Wanna be an Excel formula ninja?

5 formulas that I think every Excel ninja should know!

By Sharon Sheppard, OutofhoursAdmin

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INTRODUCTION

Hello and thanks for downloading my ebook!

First off a little bit about myself… originally from Leicestershire, UK I moved to Ireland back in 2007 with my other half and a suitcase!

After a few years in Ireland, not to mention the 18 years in the UK, of working in a variety of administrative roles for other people, I decided to take the plunge and start my own business in 2010.
And that's when OutofhoursAdmin was born; a virtual assistant service providing remote admin support to businesses throughout Ireland and the UK.

After receiving numerous questions about MS Office from clients, I decided to share my answers in the form of tutorials which I post regularly on my blog.

This ebook is a list of my top 5 formulas (+ a bonus one at the end!) that I think all Excel users should know. Each formula is broken down into step by step tutorials with examples of when to use them. I hope you will find them useful.

If you want an extra pair of hands to help with any of your administration, get in touch by emailing me at sharon@outofhoursadmin.ie or you can connect with me on Facebook, LinkedIn or subscribe to my YouTube channel.

Thanks,

Sharon

WHICH VERSION OF MICROSOFT OFFICE DO I HAVE?

I'm often asked how to do things in Excel or Word by clients. My first question is always "what version of Office do you use?" to which the response is usually "I have no idea, where does it tell me that?". So this short guide is to show you how to find it…

The following screen shots are all from using Word 2010, however the same would also apply if you were in Excel or PowerPoint.

Click on **File** in the top left corner of the ribbon, then click **Help**, and the version is displayed over on the right…

Alternatively, you can click the **search** icon on your desktop toolbar & type **Microsoft** into the search bar, which should then list all Microsoft programs along with the version that you're using.

HOW TO CUSTOMISE YOUR RECENT FILES LIST

It's always handy to have your most recent documents displayed at the top of the list when you click into **Recent Documents**, however you can customise this list so it contains as many documents as you wish.

The following is using Word 2010, however it's also the same process in Excel and PowerPoint.

Click on **File**, select **Options…**

Click on **Advanced** from the menu on the left, scroll down to the **Display** section, change the number of the **Recent Documents** and click **OK**…
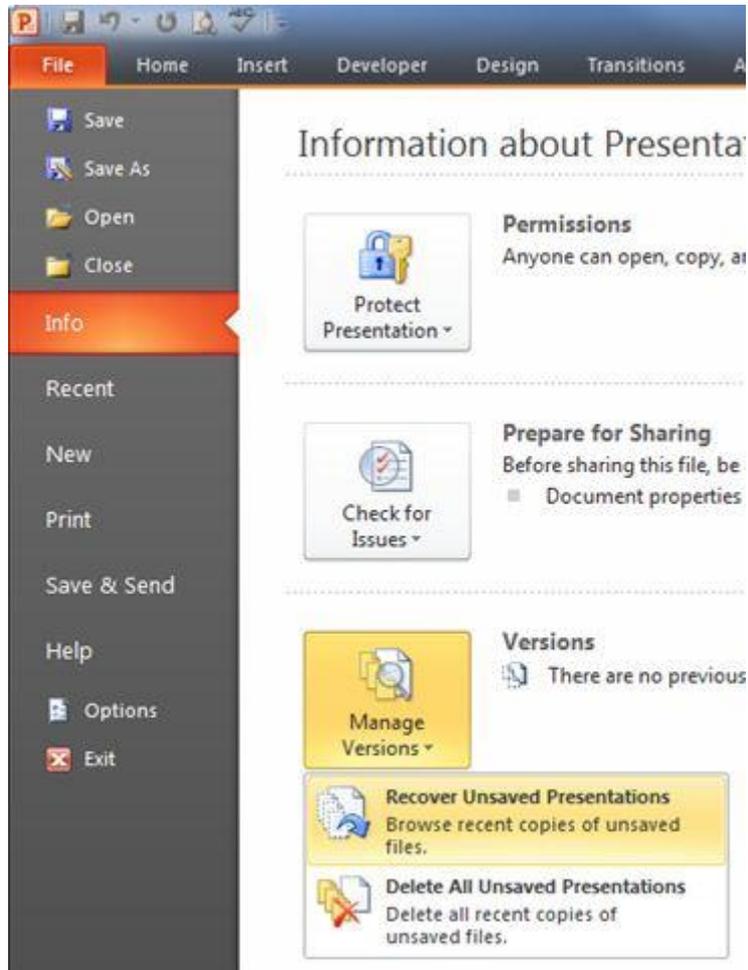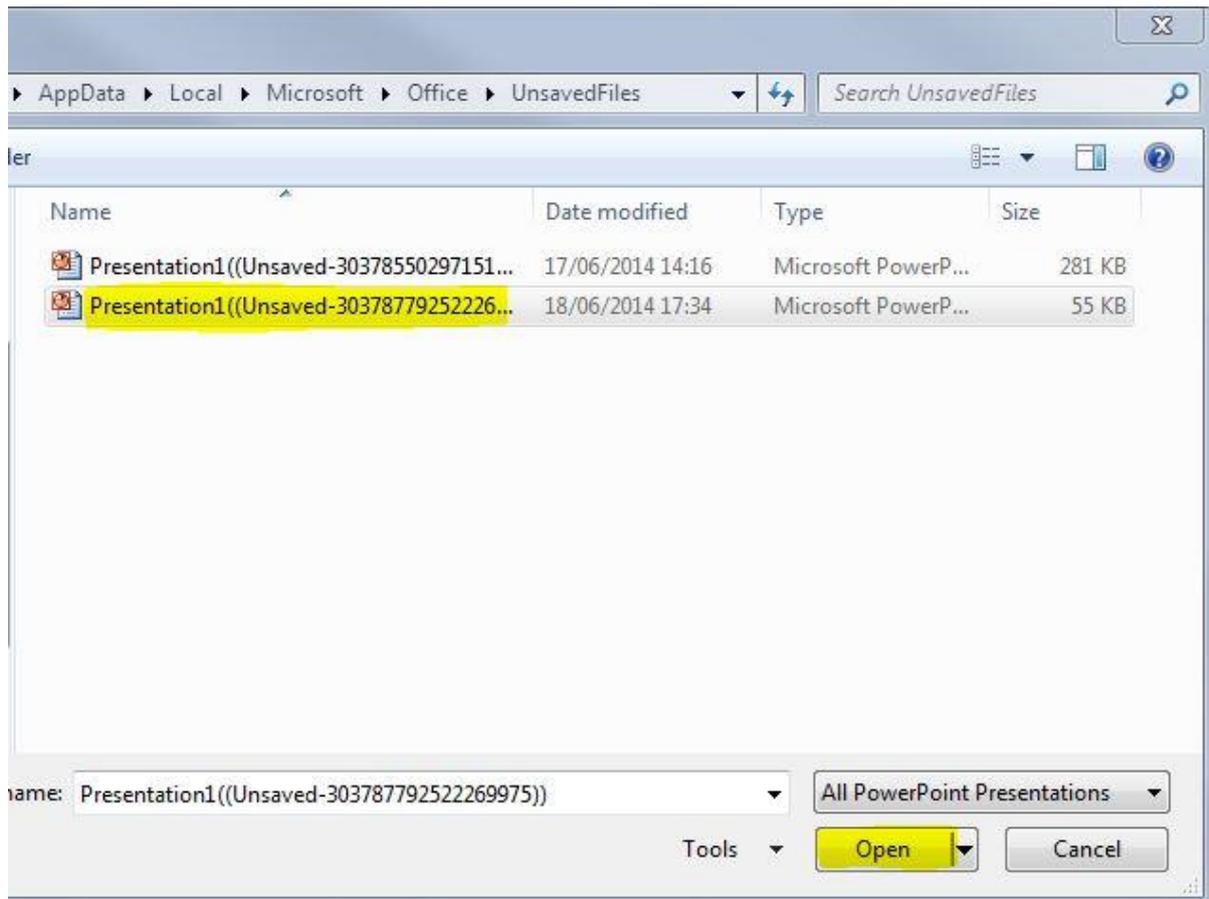

That's it!

HOW TO RECOVER AN UNSAVED FILE IN MS OFFICE 2010

This has happened to me a few times… you've spent a while working on a document in MS Office, go to close it & it asks if you want to save changes, and for some unknown reason you press No! Panic! What do you do?

Click **File** then **Info** and then click on the drop down arrow next to **Manage Versions**…

Select **Recover Unsaved Presentations** (in PowerPoint) / **Documents** (in Word) / **Workbooks** (in Excel), this will then open a dialog box listing any unsaved files. Select the file and click **Open**…

There will be a yellow bar at the top of the page asking you to save the file, click **Save As** and continue as normal…


And that's it… panic over!

HOW TO SHOW FORMULAS

I often receive spreadsheets from my clients that either they or someone else has started off, it can be a little confusing trying to suss out where the information has come from e.g. is it a formula or a link from another worksheet etc.

Rather than go into every cell individually to see if a formula appears in the formula bar, an easier way is to show all formulas.

Go to the **Formulas** tab in the ribbon, and click on **Show Formulas** in the **Formula Auditing** section.
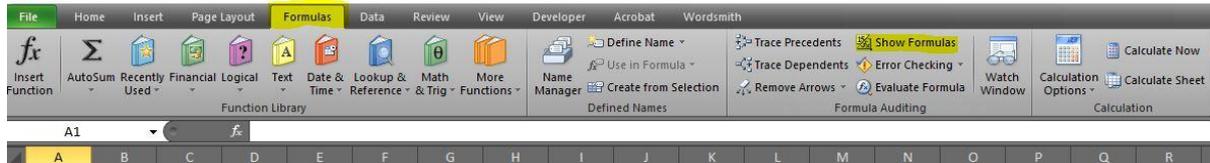
The example below shows what looks like text and numbers, if you show formulas, you'll see 2 of the columns actually contain formulas…

BEFORE

copy typing	Copy Typing	4	No
spreadsheets	Spreadsheets	10	Yes
invoicing	Invoicing	18	Yes
social media updates	Social Media Updates	7	No

AFTER

copy typing	=PROPER(B4)	4	=IF(D4>=10,"Yes","No")
spreadsheets	=PROPER(B5)	10	=IF(D5>=10,"Yes","No")
invoicing	=PROPER(B6)	18	=IF(D6>=10,"Yes","No")
social media updates	=PROPER(B7)	7	=IF(D7>=10,"Yes","No")

Ninja Note:
You can also use the keyboard shortcut **Ctrl+`** to show formulas.

1. VLOOKUP

I'll start this list of my top 5 formulas with my favourite one, and one that saves me so much time! The VLookup formula looks up data from one worksheet and uses it in another. Below is an example of how I would use it with a product inventory.

Let's say we have exported product stock information from another source into an Excel spreadsheet. This worksheet contains the product name, product code, and stock levels.

We also have another separate spreadsheet saved on the pc which contains the product code and cost price for all of the products.

We want to insert the cost price into the stock levels sheet so we can work out total costs of what we have in stock. We have to find the common data found in both sheets in order for the Vlookup formula to work. In this case it would be the Product Code…

	A	B	C	D
1	PRODUCT	PRODUCT CODE	STOCK QTY	COST PRICE
2	Product A	12345	45	
3	Product B	67890	37	
4	Product C	98765	50	
5	Product D	43210	66	
6	Product E	26812	159	
7	Product F	95132	22	
8	Product G	75321	10	
9	Product H	35798	48	
10	Product I	74125	67	
11	Product J	96325	93	
12	Product K	85236	844	
13	Product L	25874	20	
14	Product M	36985	69	
15				

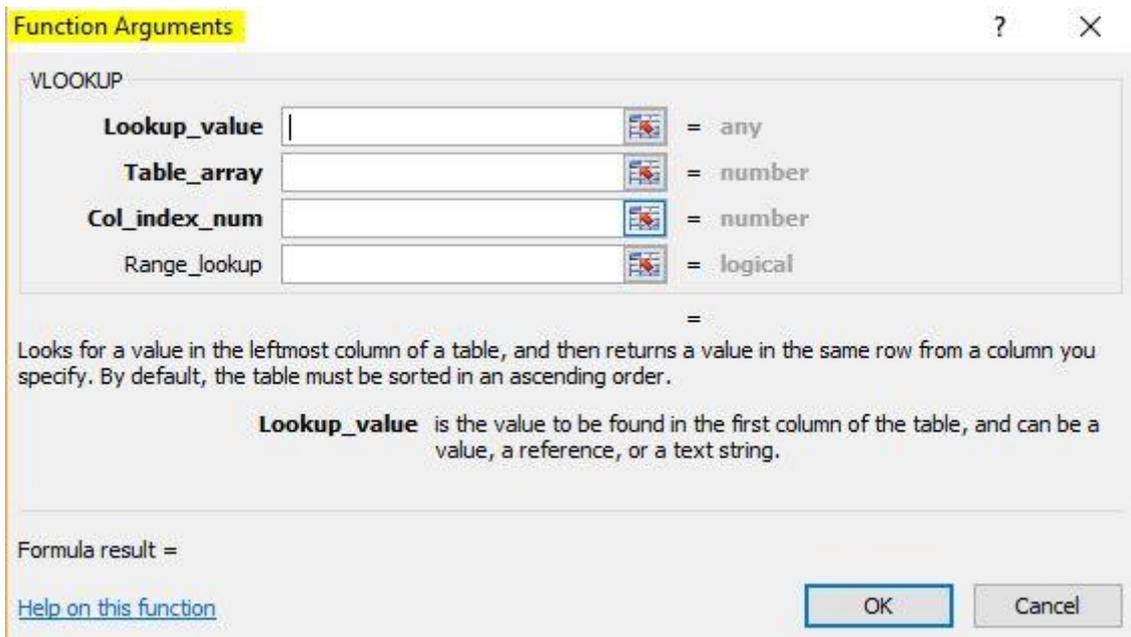|	A	B	C	D
1	PRODUCT CODE	COST		
2	12345	0.1		
3	67890	0.03		
4	98765	0.08		
5	43210	0.11		
6	26812	0.08		
7	95132	0.16		
8	75321	0.04		
9	35798	0.05		
10	74125	0.13		
11	96325	0.02		
12	85236	0.12		
13	25874	0.07		
14	36985	0.19		
15				
16				

With the Vlookup formula we're asking it to look up the product code in the cost spreadsheet and insert the relevant cost price into the stock spreadsheet.

In the stock spreadsheet click on the first cell where we want to insert the formula (e.g. cell **D2**), click on the **Formulas** tab on the ribbon, click the drop down arrow next to **Lookup & Reference**, and select **VLOOKUP**…

This will open the Functions Argument dialog box…

The Vlookup is split into 4 parts:

Lookup_value: This is the starting point of the formula. This is the cell that contains the data we want to look up. In this example that would be cell B2 (Product Code).

Table_array: This is the range where data is retrieved from, so in this example it would be the sheet containing cost prices. Ranges can be in the existing worksheet or a different one.

Col_index_num: This is the number of the column in the table array that has the information we need. The first column of values in the table is 1. In our example it would the Column B containing the cost prices, so that would be column number 2.

Range_lookup: This field defines how close the information has to match e.g. do we want the information to match exactly or just be as close to it as possible.

The image below shows the dialog box filled in. It also gives us a preview of the result so we know if we've included the right information. Once filled in click OK…

Ninja Note:
There are some rules to remember with the table array in order for the Vlookup formula to work…

RULES TO REMEMBER…

- The **LEFT** column must contain the data being referenced. So in our Cost sheet the Product Code must be on the left.

- Values in the leftmost column of the lookup range must be unique, i.e. **no duplicates**. In our example the Product Code can only appear once in the table array.

- If the formula is to be copied anywhere else the table array referenced in the formula needs to be an **absolute reference**. In other words, the table array needs to stay fixed and not move down a row if you copy the formula down. To make sure the table array is absolute, press **F4** to insert a $ before the column & row figures. For example in the image above you'll see under Table_array **$A$2:$B$14**; this means the array will stay within cells A2 to B14 no matter where we copy the formula to.

The cost price has now been inserted into cell D2…

Double click the fill handle in the bottom right corner of the cell and the formula will automatically copy down to the end of the list…

We can always spot check values in the table array on the other sheet to double check it's brought through the correct figures.

Remember that Column D still contains the Vlookup formula. If we want to remove the formula & only keep the values then we need to paste special as values.
Select **Column D** and press **Copy** (or **Ctr+c**), **right click** the column and choose **Paste special**…

Ninja Note:
Press **Ctrl+Alt+v** after copying to also open the paste special dialog box.

This will open the paste special dialog box where you can choose how you want to paste the cells. You want to get rid of the formulas and only keep the actual value of the cell, so click on **Values** and press **OK**.

Column D now only contains the actual cost prices…

And that's it! I use Vlookup all the time and I find it especially useful when combining 2 different sheets into one. I hope you do too!

2. CONCATENATE

The concatenate formula is one of those formulas that I would use almost on a daily basis, so I thought I would share with you an example of how I've used it recently.

For those of you not familiar with this formula, it's an easy way to join several cells of text into one cell of text, as you'll see in the example below.

A client asked me if there was an easy way to amend a list of mobile phone numbers which had been entered as 08 followed by the rest of the number. She actually wanted them to appear with the Ireland country code, so they would start with +353 followed by the number. She had a list of over 1000 numbers so manually going into each one & changing it was out of the question!

Below is a guide showing you how to use the concatenate formula in order to change the mobile number list.

You'll notice the list of mobile numbers don't have a 0 at the beginning – this is because they've been automatically formatted as a number (& not text), so the "0" was not visible (the example shows the mobile number for OutofhoursAdmin)…

	A
1	
2	
3	
4	**Mobile Number**
5	868810739
6	868810739
7	868810739
8	868810739
9	868810739
10	868810739
11	868810739
12	868810739
13	868810739
14	868810739
15	868810739
16	868810739
17	868810739
18	868810739
19	

I wanted to create a formula that would insert +353 to the beginning of each number. Firstly, make sure you've clicked on the cell where you want the answer to appear. Then the best place to start, if you're not familiar with using different formulas, is on the **Formulas** tab in the ribbon and choose which category the formula you want would fall under. For this example it would be **Text**, click on the arrow beneath **Text** and a list of text functions will appear…
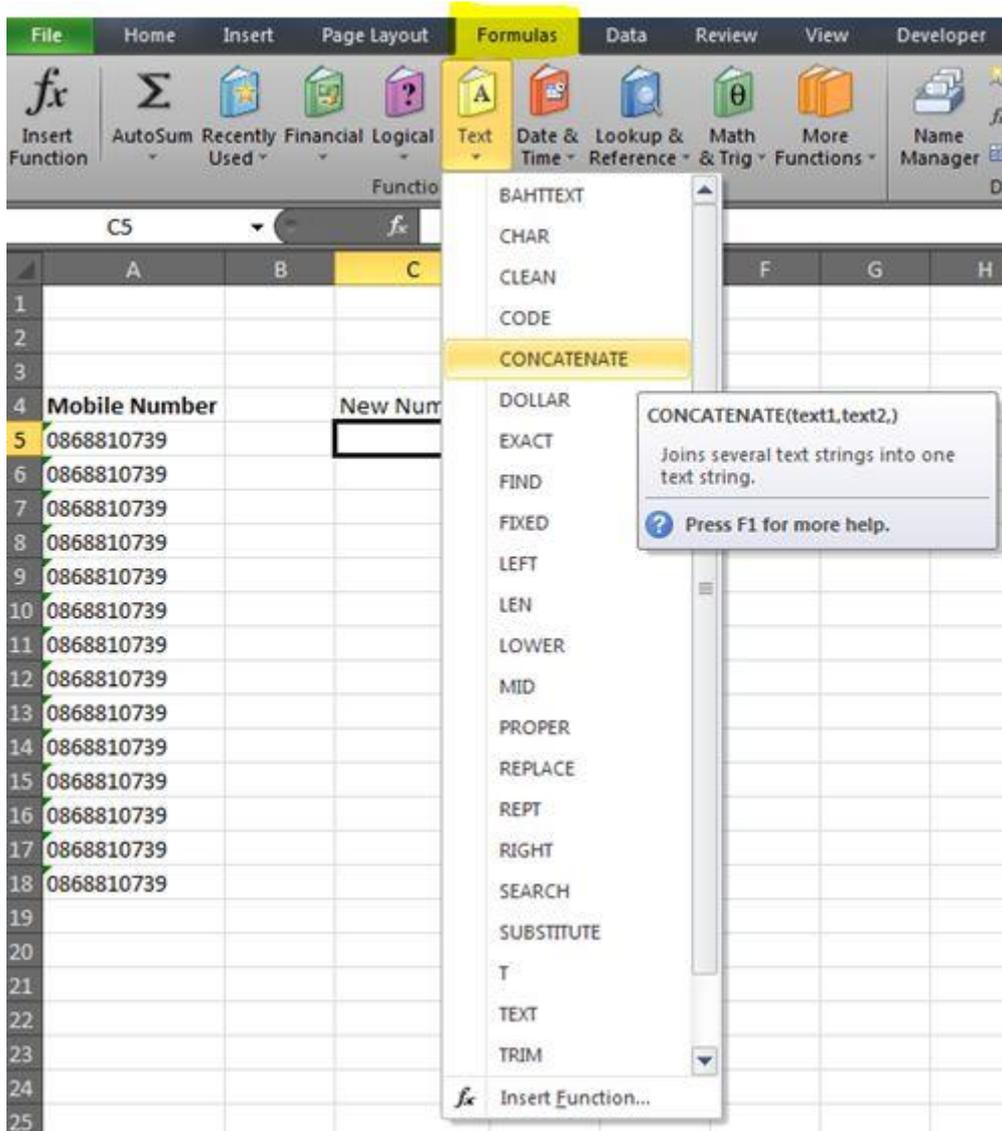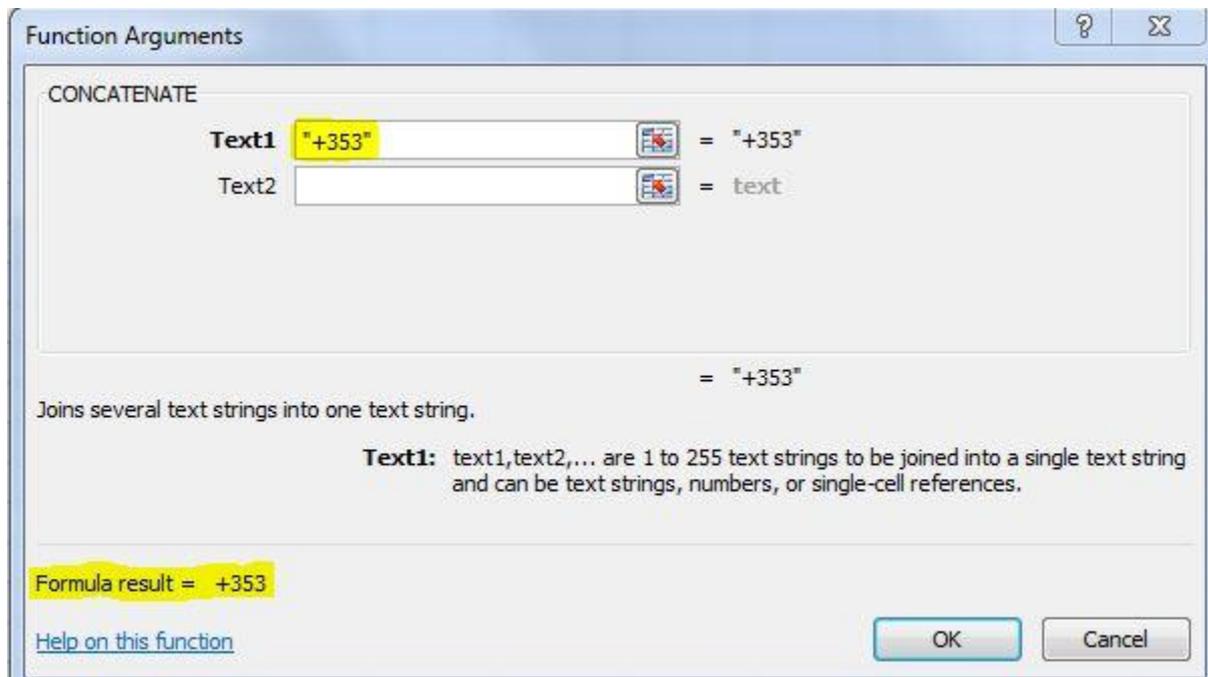
Click on **Concatenate** and it opens up the Function Arguments dialog box…
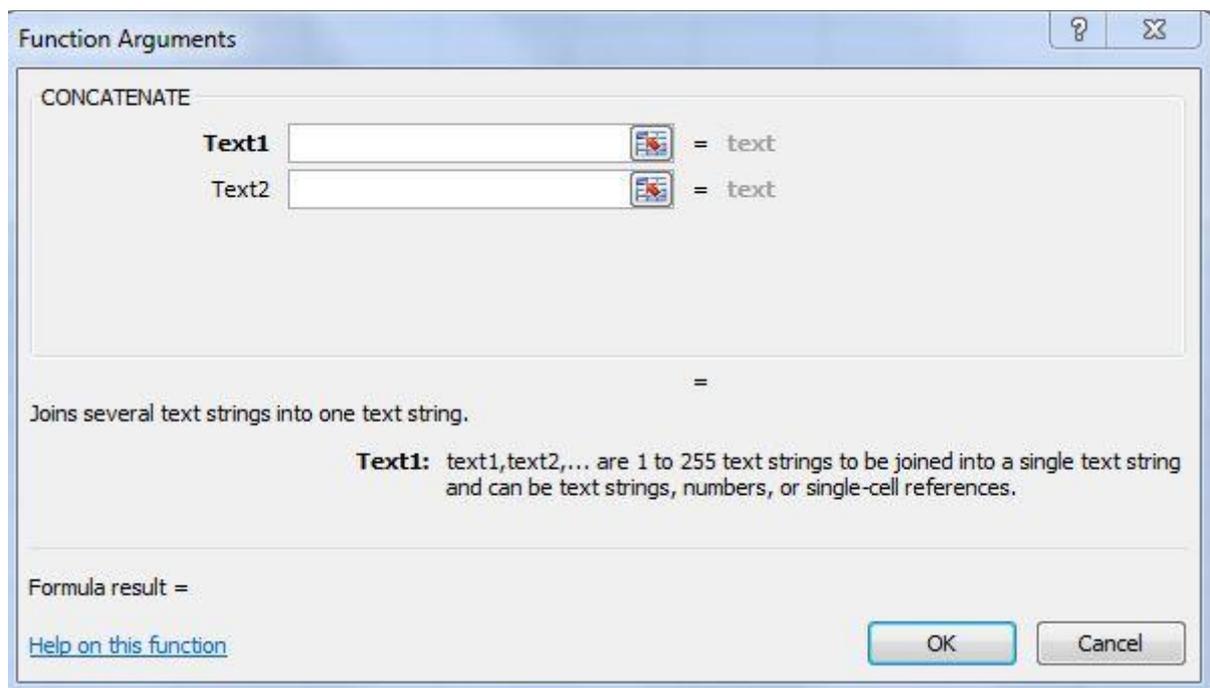
Next we need to enter the 1st text string. If the text was in another cell somewhere within the worksheet, then we would click on that cell and it would automatically appear in the Text1 box. For this example I want the first text string to be +353, so type in **"+353"** into the Text1 box…

Text2 will be the mobile number from the list, so click on the cell which contains the first mobile number…
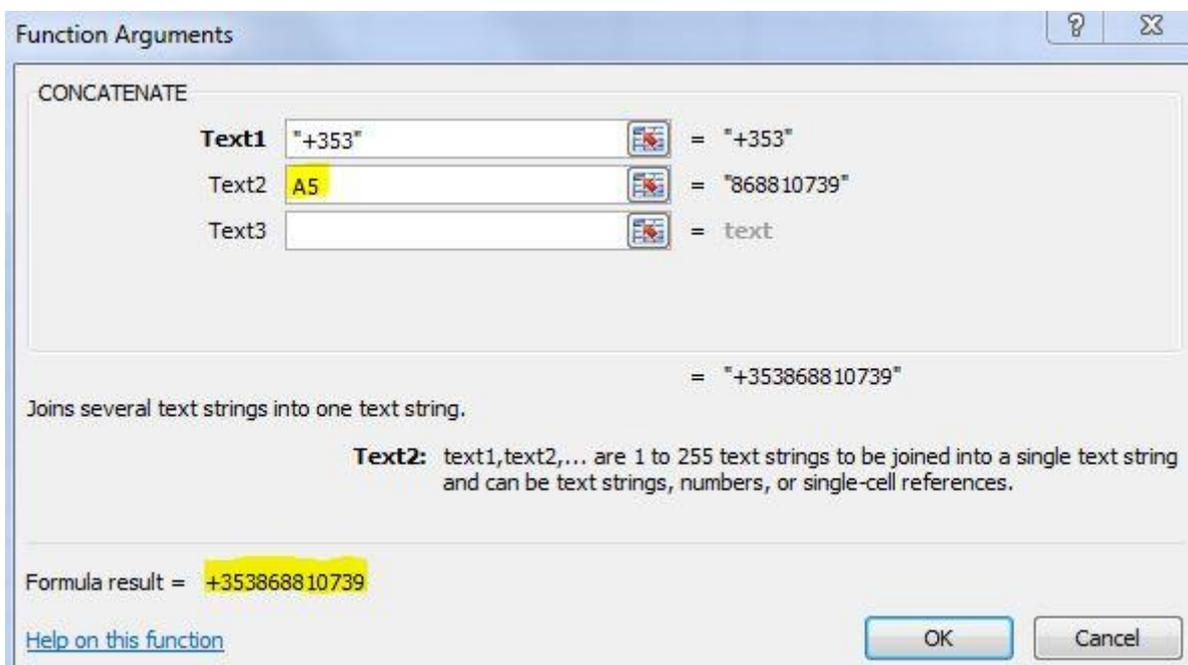
You can see the actual formula result as you type the individual text strings, so you can keep an eye on whether it's correct without having to come out of it. Click **OK**, and the cell will now contain the mobile number preceded by +353…

Then, copy the formula down the rest of the column – a quick way of doing this is to double click the drag fill handle in the bottom right corner of the cell and let autofill do its job…

And that's one way to use the concatenate formula – I hope you find it as useful as I do

3. SUMIF AND SUMIFS

You are all probably familiar with the SUM function to add up a total amount in a given range. There is an extension to this whereby we combine the IF function with the SUM to total a range given a set criteria.

Below is an example of how we can use this formula. We have a table showing clients, tasks done and cost for each client…

	A	B	C	D	E
1					
2					
3	Date	Client	Task	Cost	
4	21-Feb	Client B	Data entry	€ 22.50	
5	23-Feb	Client A	Formatting Docs	€ 84.00	
6	23-Feb	Client B	Data entry	€ 34.00	
7	23-Feb	Client D	Spreadsheets	€ 50.00	
8	24-Feb	Client A	Newsletters	€ 45.00	
9	24-Feb	Client C	Audio	€ 57.50	
10	24-Feb	Client B	Data entry	€ 30.00	
11	24-Feb	Client E	Website	€ 54.00	
12	25-Feb	Client B	Data entry	€ 37.50	
13	25-Feb	Client D	Presentation	€ 69.50	
14	25-Feb	Client C	Audio	€ 21.00	
15	26-Feb	Client A	Newsletters	€ 19.00	
16	26-Feb	Client B	Data entry	€ 38.50	
17					
18					
19					
20					

We can easily apply the SUM function at the end of Column D to add up the total cost price, however what if we only wanted **to total the cost specifically for data entry tasks**?
That's where SUMIF comes in.

Click on the **Formulas** tab on the ribbon, click the drop down arrow on **Math & Trig** and scroll down to **SUMIF**. If you hover over it a description of the function appears…
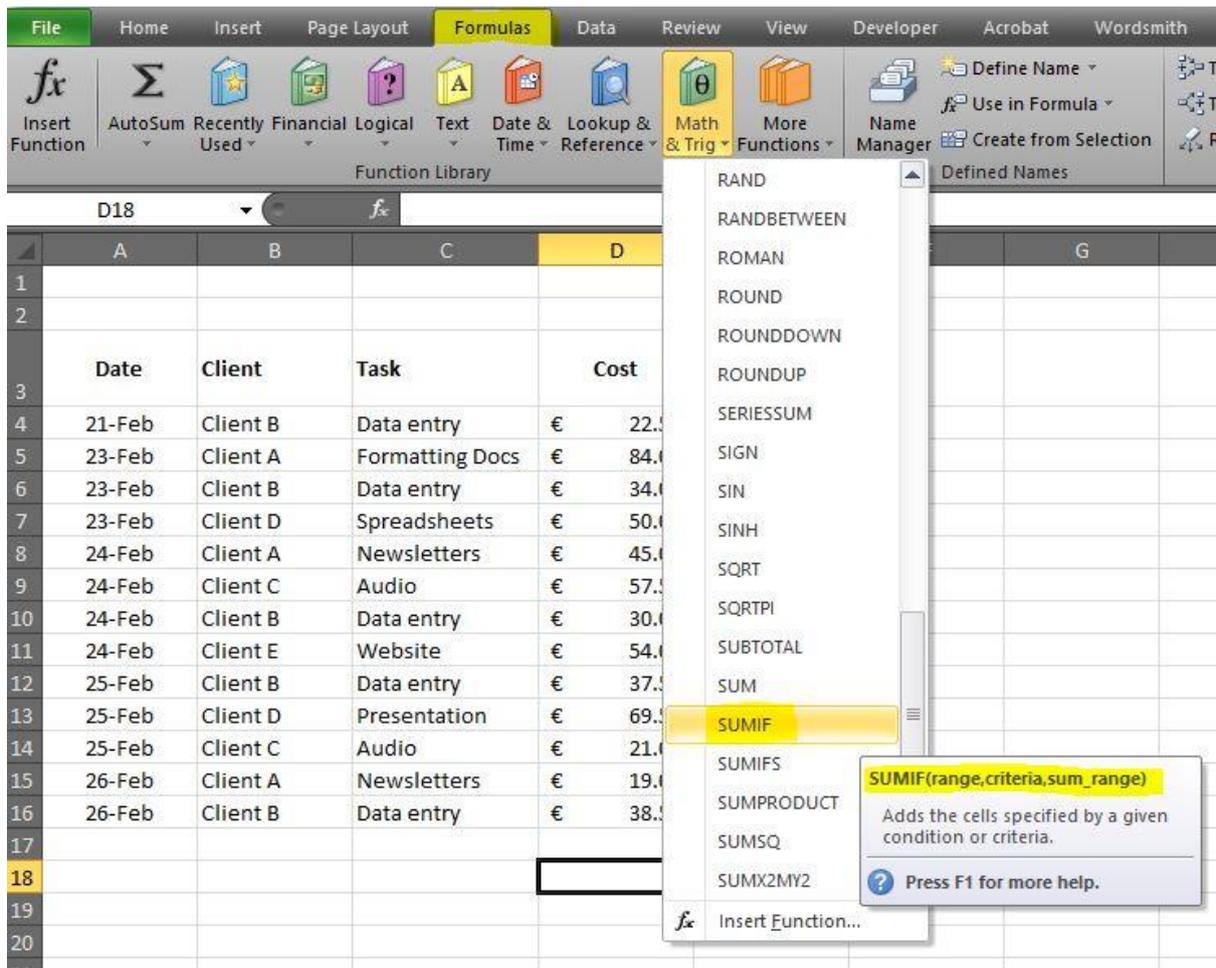
This opens the Function Arguments dialog box…
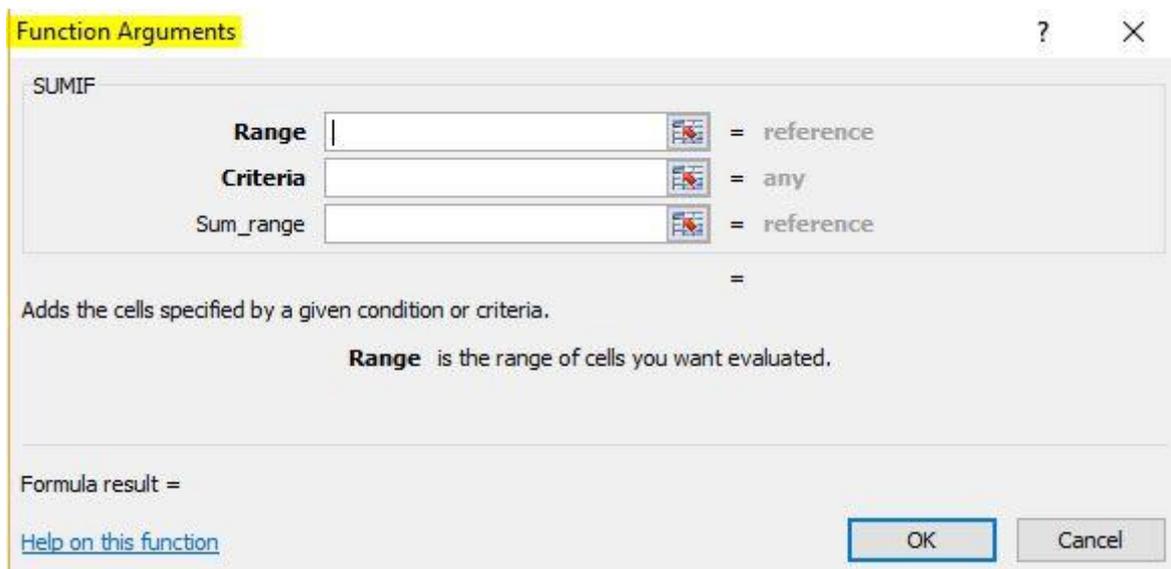

The formula is split into 3 parts:

Range: the range of cells that we want to be evaluated by the criteria, e.g. the Task column.

Criteria: the condition that specifies which cells are to be added, e.g. cells containing the words Data entry.

Sum_range: the actual cells to be added, e.g. the Cost column.

The image below shows the dialog box filled in. It also gives us a preview of the result so we know if we've included the right information. Once filled in click **OK**…
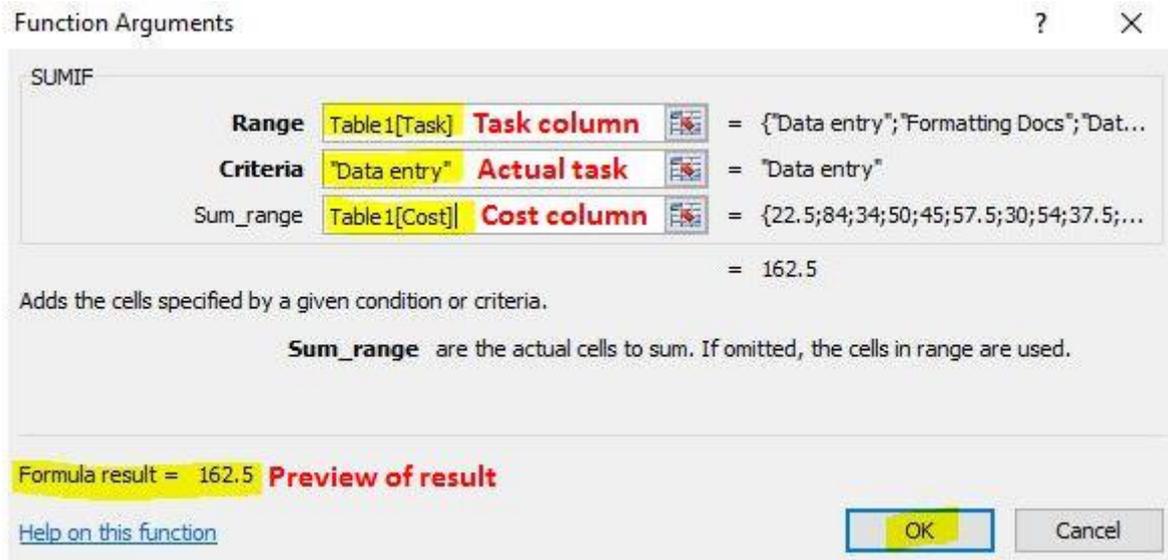
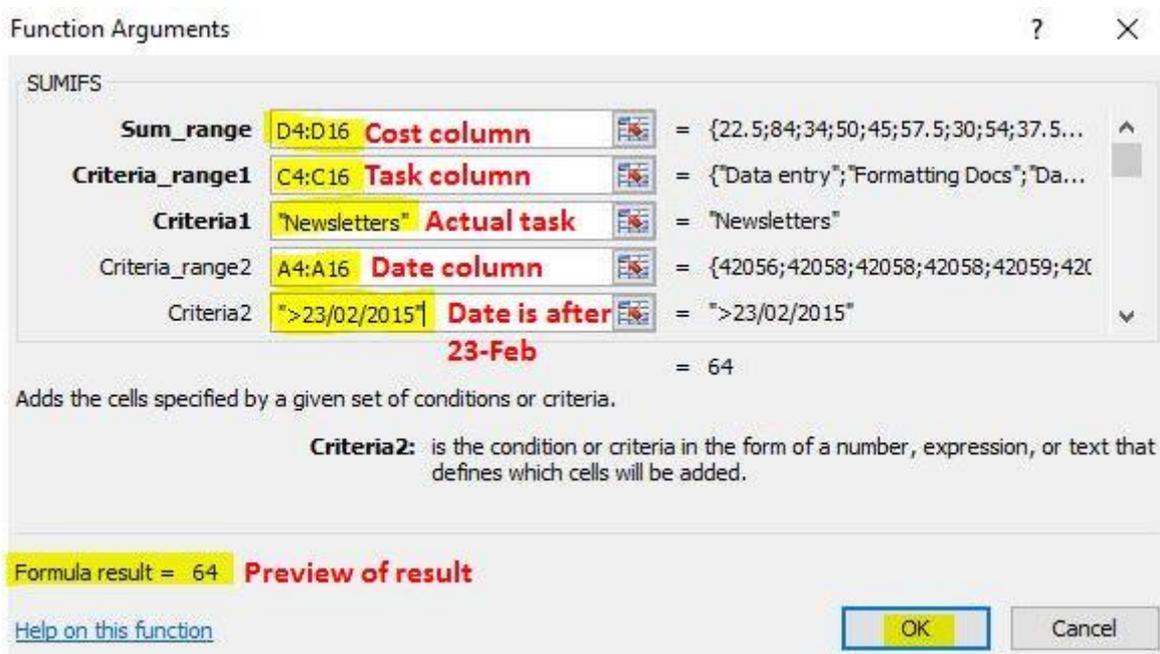This gives us the answer 162.50 which we can double check by adding together cells D4, D6, D10, D12 and D16…

That is one example of how SUMIF can come in handy. A recent extension of that is SUMIFS which means we can add together cells that meet multiple conditions. Using the same example as above, let's say we want **to add together the total cost of Newsletters after 23rd February**.

Click on the **Formulas** tab on the ribbon, click the drop down arrow on **Math & Trig** and scroll down to **SUMIFS**…
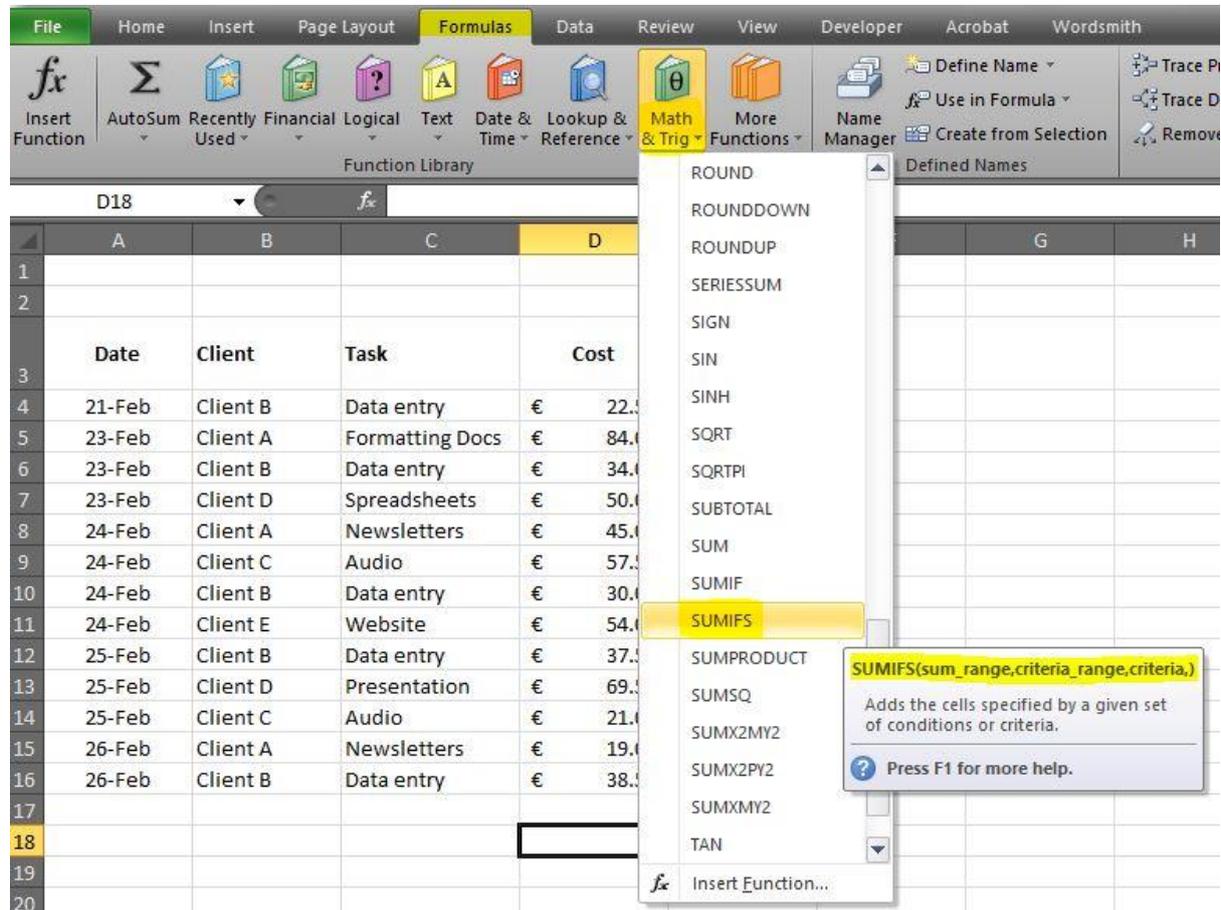
This opens the Function Arguments dialog box…

This gives us the answer 64 which we can double check by adding together cells D8 and D15…

	D18		f_x	=SUMIFS(D4:D16,C4:C16,"Newsletters",A4:A16,">23/02/2015")	
	A	B	C	D	E	F
1						
2						
3	Date	Client	Task	Cost		
4	21-Feb	Client B	Data entry	€ 22.50		
5	23-Feb	Client A	Formatting Docs	€ 84.00		
6	23-Feb	Client B	Data entry	€ 34.00		
7	23-Feb	Client D	Spreadsheets	€ 50.00		
8	24-Feb	Client A	Newsletters	€ 45.00		
9	24-Feb	Client C	Audio	€ 57.50		
10	24-Feb	Client B	Data entry	€ 30.00		
11	24-Feb	Client E	Website	€ 54.00		
12	25-Feb	Client B	Data entry	€ 37.50		
13	25-Feb	Client D	Presentation	€ 69.50		
14	25-Feb	Client C	Audio	€ 21.00		
15	26-Feb	Client A	Newsletters	€ 19.00		
16	26-Feb	Client B	Data entry	€ 38.50		
17						
18				€ 64.00		
19						

Ninja Note:
The format of the date in the above formula has to match how the date is entered in the spreadsheet, i.e. 23-Feb is how it is formatted but it's entered as 23/02/2015 in the actual spreadsheet.

If we wanted to add more criteria to the formula, e.g. only include Client B, we click on the down arrow on the right hand side of the function arguments and we can add as many as we like (I think the limit is something like 120!)…

And that's it! They are a couple of ways to use SumIf and SumIfs.

4. LEFT, RIGHT AND MID

I noticed that one of my clients had downloaded information from their accounting software into Excel. They were retyping data that was already there because they wanted the information in separate columns. I showed them a quick and easy way of doing this by using the handy left, right and mid functions…

Let's say we have a list of invoices downloaded into Excel, each cell contains the invoice number (4 digits), the customer code (also 4 digits) and the due date (5 characters including the "-")…

In order to have these 3 elements in separate columns, we need to use the **Left**, **Mid** and **Right** functions.

Firstly click on the cell where you want the first section of data to appear. In this example we want column C to contain the invoice numbers, column D to have the customer codes and column E to contain the due dates.

So, in cell C2 we need to type in the following formula:-

=left(A2,4)

Cell which contains the text

Number of characters to extract

Return the specified number of characters from the start of a text string
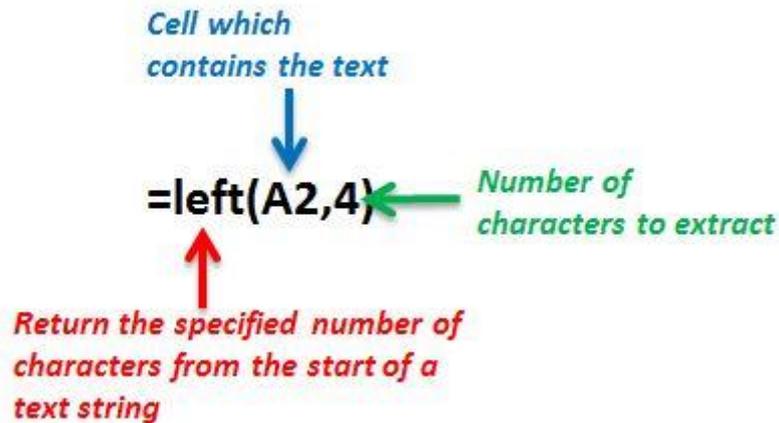
This formula is then copied down to the end of the list, so column C contains the invoice numbers…

	A	B	C
1	INVOICES		
2	1244SSHE13-10		1244
3	1245SSHE27-10		1245
4	1246SSHE05-11		1246
5	1247SSHE17-11		1247
6	1248SSHE17-11		1248
7	1249SSHE18-11		1249
8	1250SSHE24-11		1250
9	1251SSHE25-11		1251
10			
11			

Next we want to do the same for the customer code, but this isn't at the start of the text, this is in the middle of the text – for this we use the **Mid** formula. Click on cell D2 and type the following…

	A	D
1	INVOICES	
2	1244SSHE13-10	=MID(A2,5,4)
3	1245SSHE27-10	
4	1246SSHE05-11	
5	1247SSHE17-11	
6	1248SSHE17-11	
7	1249SSHE18-11	
8	1250SSHE24-11	
9	1251SSHE25-11	
10		
11		

Cell which contains the text

Position of the first character to extract

=mid(A2,5,4)

Number of characters to extract

Return the characters from the middle of a text string, given a starting position and length
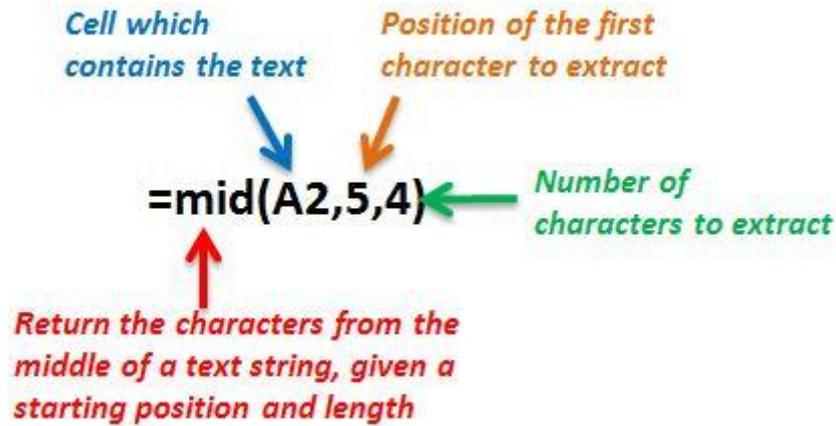
This formula is then copied down to the end of the list, so column D contains the customer codes…

	A	B	C	D	E
1	INVOICES				
2	1244SSHE13-10		1244	SSHE	
3	1245SSHE27-10		1245	SSHE	
4	1246SSHE05-11		1246	SSHE	
5	1247SSHE17-11		1247	SSHE	
6	1248SSHE17-11		1248	SSHE	
7	1249SSHE18-11		1249	SSHE	
8	1250SSHE24-11		1250	SSHE	
9	1251SSHE25-11		1251	SSHE	
10					

Next we want to do the same for the due date, again this isn't at the start or middle of the text, this is at the end of the text, and for this we use the **Right** formula. Click on cell E2 and type the following…

	A	E
1	INVOICES	
2	1244SSHE13-10	=RIGHT(A2,5)
3	1245SSHE27-10	
4	1246SSHE05-11	
5	1247SSHE17-11	
6	1248SSHE17-11	
7	1249SSHE18-11	
8	1250SSHE24-11	
9	1251SSHE25-11	
10		
11		
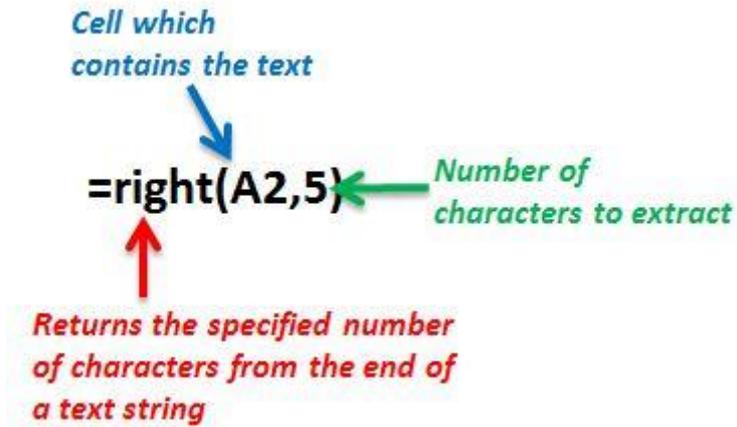
Again, the formula is then copied down to the end of the list, so column E contains the due dates…

	A	B	C	D	E	F
1	INVOICES					
2	1244SSHE13-10		1244	SSHE	13-10	
3	1245SSHE27-10		1245	SSHE	27-10	
4	1246SSHE05-11		1246	SSHE	05-11	
5	1247SSHE17-11		1247	SSHE	17-11	
6	1248SSHE17-11		1248	SSHE	17-11	
7	1249SSHE18-11		1249	SSHE	18-11	
8	1250SSHE24-11		1250	SSHE	24-11	
9	1251SSHE25-11		1251	SSHE	25-11	
10						
11						

And that's it – 3 quick and easy formulas to help you save a bit of time.

5. TRIM

Have you ever imported data into an Excel spreadsheet from another source e.g. Outlook, text file etc, only to find that some of the cells are formatted differently and have spaces in front of the first word?

So, what do you do?

Do you go into each cell and manually delete the spaces (and hope that you've not missed any)?
Or do you insert an additional column and type in a formula that gets rid of these nuisance spaces?
I would go with the latter if I were you!

The example below shows columns B and C with spaces before some of the text…

In order to remove these additional spaces we use the function **TRIM**. Insert an additional column to the right of column B by **right clicking** on Column C and selecting **Insert**…

Click on the first blank cell where you want to add the formula (i.e. cell C5) then click on the **Formulas** tab on the ribbon, click on the drop down arrow next to **Text** and scroll down to **Trim**…
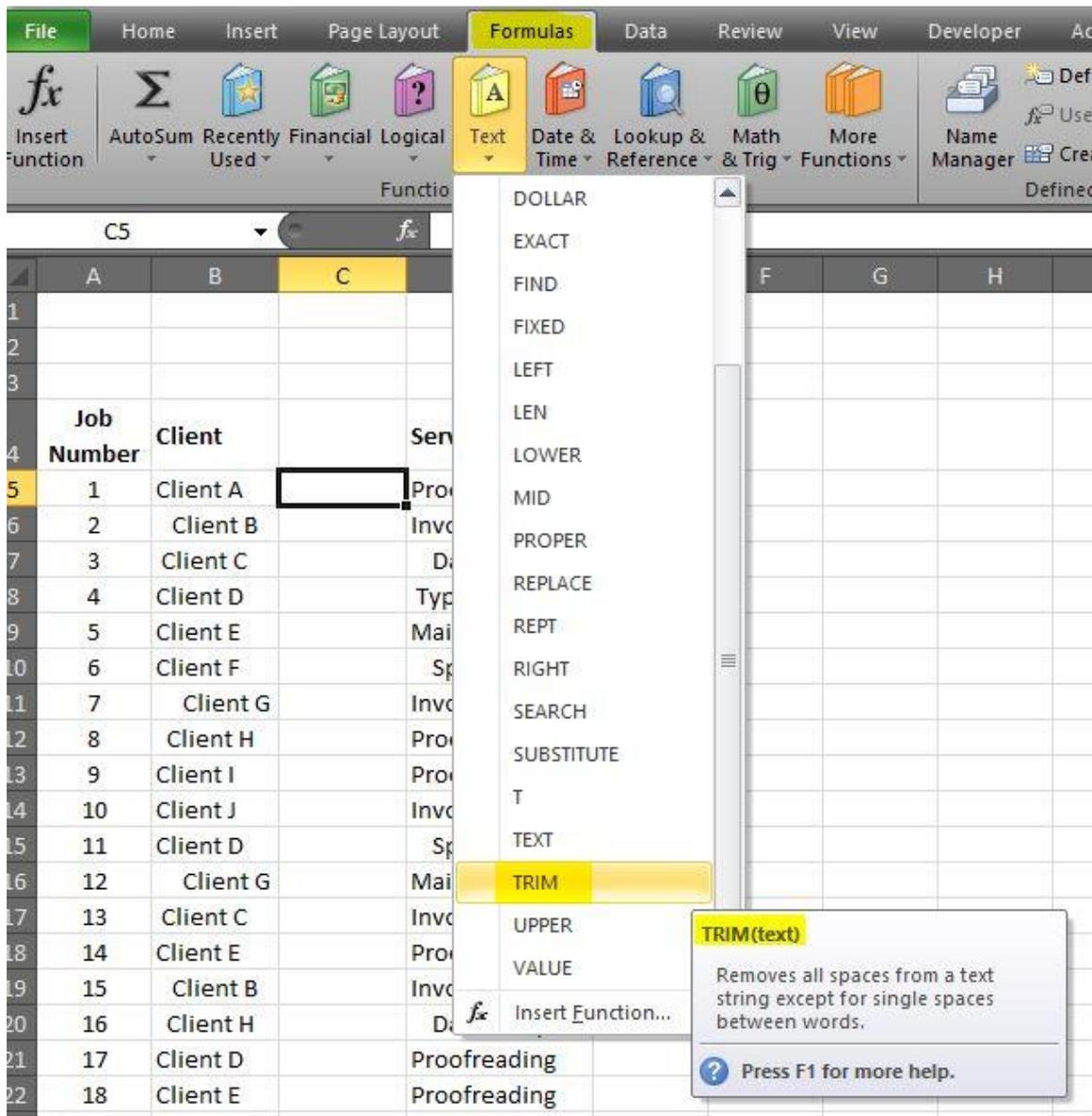
This opens up the Function Arguments dialog box. There is also a description of what the function does…
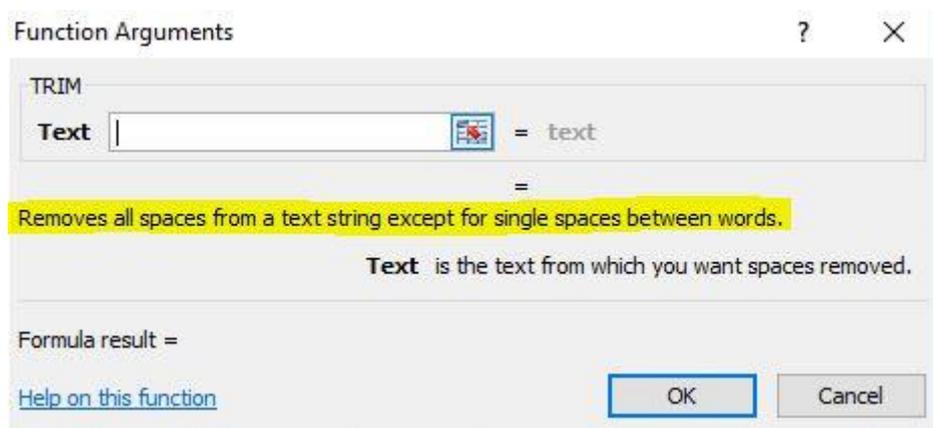
Click on the first cell containing the data we want to trim (i.e. cell **B5**) and it will automatically insert the cell into the Text box, and click **OK**. You will also see a preview of the result so you can see whether the formula is the correct one. There is no difference to the result for cell B5 as it contained no extra spaces…
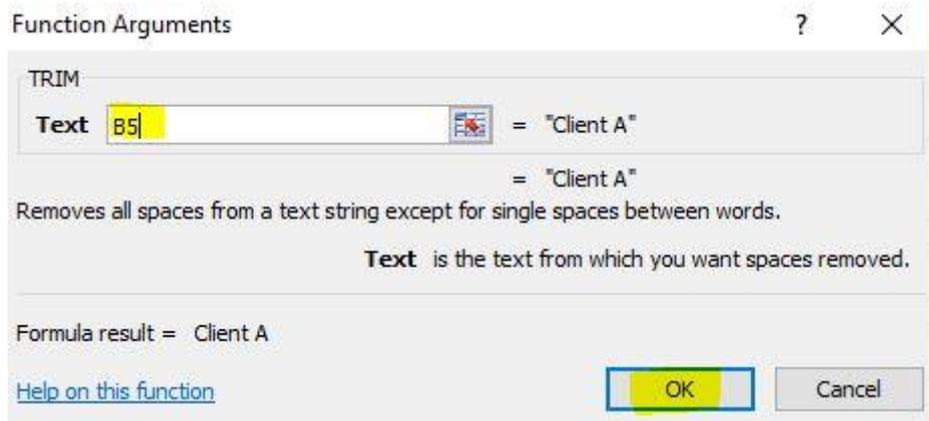
Copy and paste the formula down to the bottom of the list.

Ninja Note:
Double click the fill handle in the bottom right corner of the cell and it will automatically copy the formula down to the bottom of the list.

You'll see all the data in Column C is now left justified and additional spaces have been removed.

We now need to do the same for Column D.

Follow the steps above for inserting the Trim formula. A quicker way is to click into the first blank cell where you want the formula (i.e. cell **E5**), and start to type **=trim**, Excel will give you a list of functions beginning with tr as you type, double click on **Trim**…

Click on the first cell we want to trim i.e. cell **D5** and it will insert the cell reference into the formula…

Close the formula by typing **)** and press return…

Again double click the fill handle in the bottom right corner of the cell to automatically copy the formula down to the end of the list…


You'll see all the data in Column E is now left justified and additional spaces have been removed.

We now need to remove the columns with spaces leaving the 2 new columns. However if we delete the 2 original columns, all data in Columns C and E will disappear! This is because they still contain the formula linking to the text in Columns B and D. To rectify this, we need to paste special the cells.

Highlight the text in Column C, click **Copy** (or press Ctrl+C), then **right click** the mouse and select **Paste Special**…
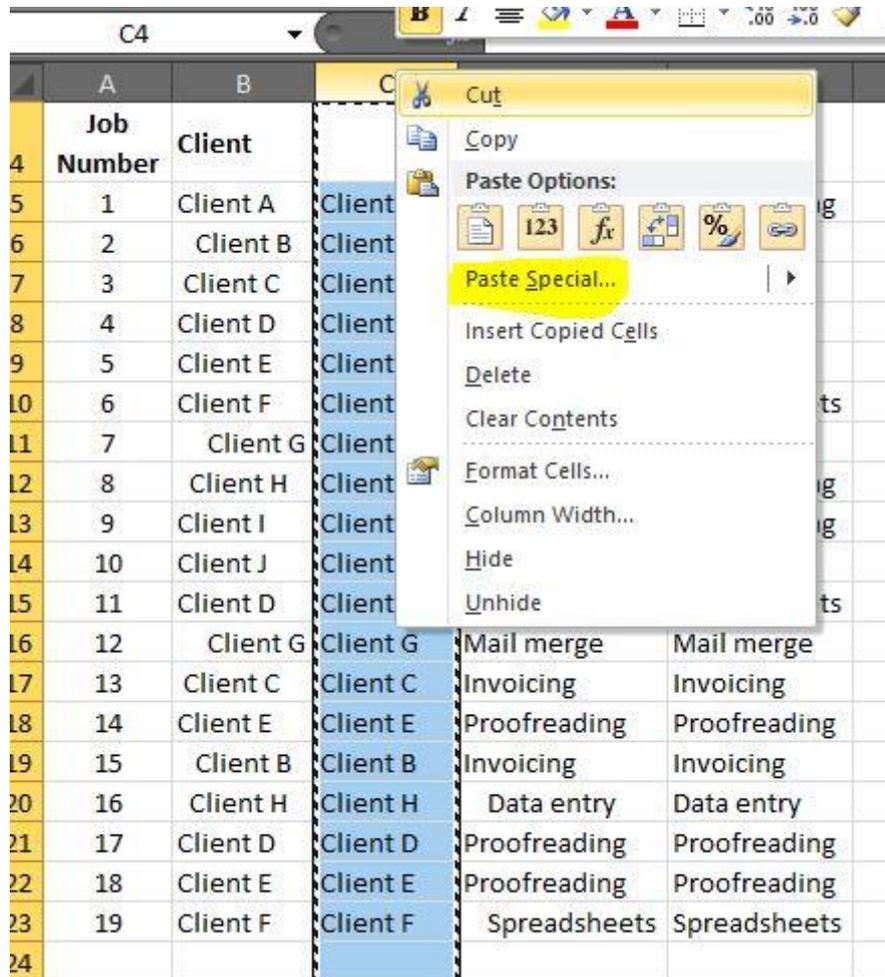
Ninja Note:
Press **Ctrl+Alt+v** after copying to also open the paste special dialog box.

This will open another menu where you can choose how you want to paste the cells. You want to get rid of the formulas and only keep the actual value/text of the cell, so click on **Values** and press **OK**.
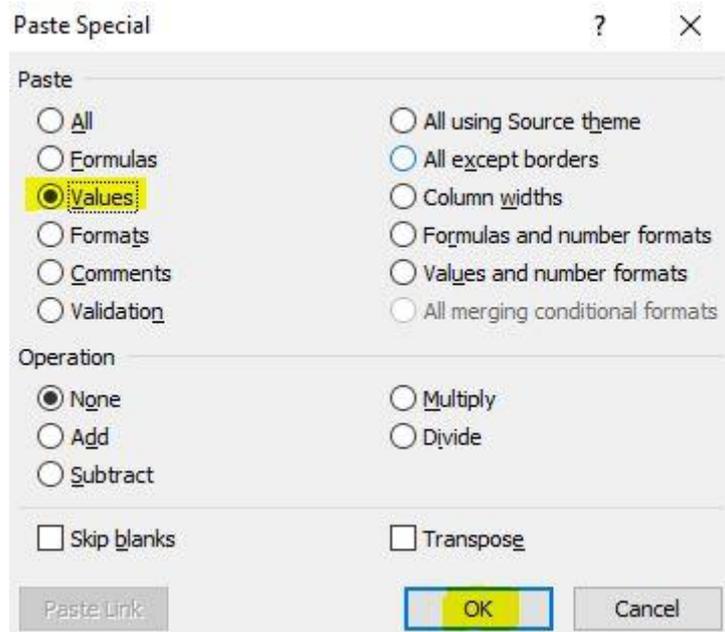
Column C now contains the correct information so we can delete Column B.

We now need to repeat the process for Column D (was Column E before we deleted Column B above). Copy and paste special values Column D then delete Column C…

That's it – a handy formula to remove additional spaces!

BONUS FORMULA: UPPER, LOWER AND PROPER

Have you ever re-typed a list in Excel because it was in the wrong text case?
Next time, use formulas to change the text case… it saves so much time!

If, for example, Column A contained text which was a mixture of upper and lowercase letters – it might look a bit messy, it may only be your shopping list, but it still doesn't look right!

	A
1	
2	apples
3	bananas
4	Pears
5	bag of Sugar
6	washing up liquid
7	newspaper
8	large Envelopes
9	multipack crisps
10	
11	

So you want to tidy it up a bit and have all words begin with a capital letter. Go into the next blank cell and use the formula "**proper**" to change it:-

	A	B
1		
2	apples	=PROPER(A2)
3	bananas	
4	Pears	
5	bag of Sugar	
6	washing up liquid	
7	newspaper	
8	large envelopes	
9	multipack crisps	
10		

Then use the autofill handle (bottom right corner of the cell) and drag the formula down to the end of your list (or copy & paste the formula down, whichever you prefer). This then duplicates your list in proper text i.e. capital letter at the start of every word.

Ninja Note:
Double click the autofill handle & the formula will automatically copy down to the last row of the list.

Of course, now when you delete the text in column A, everything in column B disappears! This is because it still contains a formula linking to the text in column A. To rectify this, you need to paste special the cells.

Highlight the text in column B (all cells which contain a formula), click **Copy** (or press Ctrl+C), then **right click** the mouse and select **Paste Special**…
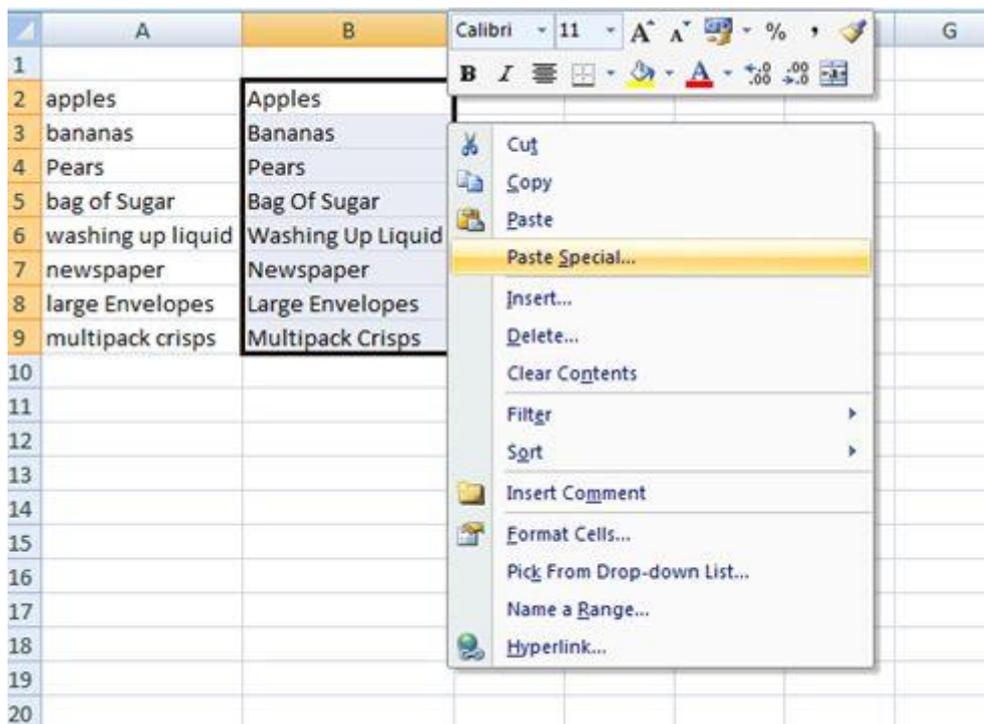
Ninja Note:
Press **Ctrl+Alt+v** after copying to also open the paste special dialog box.

This will open another menu where you can choose how you want to paste the cells. You want to get rid of the formulas and only keep the actual value/text of the cell, so click on **Values** and press **OK**.
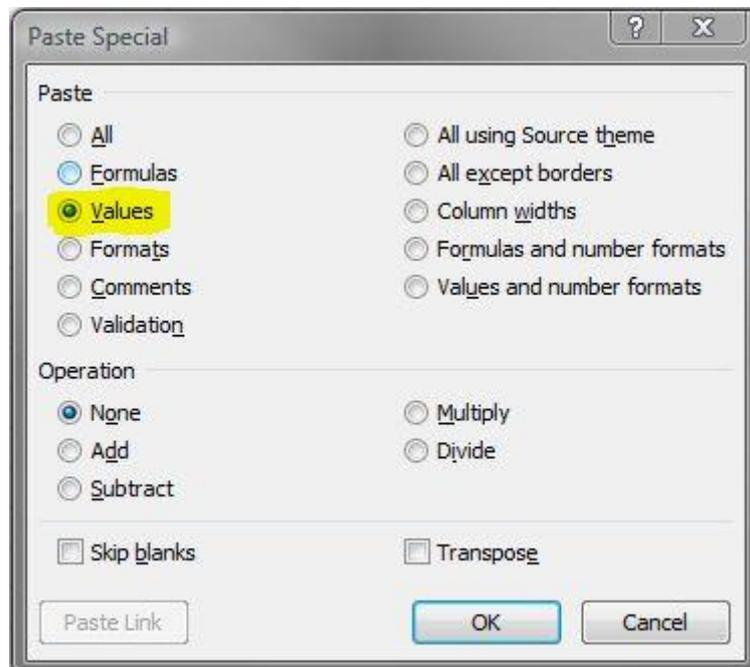
You'll then notice that column B, which had the formula in, now contains the correct text – and you can now delete everything in column A

The same method applies if you want the text all in capitals, or all in lower case – the only change is the formula.

For **CAPITALS**, use:-

	A	B
1		
2	apples	=UPPER(A2)
3	bananas	=UPPER(A3)
4	Pears	=UPPER(A4)
5	bag of Sugar	=UPPER(A5)
6	washing up liquid	=UPPER(A6)
7	newspaper	=UPPER(A7)
8	large Envelopes	=UPPER(A8)
9	multipack crisps	=UPPER(A9)
10		
11		

Then **copy** and **paste special values** as before.

	A	B
1		
2		APPLES
3		BANANAS
4		PEARS
5		BAG OF SUGAR
6		WASHING UP LIQUID
7		NEWSPAPER
8		LARGE ENVELOPES
9		MULTIPACK CRISPS
10		

For **lowercase**, use:-

	A	B
1		
2	apples	=LOWER(A2)
3	bananas	=LOWER(A3)
4	Pears	=LOWER(A4)
5	bag of Sugar	=LOWER(A5)
6	washing up liquid	=LOWER(A6)
7	newspaper	=LOWER(A7)
8	large Envelopes	=LOWER(A8)
9	multipack crisps	=LOWER(A9)
10		

Again **copy** & **paste special values** as before.

	A	B
1		
2		apples
3		bananas
4		pears
5		bag of sugar
6		washing up liquid
7		newspaper
8		large envelopes
9		multipack crisps
10		

And that's it! Hopefully it will save you time, instead of having to type things out again!

Thanks for downloading this free ebook – I hope you have found it useful and have learnt at least one little nugget of information!

I update my blog with MS Office tutorials on a regular basis, so please keep checking back for any others that you might find useful.

If you find you need any help with MS Office, feel free to contact me via OutofhoursAdmin.

Thanks again,

Sharon