Basic Excel Features

When working with spreadsheets, it is often the case that you must repeat data in a large number of cells. Excel helps you do this efficiently by automating some basic and repetitive tasks for you. In this lesson we will discuss some of the useful Excel features concerning data entry: AutoFill, AutoSum, and AutoComplete.

In addition to covering these automated features, we will also cover a key concept: how to work with basic formulas.

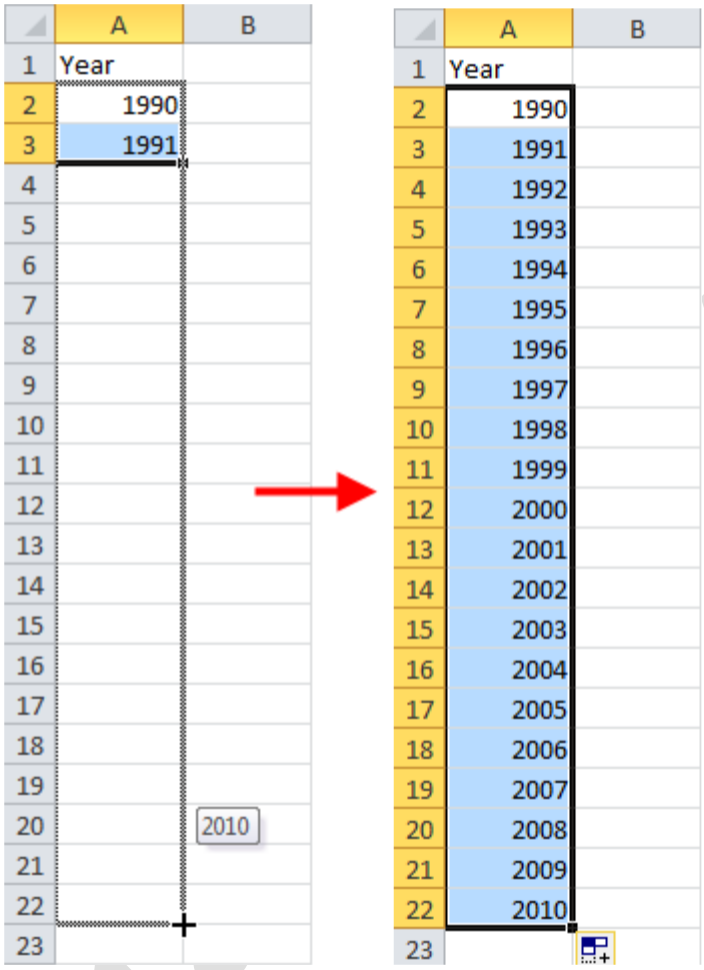
AutoFill

If you use Excel to log information over a period of time, such as recording daily sales, you might be dreading having to type the days of the week over and over again. Those of you who have more experience with computers might think of using Copy and Paste (which we will cover in the next lesson), but there is another way to enter repeating text or numerical sequences. The **AutoFill** feature can help you enter repeated or incremental text and numbers quickly.

For example, imagine that you have to enter all of the years from 1990-2010 in a worksheet. Rather than typing each year manually, you can take advantage of the AutoFill feature to enter the data quickly and easily.

In order to use AutoFill, you need to establish a pattern. In this example, type 1990 in one cell, and 1991 immediately below. Then select both cells, like this:

Next, click and drag the small square down the worksheet until the desired value is reached. Once "2010" appears beside the mouse pointer, release the mouse button and Excel will automatically fill in the numbers:

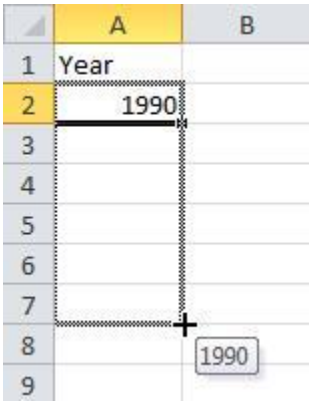


The worksheet will now contain the years 1990-2010.

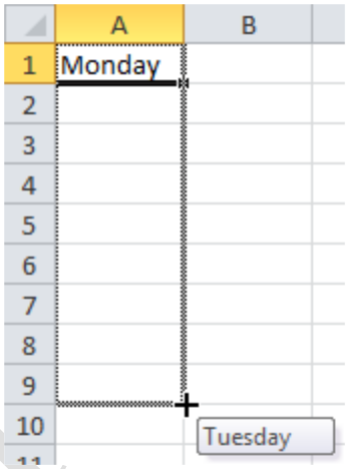
This feature doesn't work just on single increments either. You can have Excel jump 2, 10, or 10,000 numbers at a time, forwards or backwards, depending on the two initial values you have entered.

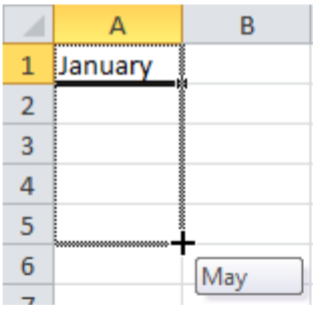
Note that for numerical data, you have to select two adjacent data items, and they have to change incrementally for AutoFill to recognize and enter the correct consecutive values. If you selected only 1990 and dragged down the column, AutoFill would enter 1990 into every cell.

However, depending on what you want to do, this can work to your advantage.



Excel comes pre-programmed with some other common AutoFill sequences, including days of the week and months of the year. Unlike numerical sequences, you don't have to enter two initial values:



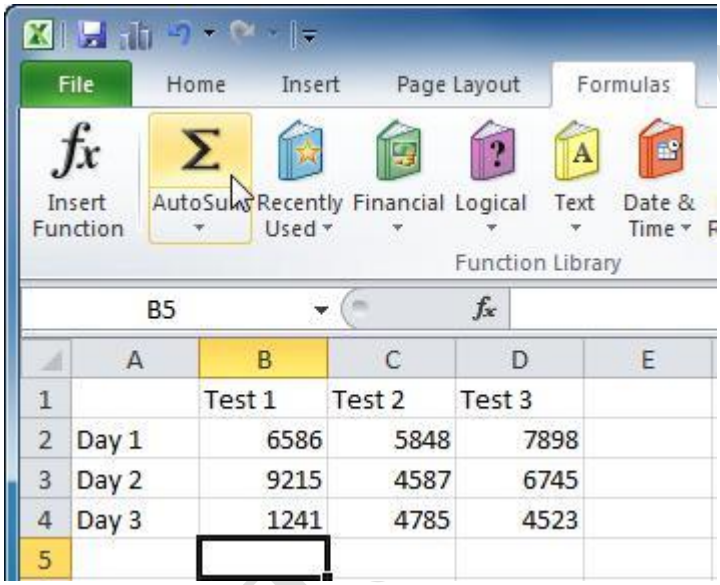


AutoSum

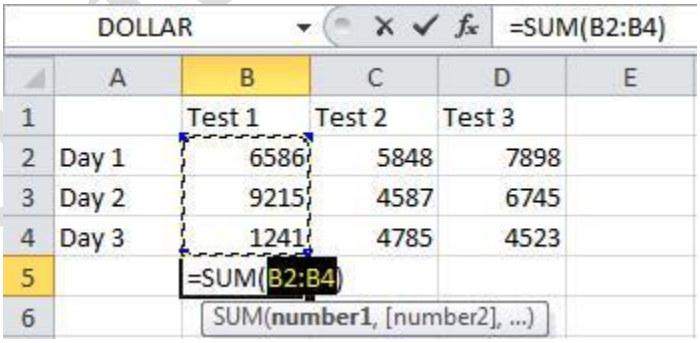
Most worksheets are used to calculate numerical or financial data, so Excel includes an AutoSum feature. This command will find the sum of a row or column of data.

To use this command, click the cell immediately below (if summing a column of data) or to the immediate right (if summing a row of data) of the data you want to sum. Next, click Formulas

- AutoSum:



Excel will scan the data in the column/row. The column or row of data to be summed will be highlighted by an animated border:



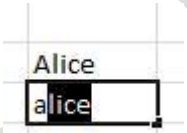
Press Enter to complete the AutoSum command:

	A	B	C	D
1		Test 1	Test 2	Test 3
2	Day 1	6586	5848	7898
3	Day 2	9215	4587	6745
4	Day 3	1241	4785	4523
5		17042		
6				

AutoComplete

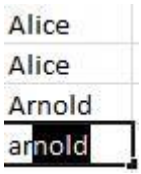
AutoComplete will help you enter data by automatically filling information in as you type, based on similar data in adjacent cells in the same column. This feature is enabled by default, and is very useful if you need to create a list of names or if you commonly enter the same types of data.

For example, if you typed “Alice” into a cell, pressed Enter, and then typed “a,” Excel would automatically fill in the remaining letters of “Alice”:

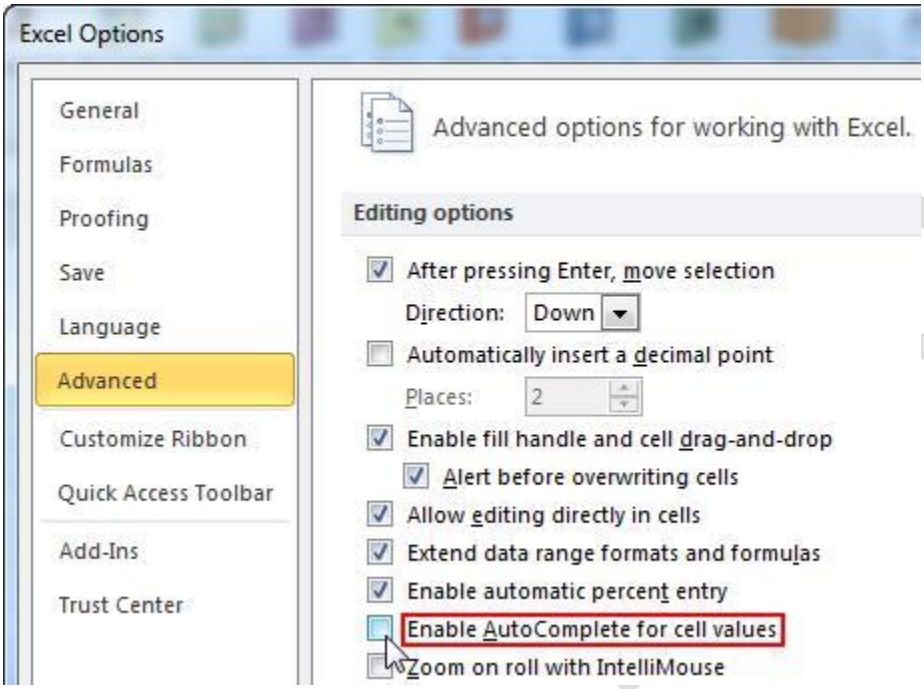


Just press Enter to accept the completion.

If you then typed the name “Arnold” into the same column, Excel will now be set up to AutoComplete either “Alice” or “Arnold.” However, you will need to type the second letter in order for Excel to determine which name you are entering:



AutoComplete has the potential to save you time when you type information, but sometimes it can get in the way. If you want to turn the AutoComplete feature off, click File → Excel Options → Advanced (tab on the left) → and uncheck "Enable AutoComplete for cell values:"

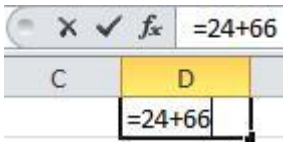


Click OK to accept the change. Excel will no longer use AutoComplete.

Working with Basic Formulae

Formulas are mathematical expressions that operate on cell contents. When cells contain numerical data, you can perform multiple mathematical operations on the cell content as your worksheet requires. The results of these operations will be shown in the cell that contains the formula. Formulas can be simple, like adding two cell values, or quite complex, involving multiple mathematical operations.

Formulae are always preceded by an equals sign (=). Formulae can contain cell references (like A1), numbers (like 23), or even other functions (like SUM(B2:B9)). Enter a formula by typing directly into a cell, or use the Formula Bar:



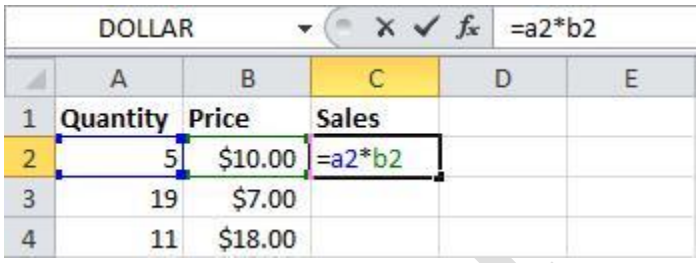
=A1+23, = d2-c2, and =B10+b11/C6 are all valid formulae. Cell references are not case-sensitive.

If you include a cell reference in a formula (like =B3*6), and that cell reference itself contains a second formula (like =B1+B2, stored in B3), that second formula (=B1+B2) will be evaluated first, and the result will be used in =B3*6.

Consider the following worksheet. To calculate Sales, we must multiply Quantity by Price:

	A	B	C
1	**Quantity**	**Price**	**Sales**
2	5	$10.00	
3	19	$7.00	
4	11	$18.00	

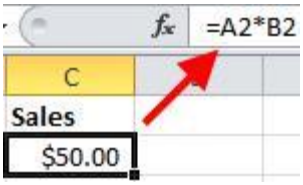
The formula =A2*B2 will be entered into C2. Note the colors that outline the cell references:



After the formula has been entered, press Enter to calculate the value:

	A	B	C	D
1	**Quantity**	**Price**	**Sales**	
2	5	$10.00	$50.00	
3	19	$7.00		
4	11	$18.00		

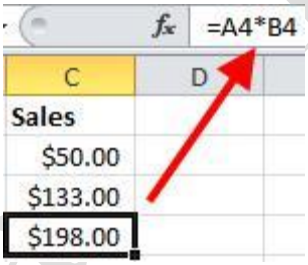
You can tell if a cell contains a formula by making it active. If there is a formula in the active cell, it will be shown in the formula bar:



We know that Excel can use AutoFill in order to fill in a single value over and over or a sequential value. AutoFill also works with a formula. Select the cell that contains the formula you want to use, and click and drag the black square:

	A	B	C	D
1	Quantity	Price	Sales	
2	5	$10.00	$50.00	
3	19	$7.00		
4	11	$18.00		

Excel will change the column/row references as necessary:



Formulas can contain multiple cell references from a single worksheet, or even references from different worksheets or workbooks. However, you can create a **circular reference** in Excel by referencing a cell that is dependent on the very cell that references it for a result.

For example, If A1 contains the formula =10+B2, and B2 contains the formula =A1-25, you have created a circular reference. Cell A1 cannot be resolved until Cell B2 is resolved, and vice-versa. You will be warned if Excel finds any such references.