1

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

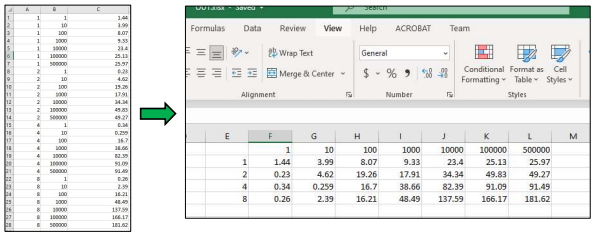
Oregon State University
Mike Bailey
mjb@cs.oregonstate.edu

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.

1

Remember This Slide from the Project Notes Noteset?

2



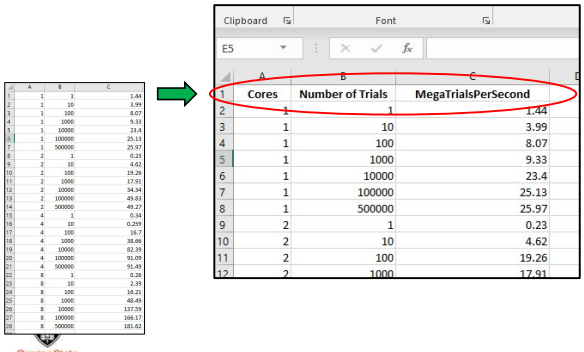
You will need to do some copying and pasting to get the linear format into this 2D format, but it will be worth it!

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

2

Step #1: Insert Column Heading Labels

3

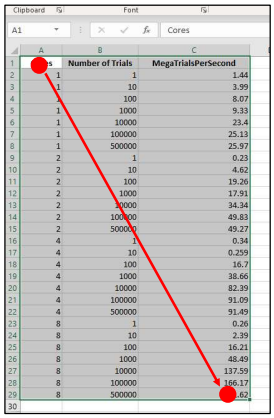


Cores	Number of Trials	MegaTrialsPerSecond
1	1	1.44
1	10	3.99
1	100	8.07
1	1000	9.33
1	10000	23.4
1	100000	25.13
1	500000	25.97
2	1	0.23
2	10	4.62
2	100	19.26
2	1000	17.91

3

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

4

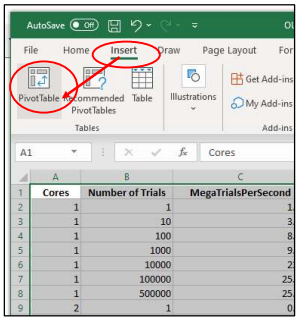


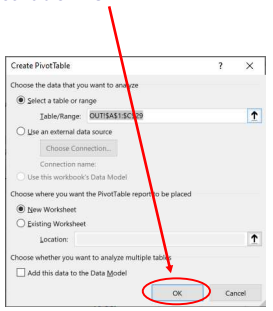
	Number of Trials	MegaTrialsPerSecond
1	1	1.44
1	10	3.99
1	100	8.07
1	1000	9.33
1	10000	23.4
1	100000	25.13
1	500000	25.97
2	1	0.23
2	10	4.62
2	100	19.26
2	1000	17.91
2	10000	34.34
2	100000	49.83
2	500000	49.27
4	1	0.34
4	10	0.259
4	100	16.7
4	1000	38.66
4	10000	82.39
4	100000	91.09
4	500000	91.49
8	1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

4

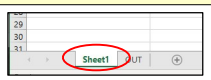
Step #3: Insert → Pivot Table → OK

5





This will create a new worksheet.



5

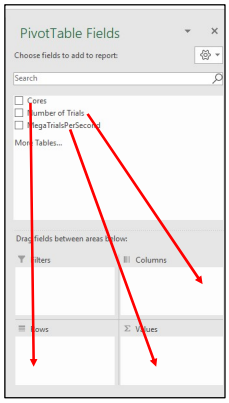
Step #4: Assign Roles for the Different Columns of Your Data

6

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.

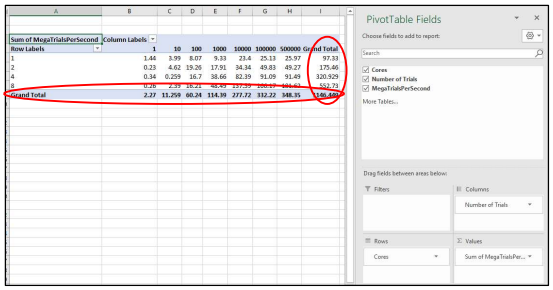
Note that you can have more than 3 columns of data to start with. This process just lets you pick which 3 will go into the 2D table.



6

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

7



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

Oregon State University
Computer Graphics

mjb – March 13, 2022

7

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

8

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

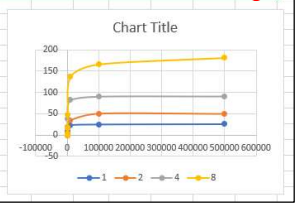
mjb – March 13, 2022

8

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

9

	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



Oregon State University
Computer Graphics

mjb – March 13, 2022

9