Excel 2
Module 5 – Pivot Tables
Module Overview
This module is part of the Excel 2 course which is for advancing your knowledge of Excel.

During this module we will explore Pivot Tables.

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1. Introduction to Pivot Tables

When working with large amounts of data you may find that just printing all the data or parts of a database does not directly meet your needs. Pivot tables can be used to reorganize and summarize selected columns and rows of data to obtain a desired report. Note: Pivot tables do not actually change the spreadsheet or database itself.

Creating a Pivot Table

<table>
<thead>
<tr>
<th>Follow Me</th>
<th>Open Pivot Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Open the file Pivot Table 1</td>
</tr>
</tbody>
</table>

This table represents a relatively small amount of data but you can see it would difficult to answer such questions as:

- Which student had the highest average score in French?
- In what month was the overall grades the highest? Lowest?
- Is there a student who needs help in a given subject?

In order to create a pivot table your data much qualify as a database table. This means your data must meet the following criteria:

- The top row of data must contain column headers
- Each row of data is a record about one particular entity or transaction
- Each column of data holds the same kind of information
- There are no entirely blank rows or columns in the data (this means if columns contain numbers, use a zero instead of a blank cell)

Let’s begin by creating a pivot table using the data in Pivot Table 1.
2. Creating Pivot Tables

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Create Pivot Table

1. Select the data you want to include in your pivot table. In this case, cells A1 to D37
2. Select the Pivot Table icon in the ribbon Insert tab (Tables group).

3. Review the Table/Range and choose New Worksheet in the Create PivotTable dialog box. - If an error occurs the dialog box will not appear, review the criteria above to confirm the data meets all the requirements of a database table.

2.1. Parts of Pivot Table

On the left-hand side of the screen is the pivot table layout area. The fields you choose will appear in this area.

On the right-hand side of the screen, you will find the Pivot Table Field List which is made up of two main areas. At the top is the actual listing of all the available fields in the source data worksheet. Below that area is the Setup Area with four blocks representing individual components that will be used to “construct” your pivot table (row labels, column labels, values and report filter).

There are two new tabs available on the ribbon for PivotTable Tools, Options and Design. Note: If you lose the Pivot Table Field List simply re-select the pivot table.
2.2. Adding Fields and Labels

The order items are added to each column will determine how items are grouped together. To re-order items simply drag and drop, just as you did to move items between column and row labels.
Add a Field to report

1. From the field list, add Month to the pivot table. To do this, select the checkbox next to Month.

2. Change Month to a Column Label rather than Row – To do this simply drag and drop Month from Row Labels to Column Labels.

Fields will nest with others based on the order they are added to the labels.
Add additional fields

1. Continue adding all the fields to the pivot table.
2. Adjust the order and placement of each field until your pivot table looks as follows.

<table>
<thead>
<tr>
<th>Column Labels</th>
<th>Art</th>
<th>English</th>
<th>French</th>
<th>History</th>
<th>Math</th>
<th>Science</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>264</td>
<td>179</td>
<td>175</td>
<td>256</td>
<td>200</td>
<td>180</td>
</tr>
<tr>
<td>January</td>
<td>61</td>
<td>62</td>
<td>61</td>
<td>65</td>
<td>58</td>
<td>442</td>
<td></td>
</tr>
<tr>
<td>February</td>
<td>53</td>
<td>57</td>
<td>84</td>
<td>72</td>
<td>89</td>
<td>436</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>48</td>
<td>41</td>
<td>56</td>
<td>91</td>
<td>71</td>
<td>41</td>
<td>392</td>
</tr>
<tr>
<td>Mary</td>
<td>168</td>
<td>196</td>
<td>275</td>
<td>186</td>
<td>142</td>
<td>132</td>
<td>1099</td>
</tr>
<tr>
<td>January</td>
<td>61</td>
<td>87</td>
<td>92</td>
<td>59</td>
<td>53</td>
<td>35</td>
<td>386</td>
</tr>
<tr>
<td>February</td>
<td>53</td>
<td>68</td>
<td>93</td>
<td>61</td>
<td>54</td>
<td>55</td>
<td>331</td>
</tr>
<tr>
<td>March</td>
<td>48</td>
<td>61</td>
<td>50</td>
<td>67</td>
<td>35</td>
<td>41</td>
<td>322</td>
</tr>
<tr>
<td>Grand Total</td>
<td>432</td>
<td>375</td>
<td>450</td>
<td>442</td>
<td>350</td>
<td>320</td>
<td>2369</td>
</tr>
</tbody>
</table>

In the above example you should have Subject in the column label and Student then Month in the Row Labels.

2.3. Formatting

Fields that are placed in the values section always have a math function associate with them. In this case the name shown in the Pivot Table is Sum of Score. A better name might be nice. Also, since these are grades, it might be more useful to see the scores as averages rather than totals. Formatting the numbers may also be necessary as we will see. These formatting changes are easily accomplished using the Value Field Settings dialog.

One of the ways to see these settings is to select a score, then select Field Settings from the ribbon Options tab (Active Field group). Alternatively, you can also select Value Field Setting from the options that appear when clicking Sum of Score in the PivotTable Field List.
Follow Me

**Rename Value Field Setting**

1. Open Value Field Settings – *Do this by clicking* Sum of Score *and selecting Value Field Settings from the menu.*

2. Change the Custom Name to **Average of Score**

3. Change the ‘Summarize Values by’ from Sum to **Average**

4. Click Number Format to change the scores to whole numbers (no decimals) – *This is done by selecting Number and zero decimals.*

5. Select OK in both Dialog boxes to accept changes.

You can change the text of cells in a Pivot Table the same way other cells are changed. Click to select and change text. We will use this to change the Grand Total to Average.

**Final Adjustments**

1. Select Grand Total and change the name to **Average of Score**
2. Adjust the columns to slightly larger width.

Notice that there are dropdown arrows next to the words Column and Row. Using these dropdowns allows you to filter the data shown in the pivot table. You can tailor your
view of the data by clicking on those arrows and selecting one or more of the options to filter data in or out of the pivot table view.

<table>
<thead>
<tr>
<th>Follow Me</th>
<th>Final Adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Click on the dropdown next to Row and uncheck Elisa’s name. Hit Enter or click OK. – Notice how the table only shows information for Mary.</td>
<td></td>
</tr>
</tbody>
</table>
| | ![Image](image1.png)  
| | ![Image](image2.png)  
| 2. Click the dropdown next to Row and check **Select All**. |  
| 3. Click on the arrow next to Column and uncheck **French** and **English** from the list. |  
| 4. Click the drop down again to reselect all subjects. |  

Many design options are available to you on the Pivot Table Styles in the ribbon Design tab. Use the dropdown arrow at the side of the group for lots of options for colors and styles. Find your favorite and see how it looks compared to the original.
3. Exercise – Copy Cat

Open Pivot Table 2, using the data provided create the following report. Be sure to add each field to the correct area including filters. The design has also been updated.

Once completed, save the workbook to the desktop as Pivot Table 2 – Complete and close Excel.