

**Mahavir Polytechnic, Nashik**  
**Department of Information Technology Engineering**

**Year: FY**

**Subject: ICT (311001)**

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**UNIT 3: Word Processing**

**Course Outcome 3: proficiency in basic text manipulation, document formatting, utilizing advanced features like tables and images, and understanding document collaboration and sharing**

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**Syllabus:**

3.1 Working with Spreadsheets: Overview of workbook and worksheet, Create Worksheet Entering sample data , Save , Copy Worksheet, Delete Worksheet, Close and open Workbook.

3.2 Editing Worksheet: Insert and select data, adjust row height and column width, delete, move data, insert rows and columns, Copy and Paste, Find and Replace, Spell Check, Zoom In-Out, Special Symbols, Insert comments, Add Text Box , Undo Changes, Freeze.

3.3 Formatting Cells and sheet: Setting Cell Type, Setting Fonts, Text options, Rotate Cells, Setting Colors, Text Alignments, Merge and Wrap, apply Borders and Shades, Sheet Options, Adjust Margins, Page Orientation, Header and Footer, Insert Page Breaks.

3.4 Working with Formula: Creating Formulas, Copying Formulas, Common spreadsheet Functions such as sum, average, min, max, date, In, And, or, mathematical functions such as sqrt, power, applying conditions using IF.

3.5 Working with Charts: Introduction to charts, overview of different types of charts, Bar, Pie, Line charts, creating and editing charts. Using chart options: chart title, axis title, legend, data labels, Axes, grid lines, moving chart in a separate sheet.

3.6 Advanced Operations: Conditional Formatting, Data Filtering, Data Sorting, Using Ranges, Data Validation, Adding Graphics, Printing Worksheets, print area, margins, header, footer and other page setup options.

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### 3.1 Working with Spreadsheet:

#### What is a Spreadsheet?

A **spreadsheet** is a software application used to organize, store, and calculate data in a tabular form. It is made up of **workbooks** and **worksheets**.

- **Workbook:** The entire spreadsheet file (e.g. Budget.xlsx), which can contain one or more sheets.
- **Worksheet:** A single sheet within a workbook, consisting of **rows** (numbered) and **columns** (labeled with letters).

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#### Working with a Spreadsheet (Main Tasks)

##### 1 Create a Worksheet

- Open the spreadsheet program (e.g. Microsoft Excel, Google Sheets).
- Click the **New** option to create a blank workbook.
- A blank worksheet appears ready for data entry.

##### 2 Entering Data

- Click on a **cell** (intersection of a column and row) like A1.
- Type the data (text, numbers, dates, formulas) and press **Enter**.

##### 3 Saving the Workbook

- Click **File** → **Save** or press **Ctrl + S**.
- Choose a file name and location.
- Save as file types like .xlsx or .xls for Excel.

##### 4 Copying a Worksheet

- Right-click the sheet's tab at the bottom.
- Choose **Move or Copy**.
- Check **Create a copy** and click **OK**.

##### 5 Deleting a Worksheet

- Right-click the sheet tab.
- Click **Delete**.
- Confirm the deletion.

##### 6 Closing the Workbook

- Click **File** → **Close** or simply close the window.
- Save your changes if prompted.

### 7 Opening an Existing Workbook

- Click **File** → **Open**.
- Browse to your file and click **Open**.

### Quick Recap

- ✓ **Workbook** = Whole file
- ✓ **Worksheet** = Individual sheet
- ✓ **Data entry** = Select cell & type
- ✓ **Copy / Delete** sheets = Right-click tab
- ✓ **Save regularly** (Ctrl + S)

### Diagram Overview:

css  
CopyEdit  
[Workbook: Budget.xlsx]

	[Sheet1]	[Sheet2]	
	A	B	C D
1	—	—	— —
2	—	—	— —
3	—	—	— —

← Worksheet tabs  
← Columns  
← Rows

1	—	—	—	—
2	—	—	—	—
3	—	—	—	—

← रोस

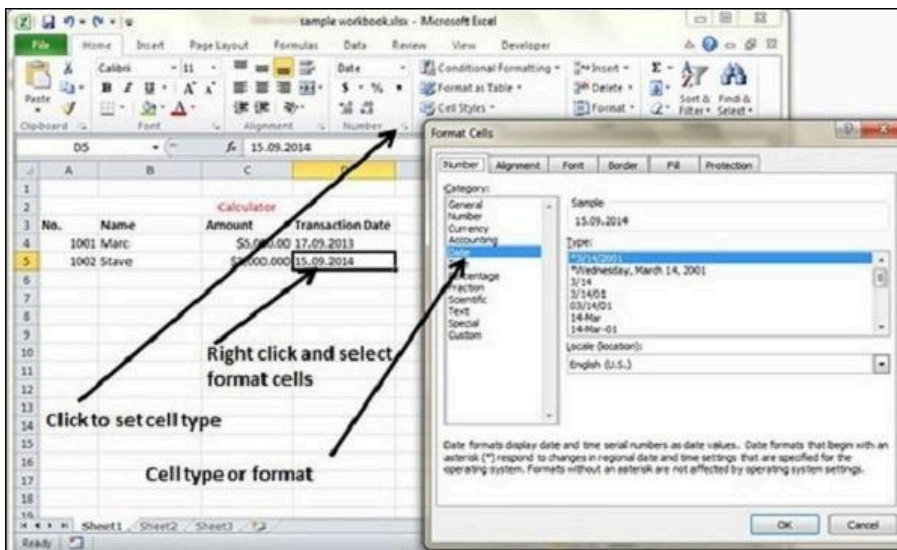
### 3.2 Editing Worksheet:

- ✓ **Insert and select data** – Enter data into cells and select one or multiple cells for editing.
- ✓ **Adjust row height and column width** – Resize rows and columns to fit your data.
- ✓ **Delete** – Remove unwanted data, rows, columns, or entire sheets.
- ✓ **Move data** – Cut and move data to a new location.
- ✓ **Insert rows and columns** – Add extra rows or columns where needed.
- ✓ **Copy and Paste** – Duplicate data easily into other cells.
- ✓ **Find and Replace** – Search for specific data and quickly replace it.
- ✓ **Spell Check** – Check and correct spelling errors.
- ✓ **Zoom In/Out** – Adjust your view of the worksheet for better visibility.

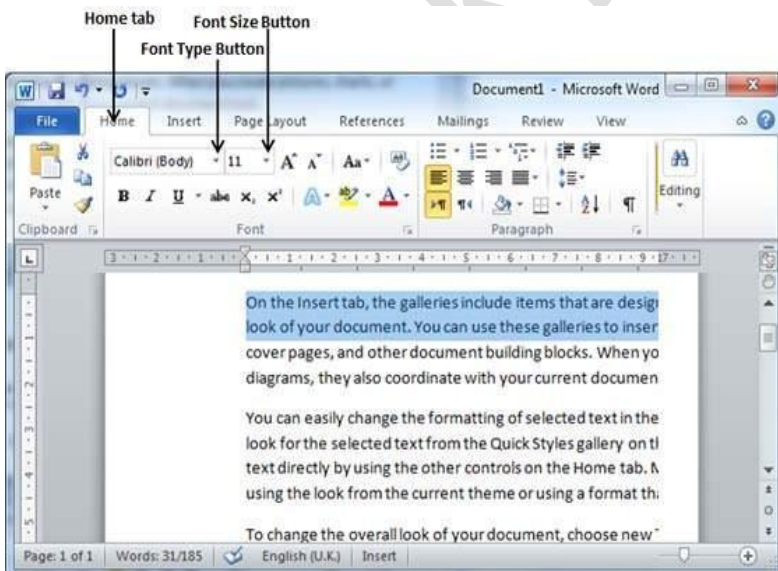
- ✓ **Special Symbols** – Insert symbols (e.g. €, ©, ™) into cells.
- ✓ **Insert comments** – Add notes or remarks to specific cells.
- ✓ **Add Text Box** – Insert a floating box with text for annotations.
- ✓ **Undo Changes** – Revert your last action if you make a mistake.
- ✓ **Freeze panes** – Keep selected rows or columns visible while scrolling

### 🎨 3.3 Formatting Cells and Sheets

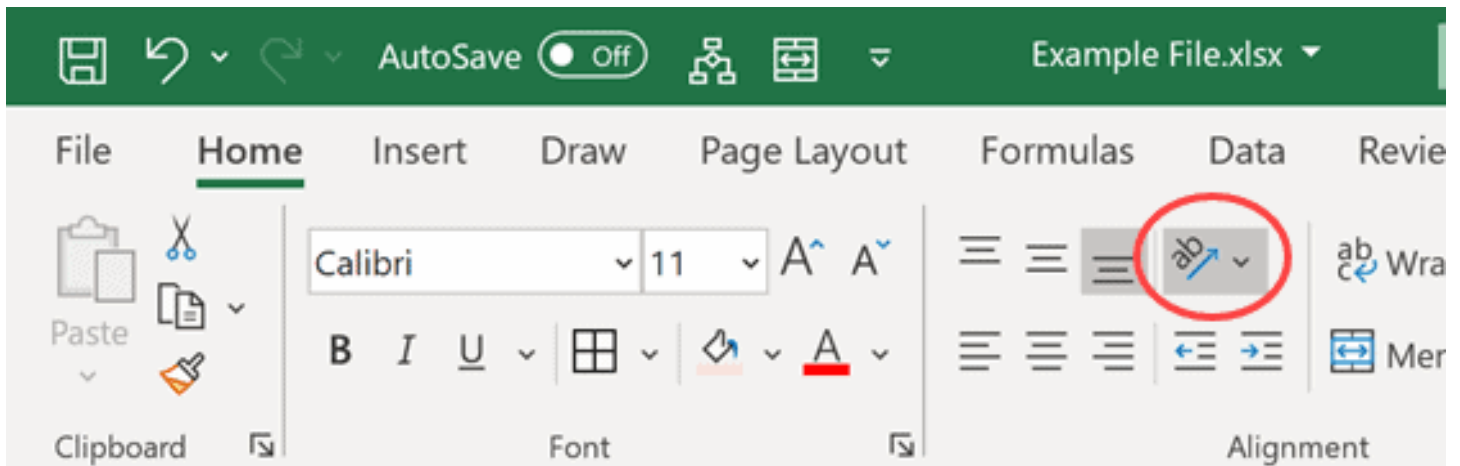
- ✓ **Setting Cell Type** – Choose the cell’s data type (General, Number, Date, Currency, etc.).



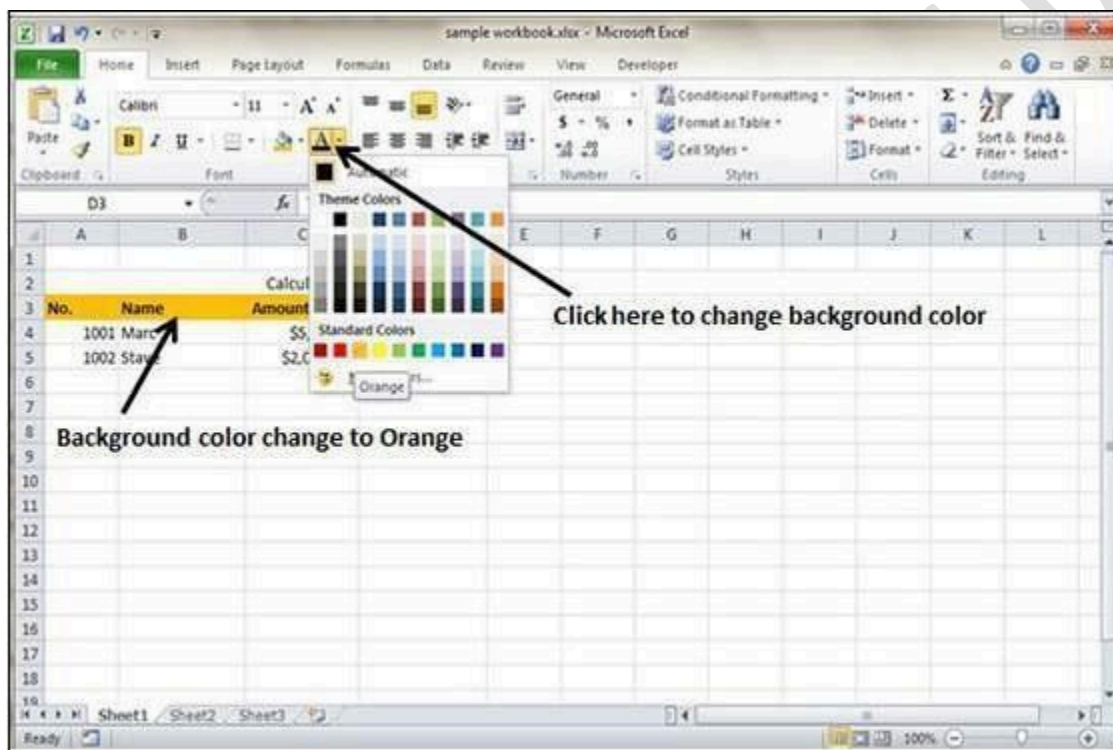
- ✓ **Setting Fonts** – Select font style, size, and effects.
- ✓ **Text Options** – Apply bold, italic, underline, and other text options



- ✓ **Rotate Cells** – Rotate the cell’s text direction (e.g. 45°, 90°).

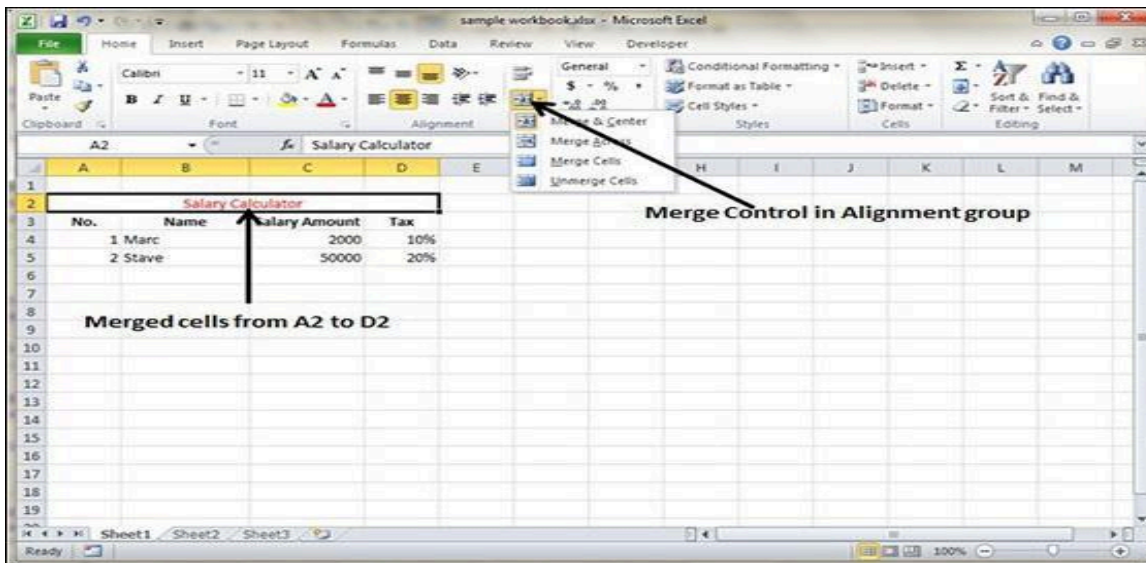


✓ **Setting Colors** – Change the cell's background color and font color.



✓ **Text Alignments** – Align text to the left, right, center, top, or bottom.

✓ **Merge and Wrap** – Merge multiple cells into one and wrap text to fit within the cell.



- ✓ **Apply Borders and Shades** – Add borders around cells and apply background shading.
- ✓ **Sheet Options** – Rename the sheet, show or hide gridlines, and adjust sheet settings.
- ✓ **Adjust Margins** – Set the page margins for printing.
- ✓ **Page Orientation** – Change the page layout to portrait or landscape.
- ✓ **Header and Footer** – Add headers and footers for page numbers, dates, or titles.
- ✓ **Insert Page Breaks** – Insert manual page breaks to control where pages split when printing.

### 3.4 Working with Formulas

- ✓ **Creating Formulas** – Write formulas starting with = to perform calculations (e.g. =A1+B1).
- ✓ **Copying Formulas** – Copy formulas across other cells using copy-paste or drag-fill.
- ✓ **Common Spreadsheet Functions** –

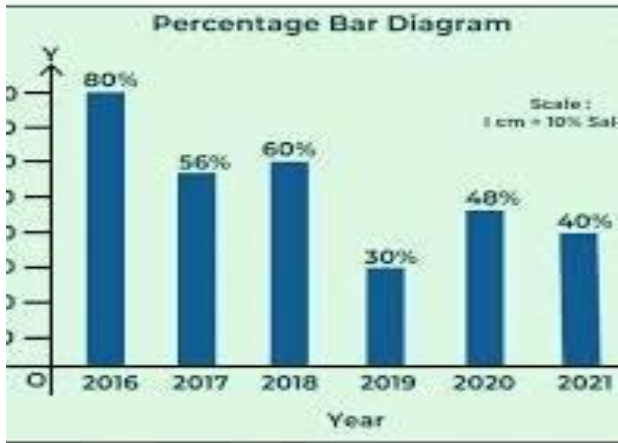
- **SUM** – Adds a range of numbers (e.g. =SUM(A1:A10)).
- **AVERAGE** – Calculates the mean value of a range (e.g. =AVERAGE(B1:B5)).
- **MIN** – Finds the smallest number in a range (e.g. =MIN(C1:C10)).
- **MAX** – Finds the largest number in a range (e.g. =MAX(D1:D10)).
- **DATE** – Creates a valid date from year, month, and day (e.g. =DATE(2025, 6, 20)).
- **AND** – Returns TRUE if all conditions are true (e.g. =AND(A1>0, B1>0)).
- **OR** – Returns TRUE if any one condition is true (e.g. =OR(A1>0, B1>0)).
- ✓ **Mathematical Functions** –
- **SQRT** – Calculates the square root (e.g. =SQRT(A1)).
- **POWER** – Raises a number to a power (e.g. =POWER(A1, 2)).
- ✓ **Applying Conditions using IF** – Test a condition and return different values based on it (e.g. =IF(A1>50, "Pass", "Fail")).

### 3.5 Working with Charts

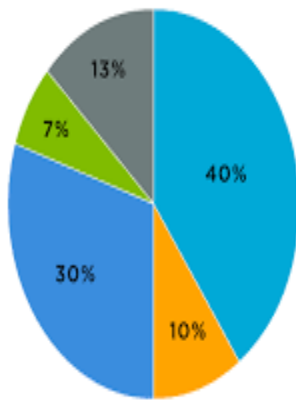
- ✓ **Introduction to Charts** – Charts are used to present data visually, making it easier to understand.
- ✓ **Overview of Different Chart Types** – Column, Bar, Pie, Line, and other charts help visualize data in

different ways.

✓ **Bar Charts** – Used to compare values across different categories.



✓ **Pie Charts** – Show each part's proportion of the total.



✓ **Line Charts** – Display trends or changes in data over time.



✓ **Creating and Editing Charts** – Select the data → Go to the “Insert” tab → Choose the desired chart; then format and style it as needed.

✓ **Using Chart Options** –

- **Chart Title** – Add a main title for the chart.
- **Axis Title** – Set titles for the X and Y axes.
- **Legend** – Displays the names for each data series.
- **Data Labels** – Show the value of each data point on the chart.
- **Axes** – Adjust the scale and appearance of the X and Y axes.
- **Gridlines** – Show or hide gridlines to make the chart easier to read.
- ✓ **Moving the Chart to a Separate Sheet** – Right-click the chart and select the “Move Chart” option to place it on a new sheet.

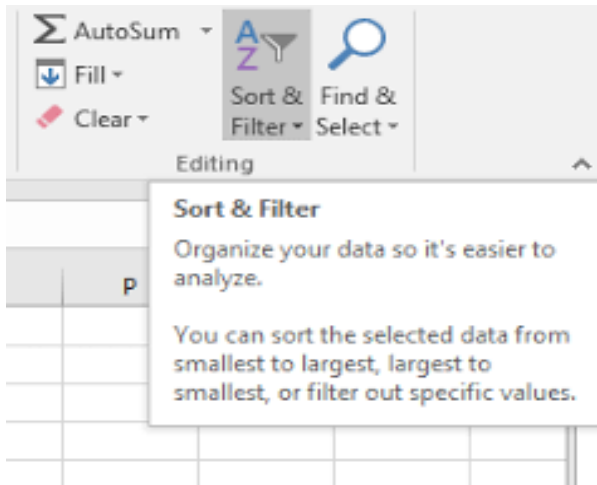
### 3.5 चार्ट्ससोबत काम करणे

- ✓ **चार्ट्सची ओळख** – डेटा दृश्यरूपात सादर करण्यासाठी चार्ट्सचा उपयोग केला जातो.
- ✓ **वेगवेगळ्या चार्ट प्रकारांचा आढावा** – कॉलम, बार, पाई, लाईन इत्यादी चार्ट्स डेटा अधिक समजण्यास सोपा करतात.
- ✓ **बार चार्ट्स** – विविध श्रेणींची तुलना करण्यासाठी वापरले जातात.
- ✓ **पाई चार्ट्स** – एकूण डेटामध्ये प्रत्येक भागाचा वाटा दर्शवण्यासाठी वापरले जातात.
- ✓ **लाईन चार्ट्स** – कालांतराने डेटा कसा बदलतो हे दर्शवण्यासाठी वापरले जातात.
- ✓ **चार्ट तयार करणे व संपादित करणे** – डेटा निवडा → “Insert” टॅब → योग्य चार्ट निवडा; नंतर त्याचे आकार, रंग, शैली बदला.
- ✓ **चार्ट पर्यायांचा वापर** –

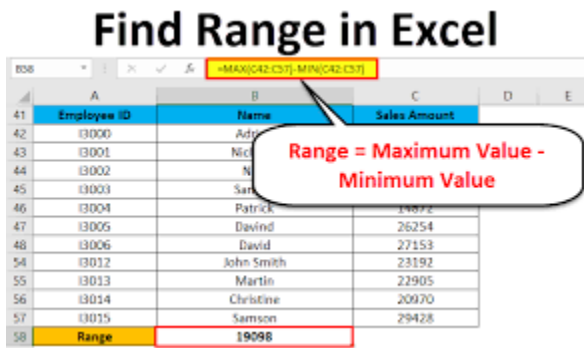
- **चार्ट शीर्षक (Chart Title)** – चार्टसाठी मुख्य शीर्षक घालणे.
- **अक्ष शीर्षक (Axis Title)** – X व Y अक्षांचे शीर्षक सेट करणे.
- **दिशादर्शक (Legend)** – चार्टमधील प्रत्येक मालिकेचे नाव दाखवते.
- **डेटा लेबेल्स (Data Labels)** – प्रत्येक डेटा पॉइंटचे मूल्य दाखवते.
- **अक्षे (Axes)** – X आणि Y अक्षाची मांडणी बदलणे.
- **ग्रिडलाईन्स (Grid Lines)** – चार्टमधील ओळी दाखवणे किंवा लपवणे.
- ✓ **चार्ट वेगळ्या शीटमध्ये हलवणे** – चार्टवर उजवे क्लिक करून “Move Chart” पर्याय निवडून त्यास नवीन शीटवर हलवा.

### ⚙ 3.6 Advanced Operations

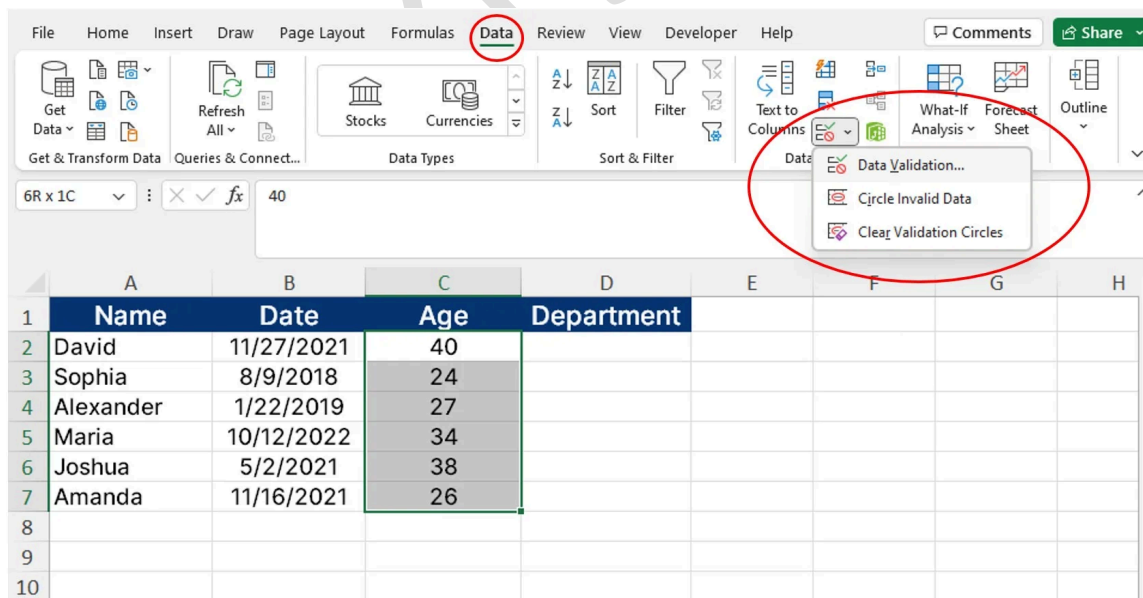
- ✓ **Conditional Formatting** – Automatically change the appearance of cells based on specific criteria.
- ✓ **Data Filtering** – Display only the rows that match certain conditions, hiding the rest.
- ✓ **Data Sorting** – Arrange data alphabetically, numerically, or by custom order.



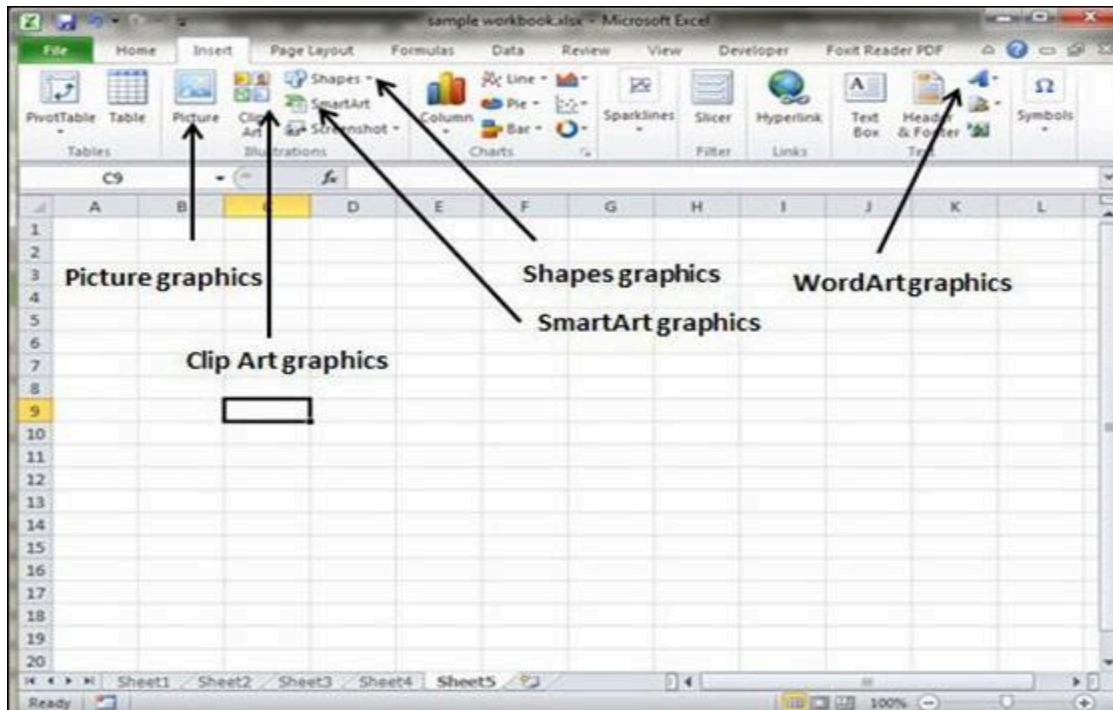
✓ **Using Ranges** – Select and name a group of cells for easier reference in formulas.



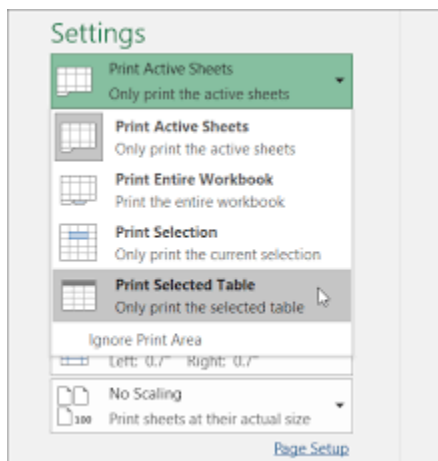
✓ **Data Validation** – Set rules that restrict the type of data entered into a cell (e.g. only numbers, dates, or specific lists).



✓ **Adding Graphics** – Insert pictures, shapes, and other graphics into your worksheet for better presentation.

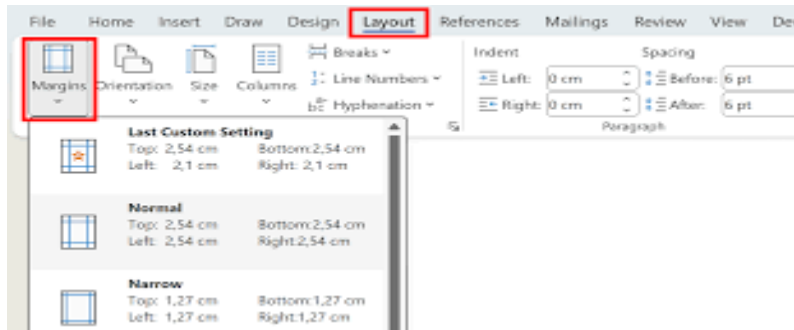


✓ **Printing Worksheets** – Prepare and print worksheets with customized settings.

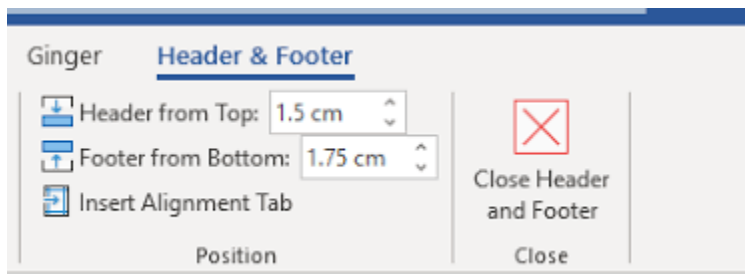


✓ **Setting Print Area** – Specify a particular range of cells to print.

✓ **Margins** – Adjust top, bottom, left, and right margins to control white space around the content.



✓ **Header and Footer** – Add text or images at the top or bottom of every printed page (e.g. titles, dates, page numbers).



✓ **Other Page Setup Options** – Configure page size, orientation, scaling, gridlines, and other print settings.

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