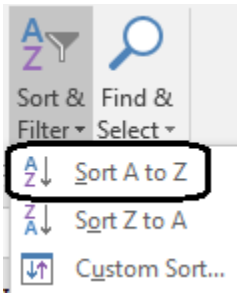
Excel Intermediate

Sorting

Excel allows us to sort data whether it is alphabetic or numeric. Simply clicking within a column or row of data will begin the process.

Click in the Department column of our range of data (do not highlight the column). Then click on the Sort & Filter drop-down menu in the Home ribbon and click on Sort A to Z to arrange the departments alphabetically, or Sort Z to A for reverse alphabetical order

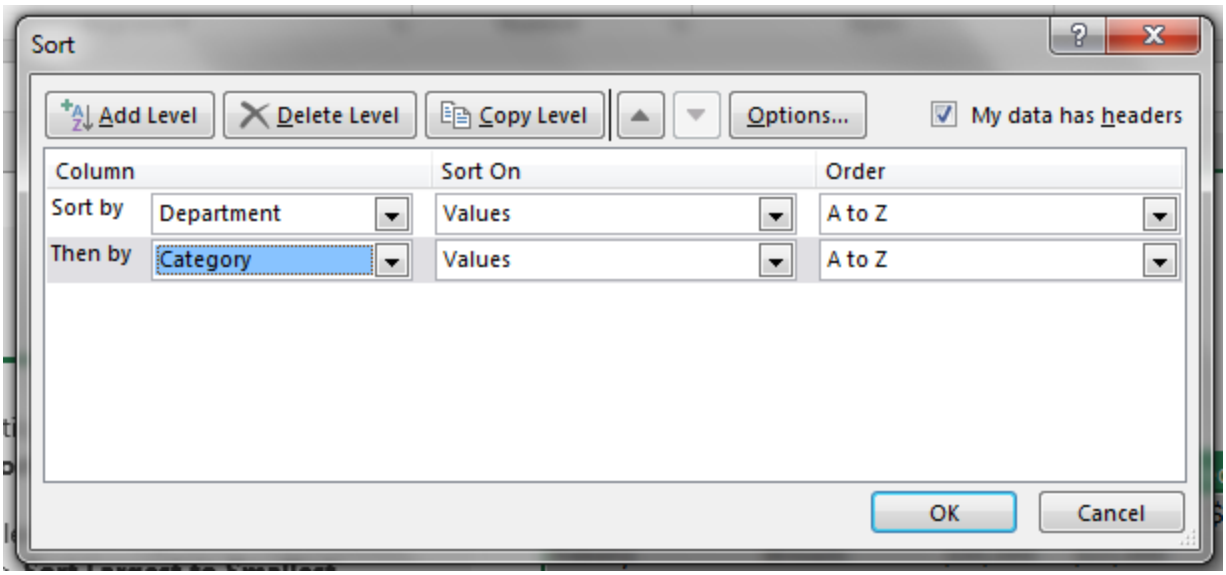


A column containing numbers will be sorted smallest to largest and largest to smallest when choosing Sort A to Z and Sort Z to A, respectively.

Custom Sorting by Level

Custom sorting allows you to select multiple criteria to sort your data.

- Click anywhere inside our range of data
- Click on the Custom Sort button in the Sort & Filter drop-down menu. This will open the Sort dialog box
- Choose **Department** as your first sort level
- Click on Add Level at the top left of the dialog box and select **Category**
- Click on OK



Your resulting table should look like this:

Department	Category	Oct	Nov	Dec
Bakery	Breads	$30,000	$15,000	$20,000
Bakery	Desserts	$25,000	$80,000	$120,000
Deli	Salads	$90,000	$35,000	$25,000
Deli	Sandwiches	$80,000	$40,000	$20,000
Meat	Beef	$90,000	$110,000	$120,000
Meat	Chicken	$75,000	$82,000	$2,000,000
Produce	Fruit	$10,000	$30,000	$40,000
Produce	Veggies	$30,000	$80,000	$30,000

Filtering

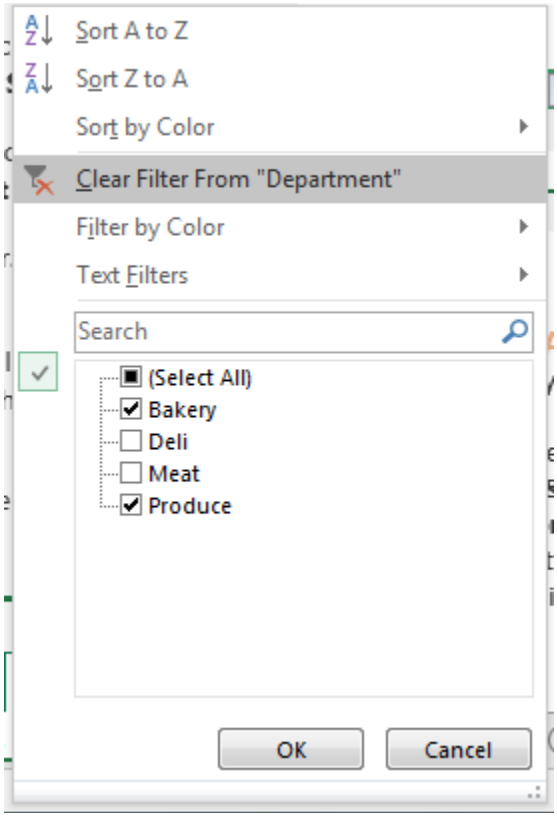
Excel allows you to filter data easily. Click inside our data and then select the Filter button from the Sort & Filter drop-down menu. When you do this filter arrows should appear beside your column headers.

Department	Category	Oct	Nov	Dec
Bakery	Breads	$30,000	$15,000	$20,000
Bakery	Desserts	$25,000	$80,000	$120,000
Deli	Salads	$90,000	$35,000	$25,000
Deli	Sandwiches	$80,000	$40,000	$20,000
Meat	Beef	$90,000	$110,000	$120,000
Meat	Chicken	$75,000	$82,000	$2,000,000
Produce	Fruit	$10,000	$30,000	$40,000
Produce	Veggies	$30,000	$80,000	$30,000

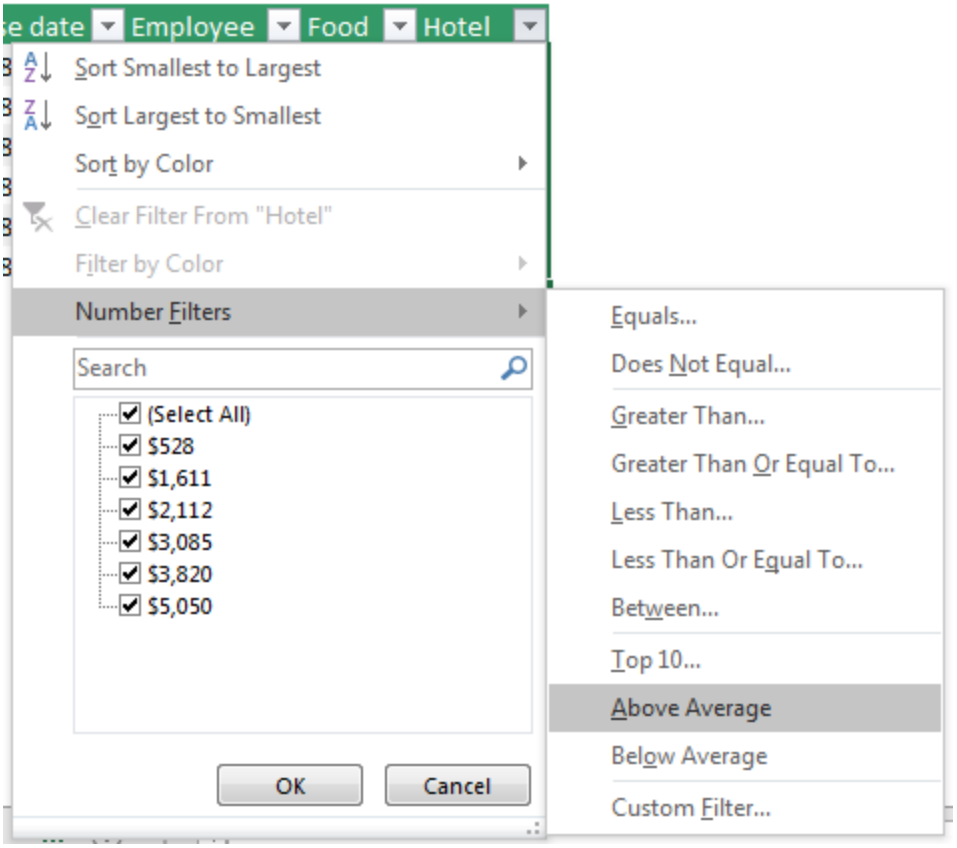
Click the Department filter, uncheck one or more categories, and then click OK to look at only the data from your remaining categories.

Department	Category	Oct	Nov	Dec
Bakery	Breads	$30,000	$15,000	$20,000
Bakery	Desserts	$25,000	$80,000	$120,000
Produce	Fruit	$10,000	$30,000	$40,000
Produce	Veggies	$30,000	$80,000	$30,000

Click the Department filter again and click Clear Filter to bring the removed categories back.



You can also filter dates, and filter numbers by removing numbers above or below a certain threshold. Click the Hotel filter and select Number Filters > Above Average. Excel will calculate the average hotel bill and only show those that cost more than this average.



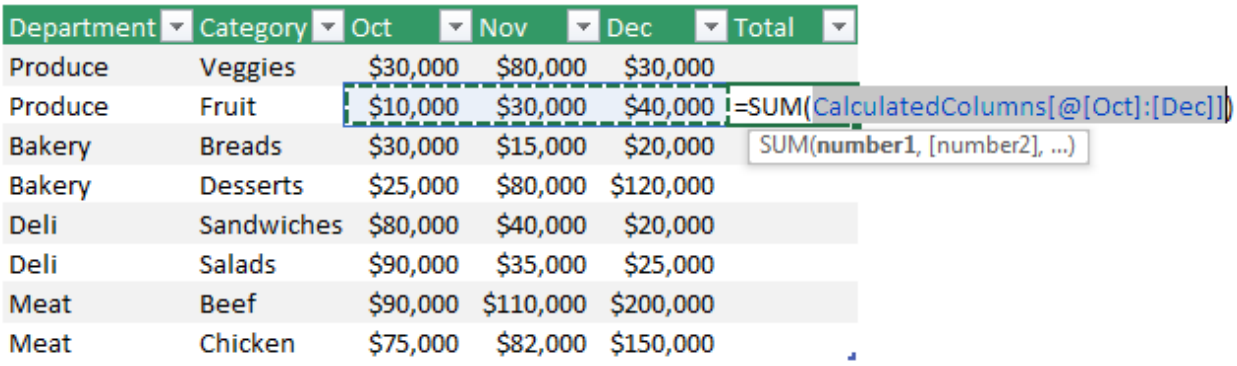
Tables

Tables are a great way to organize your data. To create a table, select any cell within your data set, select the Insert ribbon, and then click on "Table."

Department	Category	Oct	Nov	Dec
Produce	Veggies	30000	80000	30000
Produce	Fruit	10000	30000	40000
Bakery	Breads	30000	15000	20000
Bakery	Desserts	25000	80000	120000
Deli	Sandwich	80000	40000	20000
Deli	Salads	90000	35000	25000
Meat	Beef	90000	110000	200000
Meat	Chicken	75000	82000	150000

See the little blue marker in the bottom right corner? Resize your table by clicking that corner and dragging the marker down and/or to the right to add rows and columns. Typing in an adjacent row or column will also extend your table.

Once you have a table, if you create a formula in one cell, Excel will automatically copy that formula to the rest of the column for you.



Department	Category	Oct	Nov	Dec	Total
Produce	Veggies	$30,000	$80,000	$30,000	
Produce	Fruit	$10,000	$30,000	$40,000	=SUM(CalculatedColumns[@[Oct]:[Dec]])
Bakery	Breads	$30,000	$15,000	$20,000	
Bakery	Desserts	$25,000	$80,000	$120,000	
Deli	Sandwiches	$80,000	$40,000	$20,000	
Deli	Salads	$90,000	$35,000	$25,000	
Meat	Beef	$90,000	$110,000	$200,000	
Meat	Chicken	$75,000	$82,000	$150,000	

Department	Category	Oct	Nov	Dec	Total
Produce	Veggies	$30,000	$80,000	$30,000	$140,000
Produce	Fruit	$10,000	$30,000	$40,000	$80,000
Bakery	Breads	$30,000	$15,000	$20,000	$65,000
Bakery	Desserts	$25,000	$80,000	$120,000	$225,000
Deli	Sandwiches	$80,000	$40,000	$20,000	$140,000
Deli	Salads	$90,000	$35,000	$25,000	$150,000
Meat	Beef	$90,000	$110,000	$200,000	$400,000
Meat	Chicken	$75,000	$82,000	$150,000	$307,000

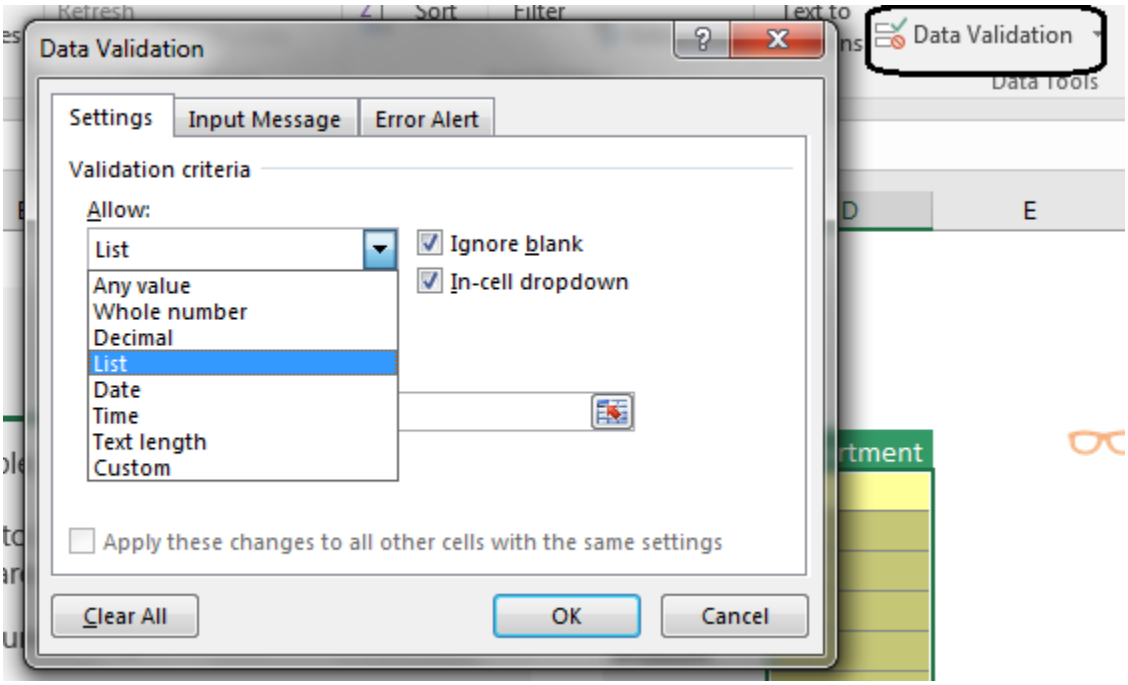
Another thing you can do with tables that involve numbers is easily add a Total row. When you click somewhere within a table, a Design ribbon appears to the right of the View ribbon. Click on this ribbon and check the Total Row box. You can change the value in your Total row from a sum to an average or another mathematical function.

Department	Category	Sales
Produce	Veggies	$1,000
Produce	Fruit	$2,000
Bakery	Breads	$3,000
Bakery	Desserts	$1,000
Deli	Sandwiches	$2,000
Deli	Salads	$3,000
Meat	Beef	$4,000
Meat	Chicken	$8,000
Total		$24,000

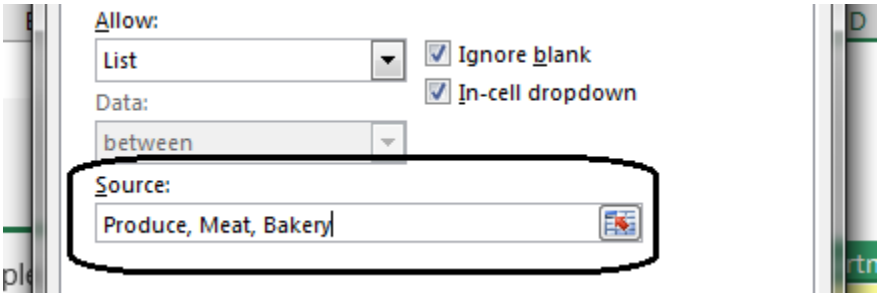
Drop-down Lists

Drop-down lists are useful when you want certain cells to only have a limited number of valid entries.

To create a drop-down list, select the cells you want to affect, select the Data ribbon, and click Data Validation.



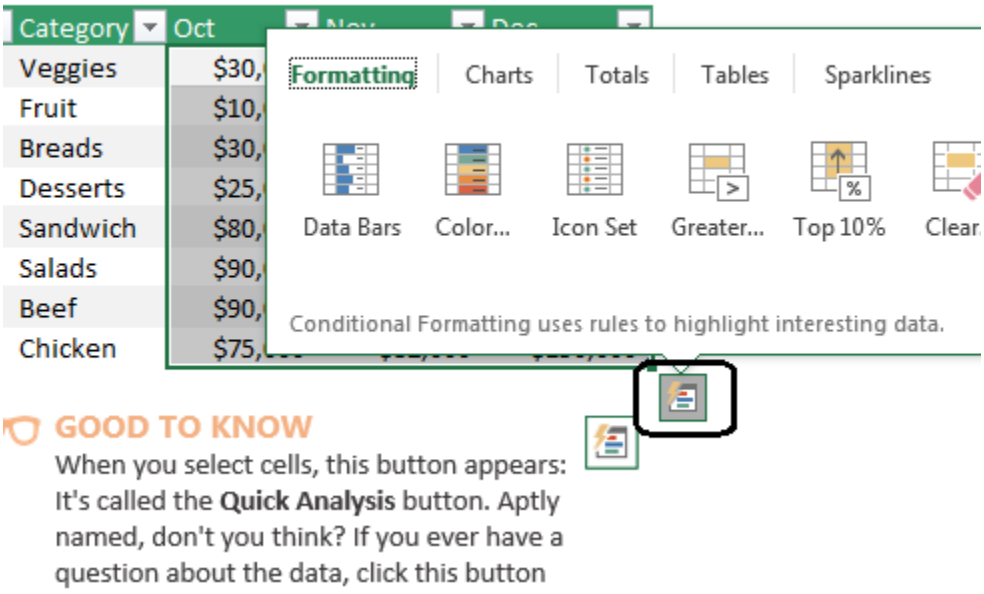
Select “List” from the Allow drop-down menu, and in the Source box enter the terms you want to be available as choices, separated by commas. For example, typing “Produce, Meat, Bakery” in the Source box will set “Produce,” “Meat,” and “Bakery” as the available options.



After this, the cells you changed will be restricted to those three choices.

Conditional Formatting

Excel allows you to analyze data easily. When you select a block of cells with numerical data, the Quick Analysis button will appear near the bottom right corner of your selection. Click on this button to bring up options for displaying graphical representations of your data.



For example, clicking on the Data Bars button will add colored bars to your cells that show which values are large or small relative to one another. This is known as conditional formatting.

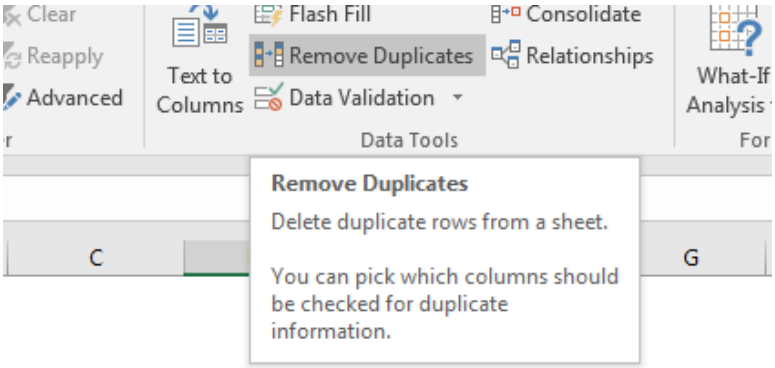
Department	Category	Oct	Nov	Dec
Produce	Veggies	$30,000	$80,000	$30,000
Produce	Fruit	$10,000	$30,000	$40,000
Bakery	Breads	$30,000	$15,000	$20,000
Bakery	Desserts	$25,000	$80,000	$120,000
Deli	Sandwich	$80,000	$40,000	$20,000
Deli	Salads	$90,000	$35,000	$25,000
Meat	Beef	$90,000	$110,000	$200,000
Meat	Chicken	$75,000	$82,000	$150,000

If you decide you want to remove these bars, select them again and click Quick Analysis followed by Clear.

Conditional formatting can be used with text data to highlight duplicates or unique strings. To use this feature, select a block of cells containing text and click Quick Analysis followed by Duplicate or Unique.

Department	Category	Oct	Nov	Dec
Produce	Veggies	$30,000	$80,000	$30,000
Produce	Fruit	$10,000	$30,000	$40,000
Bakery	Breads	$30,000	$15,000	$20,000
Bakery	Desserts	$25,000	$80,000	$120,000
Deli	Sandwich	$80,000	$40,000	$20,000
Deli	Salads	$90,000	$35,000	$25,000
Meat	Beef	$90,000	$110,000	$200,000
Meat	Chicken	$75,000	$82,000	$150,000
Meat	Chicken	$75,000	$82,000	$150,000

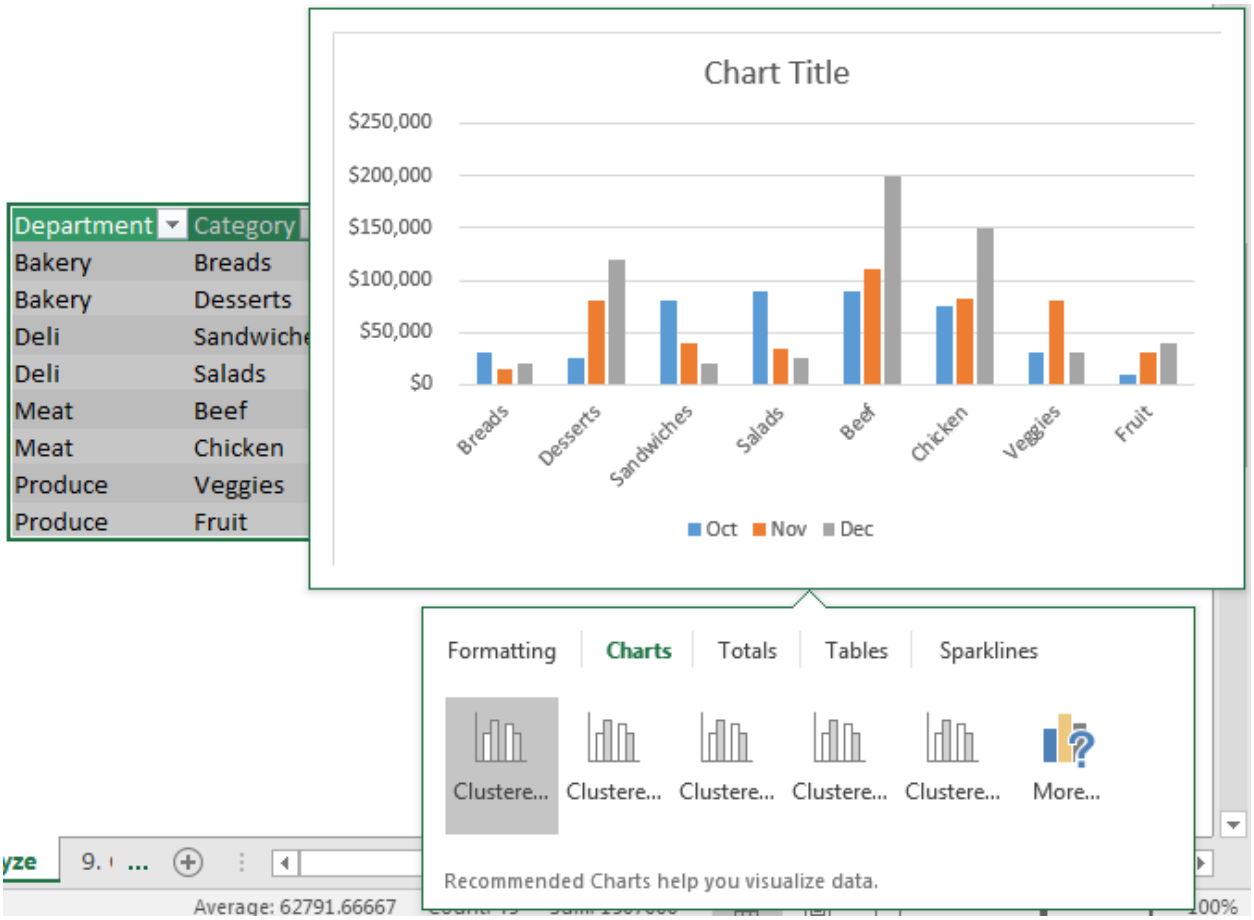
To remove unwanted duplicate entries, select your data and use the Remove Duplicates tool on the Data ribbon. When you do this, be careful to select the exact categories you wish to remove duplicates from!



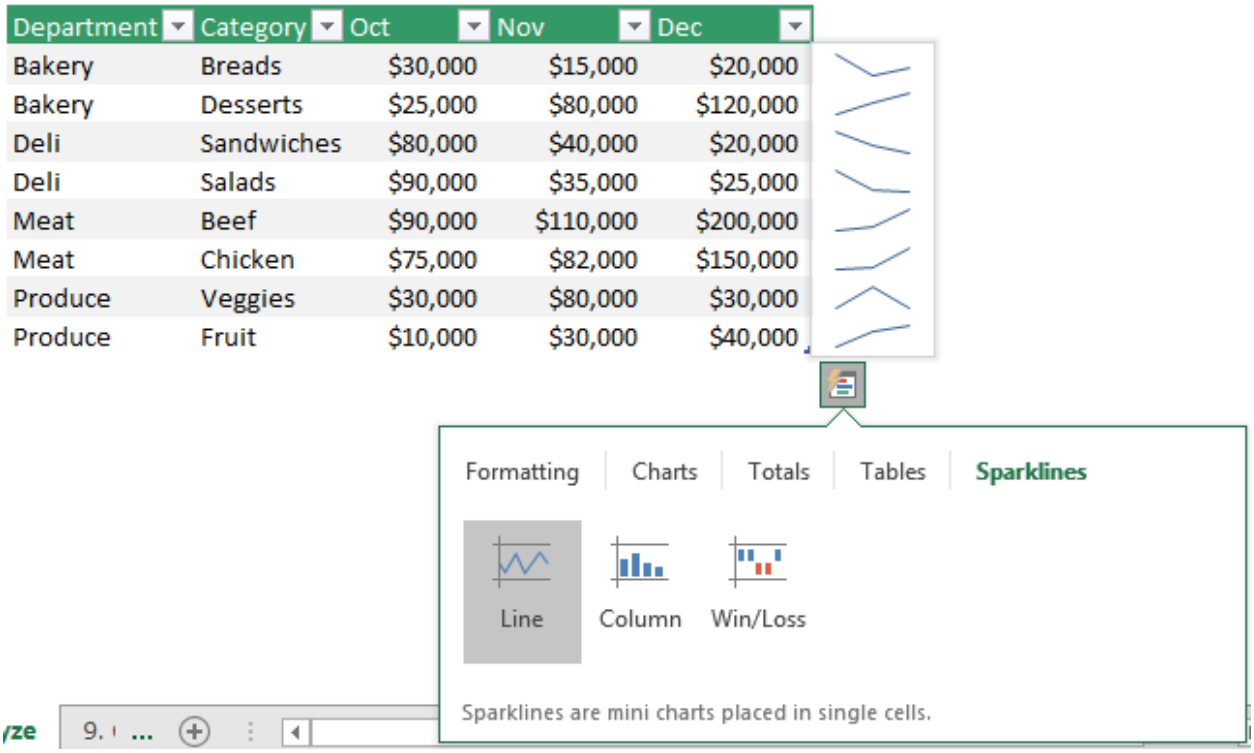
Department	Category	Oct	Nov	Dec
Produce	Veggies	$30,000	$80,000	$30,000
Produce	Fruit	$10,000	$30,000	$40,000
Bakery	Breads	$30,000	$15,000	$20,000
Bakery	Desserts	$25,000	$80,000	$120,000
Deli	Sandwich	$80,000	$40,000	$20,000
Deli	Salads	$90,000	$35,000	$25,000
Meat	Beef	$90,000	$110,000	$200,000
Meat	Chicken	$75,000	$82,000	$150,000
Meat	Chicken	$75,000	$82,000	$150,000

Quick Charts

You can use the Quick Analysis button to quickly make a chart. To do this, select your chart data including the headers, and then click on Quick Analysis, Charts, and then select one of the options shown.



Sparklines are another type of chart you can quickly make in Excel. To create a set of sparklines, select just your chart's numerical data, click on Quick Analysis, Sparklines, and then select the first option.

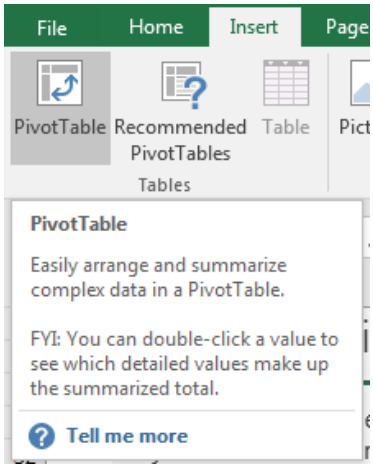


Sparklines are good for visualizing trends over time. In this example, we can easily see how well various foods are selling from month to month at this grocery store.

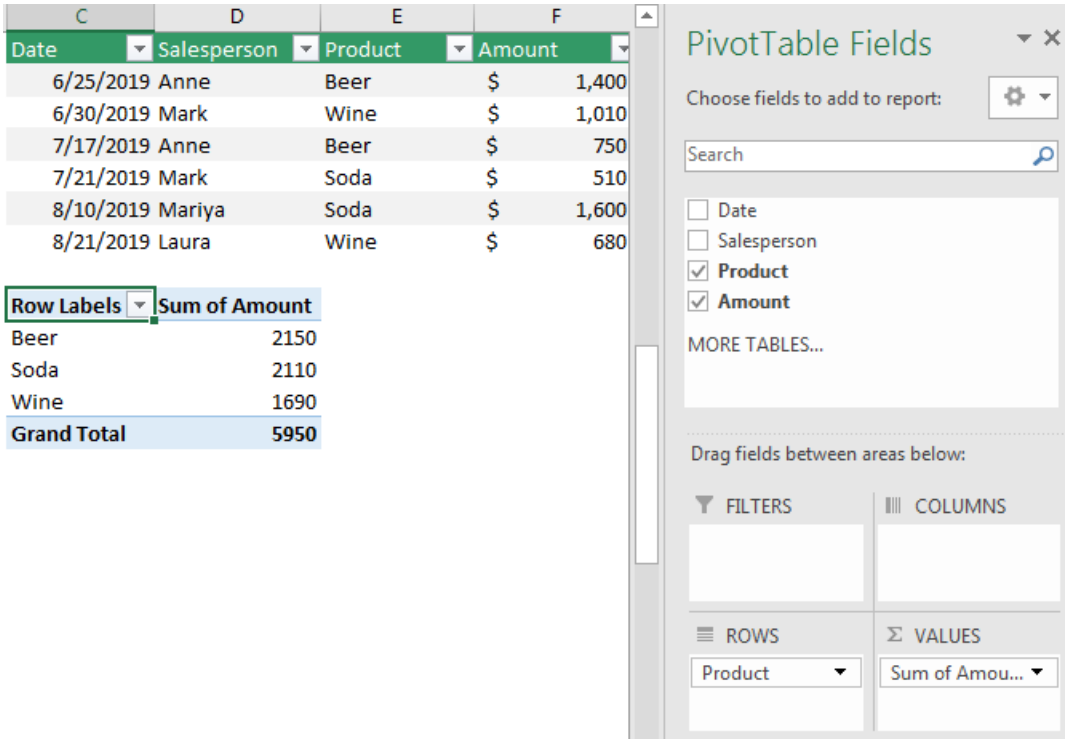
PivotTables

PivotTables are a tool that help you to quickly summarize your data.

To create a PivotTable, select your data and then click on the PivotTable button on the Insert ribbon. In the dialog box, choose Existing Worksheet and select or type a cell address where you want to display your PivotTable.

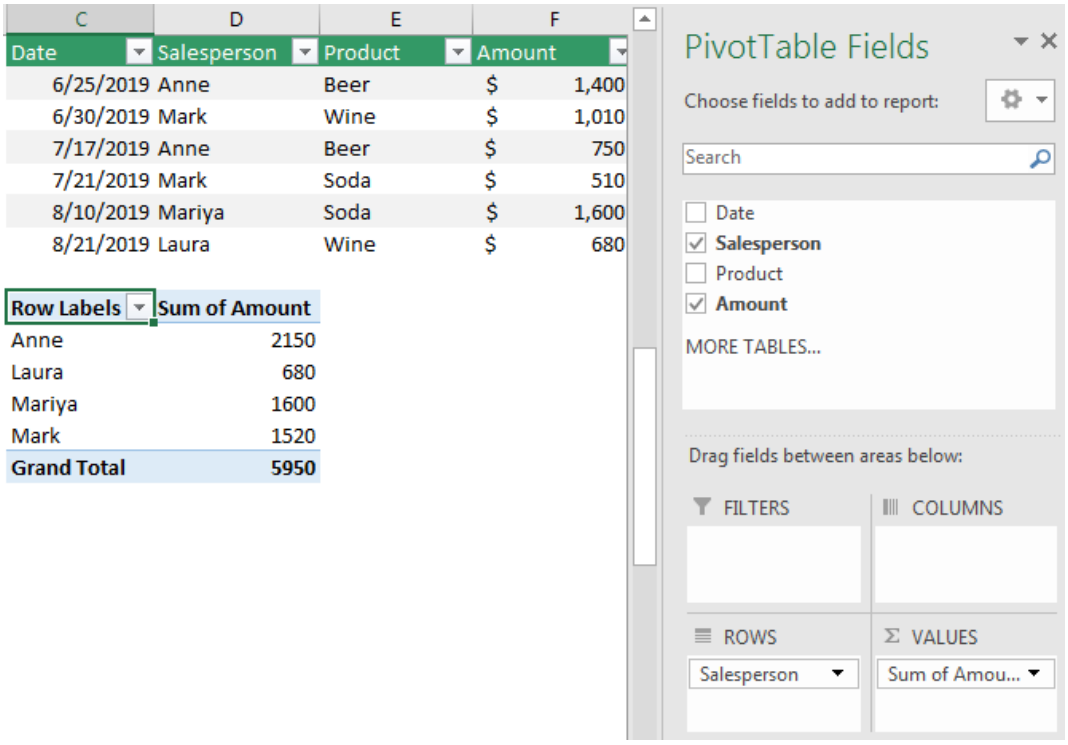


Once you have your PivotTable, click inside it and then start checking boxes to summarize various portions of your data.



Date	Salesperson	Product	Amount
6/25/2019	Anne	Beer	$ 1,400
6/30/2019	Mark	Wine	$ 1,010
7/17/2019	Anne	Beer	$ 750
7/21/2019	Mark	Soda	$ 510
8/10/2019	Mariya	Soda	$ 1,600
8/21/2019	Laura	Wine	$ 680

Row Labels	Sum of Amount
Beer	2150
Soda	2110
Wine	1690
Grand Total	**5950**



Date	Salesperson	Product	Amount
6/25/2019	Anne	Beer	$ 1,400
6/30/2019	Mark	Wine	$ 1,010
7/17/2019	Anne	Beer	$ 750
7/21/2019	Mark	Soda	$ 510
8/10/2019	Mariya	Soda	$ 1,600
8/21/2019	Laura	Wine	$ 680

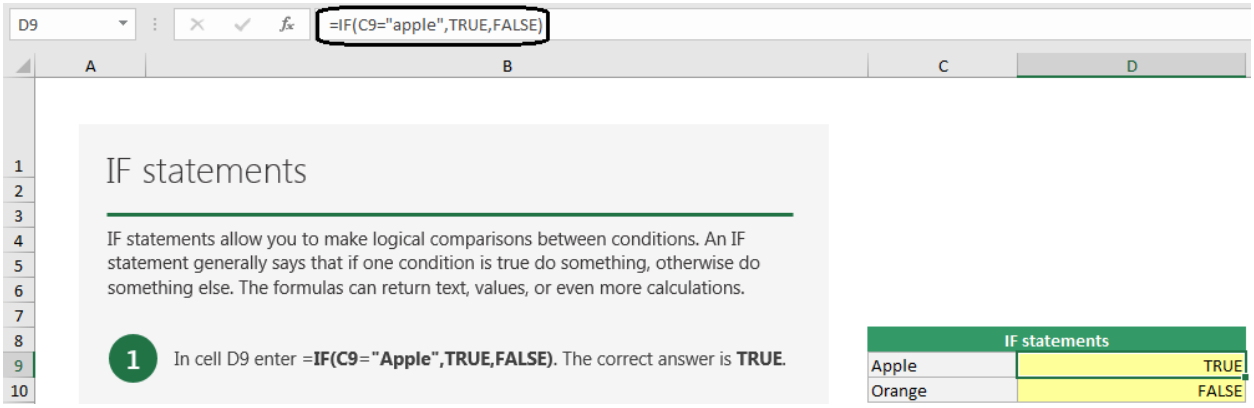
Row Labels	Sum of Amount
Anne	2150
Laura	680
Mariya	1600
Mark	1520
Grand Total	**5950**

Conditional Functions

Excel includes conditional functions, which allow you to create a function with multiple outputs that depend on whether or not a condition is met. The basic conditional function is the IF function.

The syntax for the IF function is:

=IF([conditional test],[output if condition met],[output if condition not met])



In this example, our condition of C9="apple" means that we're checking if the text in cell C9 matches the word "apple." It doesn't matter if the letters are case sensitive. The formula is set to return the word TRUE if the condition is met, and to return the FALSE if the condition is not met. "TRUE" and "FALSE" are unique in that unlike other letter strings you do not have to place quotes around them for them to be a valid output for the IF function.

SUMIF is another conditional function where you look at a table and you add up the values of the entries that match a certain parameter.