The Data Journalist Chapter 4 tutorial Doing Cool Stuff with Paste Special

Summary: Paste special is like the paste command, but with some extra twists. This tutorial will show you how to use paste special in Microsoft Excel for the following common tasks. The functionality in OpenOffice is basically identical, so you should be able to follow these directions.

What you will learn:

- 1. Replacing a column or row of formulas with the values that the formulas produce.
- 2. Copying a pivot table to a new worksheet as a plain table.
- 3. Transposing the rows and columns of a worksheet.
- 4. Multiplying or dividing a range of values by another value.

Task 1: Replacing a column or row of formulas with the values that the formulas produce.

Downloadable data: You can <u>download sample data</u> for this task. It contains the salaries of Ontario public sector servants who earn more than \$100,000 a year for the years fiscal years 2015 to 2018. It is also the dataset that we'll be using for our live exercise based on a published story.

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olleges	Brule	Claude	230976.76	374.96	\$231,352	Algonquin College
olleges	Wotherspoon	Doug	230788.38	186.58	\$230,975	Algonquin College
olleges	Mcnair	Duane	221744.64	366.12	\$222,111	Algonquin College
olleges	Stanbra	Laura	221744.64	366.12	\$222,111	Algonquin College
olleges	Anderson	Scott	194628.02	331.04	\$194,959	Algonquin College
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olleges	Pollock	Lois	177265.71	273.41	\$177,539	Algonquin College
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olleges	Frederick	Catherine	168347.03	131.3	\$168,478	Algonquin College
olleges	Mccutcheon	Diane	166846.12	188.64	\$167.035	Algonquin College
olleges	Schonewille	Todd	164726.07	304.41	\$165,030	Algonquin College
olleges	Janzen	Christopher	163593.81	293.89	\$163,888	Algonquin College
olleges	Foulds	Barbara	160742.83	137.91	\$160,881	Algonquin College
olleges	Tosh	Marlene	160044.73	0	\$160,045	Algonguin College
olleges	Devey	Patrick	159588.61	137.19	\$159,726	Algonquin College
olleges	Kyte	James Gregory	158873.7	290.78	\$159,164	Algonquin College
olleges	Davies	Karen	158873.7	290.78	\$159,164	Algonguin College
olleges	Donaldson	Dave	158719.79	136.87	\$158,857	Algonquin College
olleges	Cusson	Margaret	158316.36	287.94	\$158,604	Algonguin College
olleges	Pearson	Krista	157216.81	280.64	\$157,497	Algonquin College
olleges	Heaton	Robyn	156696.72	134.8	\$156,832	Algonquin College
olleges	Brownlee	Brent	153013.7	277.53	\$153,291	Algonquin College
olleges	Mulvey	Ernest	150511.63	275.46	\$150,787	Algonguin College
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In column F, we have added the values in columns D and E to obtain a total salary. By clicking on the first value in the column, we can see the formula in the formula bar.

Let's say that we only wanted to preserve the values and get rid of the formula that created them. Switching to the underlying values calculated by the formula is simple.

First, highlight the column of formulas.



Next, copy the highlighted column to the clipboard by using the keyboard shortcut <CTRL> C on a Windows PC or <CMD> C on a Mac, or by right clicking on the column (<CTRL> left click on a Mac) and choosing Copy from the pop-up menu.

Once you have copied the column to the clipboard, choose Paste Special from the "paste" dropdown menu on the home ribbon of Excel. A dialogue box should open, like this one:

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You can also right click on highlighted the column and choose Paste Special from the pop-up menu.

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Your formulas have now been replaced by as the underlying values. When you once again click on F2, you'll see the value in the formula bar, and not the formula $\leq D2+E2>$.

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Colleges		Brule	Claude	230976.76	374.96	\$231,352	Algonquin College
Colleges		Wotherspoon	Doug	230788.38	186.58	\$230,975	Algonquin College
Colleges		Mcnair	Duane	221744 64	366 12	\$222.111	Algonguin College

Task 2: Copying a pivot table to a new worksheet as a plain table.

Downloadable data: You can download the sample data for this task <u>here</u> and use the worksheet called PivotTable.

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Pivot tables are great, but they eat up memory if you have a lot of them open at once. Besides, once you've finished your pivot table, you may be most interested in the results. Making a copy of the table as a plain text table is a great way to capture your results, perhaps for further calculations.

Copy the table, and go to the next empty worksheet.

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As we did in task one, get the paste special dialogue box.

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Select Values, and then the OK tab.

Not only does the paste special, get rid of the formula, but it also gets rid of the formatting. Clean up this table by deleting the first three rows, and renaming column A to something that makes more sense like "Component

System".

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That's better. But we still have a bit of clean up left. Delete column G, the grand total column, and the grand total row 25 at the bottom. Since we'll be

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14	Child Restraint System	47	56	50	126	168	
15	Tire	58	49	37	116	162	
16	Accessory	42	63	60	88	92	
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18	Defect Investigations - Other	84	26	26	17	28	
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20	Parking Brake	9	12	13	6	26	
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Fuel System	155	147	181	389	446						
Electrical	106	108	123	429	550						
) Suspension	103	87	90	248	498						
l Interior	91	97	86	235	368						
2 Lighting	86	102	95	208	246						
Visual System	46	42	52	147	216						
Child Restraint System	47	56	50	126	168						
5 Tire	58	49	37	116	162						
5 Accessory	42	63	60	88	92						
7 Heating, Ventilation and Air Cond	40	30	21	61	109						
B Defect Investigations - Other	84	26	26	17	28						
9 Wheel	23	26	24	54	32						
0 Parking Brake	9	12	13	6	26						
l Trailer	8	5	4	9	14						
2 Advanced Vehicle Technologies			1	8	24						
3 Aftermarket Components			2	8	6						
Regulatory Requirements	1		2	6	2						
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Rename the worksheet "Complaint_Counts".

Let's begin using the skills we learned in the "<u>Calculating Rates and</u> Percentages in a Spreadsheet" tutorial.

The paste-special command is commonly, especially with pivot tables because it allows us to continue our analysis with quick and easy calculations which can then be sorted and filtered, something that is not possible in pivot tables.

Task 3: Transposing the rows and columns of a worksheet.

Sometimes we get tables that are not conducive to easy analysis. For instance, the table may have dozens of columns and only a few rows. In this instance, it would be easier to summarize the information using the

techniques that we've learned so far by turning the columns into rows and rows into columns. To do this, use the "transpose" option. This converts a vertical range of cells to horizontal and vice-versa.

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13	Visual	System		46	42	52	147	216			
14	Child R	estraint Syste	em	47	56	50	126	168			
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Let's see how this works using the example above. Highlight the table.

Now copy it.

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Place your cursor in H1, and obtain your paste special dialogue box.

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Select the "Transpose option at the bottom.

Select the OK tab.

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The order has been switched.

Task 4: Multiplying or dividing a range of values by another value.

As we've seen up until now, paste special is versatile, allowing you to make routine changes to your data. It also comes in handy when your spreadsheet has numbers that are actually text.

This is problematic because a spreadsheet can't perform math on values it reads as text. You can sum the number of fines, count the number of inspections, or calculate the per cent increases.

This is another instance where paste special comes in handy. You can often convert the text to numbers by placing the number "1" in an empty cell, and

selecting and copying it. Let's look at an example below.

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The text is contained in column A. We know this because they're justified to the left. We want to convert them to numbers. To do this, place the number

"1" in cell C1. Copy it, and then highlight column A.

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Obtain the paste-special dialogue box using the steps we used in the previous tasks.

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Choose the "Multiply" from the paste special dialogue box, and then the OK tab.

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Now the numbers are actually numbers, allowing us to continue with our analysis.

Paste special is a very useful and versitile command, which makes it possible to conduct quick calculations that count, sum and calculate per cent changes.