

## Course Outline

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## PivotTables Introduction

A PivotTable is a type of report that summarizes detailed worksheet information and answers questions such as “how many” or “how much.” Uses for a PivotTable may include:

- Counting the number of matters assigned to team members to analyze workload.
- Summarizing the total billable time by task, person and matter to analyze productivity or prepare reports for managing partners.
- Averaging large amounts of data such as temperature, rainfall, stock prices, housing prices, gasoline prices, wages or any other data needed to support facts or conclusions.
- Summarizing matters by jurisdiction as an aid to case management.

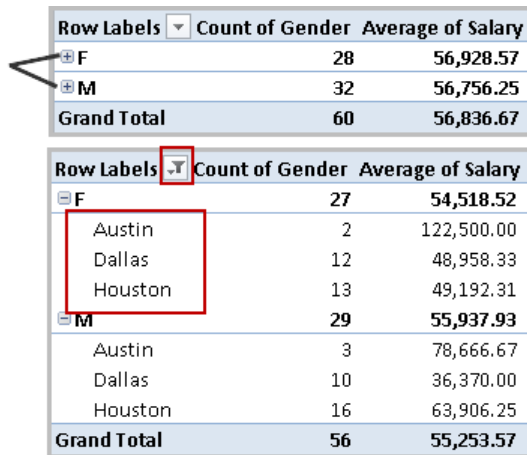
The following screenshot displays a worksheet containing detailed information about employees in a hypothetical employment discrimination case. While the worksheet contains useful information, the detailed nature of the data is not conducive to analysis by category.

Last	First	Gender	DOB	Current Age	Office	Department	Classification	Date Hired	Salary
Barolini	Brenda	F	6/20/1977	30	Austin	ACT	4	2/8/2000	120,000
Goldman	Ramona	F	5/1/1959	48	Austin	HR	4	8/7/2000	125,000
Ramos	Juan	M	3/15/1962	46	Austin	HR	4	5/12/1999	110,000
Fitzgerald	Joseph	M	6/1/1970	37	Austin	HR	1	9/11/2001	27,000
Hill	Raul	M	2/14/1977	31	Austin	HR	4	9/2/2005	99,000
Duke	Barbara	F	3/1/1977	31	Dallas	HR	3	11/18/2007	75,000
Kahlo	Maria	F	2/22/1978	30	Dallas	HR	2	9/10/2002	37,000

This next screenshot displays the PivotTable generated from the same worksheet data (“Source Data”), comparing the number of males and females in each office and their average salaries.

Row Labels	Count of Gender	Average of Salary
<b>F</b>	<b>28</b>	<b>56,928.57</b>
Austin	2	122,500.00
Dallas	12	48,958.33
Houston	13	49,192.31
San Francisco	1	122,000.00
<b>M</b>	<b>32</b>	<b>56,756.25</b>
Austin	3	78,666.67
Dallas	10	36,370.00
Houston	16	63,906.25
New Orleans	3	64,666.67
<b>Grand Total</b>	<b>60</b>	<b>56,836.67</b>

The interactive features are then used to expand/collapse categories and filter the report to display only specific data.



Row Labels	Count of Gender	Average of Salary
F	28	56,928.57
M	32	56,756.25
Grand Total	60	56,836.67

Row Labels	Count of Gender	Average of Salary
F	27	54,518.52
Austin	2	122,500.00
Dallas	12	48,958.33
Houston	13	49,192.31
M	29	55,937.93
Austin	3	78,666.67
Dallas	10	36,370.00
Houston	16	63,906.25
Grand Total	56	55,253.57

When creating a PivotTable, it is important to understand the following terminology:

**SOURCE DATA:** The data on which the PivotTable is based and may include a range of cells, a table or an external source such as an Access database.

**FIELDS:** A collection of values identified by a column name in a worksheet or by a field name in a database.

**VALUES:** Data used to generate counts, totals, averages or other numeric summary information.

**ROW LABELS:** The summary for each field value displayed in a separate row.

**COLUMN LABELS:** The summary for each field value displayed in a separate column.

**FILTER ARROW:** The arrow next to each row or column field used to sort or filter the PivotTable.

**REPORT FILTER:** An overall filter applied to the entire report that uses an options list to define criteria.

**SLICER:** An overall filter applied to the entire report that uses graphical buttons to define criteria.

## Working With PivotTables

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### CREATING A PIVOTTABLE

1. Open the **EXCEL PIVOTTABLES** file.

2. Display the **EMPLOYEE DATA** worksheet.



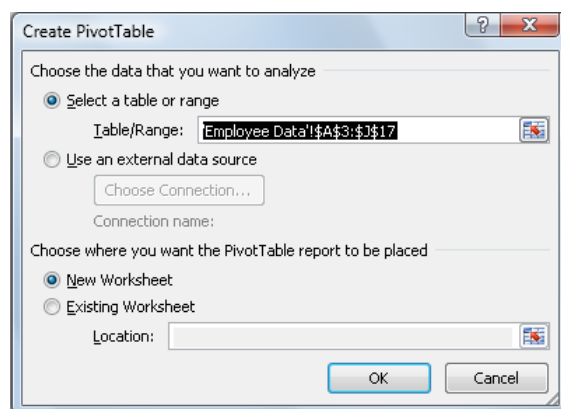
To create a PivotTable, you begin by clicking anywhere within the main data range to identify a contiguous range or select a named range.

3. Click anywhere within the main data range and from **INSERT | TABLES**, click the **PIVOTTABLE** button.



The **PIVOTTABLE** button is a combo button. Click the top portion of the button to select PivotTable. Click the bottom portion of the button to see a menu of options and choose either **PIVOTTABLE** or **PIVOTCHART**.

The **CREATE PIVOTTABLE** dialog box Displays.



Always check that the default range is correct.

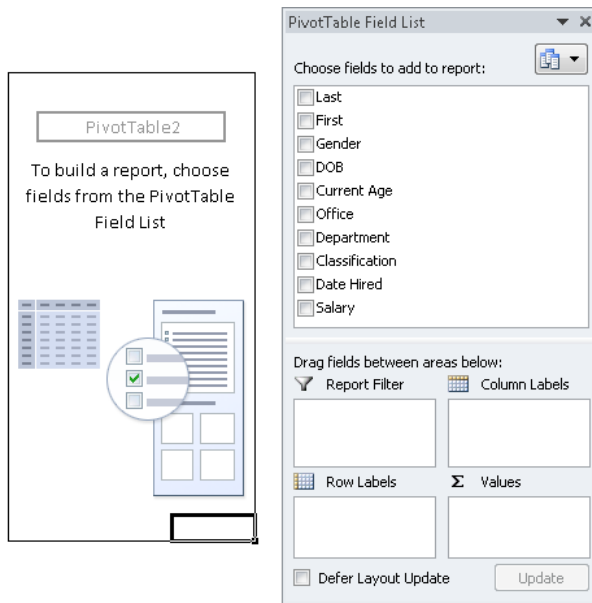


If the data range is not defined as a table and contains extra blank rows or columns or includes additional explanatory information, reconfigure the data or modify the default range.

4. Click the **OK** button to accept the default range and location.



A new worksheet opens with the area for the **PIVOTTABLE** displayed on the left and the **PIVOTTABLE FIELD LIST** dialog box displays on the right.



5. From the **PIVOTTABLE FIELD LIST** dialog box, from the **CHOOSE FIELDS TO ADD TO REPORT** list, select the **GENDER** checkbox.

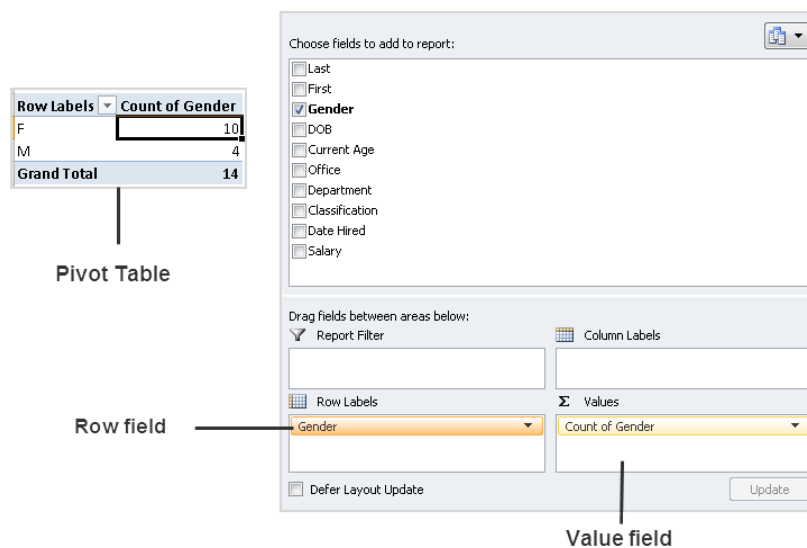


**GENDER** displays in the **ROW LABELS** area.

6. From the **CHOOSE FIELDS TO ADD TO REPORT** field, drag **GENDER** to the **VALUES** area.



The **COUNT OF GENDER** displays in the **VALUES** area and the number of employees of each gender displays in the **PIVOTTABLE**.

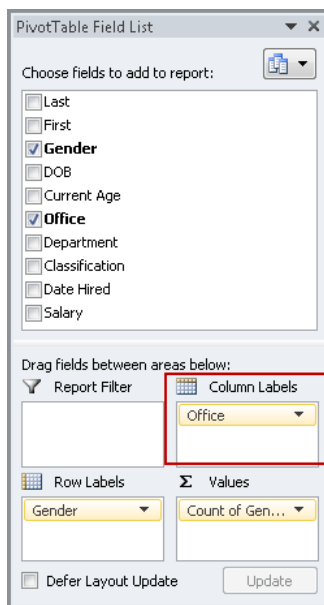



7. From the **CHOOSE FIELDS TO ADD TO REPORT** list, select the **OFFICE** checkbox.

 The **OFFICE** displays in the **ROW LABELS** area and a breakdown by gender and office displays in the **PIVOTTABLE**.

Row Labels	Count of Gender
<b>F</b>	27
Dallas	14
Houston	13
<b>M</b>	29
Dallas	13
Houston	16
<b>Grand Total</b>	56

8. From the **ROW LABELS** area, drag **OFFICE** to the **COLUMN LABELS** area.




 Now the offices are arranged in columns rather than rows within the **PIVOTTABLE**.

Count of Gender	Column Labels		
Row Labels	Dallas	Houston	Grand Total
F	14	13	27
M	13	16	29
<b>Grand Total</b>	27	29	56

9. From the **COLUMNS LABELS** area, drag **OFFICE** to the **ROW LABELS** area below **GENDER**.

 The offices are arranged in rows rather than columns within the **PIVOTTABLE**.

 You can see how the hierarchy of information can be set by arranging the categories in the **ROW LABELS** area. For instance, placing **OFFICE** above **GENDER** summarizes the data first by **OFFICE** then by **GENDER**.


10. Rename the new worksheet tab: **Office & Gender Summary**.

Save the workbook and continue to the next exercise.


## WORKING WITH PIVOTTABLE ELEMENTS

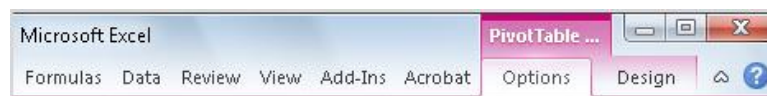
Continue using the **OFFICE & GENDER SUMMARY** worksheet.

1. Click any cell outside the **PIVOTTABLE**.

 Notice when I click outside the PivotTable, the **PIVOTTABLE FIELD LIST** no longer displays.

2. Click any cell within the **PIVOTTABLE**.


 Now when I click back in the **PIVOTTABLE**, the **PIVOTTABLE FIELD LIST** displays and the **PIVOTTABLE** contextual tabs are added to the Ribbon.



 If for any reason the **PIVOTTABLE FIELD LIST** does not display:

3. From **OPTIONS | SHOW**, click the **FIELD LIST** button.
4. From the **PIVOTTABLE**, click the **COLLAPSE** button next to “**F**” to hide the office information for this category.
5. From **OPTIONS | ACTIVE FIELD**, click the **COLLAPSE ENTIRE FIELD** button.



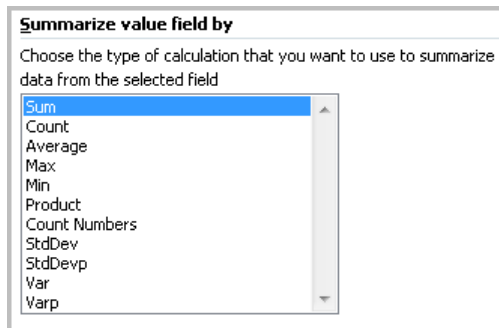
 Information about offices is suppressed for both males and females.

6. From **OPTIONS | ACTIVE FIELD**, click the **EXPAND ENTIRE FIELD** button to redisplay the office information.

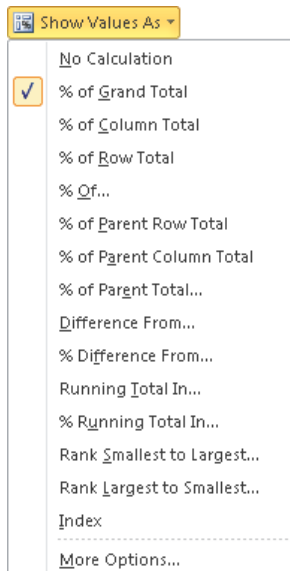
Save the workbook and continue to the next exercise.

## SUMMARIZING VALUE FIELDS

When a text field is added to the **VALUES** area of the **PIVOTTABLE**, the **COUNT** function is applied. When a numeric field is added the **SUM** function is applied. Other functions available include **AVERAGE**, **MIN**, **MAX** and the additional options listed in the **SUMMARIZE VALUE FIELD BY** list.



To change the calculation type, select any field value within the **PIVOTTABLE** and from **OPTIONS | CALCULATIONS**, click the **SUMMARIZE VALUES BY** options button and select **MORE OPTIONS**. Additional calculation options are available from the **SHOW VALUES As** list.



1. Continue using the **OFFICE & GENDER SUMMARY PIVOTTABLE** worksheet.
2. Click any cell within the **PIVOTTABLE**.

*The **PIVOTTABLE FIELD LIST** dialog box displays.*



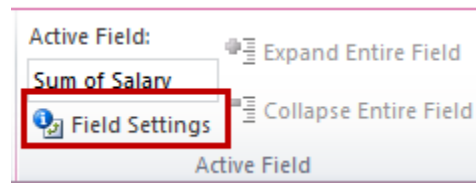
3. From **CHOOSE FIELDS TO ADD TO REPORT**, select the **SALARY** checkbox.

**SUM OF SALARY** is displayed in the **VALUE** area and the **SUM OF SALARY** column is added to the **PIVOTTABLE**.

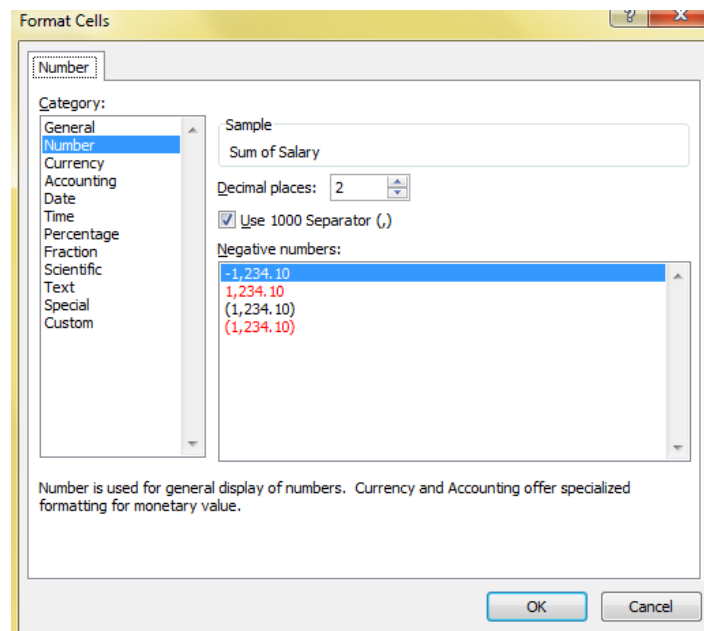
Row Labels	Count of Gender	Sum of Salary
<b>F</b>	27	1472000
Dallas	14	832500
Houston	13	639500
<b>M</b>	29	1622200
Dallas	13	599700
Houston	16	1022500
<b>Grand Total</b>	56	3094200


 The default style for numbers is **GENERAL**, which does not include a comma at the thousands location. To change the number format:




4. From **ACTIVE FIELD** click **FIELD SETTINGS**.



5. Click the **NUMBER FORMAT** button.
6. Choose **NUMBER** and click the **USE 1000 SEPARATOR (,)** checkbox. Click the **OK** button to finish.



 We cover how to format numbers and other PivotTable elements in more detail in the **PivotTables Formatting, Design and Chart** class.

7. Click **CELL C4** to make **SALARY** the active field.
8. From **OPTIONS | CALCULATIONS**, click the **SHOW VALUES AS** button and choose **% OF GRAND TOTAL**.  
 The salary for each office is displayed as a percentage of the total salaries.
9. From **OPTIONS | CALCULATIONS**, click the **SHOW VALUES AS** button and choose **NO CALCULATION**.
10. From **OPTIONS | CALCULATIONS**, click the **SUMMARIZE VALUES BY** button, and select **MIN**.  
 The lowest salary for each category displays.
11. From **OPTIONS | CALCULATIONS**, click the **SUMMARIZE VALUES BY** button and select **MAX**.  
 The highest salary for each category now displays.
12. From **OPTIONS | CALCULATIONS**, click the **SUMMARIZE VALUES BY** button and select **AVERAGE**.
13. Save the workbook.

## Source Data

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### REFRESHING A PIVOTTABLE



When edits are made to the source data, refresh the data to update the **PIVOTTABLE**.

1. Display the **EMPLOYEE DATA** worksheet.
2. Click in **CELL F4** and type: **Austin**
3. Use the fill handle to copy **AUSTIN** to **CELLS F5:F8**.
4. Display the **OFFICE & GENDER SUMMARY** worksheet.



Notice that no information on employees in the **AUSTIN** office is included in the PivotTable.

5. Click any cell in the **PIVOTTABLE** to activate the table.
6. From **OPTIONS | DATA**, click the **REFRESH** button.

**-OR-**

Right-click and select **REFRESH** from the shortcut menu.



The **REFRESH** button from **OPTIONS | DATA** is a combo button. Click the top of the button to select **REFRESH ALL**. Click the options button to view additional refresh choices.




Now the **PIVOTTABLE** is updated to include the new information.


Row Labels	Gender	Count	Average Salary
Female		27	54,518.52
Dallas		12	48,958.33
Houston		13	49,192.31
Austin		2	122,500.00
Male		29	55,937.93
Dallas		10	36,370.00
Houston		16	63,906.25
Austin		3	78,666.67
Grand Total		56	55,253.57


Save the workbook.

### UPDATING THE SOURCE DATA

1. To update the source data click any cell within the **PIVOTTABLE** and from **OPTIONS | DATA** click the **CHANGE DATA SOURCE** button.

 If the **PIVOTTABLE** is based on a data range and new rows are inserted within the defined range, the range on which the **PIVOTTABLE** is based updates automatically to include the new information.

 However, if the new columns or rows are added to the end of that range, the new information is not included in the **PIVOTTABLE** and the source data range must be redefined.

 If the **PIVOTTABLE** is based on a table rather than a range of cells, Excel assumes all contiguous data is the basis for the report. As a result, data in new rows is included whenever the **PIVOTTABLE** is refreshed.

2. Display the **EMPLOYEE DATA** worksheet.

3. Move to **CELL A60**, the first blank row after the main data range.


The last active row is **Row 59**.

4. Enter data about three hypothetical **male employees** who work in the **Sales** department of the **New Orleans** office and **earn over \$50,000 each**.

*The last active row is now **Row 62**.*

5. Display the **OFFICE & GENDER SUMMARY** worksheet and click any cell within the **PIVOTTABLE**.

6. From **OPTIONS | DATA**, click the **REFRESH** button.

 Notice that no information about employees in New Orleans is included in the report.

7. From **Options | Data**, click the top of the **CHANGE DATA SOURCE** button to display the **CHANGE PIVOTTABLE DATA SOURCE** dialog box.

8. Notice that the **CHANGE DATA SOURCE** is a combo button. Click the top of the button to select **CHANGE DATA SOURCE** to a range of cells in an Excel worksheet. Click the options button to specify connection options for an external data source, such as an Access database.

9. Edit the **TABLE/RANGE** field to **\$J\$62** and click the **OK** button to finish.

10. Refresh the **PIVOTTABLE**.

 Now data about the new employees is displayed in the PivotTable.

11. Save the workbook.

## USING A TABLE AS THE SOURCE DATA



Now we are going to look at using a **TABLE** as the **SOURCE DATA**. First, we need to format the range as a **TABLE**.

1. Display the **EMPLOYEE DATA** worksheet.
2. Click any cell within the main data range to make the range active.
3. From **HOME | STYLES** click the **FORMAT AS TABLE** button.

A gallery of table style options is displayed.

4. Select a table style and click the **OK** button to confirm the range of cells to be included in the table.
5. Move to the end of the table and enter hypothetical information about a female employee working in the San Francisco office who earns \$122,000.



Notice that the new row is automatically part of the table because it is adjacent to the original range.

Display the **OFFICE & GENDER SUMMARY** worksheet and refresh the **PIVOTTABLE**.



The new information is included in the PivotTable.



The blank is included because the table creates a new row automatically.

Save the workbook and continue to next exercise.

## Sorting and Filtering

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### SORTING A PIVOTTABLE INTRODUCTION



You can sort a **PIVOTTABLE** by field values or sort the report manually by dragging field values to a specific location.



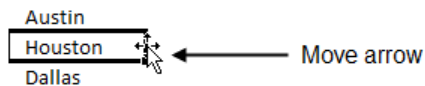
To access sort options, click any value in a field to make it active, then from **OPTIONS | SORT & FILTER** click a sort option.




Sort options are also available from the filter arrow next to **ROW** or **COLUMN LABELS** or an individual field.







## SORTING A PIVOTTABLE


1. Display the **OFFICE & GENDER SUMMARY PIVOTTABLE** worksheet.
2. Click any cell with an **OFFICE** value (Dallas, Houston, Austin, etc.) to make **OFFICE** the active field.
3. From **OPTIONS | SORT & FILTER**, click the **SORT Z TO A** button to sort in descending order by **OFFICE**.
4. From **OPTIONS | SORT & FILTER**, click the **SORT A TO Z** button to sort in ascending order by **OFFICE**.
5. Click any cell that contains the value **HOUSTON**.
6. Point to the border of the cell to display the four-headed **MOVE** arrow.




7. Drag the cell so that **HOUSTON** is displayed after **AUSTIN** and before **DALLAS**.
  8. Resort the **PIVOTTABLE** so the offices are in **A-Z ORDER**.
-  Save the changes and continue to next exercise.

## FILTERING A PIVOTTABLE

-  Filtering limits the **PIVOTTABLE** report data by criteria, such as employees in the Dallas office or employees in the HR department.
-  Each successive filter selected creates an **AND** condition, which requires that all conditions are true.
-  For example, selecting **FEMALE** from the **GENDER** field and **MARKETING** from the **SALES** field displays data about female employees in Marketing and excludes all other data.
-  To access filter options:
9. Click the filter arrow  next to **ROW LABELS**, **COLUMN LABELS**, **FIELD LABEL**, or **REPORT LABELS** to display filter options. Construct a label (text) or value filter or use the data checkboxes to select one, multiple, or all field values as a filter condition.
-  When the **COMPACT FORM** layout is applied to the **PIVOTTABLE**, **ROW LABELS** and **COLUMN LABELS** provide sort and filter functionality for the active field.


 To select a field for sorting or filtering, click any value from that field within the **PIVOTTABLE**.

 When the **COLUMNAR** or **TABULAR FORM** layout is applied to the **PIVOTTABLE**, an individual filter arrow displays for each field rather than the variable **ROW LABEL** or **COLUMN LABEL**.



## FILTERING BY FIELD VALUE


1. Using the **OFFICE & GENDER SUMMARY PIVOTTABLE**, click any cell with a **MALE** or **FEMALE** value to select **GENDER** as the active field.
2. Click the Row Labels filter arrow.



2			
3	Row Labels	Count of Gender	Average of Salary
4	F	28	56,928.57
5	Austin	2	122,500.00
6	Dallas	12	48,958.33
7	Houston	13	49,192.31
8	San Francisco	1	122,000.00
9	M	31	57,006.45
10	Austin	3	78,666.67
11	Dallas	10	36,370.00
12	Houston	16	63,906.25
13	New Orleans	2	72,500.00
14	Grand Total	59	56,969.49



 The sort and filter options for the **GENDER** columns are displayed.

3. Deselect the **(SELECT ALL)** checkbox and then click the **FEMALE** checkbox to count female employees only.

 The **FILTER** graphic  displays on the filter arrow to indicate an applied filter.


4. Click the **ROW LABELS** filter arrow  and select the **(SELECT ALL)** checkbox to count male and female employees.

 The filter arrow  no longer displays the filter graphic.

5. Click the name of any city to make **OFFICE** the active field.
6. Click the **ROW LABELS** filter arrow  and filter the report to limit the report to employees in the **HOUSTON** office.
7. Click the Row Labels filter arrow  and select the **(SELECT ALL)** checkbox to include employees from all offices.
8. Click the Row Labels filter arrow, select **VALUE FILTERS**, and choose **TOP 10**.
9. From the Show area, select **TOP 2 ITEMS** and click the **OK** button.

 The two offices with the highest counts display and the other offices are excluded from the **PIVOTTABLE**.


10. Click the **ROW LABELS** filter arrow, select **VALUE FILTERS**, and choose **CLEAR FILTER**.


 Data for all offices displays.


11. Save the workbook.

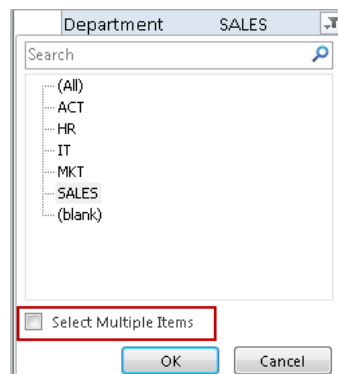
## CREATING A REPORT FILTER


1. Using the **OFFICE & GENDER SUMMARY PIVOTTABLE**, click any cell within the **PIVOTTABLE** to display the **PIVOTTABLE FIELD LIST** dialog box.
2. From the **CHOOSE A FIELD TO INCLUDE IN THE REPORT** list, right-click **DEPARTMENT** and select **ADD TO REPORT FILTER**.

 The **DEPARTMENT FILTER** is added to the top of the PivotTable.

3. Click the **DEPARTMENT** filter arrow  and select **SALES** and click the **OK** button to limit the report to people in the Sales department.

 To filter by more than one value, choose the **SELECT MULTIPLE ITEMS** checkbox.




4. Click the **OK** button to finish.
5. Click the Department filter arrow , select **(ALL)** to include all employees in the report, and click the **OK** button to finish.

 The dates for all departments now display in the **PIVOTTABLE**.

6. Save the workbook.

## FILTERING WITH SLICERS

 A **SLICER** uses graphical buttons rather than options lists to select field values for filtering.





Although **SLICERS** and report fields are similar, **SLICER** buttons make it easier to understand the applied filter criteria.

**Department**

ACT  
HR  
IT  
MKT  
**SALES**

Slicer criteria

Report filter criteria

Row Labels	Count of Gender
<b>F</b>	<b>6</b>
Dallas	4
Houston	2
<b>M</b>	<b>16</b>
Dallas	9
Houston	7
<b>Grand Total</b>	<b>22</b>

1. Display the **OFFICE & GENDER SUMMARY PIVOTTABLE** worksheet.
2. Click anywhere within the **PIVOTTABLE** and from **OPTIONS | SORT & FILTER**, click the **INSERT SLICERS** button.

The **INSERT SLICERS** dialog box is displayed.

3. Select the **DEPARTMENT** checkbox and click the **OK** button.



The **DEPARTMENT SLICER** displays with all the departments in the worksheet selected.

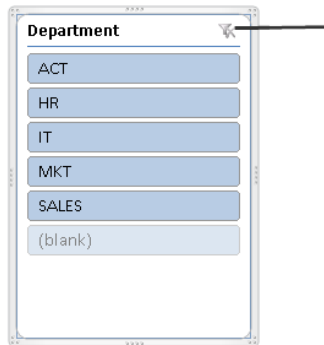
Department (All)

Row Labels	Gender Count	Average Salary
<b>(blank)</b>		
(blank)		
<b>Male</b>	<b>32</b>	<b>56,834.38</b>
Austin	3	78,666.67
Dallas	10	36,370.00
Houston	16	63,906.25
New Orleans	3	65,500.00
<b>Female</b>	<b>28</b>	<b>56,928.57</b>
Austin	2	122,500.00
Dallas	12	48,958.33
Houston	13	49,192.31
San Francisco	1	122,000.00
<b>Grand Total</b>	<b>60</b>	<b>56,878.33</b>

**Department**

ACT  
HR  
IT  
MKT  
SALES  
(blank)

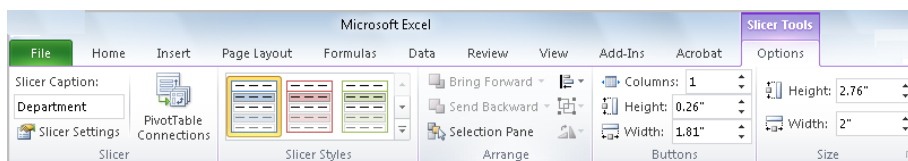
4. From the **DEPARTMENT SLICER**, click **MKT** to filter the **PIVOTTABLE** to include information about marketing employees.
5. From the **DEPARTMENT SLICER**, hold down the **{CTRL}** key and click **SALES** to include information about both **MARKETING** and **SALES** employees.
6. From the **DEPARTMENT SLICER**, click the **CLEAR FILTER** button to remove filters and display information for all employees.



7. Save the workbook.

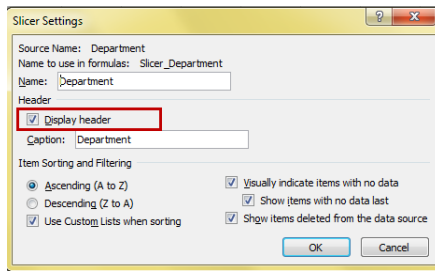
## CHANGING THE APPEARANCE OF THE SLICER

To change the appearance of a **SLICER**, select it to display the **SLICER TOOLS** contextual tab. From **OPTIONS**, choose to apply styles, rearrange the display, or increase or decrease the size of the **SLICER** or the **SLICER** buttons.



You can change the appearance of a **SLICER** using the options available on the Slicer Tools contextual ribbon.


1. Continue using the **OFFICE & GENDER SUMMARY PIVOTTABLE** with the slicer selected.
2. Click the **SLICER SETTINGS** button from **OPTIONS | SLICER**.
3. Deselect the **DISPLAY HEADER** checkbox and click the **OK** button.



 Notice that the field name **DEPARTMENT** and the **CLEAR FILTER** options is removed from the slicer.

 To clear the filter without the Header showing:



1. Right click and choose **CLEAR FILTER FROM** \_\_\_\_\_
4. From **OPTIONS | SLICER STYLES**, select a style for the slicer.
5. From **OPTIONS | BUTTONS**, set the **COLUMNS** field to **2**.

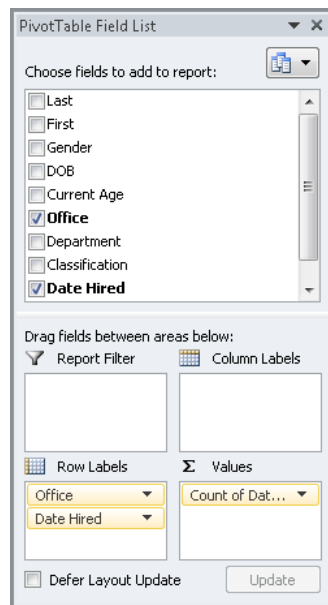
 Now the **SLICER** is formatted as two columns.

6. From **OPTIONS | BUTTONS**, use the spin arrows to increase or decrease the **HEIGHT** and **WIDTH** of the button.
7. From **OPTIONS | SIZE**, use the spin arrows to increase or decrease the **HEIGHT** and **WIDTH**.
8. Save the workbook.

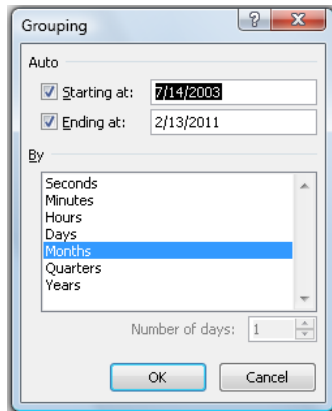
## Grouping Data

### GROUPING BY DATE

-  By default, date fields display as individual dates which creates long, rather meaningless PivotTables.
  -  Grouping the dates by year, quarter, or other date option generally provides a more useful summary.
1. Display the **EMPLOYEE DATA** worksheet.
  2. Click any cell within the main data range to identify it.
  3. From **INSERT | PIVOTTABLE**, create a **PIVOTTABLE** to match the following settings:
  4. **ROW LABELS:** Office.
  5. **VALUES:** Count of Date.
  6. **ROW LABELS:** Date Hired.



7. Click any cell in **COLUMN A** of the **PIVOTTABLE** to make **DATE HIRED** the active field.
8. From **OPTIONS | GROUP**, click the **GROUP FIELD** button  to display the **GROUPING** dialog box.



9. From the **BY** field, select **YEARS**, deselect **MONTHS**, and click the **OK** button to finish.



The data is summarized by year rather than by individual dates.

Row Labels	Count of Date Hired
<b>Austin</b>	<b>5</b>
2011	5
<b>Dallas</b>	<b>22</b>
2003	1
2005	1
2006	1
2007	9
2010	10
<b>Houston</b>	<b>29</b>
2005	4
2007	15
2009	9
2010	1
<b>New Orleans</b>	<b>3</b>
2010	3
<b>San Francisco</b>	<b>1</b>
2010	1
<b>Grand Total</b>	<b>60</b>

10. Rename the current worksheet **DATE HIRED SUMMARY**.
11. Save the workbook.

## Source Details

### VIEWING SOURCE DETAIL

Continue using the **DATE HIRED SUMMARY PIVOTTABLE**.

You can view source details by double-clicking any cell containing a count, average or sum (value component of the PivotTable).



For example, to answer the question “Who are the employees hired by the Houston office in 2005?”:

1. Double-click the cell containing the number of people and a detailed list is generated in a separate worksheet.

Row Labels		Count of Date Hired
Austin		5
2011		5
Dallas		22
2003		1
2005		1
2006		1
2007		9
2010		10
Houston		29
2005		4
2007		15
2009		9
2010		1
New Orleans		3
2010		3
San Francisco		1
2010		1
Grand Total		60

Click here to display detail information

Last	First	Gender	DOB	Current Age	Office	Department	Classification	Date Hired	Salary
O'Keefe	George	M	2/23/1977	34	Houston	IT	1	9/11/2005	23500
Murphy	Nancy	F	2/18/1977	34	Houston	IT	2	9/10/2005	37000
Blackwell	Andrea	F	2/16/1977	34	Houston	IT	1	9/9/2005	27000
Giardino	Daria	F	2/14/1977	34	Houston	IT	2	9/8/2005	36000



The separate table in the new worksheet is an independent table that is not linked to the original source data. If the source data needs updating, perform all updates on the original data, not on the separate table in the new worksheet.



To include detailed information within the **PIVOTTABLE** report itself:

2. Double-click a field value (any cell that is not a sum, count, average or other numeric summary) and select the relevant field, such as **DEPARTMENT**.

Dallas		22
2003		1
2005		1
2006		1
2007		9
HR		2
IT		2
MKT		3
SALES		2

## EXTRACTING DETAIL

Continue using the **DATE HIRED SUMMARY PIVOTTABLE** worksheet.

1. Double-click the cell containing the number of people hired in **2005** in the **Dallas** office.



A table containing the source data fields for rows that match the condition is displayed in a new worksheet.

Last	First	Gender	DOB	Current Age	Office	Department	Classification	Date Hired	Salary
O'Keefe	George	M	2/23/1977	34	Houston	IT	1	9/11/2005	23500
Murphy	Nancy	F	2/18/1977	34	Houston	IT	2	9/10/2005	37000
Blackwell	Andrea	F	2/16/1977	34	Houston	IT	1	9/9/2005	27000
Giardino	Daria	F	2/14/1977	34	Houston	IT	2	9/8/2005	36000



If any columns display ### double-click the column border to resize the column.

2. Change the name of the worksheet tab to **DALLAS 2005 HIRES**.

Save the workbook and continue to the next exercise.

## Calculated Fields

The following exercise creates two calculated fields, one to calculate a 10% discount and the second to calculate the amount of the final bill (Amount – Discount).



Calculated fields are used to perform calculations on the summarized PivotTable data.

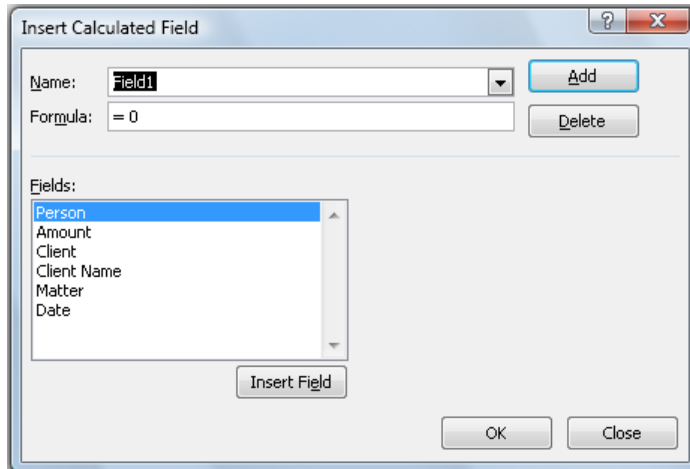
## ADDING CALCULATED FIELDS

1. Display the **BILLING** worksheet.
2. From the **PIVOTTABLE**, click any cell in the **SUM OF AMOUNT** column to make it the active field.

Billing Analysis								
Person	Amount	Client	Client Name	Matter	Date	Client Name	Person	Sum of Amount
ABC	\$12,345.00	7776	Green Company	1	12/31/2007	ABC Company	ABC	\$161,499.71
ABC	\$12,345.22	7776	Green Company	1	11/30/2007		LLL	\$76,181.41
LLL	\$1,234.55	7776	Green Company	1	11/30/2007		MMM	\$37,158.98
LLL	\$10,567.00	7776	Green Company	1	5/31/2007		XYZ	\$29,478.99
MMM	\$123.44	7776	Green Company	1	9/30/2007	ABC Company Total		\$304,319.09
MMM	\$12,345.66	7776	Green Company	1	7/31/2007			
XYZ	\$5,432.00	7776	Green Company	1	4/30/2007	Green Company	ABC	\$24,690.22
XYZ	\$34,556.22	7776	Green Company	1	11/30/2007		LLL	\$11,801.55
XYZ	\$34,567.22	7776	Green Company	1	12/31/2007		MMM	\$12,469.10
ABC	\$800.18	1234	ABC Company	3	1/31/2007		XYZ	\$74,555.44
ABC	\$2,345.66	1234	ABC Company	10	9/30/2007	Green Company Total		\$123,516.31
ABC	\$3,000.00	1234	ABC Company	15	1/31/2007			
ABC	\$4,567.22	1234	ABC Company	10	2/28/2007	XYZ Company	ABC	\$1,234.55
ABC	\$5,000.00	1234	ABC Company	10	1/31/2007		LLL	\$345.22
ABC	\$8,776.00	1234	ABC Company	10	3/31/2007	XYZ Company Total		\$1,579.77
ABC	\$8,976.33	1234	ABC Company	15	3/31/2007			
ABC	\$12,456.00	1234	ABC Company	15	6/30/2007	Grand Total		\$429,415.17

- From **OPTIONS | CALCULATIONS**, click the **FIELDS, ITEMS & SETS** button and choose **CALCULATED FIELD**.

The **INSERT CALCULATED FIELD** dialog box displays.




- In Name box type: **Discount** to name the new field.
- From the **FIELDS** section, select **AMOUNT** and click the **INSERT FIELD** button.

 **AMOUNT** is added to the **FORMULA** box.

- Type: **\* 10%**.

Formula:

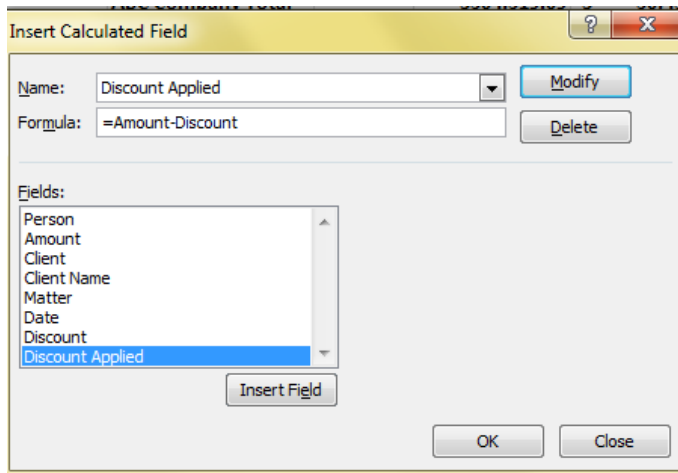
- Click the **OK** button to finish.

 The calculated field is added to the **PIVOTTABLE**.

		Values	
Client Name	Person	Sum of Amount	Sum of Discount
ABC Company	ABC	\$161,499.71	\$ 16,149.97
	LLL	\$76,181.41	\$ 7,618.14
	MMM	\$37,158.98	\$ 3,715.90
	XYZ	\$29,478.99	\$ 2,947.90
ABC Company Total		\$304,319.09	\$ 30,431.91
Green Company	ABC	\$24,690.22	\$ 2,469.02
	LLL	\$11,801.55	\$ 1,180.16
	MMM	\$12,469.10	\$ 1,246.91
	XYZ	\$74,555.44	\$ 7,455.54
Green Company Total		\$123,516.31	\$ 12,351.63
XYZ Company	ABC	\$1,234.55	\$ 123.46
	LLL	\$345.22	\$ 34.52
XYZ Company Total		\$1,579.77	\$ 157.98
Grand Total		\$429,415.17	\$ 42,941.52



8. Click any cell in the **SUM OF DISCOUNT** column to select it as the active field.
9. Use the same procedure to insert a column that subtracts the discount from the total amount called **SUM OF DISCOUNT APPLIED**.



		Values		
Client Name	Person	Sum of Amount	Sum of Discount	Sum of Discount Applied
ABC Company	ABC	\$161,499.71	\$ 16,149.97	\$ 145,349.74
	LLL	\$76,181.41	\$ 7,618.14	\$ 68,563.27
	MMM	\$37,158.98	\$ 3,715.90	\$ 33,443.08
	XYZ	\$29,478.99	\$ 2,947.90	\$ 26,531.09
ABC Company Total		\$304,319.09	\$ 30,431.91	\$ 273,887.18
Green Company	ABC	\$24,690.22	\$ 2,469.02	\$ 22,221.20
	LLL	\$11,801.55	\$ 1,180.16	\$ 10,621.40
	MMM	\$12,469.10	\$ 1,246.91	\$ 11,222.19
	XYZ	\$74,555.44	\$ 7,455.54	\$ 67,099.90
Green Company Total		\$123,516.31	\$ 12,351.63	\$ 111,164.68
XYZ Company	ABC	\$1,234.55	\$ 123.46	\$ 1,111.10
	LLL	\$345.22	\$ 34.52	\$ 310.70
XYZ Company Total		\$1,579.77	\$ 157.98	\$ 1,421.79
Grand Total		\$429,415.17	\$ 42,941.52	\$ 386,473.65

10. Save the workbook.

## PivotTable Actions

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### MOVING A PIVOTTABLE



**PIVOTTABLES** can be moved to another location within the same worksheet, to another worksheet within the current workbook, or to another workbook.

1. Continue using the **BILLING** worksheet.
2. Click any cell within the **PIVOTTABLE**.
3. From **OPTIONS | ACTIONS** click the **MOVE PIVOTTABLE** button.

The **MOVE PIVOTTABLE** dialog box is displayed.

4. Select the **NEW WORKSHEET** radio button and click the **OK** button to finish.



The **PIVOTTABLE** is moved to the new worksheet.



If necessary, click the **REFRESH** button or widen the columns to accommodate the information.

5. Save the changes.