Lab Manual

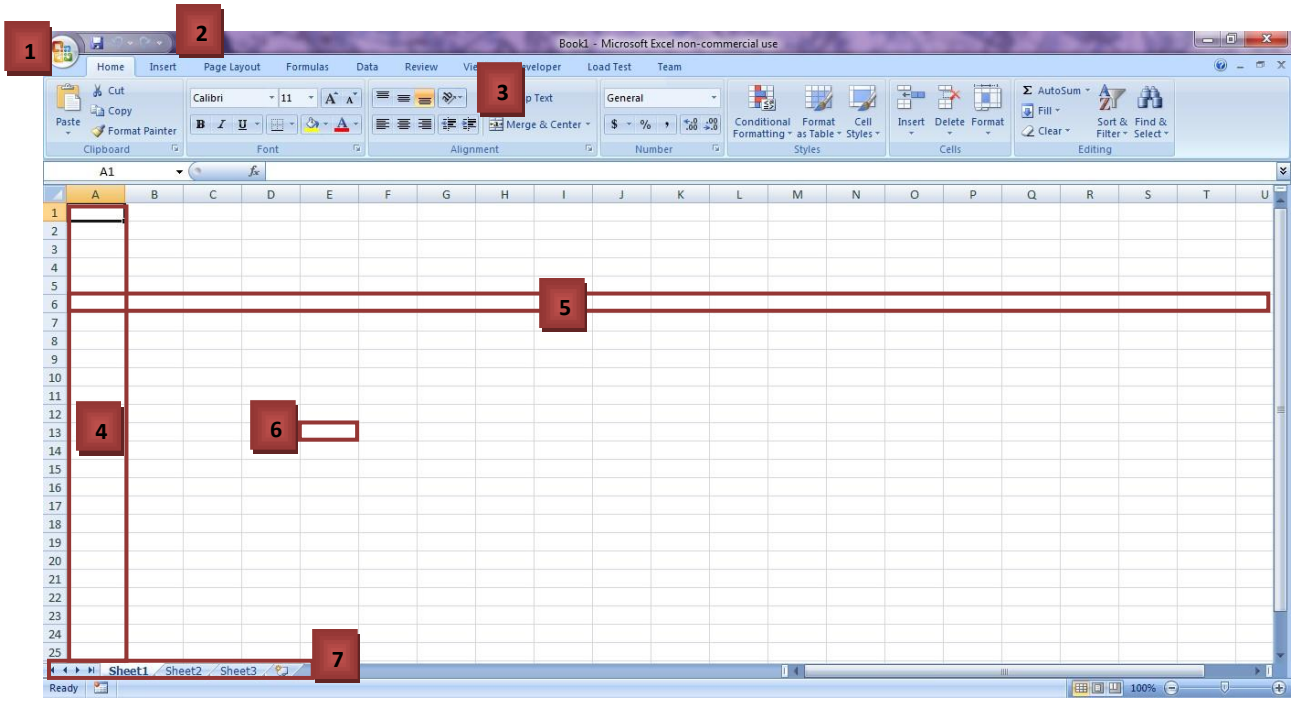
Excel Module

Lab 5: Introduction to the basics

Introduction

Microsoft Excel is a spreadsheet application that is used for basic data organization, statistical analysis, graphing data as well as for many other uses. In this lab, we will take a look at what makes up an Excel spreadsheet, and the basic uses of it.

The Interface



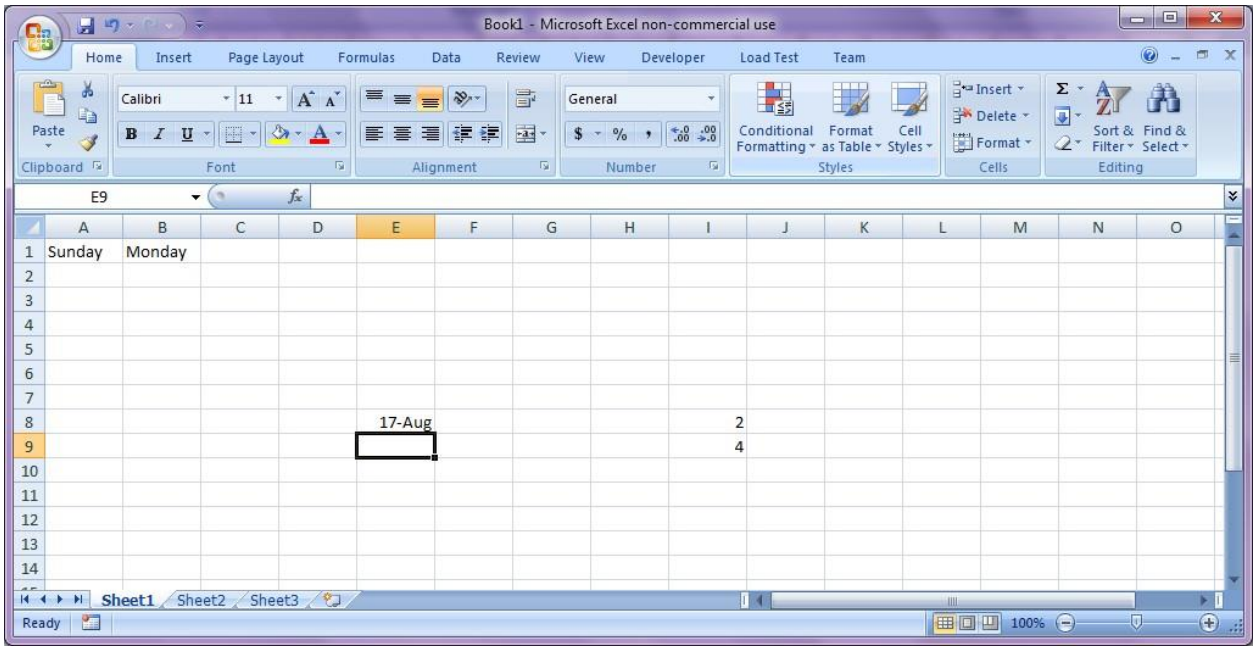
1. The Microsoft Office button: Clicking this button allows you to create, save, open and print spreadsheets.
2. Quick access toolbar: You can customize this toolbar to include all of the functions you use most, such as save and undo.
3. The ribbon: The ribbon contains all the office menus and toolbars. The ribbon is divided into tabs, each of which contains groups of controls.
4. Columns: 4 is one of the columns in the spreadsheet. Each column is labeled by the letter at the top of it.
5. Rows: 5 is one of the rows in the spreadsheet. Each row is labeled by the number to its left.
6. Cells: A cell is the intersection between a row and column, and is where most of the excel data is entered into. A cell's address is the row and column it is in, for instance, the boxed cell has an address of E13.
7. The worksheet toolbar: This toolbar allows you to move between the different sheets in a workbook. It also allows you to create new worksheets.

Exercise 1

1. Enter the data "Sunday" into cell A1 and "Monday" into cell B2.
2. Type in "8/17" into cell E8.
3. Type in "2" into cell I8 and "4" into cell I9.

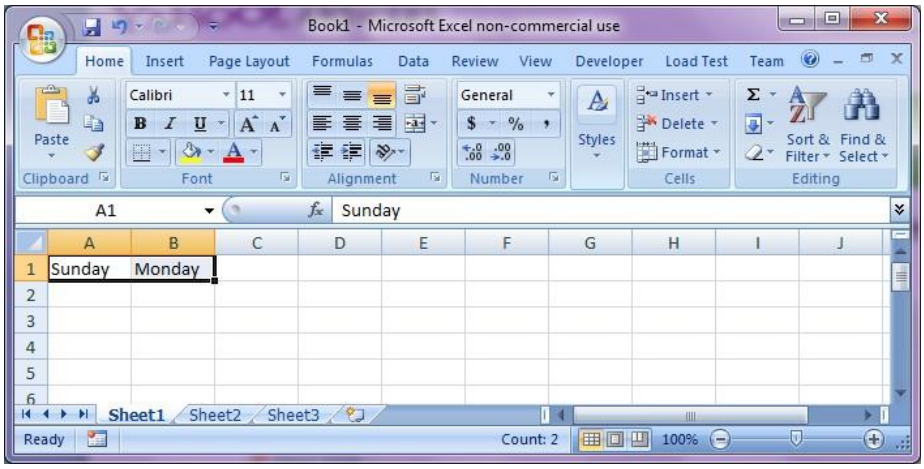
Auto-complete

Your worksheet should now look like this:

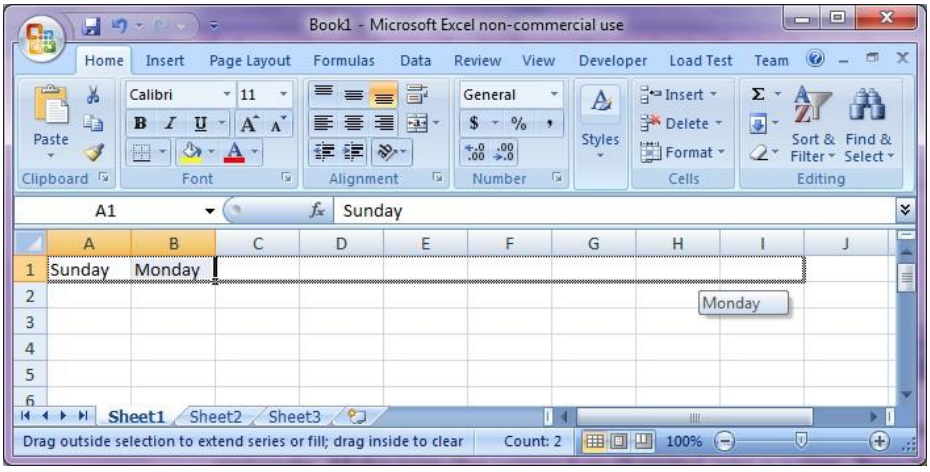


Notice how Excel automatically detected that 8/17 was a date and converted it into 17-Aug. We will discuss formatting data later on in this lab.

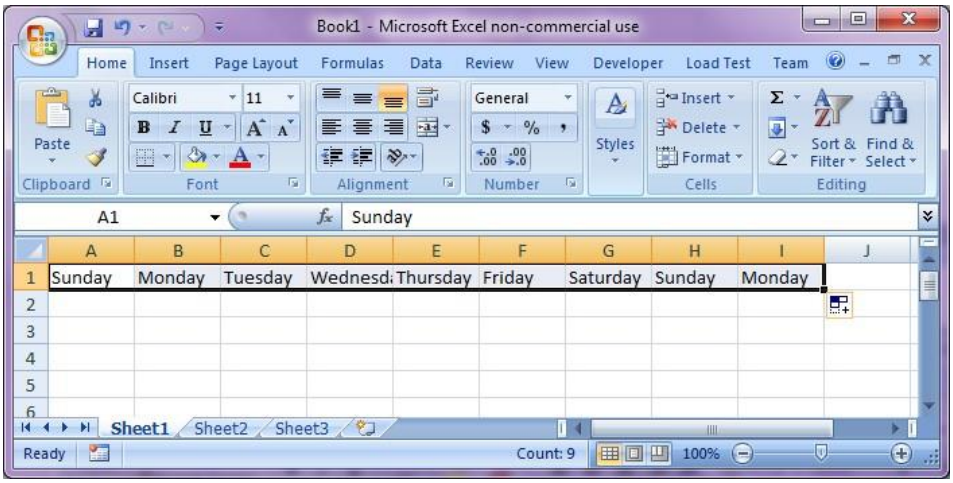
Now we want to select both cells A1 and B1 together. To do this, click on A1 and without releasing the mouse button, move over cell B2. Now there should be a rectangle around both cells as shown below.



To get excel to auto-complete this row, we now position the mouse cursor at the bottom-left of the rectangle. Make sure the cursor has changed into a + sign. Now hold down the cursor and drag it till I1.



This is what your spreadsheet should look like when you let go of the mouse:

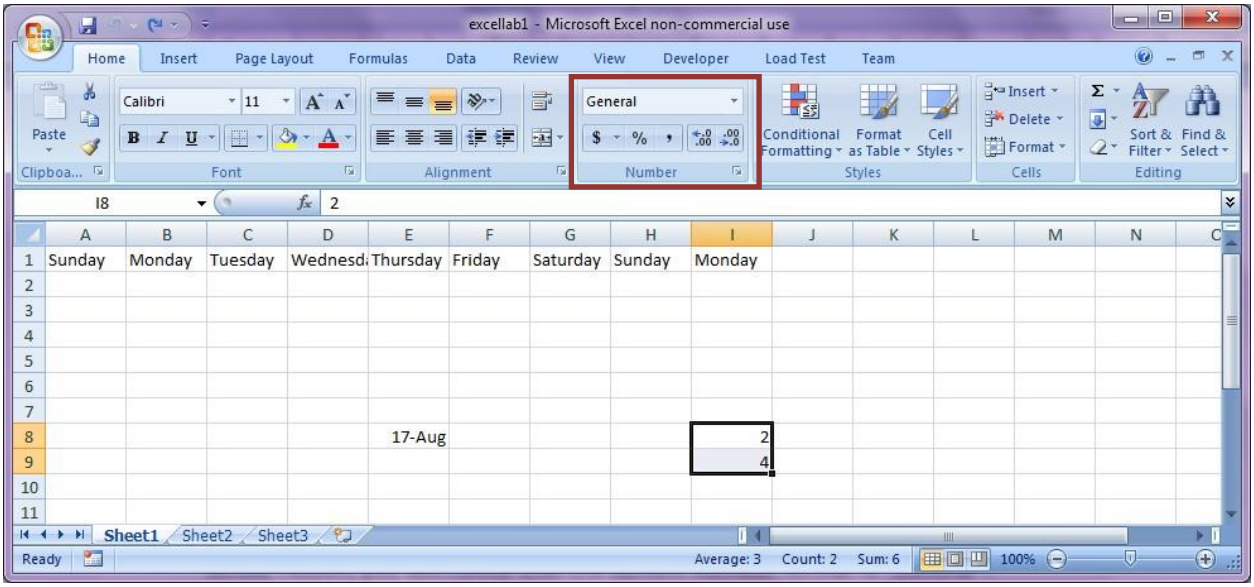


Exercise 2

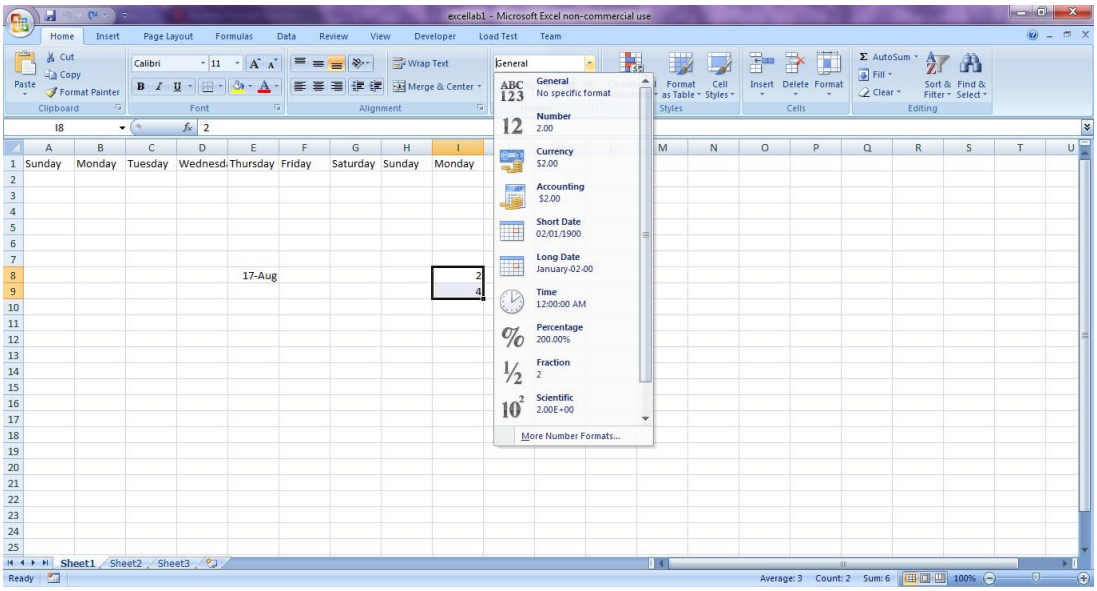
1. Auto-complete cells I8 and I9 all the way to I14.
2. Auto-complete cell E8 all the way to E12.

Formatting

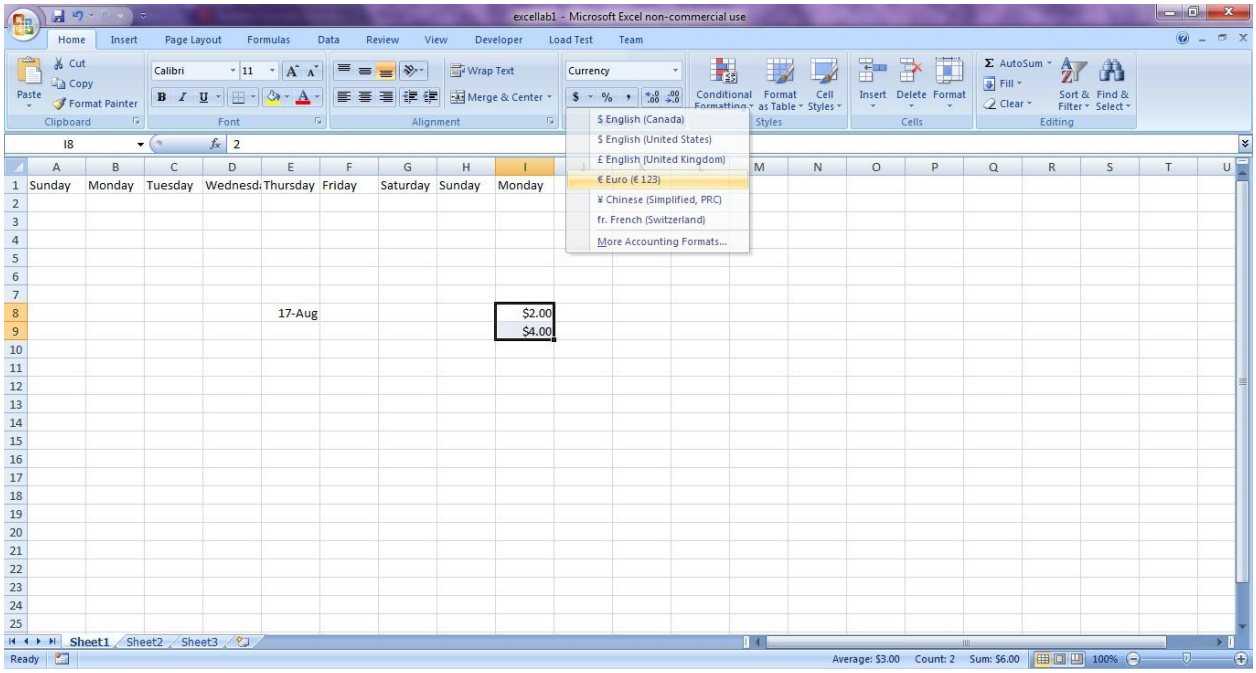
Excel allows you to format your data so that it shows up in the way you need it to. Let us start with number formatting. Select cells I8 and I9. If you take a look at the Number group in the Home tab on the ribbon, you will notice that the current number format is “General”.



Selecting that drop down box shows you some of the available number formats, shown below.



Select currency from the drop down menu. Now you will notice that the two numbers have a $ sign preceding them, and have two decimal places. Let us change the currency symbol to a Euro. Select the Euro symbol from the currency format menu.



Exercise 3

Modify cells I8 and I9 by removing the 2 decimal places.

Exercise 4

Format cell E8 so that it looks like August 17, 2010.

Wrapping text and merging cells

If a cell contains more text than can be displayed, you can choose to wrap the text within the cell or merge the cell with empty, adjoining cells. Wrap text to make it display on multiple lines of the cell. Merge cells to combine adjoining cells into one larger cell.

To wrap text:

(a) Select the cells with text that you want to wrap
(b) Select the Wrap Text command on the Home tab
(c) The text in the selected cells will be wrapped in your worksheet

*** If you change your mind, re-click the Wrap Text command to unwrap the text.*

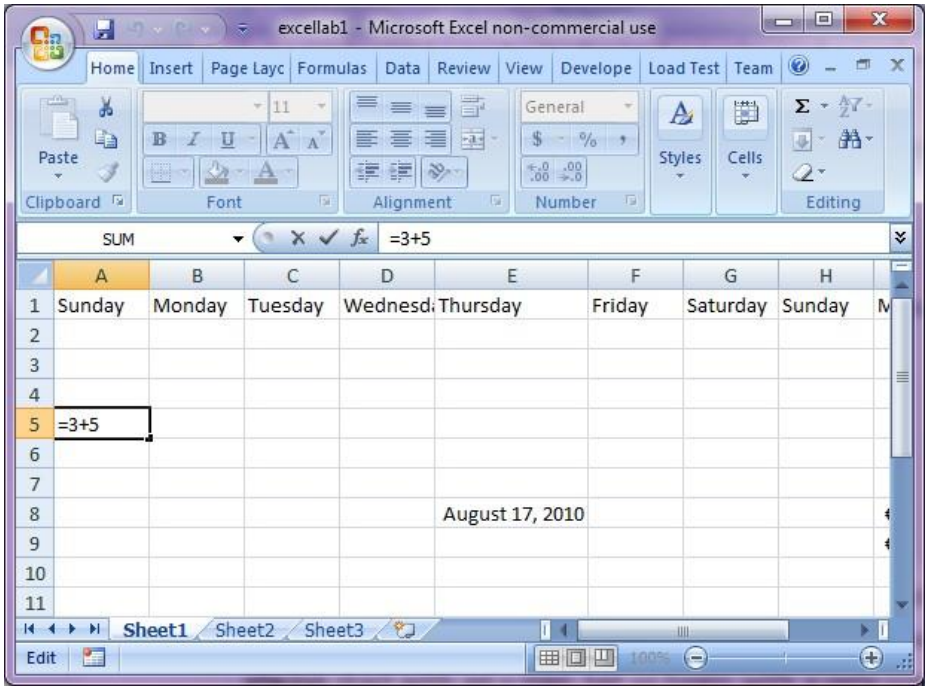
To merge cells using the Merge & Center command:

(a) Select the cells you want to merge together
(b) Select the Merge & Center command on the Home tab

The selected cells will be merged, and the text will be centered.

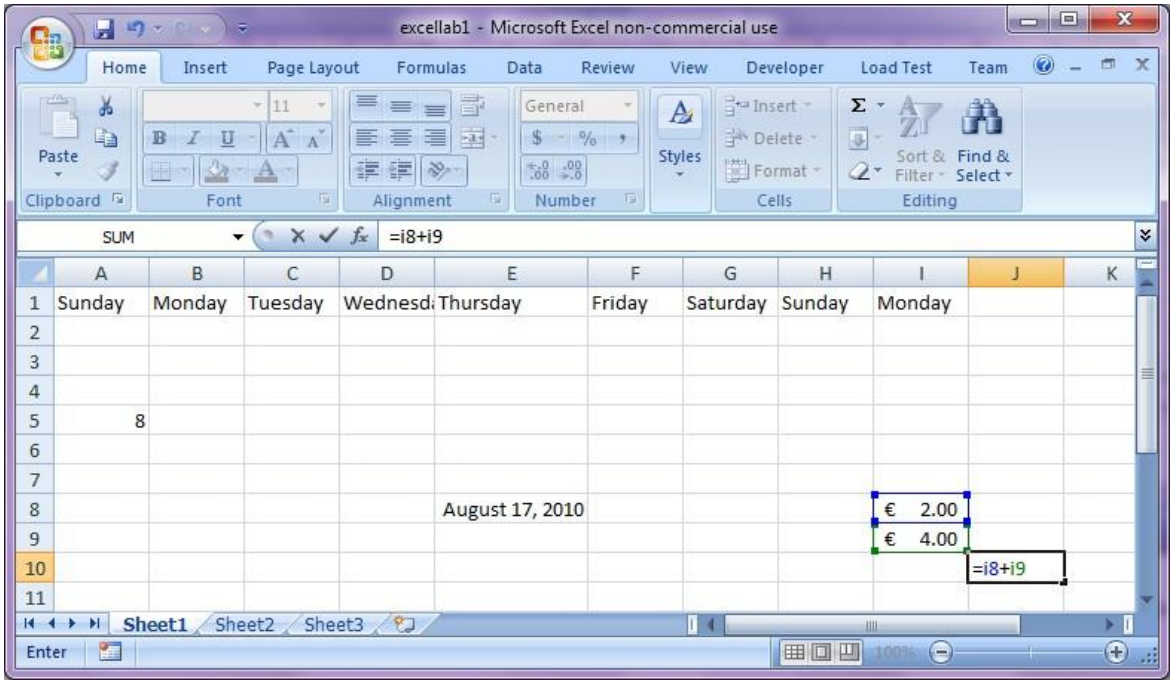
Basic Calculations

When working on a spreadsheet, you will almost definitely need to perform some calculations on the data you have. The first thing you need to remember about Excel calculations is that formulas **always** start with an = sign. Let us begin with a very simple calculation. Type "=3+5" into cell A5 as shown below.



Press Enter. Excel automatically replaces the formula with the result of the equation. Note that Excel formulas follow the order of operations.

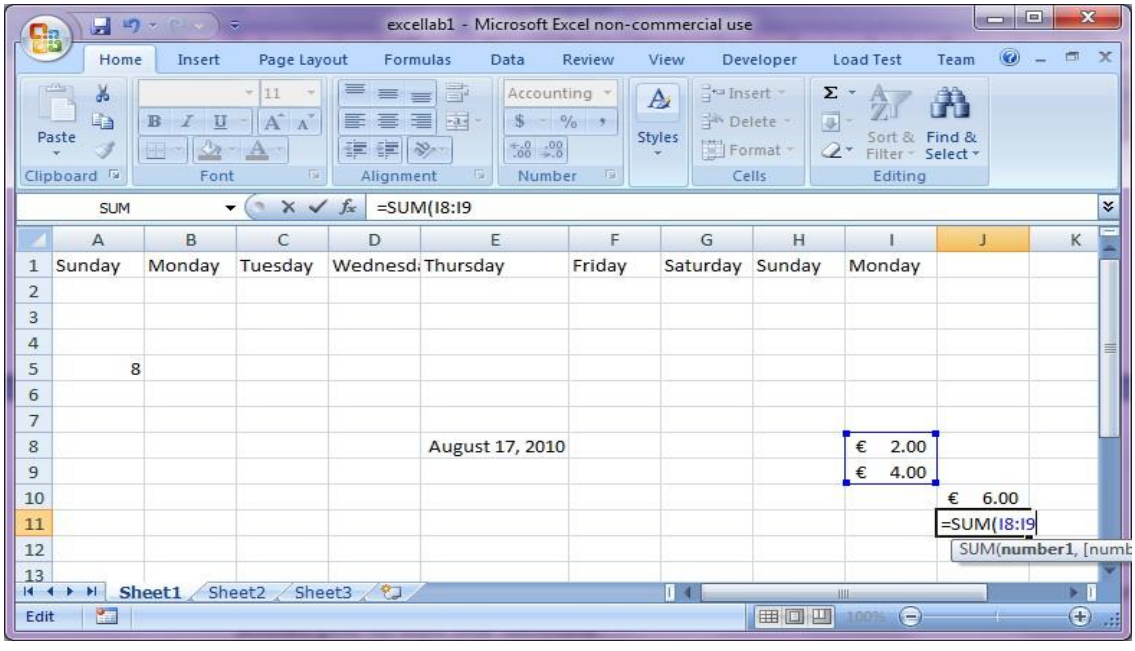
Now let us calculate the sum of the numbers in I8 and I9. In cell J10, type “=I8+I9”. One other option is to type in “=”, then select cell I8. After than type in “+” then select I9.



Pressing Enter will give you the result of the calculation. Double-clicking on the cell with the formula allows you to edit the formula.

Excel has built-in functions that make your life easier. One of them is the SUM function. In cell J11, type “=sum(“. Now select both cells I8 and I9.

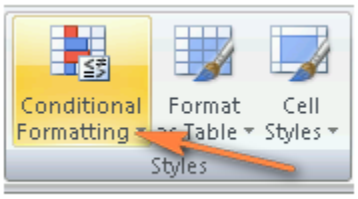
Pressing Enter gives you the same result as the plus operation we did in cell J10. Try changing cell I8 and notice how the change is reflected in both formulas.



Conditional Formatting

you use conditional formatting in Excel to format your data in different ways by changing cells' fill color, font color and border styles. The difference is that conditional formatting is more flexible, it allows you to format only the data that meets certain criteria, or conditions.

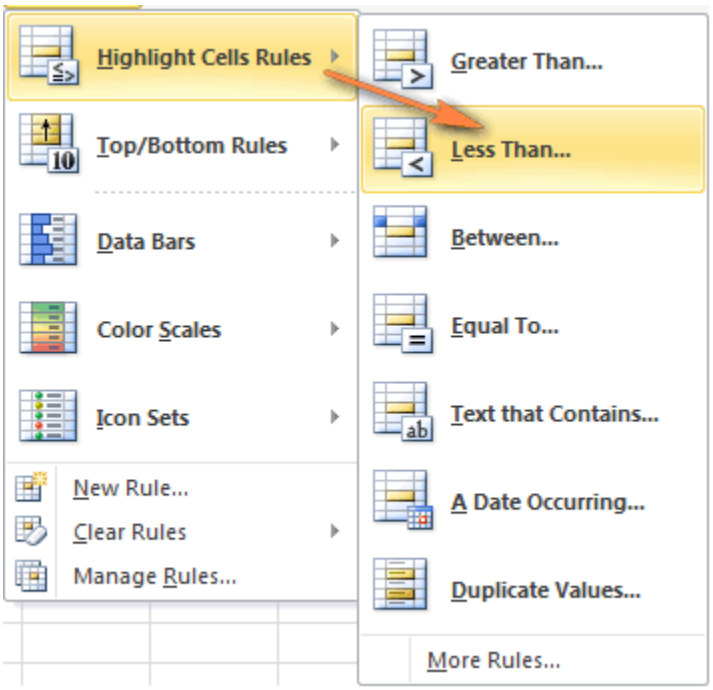
Conditional formatting resides in the same location, on the **Home** tab > **Styles** group.



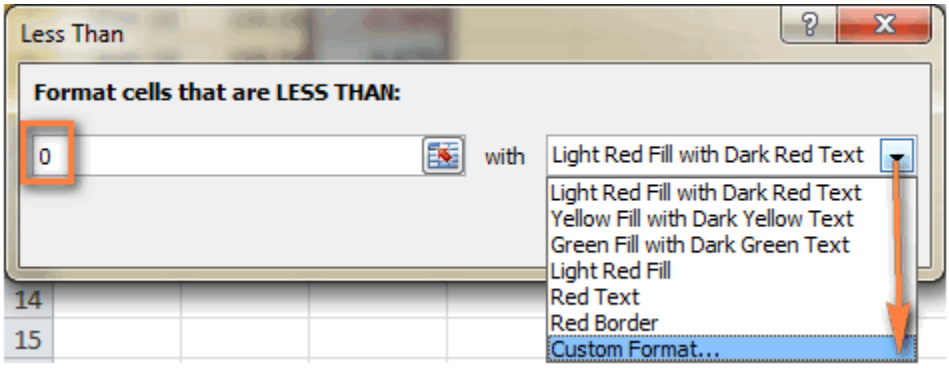
Lets see an example. Like I've created a small table listing the monthly crude oil prices. What we want is to highlight every drop in price, i.e. all cells with negative numbers in the *Change* column, so we select the cells C2:C9.

	A	B	C
1	Month	Price, USD	Change
2	Oct-13	105.46	-0.18
3	Nov-13	102.58	-2.73%
4	Dec-13	105.49	2.84%
5	Jan-14	102.25	-3.07%
6	Feb-14	104.82	2.51%
7	Mar-14	104.04	-0.74%
8	Apr-14	104.94	0.87%
9	May-14	104.94	0.00%

Since we need to apply conditional formatting only to the numbers less than 0, we choose **Highlight Cells Rules > Less Than...**



1. Enter the value in box in the right-hand part of the window under "*Format cells that are LESS THAN*", in our case we type 0. As soon as you have entered the value, Microsoft Excel will highlight the cells in the selected range that meet your condition.
2. Select the format you want from the drop-down list. You can choose one of the pre-defined formats or click **Custom Format...** to set up your own formatting.



As you can see in the screenshot below, our newly created conditional formatting rule works right - it shades all the cells with a negative price change.

	A	B	C
1	Month	Price, USD	Change
2	Oct-13	105.46	-0.18%
3	Nov-13	102.58	-2.73%
4	Dec-13	105.49	2.84%
5	Jan-14	102.25	-3.07%
6	Feb-14	104.82	2.51%
7	Mar-14	104.04	-0.74%
8	Apr-14	104.94	0.87%
9	May-14	104.94	0.00%

Lab Task:

Question 1:

	A	B	C	D	E	F	G
1	ABC STORE						
2	Product	Number of Units	List Price	Discount	Sales Price	Sales Tax	Total Price
3	Beauty Products	420	800	100	?	?	?
4	Handbags	150	789	43			
5	Perfumes	200	890	88			
6	Accessories	98	460	25			
7	Summer Clothes	75	560	30			
8							

1. Create the worksheet shown above.
2. Set the column widths appropriately.
3. Enter a formula to find **Sales Price** for the first item.
   Sale Price = List Price-Discount. Copy the formula to the remaining items.
4. Enter a formula to find **Sales Tax** for the first Item.
   Sale Tax = Sales Price * 0.05. Copy the formula to the remaining items.
5. Enter a formula to find Total Price for the first item.
   Total Price = Sales Price + Sales Tax. Copy the formula to the remaining items.
6. Set the columns labels alignments appropriately.

7 Show the products only having discount greater than Rs. 50.

Question 2:

Make your own mark sheet containing your Marks Grades and CGPA in first semester

1. Must include your name, roll no, semester, year of study, date of declaration of result at top.
2. Must include remarks, issued date, verifier's signature and registrar signature at bottom.
3. Must include credit hours for each course, Calculate Total, Percentage and Grade of your semester and count total credit hours by using count function.
4. Apply filter, show marks less than 60.

5. Apply conditional formatting color scale for marks.