Excel Tips

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Cell Referencing

All data in Excel is stored in cells of worksheets. **Worksheets** are similar in concept to tables with columns and rows. A **cell** is the point where a column and row meet. When referencing data in a "cell" of a worksheet, you use a Cell Reference. A **cell reference** consists of a combination of the column letter and row number that intersect to form the cell.

In Excel, there are two main types of cell references: relative cell references and absolute cell references. **Relative cell references** identify the location of a cell by its column letter and row number combination, with no added symbols. In the screenshot below, the currently selected cell would be referenced as **E4**, which is a relative cell reference. Relative cell references are the default method of referencing cells in Excel.

	E4	× ()×			
	А	В	С	D	E
1		Dona	itions Data		
2		Last updated:	10/8/2013		
3	Month	Donations: Private Businesses	Donations: Individuals	Grants	Total Donations
4	January	\$10,000.00	\$1,000.00	\$3,000.00	
5	February	\$20,000.00	\$1,500.00	\$3,000.00	Ĭ
6	March	\$15,000.00	\$2,000.00	\$3,000.00	
7	April	\$12,000.00	\$1,400.00	\$3,000.00	
8	May	\$25,000.00	\$1,200.00	\$3,000.00	
9	June	\$18,000.00	\$3,000.00	\$3,000.00	
10	July	\$13,000.00	\$2,000.00	\$3,000.00	
11	August	\$14,000.00	\$1,800.00	\$3,000.00	
12	Septembe	\$17,000.00	\$1,600.00	\$3,000.00	
13	October	\$20,000.00	\$2,100.00	\$3,000.00	
14	November	\$14,000.00	\$3,100.00	\$3,000.00	
15	December	\$16,000.00	\$2,800.00	\$3,000.00	

Absolute cell references also reference cells by a combination of column letter and row number, but these references include a dollar symbol (\$) before the column letter and before the row number. In the screenshot above, the currently-selected cell would be referenced as **\$E\$4** if I wanted to use an absolute cell reference.

Using Relative vs. Absolute Cell Referencing

Cell references are frequently used in Excel formulas and functions. When relative cell references are used in formulas or functions, if the formula/function is copied from the original cell to other cells, the relative cell references will automatically change to reflect the new location of the formula/function. When absolute cell references are used in formulas or functions, then if the formula/function is copied from the original cell to other cells, the absolute cell references will not change—they will retain the original cell reference. Note that a combination of relative and absolute references can be used in formulas and functions.

Relative Cell Referencing Example

In this example, we have a set of data for all the donations a company has received from private donors, individual donors, and grants. We want to calculate the total donations each month and will use relative referencing to do this.

1. In this example we want to total the donations from the private businesses, individuals, and grants. To do this, we will enter the formula shown below in cell E4 to calculate the desired value. Note that the references to B4, C4, and D4 are all relative cell references.

_	Cilbooard	(a)	P.C	nt	18.0	Angran	ent
	IRR	- (= ×	V Sx	=B4+C4	\$+D4		
1	A	В			С	D	E
1				Dona	tions Data		
2		Last updated:			10/2/2013		
3	Month	Donations: Priva	te Busin	esses D	onations: Individuals	Grants	Total Donations
4	January	2	\$10,0	00.00	\$1,000.00	\$3,000.00	= B4 +C4+D4
5	February		\$20,0	00.00	\$1,500.00	\$3,000.00	
6	March		\$15,0	00.00	\$2,000.00	\$3,000.00	
7	April		\$12,0	00.00	\$1,400.00	\$3,000.00	
8	May		\$25,0	00.00	\$1,200.00	\$3,000.00	
9	June		\$18,0	00.00	\$3,000.00	\$3,000.00	
10	July		\$13,0	00.00	\$2,000.00	\$3,000.00	
11	August		\$14,0	00.00	\$1,800.00	\$3,000.00	
12	Septembe	2	\$17,0	00.00	\$1,600.00	\$3,000.00	
13	October		\$20,0	00.00	\$2,100.00	\$3,000.00	
14	Novembe	r	\$14,0	00.00	\$3,100.00	\$3,000.00	
15	December	r	\$16,0	00.00	\$2,800.00	\$3,000.00	

2. Click enter and the total donations for the month of January will be calculated and displayed in cell E4. Notice that the formula we just entered can be viewed in the formula bar.

	E4		1+C4+D4				
	Α	В	С	D	E	F	G
1		Doi	nations Data				
2		Last updated:	10/15/2013				
3	Month	Donations: Private Businesse	es Donations: Individual	s Grants	Total Donations		
4	January	\$10,000.0	0 \$1,000.00	\$3,000.00	\$14,000.00		
5	February	\$20,000.0	0 \$1,500.00	\$3,000.00			

3. Now we want to copy this same formula down the column so that the remaining month's totals can be similarly calculated. To do so, locate the fill handle in the lower right corner of cell E4.

	E4	• (* fx	=B4+C4+D4			
1	A	В	C	D	E	F
1			Donations Data			
2		Last updated:	10/2/	2013		
3	Month	Donations: Private Busin	nesses Donations: Individ	uals Grants	Total Donations	
4	January	\$10,0	000.00 \$1,00	0.00 \$3,000.00	\$14,000.00	
5	February	\$20,0	000.00 \$1,50	0.00 \$3,000.00)	2
6	March	\$15,0	000.00 \$2,00	00.00 \$3,000.00	Fill handle	
7	April	\$12,0	000.00 \$1,40	0.00 \$3,000.00)	
8	May	\$25,0	000.00 \$1,20	0.00 \$3,000.00)	
9	June	\$18,0	00.00 \$3,00	0.00 \$3,000.00)	

4. Now click and drag the fill handle over the cells you wish to copy the formulas into. Once you release your mouse, the cells you wished to "fill" will contain a copy of the formula using the relative cell references. Notice how the cell references change to reflect the current row. This is a result of using relative cell references.

	E4	▼ (=	=B4+C4+D4		
	A	В	C	D	E
1		D	Onations Data		
2		Last updated:	10/2/20	13	
3	Month	Donations: Private Busine	sses Donations: Individua	ls Grants	Total Donations
4	January	\$10,00	0.00 \$1,000.	00 \$3,000.00	\$14,000.00
5	February	\$20,00	0.00 \$1,500.	00 \$3,000.00	\$24,500.00
6	March	\$15,00	0.00 \$2,000.	00 \$3,000.00	\$20,000.00
7	April	\$12,00	0.00 \$1,400.	00 \$3,000.00	\$16,400.00
8	May	\$25,00	0.00 \$1,200.	00 \$3,000.00	\$29,200.00
9	June	\$18,00	0.00 \$3,000.	00 \$3,000.00	\$24,000.00
10	July	\$13,00	0.00 \$2,000.	00 \$3,000.00	\$18,000.00
11	August	\$14,00	0.00 \$1,800.	00 \$3,000.00	\$18,800.00
12	Septembe	\$17,00	0.00 \$1,600.	00 \$3,000.00	\$21,600.00
13	October	\$20,00	0.00 \$2,100.	00 \$3,000.00	\$25,100.00
14	November	r \$14,00	0.00 \$3,100.	00 \$3,000.00	\$20,100.00
15	December	\$16,00	0.00 \$2,800.	00 \$3,000.00	\$21,800.00
16					

Absolute Cell Referencing Example

Absolute referencing is when you do not want a cell reference to change and you want the specific value in that cell to stay fixed. Unlike in a relative reference, when you use the fill handle or copy/paste a formula that uses absolute references, the absolute cell references for that formula will not change.

For this example, we want to calculate the percent of total donations for each month and store these percentages in column F. In order to do this we will have to create a formula that divides our total monthly donations by our total donations for the year. The total donations for the year is currently stored in cell E16, which shows the total to be \$253,500.00.

	А	В	С	D	E	F
1			Donations Da	ata		
2		Last updated:	11/12/20	13		
						Percent of Total
3	Month	Donations: Private Businesses	Donations: Individuals	Grants	Total Donations	Donations
4	January	\$10,000.00	\$1,000.00	\$3,000.00	\$14,000.00	
5	February	\$20,000.00	\$1,500.00	\$3,000.00	\$24,500.00	
6	March	\$15,000.00	\$2,000.00	\$3,000.00	\$20,000.00	
7	April	\$12,000.00	\$1,400.00	\$3,000.00	\$16,400.00	
8	May	\$25,000.00	\$1,200.00	\$3,000.00	\$29,200.00	
9	June	\$18,000.00	\$3,000.00	\$3,000.00	\$24,000.00	
10	July	\$13,000.00	\$2,000.00	\$3,000.00	\$18,000.00	
11	August	\$14,000.00	\$1,800.00	\$3,000.00	\$18,800.00	
12	September	\$17,000.00	\$1,600.00	\$3,000.00	\$21,600.00	
13	October	\$20,000.00	\$2,100.00	\$3,000.00	\$25,100.00	
14	November	\$14,000.00	\$3,100.00	\$3,000.00	\$20,100.00	
15	December	\$16,000.00	\$2,800.00	\$3,000.00	\$21,800.00	
16	TOTALS	\$194,000.00	\$23,500.00	\$36,000.00	\$253,500.00	

 In our first month, January, we will enter a formula in F4 that divides January's total donations (stored in cell E4) by our total donations for the year (stored in cell E16). However, when we subsequently copy this formula down the column to calculate the percentages for the other months, we want the reference to the total donations for the year (in cell E16) to remain the same. Therefore an absolute cell reference is used for the total donations for the year: \$E\$16.

	SUM		E\$16			
	А	В	С	D	E	F
1			Donations Da	ata		
2		Last updated:	11/12/2	013		
						Percent of Total
з	Month	Donations: Private Businesses	Donations: Individuals	Grants	Total Donations	Donations
4	January	\$10,000.00	\$1,000.00	\$3,000.00	\$14,000.00	=E4/\$E\$16
5	February	\$20,000.00	\$1,500.00	\$3,000.00	\$24,500.00	
6	March	\$15,000.00	\$2,000.00	\$3,000.00	\$20,000.00	
7	April	\$12,000.00	\$1,400.00	\$3,000.00	\$16,400.00	
8	May	\$25,000.00	\$1,200.00	\$3,000.00	\$29,200.00	
9	June	\$18,000.00	\$3,000.00	\$3,000.00	\$24,000.00	
10	July	\$13,000.00	\$2,000.00	\$3,000.00	\$18,000.00	
11	August	\$14,000.00	\$1,800.00	\$3,000.00	\$18,800.00	
12	September	\$17,000.00	\$1,600.00	\$3,000.00	\$21,600.00	
13	October	\$20,000.00	\$2,100.00	\$3,000.00	\$25,100.00	
14	November	\$14,000.00	\$3,100.00	\$3,000.00	\$20,100.00	
15	December	\$16,000.00	\$2,800.00	\$3,000.00	\$21,800.00	
16	TOTALS	\$194,000.00	\$23,500.00	\$36,000.00	\$253,500.00	

2. Again, use the fill handle to repeat the formula for the next months. (See steps 3 and 4 in previous example for how to use the fill handle.)

				,		
	А	В	С	D	E	F
1			Donations Da	ata		
2		Last updated:	11/12/20	13		
						Percent of Total
з	Month	Donations: Private Businesses	Donations: Individuals	Grants	Total Donations	Donations
4	January	\$10,000.00	\$1,000.00	\$3,000.00	\$14,000.00	0.055226824
5	February	\$20,000.00	\$1,500.00	\$3,000.00	\$24,500.00	0.096646943
6	March	\$15,000.00	\$2,000.00	\$3,000.00	\$20,000.00	0.078895464
7	April	\$12,000.00	\$1,400.00	\$3,000.00	\$16,400.00	0.06469428
8	May	\$25,000.00	\$1,200.00	\$3,000.00	\$29,200.00	0.115187377
9	June	\$18,000.00	\$3,000.00	\$3,000.00	\$24,000.00	0.094674556
10	July	\$13,000.00	\$2,000.00	\$3,000.00	\$18,000.00	0.071005917
11	August	\$14,000.00	\$1,800.00	\$3,000.00	\$18,800.00	0.074161736
12	September	\$17,000.00	\$1,600.00	\$3,000.00	\$21,600.00	0.085207101
13	October	\$20,000.00	\$2,100.00	\$3,000.00	\$25,100.00	0.099013807
14	November	\$14,000.00	\$3,100.00	\$3,000.00	\$20,100.00	0.079289941
15	December	\$16,000.00	\$2,800.00	\$3,000.00	\$21,800.00	0.085996055
16	TOTALS	\$194,000.00	\$23,500.00	\$36,000.00	\$253,500.00	1

3. Notice how the reference for cell E16 has not been changed. This is a result of using an absolute reference. Also note that we clicked the "%" button on the Excel ribbon in order to format all the percentages to include the "%" sign.

	F5	▼ (=	E5/\$E\$16				
	А	В		С	D	E	F
1				Donations Da	ata		
2		Last updated:		11/12/20	13		
							Percent of Total
3	Month	Donations: Private Busine	sses Dona	ations: Individuals	Grants	Total Donations	Donations
4	January	\$10,00	0.00	\$1,000.00	\$3,000.00	\$14,000.00	6%
5	February	\$20,00	0.00	\$1,500.00	\$3,000.00	\$24,500.00	10%
6	March	\$15,00	0.00	\$2,000.00	\$3,000.00	\$20,000.00	8%
7	April	\$12,00	0.00	\$1,400.00	\$3,000.00	\$16,400.00	6%
8	May	\$25,00	0.00	\$1,200.00	\$3,000.00	\$29,200.00	12%
9	June	\$18,00	0.00	\$3,000.00	\$3,000.00	\$24,000.00	9%
10	July	\$13,00	0.00	\$2,000.00	\$3,000.00	\$18,000.00	7%
11	August	\$14,00	0.00	\$1,800.00	\$3,000.00	\$18,800.00	7%
12	September	\$17,00	0.00	\$1,600.00	\$3,000.00	\$21,600.00	9%
13	October	\$20,00	0.00	\$2,100.00	\$3,000.00	\$25,100.00	10%
14	November	\$14,00	0.00	\$3,100.00	\$3,000.00	\$20,100.00	8%
15	December	\$16,00	0.00	\$2,800.00	\$3,000.00	\$21,800.00	9%
16	TOTALS	\$194,00	0.00	\$23,500.00	\$36,000.00	\$253,500.00	100%

Recovering Unsaved Workbooks

It's painful when you accidentally close a workbook without saving it, then regret it later. To avoid this scenario, remember to save your changes often. However, you can sometimes recover your work.

- 1. Click on the File button
- 2. Choose Info on the left side of the page.



3. Click the Manage Versions button.



4. Choose Recover Unsaved Workbooks.



5. You'll be presented with a list of workbooks with changes that were unsaved. Choose the workbook you want to recover and click open. Then you will be able to save the workbook.

🗶 Open									x
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Identifying Duplicate Values

In worksheets with lots of data, you may have difficulty identifying duplicate values. Excel can search data and highlight the duplicate values in a selected range.

1. Select a range of values you want to search.

1	А	
1	Address	
2	2514 Lake Road	
3	2203 Third Circle	
4	107 Elm Circle	
5	3577 Maple Road	
6	69 Hill Avenue	
7	3823 Oak Avenue	
8	3222 Main Road	
9	806 Sixth Blvd.	
10	3629 Ninth Street	
11	780 Fourth Avenue	
12	2669 Maple Street	
13	62 Hill Street	
14	2209 Washington Circle	
15	4130 Lake Circle	
16	3515 Eighth Circle	L

2. Go to the Home tab on the ribbon and Click Conditional formatting. This will display the Conditional formatting menu.

F	ile Home Inser	t Page	e Layout	Formula	s Data	Review	View								
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	Clipboard 🕞		For	nt	Gi .		Alignment		Gi.	Number	Fa		Highlight Colls	Dular b	
	A1 🔻	(*	$f_{\mathcal{K}}$	Address										Kules P	
1	А		В	С	D	E	F	G	Н	1	J	1	Top/Bottom Pul	lor >	
1	Address											<u>1</u>		ics /	
2	2514 Lake Road												3		
3	2203 Third Circle												Data Bars	•	-
4	107 Elm Circle												8		-
5	3577 Maple Road												Color Scales	•	-
5	69 HIII Avenue												9		-
0	2222 Main Road												Icon Sets	+	-
9	806 Sixth Blvd.											B	New Rule		
10	3629 Ninth Street												Clear Rules	•	
11	780 Fourth Avenue												Manage Rules		
12	2669 Maple Street											400	Munuge Kures		

3. From the Conditional Formatting menu, select Highlight Cell Rules. Then, choose Duplicate Values.

F	ile Home Insert F	Page Layout	Formula	s Data	Review	View						
Pas	Calibri Calibri ste of Format Painter	<u>u</u> -	• 12 • /	A`A`≡ A``	= <mark>=</mark>	≫ 1≢ 1≢	📑 Wrap Text	enter 👻	General \$•%,	↓ 00, 0,	Conditional Format Cell	The set of the set o
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1	А	В	С	D	E	F	G	H	- I	J	Ton/Bottom Rules	Lerr Than
1	Address										<u>10</u>	
2	2514 Lake Road										TTT	
3	2203 Third Circle										<u>D</u> ata Bars →	Between
4	107 Elm Circle											
5	3577 Maple Road										Color Scales →	Equal To
6	69 Hill Avenue											
7	3823 Oak Avenue										Icon Sets	ab Text that Contains
8	3222 Main Road											
9	806 Sixth Blvd.										New Rule	A Date Occurring
10	3629 Ninth Street										🚯 <u>C</u> lear Rules 🕨 🕨	
11	780 Fourth Avenue										Manage <u>R</u> ules	Duplicate Values
12	2669 Maple Street											
13	62 Hill Street											More Rules
14	2209 Washington Circle											

4. Choose the type of formatting you would like to apply to the duplicate cells in the Duplicate Values dialogue box. This dialogue box allows you to see a live preview, or displays what will happen to the cells as you click on the different options.



5. Click OK on the Duplicate Values dialogue box. All the duplicate values are now formatted differently than other values.

	А	В
2260	2762 Fourth Street	
2261	3715 Cedar Avenue	
2262	2919 Elm Circle	
2263	519 Fourth Circle	
2264	3227 Ninth Road	
2265	1540 Seventh Circle	
2266	4608 Fourth Road	
2267	2316 Pine Avenue	
2268	3814 Fifth Street	
2269	3432 First Circle	
2270	3020 Fifth Avenue	
2271	454 Elm Blvd.	
2272	3600 Fourth Road	
2273	2532 Oak Circle	
2274	2650 Maple Avenue	
2275	1903 Hill Circle	
2276	3427 Maple Blvd.	
2277	2191 Pine Avenue	
2278	295 View Blvd.	
2279	4083 Third Street	
2280	3783 Seventh Blvd.	
2281	2738 Washington Circle	
2282	1894 Fifth Blvd.	
2283	2488 Main Blvd.	
2284	674 Seventh Road	
2285	2656 View Road	
2286	2980 Fifth Street	
2287	1979 Elm Blvd.	

Removing Duplicate Values

If you are using your Excel spreadsheet to organize data, you may want to identify duplicate values and remove values that have already been repeated so your information will be as accurate as possible.

1. Select the range of cells that you want to check for duplicates. You can do this by clicking on the letter or number corresponding to the column or row.

Address	ania.		
	city	State	Zip
1234 Bagby St.	Waco	TX	76703
4567 Wood	Waco	TX	76706
6789 Daughtry	Waco	TX	77403
215 Washington Ave.	Waco	TX	76706
1311 South 5th Street	Waco	Texas	76706
1600 Speight Ave	Waco	TX	75700
4320 Franklin Avenue	Waco	TX	76710
3536 N Lake Brazos Pkwy	Waco	TX	76703
3088 Burnett Ave	Waco	TX	76711
4567 Wood	Waco	TX	76706
700 S University Parks Dr	Waco	TX	76706
1521 N Interstate 35 Frontage Rd	Waco	TX	76705
4567 Wood	Waco	TX	76706
1600 Speight Ave	Wato	TX.	76706
201 S 2nd St	Waco	TX	76703
4200 Franklin Ave	Waco	TX	76710
4320 Franklin Avenue	Wato	TX	76710
333 S Valley Mills Dr	Waco	TX	76710
215 Washington Ave.	Waco	TX	75706
	4567 Wood 6789 Daughty 1311 South Shi Street 1311 South Shi Street 4320 Franklin Avenue 1356 N Lake Brazos Pilovy 1356 N Lake Brazos Pilovy 1356 N Lake Brazos Pilovy 1350 Southership Parks Dr 1352 N Interstate 15 Frontage Rd 4567 Wood 1860 Spelight Ave 200 S Jand St 4240 Franklin Avenue 4320 Franklin Avenue 335 S Valley Mills Dr 235 Washington Ave.	4567 Wood Waco CRIP Daughtry Waco CRIP Daughtry Waco 1311 South Shi Streett Waco 1311 South Shi Streett Waco 4320 Frankin Avenue Waco 4320 Frankin Avenue Waco 4320 Frankin Avenue Waco 555 Nuterstate 35 Frontage Rd Waco 553 University Parks Dr Waco 353 Streett Parks Dr Waco 350 Songht Ave Waco 360 Spenght Ave Waco 4320 Frankin Avenue Waco 335 Valley Mits Dr Waco 235 Washington Ave. Waco	4567 Wood Waco TX 6785 Daughtry Waco TX 6785 Daughtry Waco TX 3311 South Shh Street Waco TX 3311 South Shh Street Waco TX 4305 Sengit Awa Waco TX 4306 Sanght Awa Waco TX 4306 Sanght Awa Waco TX 556 N Lake Branch Awanue Waco TX 5068 Burnett Awa Waco TX 505 Sintherstin Parks Dr Waco TX 525 Sinthersting Parks Dr Waco TX 526 Sinthersting Arke Waco TX 526 Sinthersting Nate Waco

2. Go to the Data tab on the ribbon and click Remove Duplicates.

-			_					
F	ile Home Insert Page Layout	Formulas	Data	Review	View Te	am		
En	A From From From Other Existing	Refresh	Display Connection (Connection) Connection (Connection	ons 🛃 🧕	ort Filter	K Clear	ly Text to	Remove Data Consolidate What-J
Ace	ess Web Text Sources* Connections	All *	60 Edit Links	~		My Advan	ced Columns	Duplicates Validation * Analysis
_	Get External Data	C	onnections		Sort & F	ilter		Data Tools
	A2 • (<i>f</i> 12	34 Bagby !	St.					Remove Duplicates
1	А	В	С	D	E	F	G	Delete duplicate rows from a sheet.
1	Address	City	State	Zip				You can specify which columns
2	1234 Bagby St.	Waco	TX	76701				should be checked for duplicate
3	4567 Wood	Waco	ТХ	76706				information.
4	6789 Daughtry	Waco	ТХ	77401				
5	215 Washington Ave.	Waco	тх	76706				
6	1311 South 5th Street	Waco	Texas	76706				
7	1600 Speight Ave	Waco	TX	76706				
8	4320 Franklin Avenue	Waco	TX	76710				
9	3516 N Lake Brazos Pkwy	Waco	TX	76702				
10	3088 Burnett Ave	Waco	TX	76711				
11	4567 Wood	Waco	TX	76706				
12	700 S University Parks Dr	Waco	тх	76706				
13	1521 N Interstate 35 Frontage Rd	Waco	тх	76705				
14	4567 Wood	Waco	TX	76706				
15	1600 Speight Ave	Waco	TX	76706				
16	201 S 2nd St	Waco	тх	76701				
17	4200 Franklin Ave	Waco	TX	76710				

3. Make sure that the columns containing potential duplicates are selected in the Remove Duplicates screen; If so press OK. If not, you have the option to unselect rows or columns.

	A2 - 5	1234 Bagby	5t.						
1	A	B	C	D	E	F	G	н	1
1	Address	City	State	Zip					
2	1234 Bagby 5t.	Waco	-14	36.355				-	Q 97 3
3	4567 Wood	Waco	Remove	Duplicates					¥ .64
4	6789 Daughtry	Waco	To delet	e dupicate valu	es, select one	or more col	inns that con	itain duplicat	tes.
5	215 Washington Ave.	Waco	1			-		In other last	. Andrew
6	1311 South 5th Street	Waco	351	ielect (M	Unselect Al			Cit each up	a nencers
7	1600 Speight Ave	Waco							
8	4320 Franklin Avenue	Waco	Column						
9	3516 N Lake Brazos Pkwy	Waco	R Add	ress					
10	3088 Burnett Ave	Waco	2 Ob						
11	4567 Wood	Waco	V 558	e.					
12	700 S University Parks Dr	Waco	1 40						
13	1521 N Interstate 35 Frontage Rd	Waco							
14	4567 Wood	Waco					_	_	
15	1600 Speight Ave	Waco					0	1	Cancel
16	201 \$ 2nd St	Waco	- Con-					-	-
1.4	and a start of the	4444	Charles .						

4. A message pops up telling you how many duplicates, if any, were removed and how many unique values remain.

	A	В	C	D	E	F	G	H
1	Address	City	State	Zip				
2	1234 Bagby St.	Waco	TX	76701				
	4567 Wood	Waco	TX	76706				
	6789 Daughtry	Waco	TX	77401				
1	215 Washington Ave.	Waco	TX	76706				
1	1311 South 5th Street	Waco	Texas	76706				
	1600 Speight Ave	Waco	TX	76706				
	4320 Franklin Avenue	Waco	TX	76710			_	-
l	3516 N Lake Brazos Pkwy	Waco	Microsoft E	xcel				*
0	3088 Burnett Ave	Waco						
1	700 S University Parks Dr	Waco	A	5 durinate values	found and	comments 14	unique value	e remain
2	1521 N Interstate 35 Frontage Rd	Waco		Suprest rates		1000100, 11	a sport rate	
3	201 S 2nd St	Waco			OK			
4	4200 Franklin Ave	Waco		100	-			
5	333 S Valley Mills Dr	Waco		Was this informat	on heipful			
6		1.000						
2								

Switching Rows and Columns

Sometimes, you finish a worksheet and realize you want to re-organize the data. Excel allows you to switch rows and columns easily.

1. Select the range of cells that you want to switch the arrangement of rows and columns.

	L	Donations Data			
	Last updated:	8/8/2012			
Month	Donations: Private Businesses	Donations: Individuals	Grants	Total Donations	Adequate?
January	\$10,000.00	\$1,000.00	\$3,000.00	\$14,000.00	NO
February	\$20,000.00	\$1,500.00	\$3,000.00	\$24,500.00	YES
March	\$15,000.00	\$2,000.00	\$3,000.00	\$20,000.00	YES
April	\$12,000.00	\$1,400.00	\$3,000.00	\$16,400.00	NO
May	\$25,000.00	\$1,200.00	\$3,000.00	\$29,200.00	YES
June	\$18,000.00	\$3,000.00	\$3,000.00	\$24,000.00	YES
July	\$13,000.00	\$2,000.00	\$3,000.00	\$18,000.00	NO
August	\$14,000.00	\$1,800.00	\$3,000.00	\$18,800.00	NO
Septembe	\$17,000.00	\$1,600.00	\$3,000.00	\$21,600.00	YES
October	\$20,000.00	\$2,100.00	\$3,000.00	\$25,100.00	YES
November	\$14,000.00	\$3,100.00	\$3,000.00	\$20,100.00	YES
December	\$16,000.00	\$2,800.00	\$3,000.00	\$21,800.00	YES
	Month January February March April May June July August Septembe October November December	Last updated: Month Donations: Private Businesses January \$10,000.00 February \$20,000.00 March \$15,000.00 April \$12,000.00 April \$12,000.00 June \$12,000.00 June \$13,000.00 July \$13,000.00 July \$14,000.00 Septembe \$17,000.00 October \$20,000.00 November \$14,000.00	Last updated: 8/8/2012 Month Donations: Private Businesses Donations: Individuals January \$10,000.00 February \$20,000.00 March \$15,000.00 March \$15,000.00 April \$12,000.00 April \$25,000.00 June \$13,000.00 Sugust \$14,000.00 Sugust \$14,000.00 Septembe \$17,000.00 Septembe \$17,000.00 Septembe \$17,000.00 Septembe \$12,000.00 November \$14,000.00 Septembe \$20,000.00 November \$20,000.00 Septembe \$20,000.00 Septembe \$20,000.00 Septembe \$20,000.00 November \$24,000.00 Septembe \$20,000.00 Septembe \$20,000.00 Septembe \$20,000.00 Septembe \$20,000.00 Septembe \$20,000.00 Septembe \$20,0	Last updated: 8/8/2012 Month Donations: Private Businesses Donations: Individuals Grants January \$10,000.0 \$1,000.00 \$3,000.00 Pebruary \$20,000.0 \$1,500.00 \$3,000.00 March \$15,000.00 \$1,000.00 \$3,000.00 March \$15,000.00 \$1,200.00 \$3,000.00 March \$15,000.00 \$1,200.00 \$3,000.00 Mary \$25,000.00 \$1,200.00 \$3,000.00 June \$18,000.00 \$3,000.00 \$3,000.00 July \$13,000.00 \$3,000.00 \$3,000.00 Septembe \$17,000.00 \$3,000.00 \$3,000.00 Souco \$20,000.00 \$2,100.00 \$3,000.00 Septembe \$17,000.00 \$3,000.00 \$3,000.00 November \$14,000.00 \$3,100.00 \$3,000.00 December \$16,000.00 \$3,000.00 \$3,000.00	Last updated: 8/8/2012 Month Donations: Private Businesses Donations: Individuals Grants Total Donations January \$10,000.00 \$1,000.00 \$3,000.00 \$24,500.00 Pebruary \$20,000.00 \$1,500.00 \$3,000.00 \$24,500.00 March \$15,000.00 \$1,400.00 \$24,500.00 \$24,500.00 April \$12,000.00 \$1,400.00 \$24,500.00 \$24,500.00 March \$15,000.00 \$1,400.00 \$3,000.00 \$24,600.00 May \$25,000.00 \$1,200.00 \$3,000.00 \$29,200.00 June \$18,000.00 \$3,000.00 \$24,000.00 \$1,800.00 \$3,000.00 \$24,000.00 June \$18,000.00 \$3,000.00 \$2,000.00 \$2,000.00 \$2,000.00 \$2,200.00 \$1,800.00 Septembe \$17,000.00 \$1,600.00 \$3,000.00 \$25,100.00 \$20,000.00 \$22,100.00 \$2,000.00 \$22,100.00 \$2,000.00 \$22,100.00 \$2,000.00 \$22,000.00 \$21,600.00 \$20,000.00 \$22,000.00

2. From the Edit menu, select Copy.

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		[Donation	s Data				
	Last u	pdated:		8/8/2012				
Month I	Calib	ni v 11 v A [≜] v [™] S v	. 9/	Individuals	Grants	Total Donations	Adequate?	
lanuary			×0 00 ~	\$1,000.00	\$3,000.00	\$14,000.00	NO	
February	B		.00 ÷.0 💜	\$1,500.00	\$3,000.00	\$24,500.00	YES	
March	N.	\$15 000 00	_	\$2,000.00	\$3,000.00	\$20,000.00	YES	
April	ň	Cu <u>t</u>	-	\$1,400.00	\$3,000.00	\$16,400.00	NO	
Мау	-13	⊆ору		\$1,200.00	\$3,000.00	\$29,200.00	YES	
lune	2	Paste Options:		\$3,000.00	\$3,000.00	\$24,000.00	YES	
luly				\$2,000.00	\$3,000.00	\$18,000.00	NO	
August		Paste Special		\$1,800.00	\$3,000.00	\$18,800.00	NO	
Septembe				\$1,600.00	\$3,000.00	\$21,600.00	YES	
October		insert		\$2,100.00	\$3,000.00	\$25,100.00	YES	
November		Delete		\$3,100.00	\$3,000.00	\$20,100.00	YES	
December		Clear Contents		\$2,800.00	\$3,000.00	\$21,800.00	YES	
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	fonth anuary ebruary larch pril lay une Jly ugust eptembe ictober lovember ecember	Last u Aonth D Calilian ebruary B Iarch pril S June S July ugust eptembe totober lovember	Last updated: tonth D Calibri + 11 + Å Å Å \$ s anuary B I = A + H + A pril Arch A + S + A + H + A pril Arch A + S + A + H + A pril Arch A + S + A + H + A A + H + A + A + H + A A + H + A + A + A + A + A + A + A + A +	Last updated: tonth D Calibri + 11 + A A S + % + 32 anuary B Z = A + 12 + 568 + 23 pebruary B Z = A + 12 + 568 + 23 pril arch S = 500 nn pril Paste Options: Jy ugust paste Options: Jy ugust petermbe covember cecember Clear Cognent insert Cogment	Last updated: $8/8/2012$ tomth Calibri $\sqrt{11}$ $A^* A^* S = \%$ Individuals anuary B $I \equiv 3 2 * A^* = 1 * 58 23$ Individuals gebruary B $I \equiv 3 2 * A^* = 1 * 58 23$ $S 1,500.00$ prill $A^* = 1 * 58 20 \times 1 * 500.00$ $S 1,400.00$ Jay B $Paste Options:$ $S 1,400.00$ Jy B $Paste Options:$ $S 2,000.00$ Jy B $B = 0$ $S 2,000.00$ Jy $B = 0$ $S 2,000.00$ $S 3,100.00$ Jy $B = 0$ $B = 0$ $S 2,200.00$ Jy $B = 0$ $S 2,200.00$ $S 2,200.00$ Jy $B = 0$ $S 2,200.00$ $S 2,200.00$ Jy $B = 0$ $S 2,200.00$ $S 2,200.00$ $B = 0$ $B = 0$ $S 2,200.00$ $S 2,200.00$ $B = 0$ $B = 0$ $S 2,200.00$ $S 2,200.00$ $B = 0$ $B = 0$ $S 2,200.00$ $S 2,200.00$ $B = 0$ $B = 0$ $S 2,200.00$ $S 2,200.00$ $S 2,200.00$ $B = 0$	Last updated: 8/8/2012 tonth Catibri + 11 + A A S + % + 30 Individuals Grants anuary B I = $2 + A + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3$	Last updated: 8/8/2012 tomth Calibri → 111 → A ⁺ A ⁺ S → % Individuals Grants Total Donations anuary B Z = 20 → A ⁺ = + 168 + 23 Individuals Grants Total Donations gebruary B Z = 20 → A ⁺ = + 168 + 23 S1,000.00 \$3,000.00 \$24,000.00 pril A ⁺ = 4 → 10 + 168 + 23 S1,000.00 \$3,000.00 \$24,000.00 pril A ⁺ = 4 → 10 + 168 + 23 S1,000.00 \$3,000.00 \$24,000.00 pril A ⁺ = 4 → 10 + 168 + 23 S1,200.00 \$3,000.00 \$24,000.00 pril A ⁺ = 4 → 10 + 168 + 23 S1,400.00 \$3,000.00 \$24,000.00 pril A ⁺ = 4 → 10 + 168 + 23 S1,400.00 \$3,000.00 \$24,000.00 ugust Paste Options: \$1,800.00 \$3,000.00 \$21,600.00 \$21,600.00 ugust Paste Special \$1,800.00 \$3,000.00 \$21,600.00 \$22,800.00 \$21,600.00 ugust Delete \$3,100.00 \$3,000.00 \$22,800.00 \$21,800.00 pelete	Last updated: $8/8/2012$ tonth Calibri + 11 + A + S + % + 32 Individuals Grants Total Donations Adequate? snuary B Image: A + 10 + 568 + 23 Image: A +

3. At the bottom of the page, click the tab for the worksheet you want the range to appear in.

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4. On the worksheet, click the cell that you want the values to start in.

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5. From the Edit menu, select Paste Special. The Paste Special dialogue box should appear.



6. Click the checkbox for Transpose in the Paste Special dialogue box.

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7. Click OK. The data formerly presented down columns is now presented across rows and vice versa.

	A	В	С	D	E	F	G	Н	I.	J	K	L	М
1	Month	January	February	March	April	May	June	July	August	September	October	November	December
2	Donations: Private Businesses	\$10,000.00	\$20,000.00	\$15,000.00	\$12,000.00	\$25,000.00	\$18,000.00	\$13,000.00	\$14,000.00	\$17,000.00	\$20,000.00	\$14,000.00	\$16,000.00
3	Donations: Individuals	\$1,000.00	\$1,500.00	\$2,000.00	\$1,400.00	\$1,200.00	\$3,000.00	\$2,000.00	\$1,800.00	\$1,600.00	\$2,100.00	\$3,100.00	\$2,800.00
4	Grants	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00
5	Total Donations	\$14,000.00	\$24,500.00	\$20,000.00	\$16,400.00	\$29,200.00	\$24,000.00	\$18,000.00	\$18,800.00	\$21,600.00	\$25,100.00	\$20,100.00	\$21,800.00
6	Adequate?	NO	YES	YES	NO	YES	YES	NO	NO	YES	YES	YES	YES
7													
8													

Separating Columns

If you want to separate content that is currently in a single cell, (i.e. address, city, state, zip), you will want to use the Convert Text to Column feature so that each characteristic will have its own cell. All of the data that you want to be separated into different columns should either be separated by tabs, semicolons, commas, or spaces.

 Assume you have a column of addresses that include the street address, town, state, and zip code. You want to put each address component in separate columns on an Excel worksheet. Highlight all of your data, then go to the Data ribbon and click the Texts to Column in the Data Tools group.

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From From Access We	n From From Other ss Web Text Sources * Get External Data		j F ons	Refresh All - Connections			2↓ 2ZX X↓ Sort Filter Sort & Fil		K Clear Reapply Advanced		Text to Columns	Remove Duplicate	Data s Validation Data Too	Consolida Is	
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1 124 Ba 2 4567 W 3 6789 Da 4 215 Wa 5 1311 Sc 6 1600 Sp 7 4320 Fr 8 3516 N 9 3088 Bu 10 11 12 13 13 14	gby St. W ood Wac iughtry W shington uth 5th S eight Avv anklin Av Lake Braz rrnett Avv	A Vaco, TX 76706 o, TX 76706 Vaco, TX 774 Ave. Waco, Xtreet, Waco, ttreet, Waco, TX renue Waco ros Pkwy, W e, Waco, TX	5706) 5702	B			D	E		F	Separa cell int For exa columr first an In Wor conver table, s columr other c	te the con o separate mple, you o of full na d last nam d, use this t the selec iplitting th is at each haracter y s F1 for m	tents of one columns. can separate imes into sep te columns. c feature to ted text into comma, peric ou specify.	Excel	

2. On the first Convert Text to Columns Wizard screen, the Delimited file type should be selected. Click Next to proceed.

F	File	Hon	ne	Insert P	age Layou	t F	ormula	as Data	Reviev	v View	Ad	d-Ins	Team				
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1 2 3 4 5 6 7 8	1234 (4567) 6789 (215 W 1311 S 1600 S 4320 (3516)	Bagby Wood Daugł Vashir South Speig Frank N Lak	r St., V I, Wad htry, V ngton i 5th S ht Ave lin Av e Braz	A Waco, TX, 7670 Vaco, TX, 7670 Vaco, TX, 7 Ave., Waco treet, Waco treet, Waco treet, Waco treet, Waco treet, Waco treet, Waco	5701 6 7401 0, TX, 767 0, Texas, 3, 76706 0, TX, 76 Vaco, TX,	706 76706 710 76702		he Text Wizard f this is correct, Original data ty Choose the file Opeimite Fixed w	Column: has dete choose N pe type tha d - C jdth - F	Wizard - mined that ext, or choo t best descr haracters si elds are alig	Step 1 of your data ose the d ibes your uch as co ined in co	f 3 a is Delimi ata type r data: mmas or olumns wit	ited. that bes tabs sep th space:	t describes arate each s between	your data. field. each field.	<u></u>	
10 11 12 13 14 15 16 17 18	2000 1	DUTTE		<i>,</i> wacu, <i>1</i>	, 70711			Preview of sele 1 1234 Bag 2 4567 Woo 3 6709 Dau 4 215 Wash 5 1311 Sou 4	by St., d, Wacd ghtry, ington th 5th	Waco, 1 b, TX, 7 Waco, TX Ave., Wa Street,	X, 767 706 (, 7740 eco, TX Waco, Cancel	701 01 (, 7670 Texas,	06 76706 < Back	5	ext >	Einish	•

3. In this example, the address, city, state, and zip code are separated by commas. Deselect the Tab delimiter and click the Comma delimiter. At the bottom of the Wizard screen, you can see a preview of how your data will be separated. Click Finish to proceed.

File Home Insert Page Layout F	ormulas Data Review View Add-Ins Team
From From From Other Text Sources Get External Data	Connections
A9 - <i>f</i> x 3088	But Convert Tout to Columns Wirsed Step 2 of 2
A	
1 1234 Bagby St., Waco, TX, 76701	This screen lets you set the delimiters your data contains. You can see how your text is affected in
2 4567 Wood, Waco, TX, 76706	all preview below.
3 6789 Daughtry, Waco, TX, 77401	Delimiters
4 215 Washington Ave., Waco, TX, 76706	I lab
5 1311 South 5th Street, Waco, Texas, 76706	
6 1600 Speight Ave, Waco, TX, 76706	Text gualifier:
7 4320 Franklin Avenue, Waco, TX, 76710	Other:
8 3516 N Lake Brazos Pkwy, Waco, TX, 76702	
9 3088 Burnett Ave, Waco, 1X, 76711	Data greview
10	-
12	1234 Bagby St. Waco TX 76701
13	4567 Wood Waco TX 76706 6789 Daughtry Waco TX 77401
14	215 Washington Ave. Waco TX 76706
15	p311 South 5th Street waco Texas 76706
16	· · · · · · · · · · · · · · · · · · ·
17	Cancel < Back Next > Einish
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4. All of your information will now be separated into individual cells.

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Fre	A Fr cess W	om From /eb Text Get E	From Oth Sources	er Exist • Conne	ing ctions	R	efresh All + Conned	Connections Properties Edit Links ctions	$\begin{array}{c} A \\ Z \\ Z \\ A \\ Z \\ A \\ \end{array} \right \qquad \text{Sort}$	Filter Sort & Filte	- ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
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			А				В	С	D	E	
1	1234	Bagby St.					Waco	тх	76701		
2	4567	Nood				_	Waco	тх	76706		
3	6789 [Daughtry					Waco	тх	77401		
4	215 W	ashingto	n Ave.				Waco TX		76706		
5	1311 9	outh 5th	Street				Waco	Texas	76706		
6	1600 \$	peight A	ve				Waco TX		76706		
7	4320	ranklin A	venue				Waco	тх	76710		
8	3516	V Lake Bra	azos Pkwy				Waco TX		76702		
9	3088	Burnett A	ve				Waco	тх	76711		
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