

Information Technology Module Year 2020/2021

Excel

Text and Information Functions

Text functions

Text treatment

LOWER, UPPER, PROPER

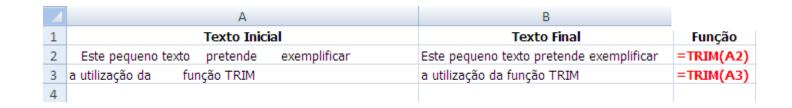
Column A contains the text you want to format:

- 1. All Uppercase UPPER (Text)
- 2. All in lowercase LOWER (Text)
- 3. All the words start with capital letters PROPER (Text)

	А	В	
1	Texto Inicial	Texto Alterado	Função
2	O programa da cadeira de TI foi bastante alterado	O PROGRAMA DA CADEIRA DE TI FOI BASTANTE ALTERADO	=UPPER(A2)
3	no ano lectivo de 2010/2011. Não era ensinado Excel	no ano lectivo de 2010/2011. não era ensinado excel	=LOWER(A3)
4	nesta cadeira, porque se assumiu que era ensinado noutras cadeiras	Nesta Cadeira, Porque Se Assumiu Que Era Ensinado Noutras Cadeiras	=PROPER(A4)
5			

TRIM (text)

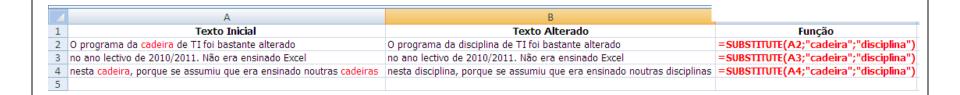
Column A corresponds to the import of a text file that contains multiple spaces between words, that we intend to remove



The trim function (text) removes spaces in a text, leaving only one space between words

SUBSTITUTE(text; old_text; new_text; [instance_num])

Column A corresponds to the import of a text file where we want to replace the word "cadeira" with "disciplina"



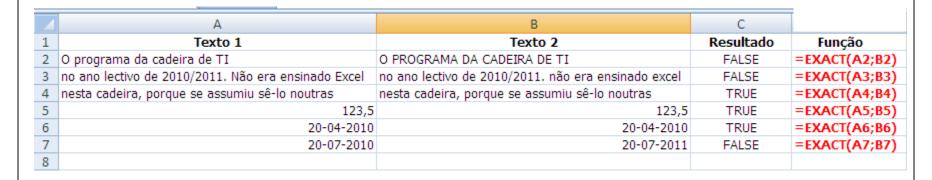
The function SUBSTITUTE (text; old_text; new_text; instance_num) replaces **old_text** by **new_text** in **text**.

If **instance_num** is specified, only the occurrence **instance_number** in **text** is changed;

If **instance_num** is not specified all occurrences are replaced

EXACT (text1; text2)

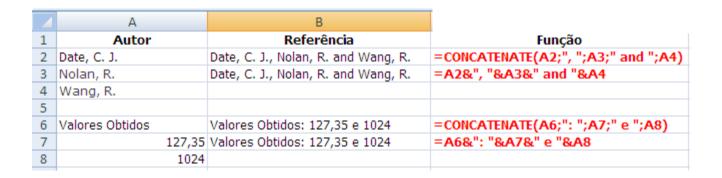
Column A corresponds to the import of a file, and column B to the import of another file. The aim is, for each line, to check whether the occurrences are equal



The function EXACT (text1; text2) compares two values, returning TRUE if they are exactly the same and FALSE otherwise. This function is CASE-SENSITIVE

CONCATENATE(text1; test2; [textn]; ...) or text1&test2&...[testn]

Suppose we want to prepare the references of authors of a particular book from their individual names



The function CONCATENATE (text1; [text2]; ...) joins up to 255 strings and/or numeric values in a single string.

"&" does exactly the same.

CONCAT (text1, [text2, ... text_n])

Suppose we want to compose the name of a person from their individual characters and from the individual names of their birth city



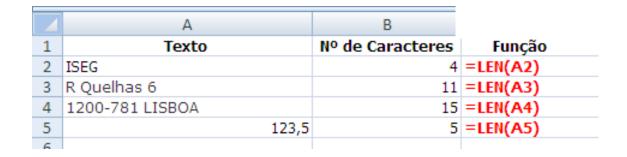
The function CONCAT (text1, [text2, ... text_n]) concatenates a list or range of text strings.

Text Functions

Character Location and Extraction

LEN (text)

We want to count the number of characters in a string



The LEN (text) returns the number of characters in a string

LEFT (text; numchar) e RIGHT (text; numchar)

Extract *numchar* characters from *text* starting from the **LEFT** or from the **RIGHT**.

	А	В	С	D	Е	
1	Dados	LEFT	Função LEFT	RIGHT	Função RIGHT	
2	Preço de Venda	Preço	=LEFT(A2;5)	Venda	=RIGHT(A2;5)	
3	Lisboa, Portugal	Lisboa	=LEFT(A3;6)	Portugal	=RIGHT(A3;8)	
4						

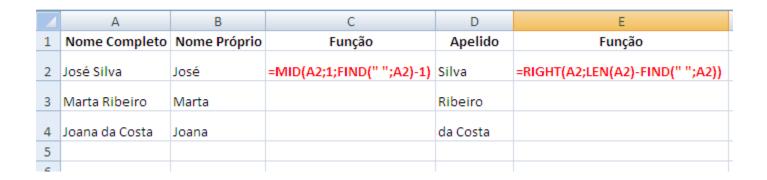
FIND (find_text; within_text; [start_num])

This function searches the string **find_text** inside another string **within_text** and returns the position where it was found. It starts searching from position **start_num** (1 if omitted)

	А	В	С	D	Е
1	Dados	FIND	Função FIND	LEFT	Função LEFT
2	Preço de Venda	6	=FIND(" ";A2)	Preço	=LEFT(A2;FIND(" ";A2)-1)
3	Lisboa, Portugal	7	=FIND(",";A3)	Lisboa	=LEFT(A3;FIND(",";A3)-1)
4					
5					

MID (text; start_num; num_chars)

Returns a specific number of characters from **text**, starting at **start_num**, with length **num_chars**.



Functions MID, LEFT, RIGHT, LEN, and FIND, when applied together, allow a reasonable ability to manipulate characters in Excel.

Text Functions

Converting data types

Text functions

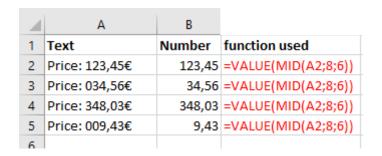
They are used normaly to manipulate data imported from external sources

- Converting data types (eg text to numeric)
- Change data format (eg convert text to uppercase)
- String manipulation (eg, replace the date of "28.07.2015" to "07/27/2015")

http://office.microsoft.com/en-us/excel-help/list-of-worksheet-functions-by-category-HP010079186.aspx#BMtext_functions

VALUE (text)

Column A corresponds to the import of a file in text format. It is intended to obtain from this text the numeric numeric value and put it in column B



The function VALUE (text) takes a set of characters in numerical value. If the text is not "convertible" is returnes #VALUE!

TEXT (value; format_text)

Column A corresponds to a numeric value and a date. It is intended to convert these numeric values in a more readable format

A	Α	В	С
1	Number	Text	Function used
2	241,5384	241,54€	=TEXT(A2; "000,00€")
3	22/11/2019	sexta-feira, 22 - novembro - 2019	=TEXT(A3;"dddd, dd - mmmm - aaaa")
4	43791	sexta-feira, 22 - novembro - 2019	=TEXT(A4;"dddd, dd - mmmm - aaaa")

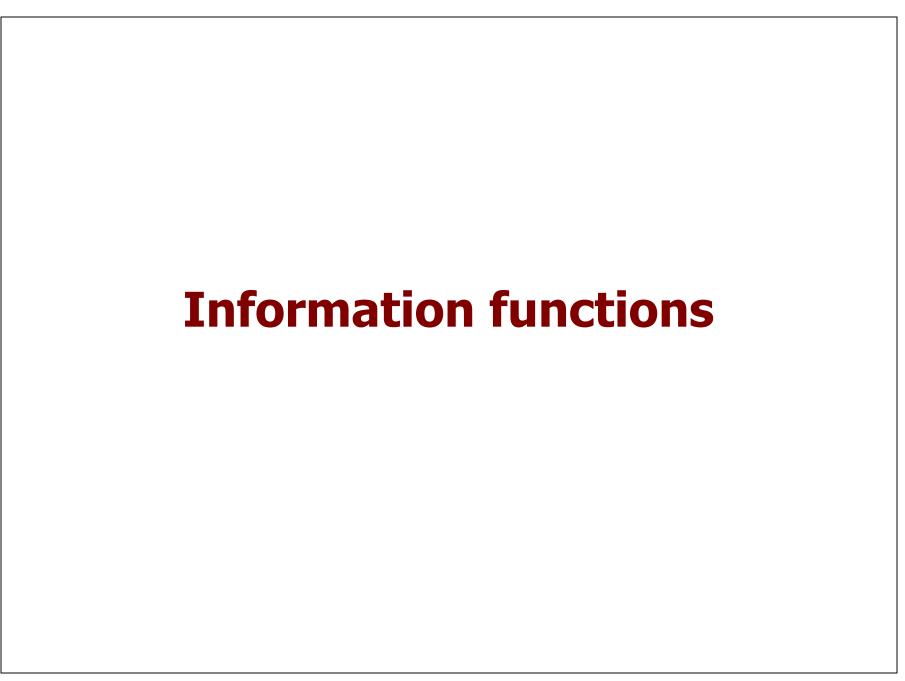
TEXT function (value, Format_text) converts numeric values in a set of characters in the specified format

DOLLAR (number; decimals)

Column A contains a **number**, that we need to transform into **text formatted as** *currency* with 2 decimal places.

	Α	В	С
1	NUMBER	TEXT	Função utilizada
2	132,5	132,50€	=DOLLAR(A2;2)
3			
4			

The DOLLAR (number, decimals) function converts a numeric value into a money format, with the given number of decimal places.



Information functions

Are routinely used to validate the contents of a cell

Consider the following student assessment table

1	Α	В	С	D	E
1		40%	60%		
2	Name	1st Test	2nd Test	Final	Result
3	Ann	12,9	9	10,56	Approve
4	John	13			Fail
5	Louis	1,6	14		Fail
6	Mary	11	9	9,8	Approve
7					
8	Rules to b	e approve	d		
9	1st test >=	9,5			
10	2nd test >	= 8,5			
11	Final (= 40)% 1st + 60	% 2nd) >= 9	,5	

http://office.microsoft.com/en-us/excel-help/list-of-worksheet-functions-by-category-HP010079186.aspx#BMinformation_functions

ISBLANK (value)

Suppose we want to fill the column "Final" with the string "----" if the cell "2nd test" is blank or to leave it blank otherwise

1	Α	В	С	D	E	F
1		40%	60%			
2	Name	1st Test	2nd Test	Final	Result	
3	Ann	12,9	9			=IF(ISBLANK(C3);"";"")
4	John	13				
5	Louis	1,6	14			
6	Mary	11	9			
7						
8	Rules to b	e approve	d			
9	1st test >= 9,5					
10	2nd test >= 8,5					
11	Final (= 40	0% 1st + 60	% 2nd) >= 9			

Function ISBLANK (value) returns TRUE if the cell is empty and FALSE otherwise

ISBLANK (value)

Now we want to fill the column "Final" with "----" in case of cell "2nd test" is blank or "1st Test" <9.5. Otherwise, Final =40%*ALS+60%*Exame

	Α	В	С	D	E	F
1		40%	60%			
2	Name	1st Test	2nd Test	Final	Result	
3	Ann	12,9	9	10,56		=IF(OR(ISBLANK(C3);B3<9,5);"";B3*40%+C3*60%)
4	John	13				
5	Louis	1,6	14			
6	Mary	11	9	9,8		
7					E+	
8	Rules to be approved					
9	1st test >= 9,5					
10	2nd test >= 8,5					
11	Final (= 4	0% 1st + 60	% 2nd) >= 9	9,5		

ISTEXT(value)

Now we want to fill the column "Result" with the string "Fail" if "Final" is a string and leave it blank otherwise

	Α	В	С	D	E	F
1		40%	60%			
2	Name	1st Test	2nd Test	Final	Result	
3	Ann	12,9	9	10,56		=IF(ISTEXT(D3);"Fail";"")
4	John	13			Fail	
5	Louis	1,6	14		Fail	
6	Mary	11	9	9,8		
7						
8	Rules to b	e approve	d			
9	1st test >=	9,5				
10	2nd test >= 8,5					
11	Final (= 40	0% 1st + 60	% 2nd) >= 9	9,5		

Function ISTEXT (value) returns TRUE if value is a text and FALSE otherwise

ISNUMBER(value)

Now we want to fill the column "Result" with "Approved" if "Final" is a number >= 9.5 and "Fail" otherwise

	Α	В	С	D	E	F
1		40%	60%			
2	Name	1st Test	2nd Test	Final	Result	
3	Ann	12,9	9	10,56	Aprove	=IF(AND(ISNUMBER(D3);D3>=9,5);"Aprove";"Fail")
4	John	13			Fail	
5	Louis	1,6	14		Fail	
6	Mary	11	9	9,8	Aprove	
7						
8	Rules to be approved					
9	1st test >= 9,5					
10	2nd test >= 8,5					
11	Final (= 40	0% 1st + 60	% 2nd) >= 9	9,5		

Function ISNUMBER (value) returns TRUE if value is a number and FALSE otherwise

ISERROR(value) IFERROR(value; value_if_error)

4	A	В	С	D	E
1					
2	x	6,86	0	4,18	abc
3	Υ	3,14	9,58	0	8,72
4	X/Y	2,184713376	0	#DIV/0!	#VALUE!
5	=IF(ISERROR(X/Y);"Got an Error";X/Y)	2,184713376	0	Got an Error	Got an Error
6	=IFERROR(B2/B3;"Got na Error")	2,184713376	0	Got na Error	Got na Error

Function **ISERROR(value)** returns **TRUE** if there is an error (#N/A, #VALUE!, #REF!, #DIV/0!, #NUM!, #NAME?, Or #NULL!) And **FALSE** otherwise

Function **IFERROR(value; value_if_error)** returns **value** or, if value contains na error, returns **value_if_error**

Contributors

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