

# Excel functions

## 1. SUM

- ❖ Adds all numbers in a range.

=SUM(range)

	A	B
1	Item	Price
2	Pen	10
3	Book	20
4	Pencil	5
5		35

=SUM (B2:B4) → 35

## 2. AVERAGE

- ❖ Calculates the average of numbers in the range.

=AVERAGE(range)

	A	B
1	Item	Price
2	Pen	10
3	Book	20
4	Pencil	5
5		11.66667

=AVERAGE(B2:B4) → 11.66667

## 3. COUNT

- ❖ Count how many cells in a range contain numbers.

=COUNT(range)

	A	B
1	Item	Price
2	Pen	10
3	Book	20
4	Pencil	5
5		3

=COUNT(B2:B4) → 3

	A	B
1	Item	Price
2	Pen	10
3	Book	
4	Pencil	5
5		2

=COUNT(B2:B4) → 2

#### 4. COUNTA

- ❖ Counts non-empty cells in a range.

	A	B
1	Item	Price
2	Bag	
3	Pencil	10
4	Pencil	15
5	Bottle	
6	Book	
7	Paper	
8		2

=COUNTA(range)

=COUNTA(B2:B7) → 2

#### 5. MIN

- ❖ Minimum number of a range.

	A	B
1	30	40
2	40	33
3	10	42
4	50	18
5	60	6

=MIN(range)

=MIN(A1:A5) → 10

=MIN(B1:B5) → 6

#### 6. MAX

- ❖ Maximum number of a range.

	A	B
1	30	40
2	40	33
3	10	42
4	50	18
5	60	6

=MAX(range)

=MAX(A1:A5) → 60

=MAX(B1:B5) → 42

#### 7. SUBTOTAL

- ❖ Performs calculations like sum, count, average on a range of a data.

=SUBTOTAL(function\_num, range)

- Function\_num → Number that specifies the type of calculation.
- Range → The cells you want to calculate.
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#### Common function\_num values

- 1 → AVERAGE
- 2 → COUNT
- 3 → COUNTA
- 4 → MAX
- 5 → MIN
- 6 → SUM

	A	B
1	Product	Sales
2	Apple	100
3	Banana	150
4	Orange	200
5	Apple	120
6		570

=SUBTOTAL(9, B2:B5) → 570

#### Tips :

- Convert your data to an excel table to easier filtering.

## CONDITIONAL FORMATTING

- ❖ Used to change the appearance of cells in a range based on your specified conditions.

### Home → Conditional Formatting

#### ➤ Highlight Cells Rules

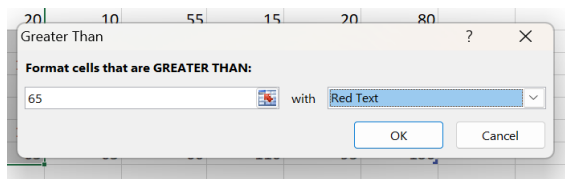
##### ▪ Greater Than

This will highlight a cell with one of the appearance options based on the cell value being **greater than** to your specified value.

	A	B	C	D	E
1	Name	Type 1	HP	Attack	Defense
2	Magikarp	Water	20	10	55
3	Gyarados	Water	95	125	79
4	Lapras	Water	130	85	80
5	Ditto	Normal	48	48	48
6	Eevee	Normal	55	55	50
7	Vaporeon	Water	130	65	60
8	Jolteon	Electric	65	65	60

If you want to highlight the HP column that have values greater than to 65 follow this steps.

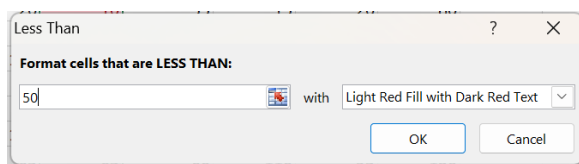
- Select the range C2:C8 for HP values
- Click on the Conditional Formatting Icon from Home menu
- Select **Highlight Cell Rules** from the drop down menu.
- Select **Greater Than...** from the menu
- In the dialog box Enter 65 into the input field.
- Select the appearance option from the dropdown menu.



#### ■ Less than

This will highlight a cell with one of the appearance options based on the cell value being **less than** to your specified value.

	A	B	C	D	E
1	Name	Type 1	HP	Attack	Defense
2	Magikarp	Water	20	10	55
3	Gyarados	Water	95	125	79
4	Lapras	Water	130	85	80
5	Ditto	Normal	48	48	48
6	Eevee	Normal	55	55	50
7	Vaporeon	Water	130	65	60
8	Jolteon	Electric	65	65	60



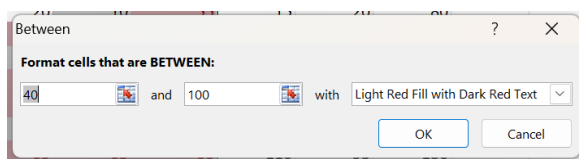
If you want to highlight the Attack column that have values less than to 50 follow this steps.

- Select the range D2:D8 for Attack values.
- Click on the conditional Formatting icon from Home menu.
- Select **Highlight Cell Rules** from the drop down menu.
- Select **Less Than...** from the menu
- In the dialog box Enter 65 into the input field.
- In the dialog box Enter 50 into the input field.
- Select the appearance option from the dropdown menu.

#### ■ Between

This will highlight a cell with one of the appearance options based on the cell value being **between** two specified values.

	A	B	C	D	E
1	Name	Type 1	HP	Attack	Defense
2	Magikarp	Water	20	10	55
3	Gyarados	Water	95	125	79
4	Lapras	Water	130	85	80
5	Ditto	Normal	48	48	48
6	Eevee	Normal	55	55	50
7	Vaporeon	Water	130	65	60
8	Jolteon	Electric	65	65	60



If you want to highlight the values in HP, Attack, and Defense that are in between 40 and 100 follow this steps.

- Select the range C2:E8 on table that are in those 3 columns
- Click on the conditional Formatting icon from Home menu.
- Select **Highlight Cell Rules** from the drop down menu.
- Select **Between...** from the menu
- In the dialog box Enter 40 and 100 into the input fields.
- Select the appearance option from the dropdown menu.

- **Equal To**  
This will highlight a cell with one of the appearance options based on the cell value being **equal** to your specified values.
- **Text that Contains**  
This will highlight a cell with one of the appearance options based on **a part of the cell value** containing your specified value.
- **A Date Occurring**  
This will highlight a cell with one of the appearance options based on the cell value relative to a specified time frame.  
This time frame can be:
  - Yesterday
  - Today
  - Tomorrow
  - In the last 7 days
  - Last week
  - This week
  - Next week
  - Last month
  - This month
  - Next month
- **Duplicate Value**  
This will highlight a cell with one of the appearance options based on the cell value being the same as the other cells in a range.

➤ **Top/Bottom Rules**

- **Top 10 items**  
This will highlight cells with the one of the appearance options based on the cell value being the top values in a range.
- **Bottom 10 items**  
This will highlight cells with the one of the appearance options based on the cell value being the bottom values in a range.
- **Top 10%**  
This will highlight cells with one of the appearance options based on the cell value being the top percent of values in a range.

- **Bottom 10%**  
This will highlight cells with one of the appearance options based on the cell value being the bottom percent of values in a range.
- **Above Average**  
This will highlight cells with one of the appearance options based on the cell value being the above average value in the range.
- **Below Average**  
This will highlight cells with one of the appearance options based on the cell value being the below average value in the range.

- **Data Bars**

This is used to add colored bars to cells in a range to indicate how large the cell values are compared to other values.

- **Color Scales**

This is used to highlight cells in a range to indicate how large the cell values are compared to the other values in range.

- **Icon sets**

This is used to add icons to cells in a range to indicate how large the cell values are compared to the other values in the range.

- **Manage Rules**

It shows the existing rules that are applied in to the data, can manage new rules, edit rules and delete the rules.

- **Clear Rules**

You can clear the rules in entire sheet or selected cell or a table.