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Creating a PivotTable®

Use File: Excel PivotTable Class File

Microsoft® Excel PivotTable® feature organizes, summarizes, and analyzes your data to reveal its meanings.

PivotTable reports:

- ★ offer comparisons,
- ★ reveal patterns and relationships, and
- ★ analyze trends.

Each PivotTable report gives you a different view of your data, answering your questions on the spot, and is customized to your purposes.

Once you have your questions in mind, Excel makes it easy to get answers. First, a wizard takes us step-by-step in preparing the data for a new view. Next, you drag and drop the data from a list into a new PivotTable report view.

Benefits of PivotTable Reports

- ★ Pivot data around – moving parts of the table structure to summarize the data
- ★ Easily adjustable and customizable
- ★ PivotTables can quickly become PivotCharts

Source Data

We must become familiar with the source data to produce successful PivotTables. Let's look at a sample of our worksheet:

	A	B	C	D	E
2	Product ID	Item	City	Quarter	Sales
3	1000	CD	Boston	1	\$ 2,500.56
4	1000	CD	Boston	2	\$ 5,567.76
5	1000	CD	Boston	3	\$ 4,583.65
6	1000	CD	Boston	4	\$ 5,997.45
7	2451	Book	Boston	1	\$ 990.65
8	2451	Book	Boston	2	\$ 3,534.69
9	2451	Book	Boston	3	\$ 3,400.74
10	2451	Book	Boston	4	\$ 4,412.93
11	3221	Video	Boston	1	\$ 990.43
12	3221	Video	Boston	2	\$ 1,876.43
13	3221	Video	Boston	3	\$ 2,112.65
14	3221	Video	Boston	4	\$ 2,431.98
15	1024	CD	Boston	1	\$ 899.65
16	1024	CD	Boston	2	\$ 2,134.56
17	1024	CD	Boston	3	\$ 2,000.32
18	1024	CD	Boston	4	\$ 1,045.67
19	2145	Book	Boston	1	\$ 1,099.65
20	2145	Book	Boston	2	\$ 6,134.56
21	2145	Book	Boston	3	\$ 6,000.32
22	2145	Book	Boston	4	\$ 6,045.67
23	3300	Video	Boston	1	\$ 899.43
24	3300	Video	Boston	2	\$ 1,854.43
25	3300	Video	Boston	3	\$ 2,312.65
26	3300	Video	Boston	4	\$ 2,561.98
27	1000	CD	DC	1	\$ 1,294.32
28	1000	CD	DC	2	\$ 3,001.80
29	1000	CD	DC	3	\$ 3,211.65
30	1000	CD	DC	4	\$ 2,587.95
31	2451	Book	DC	1	\$ 6,534.43
32	2451	Book	DC	2	\$ 56,324.65
33	2451	Book	DC	3	\$ 52,324.65

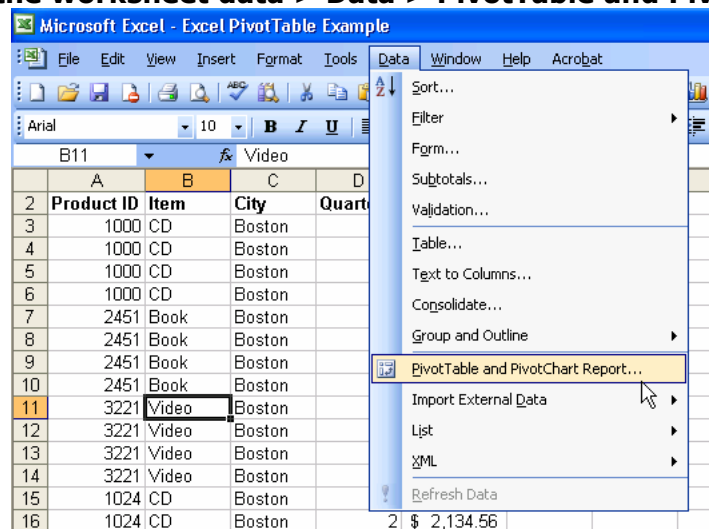
Be sure to ask yourself the following four questions prior to launching the PivotTable Wizard:

1. What is the purpose of the PivotTable?
2. Which field is being summarized, and which summary function will be used (sum, count, average, etc.)?
3. What other fields should be included, and how shall they be arranged (rows vs. columns)?
4. Where is the PivotTable going when it is finished?

The PivotTable Wizard

The PivotTable Wizard takes us through the process step by step.

Select a cell in the worksheet data > Data > PivotTable and PivotChart Report...

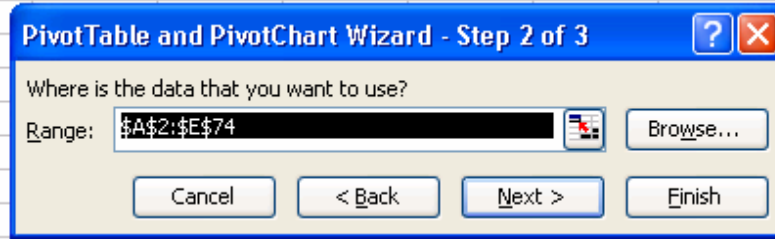


Here's the first step of the three steps:

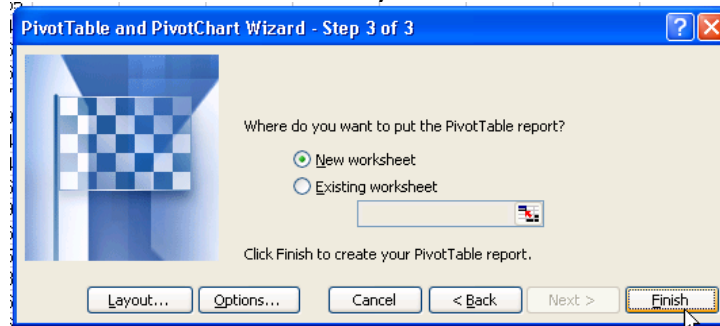


Here we make two choices – where the source data is coming from and whether we are creating a PivotTable or a PivotChart.

In step 2, indicate the data range of your source data and choose Next >



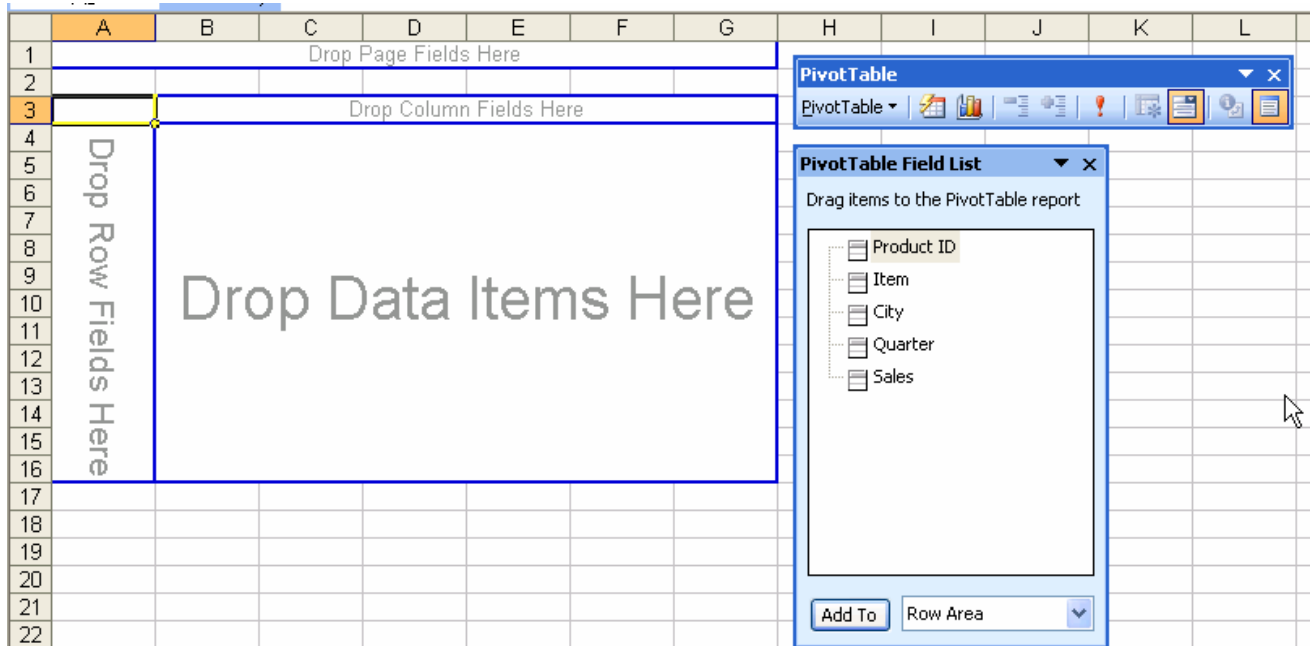
In step 3, decide whether the PivotTable will appear on an existing worksheet OR a new one added to the current workbook, and choose Finish



Note: Additional selections and preferences can be chosen by clicking on the **Layout...** and **Options...** buttons in Step 3 of the wizard. These choices can also be made after the PivotTable has been created.

The PivotTable Layout

To add fields to the PivotTable layout, drag the desired field from the PivotTable Field List window to the appropriate area in the PivotTable layout.



Example of a completed PivotTable from our worksheet data:

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Drop Page Fields Here												
2													
3	Sum of Sales		Item										
4	City	Quarter	Book	CD	Video	Grand Total							
5	Boston	1	2090.3	3400.21	1889.86	7380.37							
6		2	8669.25	7702.32	3730.86	20102.43							
7		3	9401.06	6583.97	4425.3	20410.33							
8		4	10458.6	7043.12	4993.96	22495.68							
9	Boston Total		30619.21	24729.62	15039.98	70388.81							
10	DC	1	7610.77	3170.66	4670.68	15452.11							
11		2	59448.86	6126.01	4529.74	70104.61							
12		3	54432.18	5319.18	5437.08	65188.44							
13		4	58928.08	4691.38	5764.86	69384.32							
14	DC Total		180419.89	19307.23	20402.36	220129.48							
15	NY	1	2099.88	3039	4518.86	9657.74							
16		2	6033.9	7748.3	7989.56	21771.76							
17		3	6914.87	8044.63	12077.8	27037.3							
18		4	4408.97	7564.97	12585.52	24559.46							
19	NY Total		19457.62	26396.9	37171.74	83026.26							
20	Grand Total		230496.72	70433.75	72614.08	373544.55							

PivotTable

PivotTable

PivotTable Field List

Drag items to the PivotTable report

- Product ID
- Item
- City
- Quarter
- Sales

Add To Row Area

Rearranging PivotTables

After creating a PivotTable, we may want to display an entirely different view of our data. We can change the data view by dragging fields to other areas in the PivotTable.

Example of a different view of the PivotTable from our worksheet data:

	A	B	C	D	E	F	G	H	I	J	K	
1	Drop Page Fields Here											
2												
3	Sum of Sales	Quarter										
4	City	1	2	3	4	Grand Total						
5	Boston	7380.37	20102.43	20410.33	22495.68	70388.81						
6	DC	15452.11	70104.61	65188.44	69384.32	220129.48						
7	NY	9657.74	21771.76	27037.3	24559.46	83026.26						
8	Grand Total	32490.22	111978.8	112636.07	116439.46	373544.55						

PivotTable

PivotTable

PivotTable Field List

Drag items to the PivotTable report

- Product ID
- Item
- City
- Quarter
- Sales

Add To Row Area

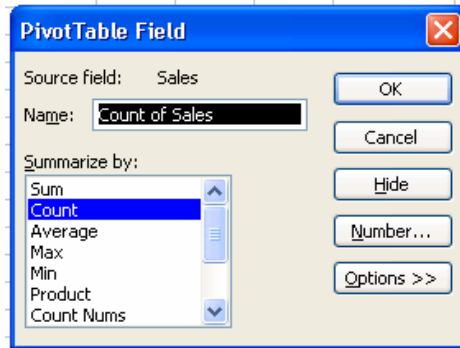


Note: To remove a field from the layout of the PivotTable – simply drag and drop it off the PivotTable layout.

Changing the Summary Function

Excel applies the SUM function to numeric data and the COUNT function to data fields containing text.

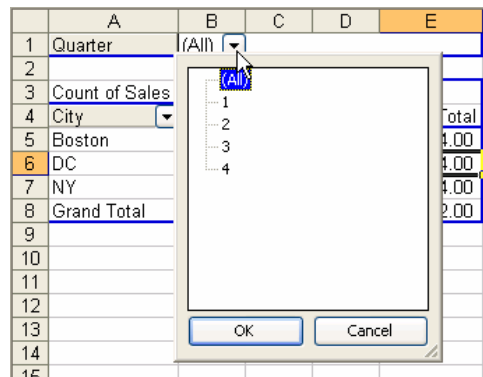
To change the function currently used to summarize the data, click on  **Field Settings Icon** from the PivotTable Toolbar.



Adding a Page Field

We can further expand the functionality of our PivotTable by adding a Page Field. A Page Field makes the PivotTable three dimensional – as if the reports are stacked upon one another. When a page field is added, it is as if data is filtered through that field.

Here the field **Quarter** has been dragged from the field list and added as the **Page Field**.



Refreshing a PivotTable

The values in the PivotTable are all read-only – meaning we cannot move or modify a part of a PivotTable by inserting or deleting rows, editing results, or moving cells.

To make changes to data:

edit the data in the worksheet and

then click the Refresh Data Icon  from the PivotTable toolbar



Note: We cannot undo the Refresh Data operation. Therefore, if you need to get back to the original numbers, first save a backup before making changes, or change the numbers back in the spreadsheet and then Refresh Data in the PivotTable again.

Formatting a PivotTable

To enhance the appearance of the PivotTable let's add some formatting:

To apply a format to the Pivot Table:

click on the **Format Report Icon**  from the **PivotTable toolbar**

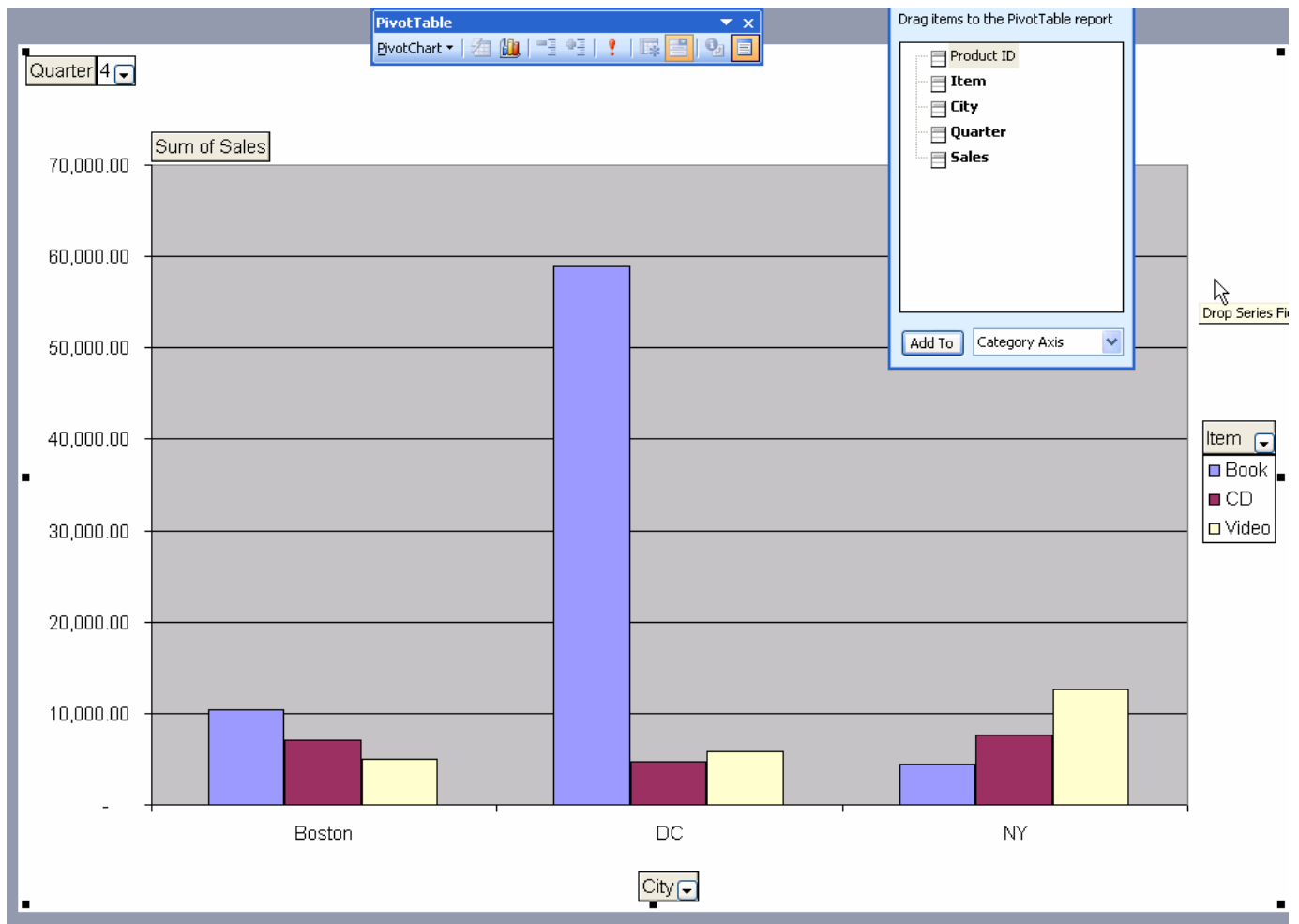
PivotChart Report

PivotCharts can be created from the PivotTable Report.

Prepare the PivotTable Report to display the data to be charted

	A	B	C	D	E
1	Quarter	4			
2					
3	Sales	Item			
4	City	Book	CD	Video	Grand Total
5	Boston	10,458.60	7,043.12	4,993.96	22,495.68
6	DC	58,928.08	4,691.38	5,764.86	69,384.32
7	NY	4,408.97	7,564.97	12,585.52	24,559.46
8	Grand Total	73,795.65	19,299.47	23,344.34	116,439.46

Click on the **Chart Wizard Icon**  from the **PivotTable toolbar** and use the **Chart toolbar** to alter the chart



NOTES:

Excel Links

Computer Education Excel 2003 online class

<http://www.cmu.edu/computing/education/excel/Excel2003/tableofcontents.htm>

Free Excel Tutorial

<http://www.usd.edu/trio/tut/excel/>

ITM Online Help Collection

<http://www.uwec.edu/help/excelXP.htm>

Microsoft Excel Questions and Answers

<http://www.ozgrid.com/Excel/excel-questions-answers.htm>

Undiscovered Tips about Microsoft Excel for Windows

<http://support.microsoft.com/default.aspx?scid=/support/excel/content/cooltips/cool.asp#E10E29>

