

Excel:

Excel is a powerful spreadsheet program developed by Microsoft that's used for organizing, analyzing, and visualizing data.

It's part of the Microsoft Office suite and is widely used in businesses and by individuals for tasks like budgeting, data analysis, and report generation.

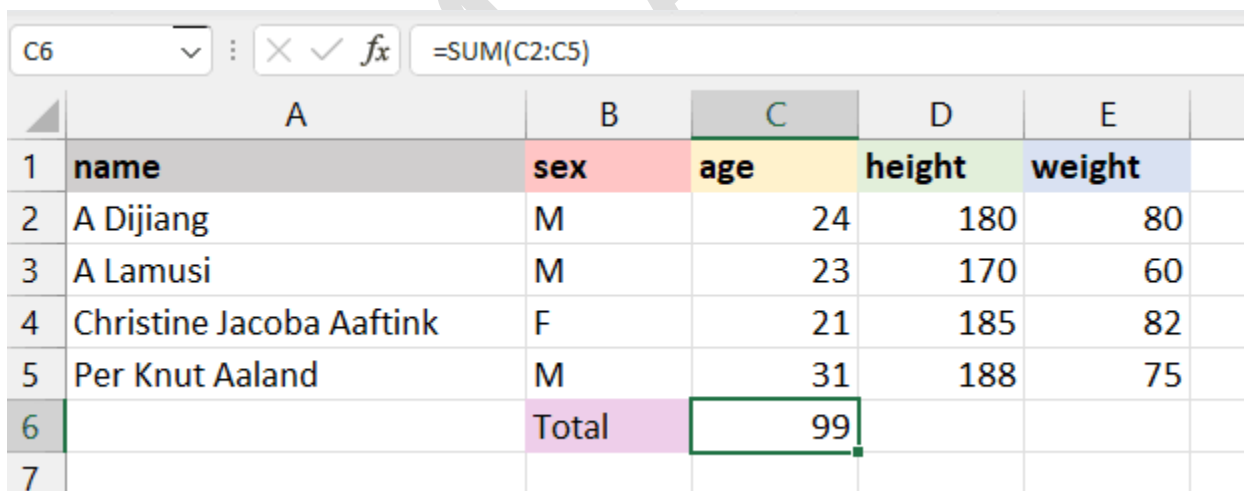
In simple words, a software program created by Microsoft that uses spreadsheets to organize numbers and data with formulas and functions

1. SUM()

The SUM() function performs addition on selected cells. It works on cells containing numerical values and requires two or more cells.

=SUM(C2:C5)

In our case, we will be applying the SUM() function to a range of cells from C2 to C5 and storing the result on C6. It will add 24, 23, 21, and 31. You can also apply this function to multiple columns.



The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E
1	name	sex	age	height	weight
2	A Dijiang	M	24	180	80
3	A Lamusi	M	23	170	60
4	Christine Jacoba Aaftink	F	21	185	82
5	Per Knut Aaland	M	31	188	75
6		Total	99		
7					

The formula bar at the top shows the formula **=SUM(C2:C5)** entered in cell C6.

2. MIN() and MAX()

The MIN() function requires a range of cells, and it returns the minimum value. For example, we want to display the minimum weight among all athletes on the E6 cell. The MIN() function will search for the minimum value and show 60.

=MIN(E2:E5)

E6					
	A	B	C	D	E
1	name	sex	age	height	weight
2	A Dijiang	M	24	180	80
3	A Lamusi	M	23	170	60
4	Christine Jacoba Aaftink	F	21	185	82
5	Per Knut Aaland	M	31	188	75
6		Total	99	Min	60
7		Average	24.75		

3. AVERAGE()

The AVERAGE() function calculates the average of selected cells. You can provide a range of cells (C2:C5) or select individual cells (C2, C3, C5).

To calculate the average of athletes, we will select the **age** column, apply the average function, and return the result to the C7 cell. It will sum up the total values in the selected cells and divide them by 4.

=AVERAGE(C2:C5)

C7					
	A	B	C	D	E
1	name	sex	age	height	weight
2	A Dijiang	M	24	180	80
3	A Lamusi	M	23	170	60
4	Christine Jacoba Aaftink	F	21	185	82
5	Per Knut Aaland	M	31	188	75
6		Total	99		
7		Average	24.75		

4. COUNT()

The COUNT() function counts the total number of selected cells. It will not count the blank cells and different data formats other than numeric.

We will count the total number of athlete weights, and it will return 4, as we don't have missing values or strings.

=COUNT(E2:E5)

E8						
	A	B	C	D	E	
1	name	sex	age	height	weight	
2	A Dijiang	M	24	180	80	
3	A Lamusi	M	23	170	60	
4	Christine Jacoba Aaftink	F	21	185	82	
5	Per Knut Aaland	M	31	188	75	
6		Total	99	Min	60	
7		Average	24.75	Max	82	
8				Count	4	

5. CEILING() and FLOOR()

The CEILING() function rounds a number **up** to the nearest given multiple. In our case, we will round 3.24 up to a multiple of 1 and get 4. If the multiple is 5, it will round up the number 3.24 to 5.

=CEILING(F2,1)

G2							
	A	B	C	D	E	F	G
1	name	sex	age	height	weight	power	ceiling
2	A Dijiang	M	24	180	80	3.24	4
3	A Lamusi	M	23	170	60	2.89	3
4	Christine Jacoba Aaftink	F	21	185	82	3.4225	4
5	Per Knut Aaland	M	31	188	75	3.5344	4

FLOOR() rounds a number **down** to the nearest given multiple. As we can see in the image below, instead of converting 3.24 to 4, it has rounded the number to 3.

=FLOOR(F2,1)

=FLOOR(F2,1)							
	B	C	D	E	F	G	H
	sex	age	height	weight	power	ceiling	floor
	M	24	180	80	3.24	4	3
	M	23	170	60	2.89	3	2
nk	F	21	185	82	3.4225	4	3
	M	31	188	75	3.5344	4	3

6. UPPER(), LOWER(), and PROPER()

UPPER() will convert all the letters in the text to uppercase.

=UPPER(A1:F1)

LOWER() will convert the selected text to lowercase.

=LOWER(A1:F1)

PROPER() will convert the string to the proper case. For example, the first letter in each word will be capitalized, and the rest of them will be lowercase.

=PROPER(A1:F1)

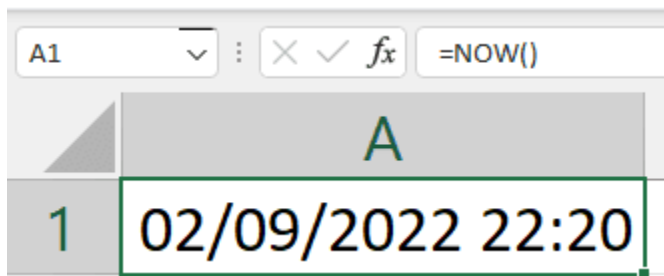
A8	=PROPER(A1:F1)					
	A	B	C	D	E	F
1	name	sex	age	height	weight	age_sex
2	A Dijiang	M	24	180	80	24M
3	A Lamusi	M	23	170	60	23M
4	Christine Jacoba Aaftink	F	21	185	82	21F
5	Per Knut Aaland	M	31	188	75	31M
6	NAME	SEX	AGE	HEIGHT	WEIGHT	AGE_SEX
7	name	sex	age	height	weight	age_sex
8	Name	Sex	Age	Height	Weight	Age_Sex

7. NOW() and TODAY()

NOW() returns the current time and date, and TODAY() returns only the current date. These are quite simple, and we will use them to extract a day, month, year, hours, and minutes from any date time data cell.

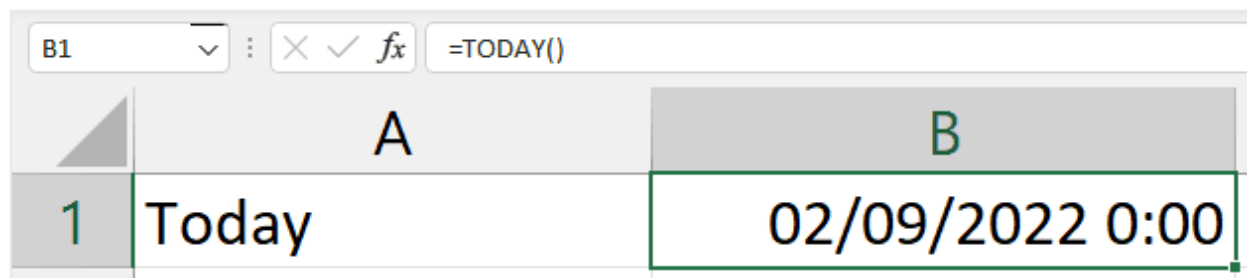
The example below returns the current date and time.

=NOW()



Similarly, TODAY() will return only the current date.

=TODAY()



8. IF()

The IF() Excel function is straightforward. It is similar to an if-else statement in a programming language. We will provide the logic of the function. If the logic is correct, it will return a certain value; if the logic is false, it will return a different value.

=IF(G2<24.9,"Fit","Unfit")

