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# Excel functions

## Here are the 10 functions that people read about most.

- The **SUM** function adds values. You can add individual values, cell references or ranges or a mix of all three.
- For example:
- **=SUM(A2:A10)** Adds the values in cells A2:10.
- **=SUM(A2:A10, C2:C10)** Adds the values in cells A2:10, as well as cells C2:C10.

	D
	Data
	\$14,598.93
	\$65,437.90
	\$78,496.23
	\$158,533.06

# MAX function in Microsoft Excel.

## Syntax

MAX(number1, [number2], ...)

- The MAX function syntax has the following arguments:
- Number1, number2, ... Number1 is required, subsequent numbers are optional. 1 to 255 numbers for which you want to find the maximum value.
- If the arguments contain no numbers, MAX returns 0 (zero).

	A	B	C	D	E
1	10		254		
2	7				
3	9				
4	27				
5	2				
6	254				
7					

# the **MIN** function in Microsoft Excel.

- MIN(number1, [number2], ...)
- The MIN function syntax has the following arguments:
- **Number1, number2, ...** Number1 is optional, subsequent numbers are optional. 1 to 255 numbers for which you want to find the minimum value.

	A	B	C	D	E
1	10		2		
2	7				
3	9				
4	27				
5	2				
6	254				
7					

Formula bar: C1     $\times$      $\checkmark$     *fx*    =MIN(A1:A6)

# AVERAGE

- The Excel AVERAGE function calculates the average (arithmetic mean) of supplied numbers. AVERAGE can handle up to 255 individual arguments, which can include numbers, cell references, ranges, arrays, and constants.

**AVERAGE function**  
Calculate the average of supplied numbers

Name	Quiz 1	Quiz 2	Quiz 3	Average
Belinda	8	7	9	8.0
Lonnie	9	9	7	8.3
Jacob	7	6	8	7.0
Marty	8	6	8	7.3
Ayako	10	10	10	10.0
Sabrina	9	10	9	9.3



# COUNT function

- Use the COUNT function **to get the number of entries in a number field that is in a range or array of numbers.** COUNT(value1, [value2], ...)
- The COUNT function syntax has the following arguments:
- **value1** Required. The first item, cell reference, or range within which you want to count numbers.
- **value2, ...** Optional. Up to 255 additional

to count

	A	B	C	D	E
1	10		=COUNT(A1:A7)		
2	7				
3	9				
4	27				
5	2				
6	7				
7					
8					

	A	B	C	D
1	10		6	
2	7			
3	9			
4	27			
5	2			
6	7			
7				

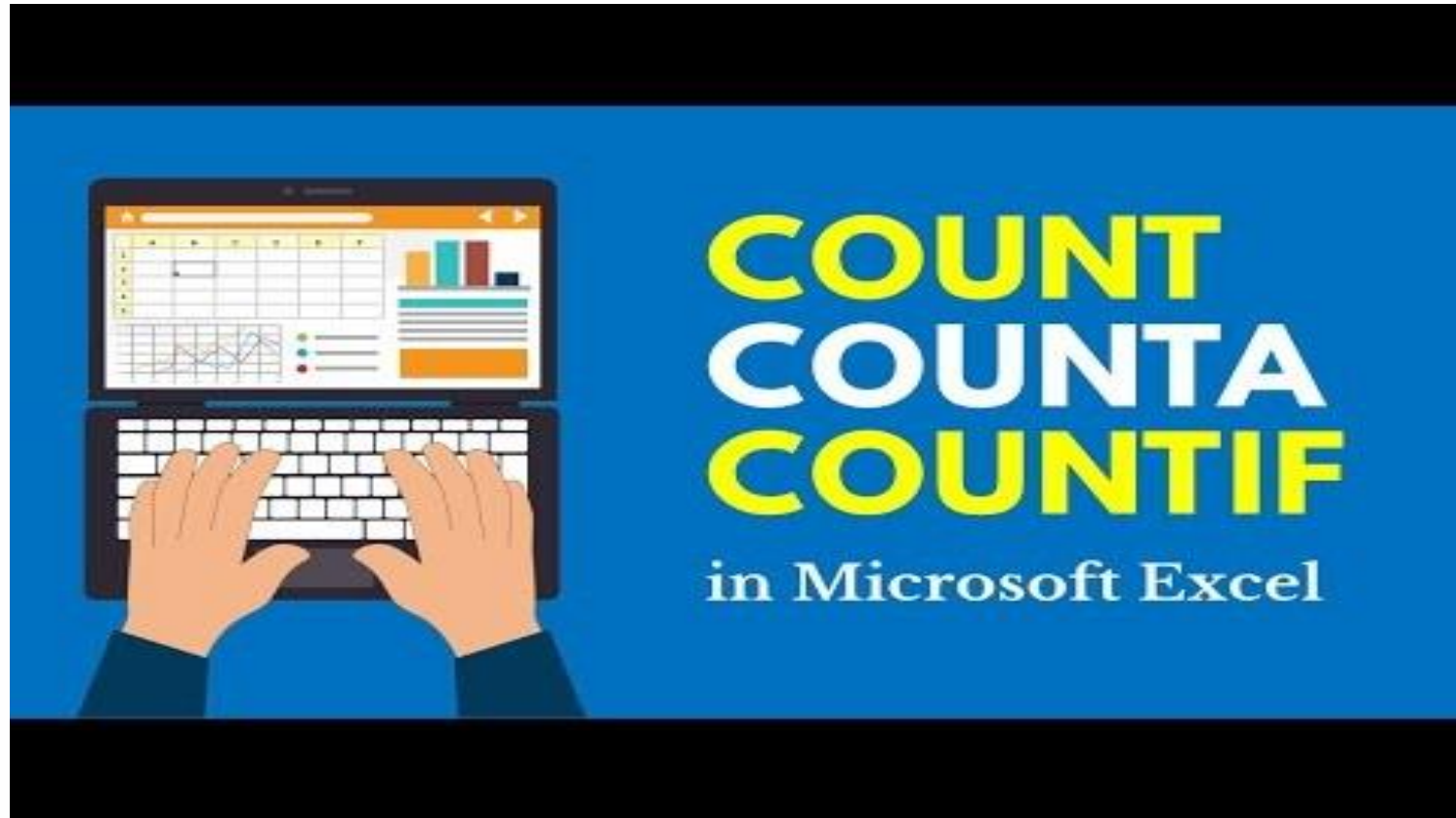
# Why value 2 ?

=COUNT(D4:D8)		
D	E	F
2012-08-08		2
19		
22.24		
TRUE		
#DIV/0!		

=COUNT(D4:D8)

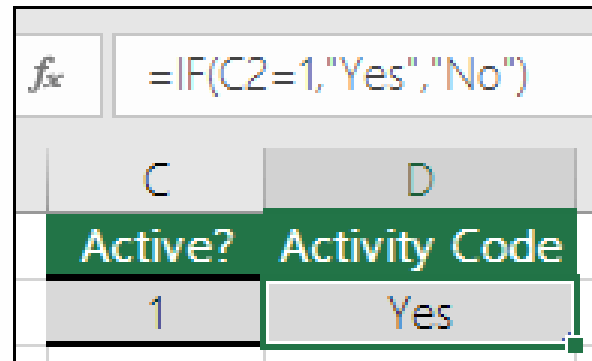
	D	E	F
	2012-08-08		2
	19		
22.24			
	TRUE		
	#DIV/0!		

Counta, countblank, countif, countifs



# IF function

- The IF function is one of the most popular functions in Excel, and it allows you to make logical comparisons between a value and what you expect.
- So an IF statement can have two results. The first result is if your comparison is True, the second if your comparison is False.
- For example, =IF(C2="Yes",1,2) says IF(C2 = Yes, then return a 1, otherwise return a 2).



The screenshot shows an Excel spreadsheet with the following data:

C	D
Active?	Activity Code
1	Yes

The formula bar shows the formula: =IF(C2=1,"Yes","No")

# About IF

Use IF to compare values

Expenses	Budgeted	Actual	Status	Amount Over
Airfare	\$800.00	\$921.58		\$121.58
Hotel	\$375.00	\$324.98		\$0.00
Car	\$150.00	\$128.43		\$0.00
Food	\$150.00	\$174.38		\$24.38

# Sumif and other functions with a IF suffix

- The Excel SUMIF function returns the sum of cells that meet a single condition. Criteria can be applied to dates, numbers, and text. The SUMIF function supports logical operators (>,<,<>=) and wildcards (\*,?) for partial matching
- And other functions with an IF suffix

G5 : X ✓ fx =SUMIF(B5:B15,"jim",D5:D15)

SUMIF function		
Name	State	Sales
Jim	MN	\$100
Sarah	CA	\$125
Jane	GA	\$200
Steve	CA	\$50
Kelly	WA	\$125
Walter	OR	\$75
Brian	OR	\$100
Jamie	CA	\$200
Ayako	NV	\$250
Jim	IA	\$100
Joan	WA	\$150

Criteria	Result
Name = Jim	\$200
State = CA	\$375
Sales > \$100	\$1,050

=SUMIF(B5:B15,"jim",D5:D15)  
 =SUMIF(C5:C15,"ca",D5:D15)  
 =SUMIF(D5:D15,">100")

G5 : X ✓ fx =COUNTIF(D5:D12,">100")

COUNTIF (range, criteria)		
Name	State	Sales
Jim	MN	\$100.00
Sarah	CA	\$125.00
Jane	GA	\$200.00
Steve	CA	\$50.00
Jim	WY	\$75.00
Joan	WA	\$150.00
Jane	GA	\$200.00
Jim	WY	\$50.00

Example	Result
Sales over \$100	4
Sales by Jim	3
Sales in California	2

# Days function

- `DAYS(end_date, start_date)`
- The `DAYS` function syntax has the following arguments.
- `End_date` Required. `Start_date` and `End_date` are the two dates between which you want to know the number of days.
- `Start_date` Required. `Start_date` and `End_date` are the two dates between which you want to know the number of days.



# Time, hour, minute, second

- The TIME function syntax has the following arguments:
- **Hour** Required. A number from 0 (zero) to 32767 representing the hour. Any value greater than 23 will be divided by 24 and the remainder will be treated as the hour value. For example,  $\text{TIME}(27,0,0) = \text{TIME}(3,0,0) = .125$  or 3:00 AM.
- **Minute** Required. A number from 0 to 32767 representing the minute. Any value greater than 59 will be converted to hours and minutes. For example,  $\text{TIME}(0,750,0) = \text{TIME}(12,30,0) = .520833$  or 12:30 PM.
- **Second** Required. A number from 0 to 32767 representing the second. Any value greater than 59 will be converted to hours, minutes, and seconds. For example,  $\text{TIME}(0,0,2000) = \text{TIME}(0,33,22) = .023148$  or 12:33:20 AM



# Weeknum, Networkdays

- Weeknum. The week containing January 1 is the first week of the year, and is numbered week 1.

	A	B	C	D	E
4	2022-02-03				
5	6				

Formula bar: =WEEKNUM(A4)

Returns the number of whole working days between start\_date and end\_date. Working days exclude weekends and any dates identified in holidays. Use NETWORKDAYS to calculate employee benefits that accrue based on the number of days worked during a specific term.

	A	B	C	D	E
4	2022-01-28	2022-01-31			
5		2			

Formula bar: =NETWORKDAYS(A4;B4)

