Unit 4: Data set Summarization

- **Introduction to Pivot Table :-** A PivotTable is an extremely powerful tool that you can use to slice and dice data. You can track and analyze hundreds of thousands of data points with a compact table that can be changed dynamically to enable you to find the different perspectives of the data. It is a simple tool to use, yet powerful.

The major features of a PivotTable are as follows –

- Creating a PivotTable is extremely simple and fast
- Enabling churning of data instantly by simple dragging of fields, sorting and filtering and different calculations on the data.
- Arriving at the suitable representation for your data as you gain insights into it.
- Ability to create reports on the fly.
- Producing multiple reports from the same PivotTable in a matter of seconds.
- Providing interactive reports to synchronize with the audience.

PivotTable Layout - Fields and Areas: The PivotTable layout simply depends on what fields you have selected for the report and how you have arranged them in Areas. The selection and arrangement can be done by just dragging the fields. As you drag the fields, the PivotTable layout keeps the changing and it happens in a matter of seconds.

- **Use of Pivot Table in Data Analysis**

The primary goal of using a PivotTable normally is to explore the data to extract significant and required information. You have several options to do this that include Sorting, Filtering, Nesting, Collapsing and Expanding, Grouping and Ungrouping, etc.

- **Summarizing Values:** Once you organize the data required by you by the different exploration techniques, the next step that you would like to take is to summarize the data. Excel provides you with a variety of calculation types that you can apply based on suitability and requirement. You can also switch across different calculation types and view the results in a matter of seconds.

- **Updating a PivotTable:** Once you have explored the data and summarized it, you need not repeat the exercise if and when the source data gets updated. You can refresh the PivotTable so that it reflects the changes in the source data.

- **PivotTable Reports:** After exploring and summarizing the data with a PivotTable, you would be presenting it as a report. PivotTable reports are interactive in nature, with the specialty that even a person not familiar with Excel can use them intuitively. Because of their inherent dynamic nature, they will enable you to change the perspective quickly of the report to show the required level of detail or to focus on the specific items in which the audience expresses interest.

Further, you can structure a PivotTable report for standalone presentation or as an integral part of a broad report as the case may be.

- **Pivot Table Aggregation function:**

A pivot table is a table of values which are aggregations of groups of individual values of a more extensive table (such as from a database, spreadsheet, or business intelligence program) within one or more discrete categories. The aggregations or summaries on the groups of the individual terms might include sums, averages, counts, or other statistics. A pivot table is an outcome of statistically processing on a tabularized raw data and can be used for decision making.

Pivot tables are one of Excel's most powerful features. A pivot table allows we to extract the significance from a large, detailed data set.

To insert a pivot table, execute the following steps.

1. Click any single cell inside the data set.

2. On the Insert tab, in the Tables group, click PivotTable.

- **Field Calculations:** In Pivot table If the data area contains numerical values then the SUM() function is used by default. If the data area contains non numerical values then the COUNT() function is used. One can specify which fields to include and the type of calculations used on those fields.

For each combination of values in the row and column fields, the data field takes on a different value and this value appears in the data area.

- **Default Calculations**

It is possible to use other function in order to summarize the data. There are actually choices of eleven different aggregate functions that can be used in the pivot table.

- **Pivot table Summarize Functions**:

SUM	This is the default function used when the data area contains numeric values. The total value of the numbers in a list or cell range.
COUNT	This is the default function used when the data area contains non numeric values. The number of numeric values in a list or array of numbers.
COUNTA	**Count Nums** The number of non-blank cells in a list or cell range.
AVERAGE	The arithmetic mean of a list or array of numbers.
MAX	The largest value in a list or array of numbers.
MIN	The smallest value in a list or array of numbers.
PRODUCT	The product of all the numbers in a list or cell range.
STDDEV	The standard deviation based on a sample.
STDDEVP	The standard deviation based on an entire population.
VAR	The compound variance based on a sample.
VARP	The variance based on an entire population.

When we change the function, the Data area will reflect the changes automatically.
It is possible to customize the selected function by adding some calculation options on the pivot table field dialog box. In addition to the eleven functions that are provide by default we can also create our own custom calculations.

- **Custom Calculations:** There are also a large number of custom calculations which we can use including running totals and item percentages. Some of these calculations require a field to use as well as the value for the field. To apply a custom calculation go to PivotTable -> Value Field Settings -> Show values as) "Options".

When we select a member of the Base Field, the corresponding items will automatically be displayed in the Calculation tab.

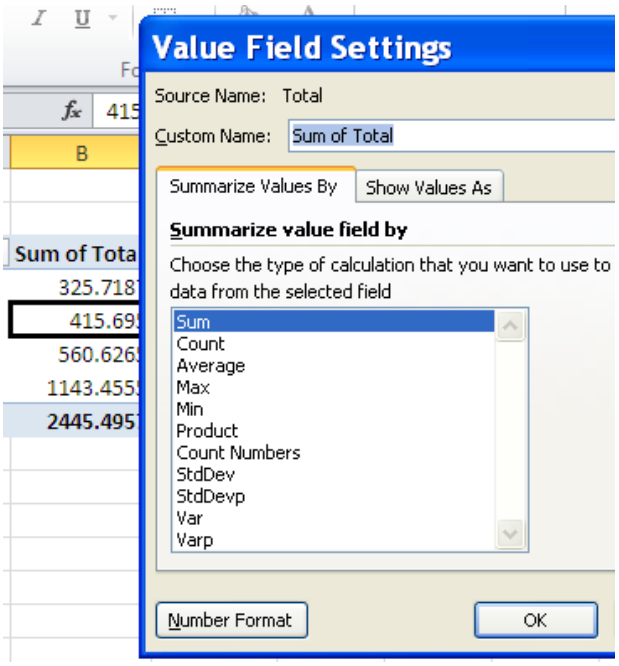
We can summarize a PivotTable by placing a field in ∑ VALUES area in the PivotTable Fields Task pane. By default, Excel takes the summarization as sum of the values of the field in ∑ VALUES area. However, we have other calculation types, such as, Count, Average, Max, Min, etc.

Normal	Default
Difference From	Calculates the difference between two cells.
% of	Calculates the percentage of a cell to a selected base value.
% Difference From	Calculates the difference between two cell values.
Running Total in	Calculates and displays the running total in each cell.
% of row	Calculates the percentage of the cell value to the total row.
% of column	Calculates the percentage of the cell value to the total column.
% of total	Calculates the percentage of the value of the grand total.
Index	Calculates the index value of the cell value.

- **Introduction**

When we add a field to the pivot table's Values area, 11 different functions, such as Sum, Count and Average, are available to summarize the data.

The summary functions in a pivot table are similar to the worksheet functions with the same names, with a few differences as noted in the descriptions that follow.



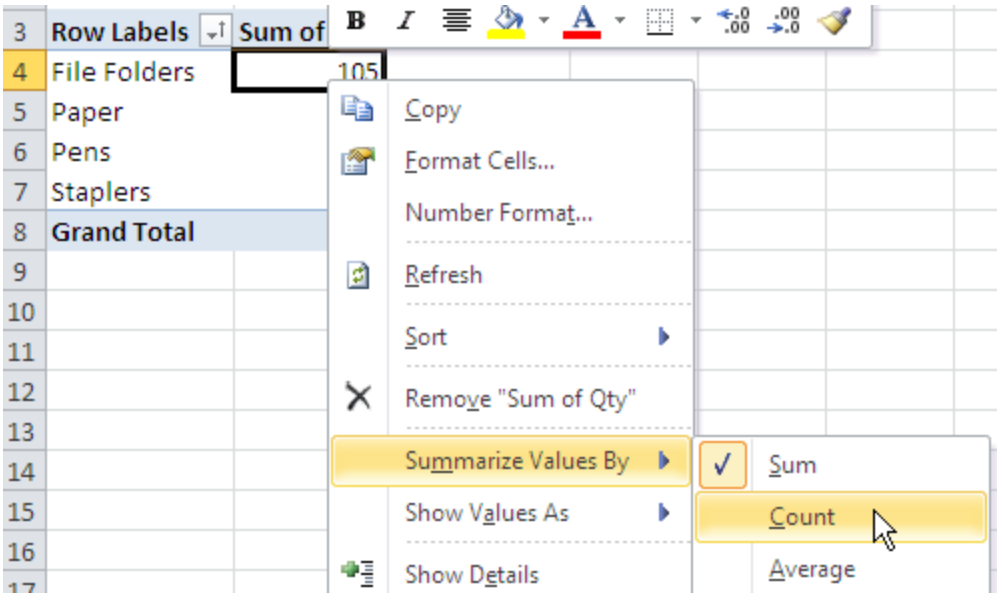
Change the Summary Function

When we add a numerical field to the pivot table's Values area, Sum or Count will be the default summary function. The default function can't be changed -- it is applied based on the field's contents:

- If the field contains numbers, **Sum** will be the default
- If the field contains text or blank cells, **Count** will be the default

After a field has been added to the pivot table, to select a different summary function, follows these steps:

1. Right-click on a cell in the Value field that we want to change.
2. In the pop-up menu, click Summarize Values By
3. Click on the Summary Function that we want to use



- **Totals and Subtotals*:*** The selected summary function will automatically be used in the subtotals and grand totals for that field. We can select a different function for the totals. However, the totals calculated on the source data, not on the values showing in the pivot table. For example, if a field uses the MAX summary function, and the subtotal shows the AVERAGE, it will be an average from the values in the source data, not an average of the MAX values. (To calculate the Average of the Max values, we could use formulas outside of the pivot table, or create a new pivot table, based on the original one.)

- **Sum Function**:The pivot table's **Sum** function totals all the underlying values for each item in the field. The result is the same as using the SUM function on the worksheet to total the values. Blank cells, and cells with text are ignored. When we add a numerical field to the pivot table's Values area, **Sum** will be the default summary function. (Note: If the field contains text or blank cells, **Count** will be the default.)

In the screen shot below, we can see the source data for a small pivot table, and the total quantity, using the worksheet's SUM function, is 317.

	A	B	C
1	**Date**	**Product**	**Qty**
2	9-Jul	File Folders	8
3	11-Jul	File Folders	97
4	4-Jul	Paper	20
5	7-Jul	Paper	10
6	12-Jul	Paper	20
7	6-Jul	Pens	
8	8-Jul	Pens	95
9	5-Jul	Staplers	42
10	10-Jul	Staplers	25
11			
12		Total	317
13			

With a pivot table, we can quickly see the total sum for each product that was sold, and the grand total -- 317 -- which matches the worksheet total.

	A	B
1		
2		
3	**Row Labels**	**Sum of Qty**
4	File Folders	105
5	Paper	50
6	Pens	95
7	Staplers	67
8	**Grand Total**	**317**
9		

- **Count Function**

Count is the default summary function when fields with nonnumeric or blank cells are added to the Values area. The **Count** function's name is slightly confusing, because it's like the COUNTA worksheet function, not the COUNT worksheet function. The pivot table **Count** function counts: text, numbers, errors. Blank cells are NOT counted.

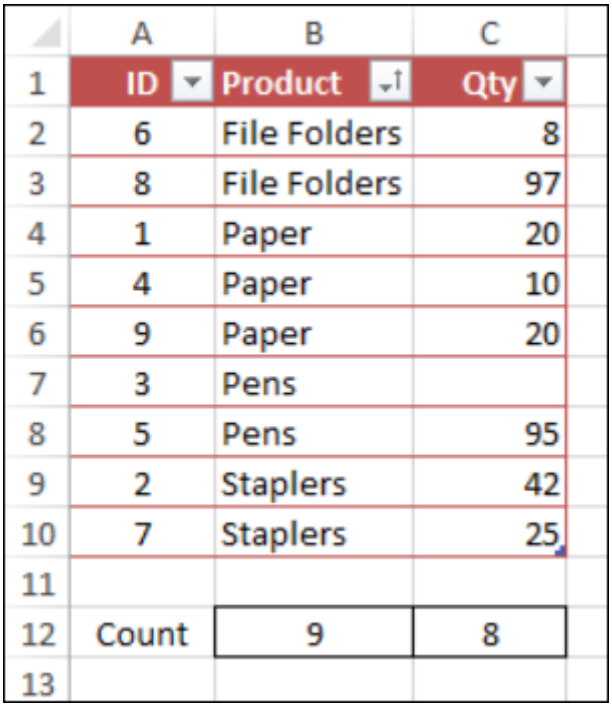
- **Count Blank Cells**

In a pivot table, the **Count** function does not count blank cells. So, if we need to show counts that include all records, choose a field that has **data in every row**.

Blank Cells in Data

In the product sales data shown below, cell C7, in the Qty column, is blank.

- There are 9 entries in the Product column, with 2 orders for Pens
- There are 8 entries in the Qty column, with 1 number for Pens

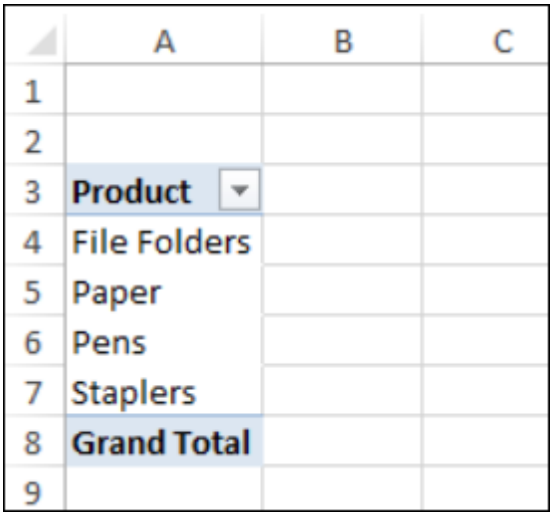


	A	B	C
1	ID	Product	Qty
2	6	File Folders	8
3	8	File Folders	97
4	1	Paper	20
5	4	Paper	10
6	9	Paper	20
7	3	Pens	
8	5	Pens	95
9	2	Staplers	42
10	7	Staplers	25
11			
12	Count	9	8
13			

- **Count Product Orders**

Using that product sales data, we want to create a pivot table that shows the number of orders for each product. To get the pivot table started, follow these steps:

1. Select a cell in the orders table
2. On the Excel Ribbon's Insert tab, click Pivot Table
    - The table name should automatically appear in the Table/Range box
    - For the location, choose New Worksheet
    - Leave the Data Model box unchecked
    - Click OK
3. In the PivotTable Fields list, check the Product field, to add it to the Rows area



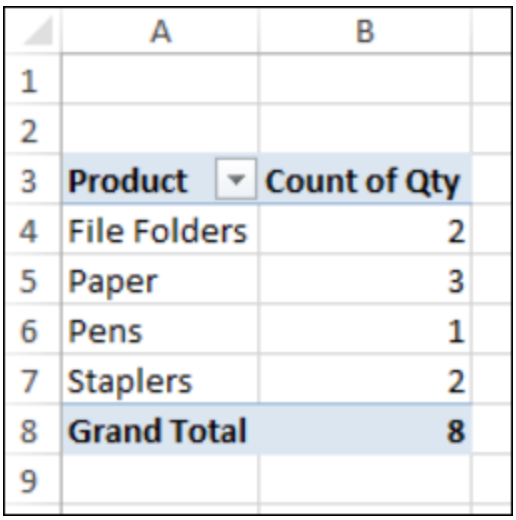
	A	B	C
1			
2			
3	**Product**		
4	File Folders		
5	Paper		
6	Pens		
7	Staplers		
8	**Grand Total**		
9			

Usually, we put numeric fields into the Values area of a pivot table. To see what happens with this data, follow these steps:

1. In the PivotTable Fields list, check the Qty field, to add it to the Values area
2. Qty appears in the pivot table as Sum of Qty
3. Right-click a cell in the Sum of Qty column
4. Point to Summarize Values By, then click Count

Because one of the Qty cells is blank, it is not counted.

- There are 2 orders for Pens, but the count of Qty is 1.



	A	B
1		
2		
3	**Product**	**Count of Qty**
4	File Folders	2
5	Paper	3
6	Pens	1
7	Staplers	2
8	**Grand Total**	**8**
9		

- **Fix the Problem:** To get the count of all orders, even if the Qty cells are blank, follow these steps:

1. In the PivotTable Fields list, uncheck the Qty field, to remove it from the Values area
2. Drag another copy of the Product field into the pivot table, and place it in the Values area
3. Because Product is a text field, it will automatically summarize as Count.

Because none of the Product cells are blank, the count includes all the orders.

- There are 2 orders for Pens, and the count of Product is 2

Rename the Count of Product column as "Orders"

	A	B
1		
2		
3	**Product**	**Count of Product**
4	File Folders	2
5	Paper	3
6	Pens	2
7	Staplers	2
8	**Grand Total**	**9**
9		

Average Function

The **Average** function totals all the underlying values in the Values area, and it divides by the number of values. The result is the same as using the AVERAGE function on the worksheet to calculate the average (mean) of the values.

Blanks and Zeros

Blank cells, and cells with text, are ignored when calculating the pivot table averages, but zero cells are included. In the data source shown below, cell C7 is blank, and is not included in either the worksheet average (C12), or the pivot table average, shown below.

	A	B	C
1	**Date**	**Product**	**Qty**
2	9-Jul	File Folders	8
3	11-Jul	File Folders	97
4	4-Jul	Paper	20
5	7-Jul	Paper	10
6	12-Jul	Paper	20
7	6-Jul	Pens	
8	8-Jul	Pens	95
9	5-Jul	Staplers	42
10	10-Jul	Staplers	25
11			
12		Average	39.63

If we have formatted the worksheet to hide zero values, remember that those zero values will be included in the averages, even if the cells appear blank.

Format the Results: When we use the Average summary function, the results will probably show a strange mixture of decimal places, as shown in the pivot table at the left, in the screen shot below. Format the field to have a consistent number of decimal places (as in the pivot table at the right, below), so the numbers are easy to compare.

	A	B	C	D	E
1					
2					
3	Row Labels	Average of Qty		Row Labels	Average of Qty
4	File Folders	52.5		File Folders	52.50
5	Paper	16.66666667		Paper	16.67
6	Pens	95		Pens	95.00
7	Staplers	33.5		Staplers	33.50
8	**Grand Total**	**39.625**		**Grand Total**	**39.63**
9					

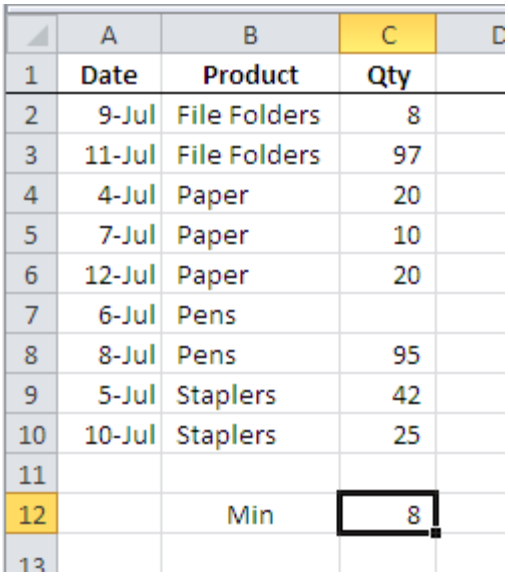
- **Max Function:** The Max summary function shows the maximum value from the underlying values in the Values area. The result is the same as using the MAX function on the worksheet to calculate the maximum of the values. In the screen shot below, we can see the source data for a small pivot table, and the maximum quantity, using the worksheet's MAX function, is 97.

	A	B	C
1	Date	Product	Qty
2	9-Jul	File Folders	8
3	11-Jul	File Folders	97
4	4-Jul	Paper	20
5	7-Jul	Paper	10
6	12-Jul	Paper	20
7	6-Jul	Pens	
8	8-Jul	Pens	95
9	5-Jul	Staplers	42
10	10-Jul	Staplers	25
11			
12		Max	97
13			

With a pivot table, we can quickly see the maximum for each product that was sold, and the grand total -- 97 -- which matches the worksheet maximum.

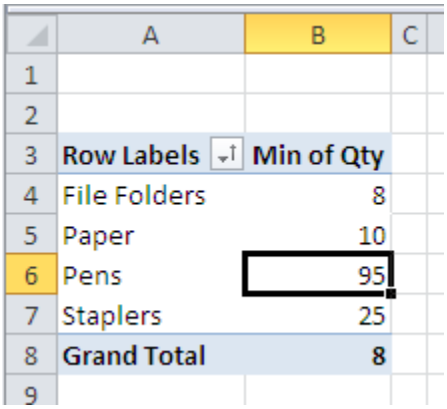
	A	B	C
1			
2			
3	Row Labels	Max of Qty	
4	File Folders	97	
5	Paper	20	
6	Pens	95	
7	Staplers	42	
8	**Grand Total**	97	
9			

- **Min Function:** The Min summary function shows the minimum value from the underlying values in the Values area. The result is the same as using the MIN function on the worksheet to calculate the minimum of the values. In the screen shot below, we can see the source data for a small pivot table, and the minimum quantity, using the worksheet's MIN function, is 8.



	A	B	C
1	Date	Product	Qty
2	9-Jul	File Folders	8
3	11-Jul	File Folders	97
4	4-Jul	Paper	20
5	7-Jul	Paper	10
6	12-Jul	Paper	20
7	6-Jul	Pens	
8	8-Jul	Pens	95
9	5-Jul	Staplers	42
10	10-Jul	Staplers	25
11			
12		Min	8

With a pivot table, we can quickly see the minimum for each product that was sold, and the grand total -- 8 -- which matches the worksheet minimum. In both the worksheet and the pivot table, the blank cell is ignored when calculating the minimum amount.



	A	B	C
1			
2			
3	Row Labels	Min of Qty	
4	File Folders	8	
5	Paper	10	
6	Pens	95	
7	Staplers	25	
8	Grand Total	8	
9			

- **Product Function:** The Product summary function shows the result of multiplying all the underlying values in the Values area. The result is the same as using the PRODUCT function on the worksheet to calculate the product of the values. In the screen shot below, we can see the pivot table source data, with the PRODUCT calculated for each product group. At the bottom of the source data is the overall PRODUCT calculation.

	A	B	C	D
1	Date	Product	Qty	Product
2	9-Jul	File Folders	8	776
3	11-Jul	File Folders	97	
4	4-Jul	Paper	20	4000
5	7-Jul	Paper	10	
6	12-Jul	Paper	20	
7	6-Jul	Pens		95
8	8-Jul	Pens	95	
9	5-Jul	Staplers	42	1050
10	10-Jul	Staplers	25	
11				
12		Product	309,624,000,000	

The results of the **Product** function may be very large numbers and default to a scientific number format. We can format the numbers as Number format, instead of scientific format.
Note: Excel only stores and calculates with 15 significant digits of precision, so after the 15th character we'll only see zeros.

	A	B	C	E
1				
2				
3	Row Labels	Product of Qty		Product of Qty
4	File Folders	776		776
5	Paper	4000		4,000
6	Pens	95		95
7	Staplers	1050		1,050
8	Grand Total	3.09624E+11		309,624,000,000
9				
10				

- **Count Numbers Function:**

The **Count Numbers** summary function counts all the underlying numbers in the Values area. The result is the same as using the COUNT function on the worksheet. Blank cells, errors, and text are not counted.

In the screen shot below, we can see the source data for a small pivot table, and the count of the numbers in the Qty column (column C). In cell C4, the value of 20 is entered as text, so that cell isn't counted.

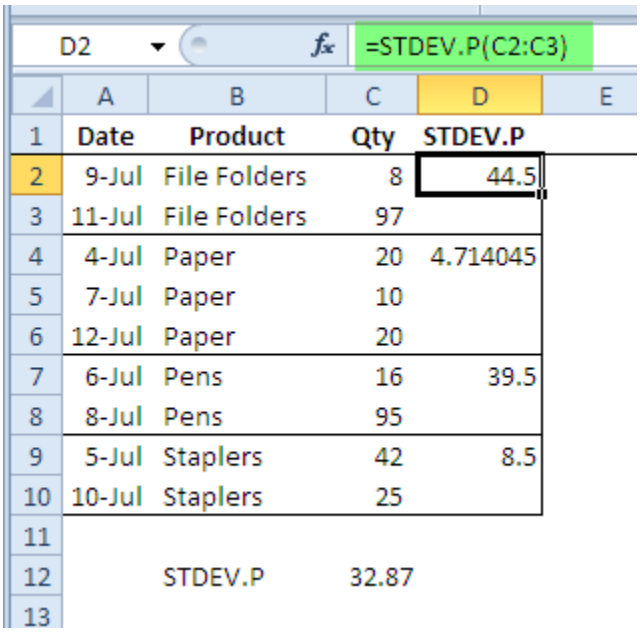
	A	B	C	D
1	**Date**	**Product**	**Qty**	
2	9-Jul	File Folders	8	
3	11-Jul	File Folders	97	
4	4-Jul	Paper	20	
5	7-Jul	Paper	10	
6	12-Jul	Paper	20	
7	6-Jul	Pens		
8	8-Jul	Pens	95	
9	5-Jul	Staplers	42	
10	10-Jul	Staplers	25	
11				
12		Count	7	
13				

Count Numbers vs. Count: In the pivot table shown below, the Qty field has been added twice to the Values area. In column B, the summary function is Count Numbers, and the Grand Total is 7. In column C, the summary function is Count, which includes text, so the Grand Total for that column is 8.

	A	B	C
1			
2			
3		**Values**	
4	**Row Labels**	**Count of Qty**	**Count of Qty2**
5	File Folders	2	2
6	Paper	2	3
7	Pens	1	1
8	Staplers	2	2
9	**Grand Total**	**7**	**8**
11		Count Numbers	Count
12			

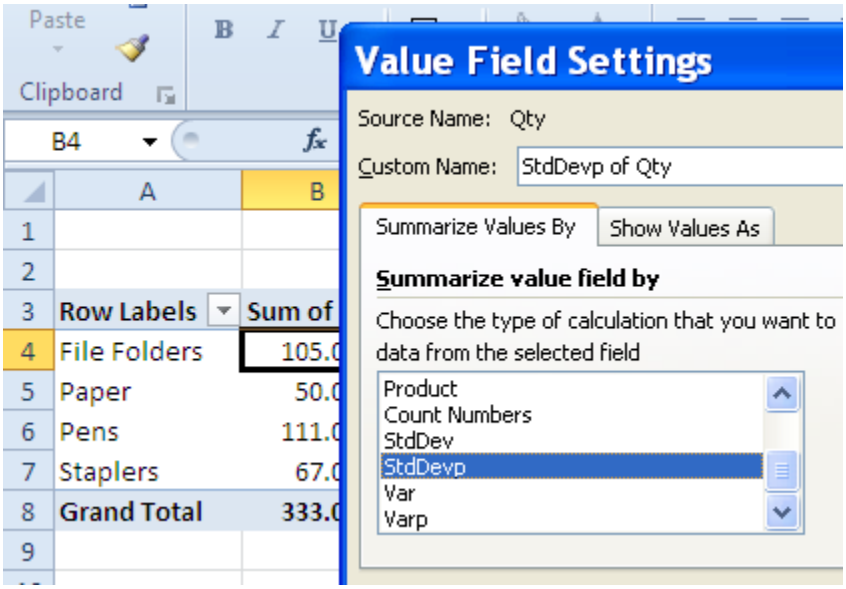
- **StdDev Function and StdDevP Function:** Like the STDEV.P and STDEV.S worksheet functions, the StdDevp and StdDev summary functions calculate the standard deviation for the underlying data in the Values area. The standard deviation is a measure of how widely the values vary from the average of the values. The StdDevP summary function should be used when the entire population is used in the calculation. When a sample of the data is used, not the entire population, then use the StdDev summary function.

In the screen shot below, we can see example pivot table source data, and the STDEV.P worksheet function is calculating the standard deviation for each product type. For the File Folders, there is a large difference between the quantities sold, and the standard deviation is high -- 44.5. For Paper, the difference in quantity is much smaller, and the standard deviation is low -- 4.7.



	A	B	C	D	E
1	**Date**	**Product**	**Qty**	**STDEV.P**	
2	9-Jul	File Folders	8	44.5	
3	11-Jul	File Folders	97		
4	4-Jul	Paper	20	4.714045	
5	7-Jul	Paper	10		
6	12-Jul	Paper	20		
7	6-Jul	Pens	16	39.5	
8	8-Jul	Pens	95		
9	5-Jul	Staplers	42	8.5	
10	10-Jul	Staplers	25		
11					
12		STDEV.P	32.87		
13					

When the Qty field is added to the pivot table, change the summary calculation to StdDevp.



In the screen shot below, we can see that the standard deviations in the pivot table are the same as those that were calculated on the worksheet.

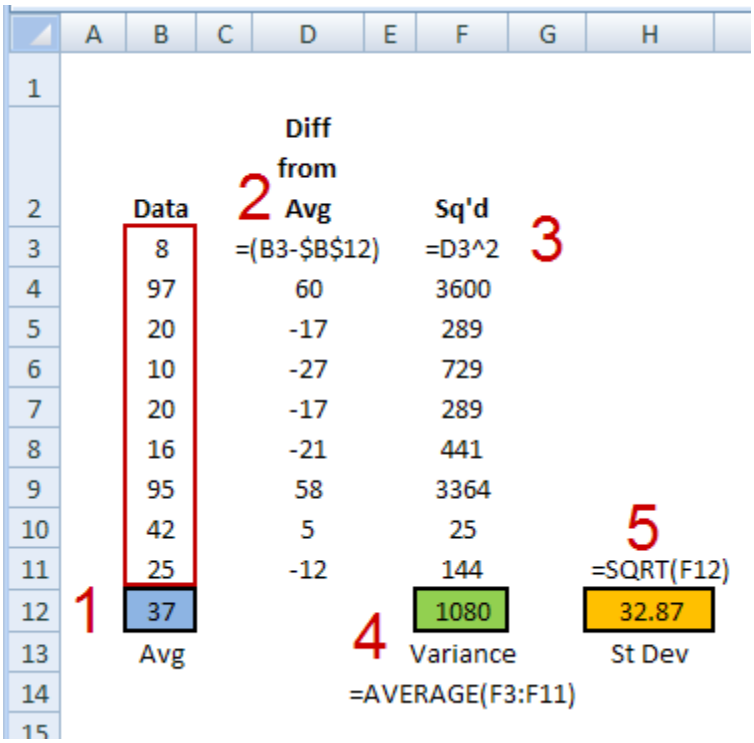
	A	B
1		
2		
3	**Row Labels**	**StdDevp of Qty**
4	File Folders	44.5000
5	Paper	4.7140
6	Pens	39.5000
7	Staplers	8.5000
8	**Grand Total**	**32.8667**
9		

Note: If the count of items is one, a #DIV/0! error is displayed when using the StdDev summary function, because one is subtracted from the count when calculating the standard deviation.

How the Standard Deviation is calculated

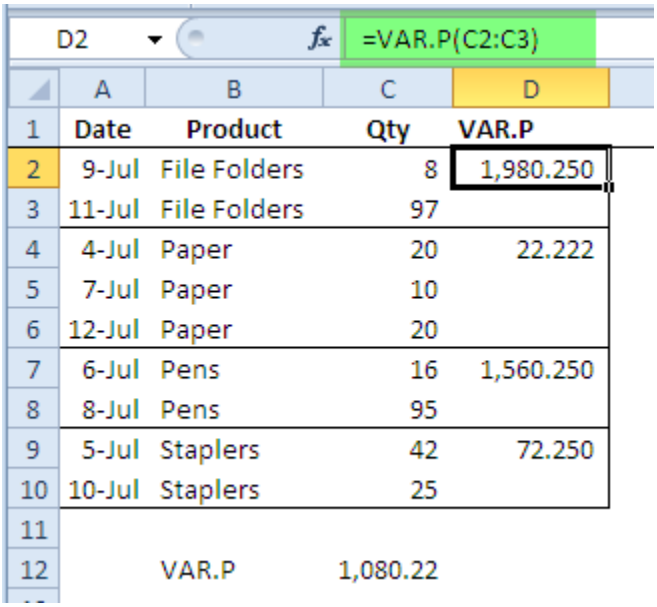
For the standard deviation, each number is compared to the mean of the numbers. We could calculate the standard deviation on the worksheet, without using the STDEV.P function.

1. Find the average of the numbers in the pivot table data.
2. From each number, subtract the average.
3. Square the calculated difference for each number
4. Find the average of the squared difference.
5. Find the square root of the average.

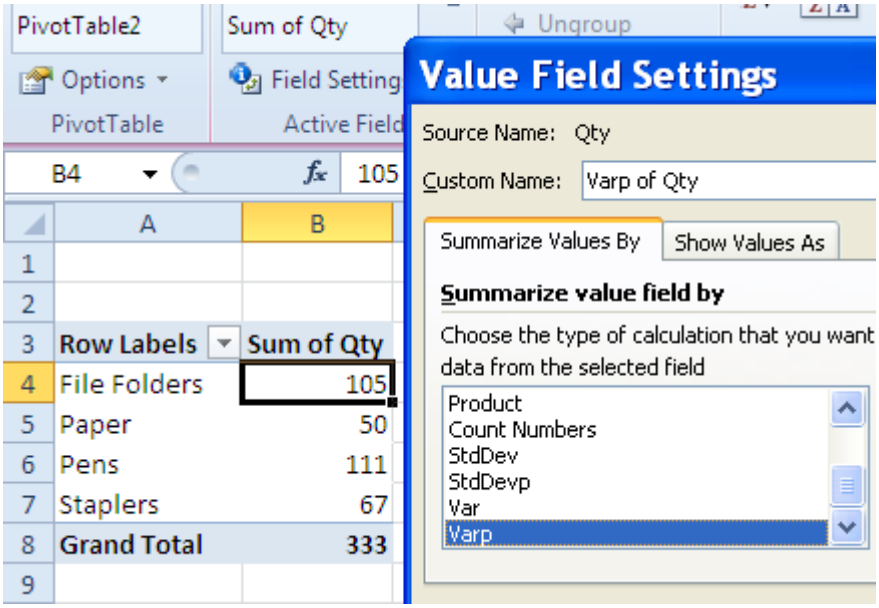


- **Var Function and Varp Function:** The Var and Varp summary functions work like the VAR.P and VAR.S worksheet functions, to calculate the variance for the underlying data in the Values area, and variance is a measure of how widely the values vary from the average of the values. When the entire population is used in the calculation, the VarP summary function is used. For a sample of the data, instead of the entire population, use the Var summary function.

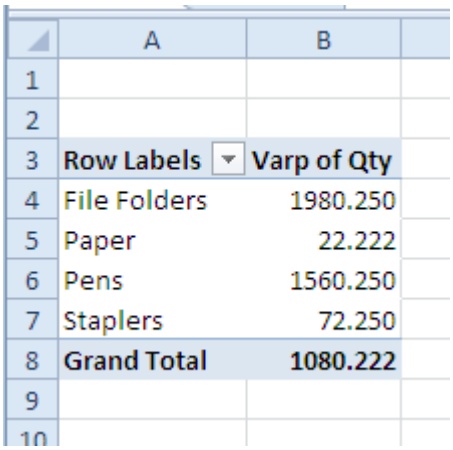
In the screen shot below is the example pivot table source data, with the VAR.P worksheet function calculating the variance for each product type. For the File Folders, where there is a wide difference between the two quantities, the variance is large -- 1980.25. For the paper sales, there is a small difference in quantity, and the variance is only 22.22.



To show the variance, when the Qty field is added to the pivot table, change the summary calculation to Varp.



As we can see, the variances shown in the pivot table are the same as those that were calculated on the worksheet.



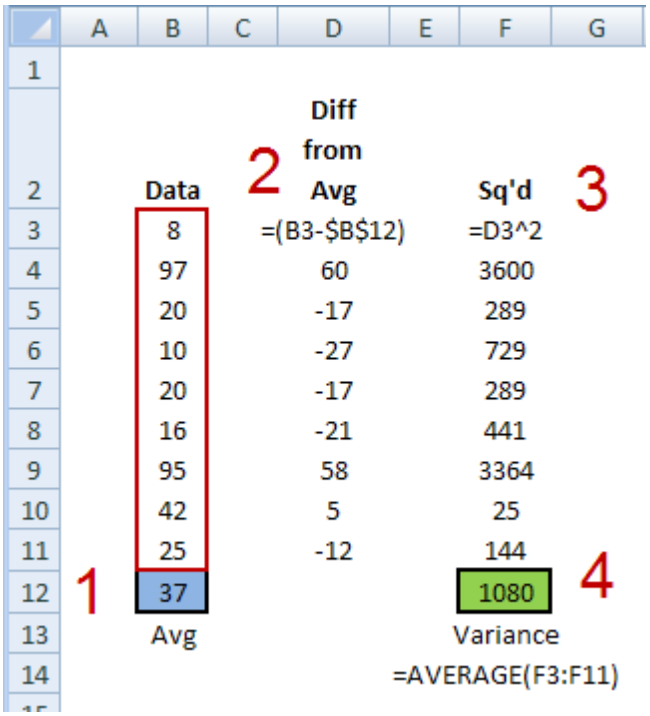
	A	B
1		
2		
3	**Row Labels**	**Varp of Qty**
4	File Folders	1980.250
5	Paper	22.222
6	Pens	1560.250
7	Staplers	72.250
8	**Grand Total**	**1080.222**
9		
10		

Note: If the count of items is one, a #DIV/0! error is displayed when using the Var summary function, because one is subtracted from the count when calculating the variance.

How the Variance is calculated

For the variance, each number is compared to the mean of the numbers. We could calculate the variance on the worksheet, without the VAR.P function.

1. Find the average of the numbers in the pivot table data.
2. From each number, subtract the average.
3. Square the calculated difference for each number
4. Find the average of the squared difference.



Errors in Source Data: If there are error values in the source data, the pivot table will display an error for that data, except as noted below, for Count and Count Nums. In this example, the Total field contains a #VALUE! error and a #DIV/0 error, one blank cell (E7), and one cell with text (E9).

Date	Region	Qty	Price	Total
1-Jan	East	44	14	616
2-Jan	West	47	17	799
3-Jan	East	none	16	#VALUE!
4-Jan	West	31	14	434
5-Jan	East	32	#DIV/0!	#DIV/0!
6-Jan	West	38	33	
7-Jan	East	0	20	0
8-Jan	West	#DIV/0!	37	nothing
9-Jan	East	4	29	116
10-Jan	West	49	1	49

Errors with Count and Count Numbers: These two summary functions count the errors, or ignore them. The errors are not shown in the item totals.

- **Count Numbers**: Blank cells, errors, and text are not counted.
- **Count**: Text, numbers and errors are counted. Blank cells are not counted.

	H	I	J
		Count	
	Region	Nums	Count
	East	3	5
	West	3	4
	Grand Total	6	9

Errors with Other Summary Functions: For all other Summary Functions, if errors are in the source data field:

- the first error encountered in the source data is displayed in the pivot table
- the total is not calculated - it shows the first error from the source data.

In the data, #VALUE! is the first error listed, so it appears in the pivot table.

	A	B	C
1			
2			
3	Region	Avg	Sum
4	East	#VALUE!	#VALUE!
5	West	427.3	1282
6	Grand Total	#VALUE!	#VALUE!
7			
8			

However, if we sort the data with the latest dates at the top, the #DIV/0! error is first. Then, refresh the pivot table, and it shows the #DIV/0! error.

	A	B	C	D
1				
2				
3	Region	Avg	Sum	
4	East	#DIV/0!	#DIV/0!	
5	West	427.3	1282	
6	Grand Total	#DIV/0!	#DIV/0!	
7				
8				

Totals and Subtotals: If subtotals, or row and column totals, are displayed, affected totals and subtotals display the error. And even though they don't show errors in the item totals, the Count and Count Numbers functions will also display errors in their totals, if both of these conditions are met:

- other summary functions are included in the pivot table, and those fields contain errors in the data

- the Count and Count Number fields contain errors in the data

For example, in the screen shot below, an Average for the Price field has been added, and that field contains a #DIV/0! error. As a result:

- The Count Nums and Count Grand Totals show the #VALUE! error, because they're based on the Total field, which contains errors in the data
- However, the "Count of Date" Grand Total is correct, because the Date field does not contain any errors in the data

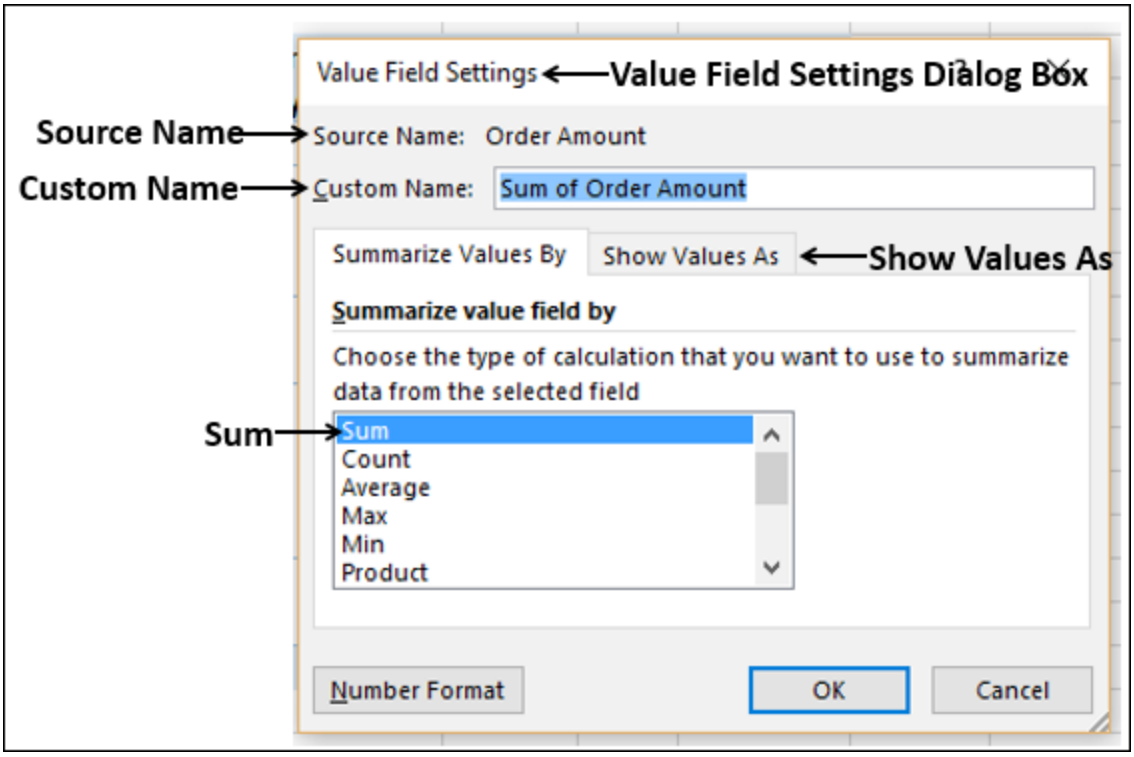
	A	B	C	D	E
1					
2					
3	Region	Total - Count Nums	Total - Count	Price - Average	Count of Date
4	East	3	5	#DIV/0!	5
5	West	3	4	20.4	5
6	**Grand Total**	**#VALUE!**	**#VALUE!**	**#DIV/0!**	**10**
7					
8					

- **Value Field Settings and Calculation Options**

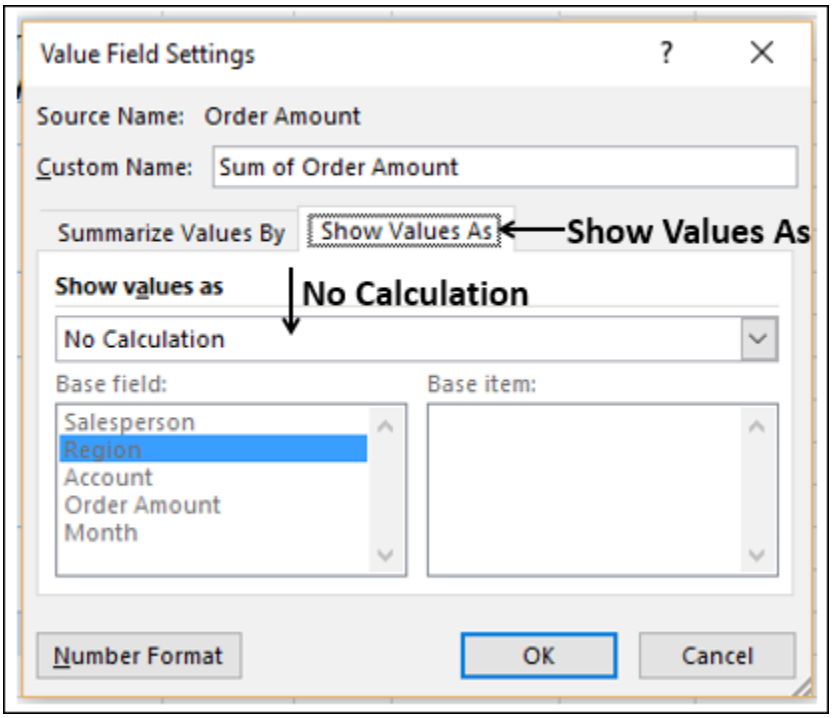
With Values Field Settings, we can set the calculation type in the PivotTable. We can also decide on how we want to display the values.

- Click on any cell in the column of interest, right click on it.
- Select Value Field Settings from the dropdown list.

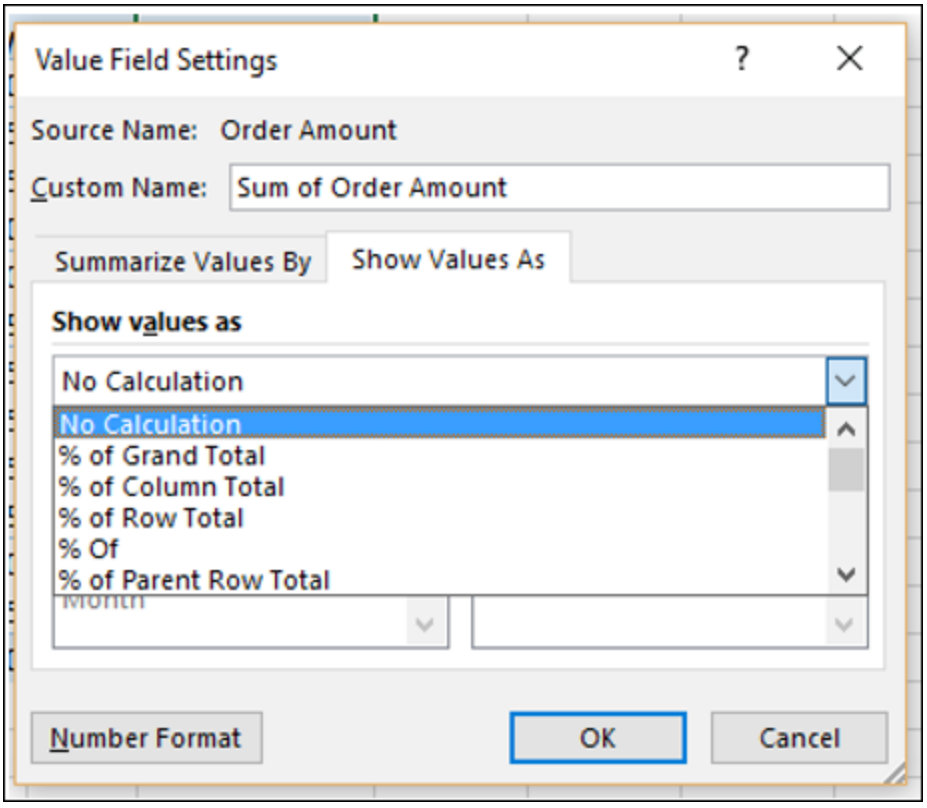
The Value Field Settings dialog box appears.



The Source Name is the field and Custom Name is Sum of field. Calculation Type is Sum. Click the **Show Values As** tab.



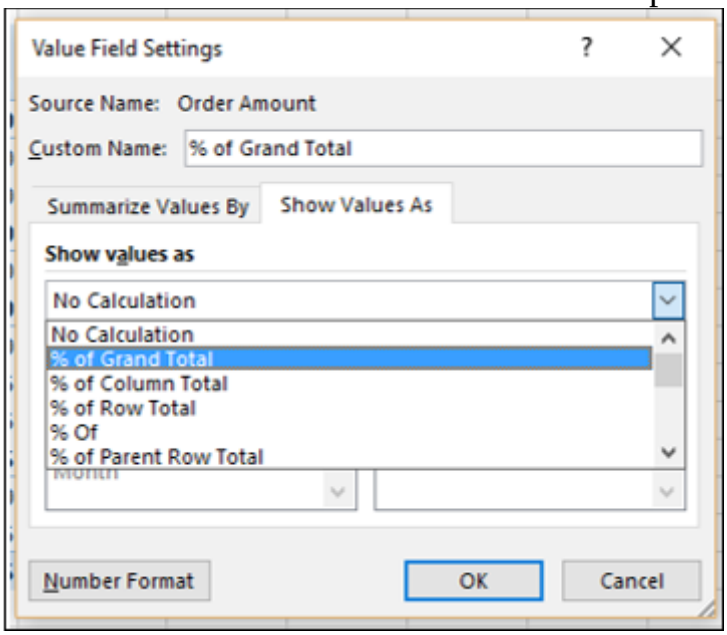
In the box Show Values As, **No Calculation** is displayed. Click the **Show Values As** box. We can find several ways of showing wer total values.



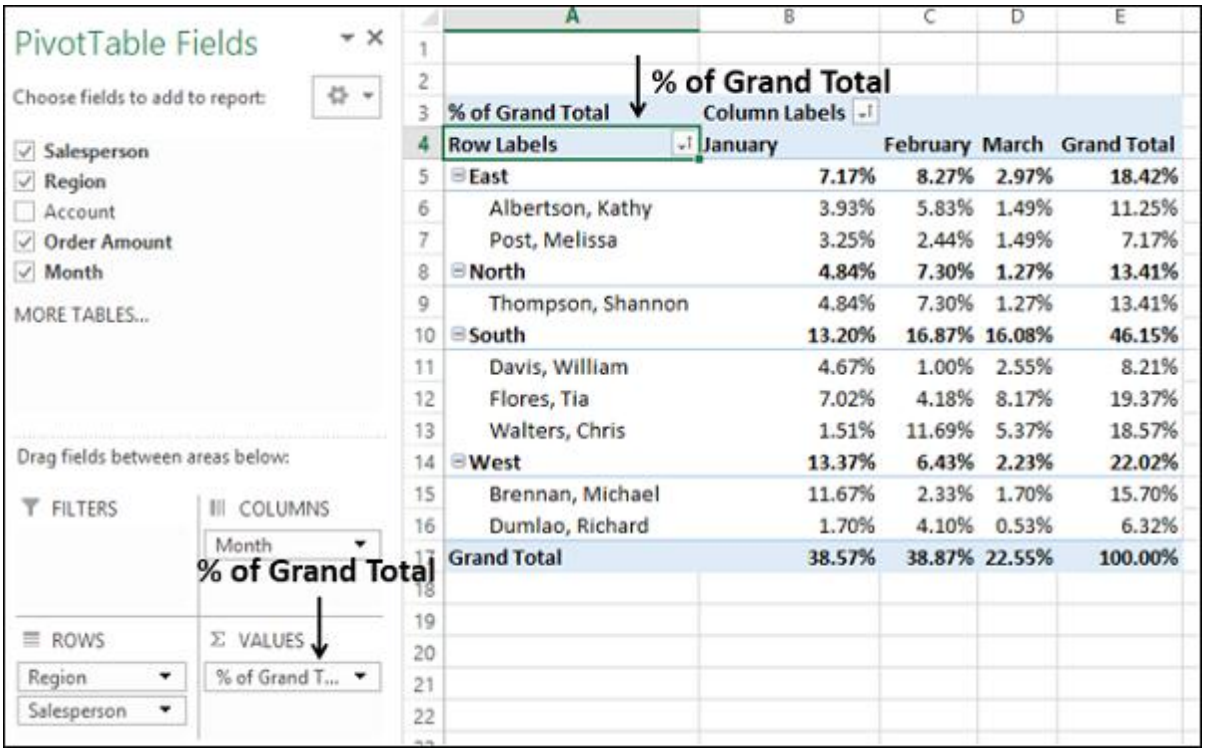
% of Grand Total

We can show the values in the PivotTable as % of Grand Total.

- In the Custom Name box, type % of Grand Total.
- Click on the Show Values As box.
- Click on % of Grand Total in the dropdown list. Click OK.



The PivotTable summarizes the values as % of the Grand Total.



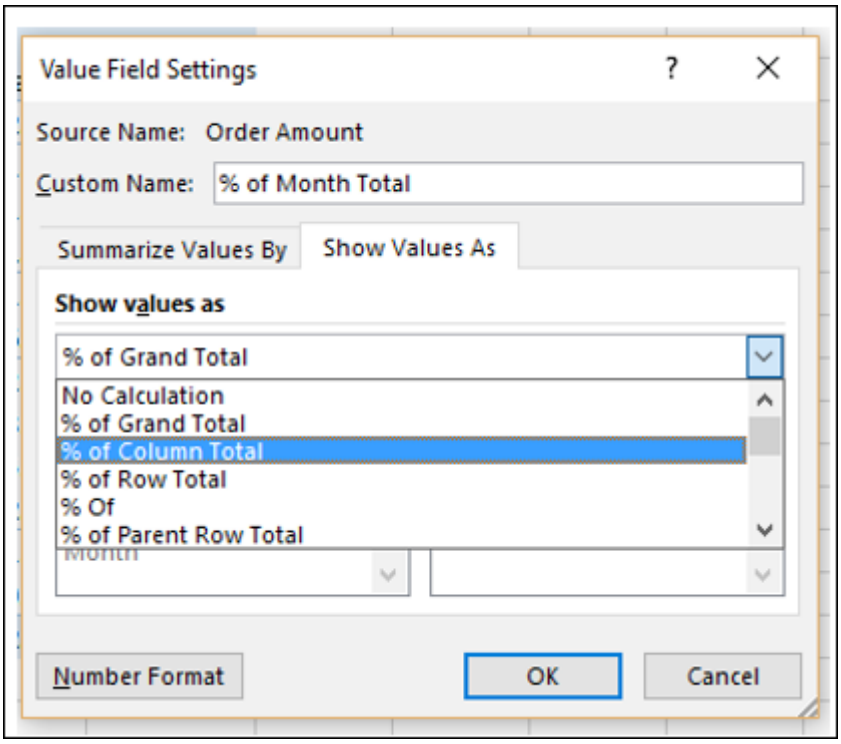
- Click on the header of the Grand Total column.
- Type % of Grand Total in the formula bar. Both the Column and Row headers will change to % of Grand Total.

% of Grand Total	Column Labels			
Row Labels	January	February	March	% of Grand Total
East	7.17%	8.27%	2.97%	18.42%
Albertson, Kathy	3.93%	5.83%	1.49%	11.25%
Post, Melissa	3.25%	2.44%	1.49%	7.17%
North	4.84%	7.30%	1.27%	13.41%
Thompson, Shannon	4.84%	7.30%	1.27%	13.41%
South	13.20%	16.87%	16.08%	46.15%
Davis, William	4.67%	1.00%	2.55%	8.21%
Flores, Tia	7.02%	4.18%	8.17%	19.37%
Walters, Chris	1.51%	11.69%	5.37%	18.57%
West	13.37%	6.43%	2.23%	22.02%
Brennan, Michael	11.67%	2.33%	1.70%	15.70%
Dumlao, Richard	1.70%	4.10%	0.53%	6.32%
% of Grand Total	38.57%	38.87%	22.55%	100.00%

% of Column Total: Suppose we want to summarize the values as % of each month total.

- Click on Sum of Order Amount in ∑ VALUES area.
- Select Value Field Settings from the dropdown list. The Value Field Settings dialog box appears.
- In the Custom Name box, type % of Month Total.

- Click on the Show values as box.
- Select % of Column Total from the dropdown list.
- Click OK.



The PivotTable summarizes the values as % of the Column Total. In the Month columns, we will find the values as % of the specific month total.

- Click on the header of the Grand Total column.
- Type % of Column Total in the formula bar. Both the Column and Row headers will change to % of Column Total.

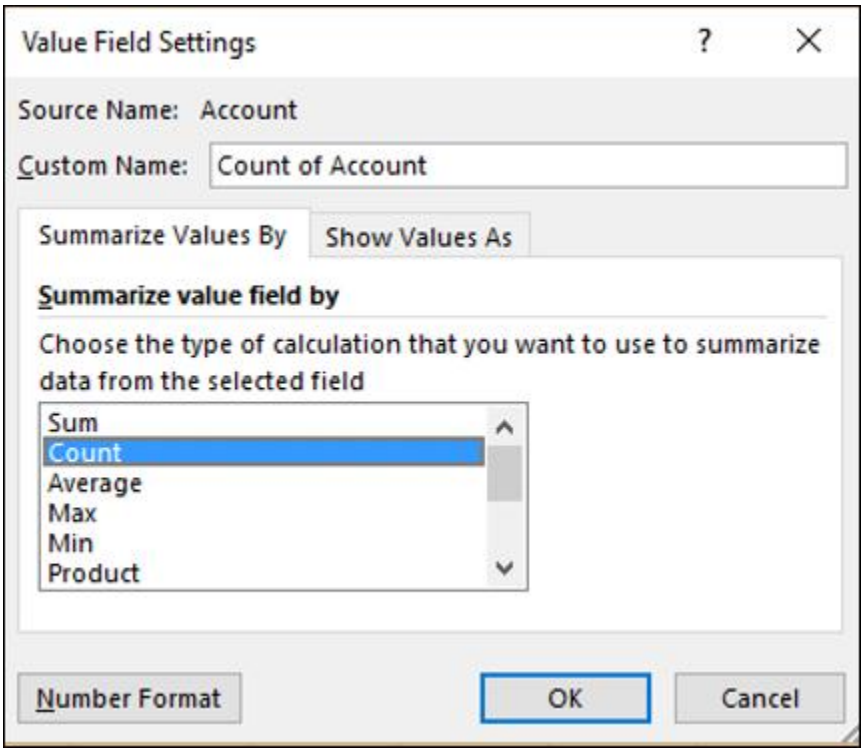
3	% of Month Total	Column Labels			
4	Row Labels	January	February	March	% of Column Total
5	**East**	**18.59%**	**21.29%**	**13.17%**	**18.42%**
6	Albertson, Kathy	10.18%	15.01%	6.59%	11.25%
7	Post, Melissa	8.42%	6.28%	6.59%	7.17%
8	**North**	**12.54%**	**18.78%**	**5.64%**	**13.41%**
9	Thompson, Shannon	12.54%	18.78%	5.64%	13.41%
10	**South**	**34.21%**	**43.40%**	**71.31%**	**46.15%**
11	Davis, William	12.10%	2.57%	11.29%	8.21%
12	Flores, Tia	18.21%	10.75%	36.22%	19.37%
13	Walters, Chris	3.91%	30.08%	23.80%	18.57%
14	**West**	**34.65%**	**16.54%**	**9.88%**	**22.02%**
15	Brennan, Michael	30.25%	6.00%	7.53%	15.70%
16	Dumlao, Richard	4.40%	10.53%	2.35%	6.32%
17	**% of Column Total**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

% of Row Total: We can summarize the values as % of region totals and % of salesperson totals, by selecting % of Row Total in Show Values As box in the Value Field Settings dialog box.

	A	B	C	D	E
1					
2					
3	% of Row Total	Column Labels			
4	Row Labels	January	February	March	% of Row Total
5	East	38.94%	44.93%	16.13%	100.00%
6	Albertson, Kathy	34.91%	51.89%	13.21%	100.00%
7	Post, Melissa	45.27%	34.02%	20.71%	100.00%
8	North	36.08%	54.43%	9.49%	100.00%
9	Thompson, Shannon	36.08%	54.43%	9.49%	100.00%
10	South	28.60%	36.55%	34.85%	100.00%
11	Davis, William	56.85%	12.14%	31.01%	100.00%
12	Flores, Tia	36.25%	21.58%	42.17%	100.00%
13	Walters, Chris	8.11%	62.97%	28.91%	100.00%
14	West	60.69%	29.19%	10.12%	100.00%
15	Brennan, Michael	74.32%	14.86%	10.81%	100.00%
16	Dumlao, Richard	26.85%	64.77%	8.39%	100.00%
17	% of Row Total	38.57%	38.87%	22.55%	100.00%

Count: Suppose we want to summarize the values by the number of Accounts region wise, salesperson wise and month wise.

- Deselect Order Amount.
- Drag Account to ∑ VALUES area. The Sum of Account will be displayed in the ∑ VALUES area.
- Click on Sum of Account.
- Select Value Field Settings from the dropdown list. The Value Field Settings dialog box appears.
- In the Summarize value field by box, select Count. The Custom Name changes to Count of Account.
- Click OK.



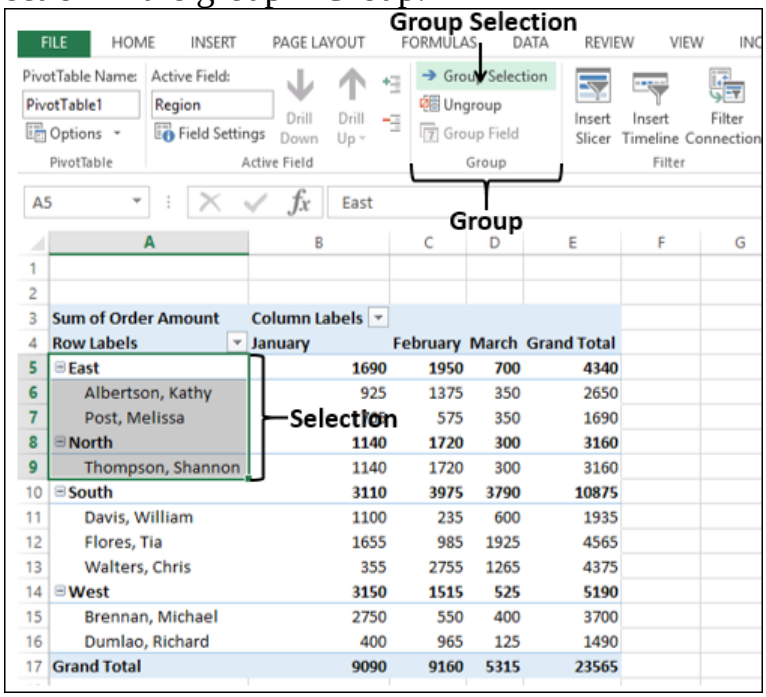
The Count of Account will be displayed as shown below –

	A	B	C	D	E
1					
2					
3	Count of Account	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	2	4	2	8
6	Albertson, Kathy	1	2	1	4
7	Post, Melissa	1	2	1	4
8	North	2	2	1	5
9	Thompson, Shannon	2	2	1	5
10	South	7	5	6	18
11	Davis, William	2	1	1	4
12	Flores, Tia	2	2	2	6
13	Walters, Chris	3	2	3	8
14	West	4	2	2	8
15	Brennan, Michael	3	1	1	5
16	Dumlao, Richard	1	1	1	3
17	Grand Total	15	13	11	39

➢ Grouping and Ungrouping Field Values

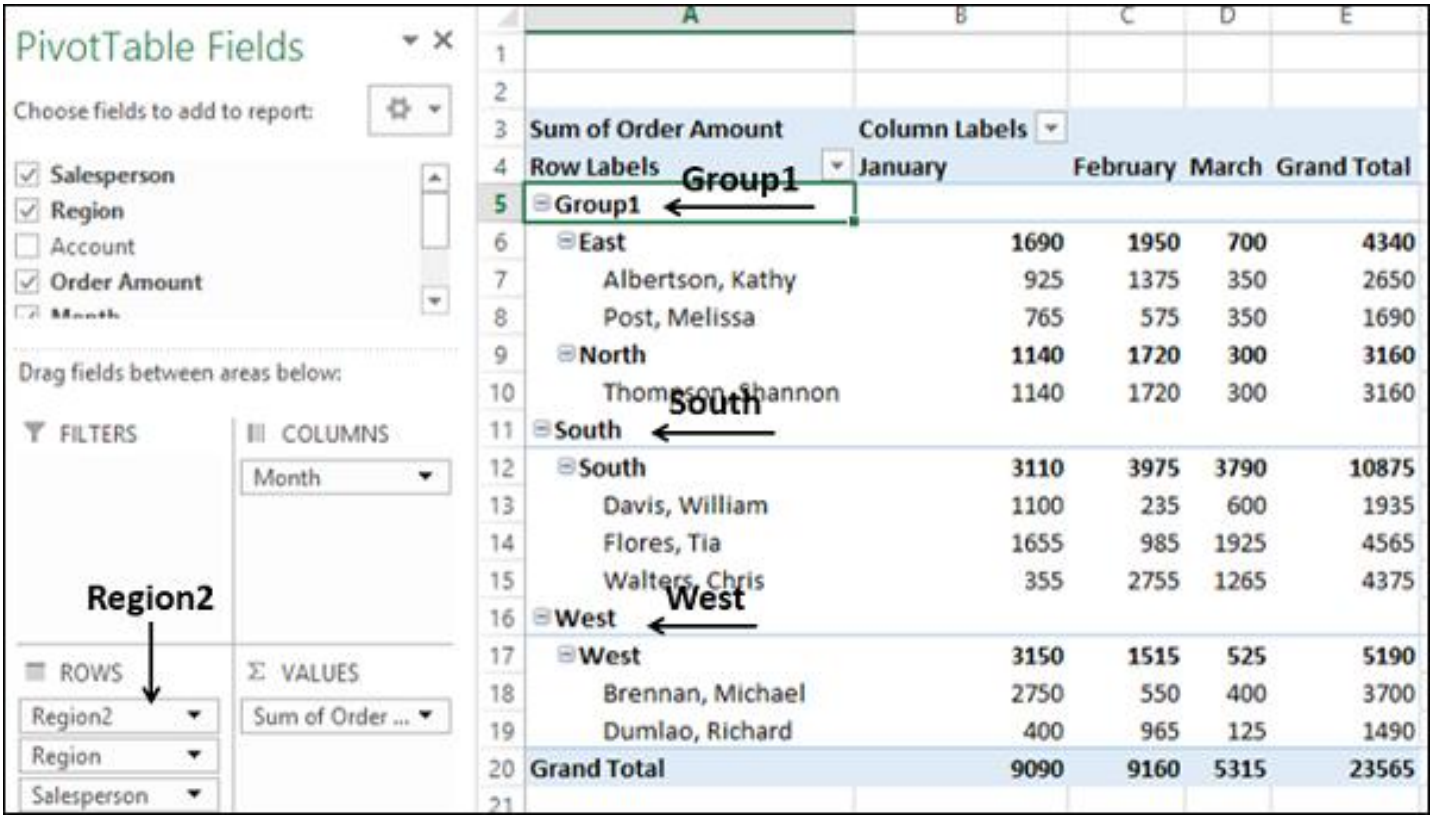
You can group and ungroup field values to define your own clustering. For example, you might want to know the data combining East and North regions.

- Select the East and North items of the Region field in the PivotTable, along with the nested Salesperson field items.
- Click the ANALYZE tab on the Ribbon.
- Click Group Selection in the group – Group.



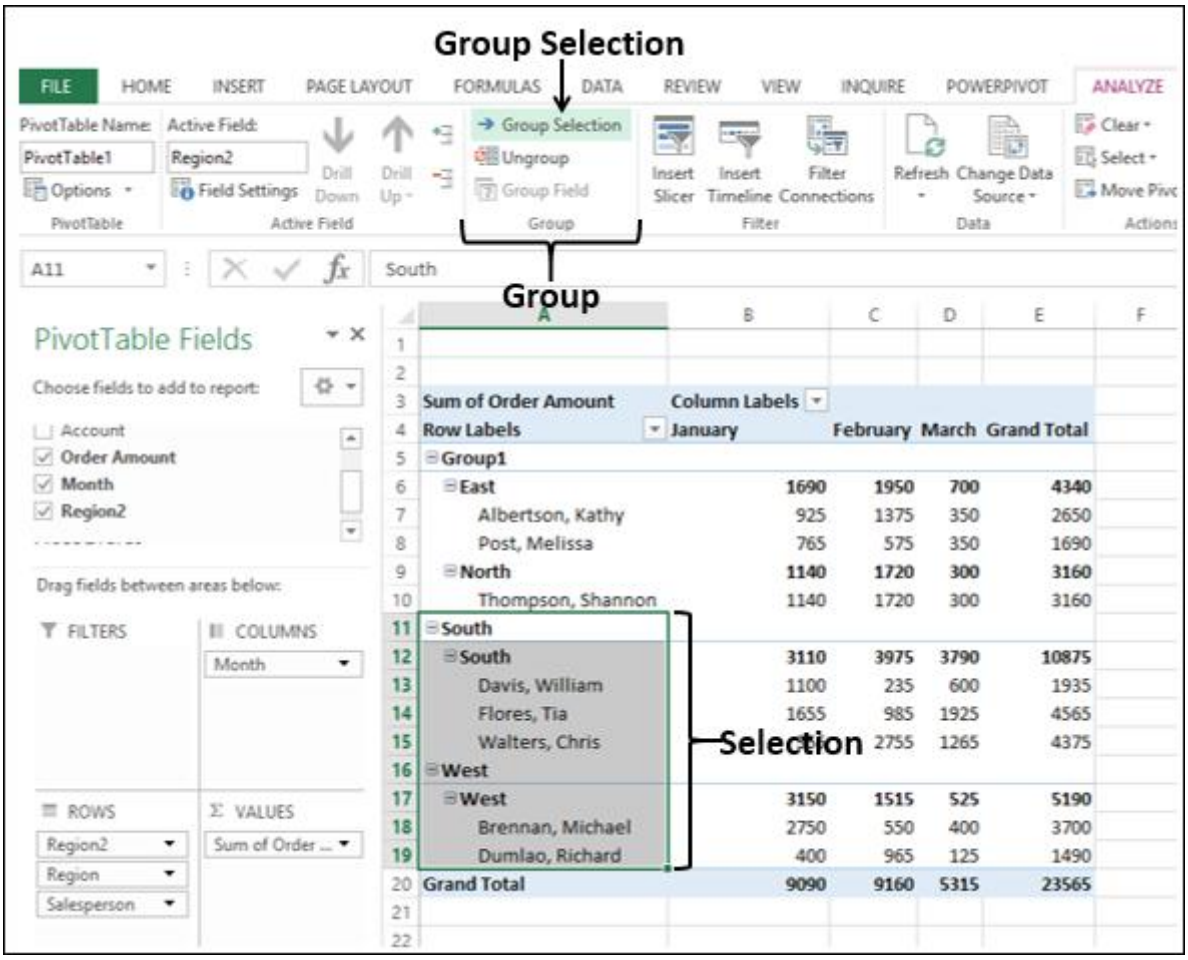
	A	B	C	D	E
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565

The items – East and North will be grouped under the name Group1. In addition, a new South is created under which South is nested and a new West is created under which West is nested.

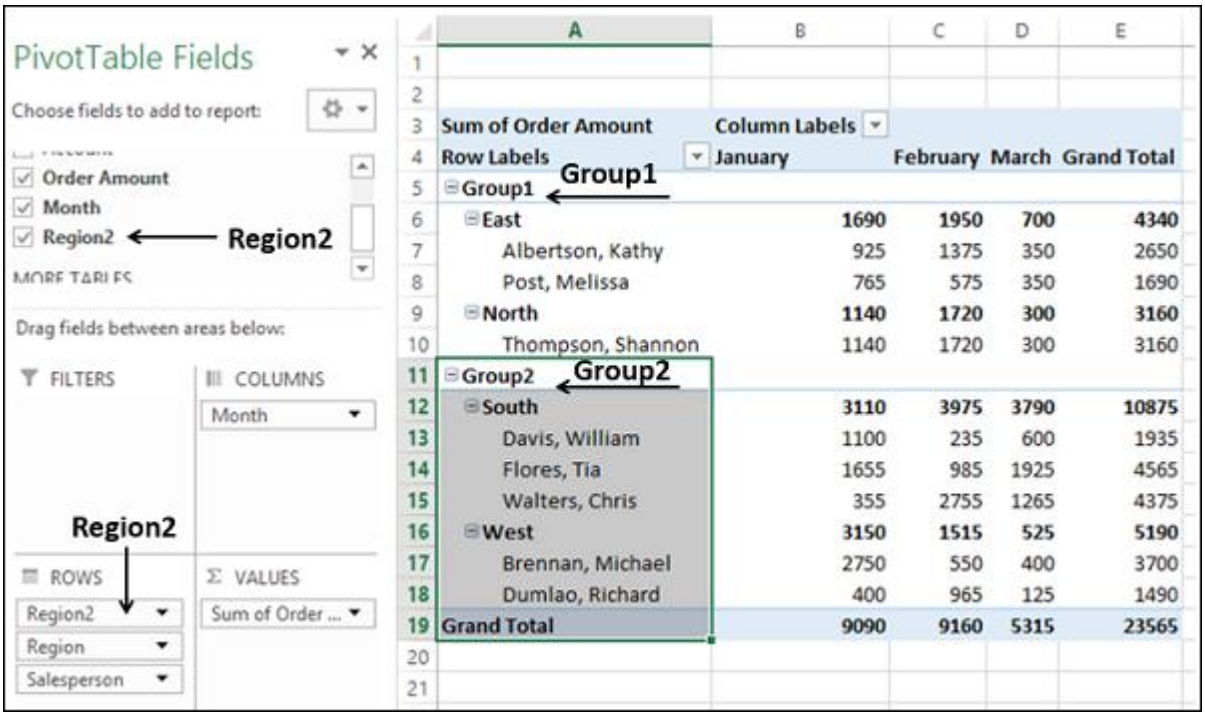


You can also observe that a new field – Region2 is added in the PivotTable Fields list, which appears in the ROWS area.

- Select the South and West items of the Region2 field in the PivotTable, along with the nested Region and Salesperson field items.
- Click the ANALYZE tab on the Ribbon.
- Click Group Selection in the group – Group.

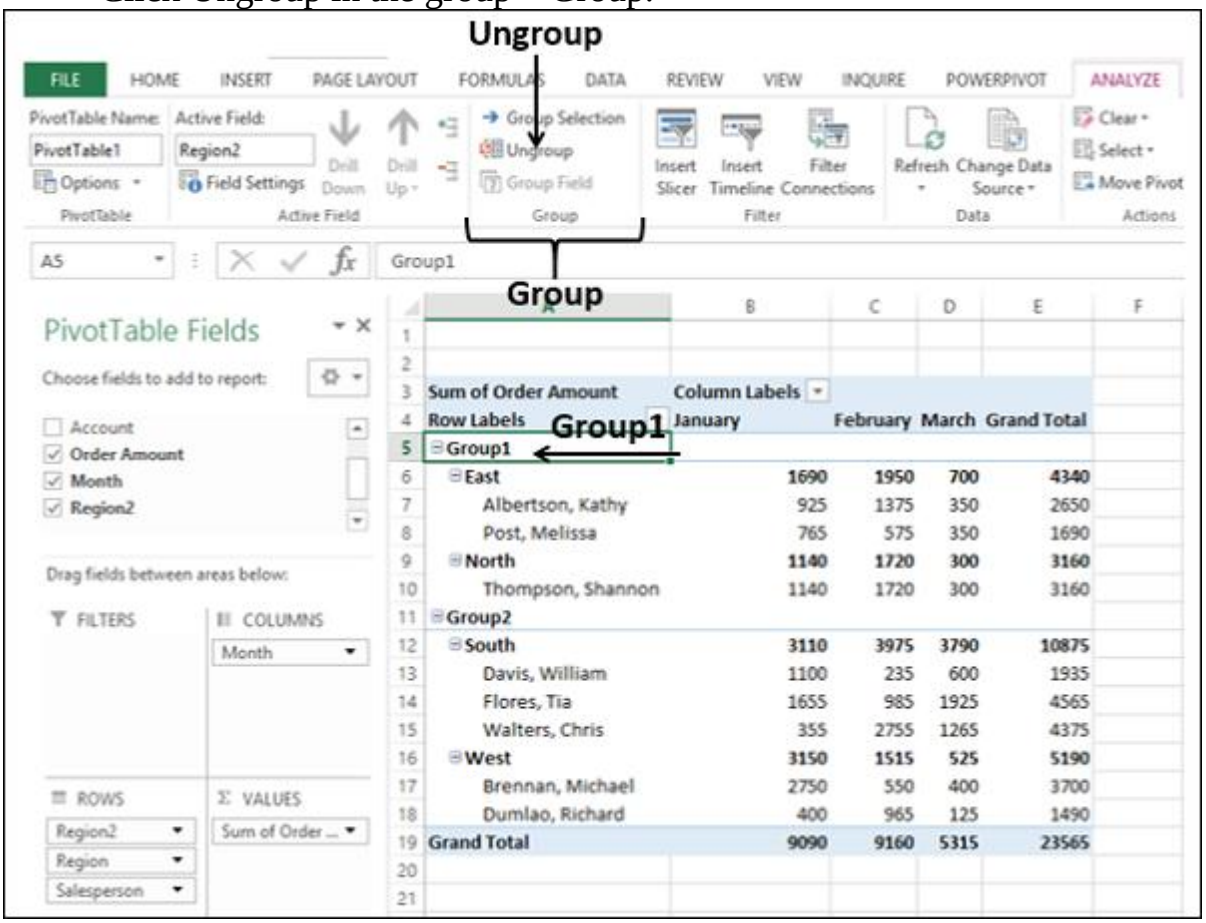


The items – South and West of the field Region will be grouped under the name Group2.



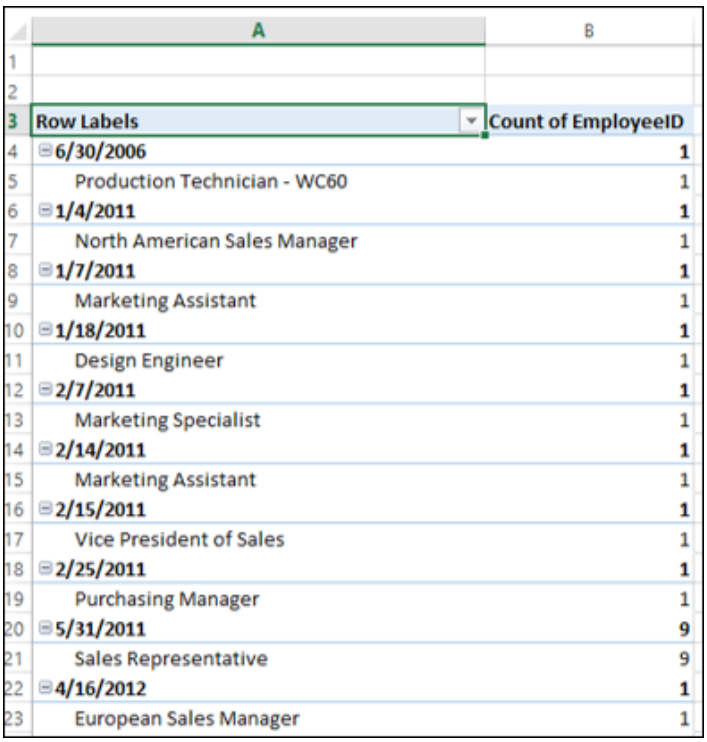
To ungroup a group, do the following –

- Click on the Group Name.
- Click the ANALYZE tab.
- Click Ungroup in the group – Group.



➢ Grouping by a Date Field

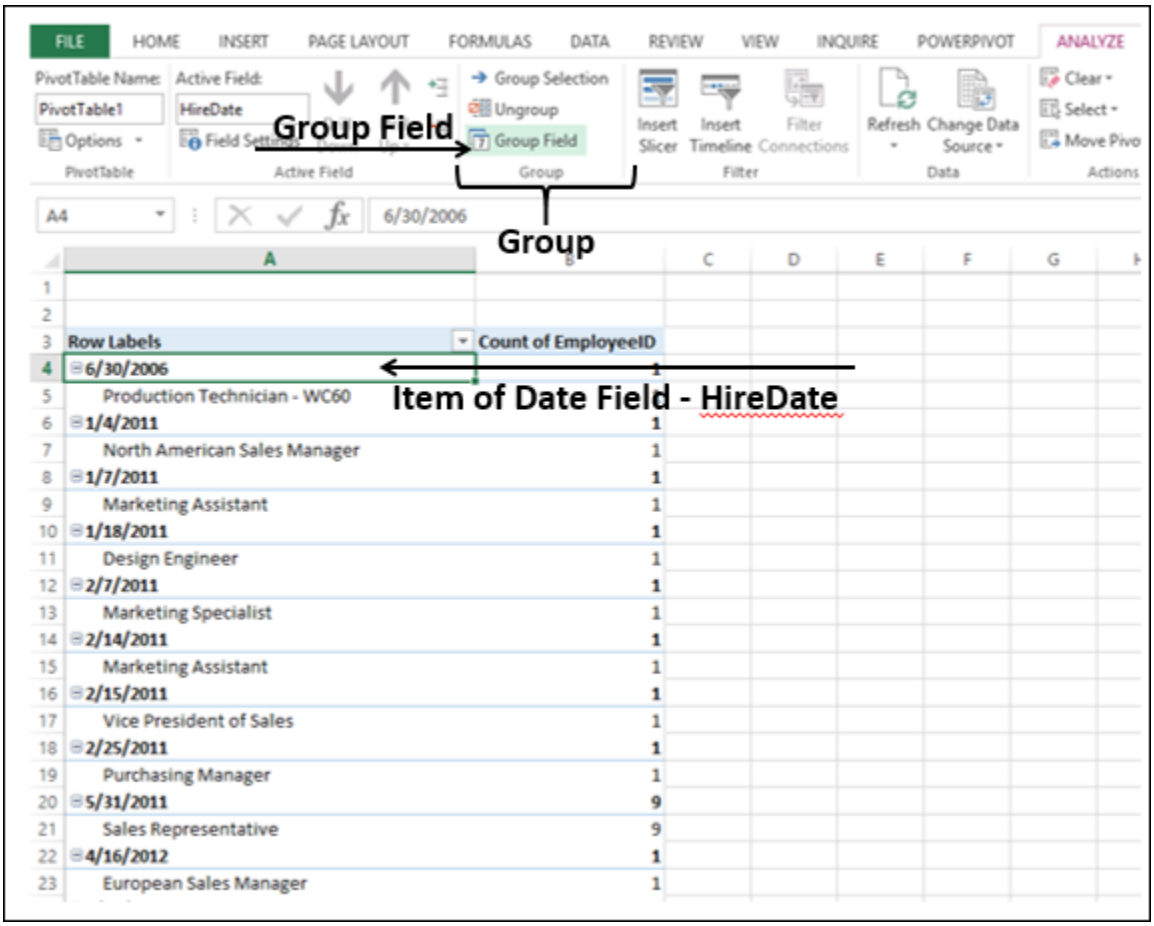
Consider the following PivotTable, wherein you have the employee data summarized by Count of EmployeeID, hiredate wise and title wise.



	A	B
1		
2		
3	**Row Labels**	**Count of EmployeeID**
4	**6/30/2006**	**1**
5	Production Technician - WC60	1
6	**1/4/2011**	**1**
7	North American Sales Manager	1
8	**1/7/2011**	**1**
9	Marketing Assistant	1
10	**1/18/2011**	**1**
11	Design Engineer	1
12	**2/7/2011**	**1**
13	Marketing Specialist	1
14	**2/14/2011**	**1**
15	Marketing Assistant	1
16	**2/15/2011**	**1**
17	Vice President of Sales	1
18	**2/25/2011**	**1**
19	Purchasing Manager	1
20	**5/31/2011**	**9**
21	Sales Representative	9
22	**4/16/2012**	**1**
23	European Sales Manager	1

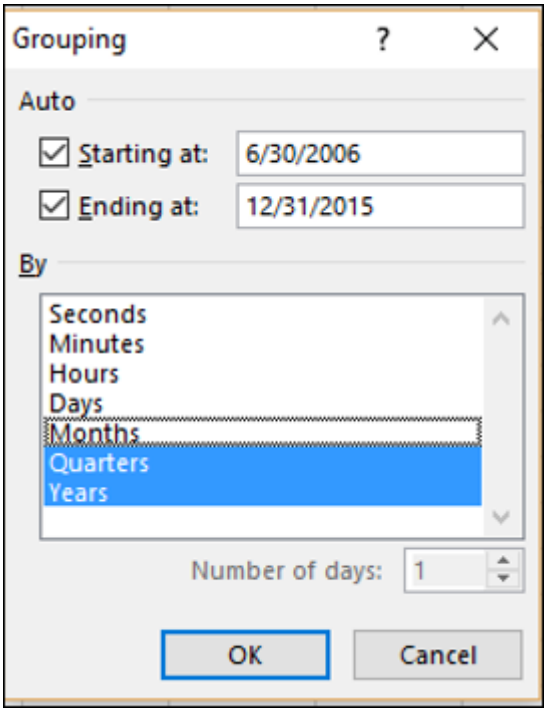
Suppose you want to group this data by the HireDate field that is a Date field into years and quarters.

- Click on a Date item in the PivotTable.
- Click the ANALYZE tab on the Ribbon.
- Click Group Field in the group – Group.

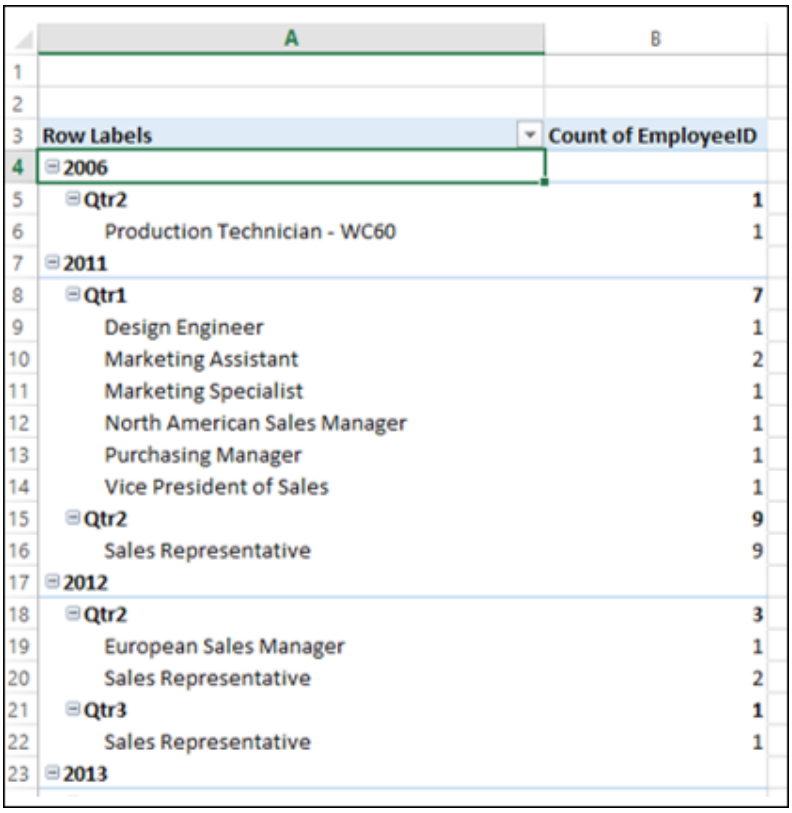


The Grouping dialog box appears.

- Set the dates for – Starting at and Ending at.
- Select Quarters and Years in the box under By. To select / deselect multiple items, keep the Ctrl-key pressed.
- Click OK.



The HireDate field values will be grouped into Quarters, nested in Years.



Row Labels	Count of EmployeeID
2006	
Qtr2	1
Production Technician - WC60	1
2011	
Qtr1	7
Design Engineer	1
Marketing Assistant	2
Marketing Specialist	1
North American Sales Manager	1
Purchasing Manager	1
Vice President of Sales	1
Qtr2	9
Sales Representative	9
2012	
Qtr2	3
European Sales Manager	1
Sales Representative	2
Qtr3	1
Sales Representative	1
2013	

If you want to ungroup this grouping, you can do as shown earlier, by clicking **Ungroup** in the group – Group on the Ribbon.

Pivot Table- Filtering Data

You might have to do in-depth analysis on a subset of your PivotTable data. This might be because you have large data and your focus is required on a smaller portion of the data or irrespective of the size of the data, your focus is required on certain specific data. You can filter the data in the PivotTable based on a subset of the values of one or more fields. There are several ways to do that as follows –

- Filtering data manually.
- Filtering using Label Filters.
- Filtering using Value Filters.
- Filtering using Date Filters.
- Filtering using Top 10 Filter.
- Filtering using Timeline.
- Filtering using Report Filters.

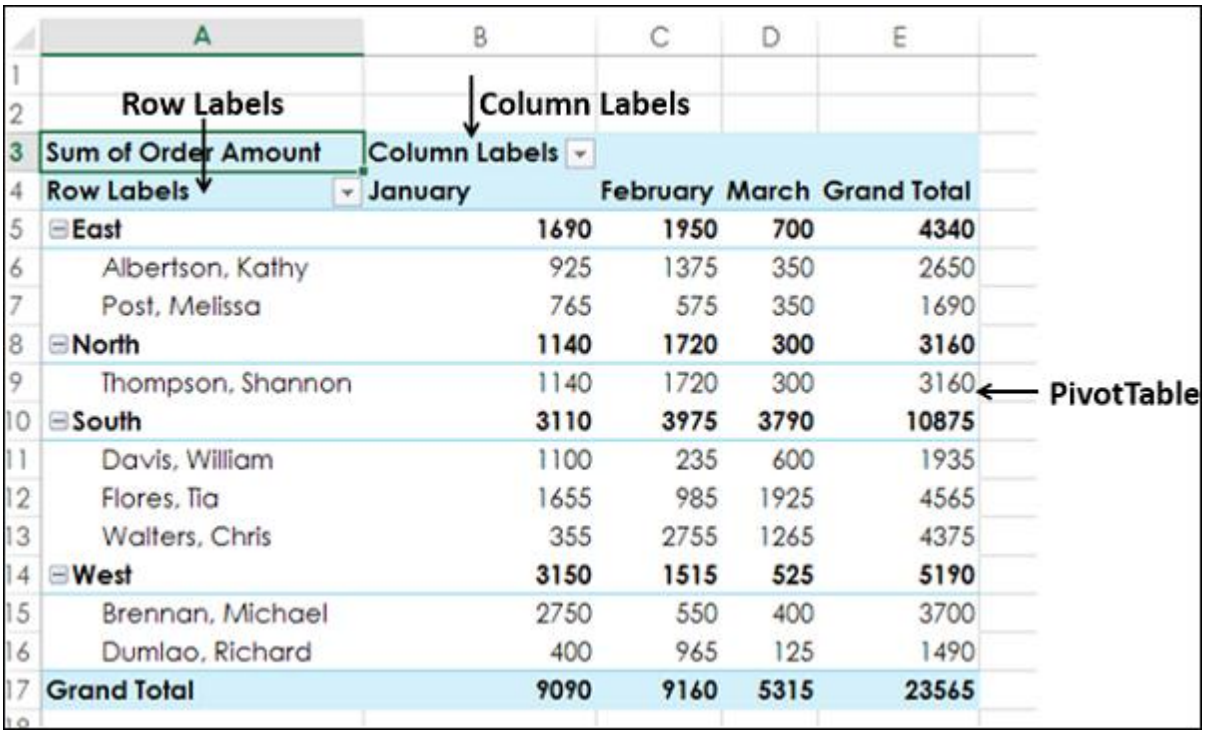
Consider the following PivotTable wherein you have the summarized sales data region wise, salesperson wise and month wise.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	**East**	**1690**	**1950**	**700**	**4340**
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	**North**	**1140**	**1720**	**300**	**3160**
9	Thompson, Shannon	1140	1720	300	3160
10	**South**	**3110**	**3975**	**3790**	**10875**
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	**West**	**3150**	**1515**	**525**	**5190**
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	**Grand Total**	**9090**	**9160**	**5315**	**23565**

← PivotTable

Manual Filtering

You can also filter the PivotTable by picking the values of a field manually. You can do this by clicking on the arrow ▾ in the Row Labels or Column Labels cell.

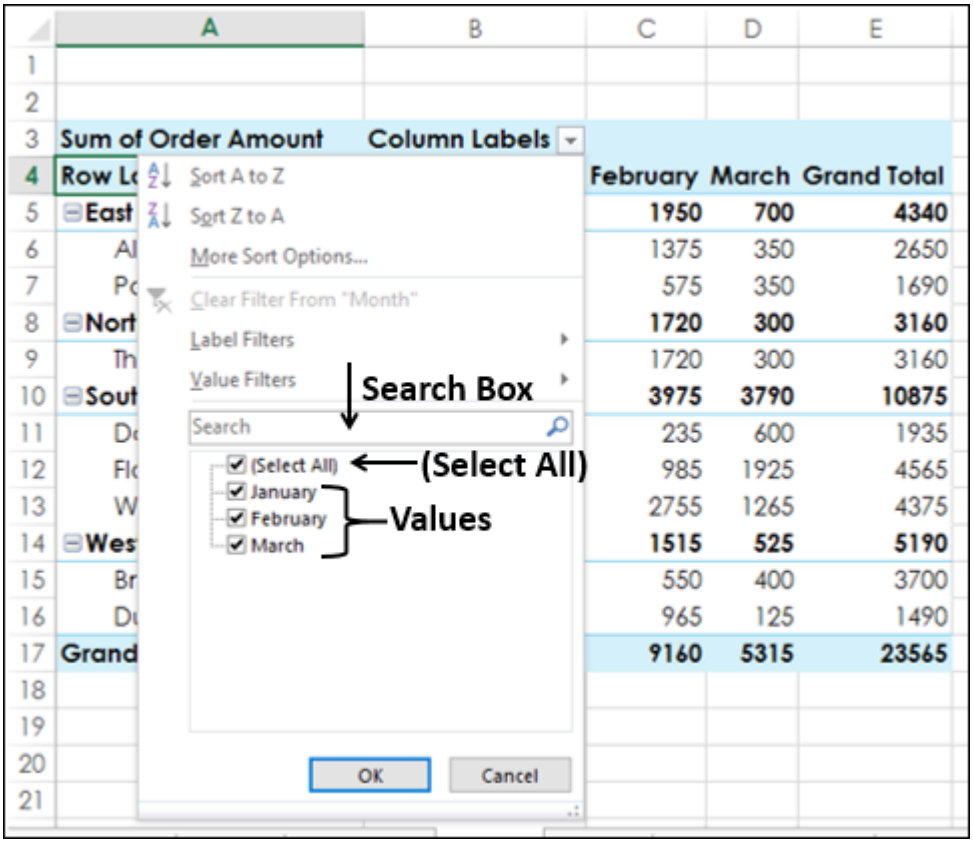


Sum of Order Amount	Column Labels			
Row Labels	January	February	March	Grand Total
East	1690	1950	700	4340
Albertson, Kathy	925	1375	350	2650
Post, Melissa	765	575	350	1690
North	1140	1720	300	3160
Thompson, Shannon	1140	1720	300	3160
South	3110	3975	3790	10875
Davis, William	1100	235	600	1935
Flores, Tia	1655	985	1925	4565
Walters, Chris	355	2755	1265	4375
West	3150	1515	525	5190
Brennan, Michael	2750	550	400	3700
Dumlao, Richard	400	965	125	1490
Grand Total	9090	9160	5315	23565

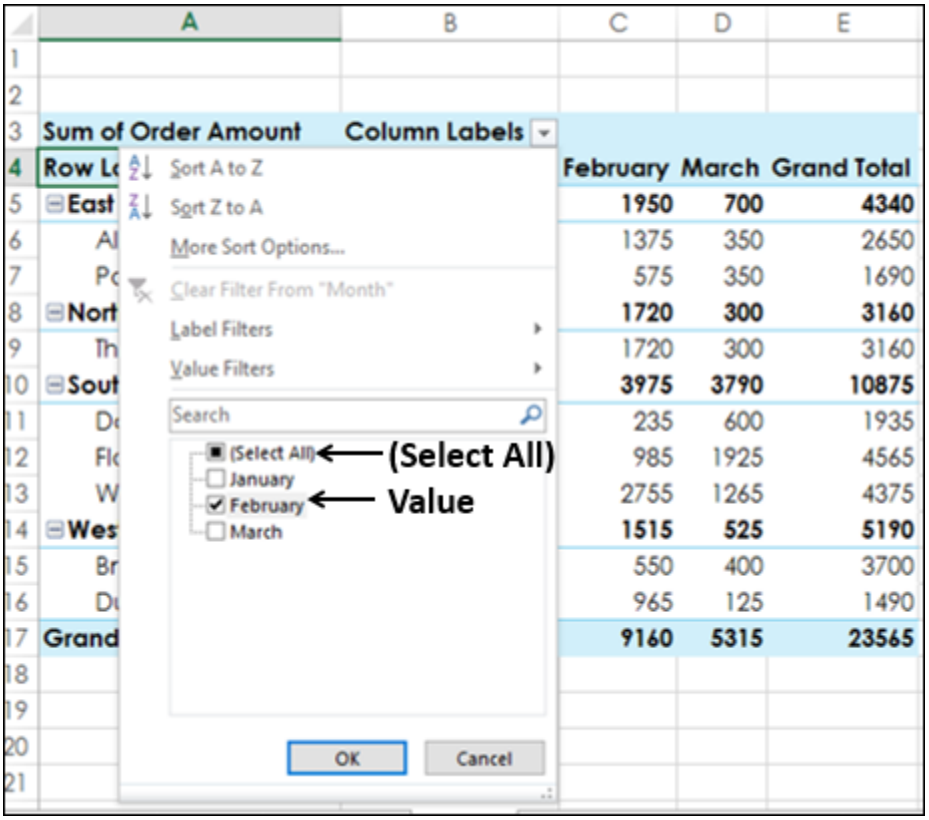
Suppose you want to analyze only February data. You need to filter the values by the field Month. As you can observe, Month is part of Column Labels.

Click on the arrow ▾ in the Column Labels cell.

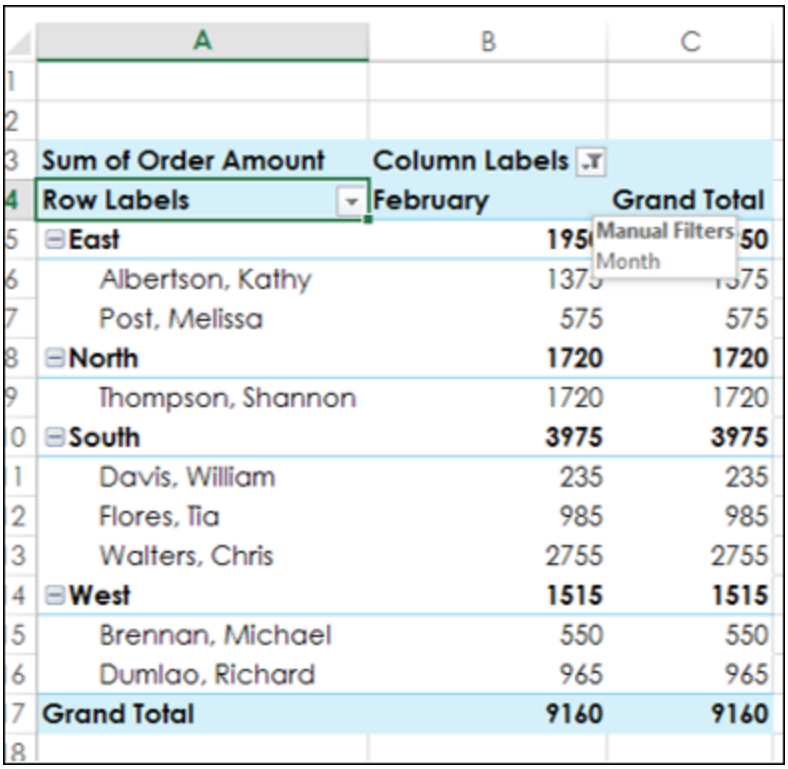
As you can observe, there is a Search box in the dropdown list and below the box, you have the list of the values of the selected field, i.e. Month. The boxes of all the values are checked, showing that all the values of that field are selected.



- Uncheck the (Select All) box at the top of the list of values.
- Check the boxes of the values you want to show in your PivotTable, in this case February and click OK.



The PivotTable displays only those values that are related to the selected Month field value – February. You can observe that the filtering arrow changes to the icon to indicate that a filter is applied. Place the cursor on the icon.



	A	B	C
1			
2			
3	Sum of Order Amount	Column Labels	
4	Row Labels	February	Grand Total
5	East	195	50
6	Albertson, Kathy	137	75
7	Post, Melissa	575	575
8	North	1720	1720
9	Thompson, Shannon	1720	1720
10	South	3975	3975
11	Davis, William	235	235
12	Flores, Tia	985	985
13	Walters, Chris	2755	2755
14	West	1515	1515
15	Brennan, Michael	550	550
16	Dumlao, Richard	965	965
17	Grand Total	9160	9160
18			

You can observe that is displayed indicating that the Manual Filter is applied on the field-Month.

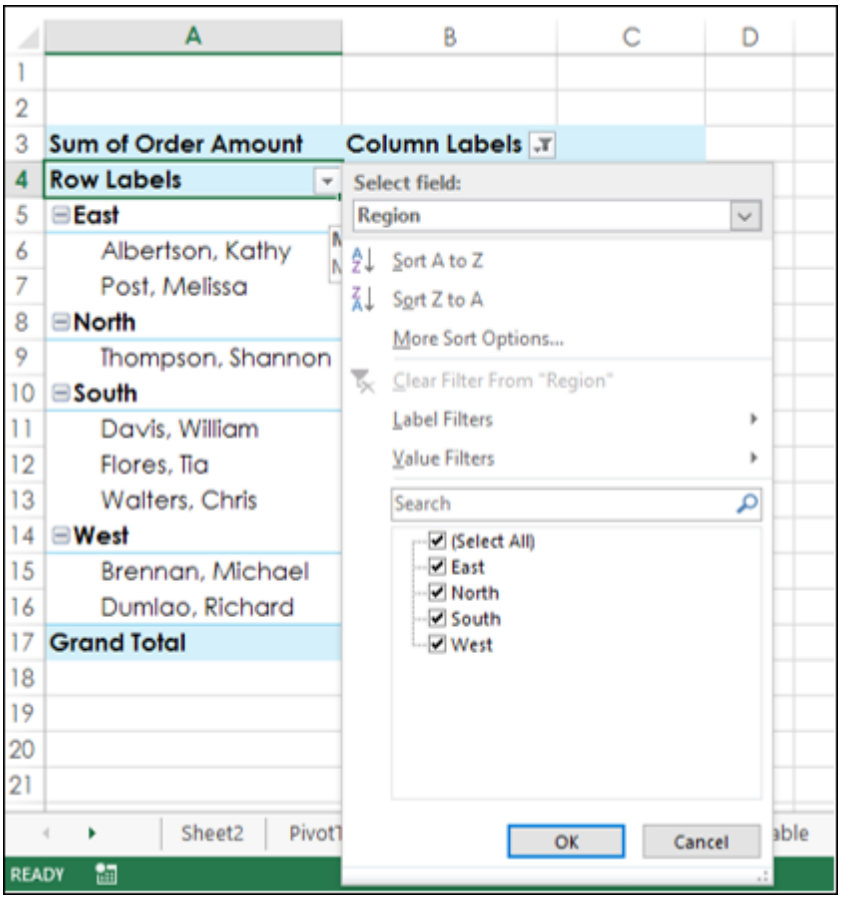
If you want to change the filter selection value, do the following –

- Click the filter icon.
- Check / uncheck the boxes of the values.

If all the values of the field are not visible in the list, drag the handle in the bottom-right corner of the dropdown to enlarge it. Alternatively, if you know the value, type it in the Search box.

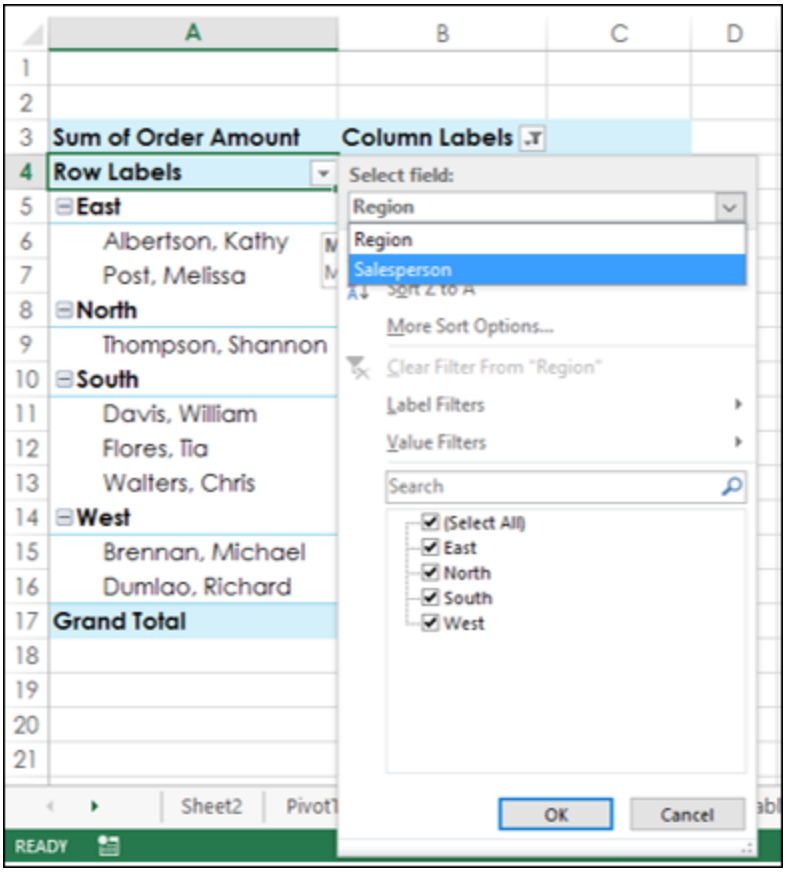
Suppose you want to apply another filter on the above filtered PivotTable. For example, you want to display the data of that of Walters, Chris for the month February. You need to refine your filtering by adding another filter for the field Salesperson. As you can observe, Salesperson is part of Row Labels.

- Click on the arrow in the Row Labels cell.



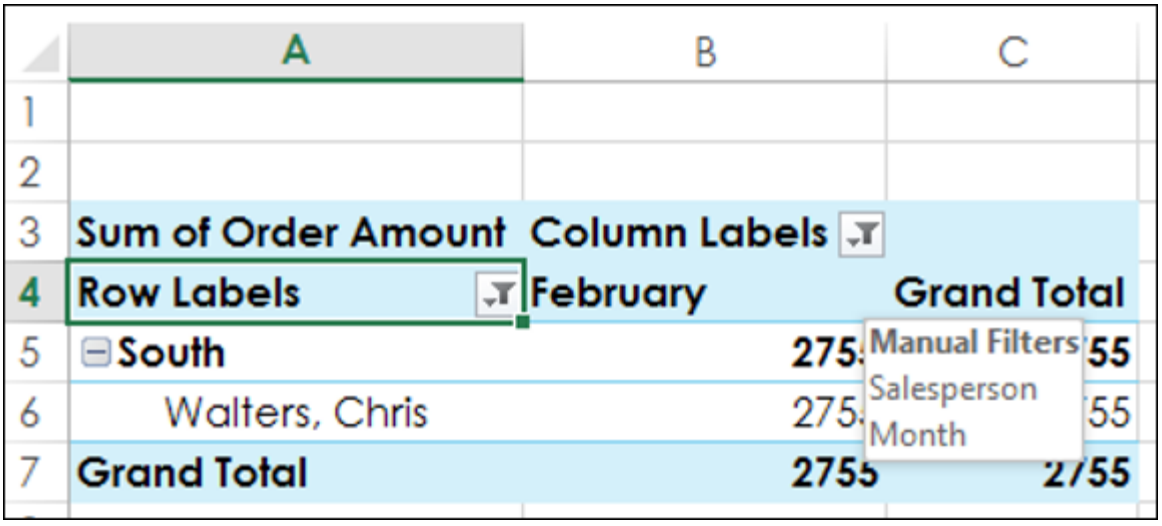
The list of the values of the field – Region is displayed. This is because, Region is at outer level of Salesperson in the nesting order. You also have an additional option – Select Field. Click on the Select Field box.

- Click Salesperson from the dropdown list. The list of the values of the field – Salesperson will be displayed.
- Uncheck (Select All) and check Walters, Chris.
- Click OK.



The PivotTable displays only those values that are related to the selected Month field value – February and Salesperson field value - Walters, Chris.

The filtering arrow for Row Labels also changes to the icon to indicate that a filter is applied. Place the cursor on the icon on either Row Labels or Column Labels.



A text box is displayed indicating that the Manual Filter is applied on the fields – Month, and Salesperson.

You can thus filter the PivotTable manually based on any number of fields and on any number of values.

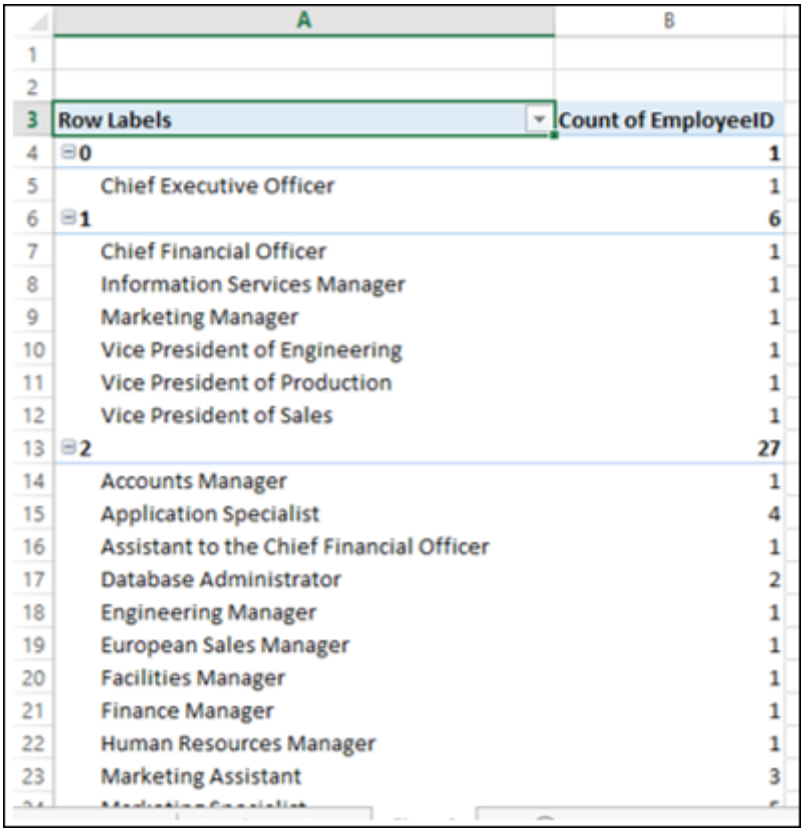
Filtering by Text

If you have fields that contain text, you can filter the PivotTable by Text, provided the corresponding field label is text-based. For example, consider the following Employee data.

EmployeeID	ManagerLevel	Title	BirthDate	MaritalStatus	Gender	HireDate
1	0	Chief Executive Officer	1/29/1969	S	M	1/14/2014
2	1	Vice President of Engineering	8/1/1971	S	F	1/31/2013
3	2	Engineering Manager	11/12/1974	M	M	11/11/2013
4	3	Senior Tool Designer	12/23/1974	S	M	12/5/2013
5	3	Design Engineer	9/27/1952	M	F	1/6/2013
6	3	Design Engineer	3/11/1959	M	M	1/24/2013
7	3	Research and Development Manager	2/24/1987	M	M	2/8/2014
8	4	Research and Development Engineer	6/5/1986	S	F	12/29/2013
9	4	Research and Development Engineer	1/21/1979	M	F	1/16/2014
10	4	Research and Development Manager	11/30/1984	M	M	5/3/2014
11	3	Senior Tool Designer	1/17/1978	S	M	12/5/2015
12	4	Tool Designer	7/29/1959	M	M	12/11/2013
13	4	Tool Designer	5/28/1989	M	F	12/23/2015
14	3	Senior Design Engineer	6/16/1979	S	M	12/30/2015
15	3	Design Engineer	5/2/1961	M	F	1/18/2014
16	1	Marketing Manager	3/19/1975	S	M	12/20/2013
17	2	Marketing Assistant	5/3/1987	S	M	1/26/2013
18	2	Marketing Specialist	3/6/1978	S	M	2/7/2014
19	2	Marketing Assistant	1/29/1978	S	F	2/14/2014
20	2	Marketing Assistant	3/17/1975	M	F	1/7/2014
21	2	Marketing Specialist	2/4/1986	M	M	3/2/2014

The data has the details of the employees – EmployeeID, Title, BirthDate, MaritalStatus, Gender and HireDate. Additionally, the data also has the manager level of the employee (levels 0 – 4).

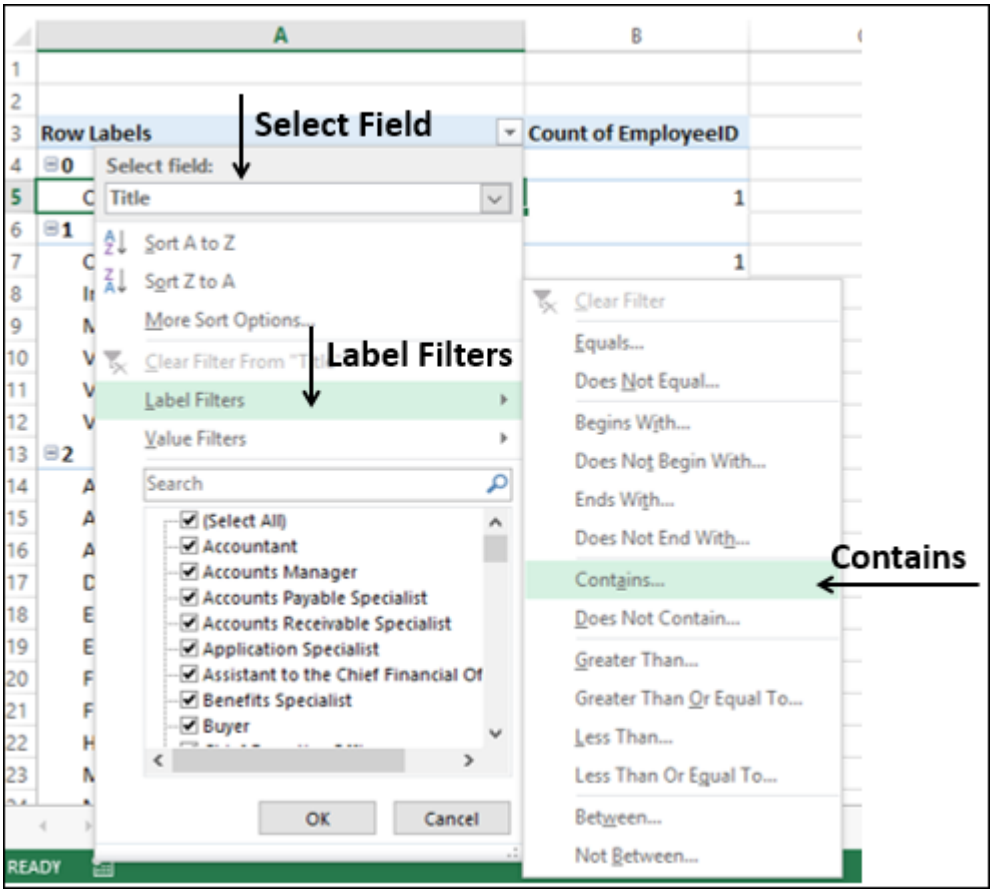
Suppose you have to do some analysis on the number of employees reporting to a given employee by title. You can create a PivotTable as given below.



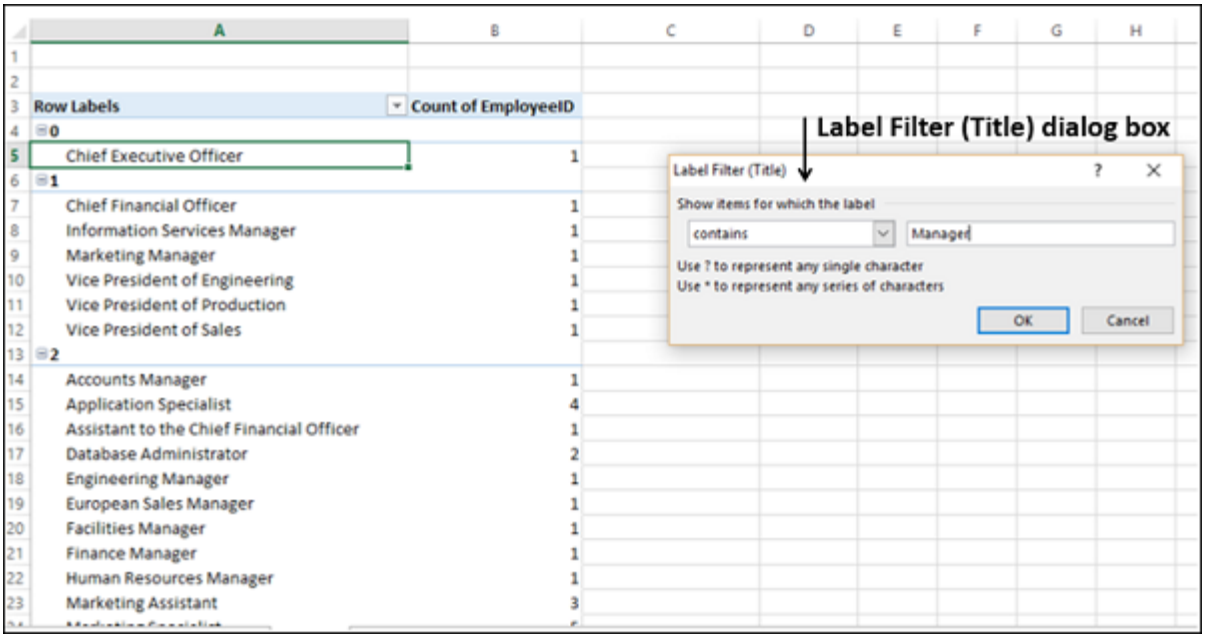
Row Labels	Count of EmployeeID
0	1
Chief Executive Officer	1
1	6
Chief Financial Officer	1
Information Services Manager	1
Marketing Manager	1
Vice President of Engineering	1
Vice President of Production	1
Vice President of Sales	1
2	27
Accounts Manager	1
Application Specialist	4
Assistant to the Chief Financial Officer	1
Database Administrator	2
Engineering Manager	1
European Sales Manager	1
Facilities Manager	1
Finance Manager	1
Human Resources Manager	1
Marketing Assistant	3

You might want to know how many employees with ‘Manager’ in their title have employees reporting to them. As the Label Title is text-based, you can apply the Label Filter on the Title field as follows –

- Click on the arrow in the Row Labels cell.
- Select Title in the Select Field box from the drop down list.
- Click on Label Filters.
- Click on Contains in the second dropdown list.



Label Filter (Title) dialog box appears. Type Manager in the box next to Contains. Click OK.

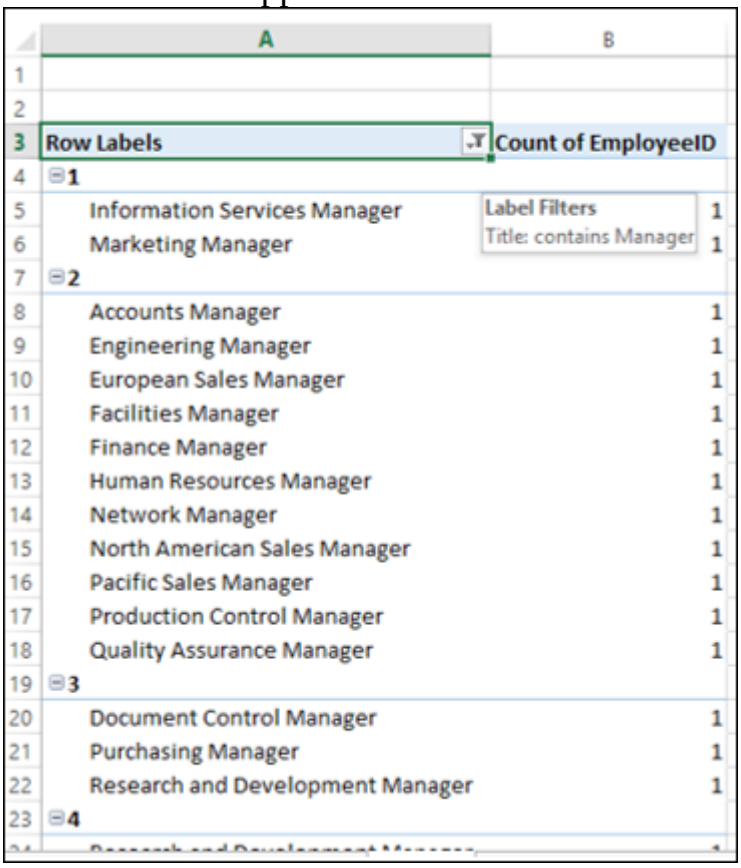


The PivotTable will be filtered to the Title values containing ‘Manager’.

You can see that is displayed indicating the following –

- The Label Filter is applied on the field – Title, and

- What the applied Label Filter is.

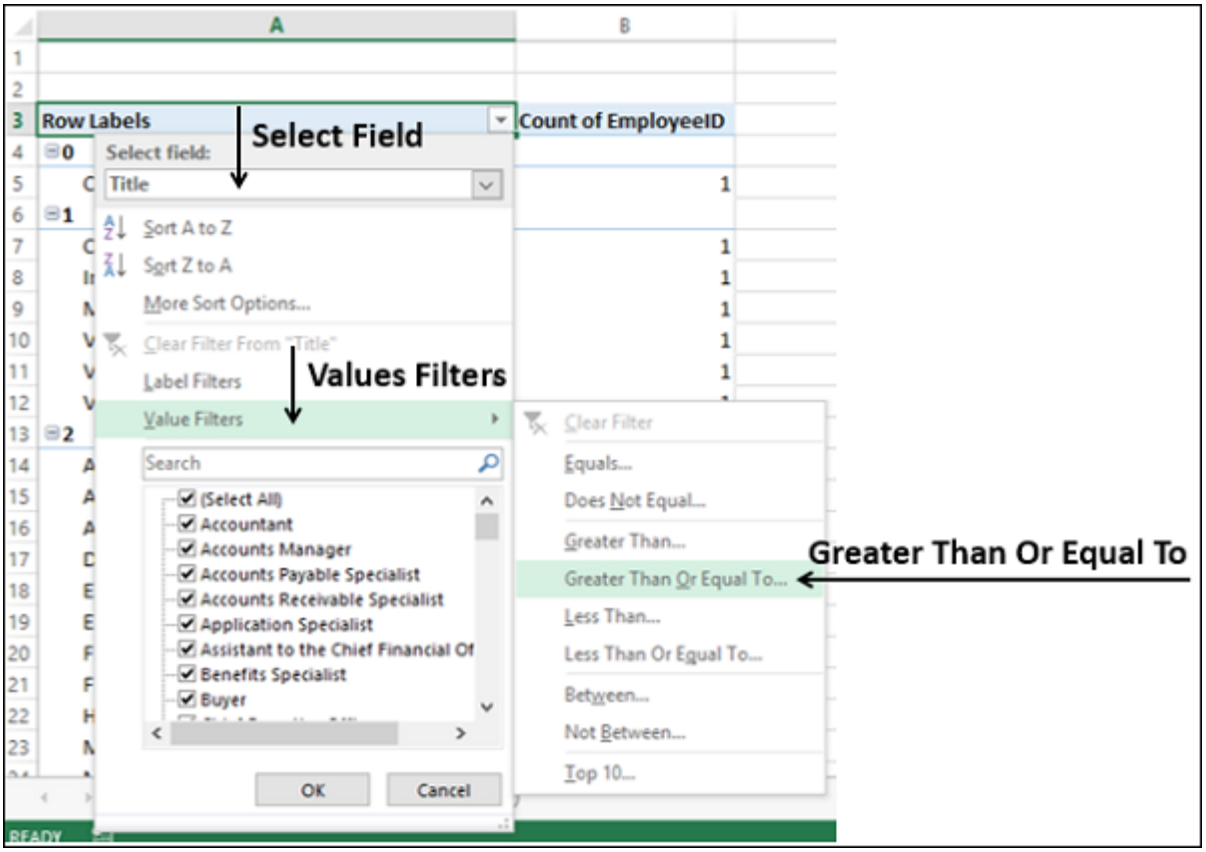


	A	B
1		
2		
3	Row Labels	Count of EmployeeID
4	1	
5	Information Services Manager	1
6	Marketing Manager	1
7	2	
8	Accounts Manager	1
9	Engineering Manager	1
10	European Sales Manager	1
11	Facilities Manager	1
12	Finance Manager	1
13	Human Resources Manager	1
14	Network Manager	1
15	North American Sales Manager	1
16	Pacific Sales Manager	1
17	Production Control Manager	1
18	Quality Assurance Manager	1
19	3	
20	Document Control Manager	1
21	Purchasing Manager	1
22	Research and Development Manager	1
23	4	

Filtering by Values

You might want to know the titles of the employees who have more than 25 employees reporting to them. For this, you can apply the Value Filter on the Title field as follows −

- Click on the arrow in the Row Labels cell.
- Select **Title** in the Select Field box from the drop down list.
- Click on Value Filters.
- Select Greater than or equal to from the second dropdown list.



The Value Filter (Title) dialog box appears. Type 25 in the right side box.

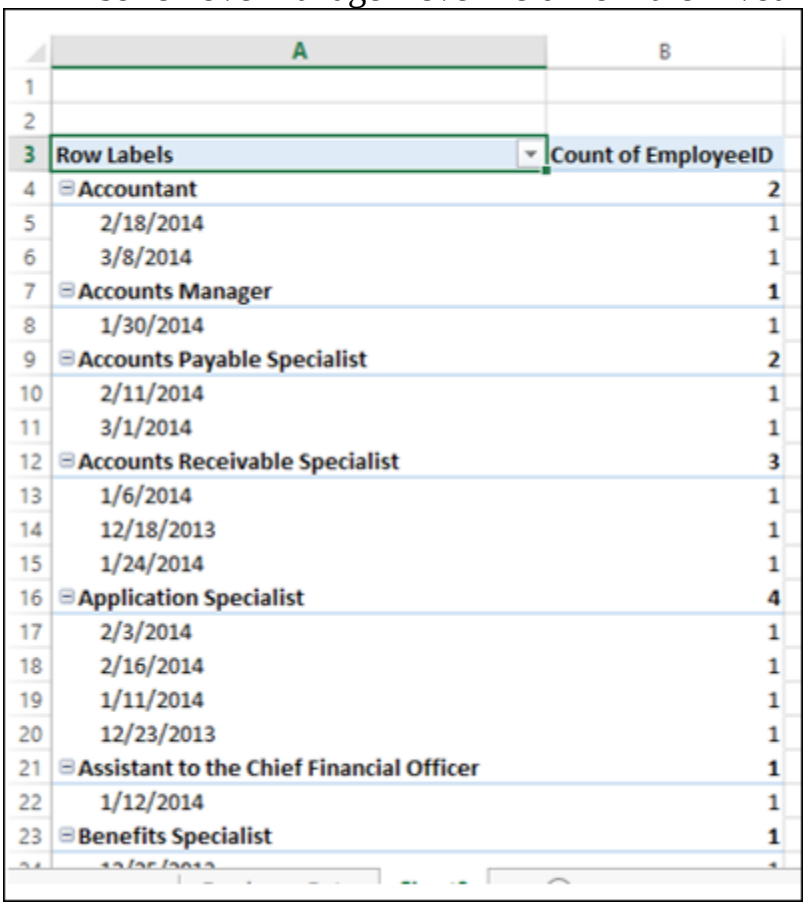
The PivotTable will be filtered to display the employee titles who have more than 25 employees reporting to them.

Row Labels	Count of EmployeeID
4	
Production Technician - WC30	25
Production Technician - WC40	26
Production Technician - WC50	26
Production Technician - WC60	26
Grand Total	103

Filtering by Dates

You might want to display the data of all the employees who were hired in the fiscal year 2015-15. You can use Data Filters for the same as follows –

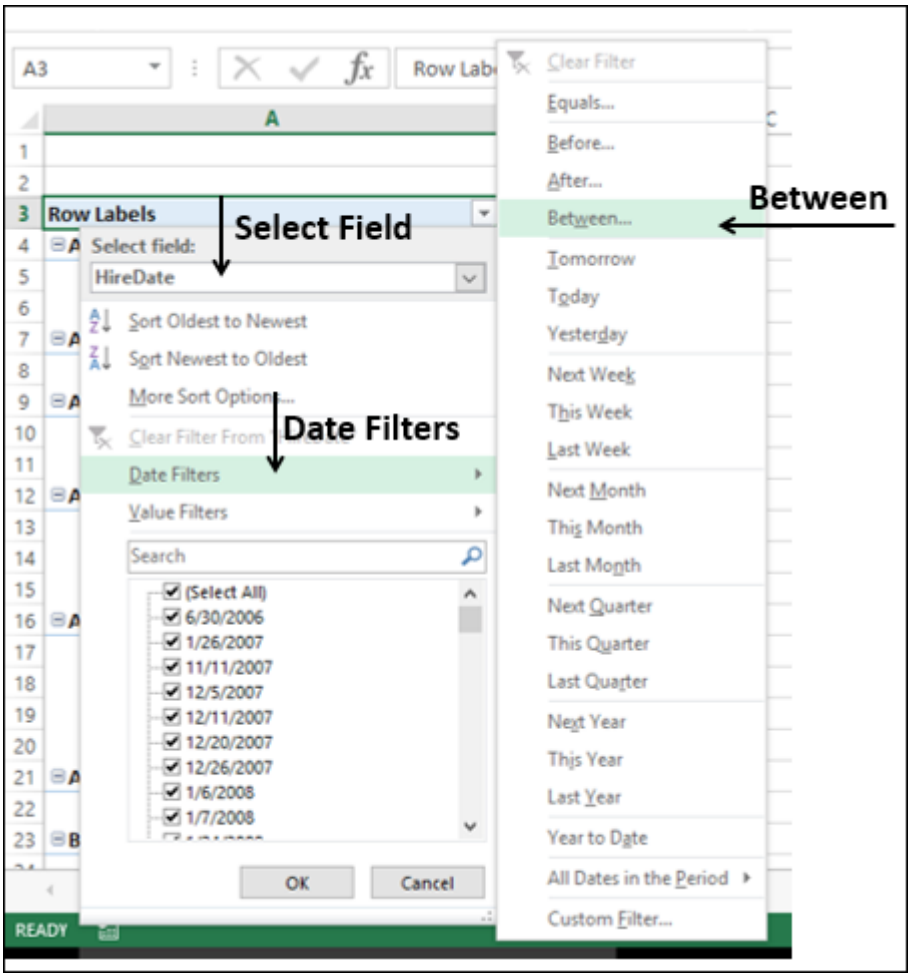
- Include the HireDate field in the PivotTable. Now, you do not require manager data and so remove ManagerLevel field from the PivotTable.



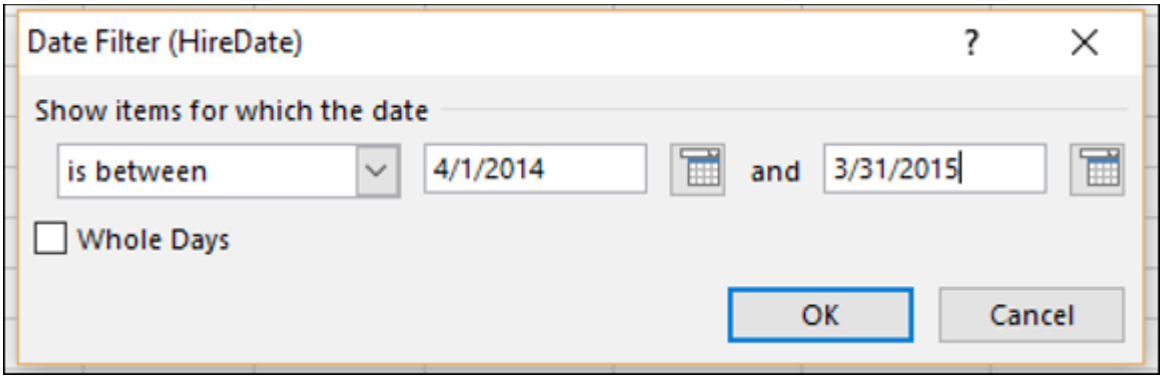
Row Labels	Count of EmployeeID
Accountant	2
2/18/2014	1
3/8/2014	1
Accounts Manager	1
1/30/2014	1
Accounts Payable Specialist	2
2/11/2014	1
3/1/2014	1
Accounts Receivable Specialist	3
1/6/2014	1
12/18/2013	1
1/24/2014	1
Application Specialist	4
2/3/2014	1
2/16/2014	1
1/11/2014	1
12/23/2013	1
Assistant to the Chief Financial Officer	1
1/12/2014	1
Benefits Specialist	1

Now that you have a Date field in the PivotTable, you can use Date Filters.

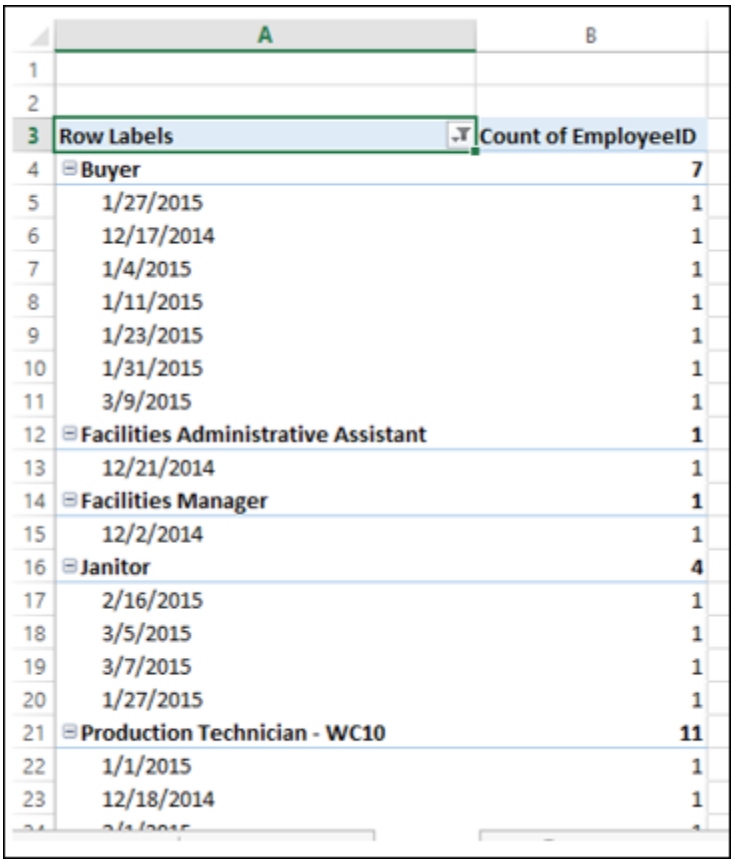
- Click the arrow in the Row Labels cell.
- Select HireDate in the Select Field box from the drop down list.
- Click Date Filters.
- Seelct **Between** from the second dropdown list.



The Date Filter (HireDate) dialog box appears. Type 4/1/2014 and 3/31/2015 in the two Date boxes. Click OK.



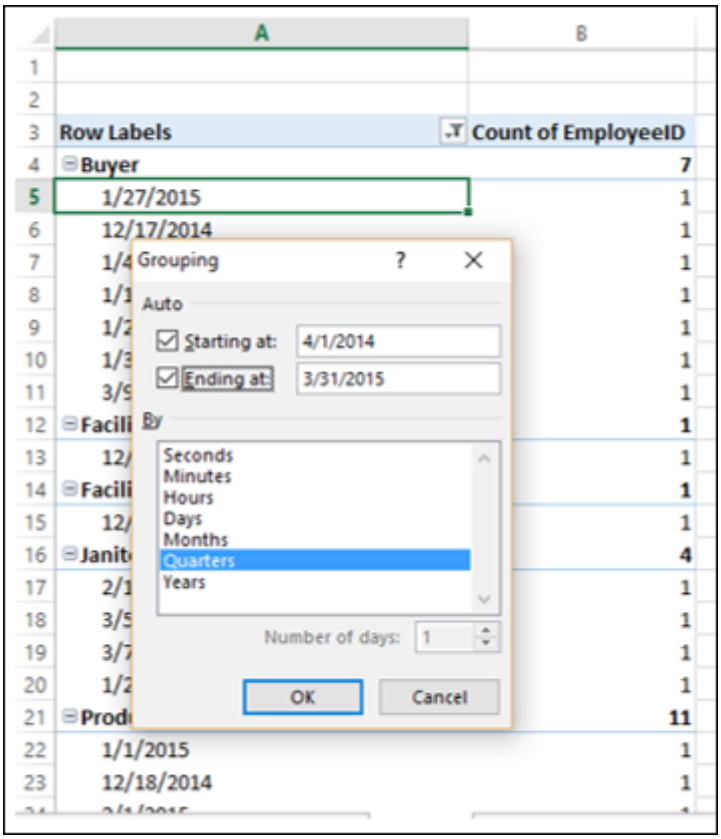
The PivotTable will be filtered to display only the data with HireDate between 1st April 2014 and 31st March 2015.



Row Labels	Count of EmployeeID
Buyer	**7**
1/27/2015	1
12/17/2014	1
1/4/2015	1
1/11/2015	1
1/23/2015	1
1/31/2015	1
3/9/2015	1
Facilities Administrative Assistant	**1**
12/21/2014	1
Facilities Manager	**1**
12/2/2014	1
Janitor	**4**
2/16/2015	1
3/5/2015	1
3/7/2015	1
1/27/2015	1
Production Technician - WC10	**11**
1/1/2015	1
12/18/2014	1

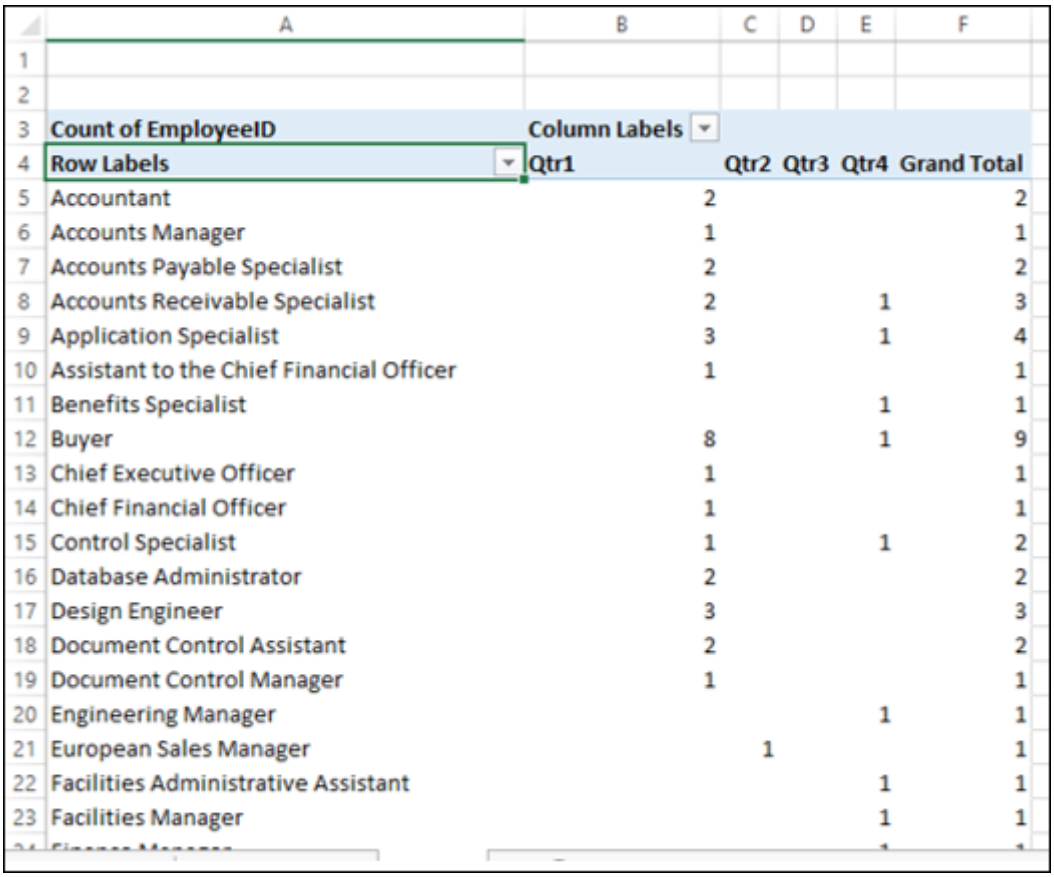
You can group the dates into Quarters as follows –

- Right click on any of the dates. The **Grouping** dialog box appears.
- Type 4/1/2014 in the box Starting at. Check the box.
- Type 3/31/2015 in the box Ending at. Check the box.
- Click Quarters in the box under **By**.



The dates will be grouped into quarters in the PivotTable. You can make the table look compact by dragging the field HireDate from ROWS area to COLUMNS area.

You will be able to know how many employees were hired during the fiscal year, quarter wise.

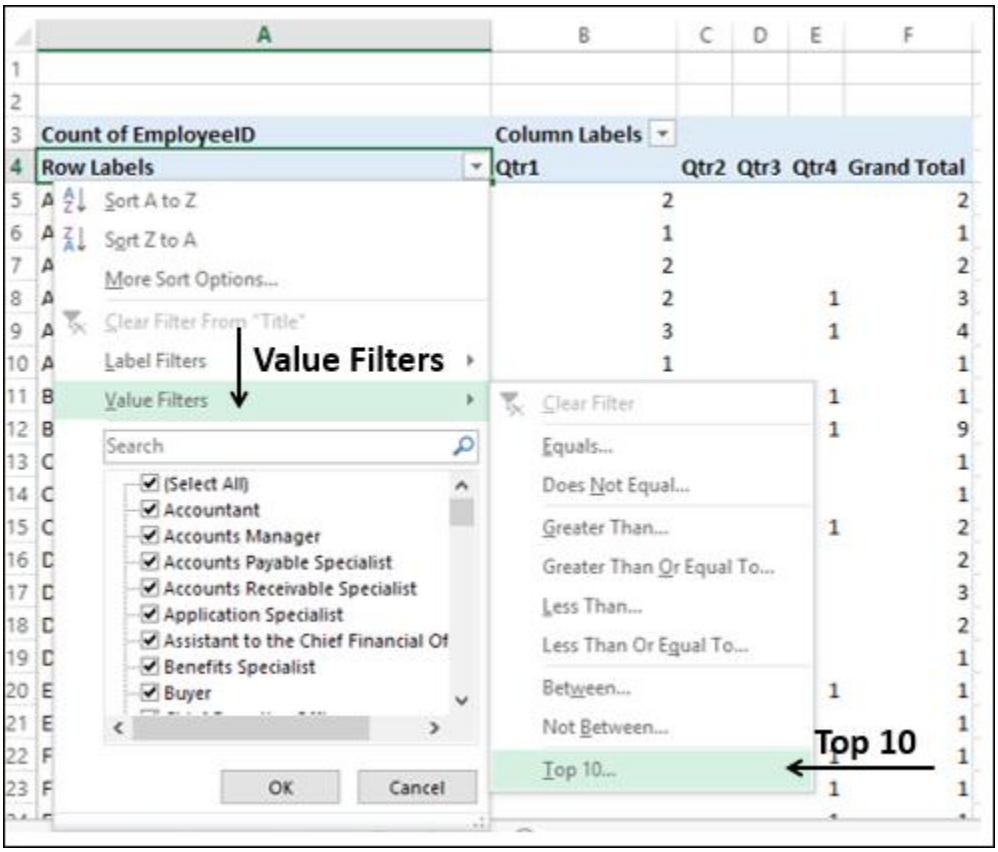


	A	B	C	D	E	F
1						
2						
3	**Count of EmployeeID**	**Column Labels**				
4	**Row Labels**	**Qtr1**	**Qtr2**	**Qtr3**	**Qtr4**	**Grand Total**
5	Accountant	2				2
6	Accounts Manager	1				1
7	Accounts Payable Specialist	2				2
8	Accounts Receivable Specialist	2			1	3
9	Application Specialist	3			1	4
10	Assistant to the Chief Financial Officer	1				1
11	Benefits Specialist				1	1
12	Buyer	8			1	9
13	Chief Executive Officer	1				1
14	Chief Financial Officer	1				1
15	Control Specialist	1			1	2
16	Database Administrator	2				2
17	Design Engineer	3				3
18	Document Control Assistant	2				2
19	Document Control Manager	1				1
20	Engineering Manager				1	1
21	European Sales Manager		1			1
22	Facilities Administrative Assistant				1	1
23	Facilities Manager				1	1

Filtering Using Top 10 Filter

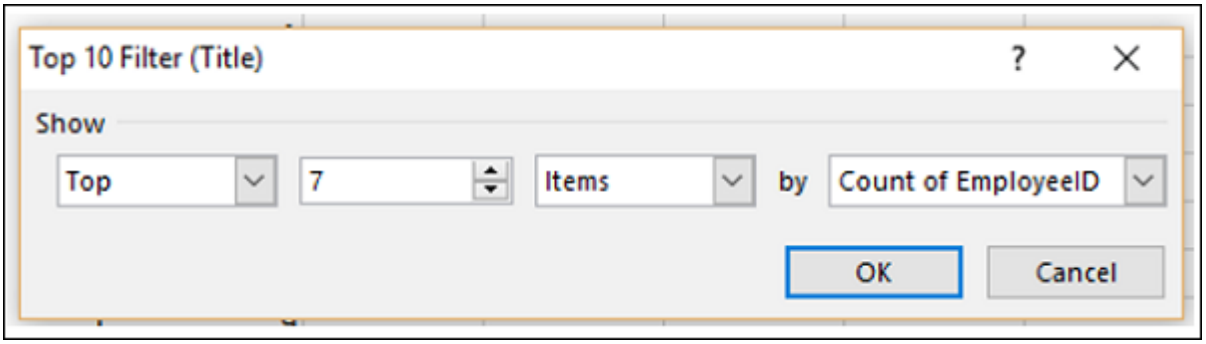
You can use the Top 10 Filter to display the top few or bottom few values of a field in the PivotTable.

- Click the arrow in the Row Labels cell.
- Click Value Filters.
- Click Top 10 in the second dropdown list.



Top 10 Filter (Title) dialog box appears.

- In the first box, click on Top (You can choose Bottom also).
- In the second box, enter a number, say, 7.
- In the third box, you have three options by which you can filter.
    - Click on Items to filter by number of items.
    - Click on Percent to filter by percentage.
    - Click on Sum to filter by sum.
- As you have count of EmployeeID, click Items.
- In the fourth box, click on the field Count of EmployeeID.
- Click OK.



The top seven values by count of EmployeeID will be displayed in the PivotTable.

Count of EmployeeID	Column Labels				
Row Labels	Qtr1	Qtr2	Qtr3	Qtr4	Grand Total
Production Technician - WC10	13			4	17
Production Technician - WC20	16			6	22
Production Technician - WC30	17			8	25
Production Technician - WC40	17			9	26
Production Technician - WC45	10			5	15
Production Technician - WC50	18			8	26
Production Technician - WC60	18	1		7	26
Grand Total	**109**	**1**		**47**	**157**

As you can observe, the highest number of hires in the fiscal year is that of Production Technicians and a predominant number of these are in Qtr1.

Filtering Using Timeline

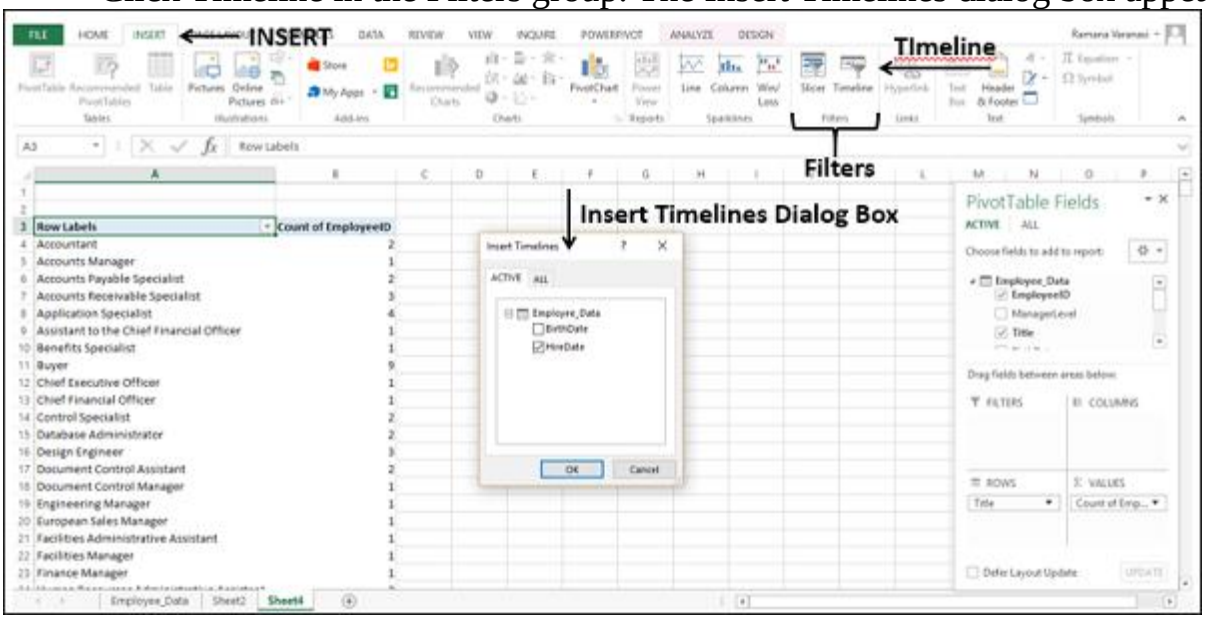
If your PivotTable has a date field, you can filter the PivotTable using Timeline.

Create a PivotTable from the Employee Data that you used earlier and add the data to the Data Model in the Create PivotTable dialog box.

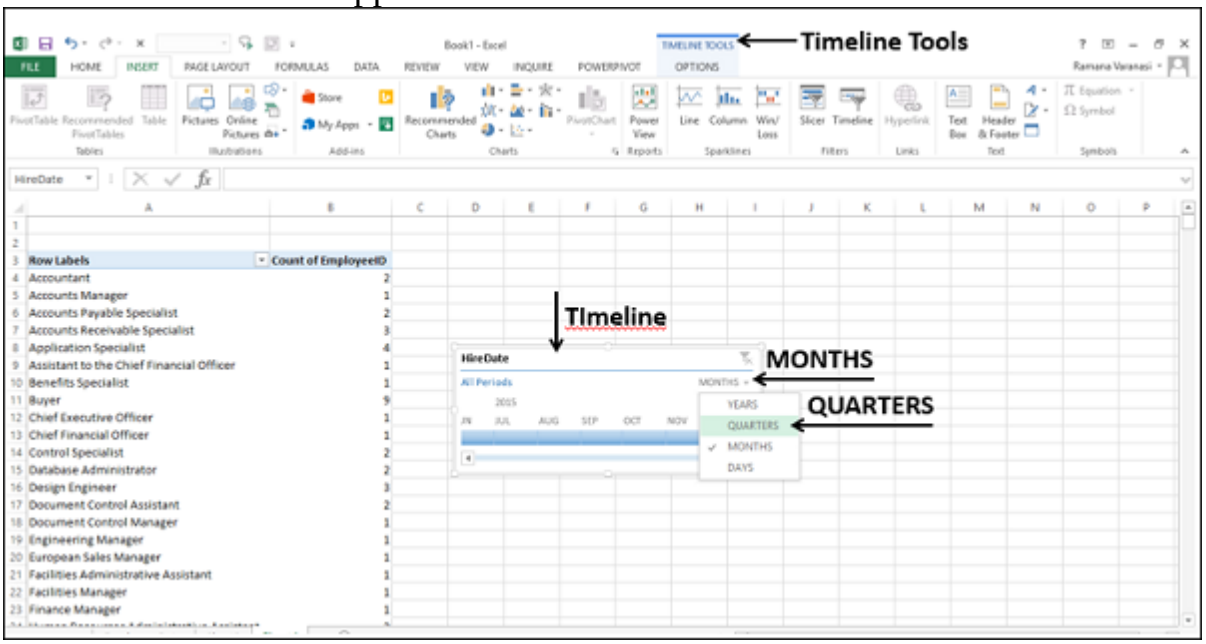
- Drag the field Title to ROWS area.
- Drag the field EmployeeID to ∑ VALUES area and choose Count for calculation.

Row Labels	Count of EmployeeID
Accountant	2
Accounts Manager	1
Accounts Payable Specialist	2
Accounts Receivable Specialist	3
Application Specialist	4
Assistant to the Chief Financial Officer	1
Benefits Specialist	1
Buyer	9
Chief Executive Officer	1
Chief Financial Officer	1
Control Specialist	2
Database Administrator	2
Design Engineer	3
Document Control Assistant	2
Document Control Manager	1
Engineering Manager	1
European Sales Manager	1
Facilities Administrative Assistant	1
Facilities Manager	1
Finance Manager	1

- Click on the PivotTable.
- Click the INSERT tab.
- Click Timeline in the Filters group. The Insert Timelines dialog box appears.

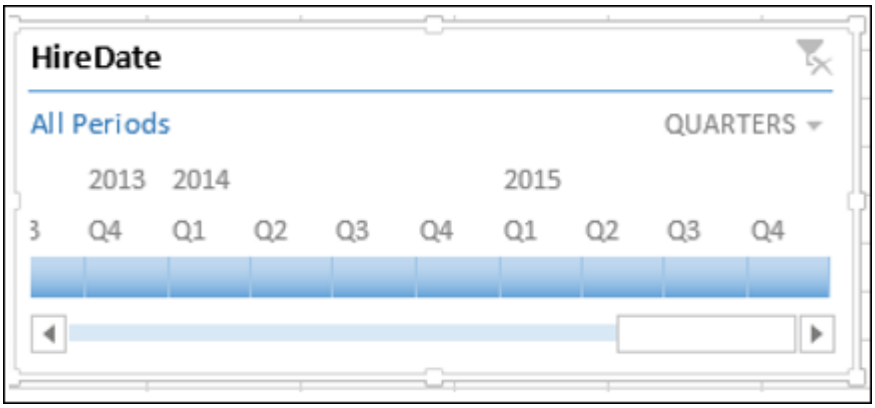


- Check the box HireDate.
- Click OK. The Timeline appears in the worksheet.
- Timeline Tools appear on the Ribbon.

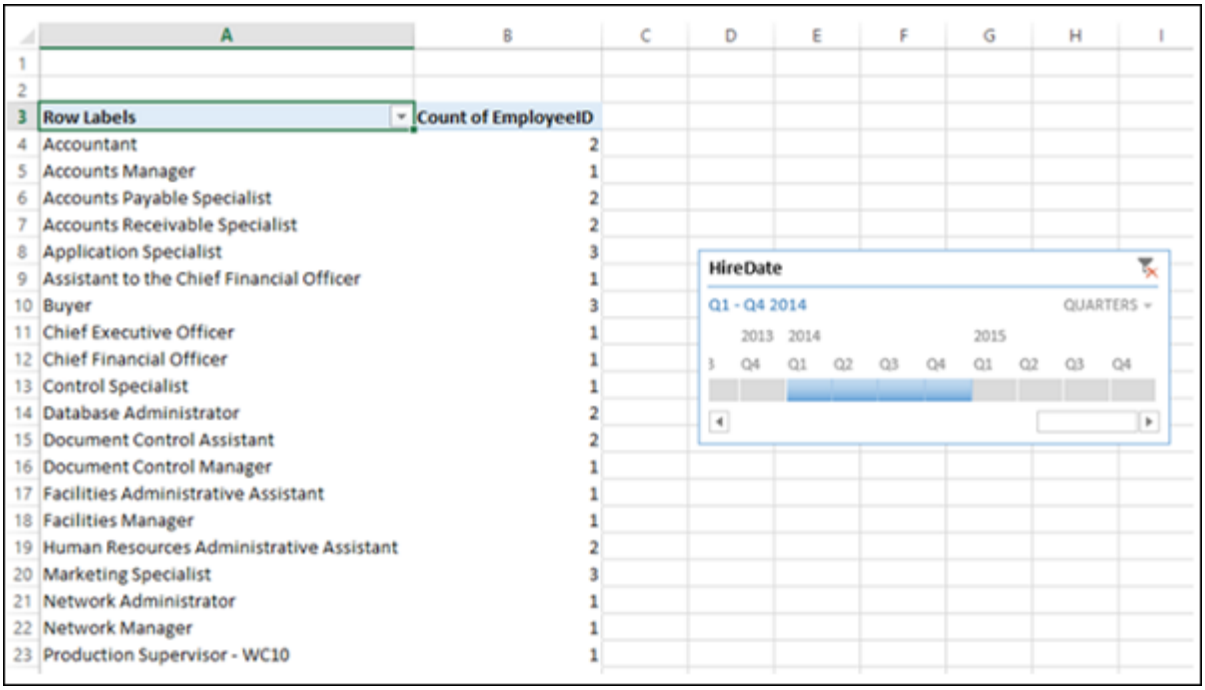


As you can observe, All Periods – in Months are displayed on the Timeline.

- Click on the arrow next to - MONTHS.
- Select QUARTERS from the drop-down list. The The Timeline display changes to All Periods – in Quarters.



- Click on 2014 Q1.
- Keep the Shift key pressed and drag to 2014 Q4. The Timeline Period is selected to Q1 – Q4 2014.
- PivotTable is filtered to this Timeline Period.



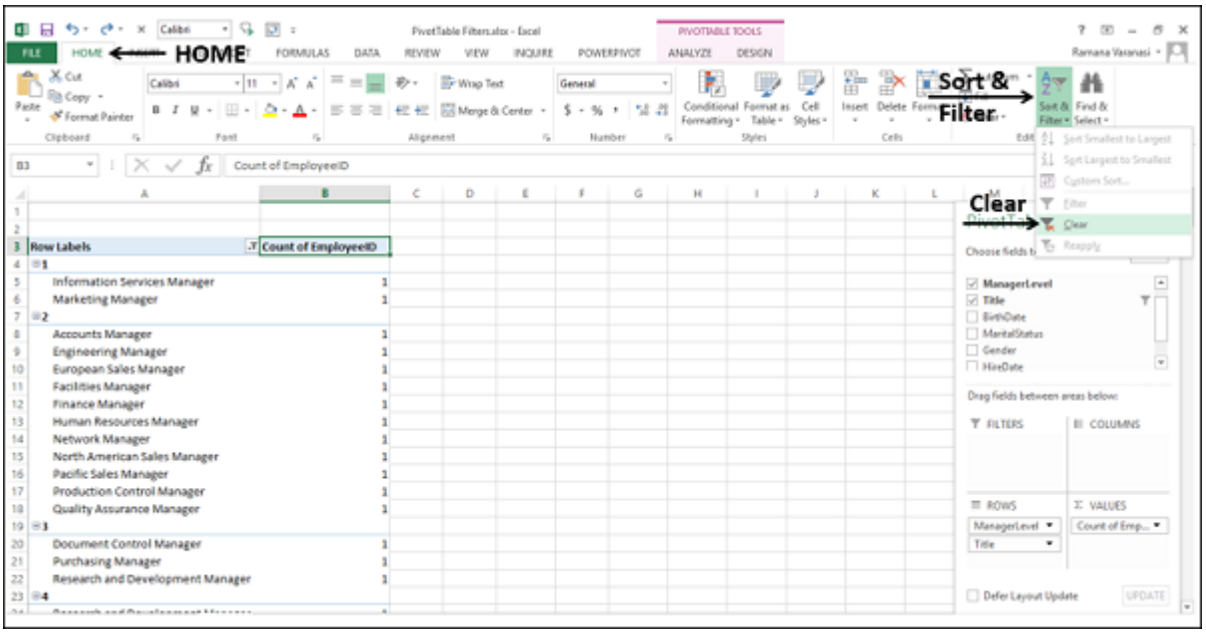
Clearing the Filters

You might have to clear the filters you have set from time to time to switch across different combinations and projections of your data. You can do this in several ways as follows –

Clearing all the filters in a PivotTable

You can clear all the filters set in a PivotTable at one go as follows –

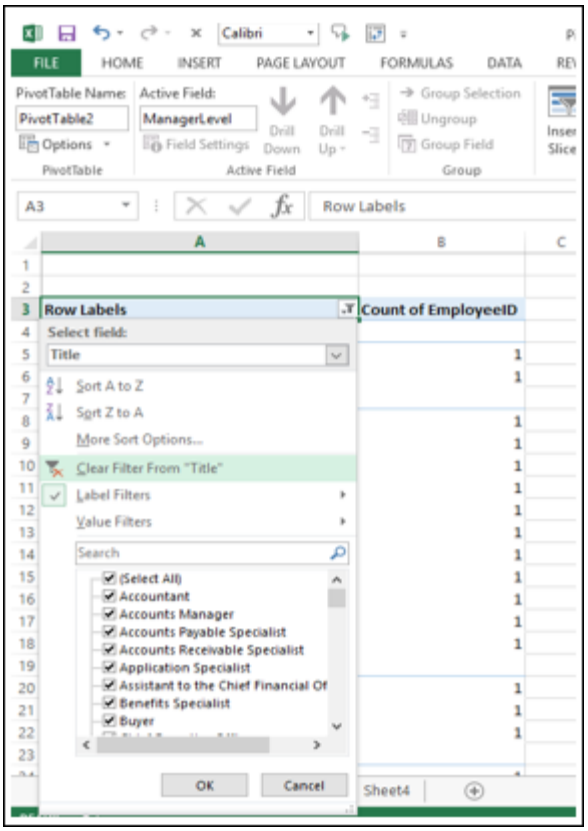
- Click the HOME tab on the Ribbon.
- Click Sort & Filter in the Editing group.
- Select Clear from the dropdown list.



Clearing a Label, Date or Value Filter

To clear a Label, Date, or Value Filter do the following –

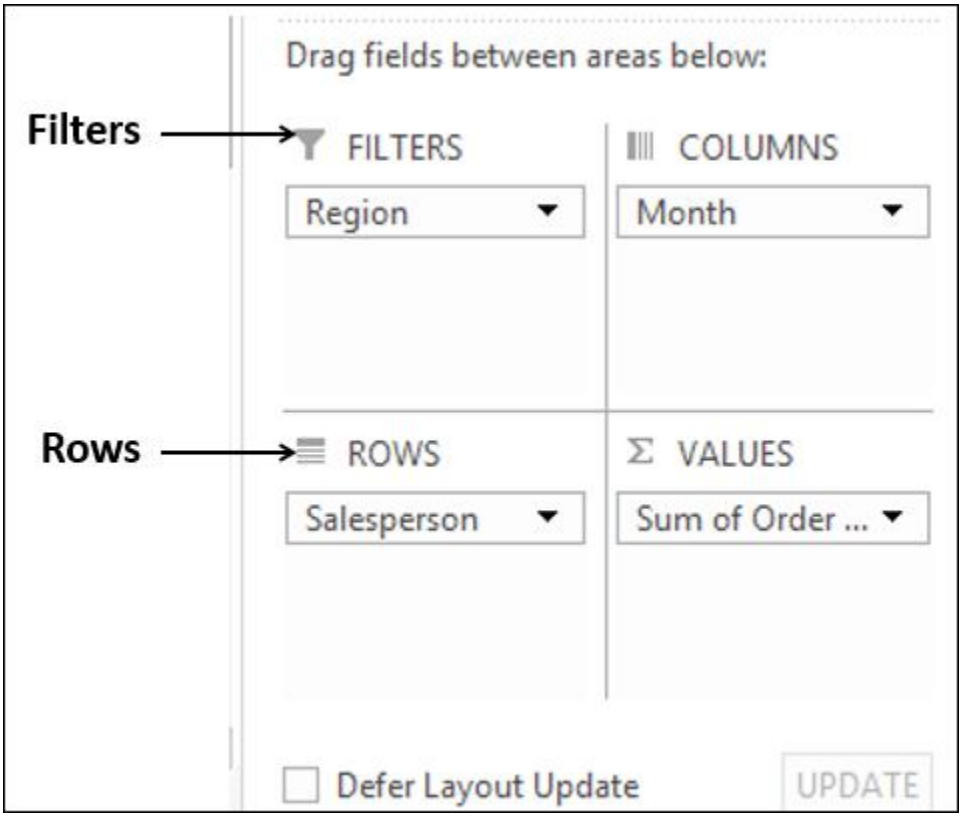
- Click on the icon in the Row Labels or Column Labels.
- Click on the <field name> from which you want to clear the filter in the Select Field box in the dropdown list.
- Click on Clear Filter From <Filed Name> that appears in the dropdown list.
- Click OK. The specific filter will be cleared.



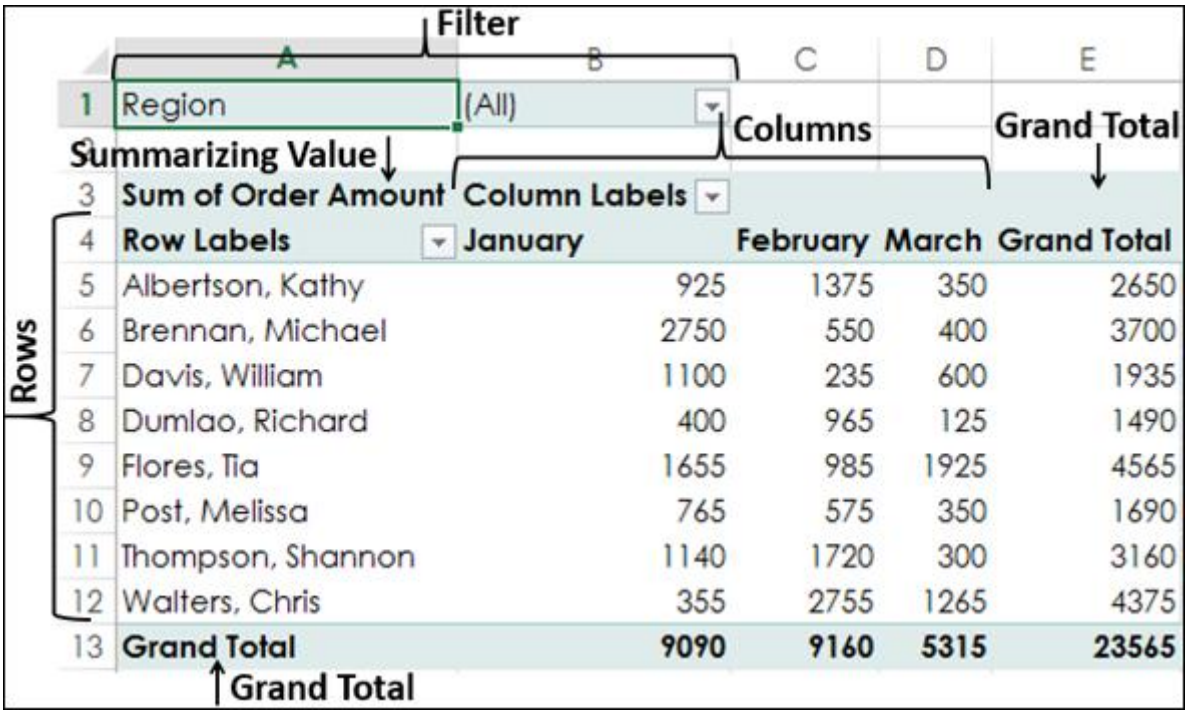
Report Filters

You can assign a Filter to one of the fields so that you can dynamically change the PivotTable based on the values of that field.

Drag Region from Rows to Filters in the PivotTable Areas.



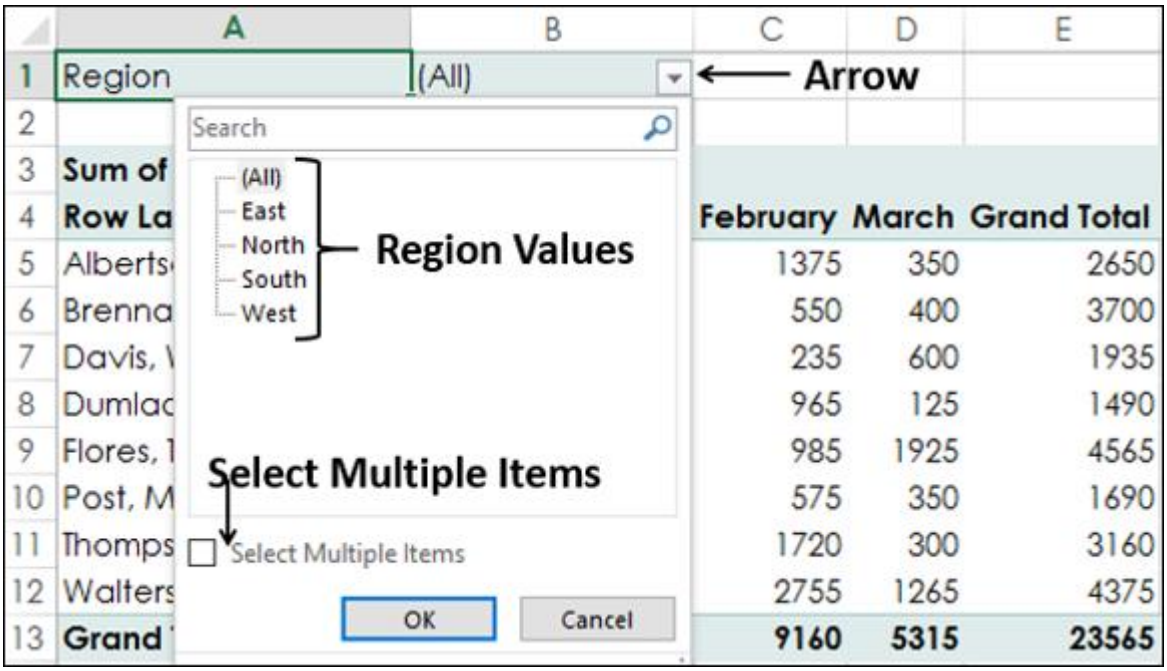
The Filter with the label as Region appears above the PivotTable (in case you do not have empty rows above your PivotTable, PivotTable gets pushed down to make space for the Filter.



You will observe that

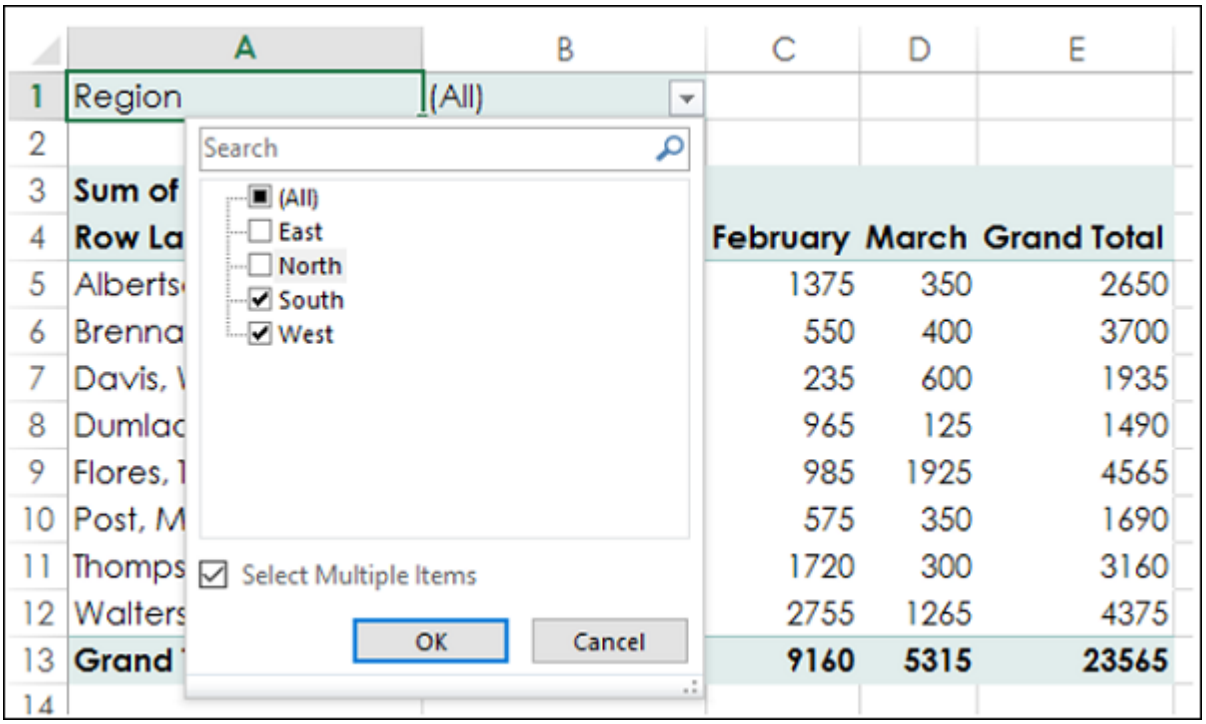
- Salesperson values appear in rows.
- Month values appear in columns.
- Region Filter appears on the top with default selected as ALL.
- Summarizing value is Sum of Order Amount.
    - Sum of Order Amount Salesperson-wise appears in the column Grand Total.
    - Sum of Order Amount Month-wise appears in the row Grand Total.
- Click on the arrow in the box to the right of the Filter Region.

A drop-down list with the values of the field Region appears. Check the box **Select Multiple Items**.



By default, all the boxes are checked. Uncheck the box (**All**). All the boxes will be unchecked.

Then check the boxes - South and West and click OK.



The data pertaining to South and West regions only will get summarized.

	A	B	C	D	E
1	Region	(Multiple Items)			
2					
3	**Sum of Order Amount**	**Column Labels**			
4	**Row Labels**	**January**	**February**	**March**	**Grand Total**
5	Brennan, Michael	2750	550	400	3700
6	Davis, William	1100	235	600	1935
7	Dumlao, Richard	400	965	125	1490
8	Flores, Tia	1655	985	1925	4565
9	Walters, Chris	355	2755	1265	4375
10	**Grand Total**	**6260**	**5490**	**4315**	**16065**

In the cell next to the Filter Region - (Multiple Items) is displayed, indicating that you have selected more than one item. However, how many items and / or which items is not known from the report that is displayed. In such a case, using Slicers is a better option for filtering.