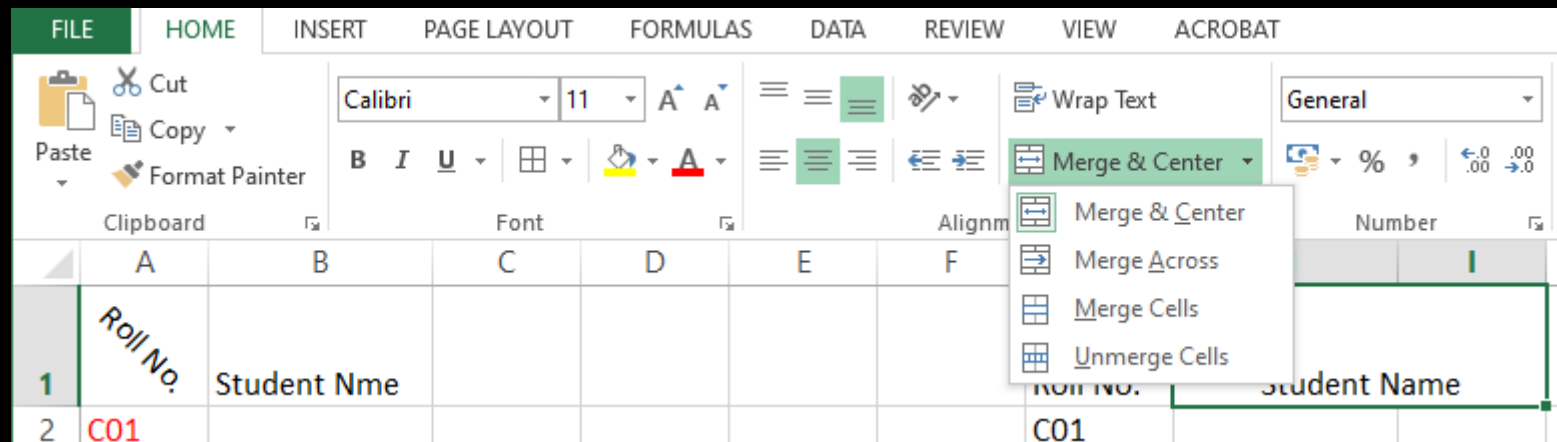
# Sheet Tab Color (Excel Only)

- Right-click the sheet tab at the bottom.
- Select Tab Color.
- Pick your desired color to color-code your sheet tabs.



# Merge Cells

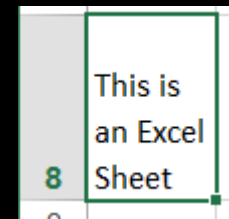
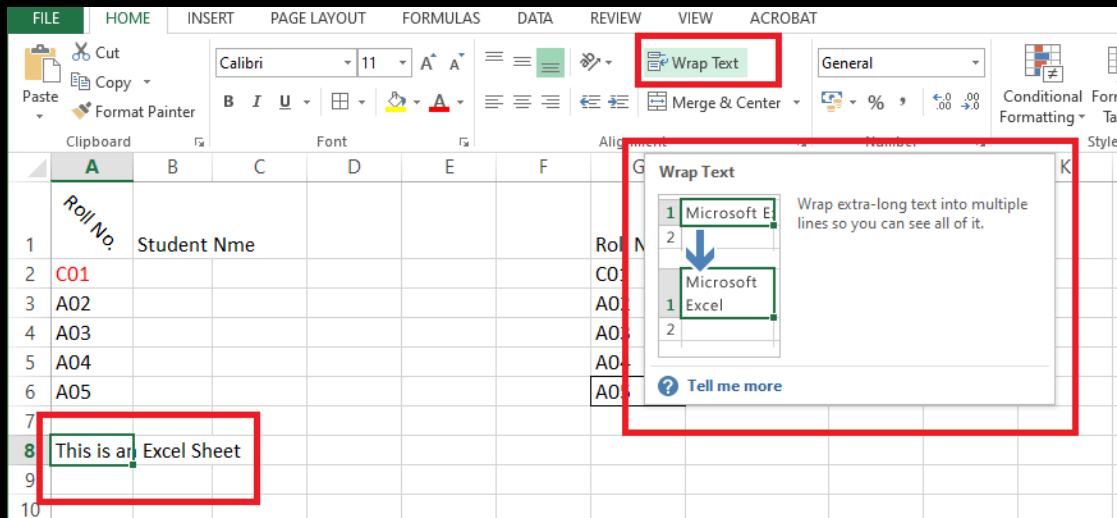
- Merging cells combines two or more adjacent cells into one larger cell. Useful for titles, headers, and formatting.
- Select the cells you want to merge.
- Click Merge & Center (Excel) or Merge Cells (Google Sheets).
- Choose:
  - Merge & Center (common in Excel) – merges and centers text.
  - Merge Across (Excel) – merges across columns in a row.
  - Merge Cells (Google Sheets) – simply merges without centering.
  - Unmerge Cells – to undo merging.





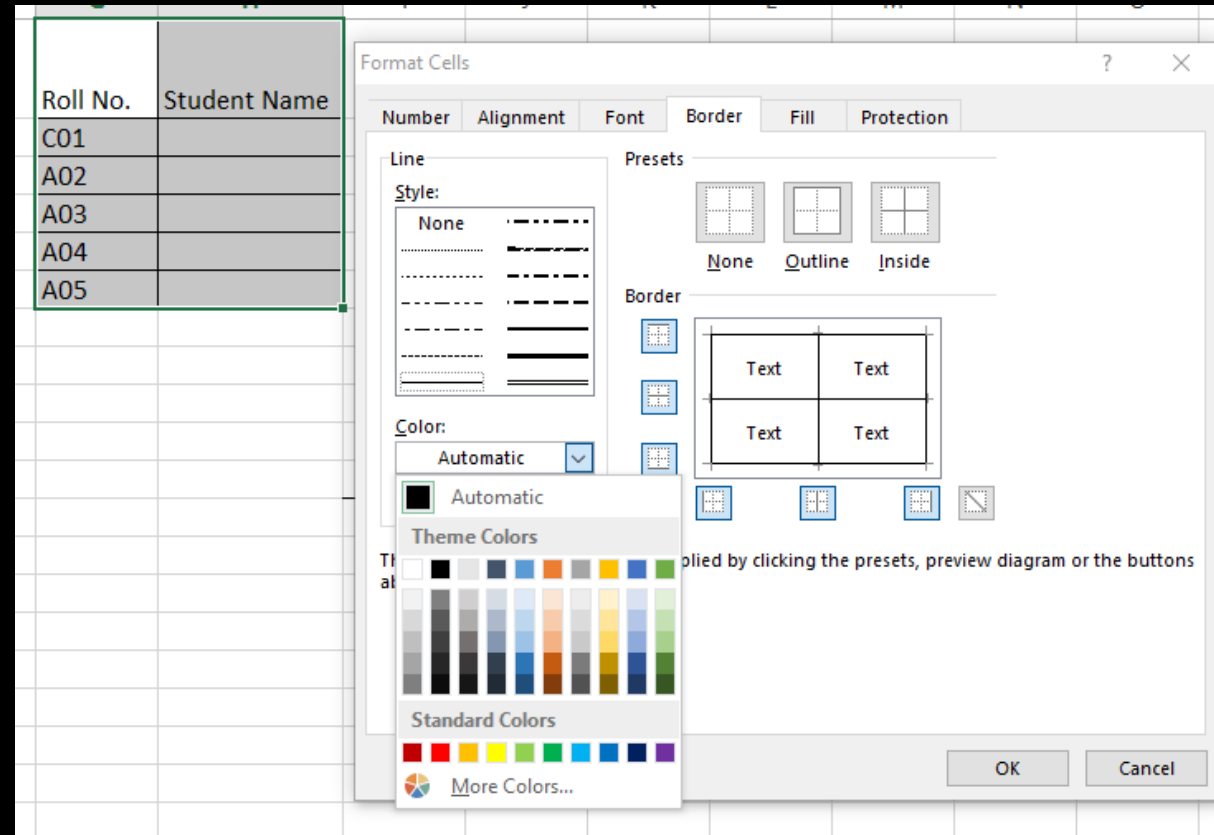
# Wrap Text

- Wrap Text makes the content inside a cell display on multiple lines if it's too long for the cell width.
- Select the cells with long text.
- Click the Wrap Text button in:
  - Excel: Home tab → Wrap Text (Alignment group).
- Result: The cell expands vertically to show all content without overflowing.



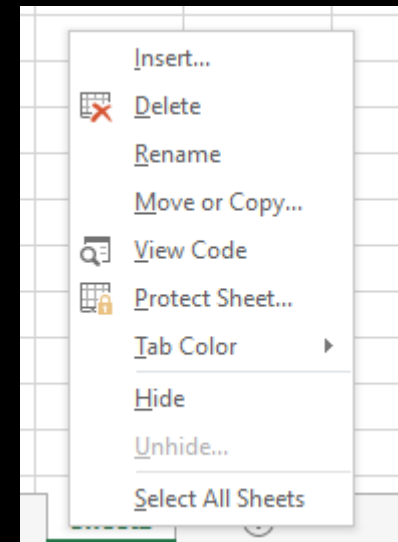
# Applying Borders

- Steps in Excel:
- Select the cells, row, or column.
- Go to the Home tab.
- Click the Borders icon (in the Font group).
- Choose:
  - All Borders
  - Outside Borders
  - Thick Box Border
  - Bottom Border, etc.



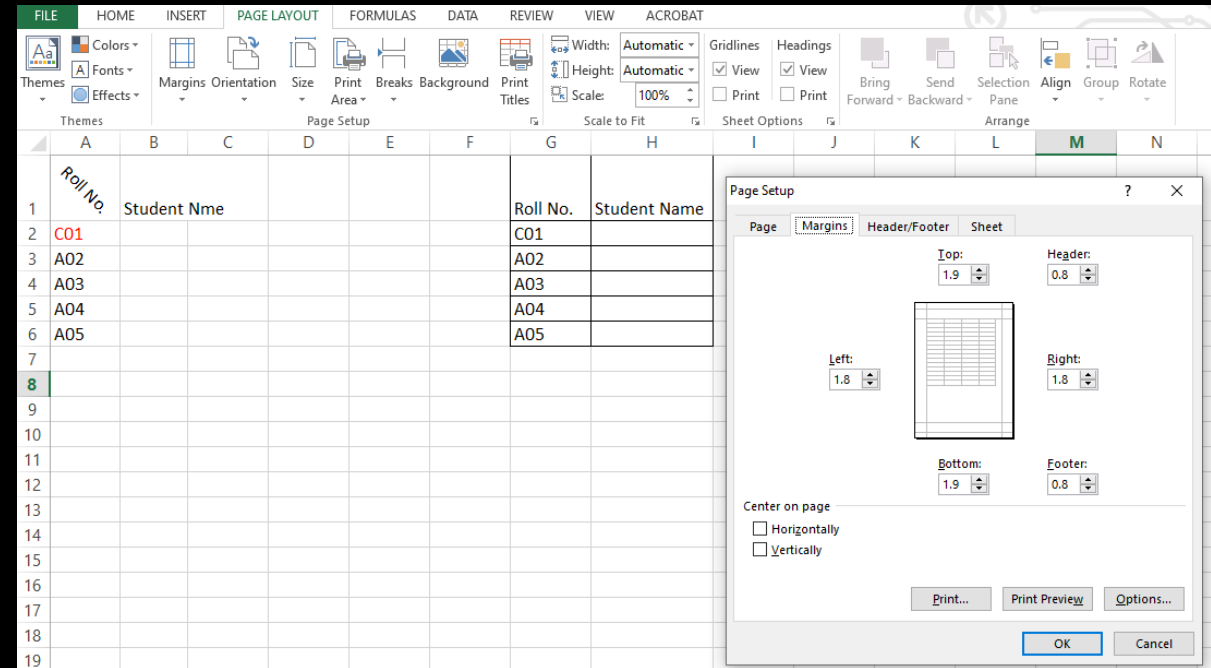
# Sheet Options in Excel

Option	What It Does
Rename Sheet	Change the sheet's name for easy identification.
Insert Sheet	Add a new blank sheet to the workbook.
Delete Sheet	Permanently remove a sheet.
Move/Copy Sheet	Rearrange sheets or duplicate them.
Hide/Unhide Sheet	Temporarily hide a sheet without deleting it.
Change Tab Color	Apply a color to the sheet tab for visual organization.
Protect Sheet	Restrict editing of sheet content (Excel & Google Sheets).
Zoom Sheet View	Adjust zoom level for easier viewing.



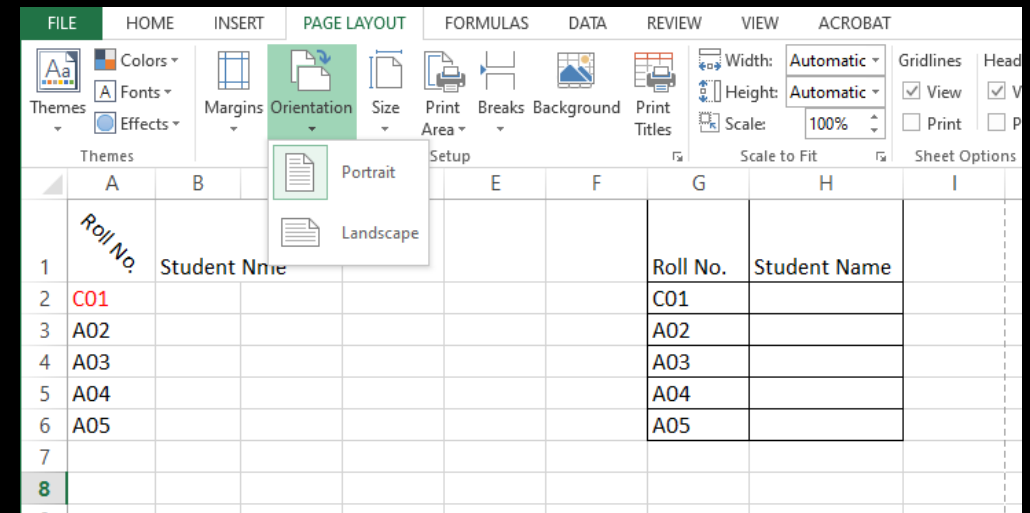
# Adjust Margins in a Worksheet

- Steps to Adjust Margins:
- Go to the Page Layout tab on the Ribbon.
- Click on Margins (in the Page Setup group).
- Choose from preset options:
  - Normal
  - Wide
  - Narrow
- For custom margins:
  - Click Custom Margins at the bottom.
  - Set specific values for Top, Bottom, Left, Right, and Header/Footer.
  - Click OK to apply.



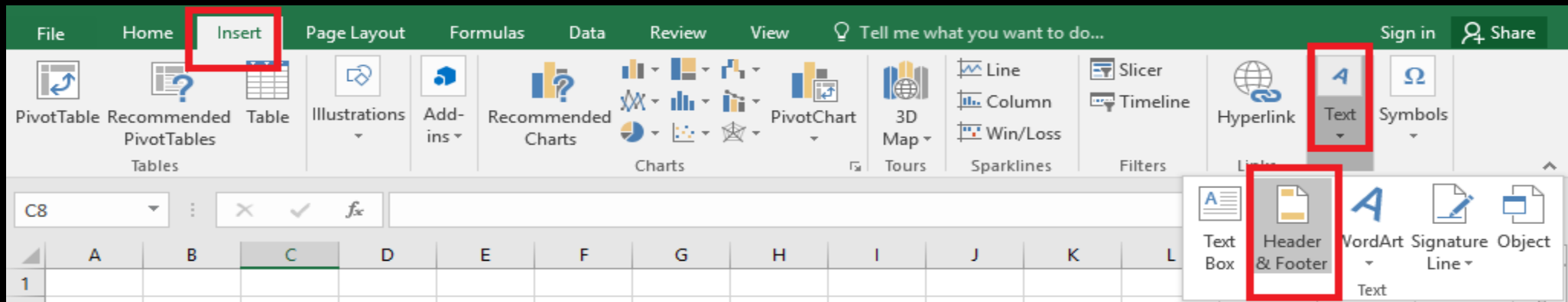
# Page Orientation in Excel

- Steps to Change Page Orientation:
- Go to the Page Layout tab on the Ribbon.
- Click Orientation (in the Page Setup group).
- Choose:
  - Portrait
  - Landscape
- Shortcut via Print Preview:
  - Go to File → Print.
  - Choose Portrait Orientation or Landscape Orientation options.

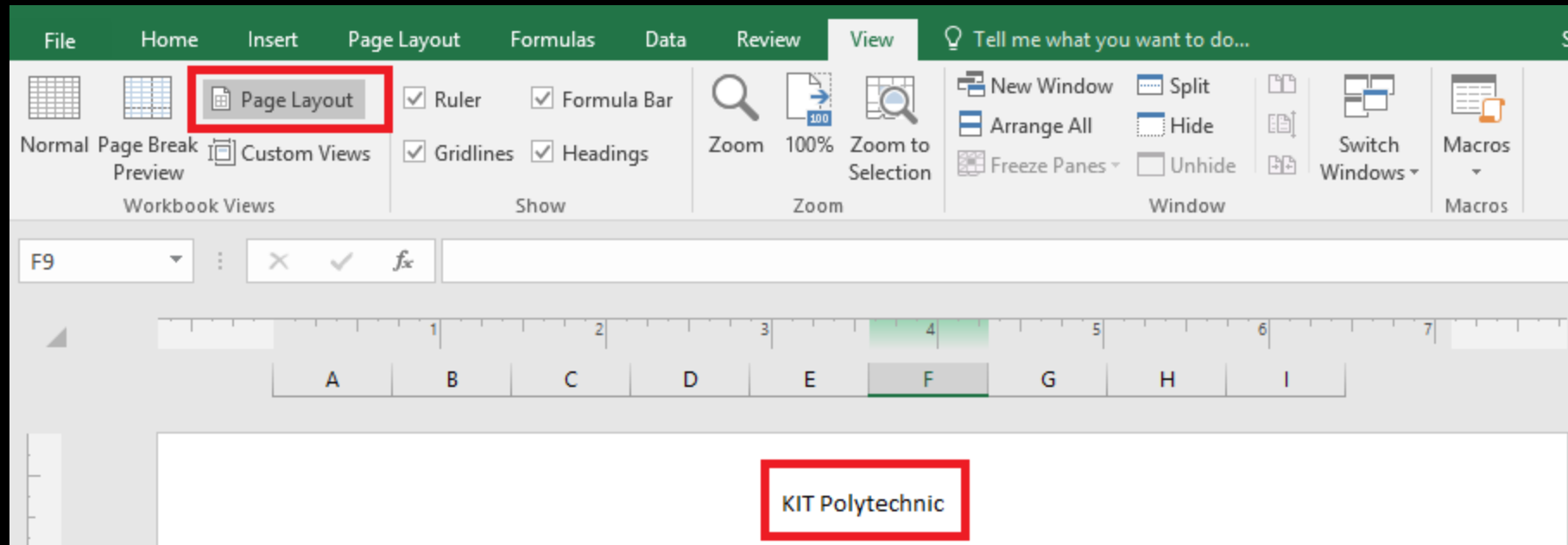


# Header and Footer in Excel

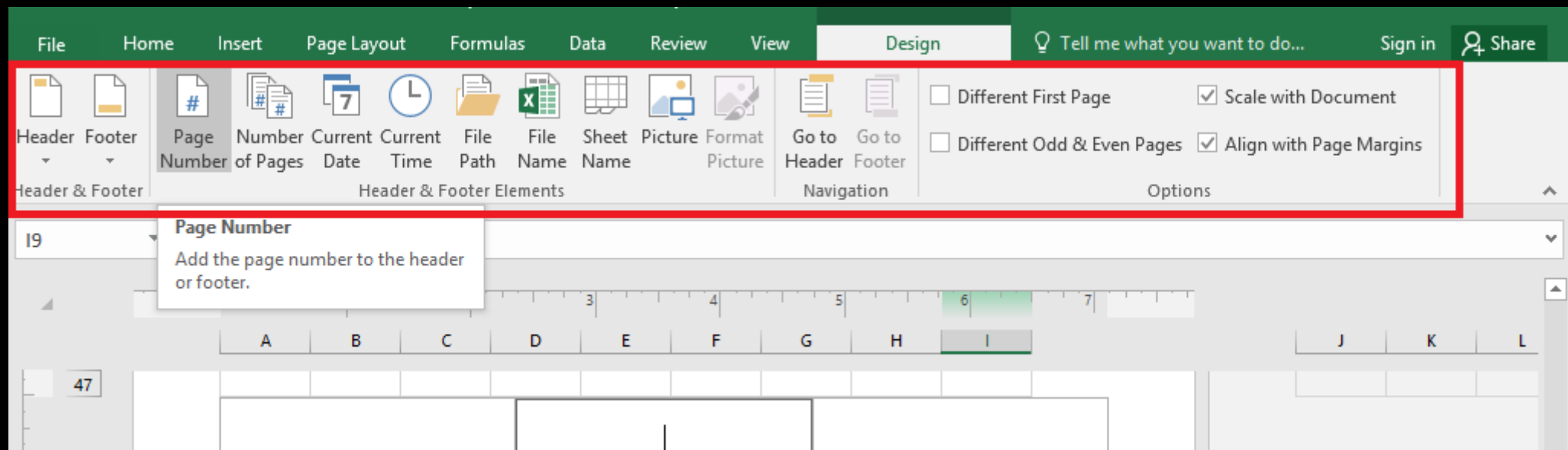
- Go to the Insert tab.
- Click on Header & Footer (found in the Text group).
- Excel switches to Page Layout view automatically.
- Click the Header (top) or Footer (bottom) area.
- Type text, or use the Header & Footer Tools Design tab to insert:
  - Page Number
  - File Name
  - Sheet Name
  - Current Date / Time
  - Picture (like a logo)
- Click anywhere outside the header/footer area to save.



# Header and Footer in Excel



Task	Excel Steps
Insert Header/Footer	Insert tab → Header & Footer
Insert Page Numbers	Header/Footer Tools → Page Number
Insert Date/Time	Header/Footer Tools → Date/Time
Custom Text	Type directly in Header/Footer

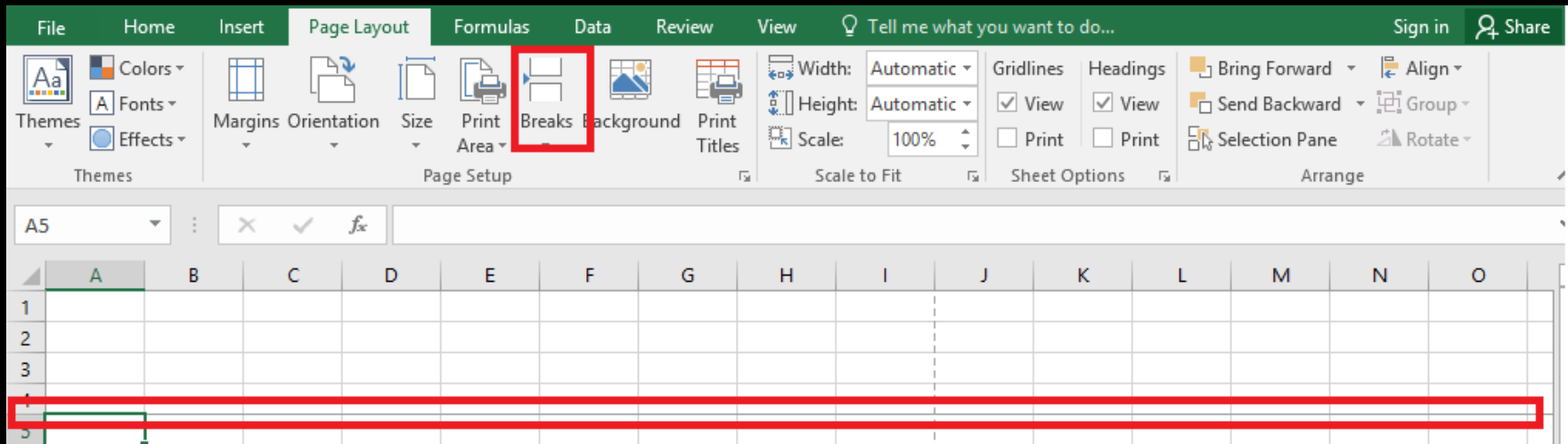
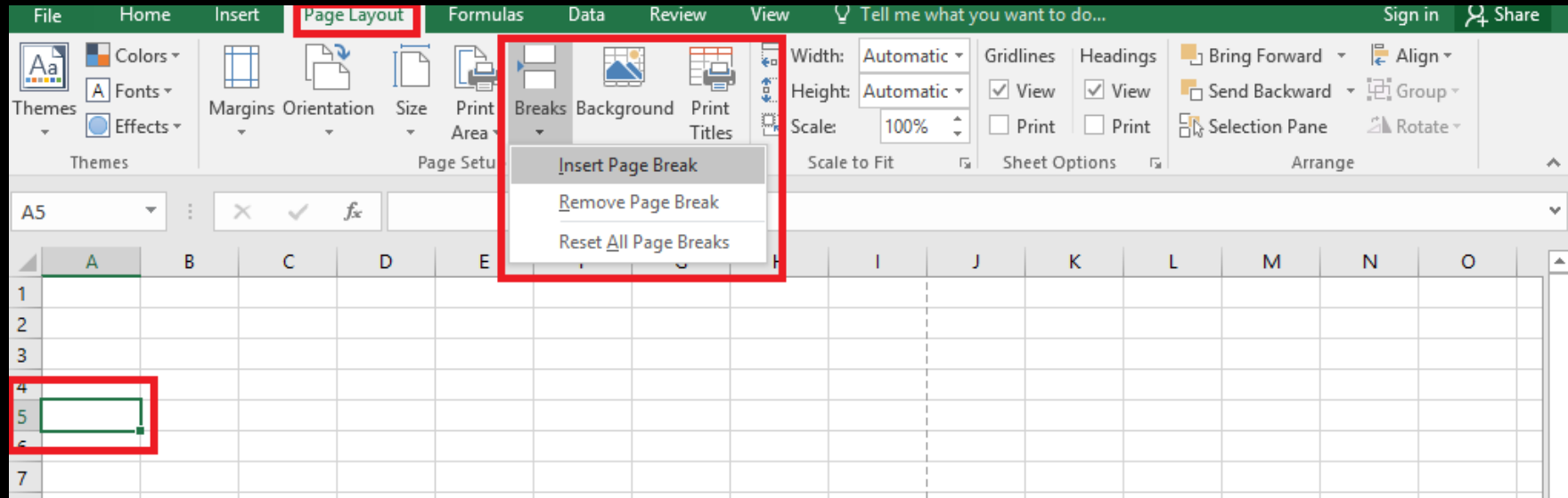




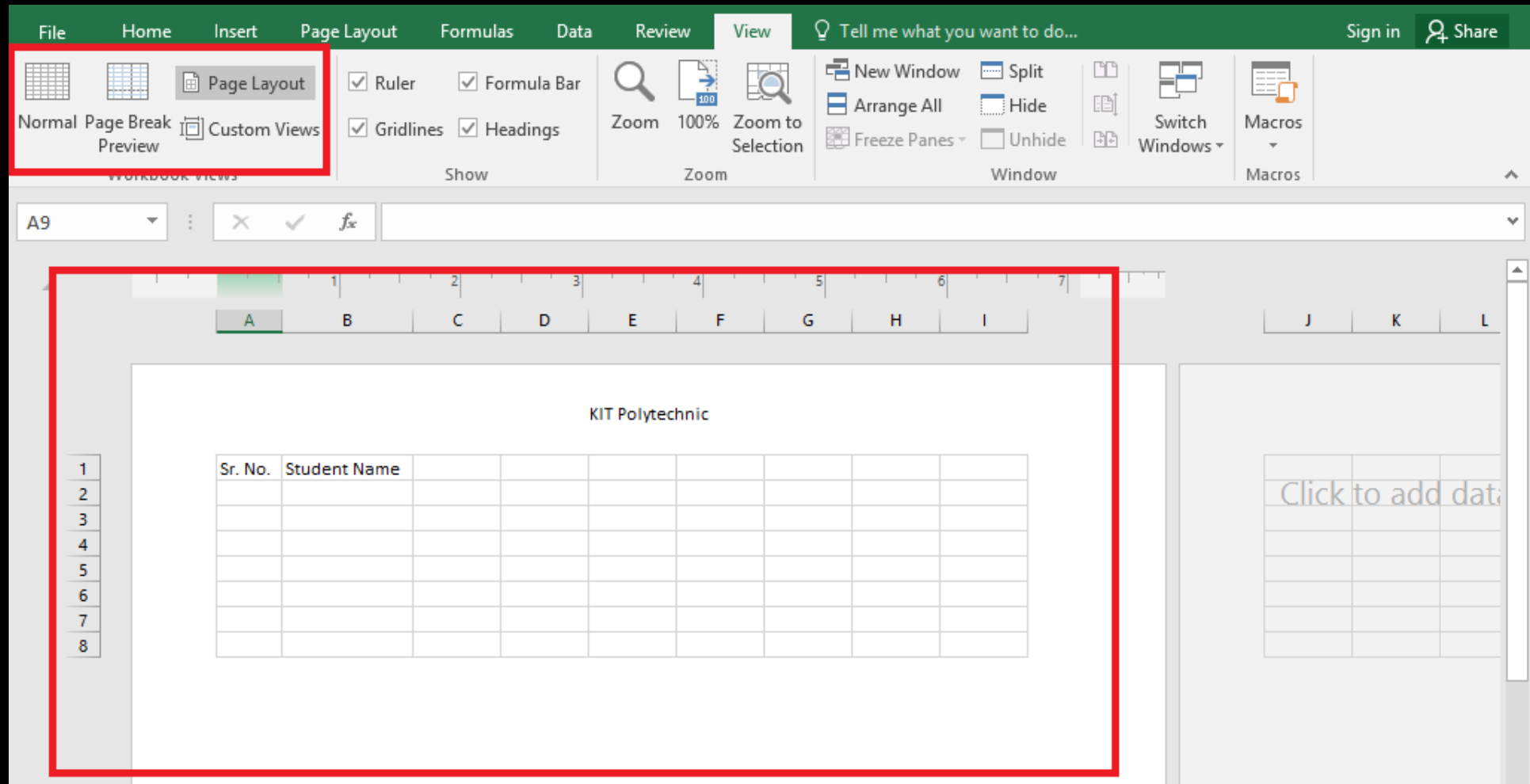
# Insert Page Breaks in Excel

- Page breaks help you control where one page ends and another begins when printing your spreadsheet. It ensures neat, logical printing of large sheets.
- Insert a Page Break:
- Click any cell where you want to insert a page break below or to the right of it.
- Go to the Page Layout tab.
- Click Breaks in the Page Setup group.
- Select Insert Page Break.
- ✦ A solid line will appear — horizontal for row break, vertical for column break.

# Insert Page Breaks in Excel

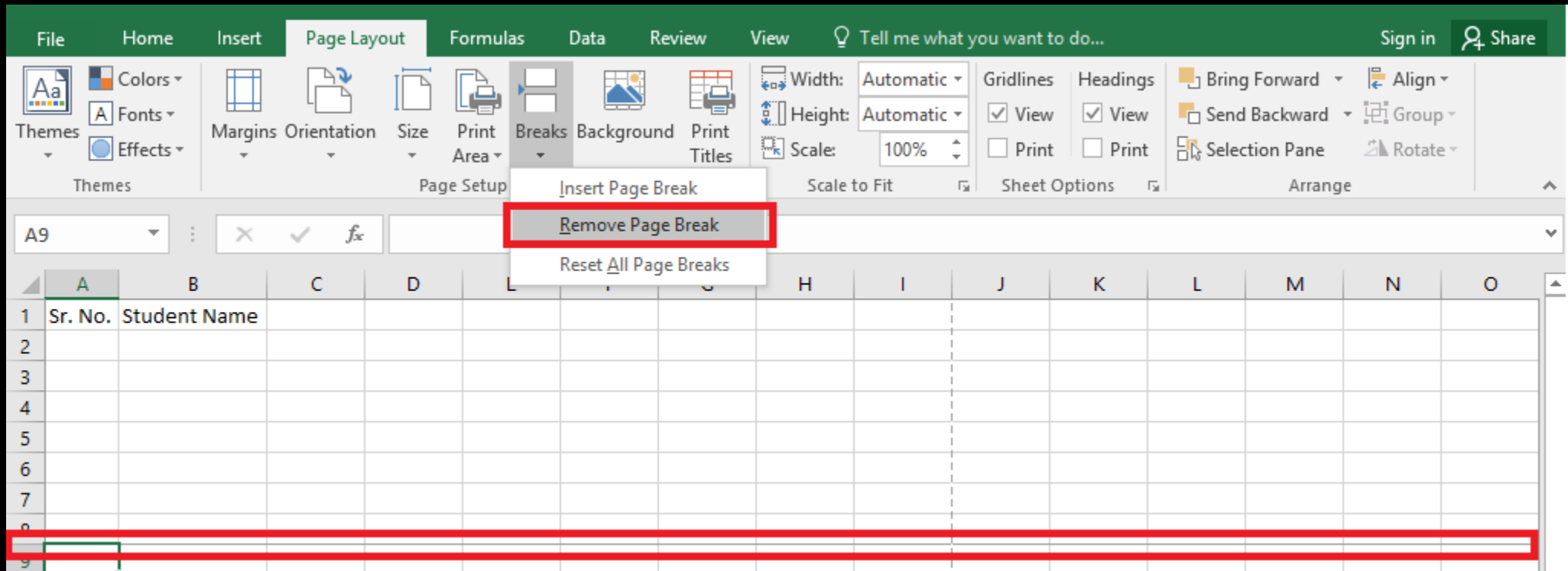


# Insert Page Breaks in Excel

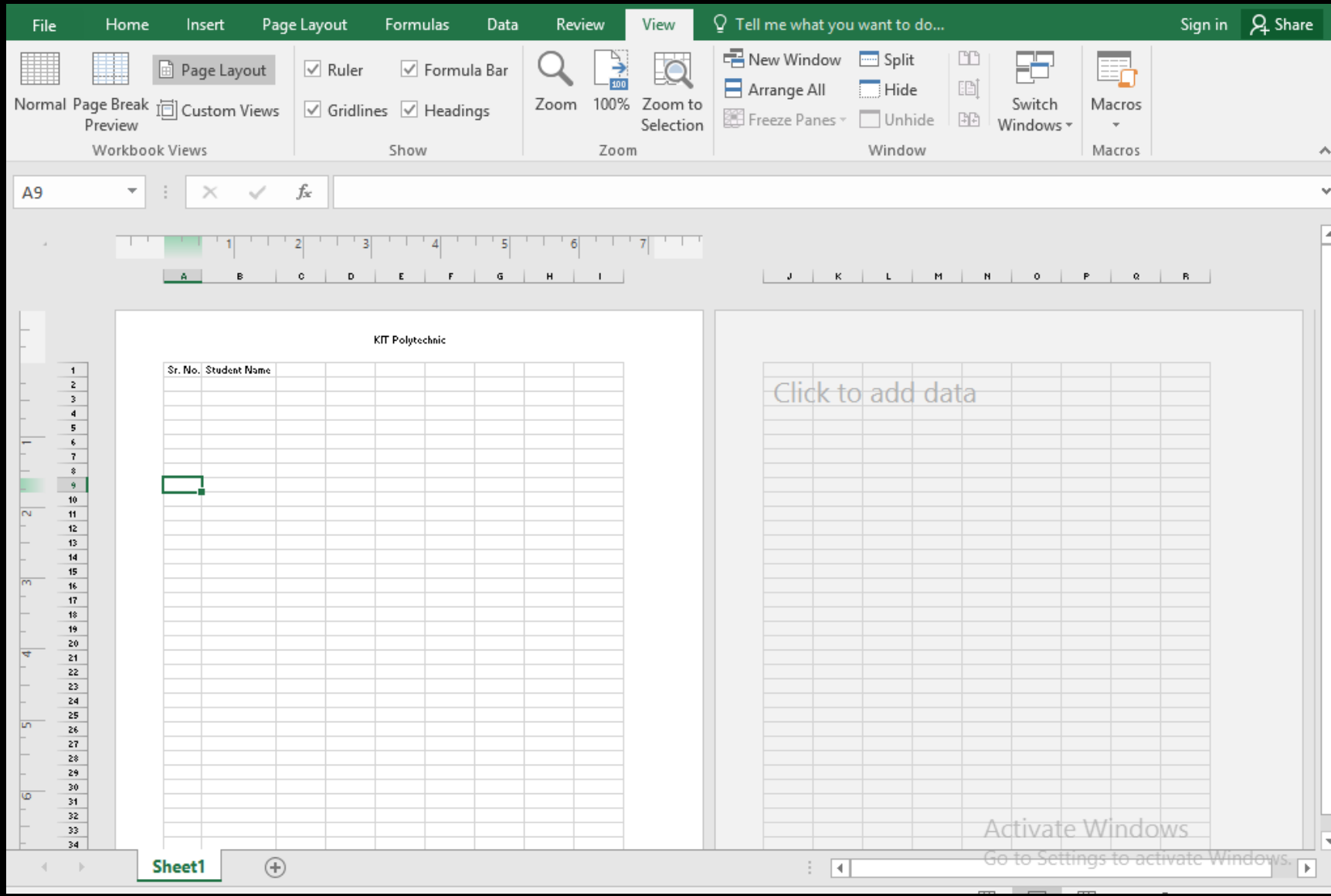


# Remove a Page Break

- Select the cell just below or to the right of the page break.
- Go to Page Layout → Breaks → Remove Page Break.

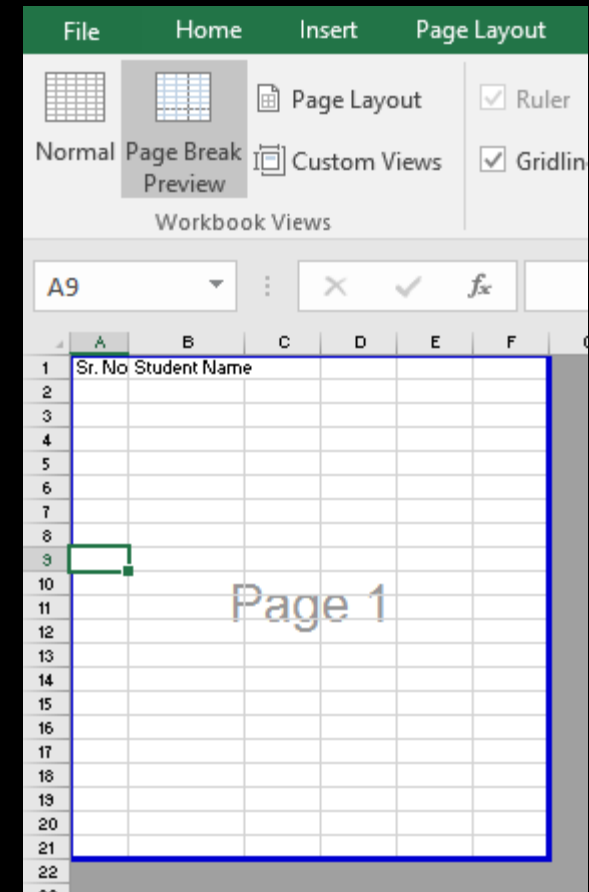


# Remove a Page Break



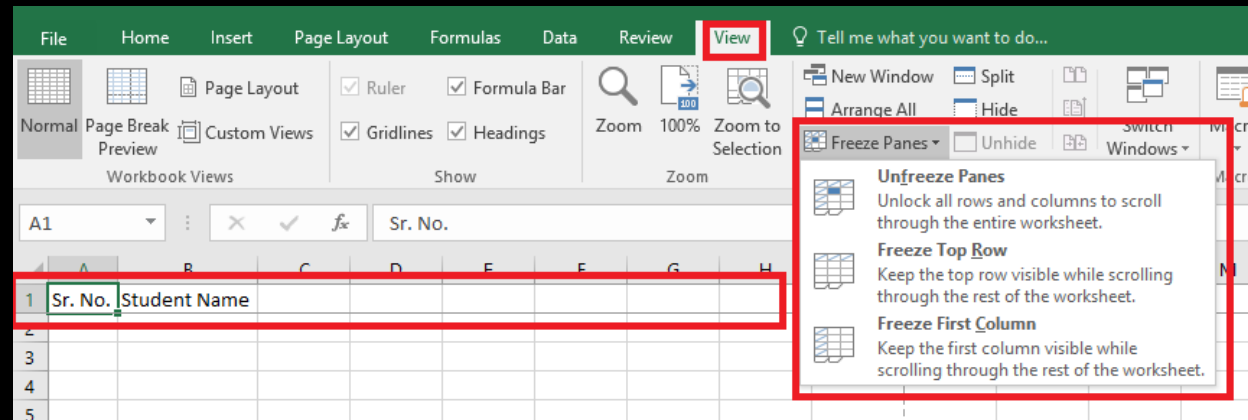
# View Page Breaks

- Go to View tab → Click Page Break Preview.
- You can drag blue lines to adjust page breaks visually.



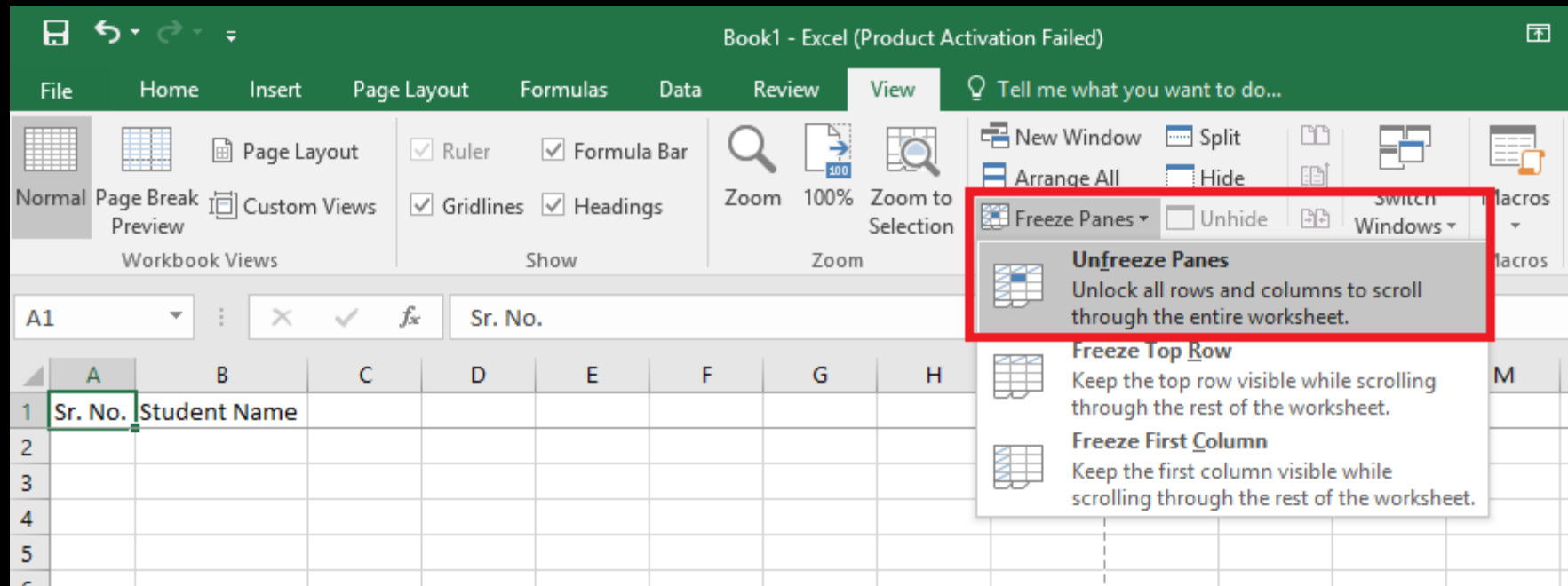
# Freeze and Unfreeze Panes in Excel

- Freeze Top Row
  - Go to View tab
  - Click Freeze Panes → Choose Freeze Top Row
- Freeze First Column
  - View → Freeze Panes → Freeze First Column
- Freeze Custom Rows/Columns
  - Select the cell below the row and to the right of the column you want to freeze.
  - Go to View → Freeze Panes → Freeze Panes
- ✦ Example: To freeze Row 1 and Column A, click on cell B2 and choose Freeze Panes.



# How to Unfreeze

- Go to View → Freeze Panes → Unfreeze Panes





# Freeze and Unfreeze Panes in Excel

Action	Excel
Freeze Top Row	View → Freeze Panes → Freeze Top Row
Freeze First Column	View → Freeze Panes → Freeze First Column
Freeze Custom	Select cell → View → Freeze Panes
Unfreeze	View → Freeze Panes → Unfreeze Panes

# Working with Formulas in Excel

- Formulas are mathematical expressions used to perform calculations on data. They are essential for automating tasks like adding totals, averages, or complex operations.
- Starting a Formula
- All formulas start with an equals sign (=)
- Example:
- =A1 + B1

# Working with Formulas in Excel

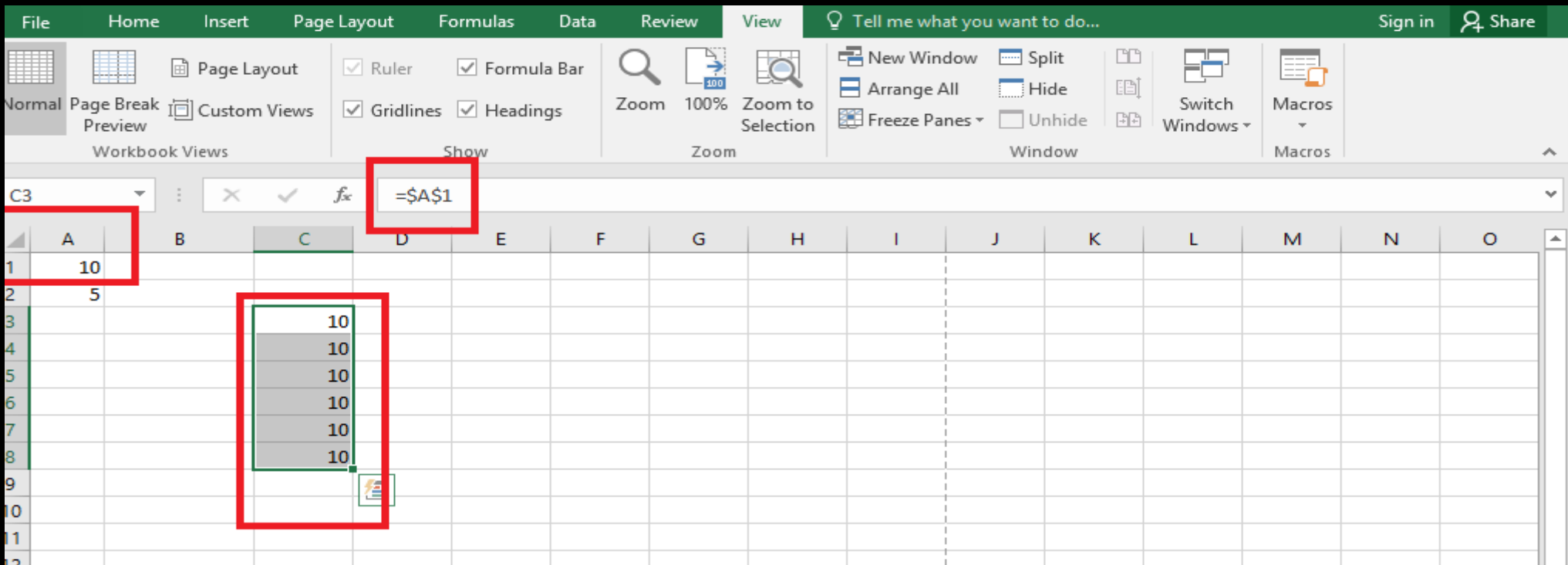
Operation	Symbol	Example	Description
Add	+	=A1 + B1	Adds two values
Subtract	-	=A1 - B1	Subtracts B1 from A1
Multiply	*	=A1 * B1	Multiplies values
Divide	/	=A1 / B1	Divides A1 by B1
Exponent	^	=A1^2	Squares the value

# Working with Formulas in Excel

Function	Syntax	Purpose
SUM	=SUM(A1:A5)	Adds a range of cells
AVERAGE	=AVERAGE(A1:A5)	Calculates the average
MAX	=MAX(A1:A5)	Finds the largest value
MIN	=MIN(A1:A5)	Finds the smallest value
COUNT	=COUNT(A1:A5)	Counts numeric values

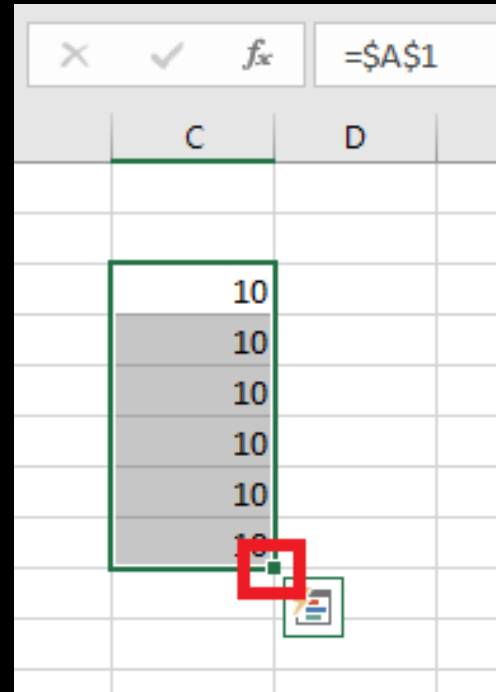
# Cell References

- Relative (A1): Changes as you copy the formula
- Absolute (\$A\$1): Stays fixed
- Example: =\$A\$1



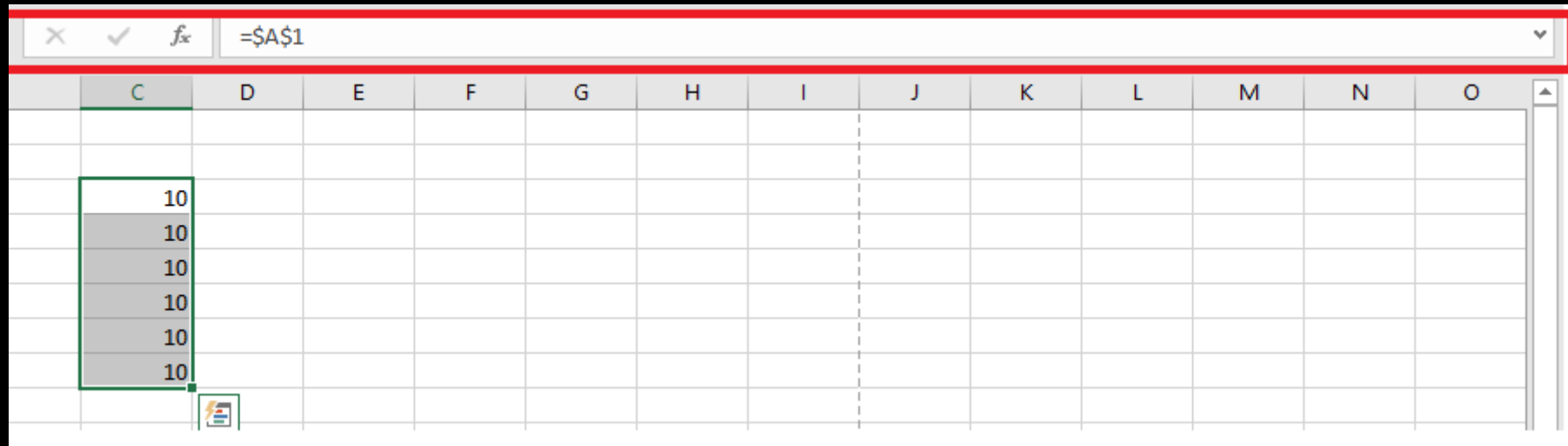
# AutoFill

- Use the fill handle (small square at bottom-right of a cell) to copy the formula to other cells.



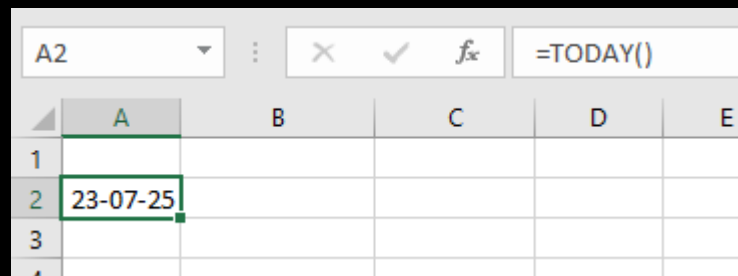
# Formula Bar

- You can see and edit formulas in the Formula Bar above the sheet.



# Date Formula in Excel

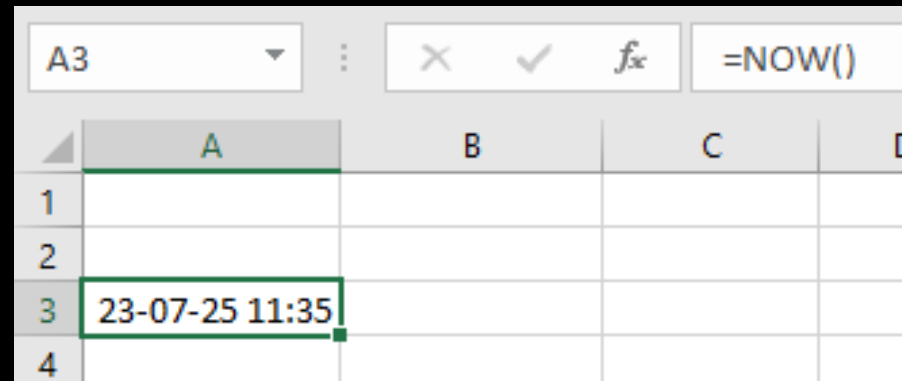
- Working with dates is important for tasks like tracking, deadlines, and reporting.
- Today's Date
- =TODAY()
- Returns the current date (updates daily)





# Current Date and Time

- =NOW()
- Returns current date + time (updates in real-time)



The screenshot shows an Excel spreadsheet with the following structure:

	A	B	C	D
1				
2				
3	23-07-25 11:35			
4				

The formula bar at the top shows the active cell is A3, and the formula entered is =NOW(). The result in cell A3 is 23-07-25 11:35.

# Adding/Subtracting Days

- `=TODAY() + 7` → 7 days from today
- `=TODAY() - 30` → 30 days ago

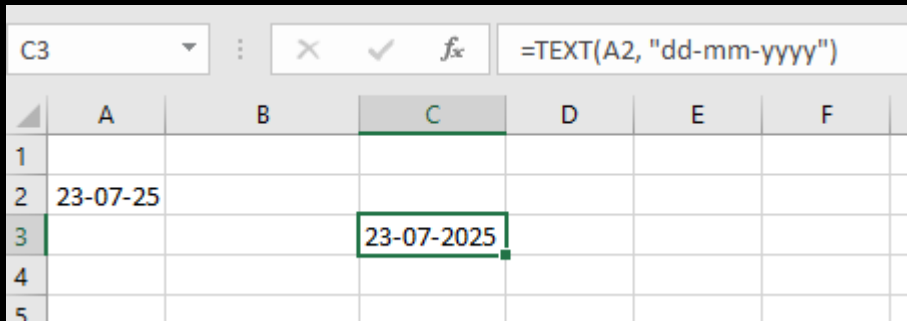
B3				
=TODAY() + 7				
	A	B	C	D
1				
2				
3		30-07-25		
4				
5				

# Calculate Age or Days Between Two Dates

- $=B2 - A2$
- A2 = Start Date
- B2 = End Date
- Output = Number of days

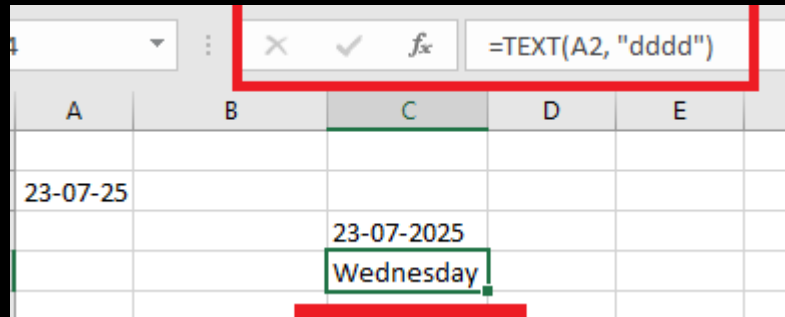
# TEXT Formatting

- =TEXT(A2, "dd-mm-yyyy")
- =TEXT(A2, "dddd") → Day name (e.g., Monday)



This screenshot shows an Excel spreadsheet with the formula bar set to `=TEXT(A2, "dd-mm-yyyy")`. The active cell is C3, which displays the date 23-07-2025. The spreadsheet has columns A through F and rows 1 through 5. Cell A2 contains the date 23-07-25.

	A	B	C	D	E	F
1						
2	23-07-25					
3			23-07-2025			
4						
5						



This screenshot shows an Excel spreadsheet with the formula bar set to `=TEXT(A2, "dddd")`. The active cell is C3, which displays the day name Wednesday. The spreadsheet has columns A through E and rows 1 through 5. Cell A2 contains the date 23-07-25.

	A	B	C	D	E
1					
2	23-07-25				
3			Wednesday		
4					
5					

# AND Function

- Syntax: =AND(condition1, condition2, ...)
- Meaning: Returns TRUE only if all conditions are TRUE.
- Returns FALSE if any one condition is FALSE.
- Example:
- =AND(A1>10, B1<50)
- Returns TRUE if A1 is greater than 10 and B1 is less than 50.

# OR Function

- Syntax:
  - =OR(condition1, condition2, ...)
  - Meaning: Returns TRUE if any one condition is TRUE.
  - Returns FALSE only if all are FALSE.
- 
- Example:
  - =OR(A1>10, B1<50)
  - Returns TRUE if either first or second condition remains TRUE

# IF ()

D5						
=IF(AND(A1>=35, B1>=35), "Pass", "Fail")						
	A	B	C	D	E	F
1	35	30				
2						
3						
4						
5				Fail		

D5						
=IF(OR(A1>=35, B1>=35), "Pass", "Fail")						
	A	B	C	D	E	F
1	35	30				
2						
3						
4						
5				Pass		

# SQRT (Square Root) Function

- Syntax:
- =SQRT(number)
- Example:
- =SQRT(25)
- Output: 5 (since  $\sqrt{25} = 5$ )
- Note:
- If the number is negative, Excel will return a #NUM! error.



# POWER Function

- Syntax:
- =POWER(number, power)
- Example:
- =POWER(2, 3)
- Output: 8 (since  $2^3 = 8$ )

# Working with Charts in Excel

- Charts help visualize your data in a graphical format like Bar, Line, Pie, etc., making it easier to understand trends and comparisons.
- Steps to Create a Chart
- Enter your data in rows or columns.
- Select the data range (including headers).
- Go to the Insert tab on the ribbon.
- Choose a Chart Type:
  - Column or Bar Chart
  - Line Chart
  - Pie Chart
  - Area Chart
  - Scatter Plot, etc.
- Excel will insert the chart on your sheet.

# Working with Charts in Excel

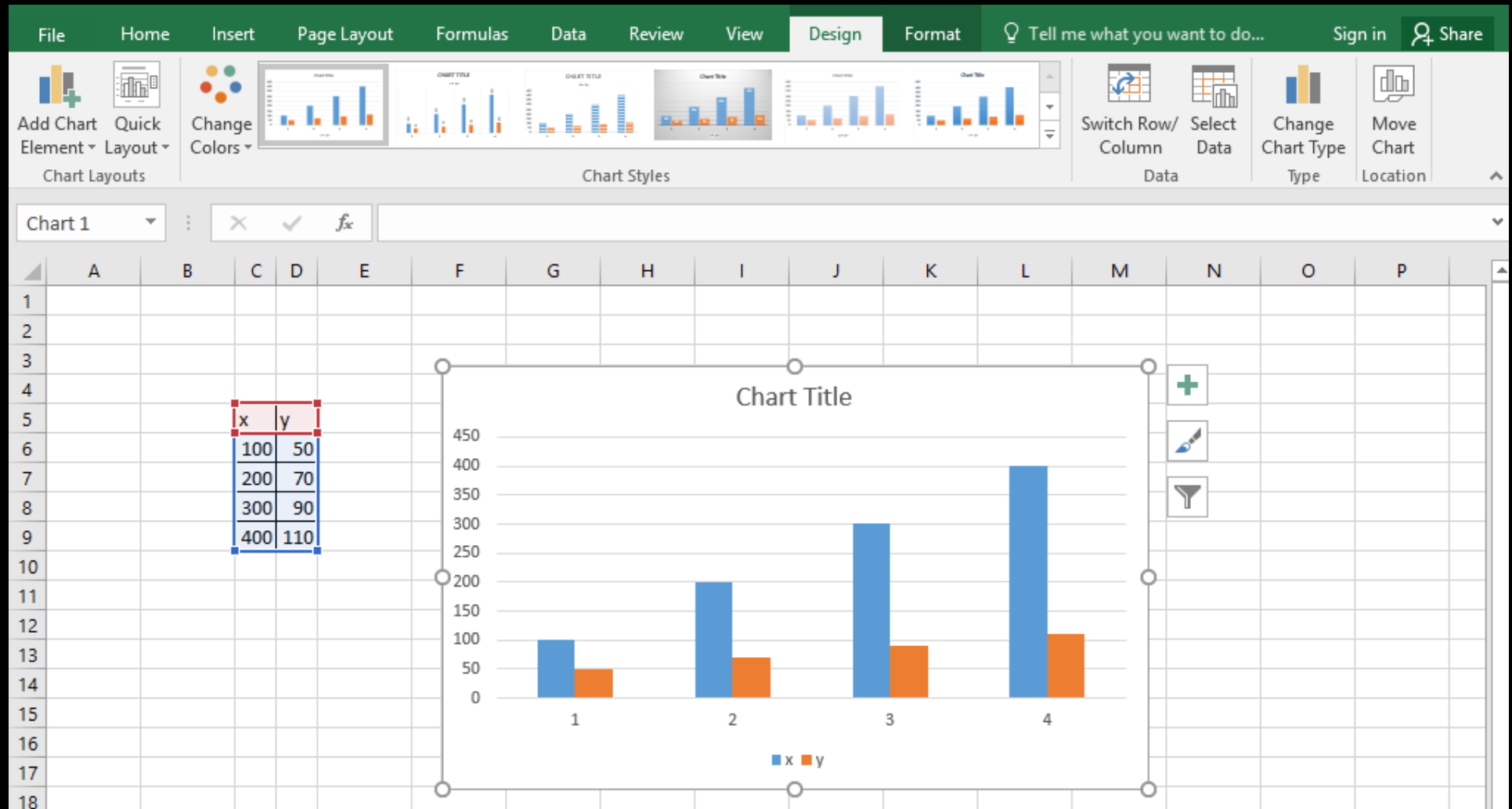
- **Customizing Your Chart**
- You can:
- **Add Chart Title:** Click on chart → “Chart Elements” (plus sign) → Check "Chart Title"
- **Change Colors or Styles:** Use the **Chart Tools > Design** tab.
- **Move Chart:** Click and drag to reposition.
- **Resize Chart:** Click chart and drag edges.

# Editing Chart Data

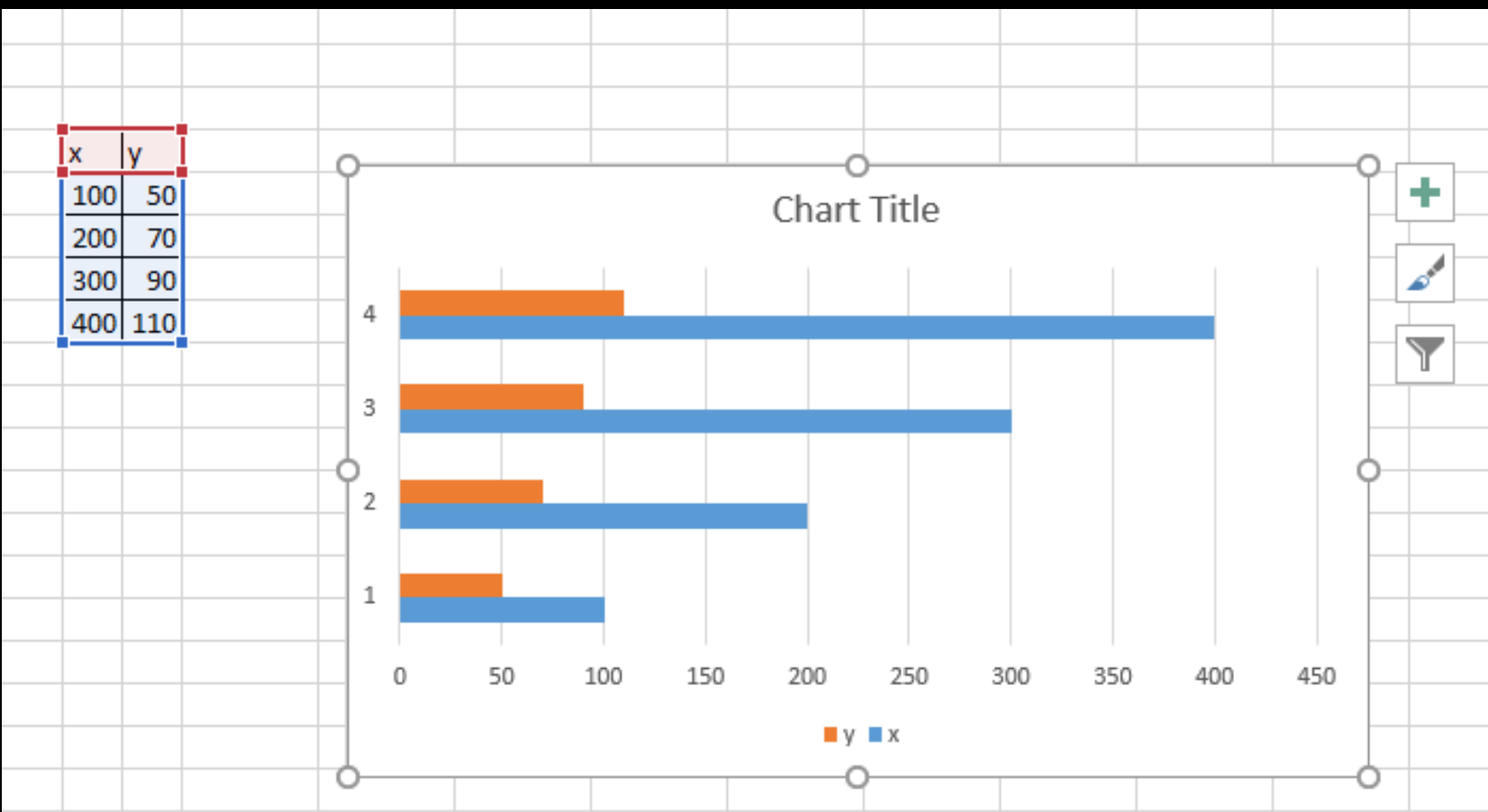
- Right-click on the chart → Select Data to modify the data range.
- Change axis labels, legend, and data series from this menu.

Chart Type	Use Case
Column Chart	Compare values side by side
Line Chart	Show trends over time
Pie Chart	Show parts of a whole
Bar Chart	Horizontal comparison of data
Area Chart	Show trend and volume over time
Scatter Chart	Show relationships between numeric values

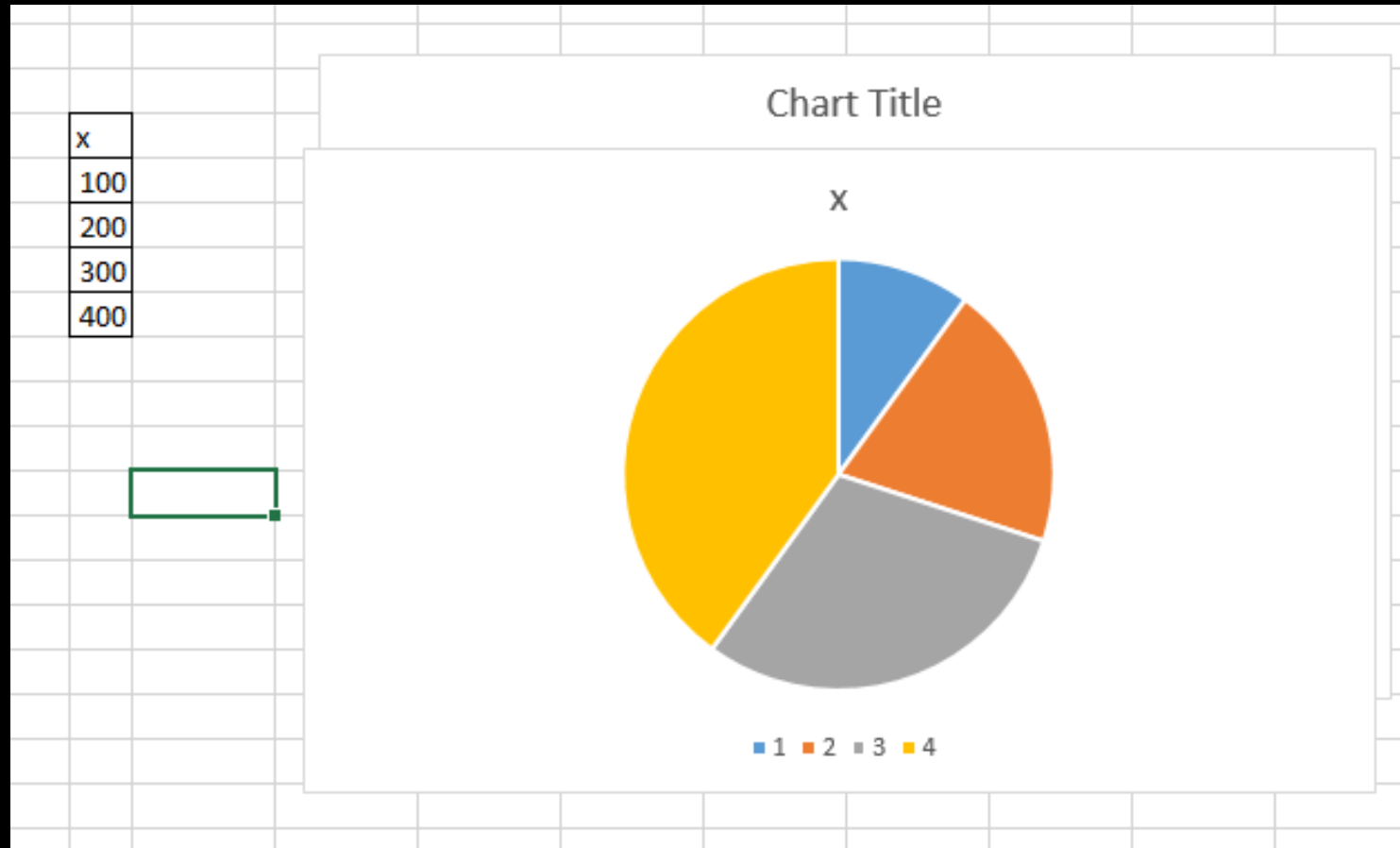
# Column Chart



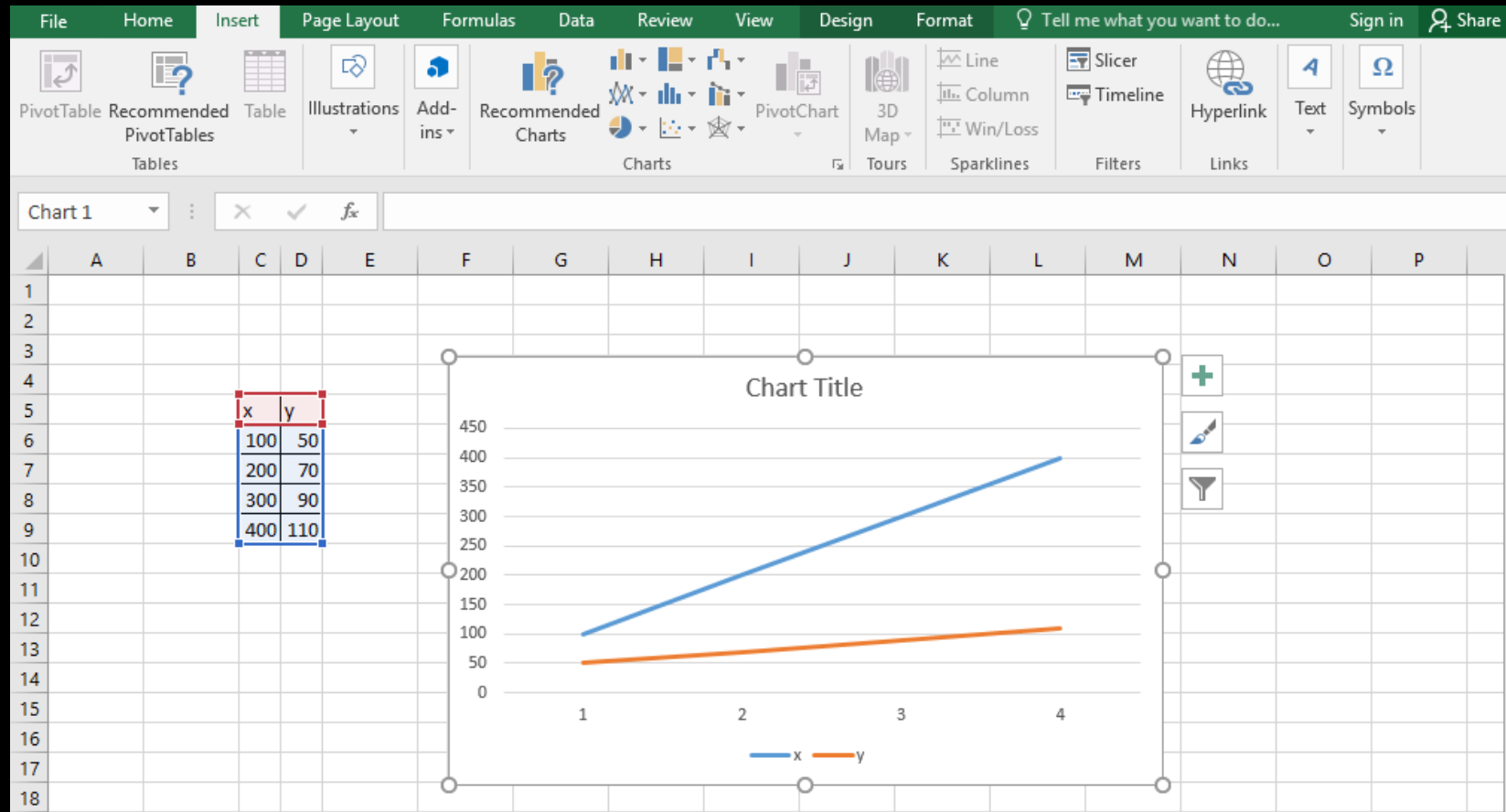
# Bar Chart



# Pie Chart

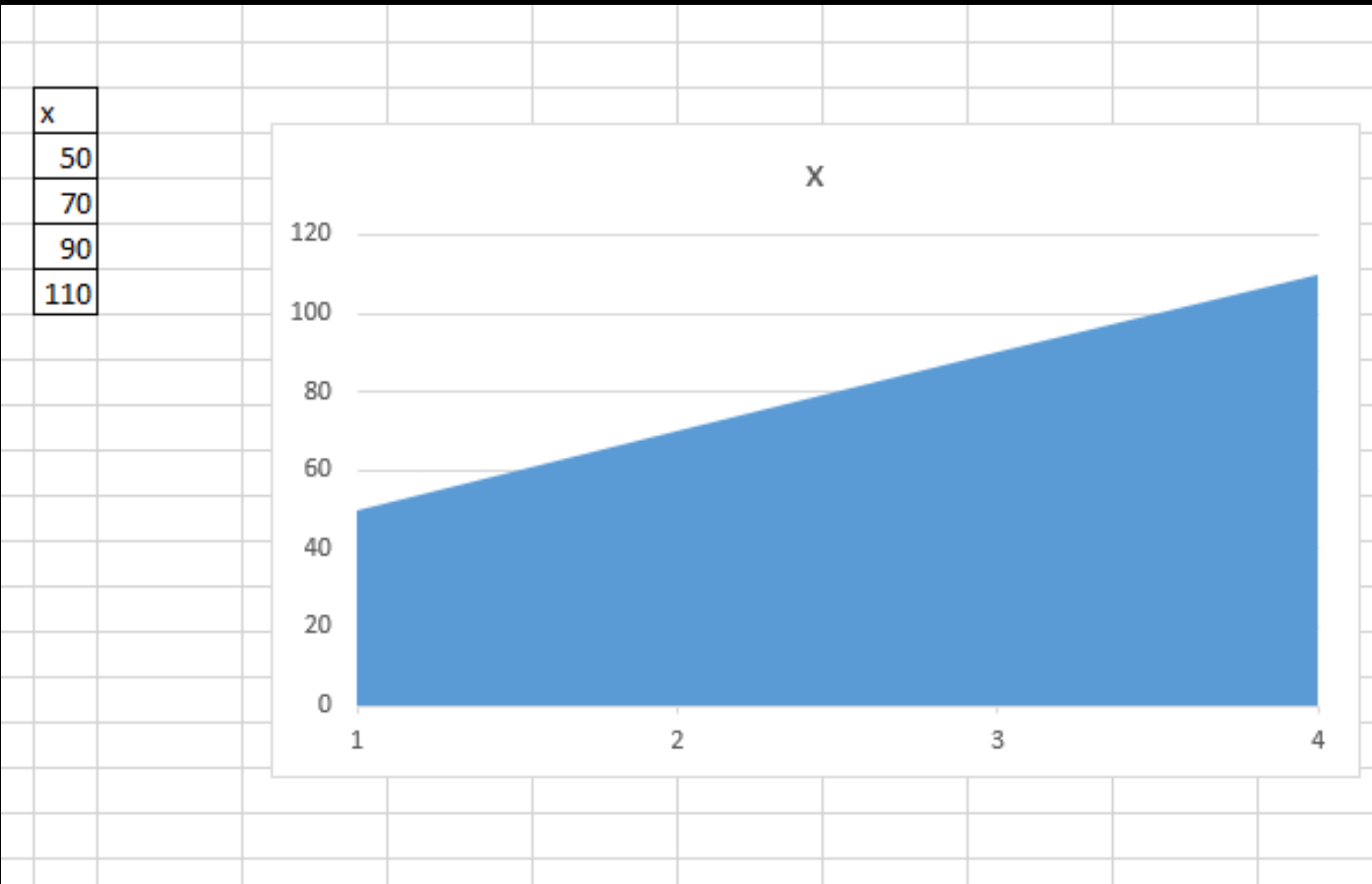


# Line Chart

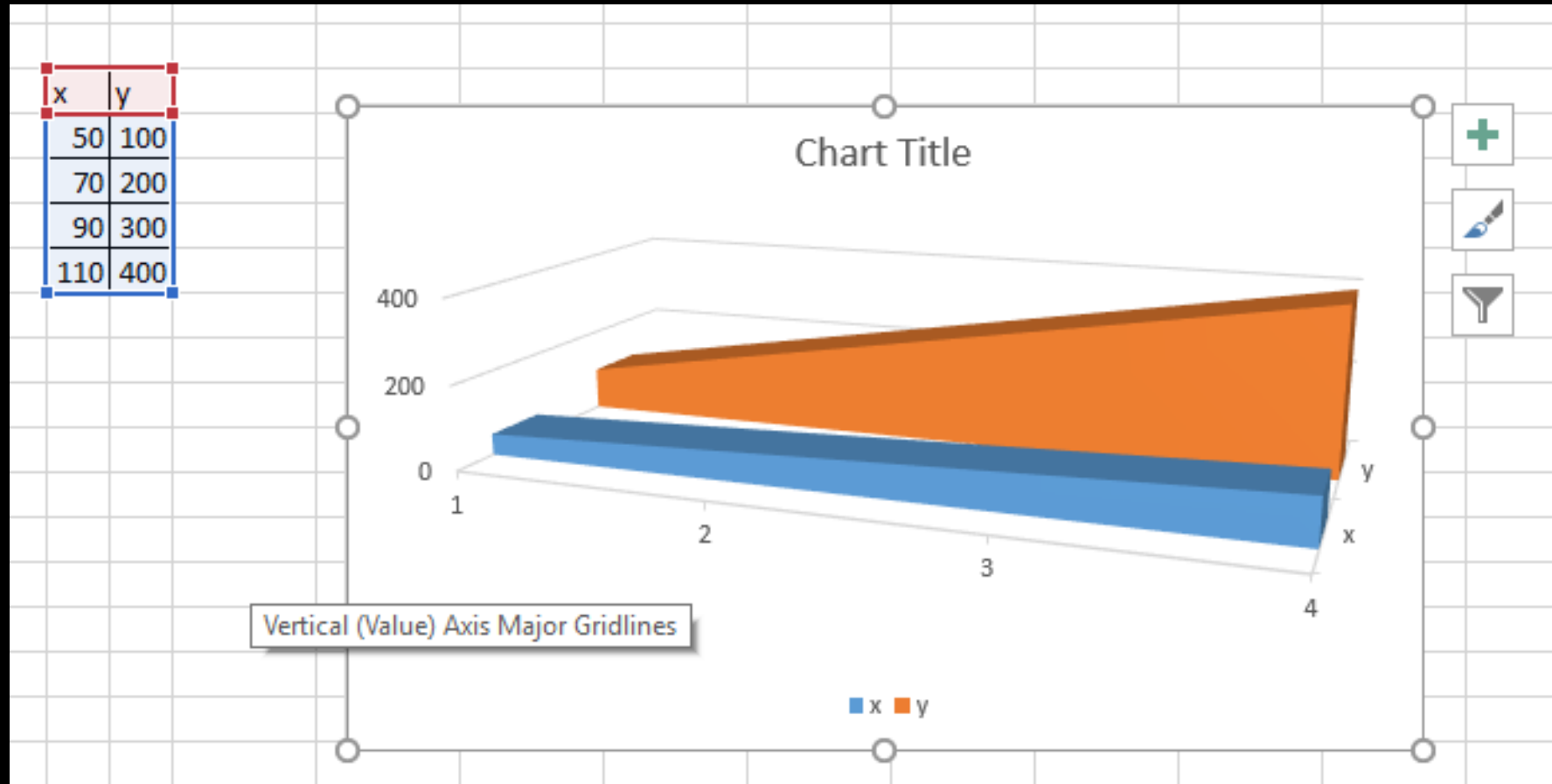




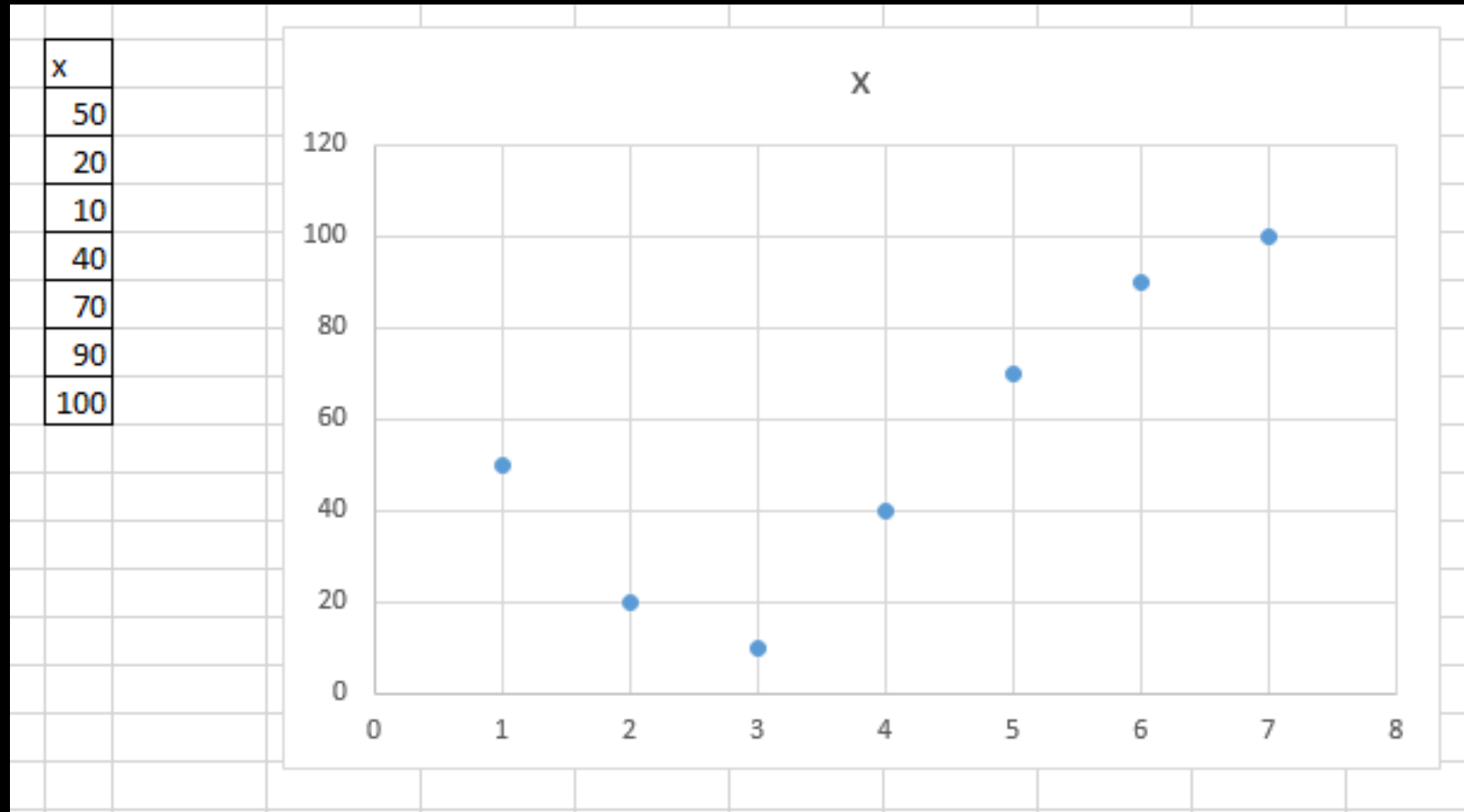
## 2-D Area chart



# 3-D Area Chart



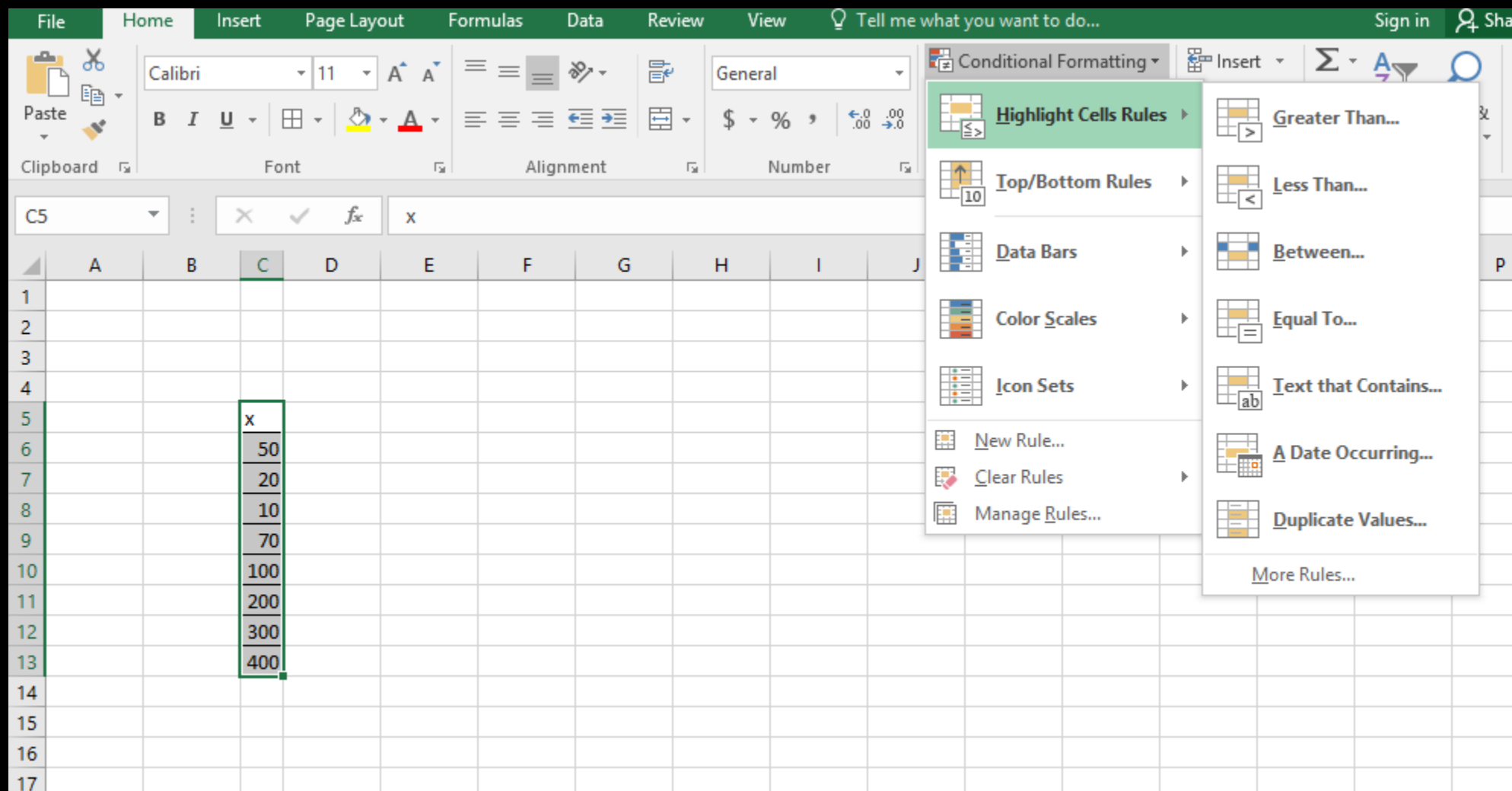
# Scattered Chart



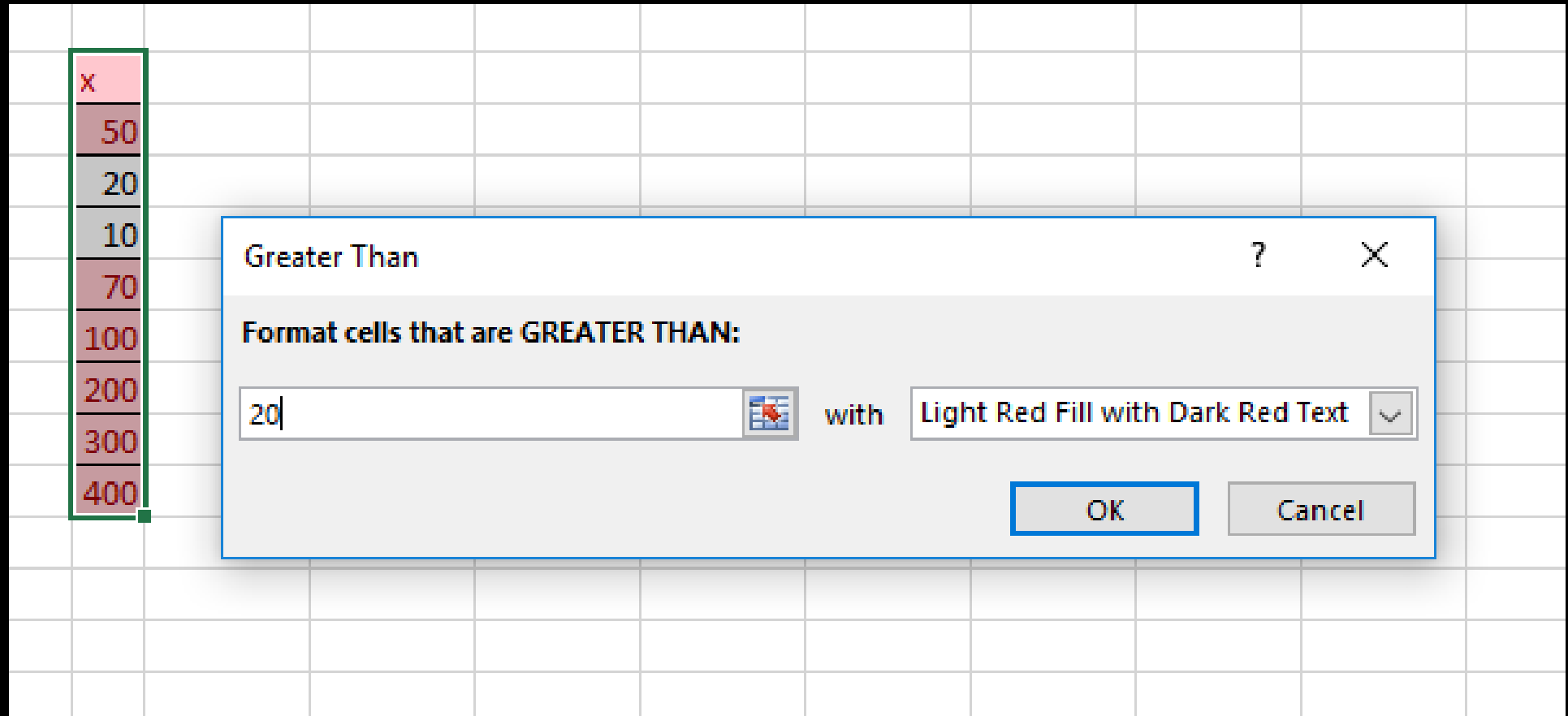
# Advanced Operations

- Conditional Formatting in Excel
- Conditional Formatting lets you apply colors, icons, or data bars to cells based on specific conditions or values — helping highlight important data at a glance.
- Where to Find It?
- Go to the Home tab → Click on Conditional Formatting in the ribbon.

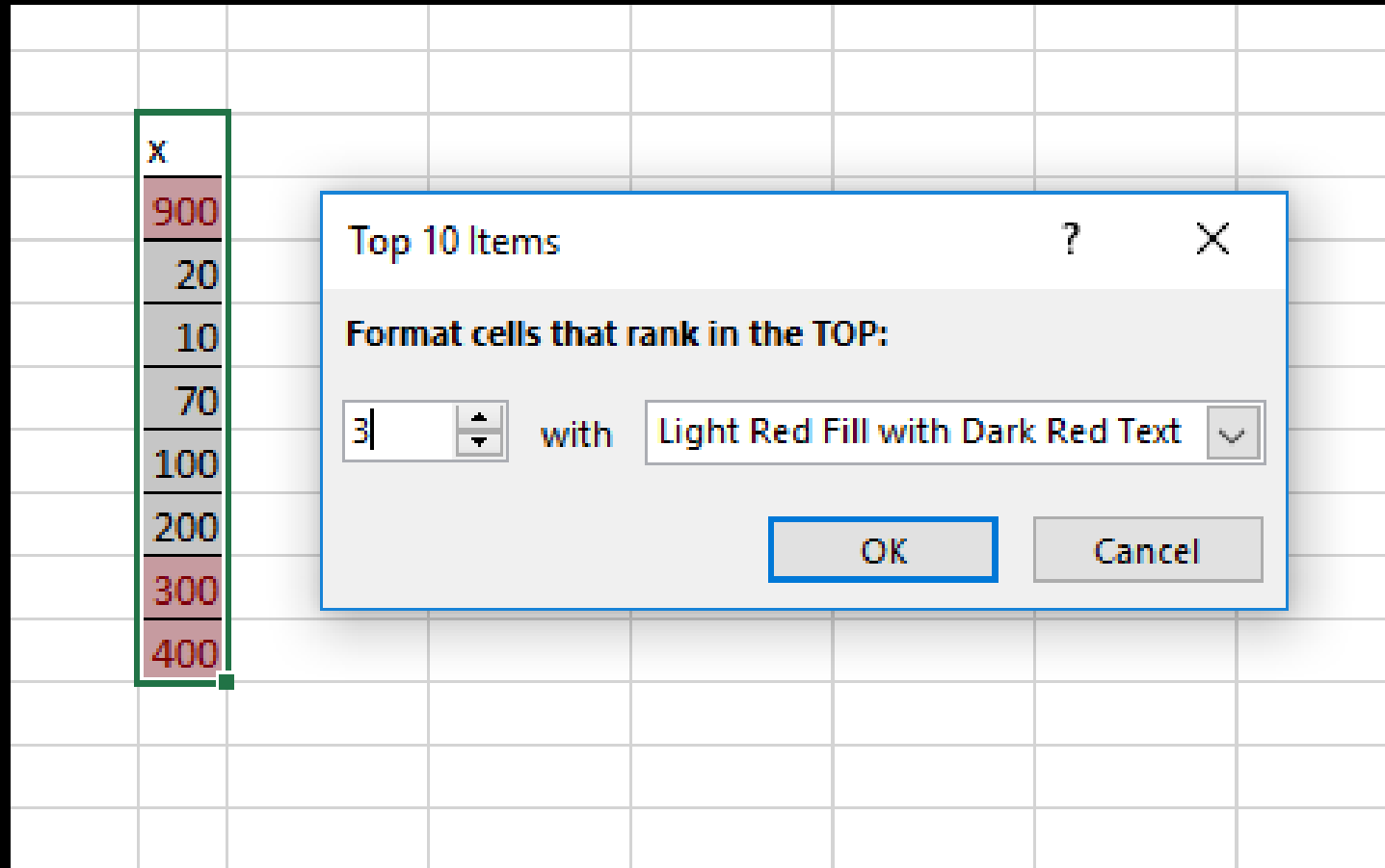
# Conditional Formatting in Excel



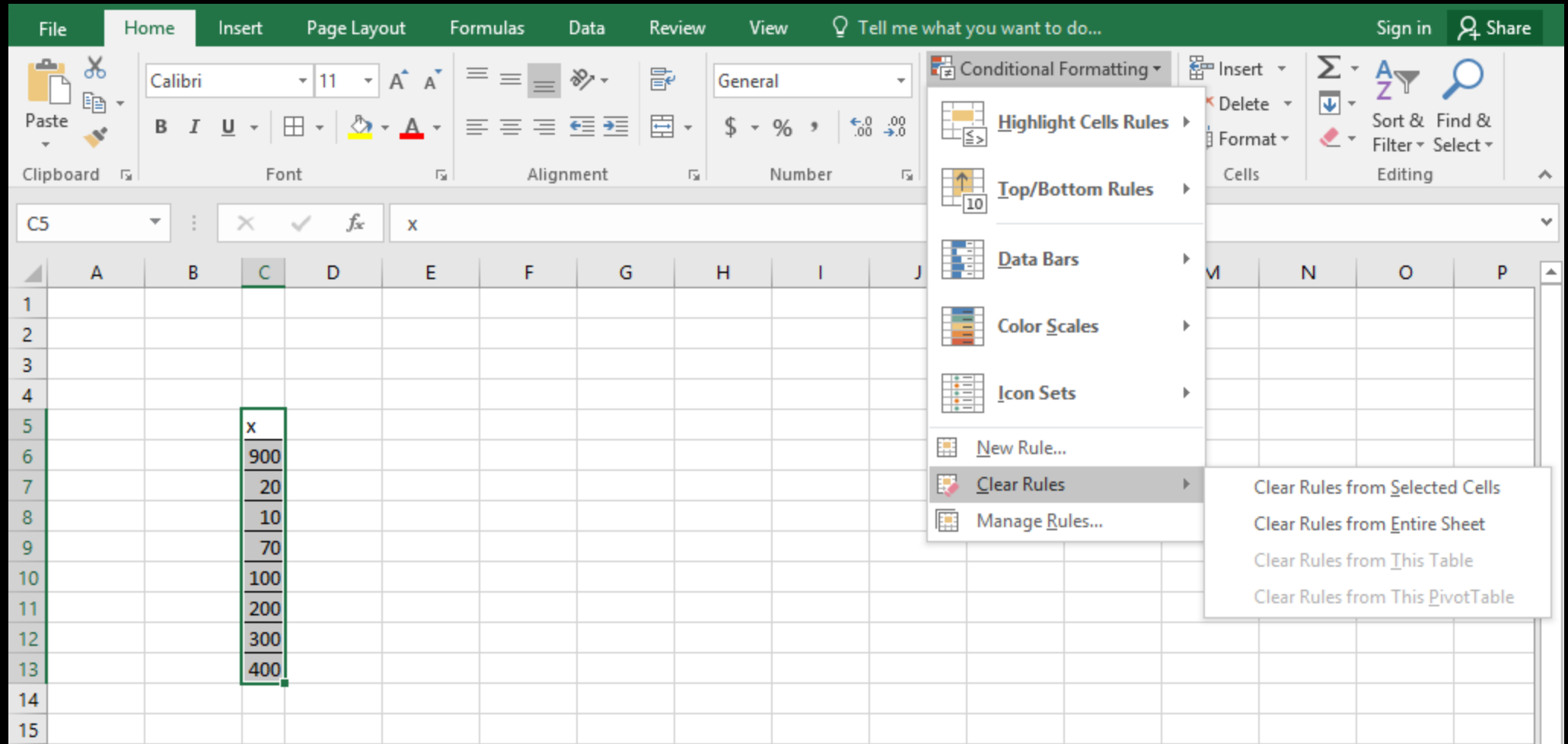
# Conditional Formatting in Excel



# Conditional Formatting in Excel



## Manage or Remove Rules





# Data Filtering in Excel

- Data Filtering in Excel helps you view only the rows that meet specific criteria, hiding the rest. It's very useful for analyzing large data sets efficiently.
- How to Apply a Filter
  - Select your data range (or just click a cell inside the data).
  - Go to Home or Data tab → Click Filter (▼ icon).
  - Small dropdown arrows will appear in the header row.
  - Click the arrow in any column → Choose values, text, numbers, or date filters.

	A	B	C
1	<b>Name ▼</b>	<b>Subject ▼</b>	<b>Marks ▼</b>
2	Anil	Math	78
3	Priya	Science	88

The screenshot shows the Microsoft Excel interface with the **DATA** tab selected. The ribbon includes options for **Sort & Filter** (Sort, Filter, Clear, Reapply, Advanced) and **Data Tools** (Text to Columns, Flash Fill, Remove Duplicates, Validation, Consolidate, What-If Analysis, Relationships). The spreadsheet data is as follows:

	A	B	C
1	<b>Name ▼</b>	<b>Subject ▼</b>	<b>Marks ▼</b>
2	Anil	Math	78
3	Priya	Science	88
4	Raj	Math	65
5			
6			
7			
8			
9			
10			
11			

The **Custom AutoFilter** dialog box is open, showing the criteria for the **Marks** column. The criteria is set to "is greater than" with a value of 70. The dialog also includes options for "And" or "Or" conditions and a second criteria field.

Use ? to represent any single character  
Use \* to represent any series of characters

OK Cancel

# Types of Filters

Type	Example Use
<b>Text Filter</b>	"Contains", "Begins with", "Ends with", etc.
<b>Number Filter</b>	"Greater than", "Less than", "Between", etc.
<b>Date Filter</b>	"Last Month", "Next Year", "Before", etc.
<b>Custom Filter</b>	Combine two or more conditions
<b>Color Filter</b>	Filter by cell color or font color

To Remove Filter

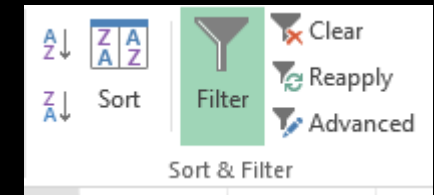
Go to Data → Filter again to toggle off.

Or click the column filter icon → Select “Clear Filter from [Column]”.

# Data Sorting in Excel

- Sorting helps you rearrange data in a specific order — alphabetically, numerically, by date, or even by color. It makes data easier to understand and analyze.
- Select your data range, including headers.
- Go to Home or Data tab → Click Sort or Sort & Filter.
- Choose:
  - Sort A to Z (ascending)
  - Sort Z to A (descending)
  - Or Custom Sort for advanced options

# Data Sorting in Excel



Type	Example
Text Sort	A to Z (e.g., Apple, Ball, Cat)
Number Sort	Smallest to Largest (1, 10, 20...)
Date Sort	Oldest to Newest (Jan → Dec)
Cell/Font Color	Sort by specific color first
Custom Sort	Multi-level sort (e.g., by Dept, then Name)

**Sort by Date (Newest to oldest) → Asha, Meena, Raj**

	A	B	C
1	<b>Nam</b> ▼	<b>Mar</b> ▼	<b>Date</b> ▼
2	Raj	72	05-06-2024
3	Meena	94	03-06-2024
4	Asha	88	01-06-2024
5			

**Sort Marks (descending) → Meena, Asha, Raj**

	A	B	C
1	<b>Name</b> ▼	<b>Marks</b> ▼	<b>Date</b> ▼
2	Meena	94	03-06-2024
3	Asha	88	01-06-2024
4	Raj	72	05-06-2024

**Sort by Date (Oldest to Newest) → Asha, Meena, Raj**

	A	B	C
1	<b>Nam</b> ▼	<b>Mar</b> ▼	<b>Date</b> ▼
2	Asha	88	01-06-2024
3	Meena	94	03-06-2024
4	Raj	72	05-06-2024

# Data Validation

The screenshot displays the Microsoft Excel interface with the **DATA** tab selected. The ribbon includes options for **Get External Data**, **Connections**, **Sort & Filter**, and **Data Tools**. A **Data Validation** dialog box is open, showing the **Settings** tab. The **Validation criteria** section is configured with **Allow:** set to **Any value** and the **Ignore blank** checkbox checked. The **Data:** dropdown is set to **between**. At the bottom of the dialog, there is an unchecked checkbox for **Apply these changes to all other cells with the same settings** and buttons for **Clear All**, **OK**, and **Cancel**.

	A	B	C	D	E
1	<b>Name</b>	<b>Marks</b>	<b>Date</b>		
2	Asha	88	01-06-2024		
3	Meena	94	03-06-2024		
4	Raj	72	05-06-2024		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

# Data Validation

- Select the cell(s) where you want to apply validation.
- Go to the Data tab → Click Data Validation.
- In the dialog box:
- Under Allow, choose the type of data:
  - Whole number
  - Decimal
  - List
  - Date
  - Time
  - Text length
  - Custom (Formula)
- Set additional criteria (e.g., range of numbers, dropdown list).
- Optionally, set:
  - Input Message (shows tip when cell is selected)
  - Error Alert (displays error when invalid data is entered)

# Data Validation

Validation Type	Example
Whole Number	Only allow values between 1 and 100
Decimal	Allow decimal values between 0.0–1.0
Date	Only allow dates after 01/01/2025
List	Dropdown of “Yes, No, Maybe”
Text Length	Only allow text with $\leq$ 10 characters
Custom Formula	=ISNUMBER(A1) (only allows numbers)

# Whole Number

Data Validation

Settings Input Message Error Alert

Validation criteria

Allow:  
Whole number ☐ Ignore blank

Data:  
between

Minimum:  
0

Maximum:  
100

☐ Apply these changes to all other cells with the same settings

Clear All OK Cancel

a

0-100 only

0-100 only

Retry Cancel Help

[Was this information helpful?](#)

-8

0-100 only

0-100 only

Retry Cancel Help

[Was this information helpful?](#)



# Decimal

Data Validation

Settings Input Message Error Alert

Validation criteria

Allow:  
Decimal ☒ Ignore blank

Data:  
between

Minimum:  
1

Maximum:  
1.5

☐ Apply these changes to all other cells with the same settings

Clear All OK Cancel

1-1.5 only

1-1.5 only

Retry Cancel Help

[Was this information helpful?](#)

1-1.5 only

1-1.5 only

Retry Cancel Help

[Was this information helpful?](#)

1-1.5 only

1-1.5 only

Retry Cancel Help

[Was this information helpful?](#)

# Date

Data Validation

Settings Input Message Error Alert

Validation criteria

Allow:  
Date ☐ Ignore blank

Data:  
greater than

Start date:  
01-01-2025

☐ Apply these changes to all other cells with the same settings

Clear All OK Cancel

01-01-2024

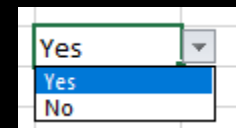
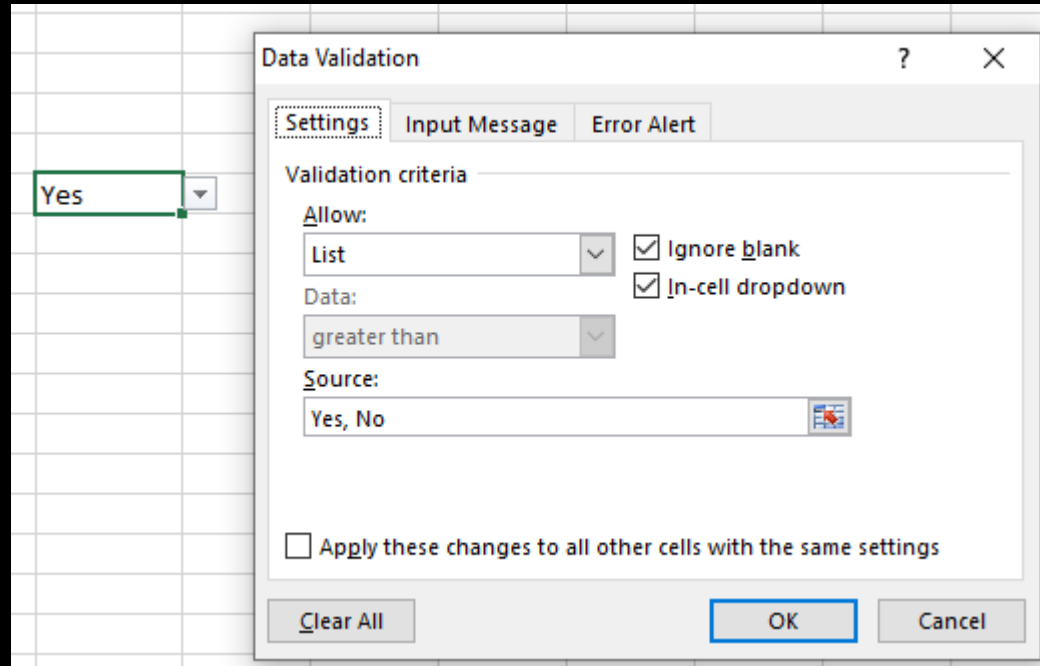
Greater than 01-01-2025

Greater than 01-01-2025

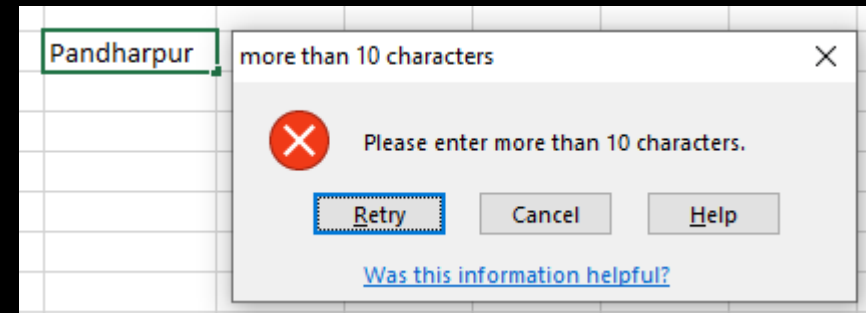
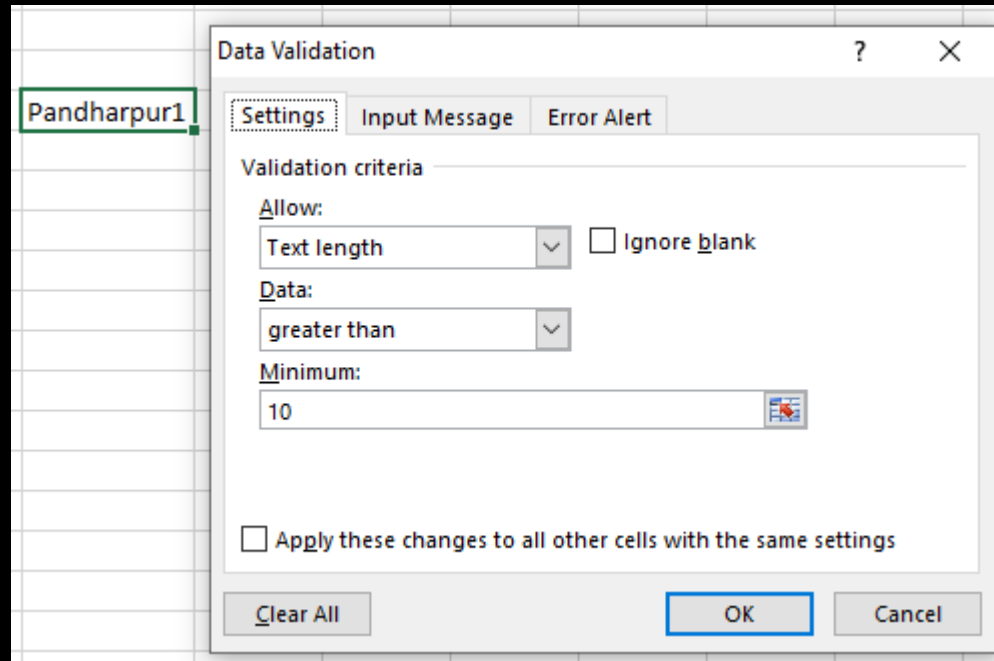
Retry Cancel Help

[Was this information helpful?](#)

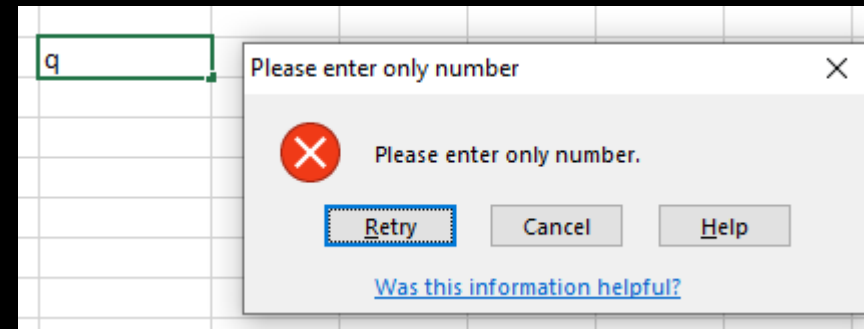
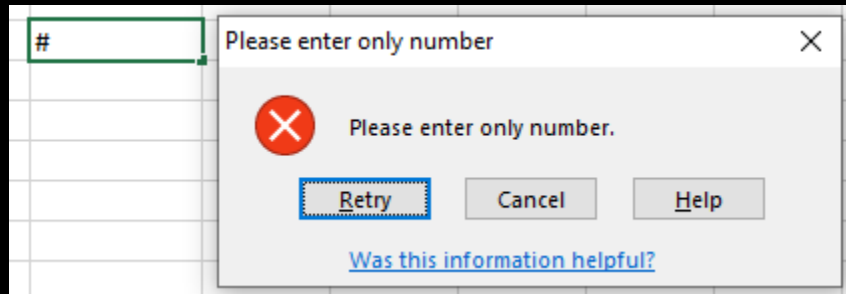
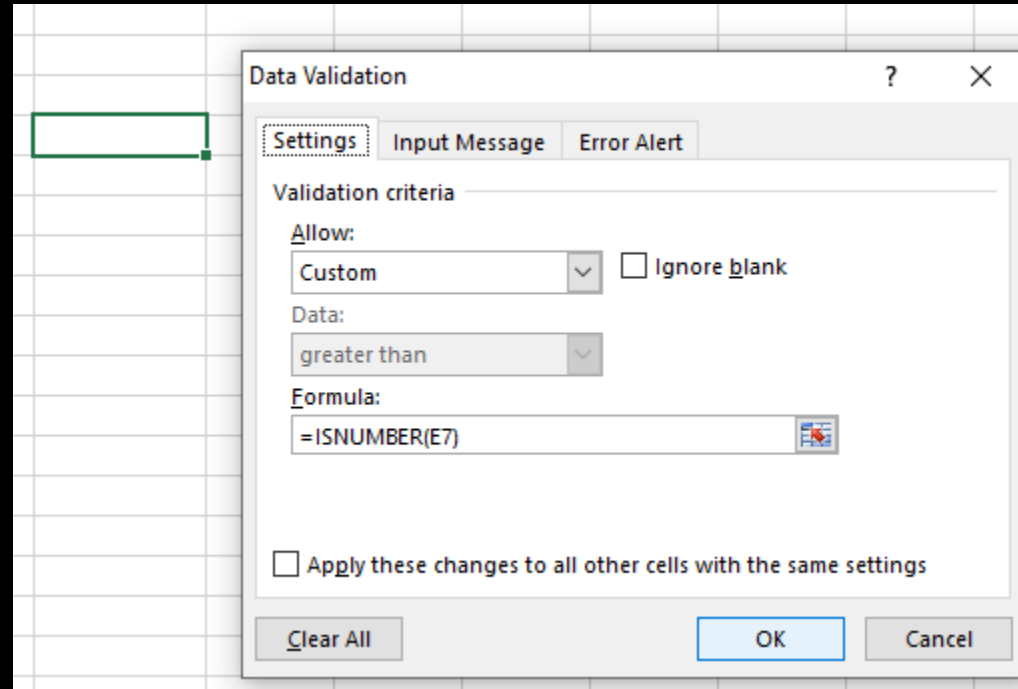
# List



# Text length

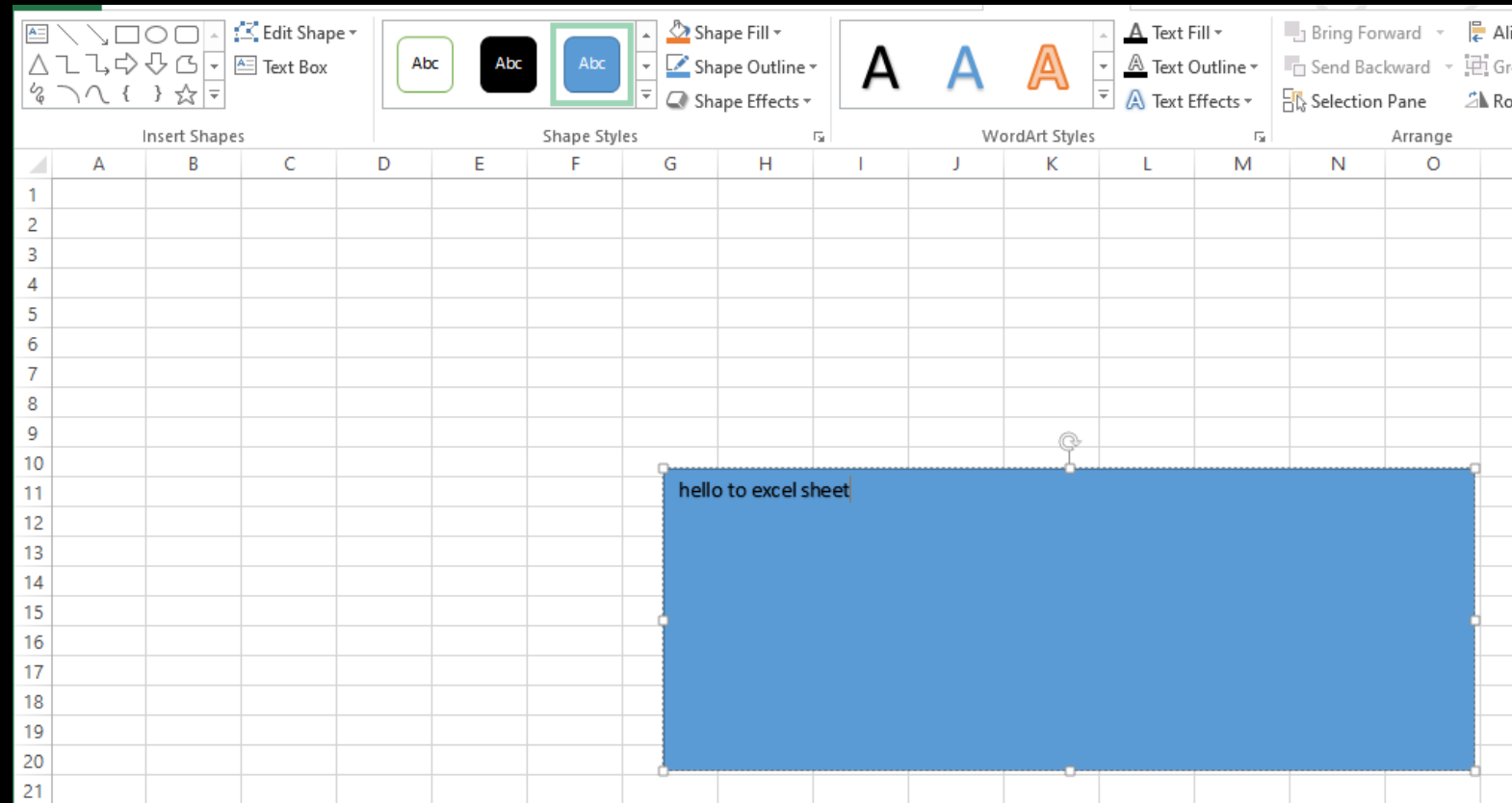
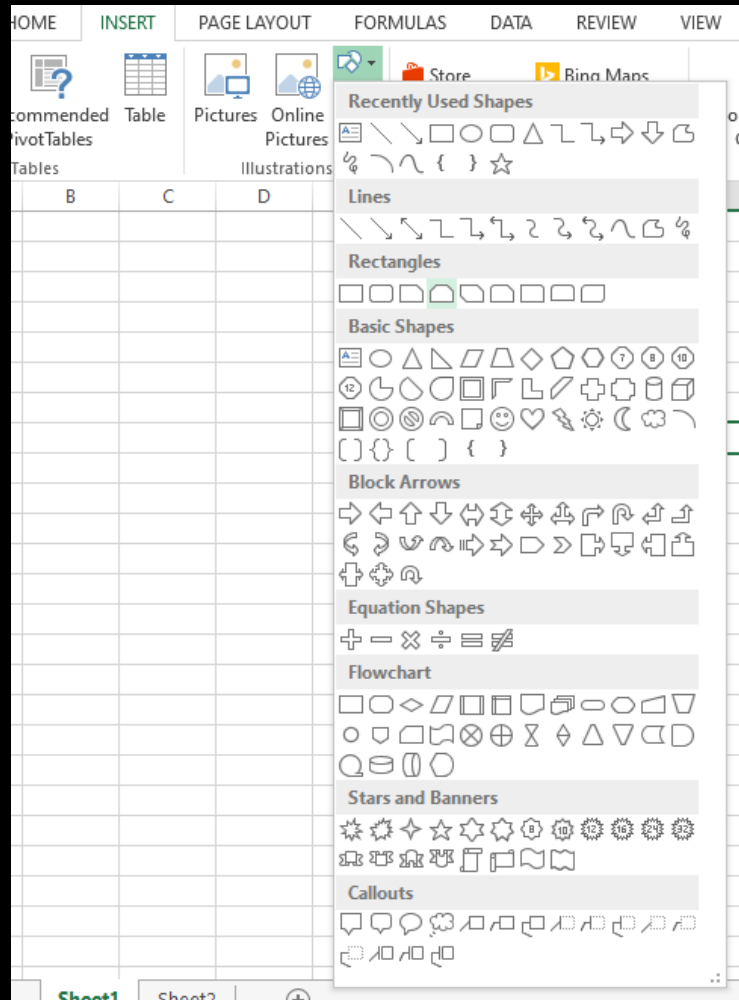


# Custom



To Remove Validation  
Select cell → Go to Data Validation → Click Clear All

# Insert shapes



# Adding Graphics text

The image shows a screenshot of the Microsoft Word ribbon interface. The 'INSERT' tab is active, and the 'FORMAT' sub-tab is selected. The ribbon includes sections for 'Illustrations' (Pictures, Online Pictures), 'Add-ins' (Store, Bing Maps, My Apps, People Graph), 'Charts' (Recommended Charts, PivotChart), 'Sparklines' (Line, Column, Win/Loss), 'Filters' (Slicer, Timeline), and 'Hyperlinks'. A text box is inserted into the document, containing the text 'Your text here' in a large, bold, black font with a blue outline. A floating menu on the right side of the text box displays various text styles, including different colors (black, blue, orange, grey), outlines (solid, dashed, dotted), and patterns (hatched, wavy).

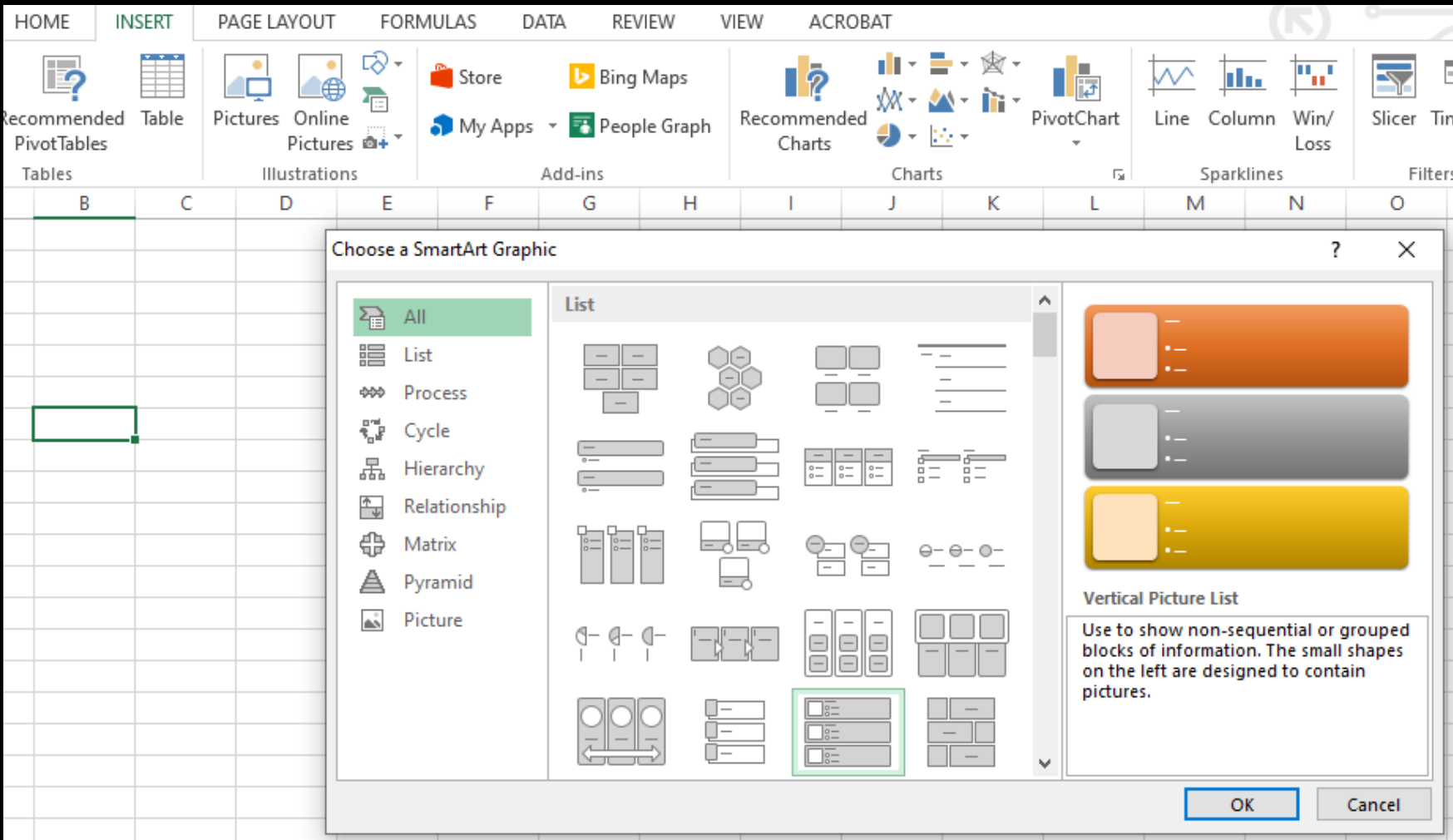
INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ACROBAT **FORMAT**

ended Table Pictures Online Pictures Illustrations Store Bing Maps Add-ins My Apps People Graph Recommended Charts Charts PivotChart Sparklines Line Column Win/Loss Filters Slicer Timeline Hyperlinks

**Your text here**

A A A A A  
A A A A A  
A A A A A  
A A A A A

# Inserting SmartArt Graphic



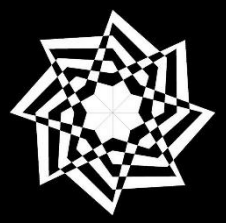


# Selecting Printer

The screenshot displays the 'Print' dialog box in Microsoft Word. On the left is a green sidebar with navigation options: Info, New, Open, Save, Save As, Save as Adobe PDF, **Print**, Share, Share as Adobe PDF link, Export, Close, Account, and Options. The main area is titled 'Print' and contains the following elements:

- Print button:** A button with a printer icon and the text 'Print'.
- Copies:** A dropdown menu set to '1'.
- Printer:** A dropdown menu showing 'Microsoft Print to PDF' with a status of 'Ready'. A link for 'Printer Properties' is below it.
- Settings:** A section with several options:
  - Print Active Sheets:** A dropdown menu with the text 'Only print the active sheets'.
  - Pages:** Input fields for 'Pages: ' to ' to '.
  - Collated:** A dropdown menu with options '1,2,3', '1,2,3', and '1,2,3'.
  - Landscape Orientation:** A dropdown menu.
  - Letter:** A dropdown menu showing '21.59 cm x 27.94 cm'.
  - Normal Margins:** A dropdown menu showing 'Left: 1.78 cm' and 'Right: 1.78 cm'.
  - No Scaling:** A dropdown menu with the text 'Print sheets at their actual size'.A link for 'Page Setup' is at the bottom of the settings section.

On the right side of the dialog, there is a large rectangular area containing a flowchart with three blue boxes labeled 'Step1', 'Step2', and 'Step3' connected by right-pointing arrows. A small yellow exclamation mark is located in the bottom right corner of this area.



--- The End ---