


Pivot Tables: How to Avoid all that Copying-and-Pasting to Build a 2D Table



Oregon State University
Mike Bailey
mjb@cs.oregonstate.edu

Note: you don't *absolutely* need to know about any of this. You can do perfectly well using the steps shown in the *Project Notes* to turn a linear print-out of data into a 2D table. Once you get used to them, however, Pivot Tables will save you time.

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Remember This Slide from the Project Notes Noteset?

1	1	1	1.44
2	1	10	3.99
3	1	100	8.07
4	1	1000	9.33
5	1	10000	25.13
6	1	100000	25.97
7	2	1	0.23
8	2	10	4.62
9	2	100	17.91
10	2	1000	34.34
11	2	10000	49.27
12	2	100000	49.83
13	4	1	0.34
14	4	10	6.26
15	4	100	17.91
16	4	1000	34.34
17	4	10000	49.27
18	4	100000	49.83
19	8	1	0.26
20	8	10	4.62
21	8	100	16.21
22	8	1000	34.34
23	8	10000	48.49
24	8	100000	48.65

E	F	G	H	I	J	K	L	M
	1	10	100	1000	10000	100000	500000	
	1	1.44	3.99	8.07	9.33	23.4	25.13	25.97
	2	0.23	4.62	19.26	17.91	34.34	49.83	49.27
	4	0.34	6.26	16.7	38.66	82.39	91.09	91.49
	8	0.26	2.99	16.21	48.49	137.59	166.17	181.62

You will need to do some copying and pasting to get the linear format into this 2D format, but it will be worth it!

You can avoid *all* that copying and pasting by using an Excel feature called **Pivot Tables!** Here come the steps.

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Step #1: Insert Column Heading Labels

1	1	1	1.44
2	1	10	3.99
3	1	100	8.07
4	1	1000	9.33
5	1	10000	25.13
6	1	100000	25.97
7	2	1	0.23
8	2	10	4.62
9	2	100	17.91
10	2	1000	34.34
11	2	10000	49.27
12	2	100000	49.83
13	4	1	0.34
14	4	10	6.26
15	4	100	17.91
16	4	1000	34.34
17	4	10000	49.27
18	4	100000	49.83
19	8	1	0.26
20	8	10	4.62
21	8	100	19.26
22	8	1000	17.91
23	8	10000	48.49
24	8	100000	48.65

A	B	C	
Cores	Number of Trials	MegaTrialsPerSecond	
2	1	1	1.44
3	1	10	3.99
4	1	100	8.07
5	1	1000	9.33
6	1	10000	25.13
7	1	100000	25.97
8	2	1	0.23
9	2	10	4.62
10	2	100	17.91
11	2	1000	34.34
12	2	10000	49.27

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Step #2: Sweep Over the Entire Table, Including the Labels

1	1	1	1.44
2	1	10	3.99
3	1	100	8.07
4	1	1000	9.33
5	1	10000	25.13
6	1	100000	25.97
7	2	1	0.23
8	2	10	4.62
9	2	100	17.91
10	2	1000	34.34
11	2	10000	49.27
12	2	100000	49.83
13	4	1	0.34
14	4	10	6.26
15	4	100	17.91
16	4	1000	34.34
17	4	10000	49.27
18	4	100000	49.83
19	8	1	0.26
20	8	10	4.62
21	8	100	16.21
22	8	1000	34.34
23	8	10000	48.49
24	8	100000	48.65

A1	Cores		
	Number of Trials	MegaTrialsPerSecond	
2	1	1	1.44
3	1	10	3.99
4	1	100	8.07
5	1	1000	9.33
6	1	10000	25.13
7	1	100000	25.97
8	2	1	0.23
9	2	10	4.62
10	2	100	17.91
11	2	1000	34.34
12	2	10000	49.27
13	2	100000	49.83
14	4	1	0.34
15	4	10	6.26
16	4	100	17.91
17	4	1000	34.34
18	4	10000	49.27
19	4	100000	49.83
20	8	1	0.26
21	8	10	4.62
22	8	100	16.21
23	8	1000	34.34
24	8	10000	48.49
25	8	100000	48.65

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Step #3: Insert → Pivot Table → OK

File Home **Insert** Draw Page Layout Formulas

PivotTable Recommended Table Illustrations My Add-ins

Tables

A	B	C	
Cores	Number of Trials	MegaTrialsPerSecond	
2	1	1	1
3	1	10	3
4	1	100	8
5	1	1000	9
6	1	10000	2
7	1	100000	25
8	2	1	25
9	2	10	0

Create PivotTable

Choose the data that you want to analyze

Select a table or range

Table/Range: **OUTRASCORES**

Use an external data source

Choose where you want the PivotTable report to be placed

New Worksheet

Location: []

Choose whether you want to analyze multiple tables

Add this data to the Data Model

OK Cancel

This will create a new worksheet.

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Sheet1

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Step #4: Assign Roles for the Different Columns of Your Data

1. Drag **Cores** to **Rows**
2. Drag **Number of Trials** to **Columns**
3. Drag **MegaTrialsPerSecond** to **Values**

This defines how the 2D table will be created.

Note that you can have more than 3 columns of data to start with. This process just lets you pick which 3 will go into the 2D table.

PivotTable Fields

Choose fields to add to report:

Cores
Number of Trials
MegaTrialsPerSecond

Drag fields between areas below:

Filters Columns Values Rows

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Ta-Da! You Have a 2D Table with No Copying and Pasting!

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Row Labels	1	10	100	1000	10000	100000	500000	Grand Total
1	1.44	3.99	8.07	9.33	23.4	25.13	25.97	93.31
2	0.23	4.62	19.26	17.91	34.34	49.83	49.27	175.46
4	0.34	0.259	16.7	38.66	82.39	91.09	91.49	300.59
8	0.26	2.39	16.21	48.49	137.59	166.17	181.62	488.21
Grand Total	2.37	11.298	46.24	114.39	272.12	332.20	348.39	1878.99

You can get rid of the **Grand Total** row and column – they have meaning in some spreadsheet applications, but not here.



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But, You Can't Make a Graph from a Pivot Table, so Copy and Paste it into Normal Cells

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Sweep over and Copy the Pivot Table:

Row Labels	1	10	100	1000	10000	100000	500000
1	1.44	3.99	8.07	9.33	23.4	25.13	25.97
2	0.23	4.62	19.26	17.91	34.34	49.83	49.27
4	0.34	0.259	16.7	38.66	82.39	91.09	91.49
8	0.26	2.39	16.21	48.49	137.59	166.17	181.62

Paste those numbers somewhere else:

Row Labels	1	10	100	1000	10000	100000	500000
1	1.44	3.99	8.07	9.33	23.4	25.13	25.97
2	0.23	4.62	19.26	17.91	34.34	49.83	49.27
4	0.34	0.259	16.7	38.66	82.39	91.09	91.49
8	0.26	2.39	16.21	48.49	137.59	166.17	181.62

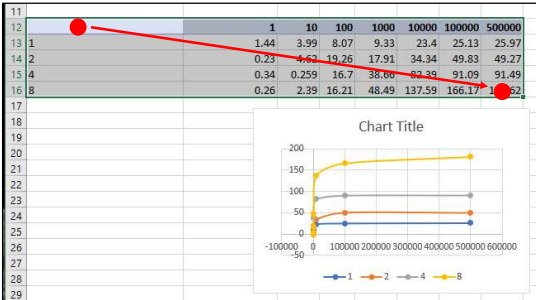
Clear the Row Labels cell:

	1	10	100	1000	10000	100000	500000
1	1.44	3.99	8.07	9.33	23.4	25.13	25.97
2	0.23	4.62	19.26	17.91	34.34	49.83	49.27
4	0.34	0.259	16.7	38.66	82.39	91.09	91.49
8	0.26	2.39	16.21	48.49	137.59	166.17	181.62

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Sweep Over the New 2D Table and Copy → Insert your graph, Just like in the Project Notes

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