MS PowerPoint is a program that is included in the Microsoft Office suite. It is used to make presentations for personal and professional purposes.

1. Introduction to Spreadsheet Software

Spreadsheet software is a type of computer application used to organize, store, and analyse data in a tabular form. The data is arranged in rows and columns, which makes it easy to read, modify, and perform calculations. Spreadsheets are widely used in education, business, finance, research, and administration.

Popular spreadsheet programs include Microsoft Excel, Google Sheets, LibreOffice Calc, and Apple Numbers. Among these, Microsoft Excel is the most commonly used spreadsheet application worldwide.

2. Importance of Spreadsheet Software

Spreadsheets play a vital role in modern computing because they help users manage large amounts of data efficiently. They allow users to perform calculations automatically, analyze data trends, and present information in graphical form. Spreadsheets are essential tools for accountants, engineers, students, researchers, and managers.

They also reduce human error by automating calculations and enable quick updates when data changes.

3. Advantages of Spreadsheets

Spreadsheets provide many advantages, including:

- They are easy to learn and require minimal training.
- They are flexible and customizable for different tasks.
- They allow fast data manipulation and analysis.
- They support formulas and functions that automate calculations.
- They can visualize data using charts and graphs.
- They support collaboration and sharing.
- They are widely available and often free or low-cost.

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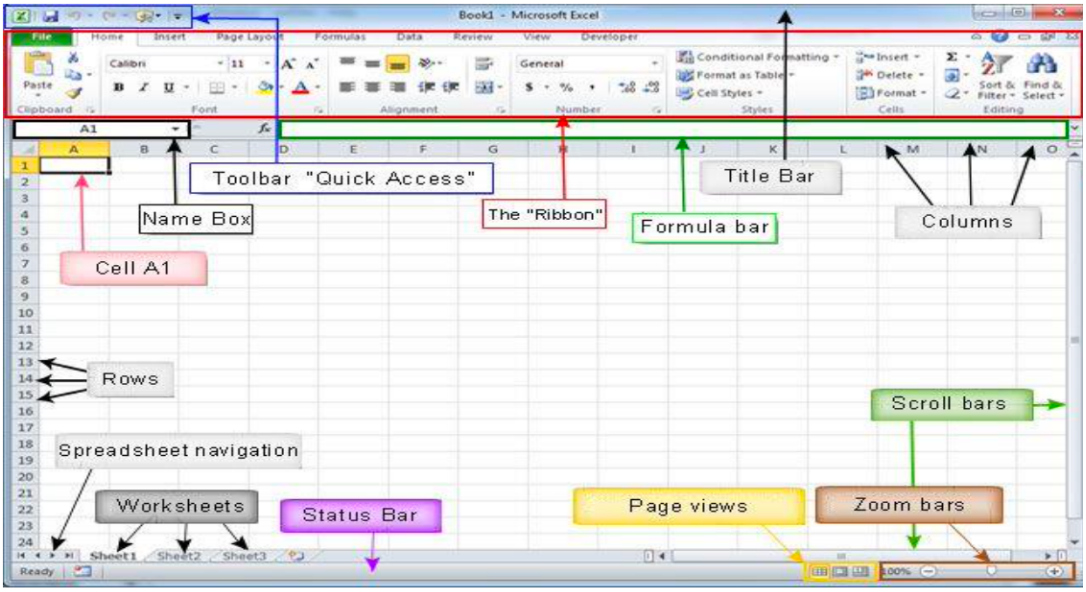
4. Workbook and Worksheet

A **workbook** is the main Excel file that contains one or more worksheets. Each workbook can store large amounts of related data in separate worksheets.

A **worksheet** is a single page inside a workbook. It consists of rows and columns that form cells. Worksheets are used to enter, edit, and analyse data.



5. Structure of a Worksheet

Each worksheet is organized into:

- **Rows**, which run horizontally and are identified by numbers (1, 2, 3, …).
- **Columns**, which run vertically and are identified by letters (A, B, C, …).

The intersection of a row and a column is called a **cell**.

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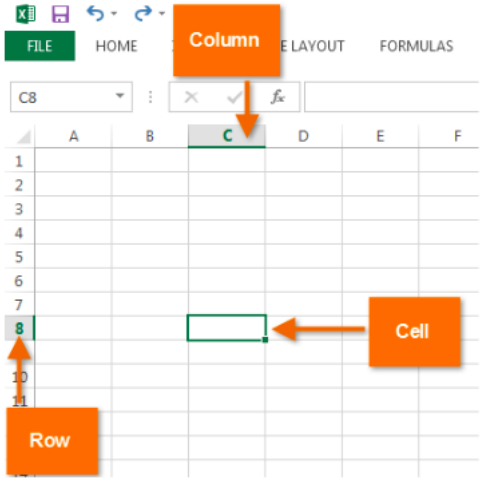
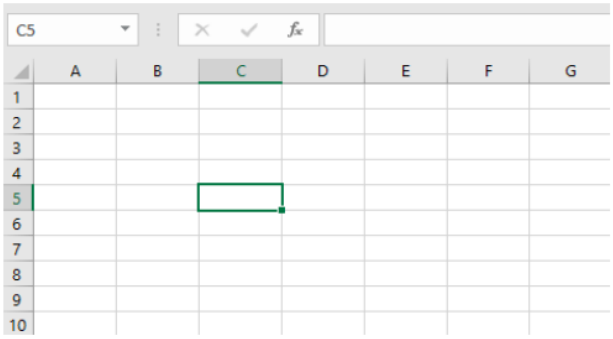


6. Cells and Cell Address

A **cell** is the basic unit of a worksheet where data is stored. Each cell has a unique address based on its column letter and row number, such as A1, B3, or C5.

Cell addresses help users identify and reference data in formulas and functions.



7. Cell Range

A **cell range** is a group of selected cells. Ranges are commonly used in formulas and functions. Examples:

- A1:A8 (a vertical range) or A1:F8 (a rectangular range)

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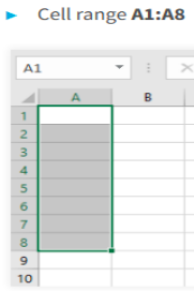
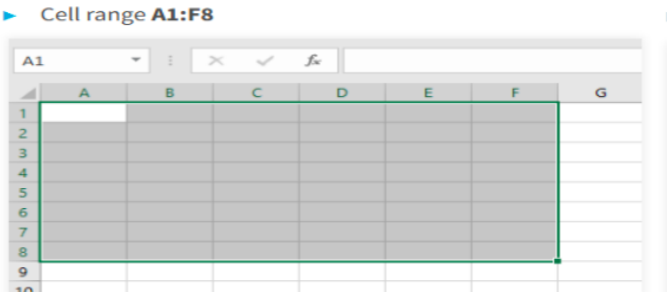




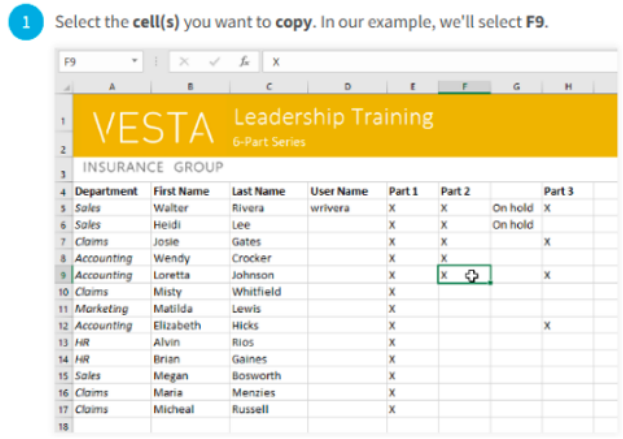
8. Types of Cell Content

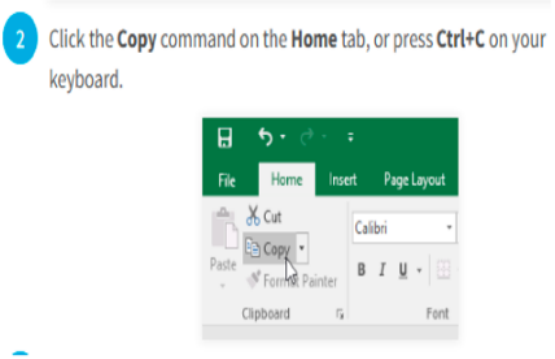
Cells can contain different types of data, including:

- **Text** (labels, names, descriptions)
- **Numbers** (values used for calculations)
- **Formulas** (user-created calculations)
- **Functions** (predefined Excel calculations)

9. Copying and Pasting Data

Excel allows users to copy data from one cell or range and paste it into another location. This feature saves time, reduces repetitive work, and ensures consistency across the worksheet.





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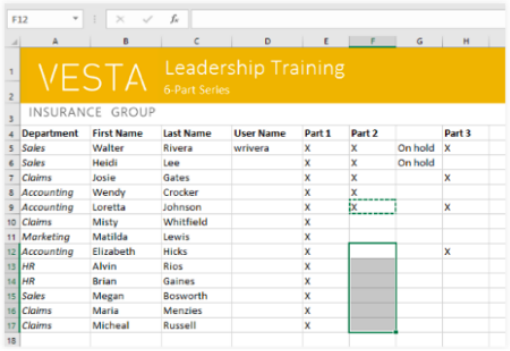
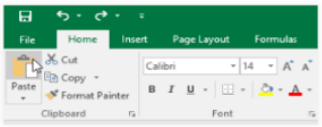
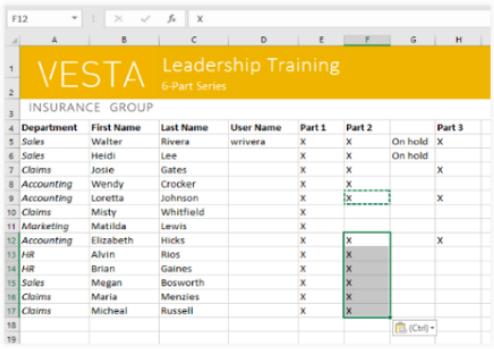
3 Select the **cell(s)** where you want to **paste** the content. In our example, we'll select **F12:F17**. The copied cell(s) will have a **dashed box** around them.



4 Click the **Paste** command on the **Home** tab, or press **Ctrl+V** on your keyboard.



5 The content will be **pasted** into the selected cells.



10. Sorting Data

Sorting is used to organize data in a specific order, such as alphabetical or numerical order. Sorting makes data easier to read and analyze.

There are two main types of sorting:

- Sort sheet organizes all of the data in your worksheet by one column

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	A	B	C	D
1	Customer Contact List			
2	CONTACT NAME	BILLING ADDRESS	PHONE	EMAIL ADDRESS
3	Bell, William	2201 Treasure Court	206-555-2303	wbell@bishopresearch.com
4	Dean, Hank	3034 Foggy Wharf	308-555-1050	hdean@venturebrewing.com
5	Figgis, Mallory	3520 Sleepy Hearth Dr	425-555-5370	malloryf@archerproperties.com
6	Finn, Jake	1407 Dusty Fawn Ln	605-555-6435	jake@adventureoutfitters.com
7	Kinkade, Chris	1028 Quiet Dale Rd	443-555-4942	chris.kinkade@placervilleins.com
8	Lawson, Miranda	5316 Colonial Pkwy	575-555-9255	mlawson@massairlines.com
9	Reyes, Felicia	8544 Lazy Bluff Ave	316-555-3256	felicia@everlypublishing.com
10	Sebastian, Lil	9060 Easy Evening Ln	207-555-7225	lil@knopeequestrian.com
11	Silva, Vivica	8595 Thunder Brook	360-555-4289	vivica@rileygardensupply.com
12	Stark, Katie	971 Cinder Butterfly St	603-555-2460	katie.stark@ariarealestate.com
13	Torrance, Jill	3160 Amber Gate Rd	605-555-4495	jtorrance@overlookinn.com
14	Yuen, Phillip	5108 Crystal Gate Blvd	913-555-5928	yuenp@corepharmaceuticals.com

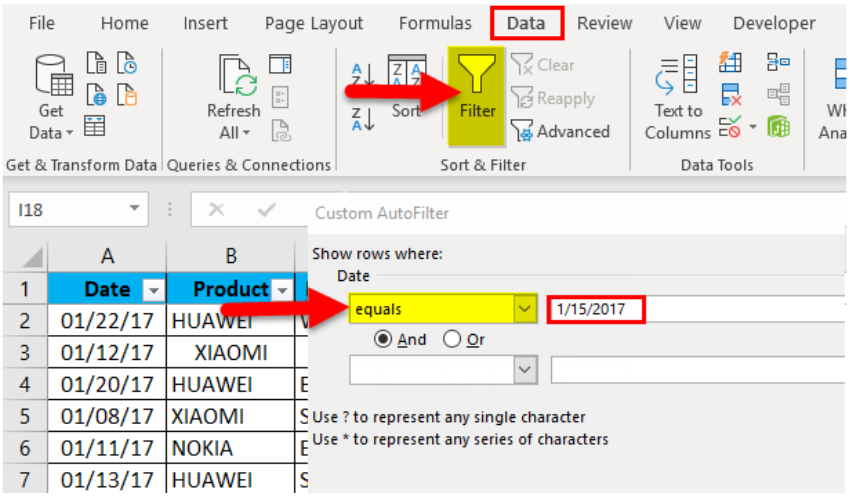
- Sort range sorts the data in a range of cells, which can be helpful when working with a sheet that contains several tables.

	A	B	C	D	E
1					
2	EXERCISES	SET 1		SET 2	
3		REPS	WEIGHT (lbs)	REPS	WEIGHT (lbs)
4	Bench Press	14	65	12	75
5	Bench Press (Decline)	10	60	8	70
6	Triceps Extension	15	35	20	35
7	Average	13.9	50.5	12.5	54
8					
9		Running Log			
10		Date	Distance (miles)	Time (hrs:mins)	
11		25-Jun	2.8	0:45	
12		26-Jun	3	0:44	
13		27-Jun	2.75	0:42	
14		29-Jun	3.25	0:44	
15		30-Jun	3.25	0:45	
16		2-Jul	2.5	0:44	
17		3-Jul	3	0:30	
18		Total	20.55		

11. Filtering Data

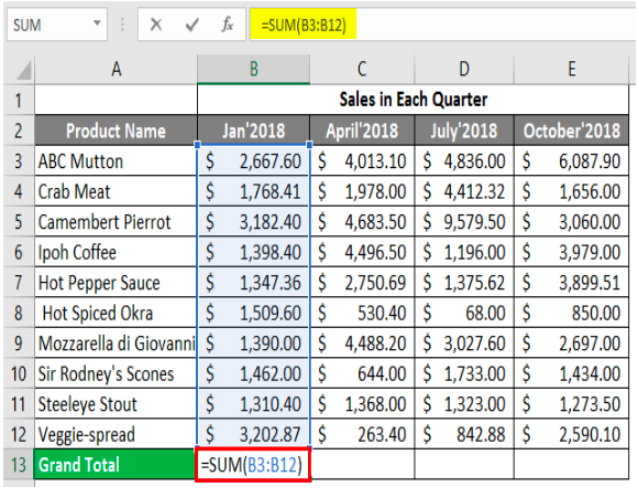
Filtering allows users to display only the data that meets specific criteria while hiding the rest. This is useful when working with large datasets.

The filter feature helps users focus on relevant information without deleting data.



12. Formulas in Excel

A **formula** is an equation created by the user to perform calculations. All formulas begin with an equal sign (=).



	A	B	C	D	E
1		Sales in Each Quarter			
2	Product Name	Jan'2018	April'2018	July'2018	October'2018
3	ABC Mutton	$ 2,667.60	$ 4,013.10	$ 4,836.00	$ 6,087.90
4	Crab Meat	$ 1,768.41	$ 1,978.00	$ 4,412.32	$ 1,656.00
5	Camembert Pierrot	$ 3,182.40	$ 4,683.50	$ 9,579.50	$ 3,060.00
6	Ipoh Coffee	$ 1,398.40	$ 4,496.50	$ 1,196.00	$ 3,979.00
7	Hot Pepper Sauce	$ 1,347.36	$ 2,750.69	$ 1,375.62	$ 3,899.51
8	Hot Spiced Okra	$ 1,509.60	$ 530.40	$ 68.00	$ 850.00
9	Mozzarella di Giovanni	$ 1,390.00	$ 4,488.20	$ 3,027.60	$ 2,697.00
10	Sir Rodney's Scones	$ 1,462.00	$ 644.00	$ 1,733.00	$ 1,434.00
11	Steeleye Stout	$ 1,310.40	$ 1,368.00	$ 1,323.00	$ 1,273.50
12	Veggie-spread	$ 3,202.87	$ 263.40	$ 842.88	$ 2,590.10
13	Grand Total	=SUM(B3:B12)			

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13. Functions in Excel

A **function** is a predefined formula provided by Excel to perform common calculations easily.

Common functions include:

- SUM
- AVERAGE
- COUNT
- MAX
- MIN

Functions reduce errors and save time.

Range
2
5
1
3
7

Type	Result	Formula
SUM	18	= SUM(A1:A5)
AVERAGE	4	= AVERAGE(A1:A5)
MIN	1	= MIN(A1:A5)
MAX	7	= MAX(A1:A5)
COUNT	5	= COUNT(A1:A5)
IF	No	= IF(A1>10,"Yes","No")

14. Difference Between Formula and Function

- A **formula** is created by the user and can include operators and cell references.
- A **function** is a built-in Excel calculation with a specific name and structure.

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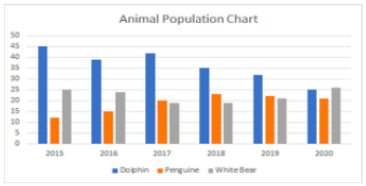
15. Data Validation

Data validation controls what type of data can be entered into a cell. It helps prevent incorrect or invalid data entry.

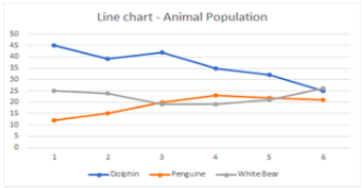
Examples:

- Limiting values to a specific range
- Allowing only numbers or dates
- Creating drop-down lists

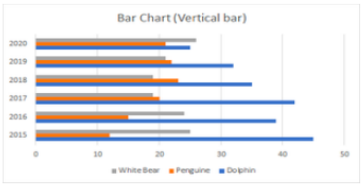
1. Column Chart



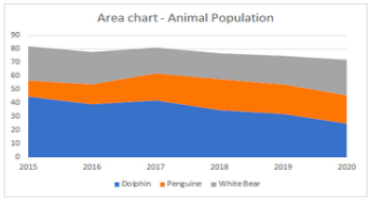
2. Line Chart



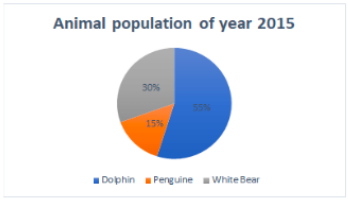
3. Bar Chart



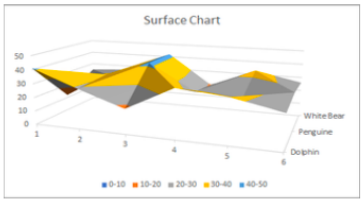
4. Area chart



5. Pie chart or Doughnut chart



6. Surface chart



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