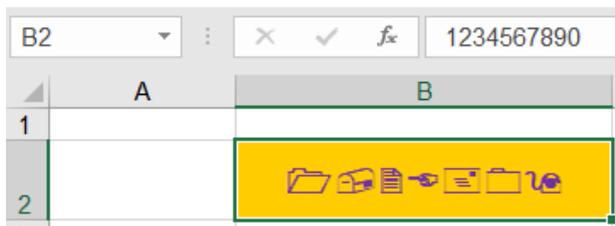


Number format

Excel meetup: March 9th, 2021

1. Value and Format

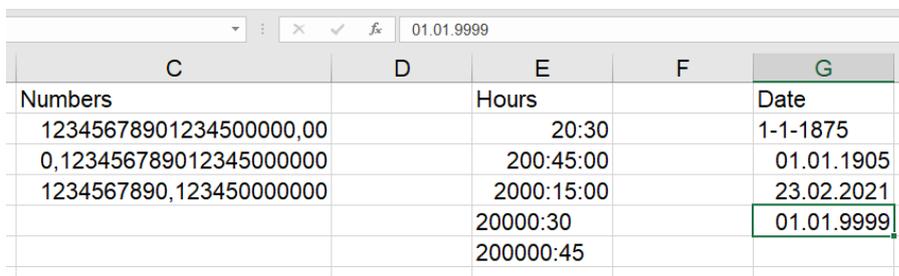
Obviously, it is not necessary to tell anyone, who works with Excel, that there is a difference between the value in the cell and the format under or behind a cell. The value can be seen in the Formula Bar. The formatted result can be seen on the worksheet. It does not matter to the value of the cell if the font, font size, font color, background color or the number format is changed – the value inside the cell is not changed by formatting. Sure? Do we have two independent levels?



2. Limitation of numbers

There are limits, when you insert a number: The limitation is 15:

- 15 digits before the decimal separator (in Germany: “,”)
- 15 digits after the decimal separator
- 15 digits in total



C	D	E	F	G
Numbers		Hours		Date
12345678901234500000,00		20:30		1-1-1875
0,1234567890123450000000		200:45:00		01.01.1905
1234567890,1234500000000		2000:15:00		23.02.2021
		20000:30		01.01.9999
		200000:45		

But there are also limits concerning date ($\#1/1/1900\# \leq \text{date} \leq 31/12/9999$) and time (0:00 and 9999:59:59)

You find the list on:

<https://support.microsoft.com/en-us/office/excel-specifications-and-limits-1672b34d-7043-467e-8e27-269d656771c3>

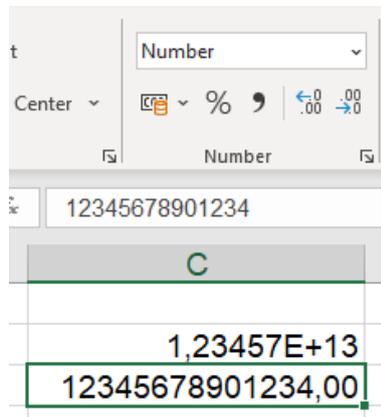
or – on German:

<https://support.microsoft.com/de-de/office/spezifikationen-und-beschr%C3%A4nkungen-in-excel-1672b34d-7043-467e-8e27-269d656771c3>

3. General and number

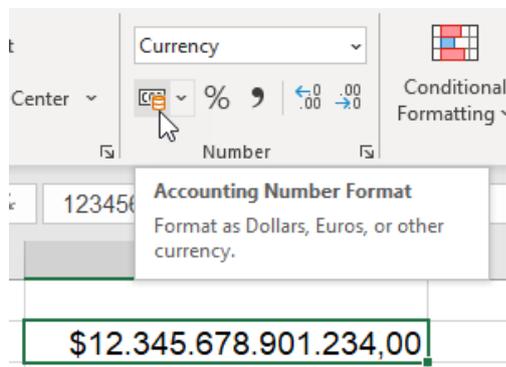
At first glance, numbers in cells formatted with the format “General” or “Number” seem to be the same (if you do not care about decimals). However, you can notice the difference when the

number becomes large: 12121212121212121 is converted to 1,21212E+14, when the cell is formatted as “General”. It is not converted into the scientific notation, if you use the format “Number”. It also works when entering a number with decimal places: A number formatted as number always has a fixed number of decimal places. If you insert a number with decimal places into a “general” cell, the number is formatted. It is rounded and not all the digits do appear in the worksheet. However, both number formats (General and Number) delete leading zeros.

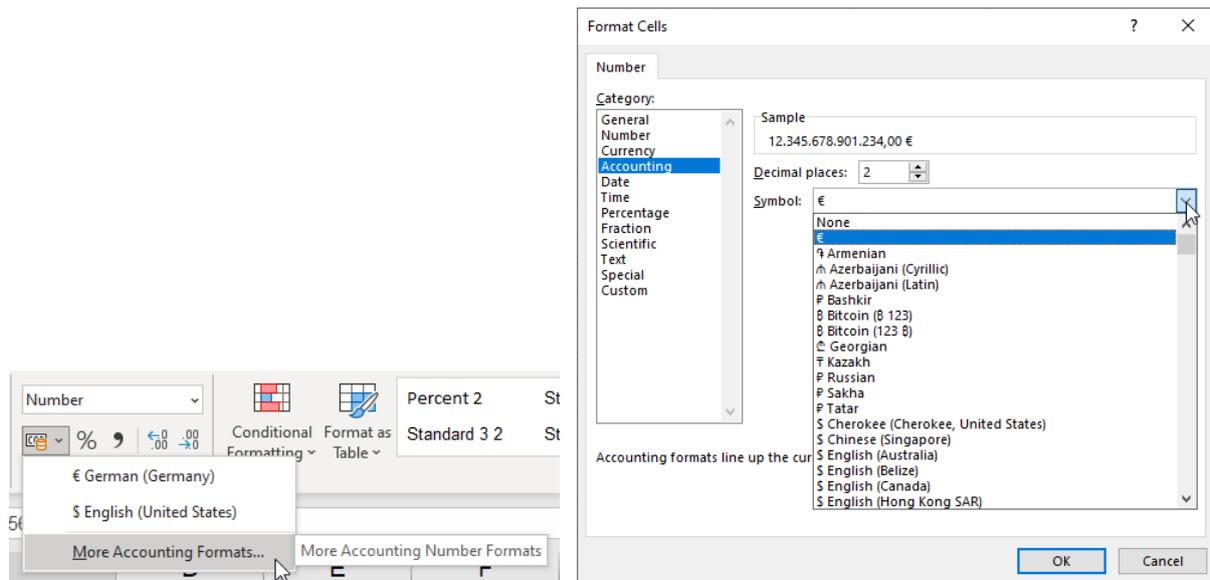


4. Currency and Accounting

If this number represents a monetary amount, it can be formatted with “Accounting” or “Currency”. What are the differences?



Excel in first sight uses the currency set in the Control Panel in Windows under “Locale”. But if you wish to change the currency, you can use the Format Cells-dialog box.



The list is divided into two halves: in the upper half the currencies are displayed as symbol or abbreviation, in the lower half there is the ISO standard 4217, which determines the currency with three letters.¹

According to “general” and “number”, there are some differences between “Currency” and “accounting”:

- If you use “accounting”, there is a small gap between the text “EUR”, “GBP”, “USD”, “CHF”, ... or the symbols “€”, “\$”, “£”, “¥”, “₽”, ... and the grid line, in the case of “currency” there is no margin; the currency is always on the left or right side of the cell.
- Accounting represents 0 as - EUR (- €), currency as 0.00 EUR (0.00 €). Of course: “\$”, “£”, “¥”, “₽”, ...
- If you uncheck the option “show a zero in cells with zero values”, - € is shown in “accounting”, an empty cell at “currency”.
- Negative numbers can be displayed in red font color only in currency format.
- A number formatted with “Accounting” cannot be centered.
- If the result of a cell is underlined in an accounting way, the cell of an accounting number is almost completely underlined, with the currency format only the digits are underlined.
- If a short text is formatted as accounting, there is a small gap between the left margin and the first letter.
- If “long text” (text with more than 253 letters) is formatted as an accounting, it is represented with #### (octothorp, hash tags or number sign) in the case of currency.

¹ Very amusing; you can also find “bitcoin” on the list.

Currency Symbol	Currency Name	Windows Shortcut	Mac Shortcut
฿	Thai Baht	Alt + 3647	Option + 0E3F
₩	Korean Won	Alt + 50896	Option + C6D0
៛	Khmer Symbol Riel	Alt + 6107	Option + 17DB
﷼	Saudi Arabiya Rial	Alt + 65020	Option + FDFC
₡	Small Dollar Symbol	Alt + 65129	Option + FE69
₪	Fullwidth Dollar Sign	Alt + 65284	Option + FF04
¢	Fullwidth Cent	Alt + 65504	Option + FFE0
£	Fullwidth Pound Sign	Alt + 65505	Option + FFE1
₣	Old Euro Currency	Alt + 8352	Option + 20A0
⌘	Colon Symbol	Alt + 8353	Option + 20A1
Ⓞ	Cruzeiro Symbol	Alt + 8354	Option + 20A2
₣	French Franc	Alt + 8355	Option + 20A3
₤	Lira Symbol	Alt + 8356	Option + 20A4
₯	Mill Sign	Alt + 8357	Option + 20A5
₦	Nigerian Naira	Alt + 8358	Option + 20A6
₧	Spanish Peseta	Alt + 8359	Option + 20A7
₨	Old Indian Rupee	Alt + 8360	Option + 20A8
₩	South Korean Won	Alt + 8361	Option + 20A9
₪	Israeli New Sheqel	Alt + 8362	Option + 20AA
₫	Vietnamese Dong	Alt + 8363	Option + 20AB
€	Euro Symbol	Alt + 8364	Option + 20AC
₭	Laos Kip	Alt + 8365	Option + 20AD
₮	Mongolian Tugrik	Alt + 8366	Option + 20AE
₯	Greece Drachma	Alt + 8367	Option + 20AF
₰	German Penny Sign	Alt + 8368	Option + 20B0
₱	Philippine Peso	Alt + 8369	Option + 20B1
₲	Paraguayan Guarani	Alt + 8370	Option + 20B2
₳	Argentine Austral	Alt + 8371	Option + 20B3
₴	Ukrainian Hryvnia	Alt + 8372	Option + 20B4
₵	Ghana Cedi	Alt + 8373	Option + 20B5
₶	Old Livre Tournois Sign	Alt + 8374	Option + 20B6
₷	Esperanto Spesmilo	Alt + 8375	Option + 20B7
₸	Tenge Sign	Alt + 8376	Option + 20B8
₹	Indian Rupee Symbol	Alt + 8377	Option + 20B9
₺	Turkish Lira	Alt + 8378	Option + 20BA
₻	Nordic Mark	Alt + 8379	Option + 20BB
₼	Azerbaijan Manat	Alt + 8380	Option + 20BC
₽	Russian Ruble	Alt + 8381	Option + 20BD
₾	Georgia Lari	Alt + 8382	Option + 20BE
₿	Bitcoin Symbol	Alt + 8383	Option + 20BF

You can add any word before or after the numbers with a custom number format. Whether the space is inside the quotation marks or outside does not matter:

"Debt:" 0.00

corresponds to:

Number format // Excel meetup: March 9th, 2021

"Debt: "0.00

Alternatively, a “\” could be set in front of each character:

\D\e\b\t\ : 0.00

Now you can format with the custom format:

- 1234 km
- 1235 m²
- 1236 m³
- 1237 °C
- 1238 hl
- 1239 kg

And so on.

If the number 1400000 should not be represented as 1,400,000, but as 1.4 million, then it must be formatted:

- # represents it as 1400000.
- #. represents it as 1400.
- #.. represents it as 1.
- #.,# represents it as 1.4.
- #.,# "MM" represents 1.4 million (MM).

It is changed automatically to:

#,00..

	A	B	C	D	E
1	Beagle Boys	Name deutsch	Name englisch	Nummer	Stolen (in Millions)
2	Panzerknacker 1	Karlchen Knack	Big Time Beagle	167-671	74,18 MM GBP
3	Panzerknacker 2	Burger Knack	Burger Beagle	761-176	99,00 MM GBP
4	Panzerknacker 3	Kuno Knack	Bouncer or Biceps Beagle	716-167	94,21 MM GBP
5	Panzerknacker 4	Schlabber Knack	Baggy Beagle	617-716	74,54 MM GBP
6	Panzerknacker 5	Babyface Knack	Babyface Beagle	176-167	39,54 MM GBP
7	Panzerknacker 6	Knubbel Knack	Bugle or Bebop Beagle	671-761	10,42 MM GBP
8	Panzerknacker 7	Bankjob Knack	Bankjob Beagle	176-671	28,78 MM GBP
9	Panzerknacker 8	Bomberknacker	Bomber Beagle	117-671	98,42 MM GBP
10	Panzerknacker 9	Bullauge Knack	Bullseye Beagle	671-761	82,60 MM GBP

Note

Unlike in Germany or Austria, in Switzerland the apostrophe is used as a thousand separator. There, the format above must be: #",# or #",# (two times “'”)

Note

The following characters can be used without using quotation marks: - + / () : ! • & ‘ (single quotation mark on the left) ’ (single quotation mark on the right) .

If you are unsure about whether to use quotation marks or not: it is always a good idea to format these special characters as text, that means, to write them inside quotation marks.

Digit/sign	meaning:	1234,5678	Formatted
0	A digit is mandatory.	0	1235
#	A digit is possible.	•#0	1,235

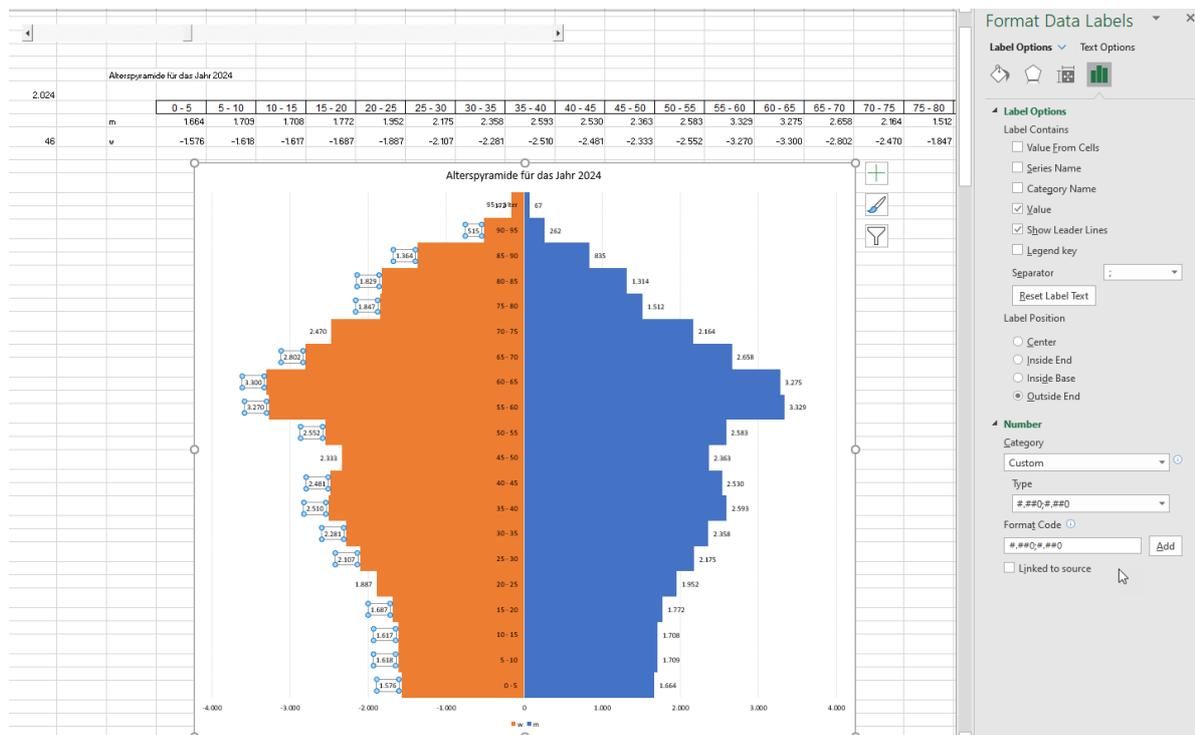
Digit/sign	meaning:	1234,5678	Formatted
?	inserts spaces for non-significant zeros on both sides of the decimal place to align decimal numbers to the decimal point when formatting is done with a fixed-width font (for example, Courier New). You can use the character "?" also for fractions with a different number of digits.	????,????	1234,5678
,	Decimal separator	0,00	1234,57
.	Separator of thousand	###0,00	1.234,57
		###0.00 "kg"	1,234.57 kg
;	positive and negative numbers. #0 "kg"; "#0 "kg"1,234.57 kg		
::	positive, negative numbers and 0."#0 "kg"; [Red]---#0 "kg"; ""1,234.57 kg		
;;;	positive, negative numbers, 0, and empty cells. . . #0 . . "#0 "kg";0;" 1,234.57 kg		

Here is how to format:

"Profit:" 0,00;"Loss: "0,00

Perhaps you are wondering: who needs that? Answer: you can easily hide numbers by using ;;; — the value is still in the cell, but do not appear on the sheet. Even if the cell is formatted with a background color.

Other fields of application are diagrams for using “;;;”: for example, if you want to display negative numbers positively, it only works via the format 0;0 because there is no conditional formatting available in charts.



6.iii

For the custom number format ;;; the four elements stand for:

- Positive number
- Negative number
- Zero
- Text

For example, it is possible to hide “rounding errors” in tables with a colored cell background, so numbers are represented as `..#0.0000;-..#0.0000;`. This allows you to hide rounding errors and is independent of a background color.

Note

Unfortunately the Add-In Inquire does not find the cells that are using ;;; formatted. White font color, on the other hand, is tracked down!

Month	Net	Type	ROUND
Jan	23080,1	GT_BM_NN	23.080,100
Jan	40530,5	GT_BM_NN	40.530,500
Jan	17175,9	GT_BM_NN	17.175,900
Jan	41789,18	GT_BM_NN	41.789,180
Jan	48527,45	GT_BM_NN	48.527,450
Jan	12979,34	GT_BM_NN	12.979,340
Jan	25858,19	GT_BM_NN	25.858,190
Jan	11437,47	GT_BM_NN	11.437,470
Jan	11318,8	GT_BM_NN	11.318,800
Feb	14972,96	GT_BM_NN	14.972,960
Dec	1,23E-14	GT_BM_NN	
Jan	2026,01	GT_BM_NN	2.026,010
Jan	1951,66	GT_BM_NN	1.951,660
Jan	5077,68	GT_BM_NN	5.077,680
Jan	-237,33	GT_BM_NN	-237,330
Jan	-1141,45	GT_BM_NN	-1.141,450
Jan	-35,47	GT_BM_NN	-35,470
Jan	91,24	GT_BM_NN	91,240
Feb	-1752,83	GT_BM_NN	-1.752,830
Feb	-206,22	GT_BM_NN	-206,220
Feb	-2,41E-14	GT_BM_NN	
Feb	92,99	GT_BM_NN	92,990
Mar	-1842,03	GT_BM_NN	-1.842,030
Mar	-199,53	GT_BM_NN	-199,530
Mar	-35,47	GT_BM_NN	-35,470

This can be used, for example, in the following scenario:

In a form, a combo box (data validation) is intended to provide two variants: "No Selection;x". However, you do not want to appear the selected “no selection” text on the worksheet. So you can hide it, using conditional formatting (condition: text = "no selection"): Custom number format: ;;;

Thus, nothing is displayed in this selection.

IT / Dokumente

Bitte wählen Sie die IT-Services aus der Liste aus und geben Sie an, ob Sie diese im Normalbetrieb benötigen und zu welchem Zeitpunkt im Notbetrieb.

14. Welche IT-Services werden zu welchen Zeitpunkten zwingend benötigt?

	Normalbetrieb	Zwingend erforderlich im Notbetrieb und Wiederanlauf						
		bis 24 h	bis 48 h	bis 72 h	bis 96 h	bis 120 h	bis 240 h	bis 480 h
FI-TS: ARS für OSPlus Incident Management (Standardanwendung)	x	x	x					x
HP: Openview Network Node Manager (Standardanwendung)	x			keine Angabe x	x			
IET Solutions: Ticketsystem (Standardanwendung)	x				x	x	x	x
LBS: Appmon (Eigenentwicklung)	x			x	x			
SIKOM: AgentOne Universal Client (Standardanwendung)	x		x					

Kurzbeschreibung für Notbetrieb bei IT-Ausfall

Another example in Pivottables:

AK	AL	AM	AN	AO
Sep	Okt	Nov	Dez	(blank)
				(blank)
				1
				2
				1
				1
				1
				1
				1

In Excel (Word, PowerPoint & co) you can insert the two symbols “hook” and “cross”: ✓ and ✘. You find them in the Font Wingdings – at the end of the list of the symbols. If you format them with a different font, you will find out which characters represent them.

With that information you can create a selection list via a data check - with the two texts “done” and “in progress”.

With the help of conditional formatting, you can now represent these two texts - ;;"ü" or ;;"û"" helps with this. The to-do list is ready and can be checked.

A	B	C
1	To-do-List:	done
2	☞ Climb onto the roof and throw bricks down, while humming the music of Tetrís.	✓
3	☞ Go to the registry office, shout to a groom, "I will always love you!"	✘
4	☞ Go to the veterinarian with a grilled chicken and ask, if there is anything, that could save the life of that poor creature.	✘
5	☞ Go to the supermarket with a laboratory coat and murmur: "Beautiful: so many persons are taking part in our experiment."	✘
6	☞ Put vanilla pudding into a jar of mayonnaise and eat it during the lunch break.	
7	☞ Hire two private detectives and let them shadowed by each other.	✓
8	☞ Put on a T-shirt, where the word "life" is written on it, and distribute lemons.	done in progress
9	☞ In a full elevator, start a speech with the words: "You're probably wondering why we gathered here today..."	
10	☞ Run into a shop and ask what year we have. When someone responds, shout out happily: "Geat - it worked!" and run away.	
11	☞ Ask in an internet forum the question, whether it is normal to get always wet when taking a shower.	
12	☞ Receive a doctorate and change the last name to "Acula".	
13	☞ Go to the sauna with a laser pointer and highlight the weak points of other guests' bodies.	
14	☞ Buy a parrot and teach him the following sentence: "Help, I was turned into a bird"	
15	☞ Call someone by phone and tell him or her, that you really don't have any time to talk and hang up immediately.	
16	☞ Hunt joggers by car and play "Eye of the Tiger" for motivation.	
17	☞ Going to the pedestrian zone with a blueprint pointing indiscriminately at buildings and answer questions from passers-by with the words: "This will all be gone! Everything will disappear."	
18	☞ Go to the dressing room of a noble fashion boutique and shout out loudly: "The toilet paper is out."	
19	☞ Hold up a sign reading "Edward Snowden" or "Alexei Anatolevich Navalny" in the arrivals area of the airport.	
20	☞ Create a new to-do list.	

7. Custom format and conditional formatting

With that information it is easy to format 1 to “1 year” , but 2 to “2 years”:

```
[=1]0,00 "year"; [<>1]0,00 "years"
```

You can also use colors: The color for a section of the format is set by typing the name of one of the following eight colors in square brackets in the section. It is not case-sensitive, but converted to upper case after entering. The color code must be the first item in the section.

- Black
- Cyan
- Magenta
- Know
- Blue
- Green
- Red
- Yellow

This color could be used to define conditions:

```
[Blue] [<100]0; [Green] [>1000]0; General
```

Note

Unfortunately, you can only choose two color variants.

You can also create a color value using [Colorxx] - Excel provides 56 different values:

	A	B	C	D	E	F	G	H
1								
2		1		3	4	5	6	7
3		8	9	10	11	12	13	14
4		15	16	17	18	19	20	21
5		22	23	24	25	26	27	28
6		29	30	31	32	33	34	35
7		36	37	38	39	40	41	42
8		43	44	45	46	47	48	49
9		50	51	52	53	54	55	56

You can easily generate the values with a macro:

```
Sub WriteColor()  
    Dim xlZelle As Range  
  
    For Each xlZelle In ActiveSheet.UsedRange  
        xlZelle.NumberFormat = "[Color" & xlZelle.Value & "]"  
    Next  
End Sub
```

In most of the cases it is certainly easier to use the conditional formatting. However, there are some places in Excel, such as charts, where conditional formatting cannot be used.

Number format // Excel meetup: March 9th, 2021

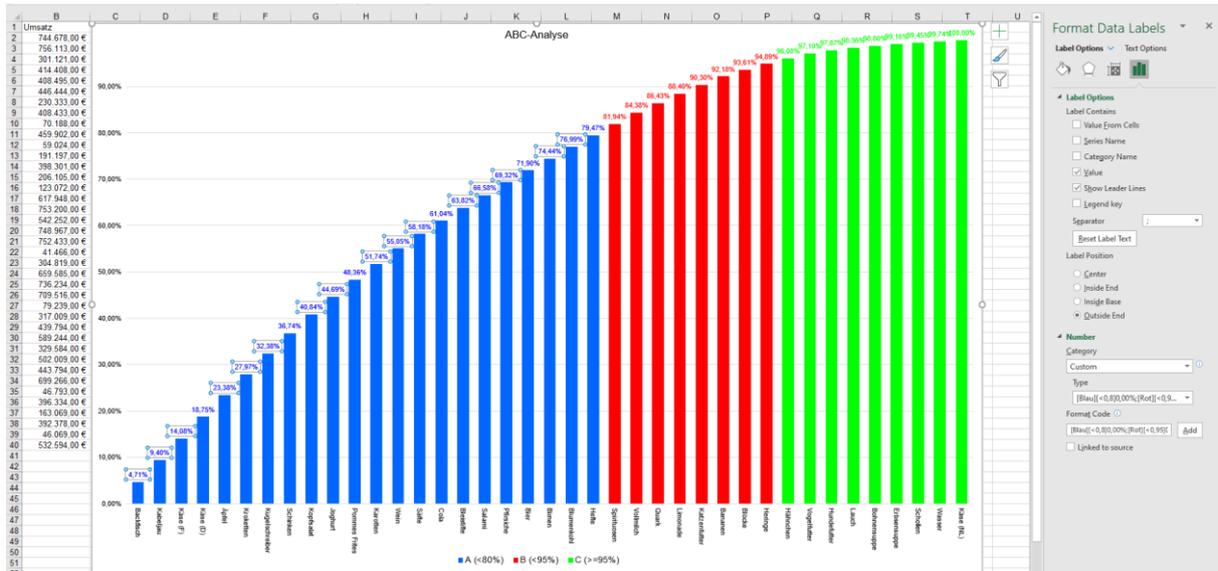
If you want to repeat the character that follows a number in the format to fill the column, include an asterisk (*) in the number format. For example, enter **0*-** to fill the cell with hyphens.

In this way you can use the custom formatting

[Blue] [<0,8]0,00%; [Red] [<0,95]0,00%; [Green]0,00%

[Color5] [<0,8]0,00%; [Color26] [<0,95]0,00%; [Color10]0,00%

You can easily create a dynamic font color in charts:



But also in VBA – because you only need one command for that number format, but several for the conditional formatting:

Aragorn	Ziel 2020	Zielerr. %	Bilbo Baggins	Ziel 2021	Zielerr. %	Frodo Baggins	Ziel 2022	Zielerr. %	Tom Bombadil	Ziel 2023	Zielerr. %
	371			544			516			282	
	1,40			1,68			1,84			0,73	
	367			531			451			340	
	406			344			443			266	
	70,95			61,73							
	26.725			59.203							
	10.574			29.982							
	+219			-252							
	7.068			20.357							
	+379			-580							
	3.506			9.625							
	-160			+328							
	465			1.696							
	318	21	1.525,2%	565							
	148	8	1.822,8%	155							
	0	19		976							
	8.441			18.963							
	-79			-6.768							
	-0,71			-27,23							
	-0,06			+0,21							
	2.102			3.735							
	+724			-445							
	1.228			1.484							
	814			1.946							
	3.552			3.014							
	+13			+9							

Format Cells

Number Alignment Font Border Fill Protection

Category: Custom

Sample: 1.525,2%

Type: [Red]<1#;##0,0%;[Color10][>=1]#;##0,0%; [S\$-en-US]#;##0,00,;[Red]-[S\$-en-US]#;##0,00 [S\$-en-GB]#;##0,00;[Red]-[S\$-en-GB]#;##0,00 #;##0,00 [S\$-ru-RU];[Red]-[S\$-ru-RU] #;##0,00 [S\$-ja-JP]#;##0,00;[Red]-[S\$-ja-JP]#;##0,00 [S\$CHF-de-CH] #;##0,00;[Red]-[S\$CHF-de-CH] #;##0,00 [S\$-x-xtb2] #;##0,000000;[Red]-[S\$-x-xtb2] #;##0,000000 "Debt"; #;00, "MM Euro" #;00, "MM GBP" #;##0,0000; #;##0,0000; [Blue]=#;##0;[Red]#;##0 [Red]<1#;##0,0%;[Color10][>=1]#;##0,0%; [Blue]=#;##0,00;[Red]#;##0,00

Delete

Type the number format code, using one of the existing codes as a starting point.

OK Cancel

8. More than three conditions?

This color could be used to define conditions:

[Blue] [<100]0; [Green] [>1000]0; Standard

Note

Unfortunately, you can use only two color variants.

If you need more than three colors or texts, you must resort to the “classic” (or: new) conditional formatting. For example, to display text in a chart.

The screenshot shows an Excel spreadsheet with a chart titled 'fin. Impact'. The chart displays data points for various categories, with values ranging from 0 to 2000. The chart is divided into five horizontal bands, each representing a different impact level: 'sehr hoch' (very high), 'hoch' (high), 'mittel' (medium), 'niedrig' (low), and 'gering' (low). A 'Conditional Formatting Rules Manager' dialog box is open, showing the rules used for the chart. The rules are based on cell values and are applied to the range \$C\$2:\$I\$19. The rules are: 'sehr hoch' (>= 2000), 'hoch' (>= 1000), 'mittel' (>= 500), 'niedrig' (>= 200), and 'gering' (>= 0).

9. Dates are numbers

The date and time in Excel is a little bit tricky. If you enter a date, such as 1.1.5, that date is immediately displayed as:

01.01.2005

Even a value such as May 1, March 2, or January 3 is “transformed” and displayed differently:

01. May, 02. Mar, 03. Jan

By the way, January 2020 will also be changed to Jan 20.

If you want a different representation, select it from the dialog box of the number formats from the Date category. Excel uses the date March 14th, 2012 as example. Here we use another date: 1.1.2021, a Friday.

Character	Meaning	Presentation at 1.1.2021
D	Day, one digit	1
DD	Day, two digits	01
DDD	Day of the week in short form	Fr
DDDD	Day of the week in long form	Friday
M	Month, single digit	1
MM	Month, double digits	01
MMM	Month, as text in short form	Jan
MMMM	Month, as text in long form	January
YY	Year in short form	21

Character	Meaning	Presentation at 1.1.2021
YYYY	Year in long form	2021

Note

“D” and “Y” is not case sensitive, but “M”. All you enter in Excel can be entered in upper or lower case: all cell references, formulas, and functions. VBA is also not case sensitive to internal functions. Only “M” is reserved for the month, “m” for minutes! For example, a dd.mm.yy would result in the following erroneous representation:

01.00.21

Note

And be careful with the local representation of day, month and year. IN English you write D-M-Y, in German T-M-J, In Spanish D-M-A, in Turkish G-A-Y, ...

If you want to represent the following date:

Friday, January 1, 2021

it must be formatted:

DDDD, MMMM D YYYY

Tip

Some Excel users like to type the numbers on the right number keyboard. To avoid having to use a typewriter keyboard to set a date point when entering dates, you can also use a minus (-) or a split character (/). You can also find them on the right side. Correct inputs are therefore:

1.1.20

1-1-20

1/1/20

Attention

The input 31-12-29 is interpreted as 31.12.2029, whereas 1-1-30 becomes 01.01.1930. In between runs the border. It is set in the operating system in Control Panel.

And how does Excel “knows”, that we are in Germany and “MMMM” means “Januar” and not, for example, January, Enero, Ocak or Leden? The answer can be found in the Windows Control Panel. Excel uses the country setting and displays the locale set in the number dialog. If “Austria” was set there, the first month of the year is formatted to “Jänner”.

What happens when a date is formatted into a number? A date, such as 09.03.2021, becomes the number 44264. The explanation is quite simple: each Excel date is internally stored as serial number. Excel starts counting on January 1st, 1900, which corresponds to the number 1. The 02.01.1900 is 2, the 3rd of January 3 and so on until 09.03.2021, which represents 44264.

By the way, Excel also has an upper limit: 31.12.9999 (or the number 2.958.465) That should be enough for now ...

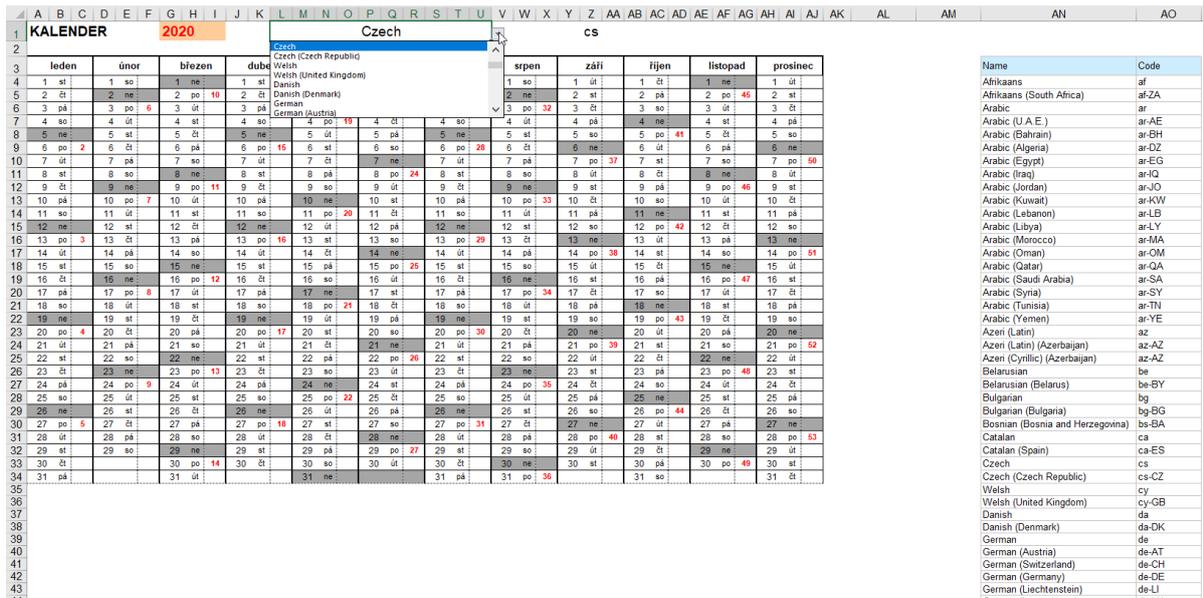
There are consequences for assigning numbers to dates. This internal conversion method is the reason, why Excel “recognizes” quickly, that there is no 31.11.2021, and leaves the date left-aligned as text. A number will be found for 31.12.2021. Even when you pull down dates, Excel quickly detects how to “continue”.

However, if you write a date into a cell, delete the cell contents, and now enter a number, that number is formatted into a date. For example, if a cell has today's date, it is deleted and 500 (€) is entered, then the (currency) amount is converted to the date 14.05.1901.

Especially beginners are slightly confused by this. For example, if a beginner enters 2.5 instead of 2.5 on the keyboard, as he or she knows it from the pocket calculator, the number is converted to May 2. The effect of deleting is the clearing of the content, not the formatting. If 2.5 is typed correctly, it will be transformed into January 2. Only a correct deletion via Start | Delete | Delete all | Deleting formats or reformatting the Start cell | Number format helps.

By the way: In Excel, it is possible to format a custom date format according to a locale. Surprisingly, Excel does not provide as many different types in the Swiss and Austrian schemes as in the German scheme. And: A switch to the U.S. schema provides a type of MM-DDYYYY, while schemes such as Russian or Greek display the month names in the corresponding font. For example, 24 December 2020 will be converted to 24 Δεκεμβρίου 2020 or 24 декабря 2020 г. Even more astonishingly, Excel can convert to the appropriate calendar when formatting a date. The 24.12.2020 is correctly ٠٥ . ١٤٤٢ . ٠٩ (05/09/1442) or as a ٢٠٢٠ . ١٢ . ٢٤ (24.12.2020) if Arabic is chosen as language.

	A	B	C	D	E	F	G	H	I	
1		Gebietsschema:								
2	Datum	Deutsch	Englisch	Niederländisch	Schwedisch	Norwegisch (Bokmal)	Isländisch	Dänisch	Färöisch	
3	01.01.2021	1. Januar 2021	January 1, 2021	1 januari 2021	1 januari 2021	1. januar 2021	01. janúar 2021	1. januar 2021	1. januar 2021	
4	01.02.2021	1. Februar 2021	February 1, 2021	1 febrúari 2021	1 februar 2021	1. februar 2021	01. febrúar 2021	1. februar 2021	1. februar 2021	
5	01.03.2021	1. März 2021	March 1, 2021	1 maart 2021	1 mars 2021	1. mars 2021	01. mars 2021	1. marts 2021	1. mars 2021	
6	01.04.2021	1. April 2021	April 1, 2021	1 apríl 2021	1 april 2021	1. april 2021	01. apríl 2021	1. april 2021	1. april 2021	
7	01.05.2021	1. Mai 2021	May 1, 2021	1 mei 2021	1 maj 2021	1. mai 2021	01. maí 2021	1. maj 2021	1. mai 2021	
8	01.06.2021	1. Juni 2021	June 1, 2021	1 juni 2021	1 juni 2021	1. juni 2021	01. júní 2021	1. juni 2021	1. juni 2021	
9	01.07.2021	1. Juli 2021	July 1, 2021	1 júlí 2021	1 juli 2021	1. juli 2021	01. júlí 2021	1. juli 2021	1. juli 2021	
10	01.08.2021	1. August 2021	August 1, 2021	1 ágúst 2021	1 august 2021	1. august 2021	01. ágúst 2021	1. august 2021	1. august 2021	
11	01.09.2021	1. September 2021	September 1, 2021	1 september 2021	1 september 2021	1. september 2021	01. september 2021	1. september 2021	1. september 2021	
12	01.10.2021	1. Oktober 2021	October 1, 2021	1 október 2021	1 oktober 2021	1. oktober 2021	01. október 2021	1. oktober 2021	1. oktober 2021	
13	01.11.2021	1. November 2021	November 1, 2021	1 november 2021	1 november 2021	1. november 2021	01. nóvember 2021	1. november 2021	1. november 2021	
14	01.12.2021	1. Dezember 2021	December 1, 2021	1 desember 2021	1 december 2021	1. desember 2021	01. desember 2021	1. december 2021	1. desember 2021	
15										
16										
17										
18	Datum	Französisch	Spanisch	Italienisch	Portugiesisch	Rumänisch	Katalanisch	Galizisch		
19	01.01.2021	1 janvier 2021	1 de enero de 2021	1 gennaio 2021	1 de janeiro de 2021	1 ianuarie 2021	1/gener/2021	1 de Xaneiro de 2021		
20	01.02.2021	1 février 2021	1 de febrero de 2021	1 febbraio 2021	1 de febreiro de 2021	1 februarie 2021	1/febrer/2021	1 de Febrero de 2021		
21	01.03.2021	1 mars 2021	1 de marzo de 2021	1 marzo 2021	1 de marzo de 2021	1 martie 2021	1/marc/2021	1 de Marzo de 2021		
22	01.04.2021	1 avril 2021	1 de abril de 2021	1 aprile 2021	1 de abril de 2021	1 aprilie 2021	1/abril/2021	1 de Abril de 2021		
23	01.05.2021	1 mai 2021	1 de mayo de 2021	1 maggio 2021	1 de maio de 2021	1 mai 2021	1/maig/2021	1 de Maio de 2021		
24	01.06.2021	1 juin 2021	1 de junio de 2021	1 giugno 2021	1 de junho de 2021	1 iunie 2021	1/juny/2021	1 de Xuño de 2021		
25	01.07.2021	1 juillet 2021	1 de julio de 2021	1 luglio 2021	1 de julho de 2021	1 iulie 2021	1/juliol/2021	1 de Xullo de 2021		
26	01.08.2021	1 août 2021	1 de agosto de 2021	1 agosto 2021	1 de agosto de 2021	1 august 2021	1/agost/2021	1 de Agosto de 2021		
27	01.09.2021	1 septembre 2021	1 de septiembre de 2021	1 settembre 2021	1 de setembro de 2021	1 septembrie 2021	1/setembre/2021	1 de Setembro de 2021		
28	01.10.2021	1 octobre 2021	1 de octubre de 2021	1 ottobre 2021	1 de outubro de 2021	1 octombrie 2021	1/octubre/2021	1 de Outubro de 2021		
29	01.11.2021	1 novembre 2021	1 de noviembre de 2021	1 novembre 2021	1 de novembro de 2021	1 noiembrie 2021	1/novembre/2021	1 de Novembro de 2021		
30	01.12.2021	1 décembre 2021	1 de diciembre de 2021	1 dicembre 2021	1 de dezembro de 2021	1 decembrie 2021	1/desembre/2021	1 de Decembro de 2021		
31										
32										
33										
34	Datum	Finnisch	Ungarisch	Türkisch	Litauisch	Lettisch	Baskisch	Georgisch		
35	01.01.2021	1. tammikuuta 2021	2021. január 1.	01 Ocak 21	2021 m. sausis 1 d.	piektdiena, 2021. gada 1. janvāris	2021(e)ko urtarilaren 1a	2021 წლის 01 01, პარასკევი		
36	01.02.2021	1. helmikuuta 2021	2021. február 1.	01 Şubat 21	2021 m. vasaris 1 d.	pirmdiena, 2021. gada 1. februāris	2021(e)ko otsailaren 1a	2021 წლის 01 02, ორშაბათი		
37	01.03.2021	1. maaliskuuta 2021	2021. március 1.	01 Mart 21	2021 m. kovasis 1 d.	pirmdiena, 2021. gada 1. marts	2021(e)ko martxoaren 1a	2021 წლის 01 03, ორშაბათი		
38	01.04.2021	1. huhtikuuta 2021	2021. április 1.	01 Nisan 21	2021 m. balandis 1 d.	ceturtdiena, 2021. gada 1. aprīlis	2021(e)ko apirilaren 1a	2021 წლის 01 04, ხუთშაბათი		
39	01.05.2021	1. toukokuuta 2021	2021. május 1.	01 Mayıs 21	2021 m. gegužis 1 d.	sestdiena, 2021. gada 1. maijs	2021(e)ko maiatzaren 1a	2021 წლის 01 05, შაბათი		
40	01.06.2021	1. kesäkuuta 2021	2021. jūnius 1.	01 Haziran 21	2021 m. birželis 1 d.	otrdiena, 2021. gada 1. jūnijs	2021(e)ko ekainaren 1a	2021 წლის 01 06, სამშაბათი		
41	01.07.2021	1. heinäkuuta 2021	2021. jūlius 1.	01 Temmuz 21	2021 m. liepa 1 d.	ceturtdiena, 2021. gada 1. jūlijs	2021(e)ko uztailaren 1a	2021 წლის 01 07, ხუთშაბათი		
42	01.08.2021	1. elokuuta 2021	2021. augustus 1.	01 Ağustos 21	2021 m. rugpjūtis 1 d.	svētdiena, 2021. gada 1. augusts	2021(e)ko abuztuaren 1a	2021 წლის 01 08, კვირა		
43	01.09.2021	1. syyskuuta 2021	2021. szeptember 1.	01 Eylül 21	2021 m. rugsējis 1 d.	trešdiena, 2021. gada 1. septembris	2021(e)ko irailaren 1a	2021 წლის 01 09, ორშაბათი		
44	01.10.2021	1. lokakuuta 2021	2021. október 1.	01 Ekim 21	2021 m. spalīs 1 d.	piektdiena, 2021. gada 1. oktobris	2021(e)ko urrillaren 1a	2021 წლის 01 10, პარასკევი		
45	01.11.2021	1. marraskuuta 2021	2021. november 1.	01 Kasım 21	2021 m. lapkritis 1 d.	pirmdiena, 2021. gada 1. novembris	2021(e)ko azaroaren 1a	2021 წლის 01 11, ორშაბათი		
46	01.12.2021	1. joulukuuta 2021	2021. december 1.	01 Aralık 21	2021 m. gruodis 1 d.	trešdiena, 2021. gada 1. decembris	2021(e)ko abenduaren 1a	2021 წლის 01 12, ორშაბათი		

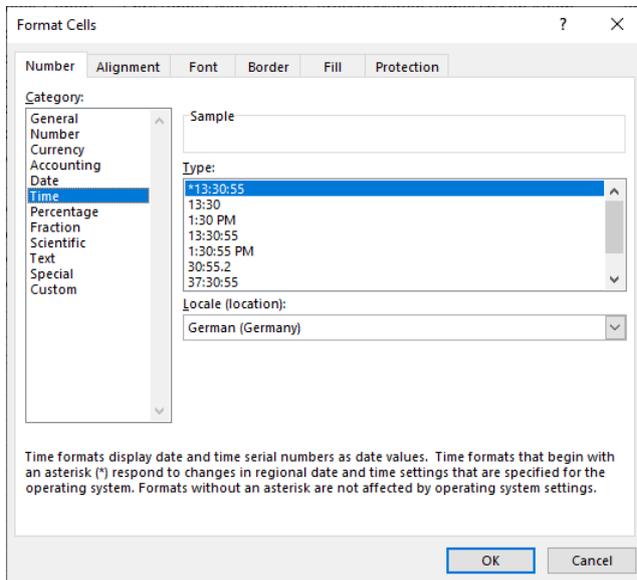


10. Times are numbers

Tip

By the way: if you have to insert very often time information – you can replace two commas into a colon via autocorrect - and then 12,,30 is converted to the time 12:30.

A time of 12:00 (noon) can be displayed in several ways:



Characters	Meaning	For example 08:05
h	Hour in short form	8
hh	Hour in long form	08
[h]	Hours more than 24:00 (o'clock)	08
m	Minute in short form	5
mm	Minute in long form	05
s	Second in short form (not existing here)	0

ss	Second in long form (not existing here)	00
AM/PM	the US-American 12-hour time format	08:05 AM

If you want to sum hours (time information):

	A	B	C	D
1	Employee	Beginn	End	
2	Doc	05:30	16:45	11:15
3	Grumpy	07:10	14:20	7:10
4	Happy	08:05	18:20	10:15
5	Sleepy	22:00	01:35	3:35
6	Bashful	07:45	17:45	10:00
7	Sneezy	08:05	16:55	8:50
8	Dopey	09:00	12:00	3:00
9				
10				6:05
11				

You must convert the format from hh:mm to [h]:mm:

The screenshot shows an Excel spreadsheet with a formula bar containing `=SUM(D2:D8)`. The spreadsheet data is as follows:

	A	B	C	D
1	Employee	Beginn	End	
2	Doc	05:30	16:45	11:15
3	Grumpy	07:10	14:20	7:10
4	Happy	08:05	18:20	10:15
5	Sleepy	22:00	01:35	3:35
6	Bashful	07:45	17:45	10:00
7	Sneezy	08:05	16:55	8:50
8	Dopey	09:00	12:00	3:00
9				
10				54:05

The 'Format Cells' dialog box is open, showing the 'Number' tab. The 'Category' is set to 'Custom'. The 'Type' field contains the format code `[h]:mm`.

Here, too, various local forms are available – they use language-specific numeral characters

Note

If you format a time as "mm" in Excel, you save the file, open it again, convert Excel's to "MM"

11. Text and number

Texts are formatted with "@". This can be found out, if you format a number with the format "Text" and then change to the category "Custom".

With [Alt] + number < 32 a non-printable character can be created. This symbol can be used in the custom number format, for example:

I have found the following solutions to this problem:

1. If you have luck and see the small green triangle (the indicator for error checking), you can convert the “texts” back to numbers.

N	O	P	Q
	76.166,53 EUR		76.166,53 EUR
	37.989,68 EUR		37.989,68 EUR
	62.960,91 EUR		62.960,91 EUR
	-574,32 EUR		-574,32 EUR
	-668,61 EUR		-668,61 EUR
	48.876,31 EUR		48.876,31 EUR
	-360,26 EUR		-360,26 EUR
	22.036,15 EUR		22.036,15 EUR
	-55,29 EUR		-55,29 EUR
	29.674,20 EUR		29.674,20 EUR
	-452,71 EUR		-452,71 EUR
	69.594,19 EUR		69.594,19 EUR
	-165,35 EUR		-165,35 EUR

2. If you have only a few cells, you can double-click the cell (or edit the cell with [F2] and then exit with [Enter]. Then Excel uses the correct number format.

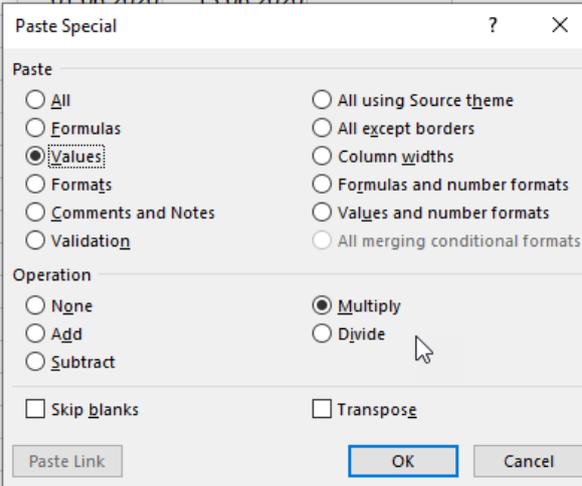
3. You can multiply the value of the cell by 1 with the help of an auxiliary column (=O2*1). Drag down the formula, copy it, and paste the content as values.

4. The same is done by the function =VALUE

5. Or: use the calculation operator - -

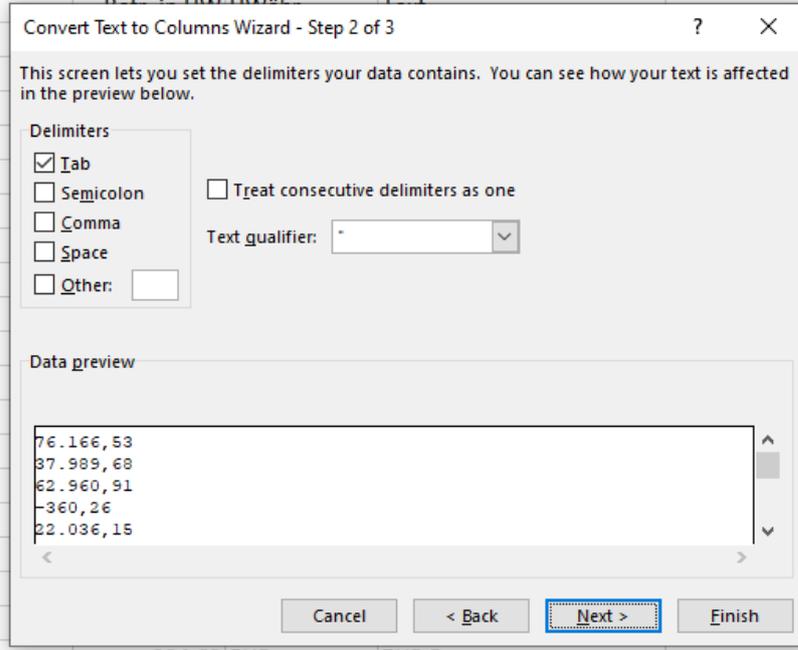
6. Write the number 1 to an empty cell. Copy the cell, select the range of the text numbers and paste /multiply with content (context menu) “over”. The result is the same as in point 2 or 3 or 5 – Excel now uses the correct number format.

Belegdatum	Buch.dat.	1!Fä	Betrag in BW	Währg
29.05.2020	15.06.2020		76.166,53	EUR
01.06.2020	13.06.2020		37.989,68	EUR
			62.960,91	EUR
			-360,26	EUR
			22.036,15	EUR
			-55,29	EUR
			29.674,20	EUR
			-452,71	EUR
			69.594,19	EUR
			-165,35	EUR
			49.146,65	EUR
			26.085,61	EUR
			-162,30	EUR
			-660,08	EUR
			-142,06	EUR
			78.112,82	EUR
			11.326,45	EUR
06.06.2020	22.06.2020		-294,63	EUR



7. My favorite tip: You can select the columns and use the wizard “Text To Columns”, which is found in the “Data” tab. Enter an absurd delimiter there (for example, a tab – a separator, which of course does not exist in the numbers. Then the wizard overwrites the values with himself and “takes” the correct format and value, that is, the number format.

Betrag in BW	Währg
76.166,53	EUR
37.989,68	EUR
62.960,91	EUR
-360,26	EUR
22.036,15	EUR
-55,29	EUR
29.674,20	EUR
-452,71	EUR
69.594,19	EUR
-165,35	EUR
49.146,65	EUR
26.085,61	EUR
-162,30	EUR
-660,08	EUR
-142,06	EUR
78.112,82	EUR
11.326,45	EUR

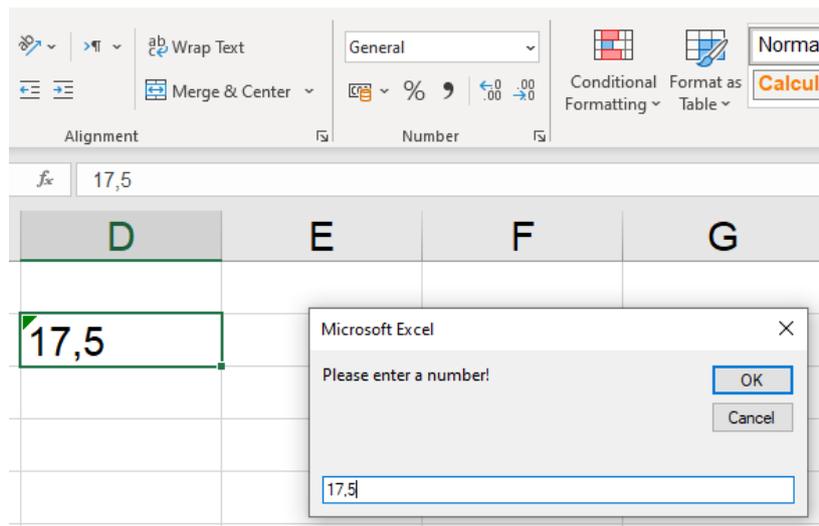


To save SAP’s honor, it should be noted that many database systems, for example: DATEV, KISS, ORBIS, EBIS and others, sometimes (not always!) push text formats under numbers when exporting to Excel.

By the way, this behavior is easy to simulate with a macro like:

```
Sub ConvertNumberToText ()
    Dim s As String
    s = InputBox("Please enter a number!")
    ActiveCell.Value = s
End Sub
```

This converts the number 17,5 to the text "17,5".



13. Percent

Again and again, I am astonished in Excel-trainings when participants write 0,19 and then format the value as percentage. When I am surprised and tell them, that you can also write 19%, some persons are amazed. Or 16% or 20% ...

The percentage format is intended to add a quotient not as a decimal number, but as a percentage.

Country	Capital	Population	Area (km²)	Area in %
36 Norway	Oslo	5.323.933	323.802	1,12%
37 Poland	Warsaw	38.433.600	312.685	1,08%
38 Portugal	Lisbon	10.291.196	92.090	0,32%
39 Romania	Bucharest	19.622.000	238.391	0,82%
40 Russia	Moscow	144.526.636	17.098.242	59,04%
41 San Marino	San Marino	32.742	61	0,00%
42 Serbia	Belgrade	8.720.394	88.361	0,31%
43 Slovakia	Bratislava	5.445.087	49.035	0,17%
44 Slovenia	Ljubljana	2.070.050	20.273	0,07%
45 Spain	Madrid	47.720.291	505.370	1,75%
46 Sweden	Stockholm	10.221.988	450.295	1,55%
47 Switzerland	Bern / Berne	8.685.688	41.277	0,14%
48 Turkey	Ankara	84.786.000	783.562	2,71%
49 Ukraine	Kyiv	44.291.413	603.550	2,08%
50 United Kingdom	London	68.060.502	243.610	0,84%
51 Vatican City	Vatican City	842	0	0,00%
52 Ergebnis			28.960.842	100,00%

Note

There is an option “enable automatic percentage entry”, which causes the percent sign as suggestion of the number formatting with the percent format.

Attention

Unfortunately, there is a difference between the icon “%” and “percentage” of the combo box: The first one does not have any decimal places, the second one uses two.

14. Scientific

If you enter “very large” or “very small” numbers in Excel, for example, the length of a light year in meters: 9.460.730.472.580.800, Excel converts this number to 9,46073E+15, if you used the general format. If you specify the speed of light in m/s: 299.792.458, you could also enter 2.99E+08. Excel converts to the “Science” number format starting from the twelfth digit.

Problems occur when text number combinations are imported with an "E", for example, gene names:

Clone ID: 2310009E13, (FANTOM 3) Sequence ID: 23753, Rearray ID: ZX00130K08, DDBJ Accession in HTC: AK019078, DDBJ Accessions in EST: AV084947, (FANTOM 2) Sequence ID: 23753, (FANTOM 1) Sequence ID: 23753, MGI Clone Accession: MGI:1912336, MGI Marker Accession: MGI:1914582																		
(DNA seq [Table] / AA seq / SeqQual) / Menu / Option / RIKEN / NTTSOFT Order this clone																		
Library information																		
TS: stage28, Dev stage: adult, Strain: C57BL/6J, Sex: male, Tissue: tongue, EMAP name: tongue																		
Tentative clustering (TK:mm5)																		
TK ID: 99507, # of transcript(s): 6																		
<table border="1"> <tr> <td>Representative</td> <td>3300001O07</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other Member(s)</td> <td>8430422N14</td> <td>1500032G08</td> <td>1700043E15</td> <td>B830002E03</td> <td>2310009E13</td> </tr> <tr> <td>External sequences</td> <td colspan="5">GB BC011510</td> </tr> </table>	Representative	3300001O07					Other Member(s)	8430422N14	1500032G08	1700043E15	B830002E03	2310009E13	External sequences	GB BC011510				
Representative	3300001O07																	
Other Member(s)	8430422N14	1500032G08	1700043E15	B830002E03	2310009E13													
External sequences	GB BC011510																	
Tentative clustering (TU:mm5)																		
TU ID: 99507, # of transcript(s): 6																		
<table border="1"> <tr> <td>Representative</td> <td>3300001O07</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other Member(s)</td> <td>8430422N14</td> <td>1500032G08</td> <td>1700043E15</td> <td>B830002E03</td> <td>2310009E13</td> </tr> <tr> <td>External sequences</td> <td colspan="5">GB BC011510</td> </tr> </table>	Representative	3300001O07					Other Member(s)	8430422N14	1500032G08	1700043E15	B830002E03	2310009E13	External sequences	GB BC011510				
Representative	3300001O07																	
Other Member(s)	8430422N14	1500032G08	1700043E15	B830002E03	2310009E13													
External sequences	GB BC011510																	
MGI Assignment																		
<table border="1"> <tr> <td>MGI annotation (July 2004)</td> <td>MGI ID</td> <td>MGI Gene Symbol</td> <td>MGI Gene Name</td> </tr> <tr> <td></td> <td>MGD MGJ:1925629</td> <td>2310009E13Rik</td> <td>RIKEN cDNA 2310009E13 gene</td> </tr> </table>	MGI annotation (July 2004)	MGI ID	MGI Gene Symbol	MGI Gene Name		MGD MGJ:1925629	2310009E13Rik	RIKEN cDNA 2310009E13 gene										
MGI annotation (July 2004)	MGI ID	MGI Gene Symbol	MGI Gene Name															
	MGD MGJ:1925629	2310009E13Rik	RIKEN cDNA 2310009E13 gene															

	A	B	C	D	E	F	G
1	Clone ID: 2310009E13, (FANTOM 3) Sequence ID: 23753, Rearray ID: ZX00130K08, DDBJ Accessio						
2	(DNA seq [Table] / AA seq / SeqQual) / Menu / Option / RIKEN / NTTSOFT Order this clone						
3	Library information						
4	TS: stage28, Dev stage: adult, Strain: C57BL/6J, Sex: male, Tissue: tongue, EMAP name: tongue						
5	Tentative clustering (TK:mm5)						
6	TK ID: 99507, # of transcript(s): 6						
7	Representativ	3300001O07					
8	Other Member(s)	8430422N14	1500032G08	1,70E+21	B830002E03	2,31E+19	
9	External sequences	GB BC011510					
10	Tentative clustering (TU:mm5)						
11	TU ID: 99507, # of transcript(s): 6						
12	Representativ	3300001O07					
13	Other Member(s)	8430422N14	1500032G08	1,70E+21	B830002E03	2,31E+19	
14	External sequences	GB BC011510					
15	MGI Assignment						
16	MGI annotation (July 2004)	MGI ID	MGI Gene Symbol	MGI Gene Name			
17		MGD MGJ:1925629	2310009E13Rik	RIKEN cDNA 2310009E13 gene			

Genetic research has therefore considered renaming some gene names:

<https://www.theverge.com/2020/8/6/21355674/human-genes-rename-microsoft-excel-misreading-dates>

or in German:

<https://www.spiegel.de/netzwelt/web/fuer-microsoft-excel-forscher-benennen-menschliche-gene-um-a-0d80a025-85af-4652-ace1-e29bb96109f1>

15. Logical (boolean) Value(TRUE, FALSE)

Unlike openOffice or libreOffice Calc, Excel does not have its own format for logical values. Although truth values in Excel represent a separate data type (besides text and number), which can be verified with ISLOGICAL, Excel does not provide a number format for it.

In Excel = ISNUMBER(TRUE) returns FALSE, in Calc it is TRUE.

However, this can cause, that Calc unintentionally displays numbers as TRUE in a table.

	A	B	C	D	E	F	G	H	I	J	K
1	S7 Ostbahnhof-Wolfratshausen S7										
2											
3	Ostbahnhof	WAHR									
4	Marienplatz	WAHR									
5	Hauptbahnhof	WAHR									
6	Harras	WAHR									
7	Solln	WAHR									
8	Großhesselohe	WAHR									
9	Pullach	WAHR									
10	Buchenhain	WAHR									
11	Baierbrunn	WAHR									
12	Wolfratshausen	WAHR									

16. Talking German– differences between Germany and Austria and Switzerland

There are some small differences in number formats. The date of the first month of the year is displayed in Austria with the format MMMM as “Jänner”, in Germany and Switzerland as “Januar”.

The thousands separator used in Switzerland is: “.”, in Germany and Austria is “.”. This means: the number format

#.,# "Mio."

Does not work in Switzerland - it has to changed there into

#",# "Mio."

17. Excel formats “automatically”

Attention is required for “mixed” number formats. If three numbers, which are among each other, are formatted in the same way, for example as a currency, then each number entered below this range is automatically transferred to the same format. This can be useful for currency or certain number formats, but can also be irritating or: wrong! It depends.

Note

This option can be deactivated in the options Advanced | Editing options via “Extend data range formats and formulas”.