

Microsoft Excel For Beginner

Agenda:

- 1.Introduction to Microsoft Excel
- 2.Excel Interface & Tabs
- 3.Data Types & Data Entry
- 4.Formulas & Functions
- 5.Charts & Visualization
- 6.Pivot Tables
- 7.Practical Examples & Use Cases



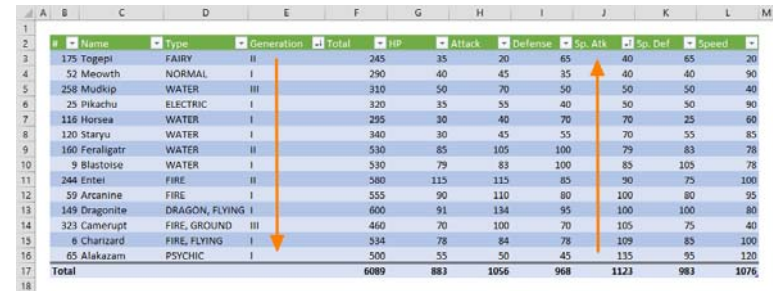
Objective

What Can Excel Do?

What skills will you gain?

1. Data Entry and Organization

- Creating tables (rows and columns)
- Sorting data
- Filtering data



Name	Type	Generation	Total	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed
175 Togetic	FAIRY	II	245	35	20	65	40	65	20
52 Meowth	NORMAL	I	290	40	45	35	40	40	90
258 Mudkip	WATER	III	310	50	70	50	50	50	40
25 Pikachu	ELECTRIC	I	320	35	55	40	50	50	90
116 Horsea	WATER	I	295	30	40	70	70	25	60
120 Staryu	WATER	I	340	30	45	55	70	55	85
160 Feraligatr	WATER	II	530	85	105	100	79	83	78
9 Blastoise	WATER	I	530	79	83	100	85	105	78
244 Entei	FIRE	II	580	115	115	85	90	75	100
59 Arcanine	FIRE	I	555	90	110	80	100	80	95
149 Dragonite	DRAGON, FLYING	I	600	91	134	95	100	100	80
323 Camerupt	FIRE, GROUND	III	460	70	100	70	105	75	40
6 Charizard	FIRE, FLYING	I	534	78	84	78	109	85	100
65 Alakazam	PSYCHIC	I	500	55	50	45	135	95	120
Total			6089	883	1056	968	1121	983	1076

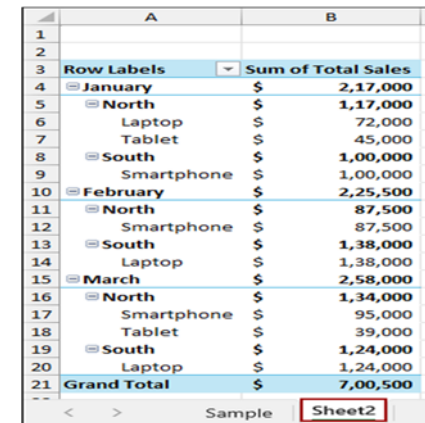
2. Calculations

- Addition, subtraction, multiplication, and division
- Calculating averages, percentages, discounts, and taxes
- Using built-in formulas such as:
 - o SUM
 - o AVERAGE
 - o IF
 - o VLOOKUP / XLOOKUP



3. Data Analysis

- Creating professional reports
- Using **Pivot Tables** to analyze data quickly
- Comparing figures across different time periods



Row Labels	Sum of Total Sales
January	\$ 2,17,000
North	\$ 1,17,000
Laptop	\$ 72,000
Tablet	\$ 45,000
South	\$ 1,00,000
Smartphone	\$ 1,00,000
February	\$ 2,25,500
North	\$ 87,500
Smartphone	\$ 87,500
South	\$ 1,38,000
Laptop	\$ 1,38,000
March	\$ 2,58,000
North	\$ 1,34,000
Smartphone	\$ 95,000
Tablet	\$ 39,000
South	\$ 1,24,000
Laptop	\$ 1,24,000
Grand Total	\$ 7,00,500

4. Charts and Visualization

- Creating charts (Column, Line, Pie, etc.)
- Presenting data in a clear visual format



5. Business Management

- Payroll calculations
- Tracking sales and purchases
- Inventory management
- Budget planning



6. Automation and Time Saving

- Automating tasks using **Macros**
- Reducing repetitive manual work



Target Audience

- Who should learn Excel?
 - Students
 - Fresh graduates
 - Accountants
 - Analysts
 - Business users

Types of Data in Excel

1.Text (Labels)

- Used to store **words and descriptions**
- Examples: Names, cities, item codes, categories
- Text data is **not used in calculations**
- Example: Ahmed, Laptop, Cairo

2.Numbers (Values)

- Used for **calculations and analysis**
- Can represent quantities, prices, salaries, percentages
- Excel can perform math operations on numbers
- Example: 150, 99.5, -20

3.Dates & Time

- Used to store **dates and time values**
- Excel saves them as numbers internally
- Can be used in calculations (difference between dates, aging, duration)
- Example: 15/12/2025, 10:30 AM

4.Boolean (Logical Data)

- Represents **TRUE or FALSE**
- Commonly used in logical formulas
- Example: TRUE, FALSE

5.Formulas

- Perform **calculations automatically**
- Always start with =
- The result changes when input data changes
- Example:
=A1+B1
=SUM(A1:A10)

6.Errors

- Occur when Excel cannot calculate a formula correctly
- Help identify problems in data or formulas
- Common error types:
 - o #DIV/0! (division by zero)
 - o #N/A (value not found)
 - o #VALUE! (Wrong data type)

Cell & Range:

1.Cell

A cell is the basic unit in Excel where data is entered.

It is the intersection of a row and a column.

Each cell has a unique address, such as A1, B5, or C10.

A cell can contain:

- Text
- Numbers
- Dates
- Formulas

2.Range

A range is a group of two or more cells selected together.

It is usually identified by the first and last cell address, such as A1:A10 or B2:D5.

A range is used to:

- Apply formulas to multiple cells
- Format multiple cells at once
- Create charts
- Build Pivot Tables

Types of Charts in Excel:

1.Column Chart

Displays data using vertical bars.

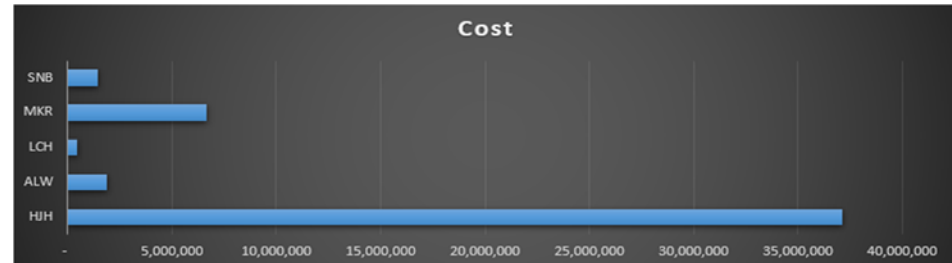
Used to compare values across categories or show changes over time.



2.Bar Chart

Displays data using horizontal bars.

Best for comparing values when category names are long.



3.Line Chart

Shows data trends over time using connected lines.

Ideal for tracking changes, growth, or trends.



4.Pie Chart

Shows data as slices of a whole (100%).

Used to display percentage or proportional data.



Excel Main Tabs:

1. File Tab

Purpose: Manage your workbook (save, open, print, share, settings).

Use:

New / Open: Create or open files

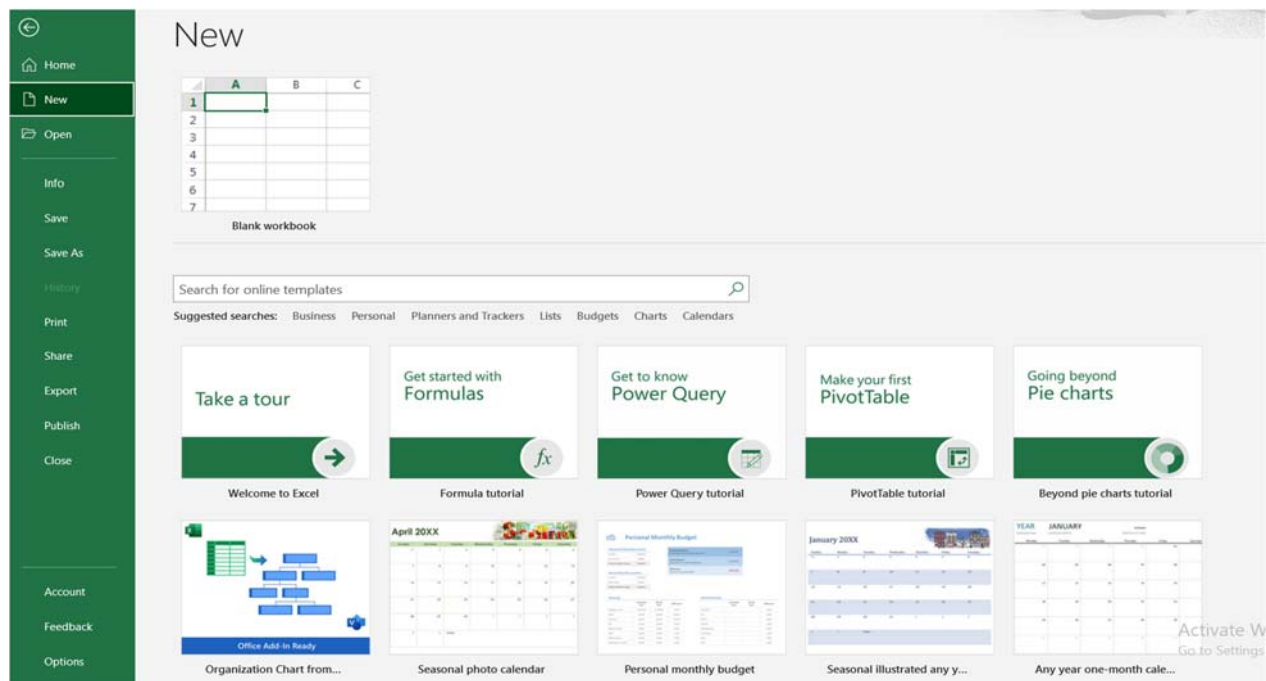
Save / Save As: Save in Excel, CSV, PDF

Print: Preview and print sheets

Share / Export: Share workbook or export report

Options: Change Excel settings

Example: Save a sales report as PDF for management.



2.Home

Purpose: Most frequently used commands for formatting, editing, and basic operations.

Main Features / Use:

Clipboard: Cut, Copy, Paste

Font: Change font type, size, color, bold/italic/underline

Alignment: Left/Center/Right, Merge cells

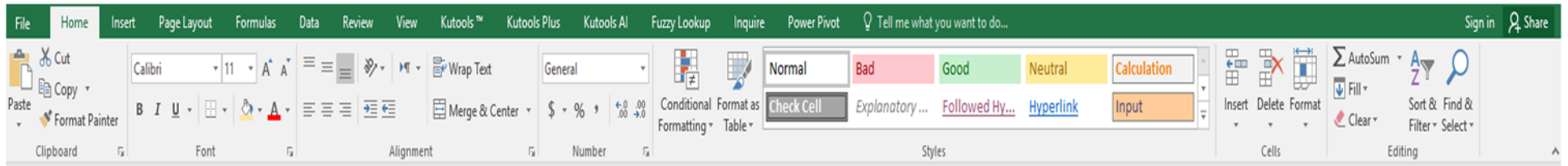
Number: Format numbers, currency, percentage, decimals

Styles: Conditional formatting, cell styles

Cells: Insert/Delete rows, columns, cells

Editing: Sort & Filter, Find & Replace, AutoSum

Example: Quickly bold headers, format numbers as currency, or use AutoSum for totals.



3.Insert

Purpose: Add objects, charts, and visuals into the spreadsheet.

Main Features / Use:

Tables: Insert structured tables

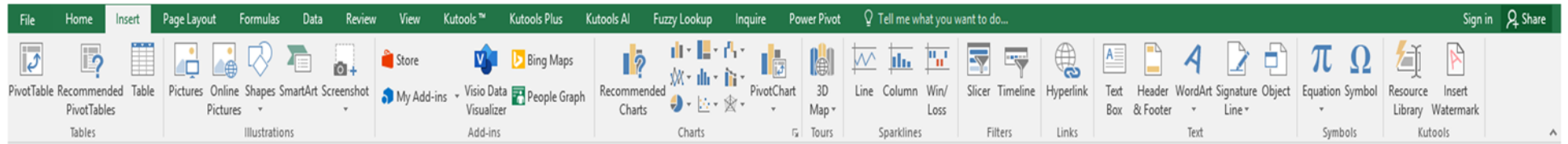
Illustrations: Shapes, icons, images

Charts: Column, Bar, Pie, Line, Scatter

Links: Hyperlinks

Sparklines: Tiny charts in a single cell

Example: Insert a Bar Chart to visualize sales data by region.



4.Page Layout

Purpose: Control how your spreadsheet looks when printed or shared.

Main Features / Use:

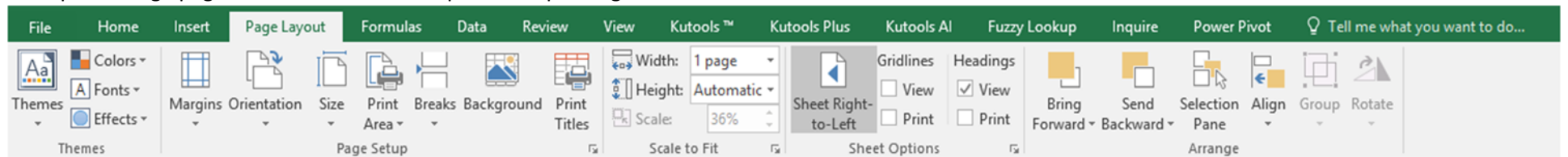
Themes & Colors: Set consistent colors/fonts

Margins & Orientation: Portrait vs Landscape

Size: Paper size

Background: Add image or watermark

Example: Change page orientation to Landscape before printing a wide table.



5. Formulas

Purpose: Access Excel functions and create formulas for calculations.

Main Features / Use:

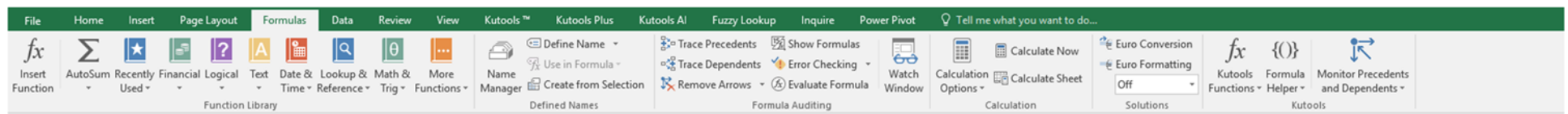
Function Library: SUM, AVERAGE, IF, VLOOKUP, COUNTIF...

Defined Names: Name a cell/range for easy reference

Formula Auditing: Trace precedents/dependents, check errors

Calculation Options: Manual or automatic calculation

Example: Use VLOOKUP to match a product ID with its price.



6. Data

Purpose: Work with datasets, organize, analyze, and clean data.

Main Features / Use:

Get & Transform / Import: Load data from CSV, SQL, web

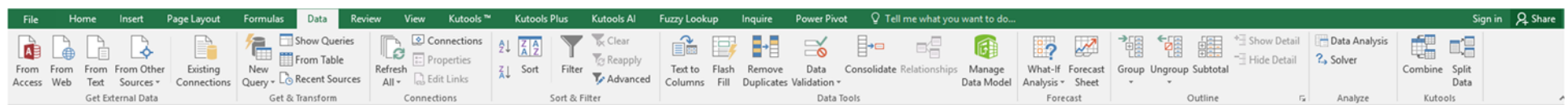
Sort & Filter: Organize data based on conditions

Data Tools: Remove duplicates, Text to Columns, Flash Fill, Data Validation

Forecast & What-If Analysis: Goal Seek, Scenario Manager

Connections & Queries

Example: Filter customers with sales > 1000 or remove duplicates.



7.Review

Purpose: Proof, collaborate, and protect your workbook.

Main Features / Use:

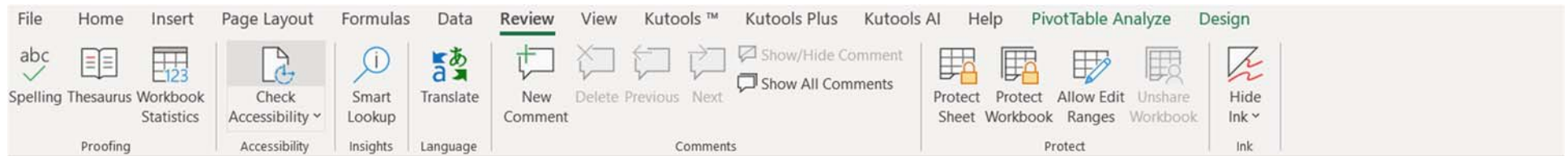
Proofing: Spelling check

Comments / Notes: Add comments for team collaboration

Protect: Lock cells or the whole sheet

Share / Track Changes

Example: Add a comment for a colleague explaining a formula.



8.View

Purpose: Change how you see your workbook on screen.

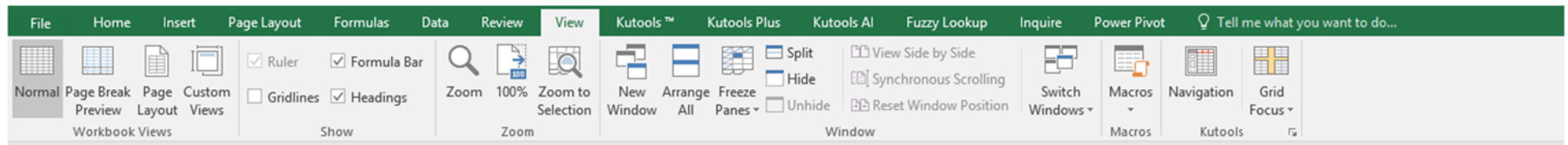
Main Features / Use:

Show / Hide: Gridlines, Headings, Formula Bar

Zoom / New Window / Split: Focus on specific data areas

Freeze Panes: Keep headers visible when scrolling

Example: Use Freeze Panes to keep the header row visible while scrolling through 1000 rows.



Equations:

Statistics equation:

Sum	= Sum (A1; A10)	Calculates the values in the range
AVERAGE	= AVERAGE (A1:A10)	Calculates the mean of values in the range.
MEDIAN	= MEDIAN (A1:A10)	Calculates the median (middle value after sorting).
MODE.SNGL	= MODE.SNGL (A1:A10)	Returns the mode (most frequent value).
STDEV.S	= STDEV.S (A1:A10)	Calculates sample standard deviation.
VAR.S	=VAR.S (A1:A10)	Calculates sample variance.
MIN / MAX	= MIN (A1:A10) / =MAX (A1:A10)	Returns the smallest / largest value.
COUNT / COUNTA	=COUNT (A1:A10) / = COUNTA (A1:A10)	Counts numeric values / counts all non-empty cells.
PERCENTILE.EXC	=PERCENTILE.EXC (A1:A10, 0.25)	Returns the percentile value (e.g., 25th or 75th percentile).

Conditional equation:

IF	=IF (B2>100,"High","Low")	Tests a condition; returns one value if TRUE, another if FALSE.
IFERROR	=IFERROR (A2/B2,"Error")	Returns a specified value if a formula results in an error.
COUNTIF	=COUNTIF (A1:A10,">50")	Counts cells that meet a condition.
SUMIF	=SUMIF (A1:A10,">50", B1:B10)	Sums values in a range that meet a condition.
AVERAGEIF	=AVERAGEIF (A1:A10,">50", B1:B10)	Calculates average for values that meet a condition
COUNTIFS	=COUNTIFS (A1:A10,">50", B1:B10,"Yes")	Counts cells that meet multiple conditions.
AVERAGEIFS	=AVERAGEIFS (C1:C10, A1:A10,">50", B1:B10,"Yes")	Average of values that meet multiple conditions
Sumifs	=SUMIFS (B1:B10, A1:A10, ">50")	Calculates the sum of values that meet one or more conditions.

Text equation:

CONCAT / CONCATENATE	= CONCAT (A1, B1) or =CONCATENATE (A1," ",B1)	Combines text from multiple cells.
LEFT / RIGHT / MID	=LEFT (A1, 5) =RIGHT (A1, 3) =MID (A1, 2, 4)	Extracts first N / last N / specific substring of text.
LEN	=LEN (A1)	Returns the length of the text.
TRIM	=TRIM (A1)	Removes extra spaces from text.
UPPER / LOWER / PROPER	=UPPER (A1) / =LOWER (A1) / =PROPER (A1)	Converts text to upper, lower, or proper case.

Lookup equation:

VLOOKUP	=VLOOKUP (1001, A1:D100, 3, FALSE)	Looks for a value in the first column of a table and returns a value from the specified column.
HLOOKUP	=HLOOKUP (1001, A1:Z4, 2, FALSE)	Same as VLOOKUP but searches horizontally in rows.
INDEX	=INDEX (B1:B10, 3)	Returns the value at a specific row (or row/column) in a range.
MATCH	=MATCH (75, A1:A10, 0)	Returns the position of a value in a range (exact match).
INDEX + MATCH match.	=INDEX (B1:B10, MATCH (75, A1:A10, 0))	More flexible alternative to VLOOKUP; returns value from any column based on a match.

Date equation:

TODAY	=TODAY ()	Returns the current date.
NOW	=NOW ()	Returns current date and time.
DATEDIF	=DATEDIF (A1, B1,"D")	Returns difference between two dates in days / months / years.
YEAR / MONTH / DAY	=YEAR (A1) / =MONTH (A1) / =DAY (A1)	Extracts year / month / day from a date.

Pivot Table

What is a Pivot Table?

A **Pivot Table** is a powerful Excel tool used to **summarize, analyze, and reorganize large amounts of data** quickly and easily without changing the original data.

What can you do with a Pivot Table?

- Summarize large datasets in seconds
- Calculate totals, averages, counts, and percentages
- Group data by category, date, or location
- Compare values across different periods or dimensions
- Identify trends and patterns in data

Why do we use Pivot Tables?

- To analyze data faster and more efficiently
- To create dynamic and interactive reports
- To reduce manual calculations
- To support better decision-making based on data



How Can I Create a Pivot Table in Excel?

A Pivot Table is created from existing data to summarize, analyze, and report information quickly.

Steps to Create a Pivot Table:

1.Prepare your data

- Make sure your data is organized in rows and columns
- Each column should have a clear header
- No empty rows or columns inside the data range

2.Select the data

- Click anywhere inside the data table
- Or manually select the full range

3.Insert Pivot Table

- Go to the Insert tab
- Click PivotTable

4.Choose data source

- Excel will automatically detect the table or range
- Choose where to place the Pivot Table:
 - New Worksheet (recommended)
 - Existing Worksheet

5.Build the Pivot Table

- Drag fields into:
- Rows
- Columns
- Values
- Filters

6.Analyze the data

- Change calculations (Sum, Count, Average)
- Filter and sort data
- Refresh when data is updated