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Use of Sum IF and Sum IFs Function in MS-Excel

Microsoft Excel

Module 21 - Use of Sum IF and Sum IFs Function in MS-Excel

Sum IF and Sum IFs Function:

In Excel, the SUMIF and SUMIFS functions both sum the cells in a range that meet a certain condition, but they use slightly different behaviors: The SUMIF function sums the number of cells in a range that meet one condition. The SUMIFS function counts the number of cells in a range that meet several conditions.

SUMIF Function

The SUMIF function adds up the values in a range that meet a single condition or criteria.

FORMULA:

=SUMIF(range, criteria, [sum\_range])

- **range:** The range of cells that you want to apply the condition to.
- **criteria:** The condition that defines which cells to sum. It can be a number, expression, or text.
- **sum\_range (optional):** The actual cells to sum. If omitted, Excel sums the cells in the range.

Example:

If you have a list of sales in column B and the regions in column A, you can sum the sales for a specific region:

Region	Sales
East	100
West	150
East	200
West	250

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To sum the sales in the "East" region:

Formula =SUMIF (A2:A5, "East", B2:B5)

This formula will return **300** (100 + 200) because it adds the sales in column B where the region in column A is "East."

**SUMIFS Function**

The SUMIFS function adds up the values based on multiple conditions or criteria.

Formula:

=SUMIFS(sum\_range, criteria\_range1, criteria1, [criteria\_range2, criteria2], ...)

- **sum\_range**: The range of cells to sum.
- **criteria\_range1**: The first range to apply the first condition to.
- **criteria1**: The condition for the first range.
- **criteria\_range2, criteria2, (optional)**: Additional ranges and conditions.

**Example:**

Continuing with the previous table, if you want to sum the sales in the "East" region and where the sales are greater than 150, you can use SUMIFS:

Region	Sales
East	100
West	150
East	200
West	250

To sum the sales for the "East" region with sales greater than 150:

Formula:

=SUMIFS (B2:B5, A2:A5, "East", B2:B5, ">150")

This formula will return **200** because it adds the sales in column B where the region is "East" and the sales are greater than 150.

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Application of SUM, SUMIF, and SUMIFS Functions in MS Excel

Each of these functions serves a different purpose. Below is a guide on when to use each function and its real-world application.

**SUM Function: General Addition**

**When to Use?**

Use SUM when you need to add a range of numbers without any condition.

**Applications:**

Total Sales Calculation: Add all sales values in a dataset.

Total Expenses Calculation: Add up all expenses in a budget sheet.

Adding Multiple Cells: Example - =SUM(A1:A10) sums all values from A1 to A10.

**SUMIF Function: Conditional Addition (Single Condition)**

**When to Use?**

Use SUMIF when you need to sum values based on one specific condition.

**Applications:**

1. Calculate Total Sales for a Specific Region:

Example: Add sales only for "North" region.

Formula: =SUMIF(A2:A10, "North", B2:B10)

2. Summing Expenses for a Category:

Example: Add expenses only for "Marketing".

Formula: =SUMIF(A2:A10, "Marketing", B2:B10)

3. Calculate Total Salary for a Specific Department:

Example: Add salary values where Department = "HR".

**SUMIFS Function: Conditional Addition (Multiple Conditions)**

**When to Use?**

Use SUMIFS when you need to sum values based on multiple conditions.

**Applications:**

1. Calculate Sales for a Specific Region AND Product Type:




Example: Sum sales where Region = "North" AND Product = "Laptop".

Formula: =SUMIFS(C2:C10, A2:A10, "North", B2:B10, "Laptop")

2. Calculate Total Salary for a Specific Department & Job Role:

Example: Sum salary where Department = "HR" AND Job Role = "Manager".

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3. Summing Transactions Within a Date Range:

Example: Sum sales between 01-Jan-2024 and 31-Jan-2024.  
Formula: =SUMIFS(B2:B10, A2:A10, ">=01-Jan-2024", A2:A10, "<=31-Jan-2024")

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**ASSIGNMENT:**

Using the following data find the Sum IF and Sum IFs:

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	A	B	C	D	E	F
1	Product	Supplier	Qty.		Product:	Apples
2	Cherries	John	200		Supplier:	Pete
3	Bananas	Mike	350		Qty.:	?
4	Apples	Pete	180			
5	Oranges	Mike	400			
6	Bananas	John	250			
7	Apples	Mike	120			
8	Cherries	John	330			
9	Apples	Pete	110			

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