



**How To Get The Most Done  
In The Least Time: Volume 1**

**Every Second Lost...**

**Excel Formulas  
That Automate Tasks  
You No Longer Have Time For**

**...is a Deadline Missed!**

**ERIK KOPP**

# **Excel Formulas That Automate Tasks You No Longer Have Time For**

**- Erik Kopp**

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## **Has This Happened To You?**

Your organization has “restructured” and now you have several times the amount of work to do by yourself and not much time in which to get it done, and no excuses for errors. The requests for information, analyses and reports keep pouring in non-stop and the deadlines are all just around the corner because everything is “urgent”. Getting more help, more time or reducing the workload are all out of the question - so to survive you really need to make every second count and get as much done as you possibly can in the very least amount of time, because time is money and you don't have a lot of either.

Before you stress-out and totally panic, think about how you might be better able to get your information management work done using the resources which you do have. While many organizations have cut way back on manual resources (people), very few if any have cut back on electronic resources and infrastructure (computers, software and networks). In fact most businesses have invested in these areas because they want their remaining people to have the most up to date computers and systems to enable them to be more productive.

So what can these computers do for you? They can perform many of the more repetitive and tedious information management tasks which can take up lots and lots of valuable time if performed manually. A standard MS Office Computer can do a lot more than just email, word processing, and presentations. Excel contains some very valuable functions which enable you to quickly and accurately analyze and manipulate

information as well as transform and present it. With a little knowledge of how to set these function up, you can analyze 10,000 pieces of data and provide answers to complex questions in just seconds. This also means that when the people asking the question invariable come back with more what-if questions, you can reanalyze the information just as quickly.

What follows are real life examples of situations that occur commonly in many business and personal situations where you need to manage large sets of data to produce valuable information which meets someone's requirements. The examples shown use Excel 2007.

I hope you find this to be very helpful to you and if you have any comments or would like to see other topics covered, please feel free to contact me at [ekpublications@comcast.net](mailto:ekpublications@comcast.net)

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## **The Amazing Tools At Your Disposal Can Save The Day**

One of the most valuable data management tools commonly available to many people is MS Excel. This powerful software can not only be used for presenting information in tables, charts and graphs, and doing calculations but it also has many powerful database functions which I will describe in detail in a little bit.

Some people think this stuff is really cool, but I know some of you are hesitant to try this because it sounds like "programming" and programming is complicated, hard to understand and just plain boring. But unlike software coding, Excel is set up to be very logical and intuitive, so that more people will buy it and use it.

Before we even get to Excel let's define what is meant by automating a task and how to identify what tasks can and should be automated. Computers are very good at consistently following instructions exactly as written. Therefore if you have an information management task where:

- The data is available in electronic format (can be plain text outside of Excel – we'll discuss that later)
- The task can be clearly and consistently defined (Example: Every item over \$5.00 gets marked down 10% for the next 5 days and identified as a "SALE" item, every item over \$20.00 gets marked down 15% for the next 2 days and identified as a "CLEARANCE" item ).
- The task is very repetitive and would take you more than 15 minutes to do manually (a list of 10 items might be faster to do manually, but a list of 1,000 items is worth automating).
- There is a high risk of inaccuracies (if you make a mistake it will cost the company or you so you need to check your results to ensure they make sense in all cases).

If you have identified a task which meets these criteria above, this is definitely a candidate for automation. The time spent up front setting up the functions will be well worth the effort in the long run.

So now that you have identified the task you need help with, how do you go about "automating this"? This is starting to sound like programming....but let's not panic and look at this very logically. Instead of thinking in terms of writing a program, think about how you would solve this yourself if you performed the task manually. If you need a visual cue, use the outline below and fill in the details as needed.

Here is a stepwise outline to assist in automating as repetitive task:

**Name of Task:**\_\_\_\_\_

1. **What is the data I have?**\_\_\_\_\_
2. **What is the result I need?**\_\_\_\_\_
3. **What would I do with the data first to get to the result?**\_\_\_\_\_
4. **What would I do with the data next to get to the result?**\_\_\_\_\_
5. **What would I do with the data next to get to the result?**\_\_\_\_\_
6. ....
7. **How would I check that the results are correct?**\_\_\_\_\_

Let's say you have inventory and pricing data in a retail setting and you need to identify your sale items based on the criteria noted above (Every item over \$5.00 gets marked down 10% for the next 5 days and identified as a "SALE" item, every item over \$20.00 gets marked down 15% for the next 2 days and identified as a "CLEARANCE" item).

For this example, your outline will look like this –

**Name of Task: Identify Sale and Clearance Items.**

1. What is the data I have? Inventory and Price List.
2. What is the result I need? List of Items on Sale (Item ID, Name, Adjusted Price, Sale End Date).
3. What would I do with the data first to get to the result? Get the list into a table.
4. What would I do with the data next to get to the result? Find any price greater than 5.00 but not more than 20.00 and identify it as a SALE item.
5. What would I do with the data next to get to the result? Find any price above 20.00 and identify it as a CLEARANCE item.
6. What would I do with the data next to get to the result? Assign an adjusted price equal to current price x 0.9 for SALE items.
7. What would I do with the data next to get to the result? Assign an adjusted price equal to current price x 0.85 for CLEARANCE items.
8. What would I do with the data next to get to the result? Assign an end date of today's date + 5 for SALE items.
9. What would I do with the data next to get to the result? Assign an end date of today's date + 2 for CLEARANCE items.
10. What would I do with the data next to get to the result? Consolidate a list of all SALE items (Item ID, Name, Adjusted Price, Sale End Date).
11. What would I do with the data next to get to the result? Consolidate a list of all CLEARANCE items (Item ID, Name, Sale Price, Sale End Date).
12. How would I check that the results are correct? For each SALE Item, ensure the original price is the adjusted price + 10% and it is greater than 5.00 but less than 20.00.
13. How would I check that the results are correct? For each CLEARANCE Item, ensure the original price is the sale price + 15% and it is greater than 20.00.

**14. How would I check that the results are correct? Ensure the sale end date – today's date is equal to 5 for SALE items and equal to 2 for CLEARANCE items.**

**15. How would I check that the results are correct? Ensure there are no other items on the list greater than 5.00 and less than 20.00 or greater than 20.00 which are not identified and assigned adjusted prices.**

Wow! This sounds like a whole lot of work and not time savings. But just think about it, if you were doing this manually or you were showing someone else how to do this wouldn't you be following these same steps – even if you did not write this down?

So this is the first step to figuring out what needs to be done, whether you do it manually or automate it. The steps that need to be performed are the same, the only difference is whether a person does it or a computer does it.

Looking at the criteria above, we said if this is a task you can perform yourself in 15 minutes or less and you only have to do it once, then do it yourself and get it done.

But if this is long list (500 items or 5,000 items or 10,000 items..) or if you think you will need to do this same thing over and over again for different lists or at different times, then it would be wise to automate this task.

The next steps would then be to go back over this outline and set up Excel to perform each of these steps using a function. Once this is set up, it can be applied to as many pieces of data as you have and used as many times as you need to use it.

This is very handy when speed and accuracy count and it also is a great help when there are typically multiple ongoing requests. Let's say your boss looks at your report you generated using the logic above and then asks "What is the total reduction in profits resulting from the Sales this week?", and then they ask "What if we only reduced Clearance Items by 12% instead of 15%, then what would be the reduction in profits?"...."What if SALES ended in 4 days instead of 5, then what would be the reduction in profits?".....

If you had to go back and recalculate all of this manually each time, this would be extremely time consuming and also very aggravating. And you know your boss is going to ask, so the time invested in automating this up front is well worth the effort.

So these are the steps to follow for any repetitive tedious information management tasks you need to do. Think about it as being very logical (and not as programming) and being very efficient and smart if getting the most work done in the least time. Put the computers to work, let them do the time consuming mindless stuff for you. You will see your productivity, your value and your outlook on life improve.

What follows are real life detailed examples of repetitive time consuming data management tasks which have been automated using Excel functions following this

logical approach. I am not a programmer and do not know the first thing about coding, but this is very logical and easy to follow.

Give it a try – you have nothing to lose!

## How To Instantly Create A Spreadsheet Listing Files In Any Drive Or Folder

**TASK – Identify all of the 300+ files you have received on a USB drive and provide a complete list to your boss.**

How to do this? You could either use –

**Option A** – Open the folder on the drive and print the screen, then scroll down, print the screen... and then copy down all the file IDs to a Text file or Excel. This will take several hundred steps and several hours to complete. You may miss some or make some mistakes along the way, so you will need to double-check your work, so allow another hour or so.

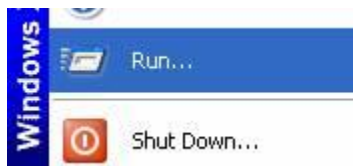
Or

**Option B** – **Let The Computer Do The Work.**

This is a basic operating system function for a computer to be able to create a file listing the directory of files. Back in the old days of DOS, this was a very routine task for us old time computer geeks. But now in the days of graphical interfaces and flashy apps, this is not as apparent. Windows will show you what's inside a folder, but the screen only shows you 50 or so files and then you need to scroll down. If you want to make a text file or spreadsheet listing the file names, you cannot copy and paste these.

So here is what you do.

Open the command prompt Window by clicking **Start->Run**



And then enter “cmd”, click “OK”





Change the default directory (the old name for Folder) to be what you are looking for by typing **"cd /D X:\Folder\SubFolder"**, where "X" is the drive letter and Folder is the first level folder and SubFolder is the next, etc until you have the complete path to the files you are looking for.

Once the prompt shows the folder you are interested in cataloging, then type **"dir/b/s>dirlist.txt"**

This will create a file called "dirlist.txt" which will contain a listing of all the files in the folder you are looking at. You can modify the directory listing using the command line switches shown below.

- /B** Uses bare format (no heading information or summary)
- /L** Forces lowercase display of file names
- /O** List by files in sorted order:
  - N** by name (alphabetical)
  - S** by size (smallest first)
  - E** by extension (alphabetical)
  - D** by date/time (oldest first)
  - G** group directories first
- using this prefix reverses the sort order
- /P** Pauses after each screen of information
- /S** Lists files in the specified directory and all subdirectories
- /W** Uses wide list format
- /X** Displays 8.3 versions of long file names
- /?** Displays a full list of command line switches

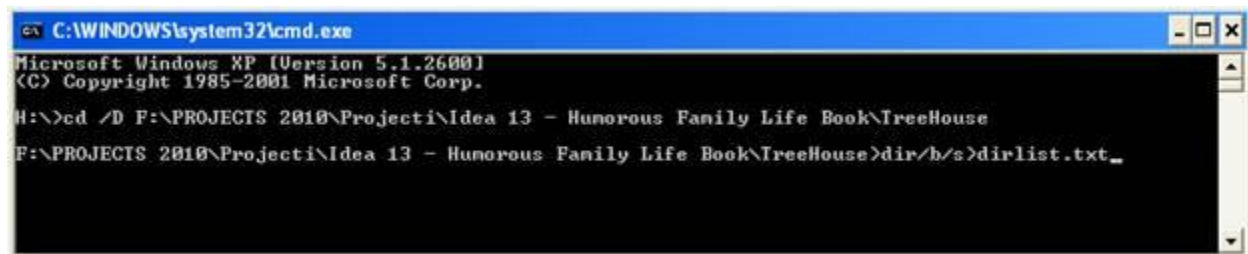
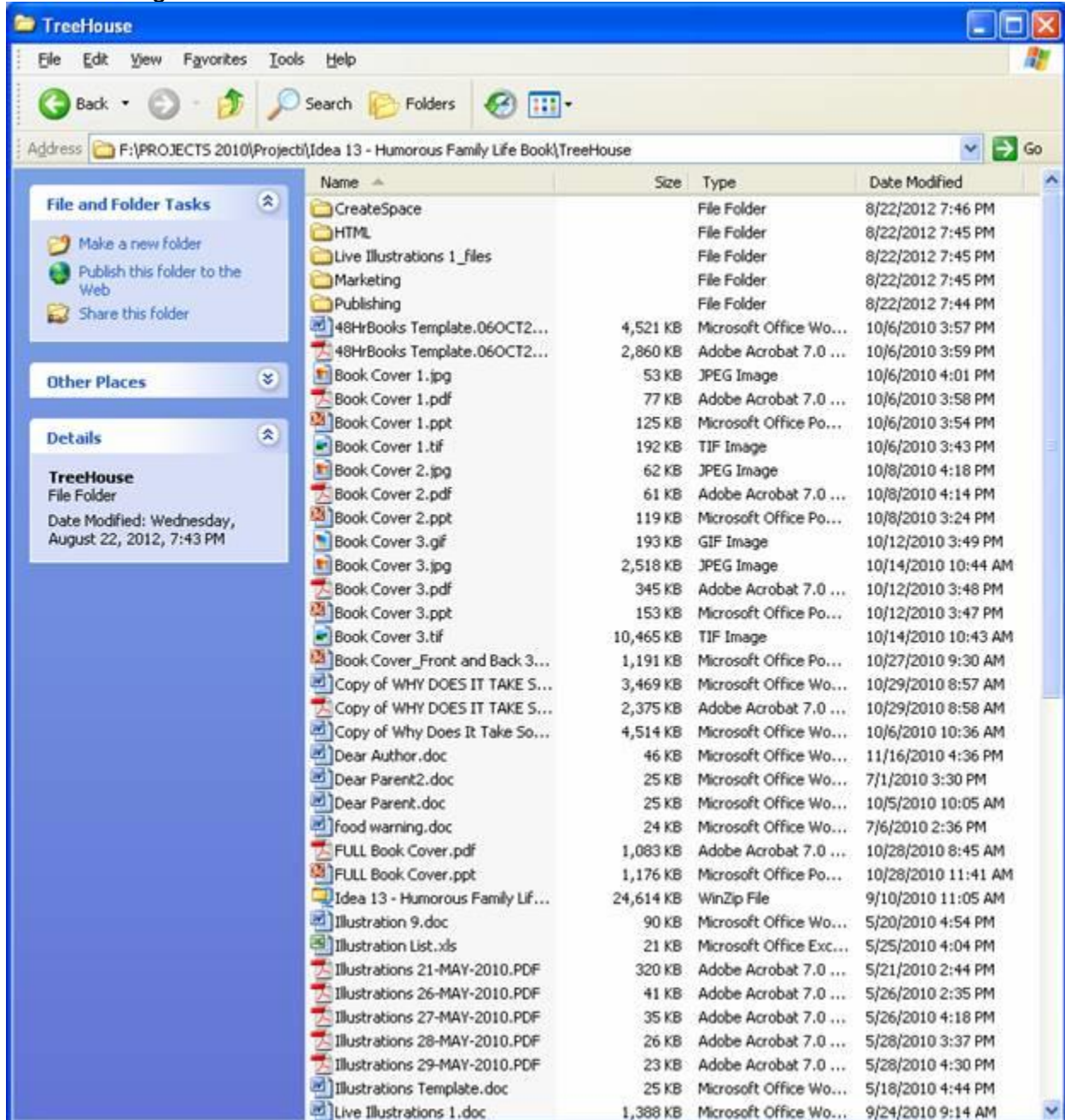
For this example, let's continue with the command as shown above and look at this folder shown below.

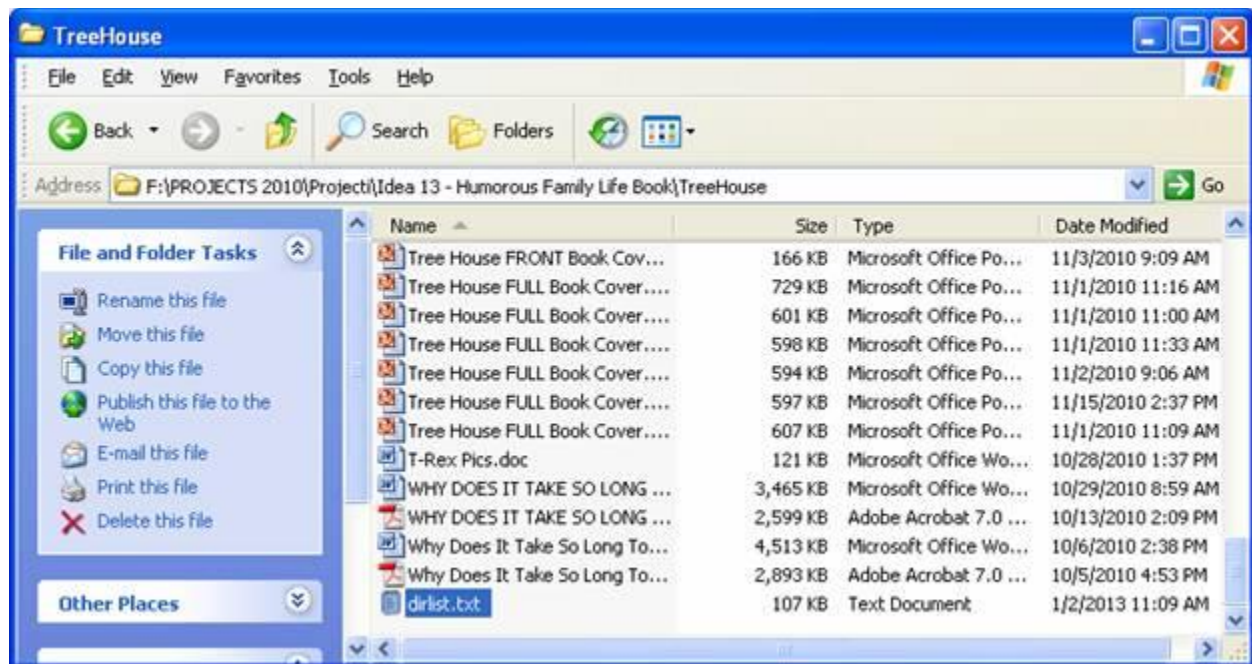
To make a list of this using Windows is very tedious to scroll down and capture all the files names. But using the command above will give us a quick list in seconds.

Once we have the text list, we can open this in Excel and sort it, fix it up and make it look pretty before presenting it to our boss.

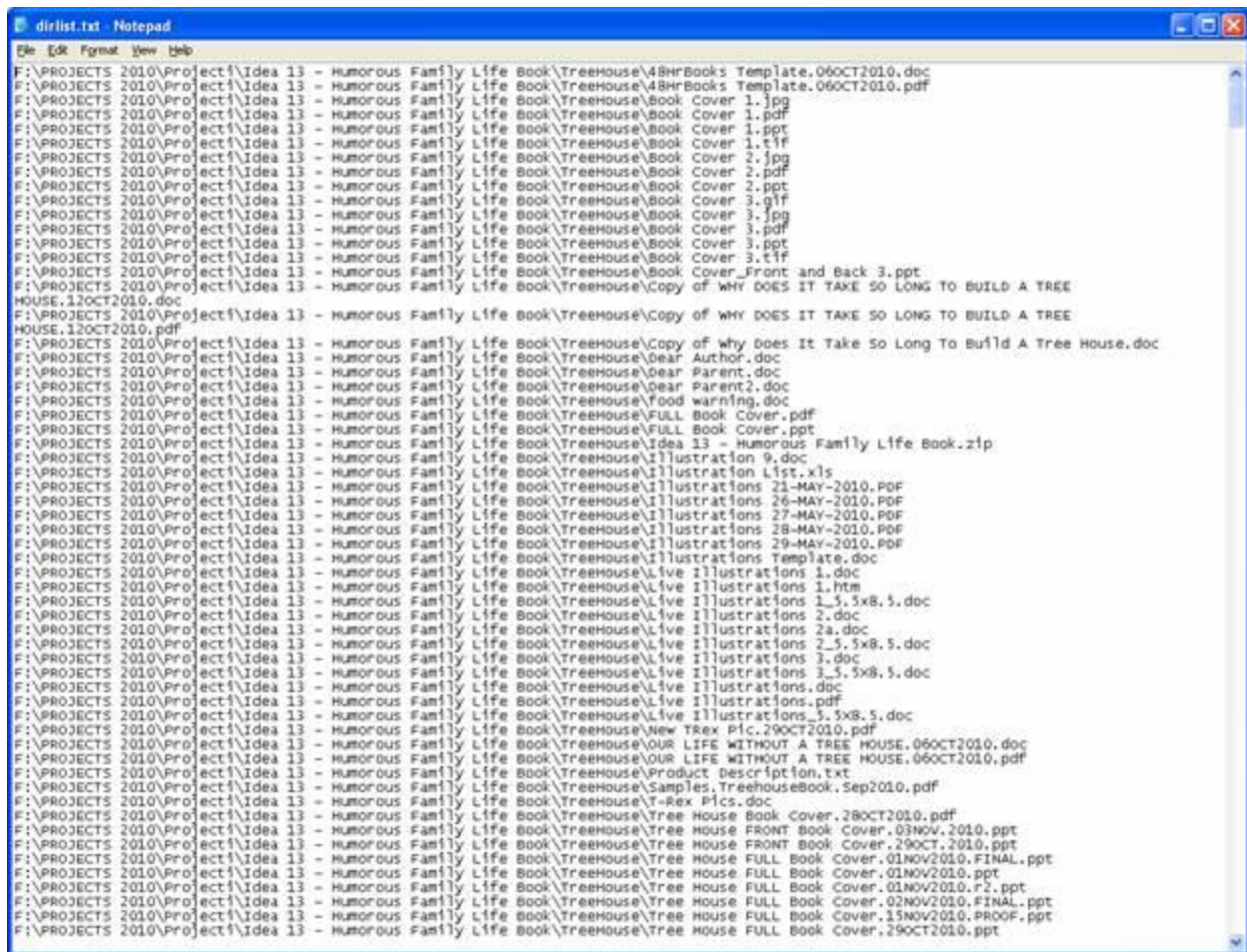


So here we go -



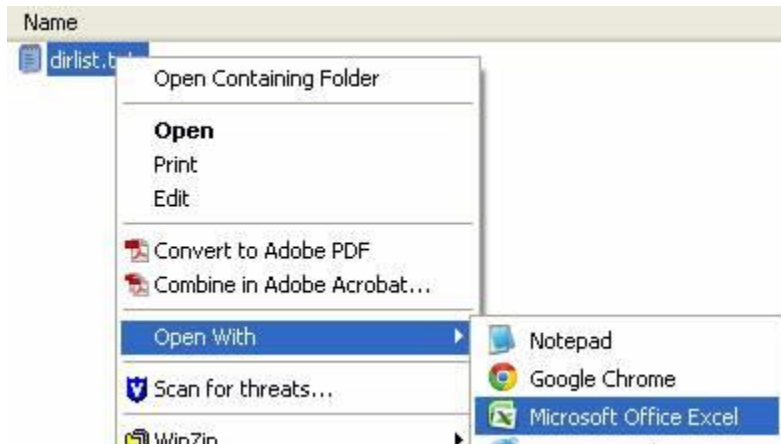


Here is the Text file generated. Notice it shows all subfolders and folder trees as well.



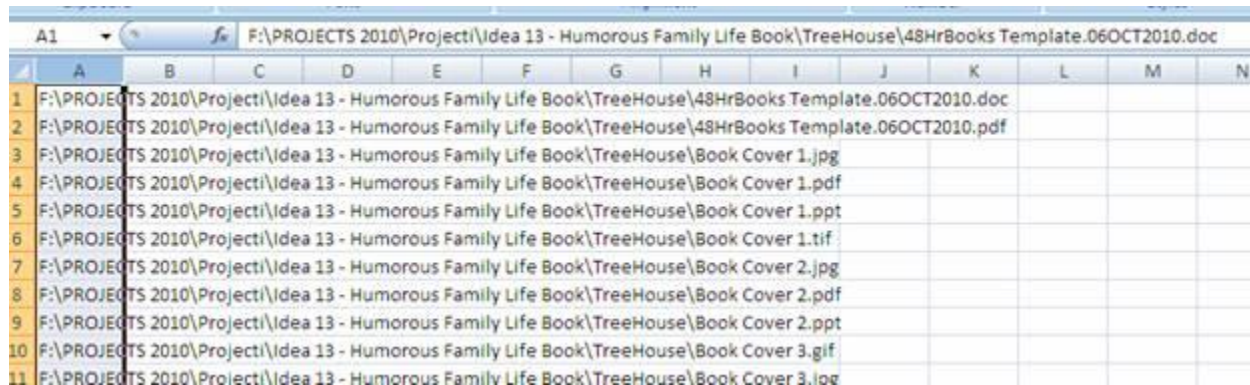
This list can be opened with Excel and displayed and sorted as needed.

To do this, select the “dirlist.txt” file, right-click and select “Open With” and select “Microsoft Office Excel” from the list of applications -

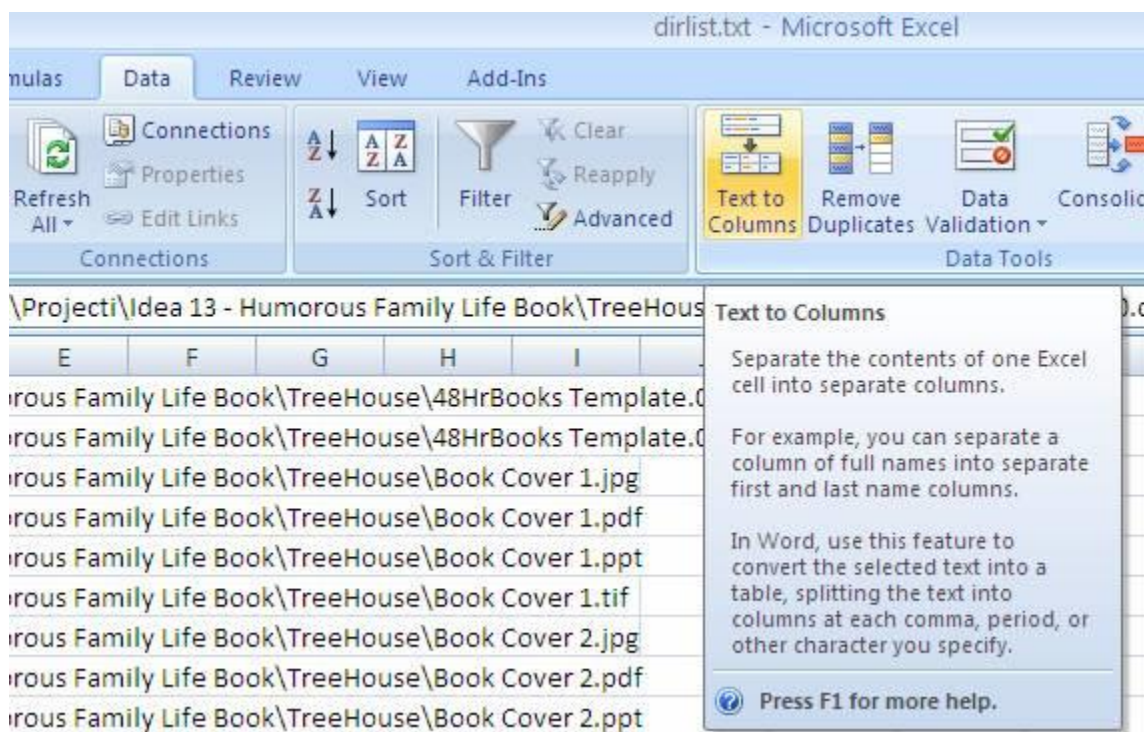




When the list opens in Excel, you will see all the rows containing the files names and paths. If you need to break this down or sort it, first highlight Column A (click on the “A”)



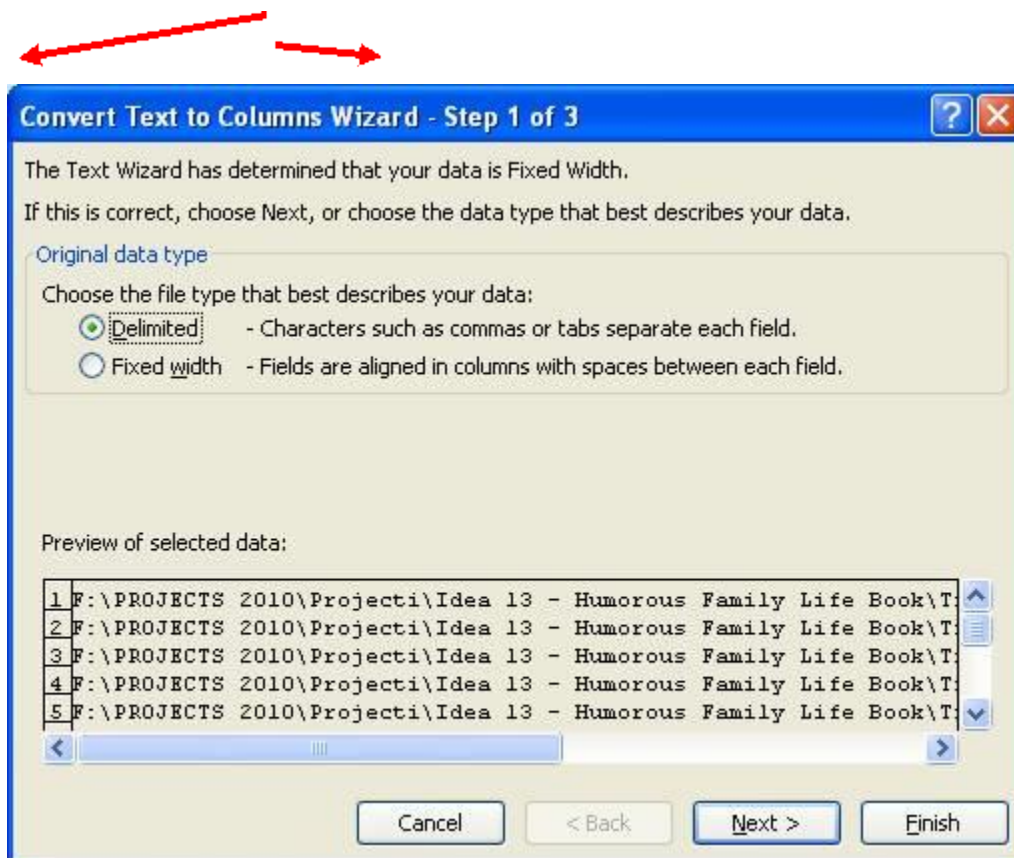
Then select “Data” “Text To Columns” –



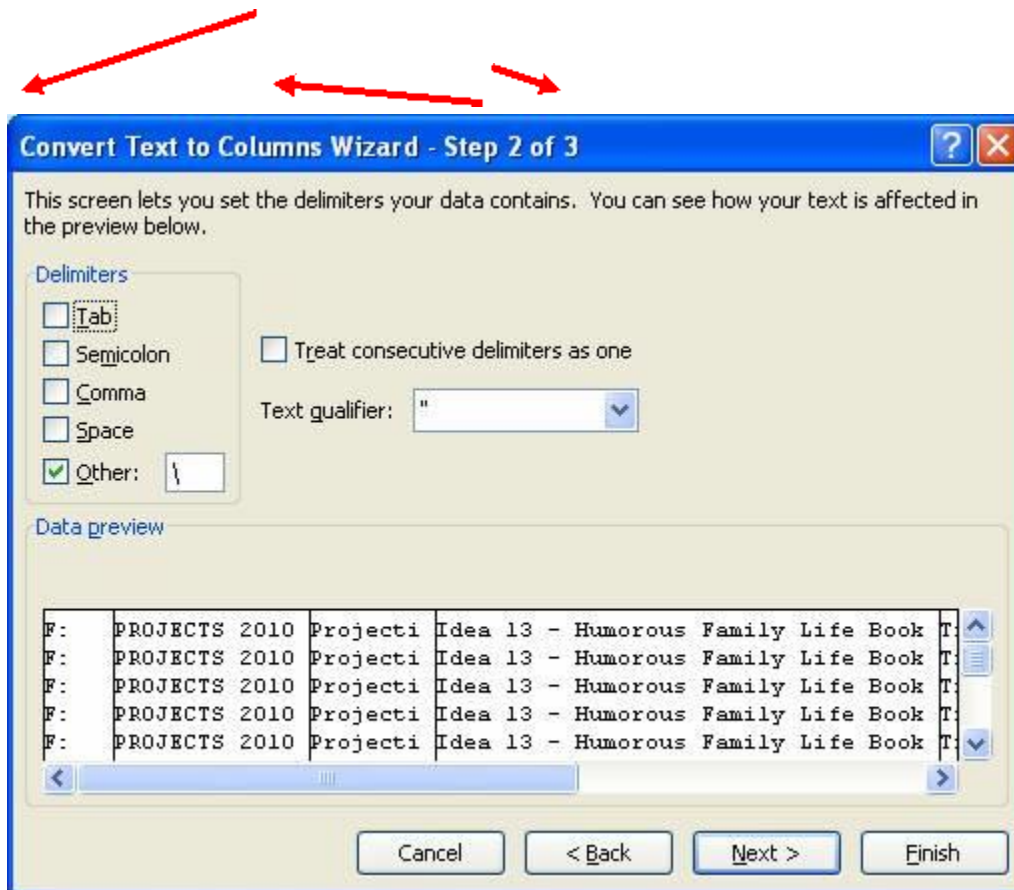
This will open the Convert Text to Columns Wizard.

From this window (Step 1 of 3), select “Delimited” for your data. This means that all the fields in the data are separated by a specific separator character. In this case the path, subfolder, file name are separated by the character “\”.

Then click “Next”.



This will open the next window (Step 2 of 3). In this window, select the Delimiter as “Other” and type in the character “\”. The window will then show you a preview of how the data will be separated. Then click “Next” –



The next window (Step 3) allows you to change the data format to text, date, numeric, general etc. General will automatically convert the data to the appropriate format as determined by the contents of the cells. The default is General and this works for this data, so just click "Finish" -



**Convert Text to Columns Wizard - Step 3 of 3**

This screen lets you select each column and set the Data Format.

**Column data format**

☒ General  
☐ Text  
☐ Date: MDY  
☐ Do not import column (skip)

'General' converts numeric values to numbers, date values to dates, and all remaining values to text.

Advanced...

Destination: \$A\$1

**Data preview**

General	General	General	General
F: PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	T
F: PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	T
F: PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	T
F: PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	T
F: PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	T

Cancel < Back Next > Finish

And you are done - Excel will now show you the data in a spreadsheet format with the drive, folders, subfolders and file names in their own columns.

A	B	C	D	E	F	G
DRIVE	FOLDER	SUBFolder1	SUBFolder2	SUBFolder3	File Name	File Type
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	48HrBooks Template.06OCT2010.doc	doc
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	48HrBooks Template.06OCT2010.pdf	pdf
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 1.jpg	jpg
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 1.pdf	pdf
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 1.ppt	ppt
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 1.tif	tif
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 2.jpg	jpg
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 2.pdf	pdf
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 2.ppt	ppt
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 3.gif	gif
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 3.jpg	jpg
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 3.pdf	pdf
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 3.ppt	ppt
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover 3.tif	tif
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Book Cover Front and Back 3.ppt	ppt
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Copy of WHY DOES IT TAKE SO LONG TO BUILD A TREE HOUSE.12OCT2010.doc	doc
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Copy of WHY DOES IT TAKE SO LONG TO BUILD A TREE HOUSE.12OCT2010.pdf	pdf
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Copy of Why Does It Take So Long To Build A Tree House.doc	doc
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Dear Author.doc	doc
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Dear Parent.doc	doc
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Dear Parent2.doc	doc
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	food warning.doc	doc
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	FULL Book Cover.pdf	pdf
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	FULL Book Cover.ppt	ppt
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Idea 13 - Humorous Family Life Book.zip	zip
F:	PROJECTS 2010	Projecti	Idea 13 - Humorous Family Life Book	TreeHouse	Illustration 9.doc	doc

You can use this spreadsheet for reporting out the information to your boss and sorting or analyzing it as needed.



Try this next time you have to list out files in a folder and see how much time and effort you save.

## How To Compare Lists and Lookup Information In Seconds and With No Mistakes

**TASK – Given a parts list and a price list, figure out the cost of parts needed for producing different products and identify all the part numbers so you can order these.**

How to do this? You could either use –

**Option A** – Review the parts lists for each product and look for the cost and part number of each part in the price list. Write this information down or type it or copy and paste it and then calculate the total cost for the product. Repeat this multiple times for 100 products. This will take several hundred steps and several hours to complete. You may miss some or make some mistakes along the way, so you will need to double-check your work, so allow another hour or so.

Or

**Option B** – **Let The Computer Do The Work.**

First get both the parts lists and price list into Excel spreadsheets. **There will be more information on how to do this in the next installment, so stay tuned.**

There is a basic database function in Excel which allows you to look up values in a spreadsheet based on a key variable and the result will return corresponding data from another spreadsheet which also contains this same key variable.

So what does this mean? Sounds like complicated computer speak. But really this is something you do all the time without using a computer. This simply means that you need to know some information about your key variable (the Part which is listed in the parts list) and to do this you need to go to the price list and find the Part and then see what the price and part number is for this part. Then you take this information you found and copy it into the parts list so you can figure out the total cost and order the parts using the part numbers. You have just manually performed a database function!

Excel can do the exact same thing, but much faster and with much more accuracy. It will take a little bit of time to set this up, but once it works you can figure out the costs and part numbers for 1 product or 100 products or 10,000 products in a matter of seconds!

So how to you do this?

First, let's look at our parts list –

	A	B	C	D	E
1	<b>Product 1</b>				
2					
3	<b>Part</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Unit Cost</b>	<b>Sub Total = Quantity X Unit Cost</b>
4	4 X 4 X 4 Enclosure	1			\$0.00
5	6 in Rod	2			\$0.00
6	8 in Wheel	4			\$0.00
7	#6 Screw X 1 in.	10			\$0.00
8	#6 Screw X 1 in.	12			\$0.00
9					\$0.00
10					

The information in the highlighted columns is what we would need to find in the price list in order to complete the table.

So, let's look at our price list –

	A	B	C
1	<b>Part Description</b>	<b>Part Number</b>	<b>Unit Price</b>
311	#10 Screw X 0.875 in.	01-000097-06	\$0.16
312	#10 Screw X 5.875 in.	01-000097-07	\$0.21
313	#10 Screw X 2.375 in.	01-000098-03	\$0.17
314	#6 Screw X 1.25 in.	01-000098-05	\$0.12
315	#10 Screw X 4.625 in.	01-000099-04	\$0.20
316	#6 Screw X 5.25 in.	01-000099-07	\$0.16
317	#8 Screw X 4.625 in.	01-000099-09	\$0.18
318	6 in Wheel	02-001132-01	\$1.10
319	8 in Wheel	02-001132-02	\$1.50
320	10 in Wheel	02-001132-03	\$2.50
321	6 in Rod	03-010001-13	\$2.23
322	8 in Rod	03-010001-14	\$3.25
323	10 in Rod	03-010001-15	\$4.00
324	2 X 2 X 2 Enclosure	10-111554-02	\$35.00
325	4 X 4 X 4 Enclosure	10-111554-04	\$45.00
326	6 X 6 X 6 Enclosure	10-111554-06	\$56.00
327	8 X 8 X 8 Enclosure	10-111554-08	\$82.00

This list contains all of the parts we could possibly need. There are a total of 326 items on this list. But this is a simple example and in real life this list could have several thousand or more parts.

So let's go back to our parts list table and insert a database function into the open cells in order to have the computer lookup the missing information for us and complete the table at the click of a button.

In the first open cell, we will enter this function:

**=VLOOKUP(A4,['Parts Price List.xls]Sheet1'!\$A\$2:\$C\$327,2,FALSE)**

Let's figure out why we need to use this function and what it means:

VLOOKUP is an Excel database function which enables you to search for information in the Price List spreadsheet using information in the Parts List spreadsheet as your search criteria.

**A4** is the cell ID of your search criteria (4 X 4 X 4 Enclosure, in this case).

**'[Parts Price List.xls]Sheet1'!** is the name of the spreadsheet where you are looking for the information (Parts Price List.xls, in this case).

**\$A\$2:\$C\$327** is the range of data you are looking at in the Price List spreadsheet (the starting Cell ID in the top left corner, and the ending Cell ID bottom right corner of the price list data).

**2** specifies the column number to look in for the data you want. The first column in the range is 1 (in this case column A is 1, column B is 2 and column C is 3. You want to specify 2 because you are looking for the Part number. If you were looking for price, you would specify 3.

A	B	C
Part Description	Part Number	Unit Price

**FALSE** specifies that you want to find an exact match in your search. True is the other choice and it specifies that you want to find the closest match to your search. Sometimes you might want the closest match (example you needed to find the part which is closest to  $\frac{3}{4}$  inches). But for this example we need the exact match only.

So here is what this would look like entered into the cell in the Parts List where you want the results entered.

C4	=VLOOKUP(A4,['Parts Price List.xls]Sheet1'!\$A\$2:\$C\$327,2,FALSE)					
	A	B	C	D	E	F
1	<b>Product 1</b>					
2						
3	<b>Part</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Unit Cost</b>	<b>Sub Total = Quantity X Unit Cost</b>	
4	4 X 4 X 4 Enclosure	1	10-111554-04		\$0.00	

In the second open cell, we will enter this function to find the price (use column 3):

**=VLOOKUP(A4,['Parts Price List.xls]Sheet1'!\$A\$2:\$C\$327,3,FALSE)**

D4	=VLOOKUP(A4,['Parts Price List.xls]Sheet1'!\$A\$2:\$C\$327,3,FALSE)					
	A	B	C	D	E	F
1	<b>Product 1</b>					
2						
3	<b>Part</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Unit Cost</b>	<b>Sub Total = Quantity X Unit Cost</b>	
4	4 X 4 X 4 Enclosure	1	10-111554-04	45	\$45.00	

Now that you have this set up, all you need to do is copy the functions down the list and you can complete the table for 1 product or 10,000 products in just a few clicks.

**No looking up anything manually, no copying and pasting, and no errors!**

	A	B	C	D	E
1	<b>Product 1</b>				
2					
3	<b>Part</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Unit Cost</b>	<b>Sub Total = Quantity X Unit Cost</b>
4	4 X 4 X 4 Enclosure	1	10-111554-04	45	\$45.00
5	6 in Rod	2	03-010001-13	2.225	\$4.45
6	8 in Wheel	4	02-001132-02	1.5	\$6.00
7	#6 Screw X 1 in.	10	01-000091-02	0.1675	\$1.68
8	#6 Screw X 1 in.	12	01-000091-02	0.1675	\$2.01
9					<b>\$59.14</b>
10					
11	<b>Product 2</b>				
12					
13	<b>Part</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Unit Cost</b>	<b>Sub Total = Quantity X Unit Cost</b>
14	8 X 8 X 8 Enclosure	1	10-111554-08	82	\$82.00
15	10 in Rod	2	03-010001-15	4	\$8.00
16	8 in Wheel	4	02-001132-02	1.5	\$6.00
17	#6 Screw X 8.125 in.	10	01-000058-00	0.19125	\$1.91
18	#8 Screw X 3 in.	12	01-000060-06	0.16	\$1.92
19					<b>\$99.83</b>
20					
21	<b>Product 3</b>				
22					
23	<b>Part</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Unit Cost</b>	<b>Sub Total = Quantity X Unit Cost</b>
24	4 X 4 X 4 Enclosure	1	10-111554-04	45	\$45.00
25	6 in Rod	2	03-010001-13	2.225	\$4.45
26	10 in Wheel	4	02-001132-03	2.5	\$10.00
27	#10-32 X 1.0 in.	10	01-000000-04	0.85	\$8.50

Try this next time you have to list out files in a folder and see how much time and effort you save.

## Using WORD Forms To Create Thousands Of Documents With Just One Click.



**TASK – Create Product Receipts for 500+ orders which your company tracks in Excel so these can be printed and sent to the customers with their orders.**

How to do this? You could either use –

**Option A** – Create a Product Receipt document in WORD and then go to the Excel spreadsheet and find then copy and paste the information for order #1 into the WORD document then print it. Then repeat this for Order#2, Order#3.....Order#500... This will take several hundred steps and several hours to complete. You may miss some or make some mistakes along the way, so you will need to double-check your work, so allow a few more hours or so.

Or

**Option B** – Let The Computer Do The Work.

First determine what information you have in the Excel spreadsheet and what information you need to include in the Product Receipt. Determine which pieces of information on Excel you will need to copy and paste into the WORD document.

Every piece of excel data contained in the cells along a row are considered part of a record. Each row of data is a record, identified by a sequential number (1, 2, 3...). Each record contains data in the cells (data fields) within the particular row. These fields are identified by the heading titles entered into the top row.

For this example, the Excel spreadsheet looks like this –



The diagram shows an Excel spreadsheet with columns A through H. Row 1 contains field names: 'Name of Product:', 'Name of Customer:', 'Ship To Address: Street', 'Ship To Address: City, State, ZIP', 'Customer Phone:', 'Customer email:', 'Price:', and 'Lead Time:'. Row 2 contains data for Record #1: 'Garden planter', 'J. Smith', '15 Spring Dr.', 'Middletown, OR 55214', '788.222.1238', 'smith.j@zzz.com', '\$136.99', and '4 weeks'. Row 3 contains data for Record #2: 'Tomato Stakes', 'B. Fuller', '582 Mountain View Ct.', 'Northville, MN 44321', '232.555.4321', 'fullerb@ggg.com', '\$29.95', and '2 weeks'. Annotations include: 'Field Names' with a red arrow pointing to the header row; 'Record Numbers' with a green arrow pointing to the row numbers; and 'Data for Record #1' with a blue arrow pointing to the data row.

	A	B	C	D	E	F	G	H
1	Name of Product:	Name of Customer:	Ship To Address: Street	Ship To Address: City, State, ZIP	Customer Phone:	Customer email:	Price:	Lead Time:
2	Garden planter	J. Smith	15 Spring Dr.	Middletown, OR 55214	788.222.1238	smith.j@zzz.com	\$136.99	4 weeks
3	Tomato Stakes	B. Fuller	582 Mountain View Ct.	Northville, MN 44321	232.555.4321	fullerb@ggg.com	\$29.95	2 weeks

When the Excel spreadsheet is in the right format and you have all the field name information (Row 1) finalized, save this spreadsheet.

Then in WORD, create the Product Receipt document the way you want it to look and leave spaces for all the information you need to be included. Making the field names

match the text in the WORD document, as shown below, makes it a lot easier later to map the fields correctly, but this is not required –

**PRODUCT RECEIPT**

Name of Product:

Name of Customer:

Ship To Address:

Customer Phone:

Customer email:

Price:

Lead Time:

Ships From:

Quantity per Pack:

Weight:

Size (L X W X H):

Date Sold:

Extended Warranty Purchased:

Method of Payment:

Notes or Instructions:

Make sure you save this document.

Now comes the fun part; linking the data from the Excel Spreadsheet to the WORD document. So here we go.

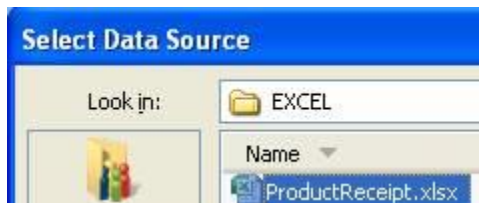
Open the WORD document (Product Receipt) you created.

Then from the Mailings tab, click “Select Recipients” and Select “Use Existing List”.



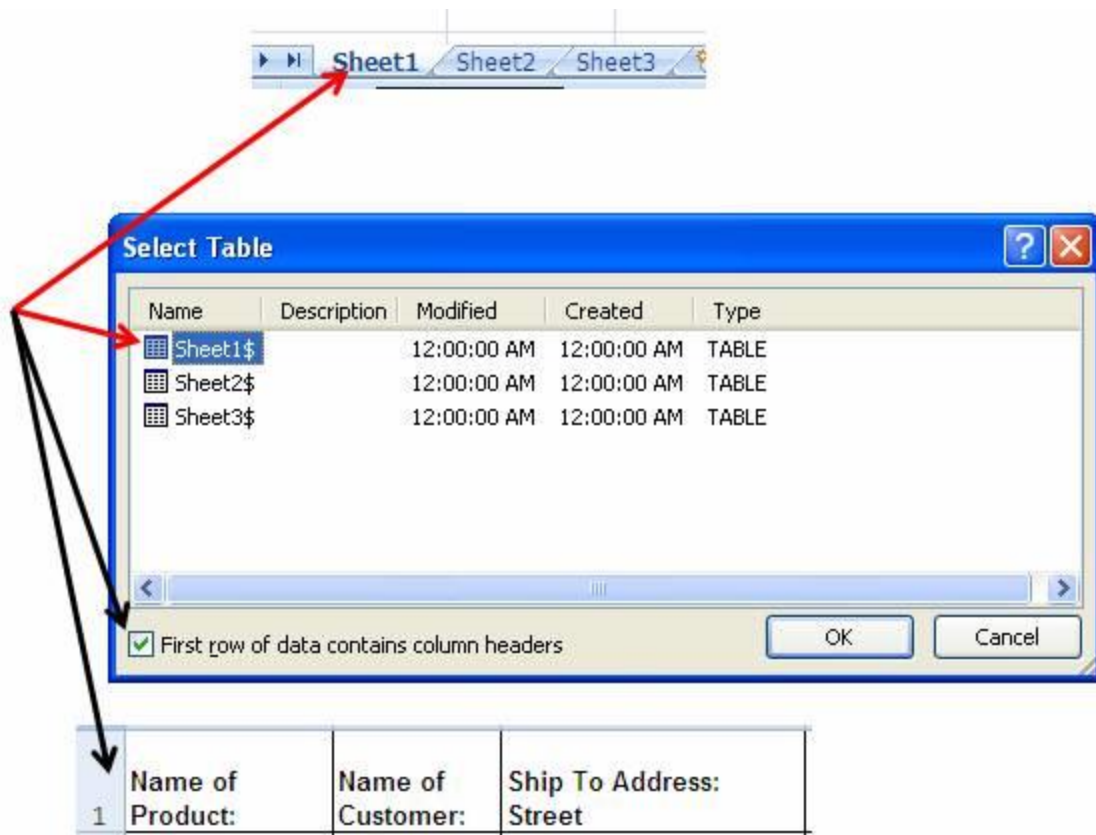


You will be prompted to select a data source. A popup window will open and you will need to navigate to the Excel file which contains the data –



Once you click on this file, you may see a screen as shown below which asks you to select the Table in the spreadsheet which contains the data you are looking for. In most cases, this will be the first sheet. The default name for this sheet is “**Sheet1\$**” or if you changed the name in Excel, then you will see the names shown. Be sure to select the correct sheet or you will be looking in the wrong place for your data.

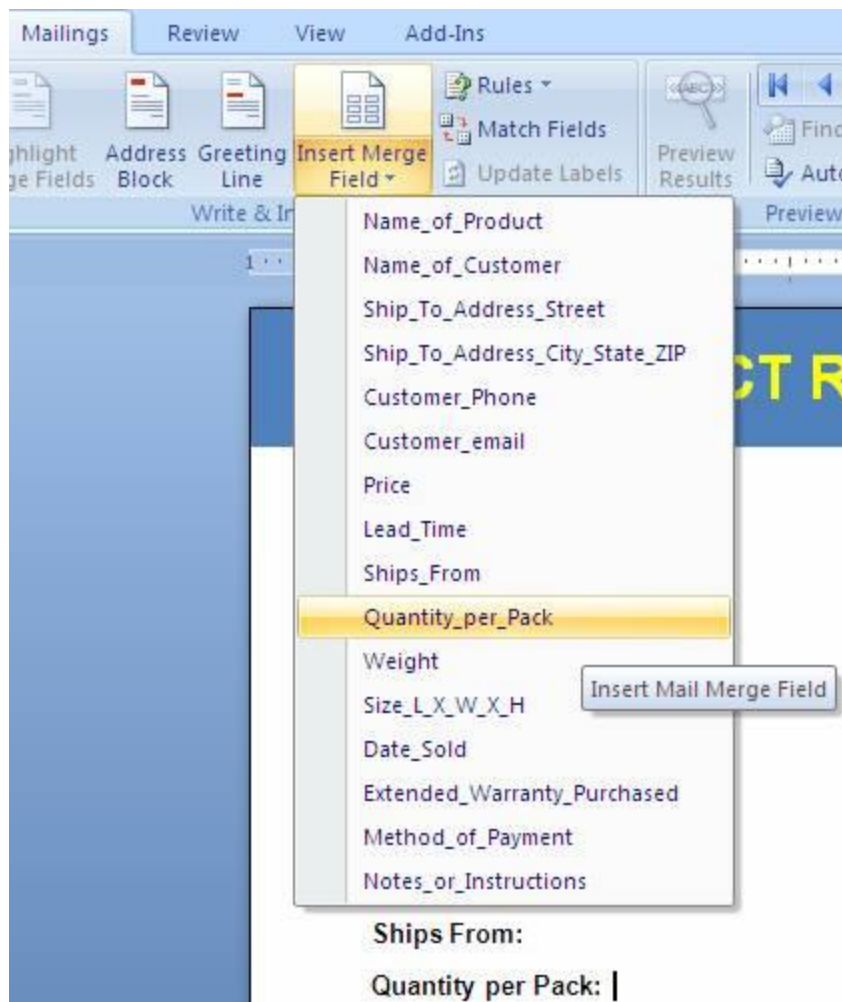
Also be sure to select the check box for “**First row of data contains column headers**”. This tells WORD that the first row has the field names and not to read these as data to be placed on your WORD document.



Then click "OK".

Now you can return to your WORD document and begin mapping the data fields to where you need them. To do this, first click the cursor at the point where you want to insert the data field. Then from the Mailings tab, click "**Insert Merge Field**" and then select the appropriate field from the list. The list of fields will be the names of the columns in the Excel spreadsheet.

Name of Product:	Name of Customer:	Ship To Address: Street	Ship To Address: City, State, ZIP	Customer Phone:	Customer email:	Price:
------------------	-------------------	-------------------------	-----------------------------------	-----------------	-----------------	--------



Select the field you want to insert and it will be inserted at the point in the document where you placed the cursor –

Quantity per Pack: «Quantity\_per\_Pack»|

Repeat this for the remaining fields you need mapped to the WORD document, then save the document.

## PRODUCT RECEIPT

Name of Product: «Name\_of\_Product»

Name of Customer: «Name\_of\_Customer»

Ship To Address: «Ship\_To\_Address\_Street»  
«Ship\_To\_Address\_City\_State ZIP»

Customer Phone: «Customer\_Phone»

Customer email: «Customer\_email»

Price: «Price»

Lead Time: «Lead\_Time»

Ships From: «Ships\_From»

Quantity per Pack: «Quantity\_per\_Pack»

Weight: «Weight»

Size (L X W X H): «Size\_L\_X\_W\_X\_H»

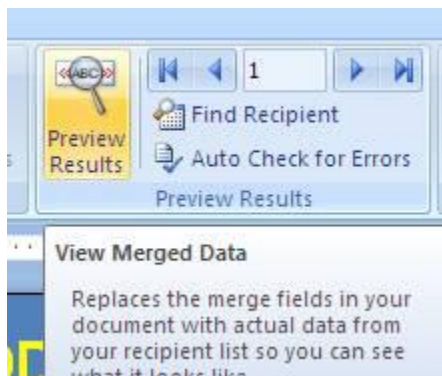
Date Sold: «Date\_Sold»

Extended Warranty Purchased: «Extended\_Warranty\_Purchased»

Method of Payment: «Method of Payment»

Notes or Instructions: «Notes\_or\_Instructions»

This view displays the **<<Data\_Field\_Name>>** in the document, but at any time if you want to see real data, just click on “Preview Results” from the Mailings tab. This will replace the field name with live data from the record in the Excel spreadsheet.



**Record #**

**PRODUCT RECEIPT**

Name of Product:  
 Name of Customer:  
 Ship To Address:  
 Customer Phone:  
 Customer email:  
 Price:  
 Lead Time:  
 Ships From:  
 Quantity per Pack: 3

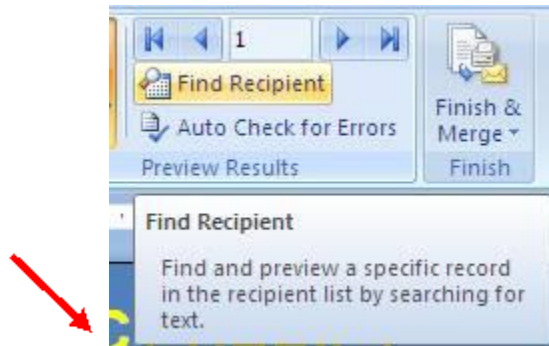
	Ships From:	Quantity per Pack:
1	Portland, ME	3
2	Portland, ME	5
3		

**Live Data**

To make sure this is working, you can change the Record number either by:

- Clicking the arrows next to the Record number to go up or down.
- Typing in the record number you want to see in the white box.
- Searching for the record.\*

\*To search for a record, click **“Find Recipient”** in the Mailings tab –



Then select the field you want to search on. In this example, we will continue with “Quantity per Pack”.



Pick this from the list and then enter the data you are looking for in the “**Find**” field –

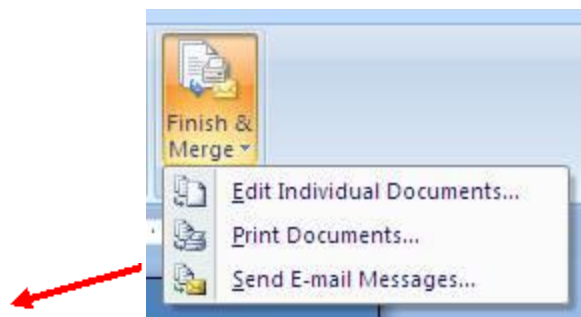


Click “Find Next” and the next record containing a Quantity per Pack of 5 will be displayed (it is Record #2 in this example) –









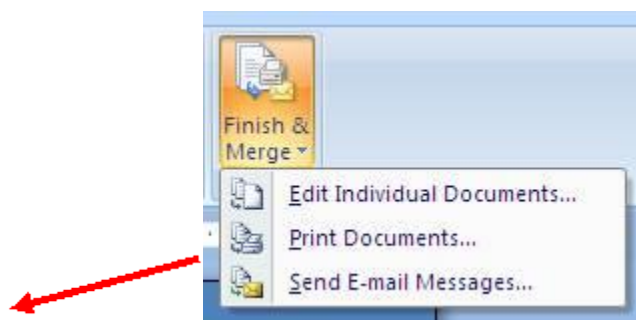
Edit individual documents will enable you to either create a new document containing all the records (1 page for each record), or you can specify the current record you are looking at in WORD, or you can pick a range of records to merge into a new document.

The new document this creates will have the data in it as part of the document and will not have the live merge fields. You will need to save this with a new name. The data fields will remain in your Product Brochure source document.

If you want all records merged into the new multipage document, select “All” or if you just want the one showing, select “Current” or Select “From” and enter in the record numbers if you want specific records printed but not all.

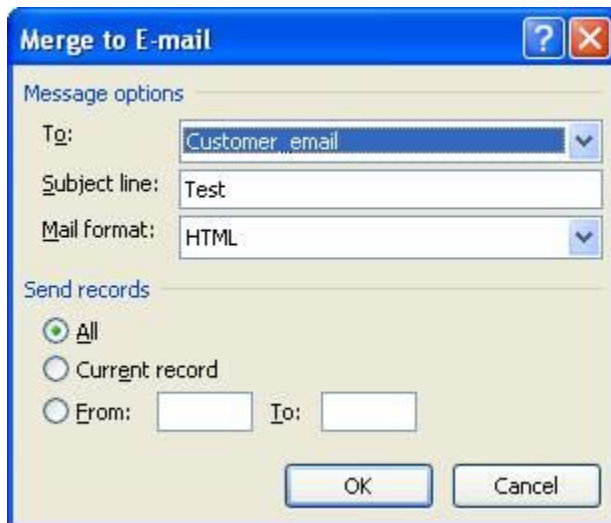


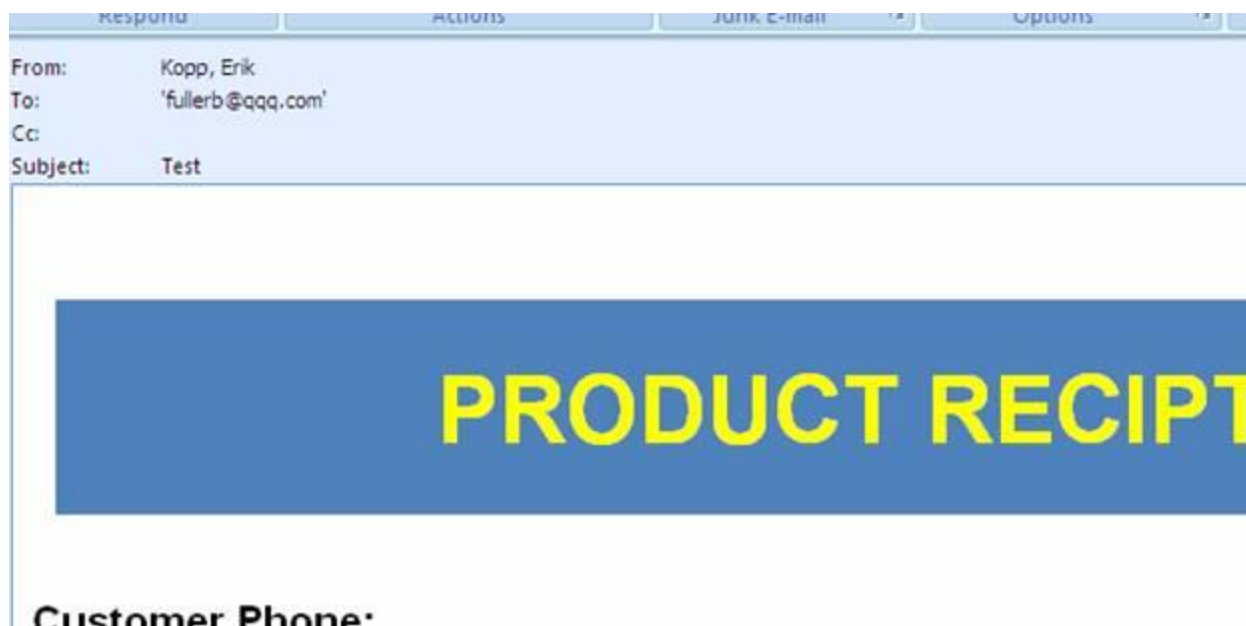
“Print Documents” will send the document to the printer rather than creating a new WORD document.





“Send E-mail Messages” will enable you to email out these documents to each Customer email address –





Try this next time you have to create multiple repetitive documents using data from an Excel spreadsheet and see how much time and effort you save. This works great for non-work documents as well. I have used it for Invitations, Thank You notes, Cards, Envelopes, Labels, Personalized crafts for school, and my favorite – making diplomas for my son's 3<sup>rd</sup> grade class (I got a copy of the class list from the teacher and pasted this into Excel to create the database to merge into the diploma – 2 minutes to create 25 diplomas – no spelling errors)!

## **Converting A Simple List Into a Workable Spreadsheet**

**TASK – Take a simple plain-text list of many items and manipulate this data; sort it different ways, revise it, present it to your boss, make calculations using the information.**

How to do this? You could either –

**Option A** – Copy and paste each piece of information as needed into a new document and manually reformat and figure out the information needed to present. Then recheck all your work to make sure you did not miss anything or many any mistakes. If you do a good job at this, you will most likely be given a much bigger more complex list to work on next time. If you did this quickly, next time you will be expected to do it even faster. And once you submit it, there will most likely be additional requests to make changes at the very last minute.

Or

### **Option B – Let The Computer Do The Work.**

Excel can provide you with all the data functionality you need to do all of these tasks very quickly; it doesn't matter if you have 10 items or 10,000 items. But first you need to have the data in Excel.

So for this example, let's look at a very simple plain-text list. Below is a list of items needed to bring on a campout. The list breaks the items down by categories, and it also lists the weights of each item. This is very important information because when you are camping you will need to carry all of this stuff on you back to you campsite so you need keep your total packed weight to a minimum while still making sure you have packed everything you need.

=====

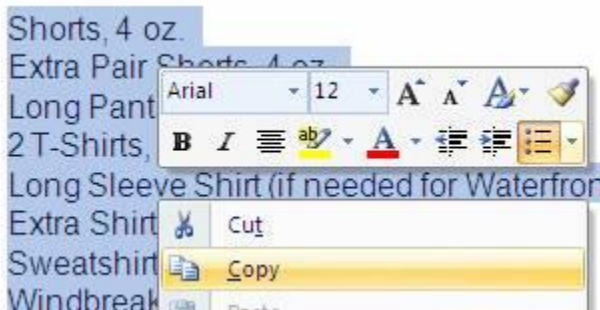
#### **Camping Equipment List and Weights (Plain Text List Example)**

- Shorts, 4 oz.
- Extra Pair Shorts, 4 oz.
- Long Pants, 6 oz.
- 2 T-Shirts, 4 oz.
- Long Sleeve Shirt (if needed for Waterfront), 7 oz.
- Extra Shirt (optional), 4 oz.
- Sweatshirt or Fleece, 1.5 lb.
- Windbreaker, 3 lb.
- Raingear (rainsuit or poncho), 1 lb.
- Hat, 6 oz.
- Socks (3 pair minimum), 9 oz.
- Boots, 2 lb.
- Running Shoes (for around campsite), 1.5 lb.
- Shower Shoes (for showers and Waterfront), 9 oz.
- Bandannas / Handkerchiefs, 3 oz.
- Underwear, 6 oz.
- Swim Suit, 4 oz.
- Sleep Clothes, 1 lb.
- Soap in Container, 5 oz.
- Toothbrush and toothpaste, 3 oz.
- Towels (2 or more) 8 oz.
- Comb / Brush 6 oz.
- Camp mirror, 2 oz.
- Nail Clippers, 2 oz.
- Sleeping Bag, 3 lb.

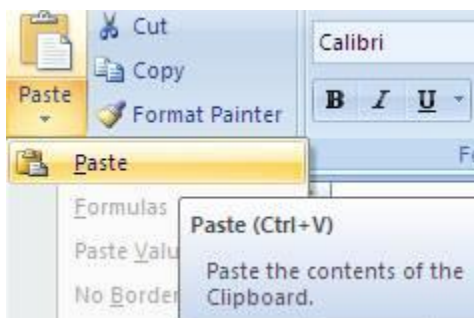
- Pillow (optional), 9 oz.
- Ground Pad (optional), 10 oz.
- Extra Blanket (optional), 11 oz.
- Watch (important), 4 oz.
- Personal Medication (important), Variable
- Camera / Film, 12 oz.
- Wallet and Money, 8 oz.
- Pencil and Notepaper (important), 4 oz.
- Notebook, 8 oz.
- Pocket Knife, 6 oz.
- Flashlight / Batteries, 10 oz.
- Sunglasses, 5 oz.
- Compass, 4 oz.
- Insect Repellant (non-aerosol), 8 oz.
- Sunblock, 8 oz.
- Water Bottle, 2 lb.
- Lip Balm (optional), 2 oz.
- Repair Kit (needle, thread, etc.) (optional), 3 oz.
- Day Pack (optional), 1 lb.
- Backpack / Duffle Bag, 1 lb.
- Folding Cup (optional), 3 oz.

=====

To get this text into Excel, the simplest way is to open this list in NotePad, WordPad or WORD and then simply highlight the text, then Copy it -



Next, Paste it into a blank Excel spreadsheet –



The result is that you now have this information in Excel –

	A	B	C	D	E	F
1	<b>Camping Equipment List and Weights</b>					
2	<b>Clothing</b>					
3	Shorts, 4 oz.					
4	Extra Pair Shorts, 4 oz.					
5	Long Pants, 6 oz.					
6	2 T-Shirts, 4 oz.					
7	Long Sleeve Shirt (if needed for Waterfront), 7 oz.					
8	Extra Shirt (optional), 4 oz.					
9	Sweatshirt or Fleece, 1.5 lb.					
10	Windbreaker, 3 lb.					
11	Raingear (rainsuit or poncho), 1 lb.					
12	Hat, 6 oz.					
13	Socks (3 pair minimum), 9 oz.					
14	Boots, 2 lb.					
15	Running Shoes (for around campsite), 1.5 lb.					
16	Shower Shoes (for showers and Waterfront), 9 oz.					
17	Bandannas / Handkerchiefs, 3 oz.					

Be sure to save this spreadsheet before you move on to the next step.

Looking at the information in this list, you will notice that each line contains multiple pieces of information. Each line contains an Item Description and then a notation if it is Optional, and then at the end there is a weight for this item.

So now that you have an Excel spreadsheet containing your list, the first thing to look for is any way to break this up to make this list and make it more functional and easier to manipulate the data. From this example, it shows that every line contains text then a comma and then a weight. Since every text and weight are separated by a comma, we can use one of Excel's data functions to separate these into separate fields (or cells), which would allow us more flexibility to perform analyses and calculations on the weights, which we may need to do.

To do this, open the spreadsheet in Excel, highlight the column which contains the information, and then on the Data tab, select **"Text To Columns"**-

You will then see a window pop up which asks you if your data is Delimited or Fixed Width. This means:

Fixed width: The data can be separated by taking a fixed number of characters and putting it into a cell. You specify the number of characters using the Convert Text to Columns Wizard. This works well for data which is always the same length and in the same place. An example is if you had a list that looked like this:

**COST:\$20.00USD**  
**COST:\$15:00USD**  
**COST:\$05.00USD**

You could specify a fixed field width field which ended at 5 characters out for the first field "COST:" and then at 11 characters for the second field "\$##.##" and then at 14 characters for the third "USD".

Field 1	Field 2	Field 3
COST	\$20.00	USD
COST	\$15.00	USD
COST	\$05.00	USD

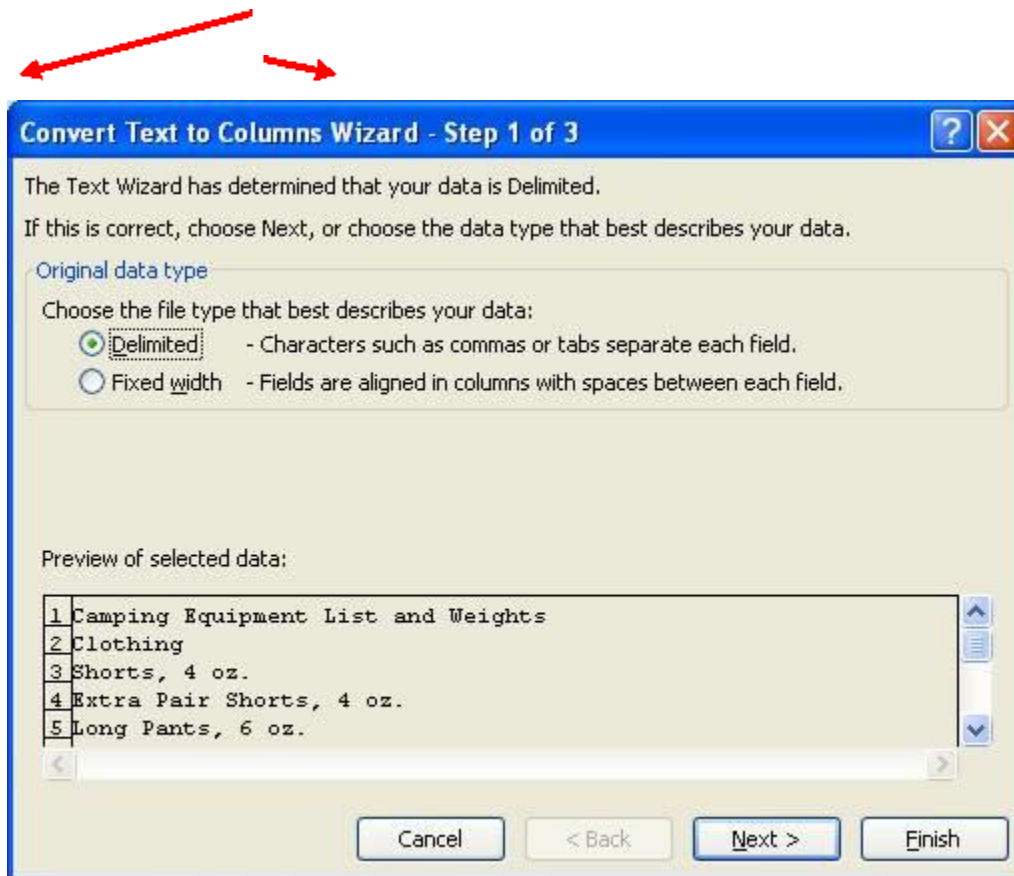
This is very simple to set up, but the problem is that if you have entries where the number of characters varies, then this will not work. For example –

**COST:\$20.00USD**  
**COST:\$150:00USD**  
**COST:\$5.00USD**

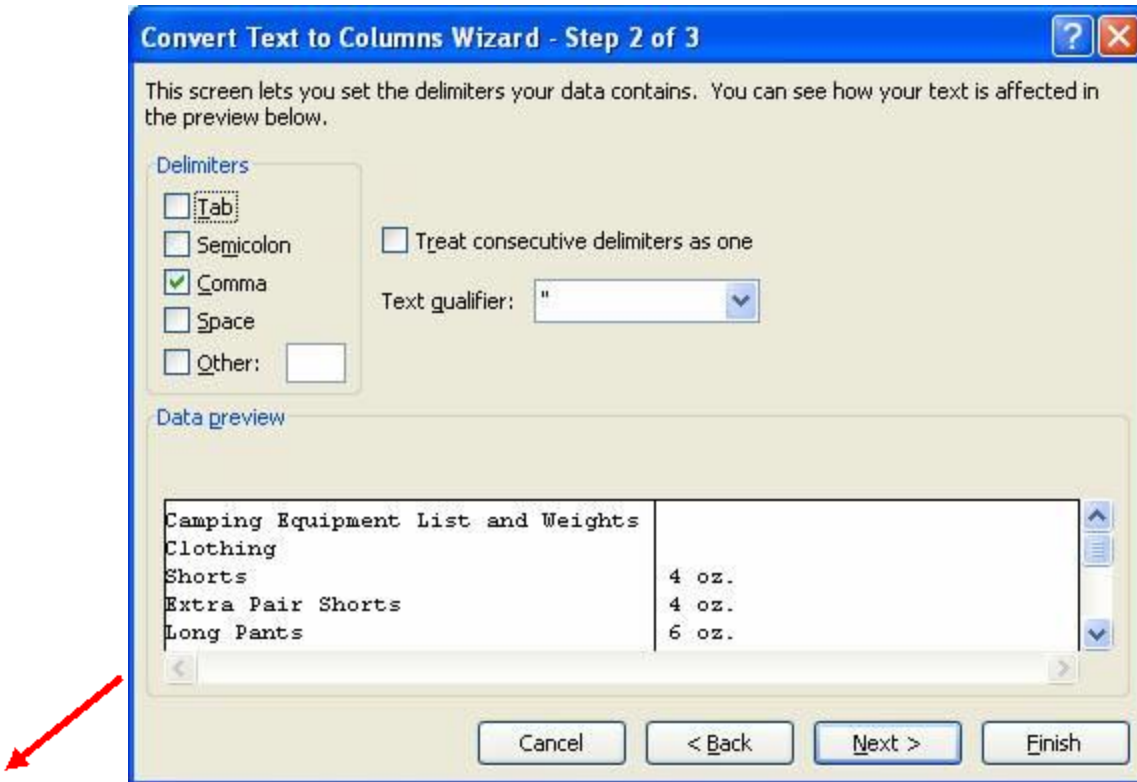
Delimited Width: Specific characters appear between the fields. The most common are comma, tab or space. In this example, the weight information is separated from the description by a comma. This really helps because then it does not matter how many characters are in each piece of data, Excel will just look for the comma and break up the fields there.

So for this example, select "**Delimited**" and click "**Next >**" -



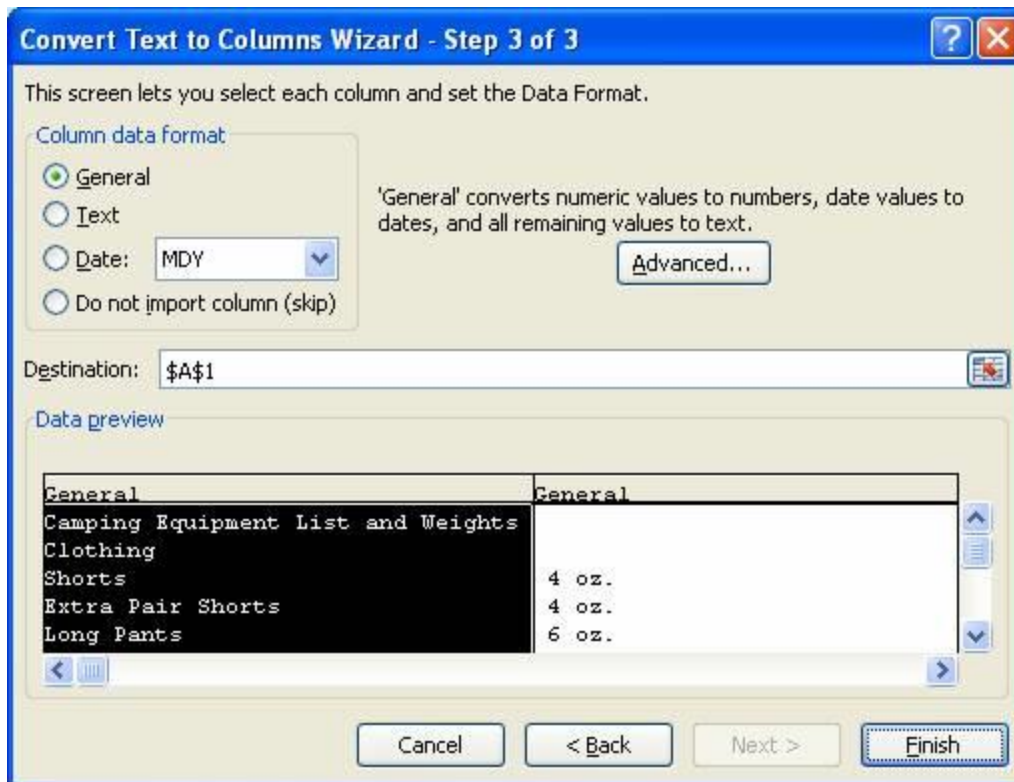


You will then see a window asking which delimiter to use. This means which character marks the separation between fields of data. In this example, we identified a comma as the delimiter. When you select the delimiter, the bottom of this window will show you how the data will be split into different fields. In this case the weight becomes separate from the description -



If this looks good, then click "**Next >**".

The next window will ask what type of data each column will contain -



It is usually safe to leave this as “**General**” but in some cases you may want to select another type such as “**Currency**” or “**Date**” if you want it to be formatted a certain way such as \$###.## or DD-MMM-YYYY. But you can always do this later if you change your mind. For now, let’s just stick with “**General**” and click “**Finish >**”. The result is that you now have a workable Excel spreadsheet containing the item descriptions in one column and the weights in the next –

	A	B
1	<b>Camping Equipment List and Weights</b>	
2	<b>Clothing</b>	
3	Shorts	4 oz.
4	Extra Pair Shorts	4 oz.
5	Long Pants	6 oz.
6	2 T-Shirts	4 oz.
7	Long Sleeve Shirt (if needed for Waterfront)	7 oz.
8	Extra Shirt (optional)	4 oz.
9	Sweatshirt or Fleece	1.5 lb.
10	Windbreaker	3 lb.
11	Raingear (rainsuit or poncho)	1 lb.
12	Hat	6 oz.
13	Socks (3 pair minimum)	9 oz.
14	Boots	2 lb.
15	Running Shoes (for around campsite)	1.5 lb.

Now you can use this information to provide analyses and presentations and statistics and all you need to do quickly and accurately and without any manual work!

## How To Find And Present Information As Soon As Someone Asks For It

The next example builds on the previous one.

### **TASK – Take a the list above and figure out:**

- How many items are optional.
- The weights of all items in ounces (oz.) so you can compare them all apples to apples. Need to convert all pounds weights into ounces.
- Sort the items by weight.
- How many Extra items there are on the list and how much these weigh.
- Total weight of all items.
- Total weight if you take out the extra items.
- Change descriptions of items separated by “/” to be clear that you need both, for example “Camera / Film” should be separate “Camera and Film”.

How to do this? You could either –

**Option A** – Manually read all the information and calculate what you need, then type it into the spreadsheet or another document. Then recheck all your work to make sure you did not miss anything or many any mistakes. If you do a good job at this, you will

most likely be given a much bigger more complex list to work on next time. If you did this quickly, next time you will be expected to do it even faster. And once you submit it, there will most likely be additional requests to make changes at the very last minute.

Or



### **Option B – Let The Computer Do The Work.**

With this information now in Excel you have the full capabilities and functionality of the software to help do the tedious work for you.

Let's start with the first task – **find out how many items are optional**. If this was a list that went on for 2,500 items, it would take you a while to find all the optional items. You might lose count or lose your place in the list several times while you are doing this.

So let's automate this task. Excel has a **"FIND"** function which can locate a specific string of characters in each of the cells in this list. Do set this up in the most simple way, first create a new column called "Optional", and then in the top cell of this column, enter this function: **=FIND("optional",A3,1)**. This tells Excel to find the character string "optional" inside of cell A3 starting at the first character. Copy this cell down the column to the bottom of the list.

If Excel finds the string "optional", it will display the character position where this string begins within the cell. If it does not, then it will display an error.

C3		<code>=FIND("optional",A3,1)</code>
A	B	C
<b>Camping Equipment List and Weights</b>		
<b>Clothing</b>		<b>Optional</b>
Shorts	4 oz 	#VALUE!
Extra Pair Shorts	4 oz.	#VALUE!
Long Pants	6 oz.	#VALUE!
2 T-Shirts	4 oz.	#VALUE!
Long Sleeve Shirt (if needed for Waterfront)	7 oz.	#VALUE!
Extra Shirt (optional)	4 oz.	14
Sweatshirt or Fleece	1.5 lb.	#VALUE!
Windbreaker	3 lb.	#VALUE!

Now let's get a little fancier and create another column called "Optional Y/N". In this column enter this function: **=IF(ISERROR(C3),"N","Y")**. Copy this to all the cells in the column to the bottom of the list. This function will look at the results in the Optional column and if there is an error displayed (because the item is not optional) then this will

display “N” for not optional. If there is no error (because Excel found the string “optional”), then this will display “Y”-

D3	=IF(ISERROR(C3),"N","Y")			
	A	B	C	D
1	<b>Camping Equipment List and Weights</b>			
2	<b>Clothing</b>		<b>Optional</b>	<b>Optional Y/N</b>
3	Shorts	4 oz.	#VALUE!	N
4	Extra Pair Shorts	4 oz.	#VALUE!	N
5	Long Pants	6 oz.	#VALUE!	N
6	2 T-Shirts	4 oz.	#VALUE!	N
7	Long Sleeve Shirt (if needed for Waterfront)	7 oz.	#VALUE!	N
8	Extra Shirt (optional)	4 oz.	14	Y

Now you just need to count up all the “Y”s in this column and you will know accurately and quickly how many items are optional. Just enter this function into Excel:  
**=COUNTIF(D3:D54,"Y")**. This tells Excel to count up all the values in the cells from D3 to D54 and display the total number which contain the text “Y”. The answer is “7” in this example –

D55	=COUNTIF(D3:D54,"Y")			
	A	B	C	D
	<b>Camping Equipment List and Weights</b>			
	<b>Clothing</b>		<b>Optional</b>	<b>Optional Y/N</b>
	Sunblock	8 oz.	#VALUE!	N
	Water Bottle	2 lb.	#VALUE!	N
	Lip Balm (optional)	2 oz.	11	Y
	Repair Kit (needle	thread	#VALUE!	N
	Day Pack (optional)	1 lb.	11	Y
	Backpack / Duffle Bag	1 lb.	#VALUE!	N
	Folding Cup (optional)	3 oz.	14	Y
				<b>7</b>

This is a simple example, but the exact same procedure can be used for very large lists as well.

For the next question you are asked to **convert the weights to one common unit, ounces**. To do this manually you would need to:

- Determine what the units are currently
- If they are ounces, leave alone.



- If they are pounds, multiply by 16 to convert to ounces.
- Remove the unit characters so that you can make calculations using the numbers.

This can all be automated very easily.

First set up a new column for “Weight”. This will display just the numeric part of the weight. Enter this function into the cells in this column: **=LEFT(B3,FIND(" ",B3,2))**. This tells Excel to display the left hand part of the entry in the cells in column B up to the point where it finds a space then stop. Since each entry is formatted to be “# unit”, this will find the break easily –

C3	<b>f<sub>x</sub></b>	<b>=LEFT(B3,FIND(" ",B3,2))</b>	
A		B	C
<b>Camping Equipment List and Weights</b>			
<b>Clothing</b>			<b>Weight</b>
Shorts		4 oz.	4
Extra Pair Shorts		4 oz.	4
Long Pants		6 oz.	6
2 T-Shirts		4 oz.	4
Long Sleeve Shirt (if needed for Waterfront)		7 oz.	7
Extra Shirt (optional)		4 oz.	4
Sweatshirt or Fleece		1.5 lb.	1.5

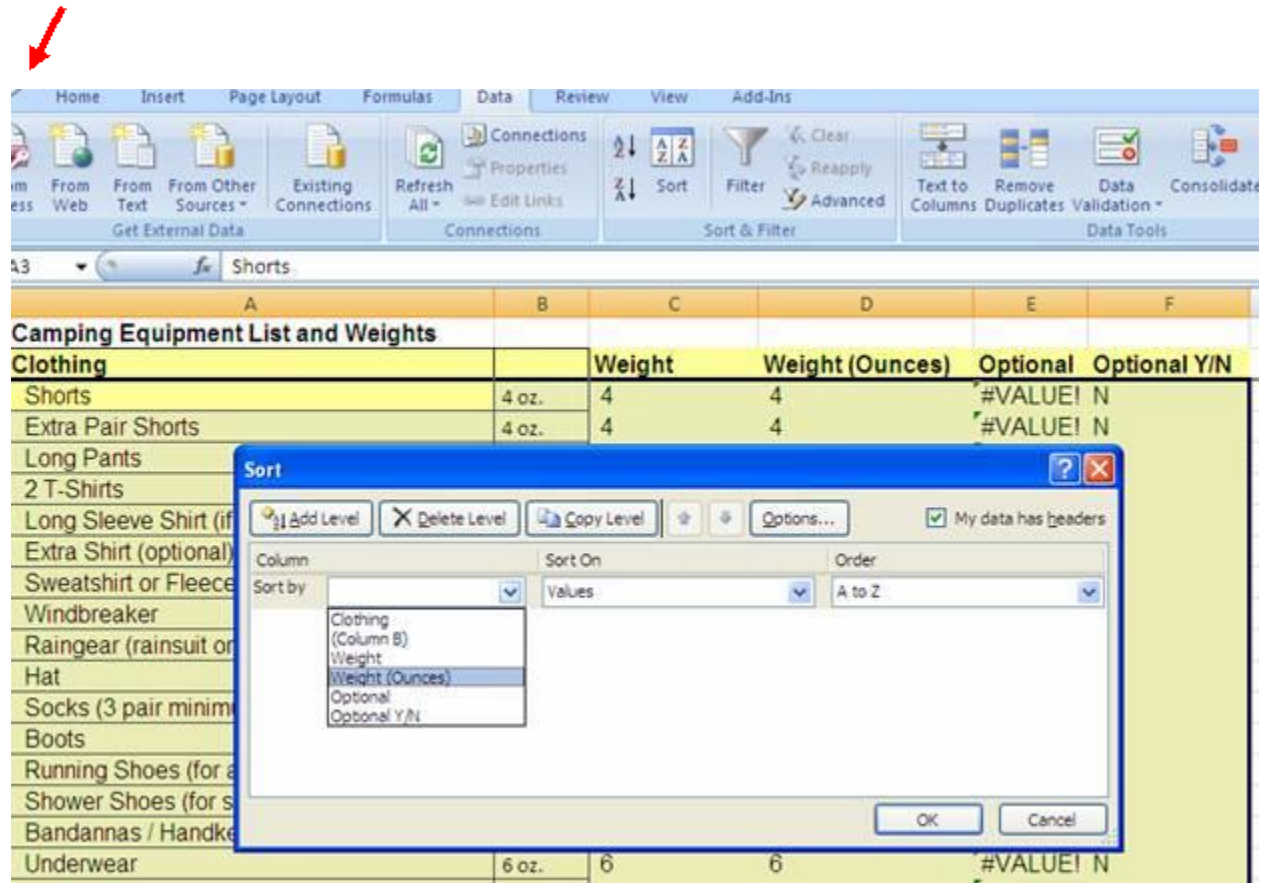
Now to make sure these are all ounces, make another column for “Weight (ounces)” and in this column enter this function: **=IF(RIGHT(B3,3)="oz.",C3,C3\*16)**. This tells Excel to look at the last 3 characters on the right hand side of the cells in column B and if they are “oz.”, then take the value in column C and copy it into column D, since this is the numeric weight in ounces for the item in column A.

If the 3 right hand characters are not “oz.”, in this example they will be lb. (pounds). Therefore in these cases, take the value in column C and multiply it by 16 (ounces per pound) and display the result in column D as this will be the numeric weight in ounces for the item in column A.

Now all you need to do to sort the items by weight, which is the next task, is to use the Sort function in the Data tab and sort by Column D.

First, highlight the data you want to sort, including the row containing the column headers (see below). Then Select “**Sort**” from the **Data tab**. When the sort window opens, click the checkbox for “My data has headers”. This will tell Excel that the first row highlighted contains headers and should not be sorted. It also ensures that these

header names will appear in the “sort By” list and make it a lot easier to figure out which one to pick -



The screenshot shows the Excel 'Sort' dialog box. The 'Sort by' dropdown is open, showing a list of headers: Clothing (Column B), Weight, Weight (Ounces), Optional, and Optional Y/N. 'Weight (Ounces)' is selected. The 'Sort On' dropdown is set to 'Values' and the 'Order' dropdown is set to 'A to Z'. The background spreadsheet shows a table titled 'Camping Equipment List and Weights' with columns A, B, C, and D. The data is as follows:

	A	B	C	D
1	<b>Camping Equipment List and Weights</b>			
2	<b>Clothing</b>		<b>Weight</b>	<b>Weight (Ounces)</b>
3	Shorts	4 oz.	4	#VALUE! N
4	Extra Pair Shorts	4 oz.	4	#VALUE! N
5	Long Pants			
6	2 T-Shirts			
7	Long Sleeve Shirt (if			
8	Extra Shirt (optional)			
9	Sweatshirt or Fleece			
10	Windbreaker			
11	Raingear (rainsuit or			
12	Hat			
13	Socks (3 pair minim			
14	Boots			
15	Running Shoes (for a			
16	Shower Shoes (for s			
17	Bandannas / Handke			
18	Underwear	6 oz.	6	#VALUE! N

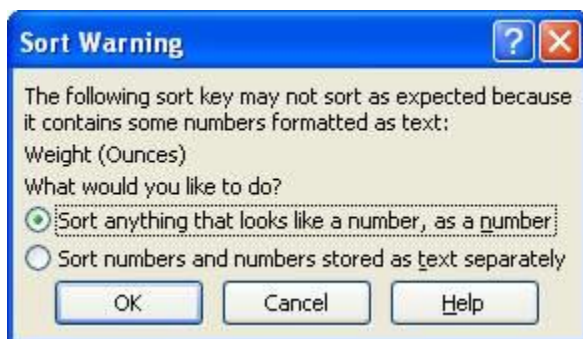
Below the dialog box, the formula bar shows the formula: `=IF(RIGHT(B3,3)="oz.",C3,C3*16)`. The spreadsheet below shows the result of this formula:

	A	B	C	D
1	<b>Camping Equipment List and Weights</b>			
2	<b>Clothing</b>		<b>Weight</b>	<b>Weight (Ounces)</b>
3	Running Shoes (for around campsite)	1.5 lb.	1.5	24
4	Shower Shoes (for showers and Waterfront)	9 oz.	9	9
5	Bandannas / Handkerchiefs	3 oz.	3	3
6	Underwear	6 oz.	6	6
7	Swim Suit	4 oz.	4	4
8	Sleep Clothes	1 lb.	1	16

In this case, pick “Weight (Ounces)”. Sort on “Values” and Order “A to Z” if you want to start with the smallest weights at the top of the list and go to the largest at the bottom -



Click “Ok”. If you see a “Sort Warning” window like this, select “Sort anything that looks like a number, as a number”. This tells Excel to sort all the data as one list –



Click “Ok” and you now have sorted list –

1	<b>Camping Equipment List and Weights</b>				
2			<b>Weight</b>	<b>Weight (Ounces)</b>	
3	Camp mirror	2 oz.	2	2	
4	Nail Clippers	2 oz.	2	2	
5	Lip Balm (optional)	2 oz.	2	2	
6	Bandannas / Handkerchiefs	3 oz.	3	3	
7	Toothbrush and toothpaste	3 oz.	3	3	
8	Folding Cup (optional)	3 oz.	3	3	
9	Shorts	4 oz.	4	4	
10	Extra Pair Shorts	4 oz.	4	4	
11	2 T-Shirts	4 oz.	4	4	
12	Extra Shirt (optional)	4 oz.	4	4	
13	Swim Suit	4 oz.	4	4	
14	Watch (important)	4 oz.	4	4	
15	Pencil and Notepaper (important)	4 oz.	4	4	
16	Compass	4 oz.	4	4	
17	Soap in Container	5 oz.	5	5	
18	Sunglasses	5 oz.	5	5	
19	Long Pants	6 oz.	6	6	
20	Hat	6 oz.	6	6	
21	Underwear	6 oz.	6	6	
22	Pocket Knife	6 oz.	6	6	
23	Long Sleeve Shirt (if needed for Waterfront)	7 oz.	7	7	
24	Wallet and Money	8 oz.	8	8	
25	Notebook	8 oz.	8	8	

The next question was to figure out **How Many Extra Items There Are And How Much They Weigh.**

Again if you have a very lengthy list, this can be done very easily using Excel.

First, you need to figure out which items contain the word “Extra” and then keep a running total of their weights.

So open the Excel spreadsheet, create a new column titled “Extra”, and enter in a function to locate the text string “Extra” in each of the item descriptions. This function is: **=IF(ISERROR(FIND("Extra",A3,1)),"N","Y").**

This time since you have more experience with this stuff, we are getting fancier and nesting the 2 functions (combining 2 functions together in one cell) we used for the last similar example of how to find optional items. In that case, we first looked for the word “optional” and then Excel generated either a location number or an error so we used a second function to translate this information into Yes/No this is optional. We set it up as



2 functions for simplicity; it's a lot easier to trouble-shoot the logic this way if it doesn't work.

But now that we are on our way to being masters of this, I have provided an example where both of these steps are combined into one function which contains both components of this logic nested together. Copy this function down to the bottom of the list. This takes the raw data and directly provides you with the "Yes/No" output you are looking for –

C3	$\text{fx}$	<code>=IF(ISERROR(FIND("Extra",A3,1)),"N","Y")</code>	
A		B	C
Camping Equipment List and Weights			
			Extra
Camp mirror	2 oz.		N
Nail Clippers	2 oz.		N
Lip Balm (optional)	2 oz.		N
Bandannas / Handkerchiefs	3 oz.		N
Toothbrush and toothpaste	3 oz.		N
Folding Cup (optional)	3 oz.		N
Shorts	4 oz.		N
Extra Pair Shorts	4 oz.		Y
2 T-Shirts	4 oz.		N
Extra Shirt (optional)	4 oz.		Y
Swim Suit	4 oz.		N
Watch (important)	4 oz.		N

Now that you have identified which items are extra the second part of the question is to find out the total weight of extra items. To do this, just think how you would do it manually; you would identify which items are extra, already done, and then keep a running total of the weight of each extra item. Then just automate this process and you can figure it out for very long lists in seconds or less.

For this calculation, create a new column titled "Extra Weight" and enter in this function: **=IF(C10="N","",VALUE(F10)).**

This asks Excel to look at the Y or N values in column C (the "Extra" column you just set up) and then if the value is "N" (indicating this is not an extra item) just leave the cell blank, but if the value is not "N" (indicating this is an extra item) return the numeric value of the entry in column F (Weight (Ounces)). The result is that the Extra Weight column will contain only the weights of extra items.



D3	=IF(C3="N","",F3)		
A	B	C	D
<b>Camping Equipment List and Weights</b>		<b>Extra</b>	<b>Extra Weight</b>
Camp mirror	2 oz.	N	
Nail Clippers	2 oz.	N	
Lip Balm (optional)	2 oz.	N	
Bandannas / Handkerchiefs	3 oz.	N	
Toothbrush and toothpaste	3 oz.	N	
Folding Cup (optional)	3 oz.	N	
Shorts	4 oz.	N	
Extra Pair Shorts	4 oz.	Y	4
2 T-Shirts	4 oz.	N	
Extra Shirt (optional)	4 oz.	Y	4
Swim Suit	4 oz.	N	
Watch (important)	4 oz.	N	

You can then total these up using the **Sum** function to get the total weight of all extra items in ounces –

=SUM(D3:D54)			
A	B	C	D
<b>ent List and Weights</b>			
		<b>Extra</b>	<b>Extra Weight</b>
		N	
		N	
on (important)	Variable	N	
	thread	N	
		Total Extra wt.	41

You can also find the total weight if you remove the extra items by calculating the sum of all items (Column F) and subtracting out the Extra items (Column D). Once you set this up, you can now answer “what-if” questions if you need to know how the weight changes by making items required vs. extra. For camping, weight is very important because you need to be able to carry all this stuff for miles at a time. A common question is to figure out how to get your total to a target max weight, given the simple text list as a recommended starting point. Once you have this set up as a functional spreadsheet, this exercise takes only seconds to do. With pencil and paper, and even cutting & pasting, this is a tedious draining and aggravating process if you need to do it more than once or twice.

The next question deal with transforming data; **Change descriptions of items separated by “/” to be clear that you need both, for example “Camera / Film” should be separate “Camera and Film (you will need Both)”**.

By now, you should already be thinking “how can I automate this one?” And you should recognize the logical step to follow to automate this:

1. Identify all the item descriptions which contain the character “/”.
2. If the item description does contain this character:
  - a. Take the first set of text before the “/”
  - b. Add the word “ And “ to the end
  - c. Follow this with the text in the description that follows “/”
  - d. Add the words “ (You Need Both)” to the end
3. If the description does not contain “/” then just copy it over and leave it alone.

That’s it – very logical. This is what you would do manually if you did not have a computer.

Now you just need to set up a function to do this for you and it can be used to analyze lists of 10’s of 1,000’s of items – in just seconds.

Using a similar function as used above, first create a new column titled “Combination Items”, then enter this function:

**=IF(ISERROR(FIND("/",A3,2)),A3,LEFT(A3,FIND("/",A3,2)-2)&" And "&MID(A3,FIND("/",A3,2)+2,LEN(A3))&"(You Need Both)")**

Now that’s a giant function!

So what exactly does it do? It does exactly what is listed above, the same thing you would do yourself if you performed this task manually.

So let’s break it down to better understand how it works.

The first part is to identify which Item Descriptions contain the character “/”. This is done by using the “FIND” function. This function will either return an error (if it does not find the indicated character “/”) or it will return a numeric place value (if it does find the character “/”) as we saw in the earlier example -

**=IF(ISERROR(FIND("/",A3,2)),A3,LEFT(A3,FIND("/",A3,2)-2)&" And "&MID(A3,FIND("/",A3,2)+2,LEN(A3))&"(You Need Both)")**

We do not want to see any errors in our results so we need an error trapping function to take care of this problem for us. If a function contains an error result and there is no error trapping, then the entire result becomes an error. This is no good. In Excel, the way to deal with this is to use the **ISERROR** function. This function will look at a result and if it is an error, it will return a "True" value. If the result is not an error, it will return a "False" value -

```
=IF(ISERROR(FIND("/",A3,2)),A3,LEFT(A3,FIND("/",A3,2)-2)&" And  
"&MID(A3,FIND("/",A3,2)+2,LEN(A3))&"(You Need Both)")
```

This is a very valuable function because it creates a valid result from an invalid result. The true / false result can then be used by the logical **IF** function to take one action of the result is true and another if it is false –

```
=IF(ISERROR(FIND("/",A3,2)),A3,LEFT(A3,FIND("/",A3,2)-2)&" And  
"&MID(A3,FIND("/",A3,2)+2,LEN(A3))&"(You Need Both)")
```

If the **ISEROR** value is True, this means the **FIND** function returned an error, which means that Excel did not find the character "/" in the Item Description. In this case, there is no need to modify the Item Description at all and we just want to copy it over, so the action if this is true is simply copy the Item Description from the cell you are evaluating –

```
=IF(ISERROR(FIND("/",A3,2)),A3,LEFT(A3,FIND("/",A3,2)-2)&" And  
"&MID(A3,FIND("/",A3,2)+2,LEN(A3))&"(You Need Both)")
```

If the **ISERROR** value is False, this means that the **FIND** function did not return an error, which means that Excel found the character "/" in the Item Description. In this case we need to do some modification.

First we need to copy out the left hand size of the description up to but not including the "/" character. To do this we use the **LEFT** function which copies a set number of characters from the left of a string. We want the set number to vary depending on where we find the "/", so we can use the **FIND** function for this –

```
=IF(ISERROR(FIND("/",A3,2)),A3,LEFT(A3,FIND("/",A3,2)-2)&" And  
"&MID(A3,FIND("/",A3,2)+2,LEN(A3))&"(You Need Both)")
```

Note there is a "-2" at the end of the **LEFT** function, this tells Excel to find the "/" but copy only up to 2 spaces before "/" because we do not want to copy the "/" and we do not want the space before it either, so backup 2.

Next we want to add to this first piece of text. We need to add the word “ And “, with spaces before and after. We use the function “&” to add text strings and we need to put text and spaces into “quotes” –

```
=IF(ISERROR(FIND("/",A3,2)),A3,LEFT(A3,FIND("/",A3,2)-2)&" And  
"&MID(A3,FIND("/",A3,2)+2,LEN(A3))&" (You Need Both)")
```

Next we need to add the part of the Item Description which follows the “/” character after the “ And “, so we need to use another function to do this. You can use the **MID** function for this. **MID** copies characters from a cell beginning at a set number position and ending at a set number of positions later. In this case the beginning position is after the “/” character, so we can once again use “**FIND**” to locate this. For the ending point, we can either put in a number large enough to encompass any potential Item Description, or we can use the **LEN** function and let Excel figure out the length of the Item Description -

```
=IF(ISERROR(FIND("/",A3,2)),A3,LEFT(A3,FIND("/",A3,2)-2)&" And  
"&MID(A3,FIND("/",A3,2)+2,LEN(A3))&" (You Need Both)")
```

For the last step, we need to take this text and add on the text "(You Need Both)", which we already know how to do by now.

And this is the final result -

A	B	C	D	E
<b>Camping Equipment List and Weights</b>		<b>Combination Items</b>	<b>Extra</b>	<b>Extra We</b>
Camp mirror	2 oz.	Camp mirror	N	
Nail Clippers	2 oz.	Nail Clippers	N	
Lip Balm (optional)	2 oz.	Lip Balm (optional)	N	
Bandannas / Handkerchiefs	3 oz.	Bandannas And Handkerchiefs (You Need Both)	N	
Toothbrush and toothpaste	3 oz.	Toothbrush and toothpaste	N	

Copy this function down to the bottom of the list and it will create the final text you need in seconds.

Try this next time you are given a simple list and need to do repeated multiple time consuming calculations and manipulations using the data in the list. See how much time and effort you save. This works great for any lists where you can cut and paste plain text out of, such as PDF documents, PowerPoint Presentations and Web pages. I have used it for Parts lists, inventory sheets, financial statements, as well as basketball rosters and party planning lists. I was able to copy and paste a list of my son’s basketball team roster and schedule off the web and quickly figure out player lineups and what-if scenarios based on rankings and total floor time. If a player did not show up at game time, I could quickly recalculate the stat sheets in seconds

– no spelling errors, no math mistakes! The other coaches were still struggling with pads and pens and clipboards and madly crossing out stuff while the game officials impatiently looked on. Why put yourself through this when there are tools to help you out?

## **What Do You Think?**

I hope this information has been of help to you.

If you have any questions about making book covers, please drop me a line.

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