

Computer Applications

Business Administration & Accounting Second Level

**Functions of Excel
2023/2024**

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1- AVERAGE Function:

Syntax:

AVERAGE(number1,number2,...)

A	B	C	D	E	F
1	Name	Subject 1	Subject 2	Subject 3	Total Average
2	Ramyar	70	55	90	=AVERAGE(C2:E2)
3	Rizgar	66	73	72	
4	Vala	100	88	92	
5	Urva	91	93	94	
6	Mabast	100	99	98	
7	Goran	20	30	42	

To find the average, we write the following function inside cell F2

=AVERAGE(C2:E2), the value is 71.66667

After that we make drag and drop for other cells.

2- SUM Function:

Syntax:

SUM(number1,number2,...)

A	B	C	D	E	F
1	Name	Subject 1	Subject 2	Subject 3	Total
2	Ramyar	70	55	90	=SUM(C2:E2)
3	Rizgar	66	73	72	
4	Vala	100	88	92	
5	Urva	91	93	94	
6	Mabast	100	99	98	
7	Goran	20	30	42	

To find the sum, we write the following function inside cell F2

=SUM(C2:E2), the value is 215

After that we make drag and drop for other cells.

3- COUNT Function:

Syntax:

COUNT(value1,value2,...)

A	B	C	D	E	F
1	Name	Subject 1	Subject 2	Subject 3	Total
2	Ramyar	70	55	90	=COUNT(C2:E2)
3	Rizgar	66	73	72	
4	Vala	100	88	92	
5	Urva	91	93	94	
6	Mabast	100	99	98	
7	Goran	20	30	42	

To count the numeric numbers inside a range, we write the following function inside cell F2

=COUNT(C2:E2), the value is 6

After that we make drag and drop for other cells.

4- COUNTIF Function:

Syntax:

COUNTIF(range,criteria)

A	B	C	D	E
1	Name	Subject 1	Subject 2	Subject 3
2	Ramyar	70	55	90
3	Rizgar	66	73	72
4	Vala	100	88	92
5	Urva	91	93	94
6	Mabast	100	99	98
7	Goran	20	30	42

Counts the number of cells within a range that meet the given criteria

e.g. to count the numbers greater than 90 inside the table, we write the following function inside cell F2

=COUNTIF(C2:E7;">=90"), the result will be 9.

5- MAX Function:

Syntax:

MAX(number1,number2,...)

A	B	C	D	E	F
1	Name	Subject 1	Subject 2	Subject 3	Maximum
2	Ramyar	70	55	90	=MAX(C2:E2)
3	Rizgar	66	73	72	
4	Vala	100	88	92	
5	Urva	91	93	94	
6	Mabast	100	99	98	
7	Goran	20	30	42	

To find the maximum number inside a range, we write the following function inside cell F2

=MAX(C2:E2), the value is 90

After that we make drag and drop for other cells.

6- MIN Function:

Syntax:

MIN(number1,number2,...)

A	B	C	D	E	F
1	Name	Subject 1	Subject 2	Subject 3	Minimum
2	Ramyar	70	55	90	=MIN(C2:E2)
3	Rizgar	66	73	72	
4	Vala	100	88	92	
5	Urva	91	93	94	
6	Mabast	100	99	98	
7	Goran	20	30	42	

To find the minimum number inside a range, we write the following function inside cell F2

=MIN(C2:E2), the value is 55

After that we make drag and drop for other cells.

7- UPPER Function:

Syntax:

UPPER(text)

Used to change all the characters in a specified cell to uppercase characters.

Example:

=UPPER(B2) The result will be RAMYAR

8- LOWER Function:

Syntax:

LOWER(text)

Used to change all the characters in a specified cell to lowercase characters.

Example:

=LOWER(B2) The result will be ramyar

9- PROPER Function:

Syntax:

PROPER(text)

Used to change the first character only in each word into an uppercase and the other characters will be changed to lowercase.

Example:

=PROPER("this is an example")

The result will be:

This Is An Example

10- LARGE Function:

Syntax:

LARGE(Range,Rank)

Used to find the largest number according to the given rank.

Example:

=LARGE(C2:E7,4)

The result will be 98

11- SMALL Function:

Syntax:

SMALL(Range,Rank)

Used to find the smallest number according to the given rank.

Example:

=SMALL(C2:E7,4)

The result will be 55

12- IF Function:

Syntax:

IF(logical_test,value_if_true,value_if_false)

A	B	C	D	E	F	G
1	Name	Subject 1	Subject 2	Subject 3	Total Average	Result
2	Ramyar	70	55	90	71.666667	
3	Rizgar	66	73	72	70.333333	
4	Vala	100	88	92	93.333333	
5	Urva	91	93	94	92.666667	
6	Mabast	100	99	98	99	
7	Goran	20	30	42	30.666667	

According to the average, we need to replace the value of the result column with "PASS" if the average is ≥ 50 ; otherwise we replace it with "FAIL". So in cell G2 we write the following function:

IF(F2 \geq 50;"PASS";"FAIL")

So the table will be like this

A	B	C	D	E	F	G
1	Name	Subject 1	Subject 2	Subject 3	Total Average	Result
2	Ramyar	70	55	90	71.666667	PASS
3	Rizgar	66	73	72	70.333333	PASS
4	Vala	100	88	92	93.333333	PASS
5	Urva	91	93	94	92.666667	PASS
6	Mabast	100	99	98	99	PASS
7	Goran	20	30	42	30.666667	FAIL

13- LOOKUP Function:

Syntax:

LOOKUP(Lookup value,Lookup range,Result range)

Returns a value either from a one-row or one-column range

A	B	C
1	Average	Grade
2	0	F
3	50	E
4	60	D
5	70	C
6	80	B
7	90	A
8		
9	Average=	
10		
11	Grade=	

In this example we will enter the value of the average inside cell C9 and the computer will display the grade of this average according to the table. So inside cell C11 we will write:

=Lookup(C9,B2:B7,C2:C7). Suppose that we enter 78 inside C9, the Grade will be C inside C11.

14- VERTICAL LOOKUP Function:

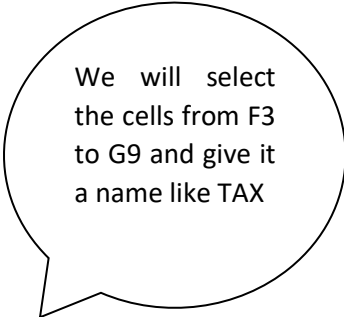
Syntax:

VLOOKUP(Lookup value,Table name,Column number)

Searches for a value in the first column of a table array and returns a value in the same row from another column in the table array.

A	B	C	D	E	F	G
1	Name	Salary	Tax			
2	Ramyar	20000				
3	Rizgar	30000				
4	Vala	15000				
5	Urva	19000				
6	Mabast	25000				
7	Goran	22000				
8						
9						

Salary	Tax_Rate
0	0
17000	1%
20000	2%
24000	3%
27000	4%
29000	5%



We will select the cells from F3 to G9 and give it a name like TAX

After giving a name like TAX to the table F3:G9, we will write the following inside cell D2:

=VLOOKUP(C2,TAX,2) where 2 is the number of the column inside table TAX. Then we make drage and drop

The result will be:

A	B	C	D	E	F	G
1	Name	Salary	Tax			
2	Ramyar	20000	0.02			
3	Rizgar	30000	0.05			
4	Vala	15000	0			
5	Urva	19000	0.01			
6	Mabast	25000	0.03			
7	Goran	22000	0.02			
8						
9						

Salary	Tax_Rate
0	0
17000	1%
20000	2%
24000	3%
27000	4%
29000	5%

15- HORIZONTAL LOOKUP Function:

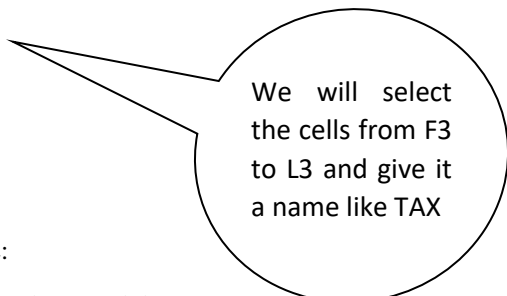
Syntax:

HLOOKUP(Lookup value,Table name,Row Number)

Searches for a value in the first row of a table array and returns a value in the same column from another row in the table array.

A	B	C	D	E	F	G	H	I	J	K	L
1	Name	Salary	Tax								
2	Ramyar	20000									
3	Rizgar	30000									
4	Vala	15000									
5	Urva	19000									
6	Mabast	25000									
7	Goran	22000									
8											
9											

Salary	0	17000	20000	24000	27000	29000
Tax_rate	0	1%	2%	3%	4%	5%



We will select the cells from F3 to L3 and give it a name like TAX

After giving a name like TAX to the table F3:L4, we will write the following inside cell D2:

=VLOOKUP(C2,TAX,2) where 2 is the number of the row inside table TAX. Then we make drage and drop

The result will be:

A	B	C	D	E	F	G	H	I	J	K	L
1	Name	Salary	Tax								
2	Ramyar	20000	0.02								
3	Rizgar	30000	0.05								
4	Vala	15000	0								
5	Urva	19000	0.01								
6	Mabast	25000	0.03								
7	Goran	22000	0.02								
8											
9											

Salary	0	17000	20000	24000	27000	29000
Tax_rate	0	1%	2%	3%	4%	5%