

# 5 Formatting

So far we have not worried about getting everything to look neat and attractive, so that is what we are going to do now.

Unless you simply want to make a little simple calculation for yourself, you should consider the formatting of the spreadsheet. If you need to make a large, complex spreadsheet that other people are going to use, you should be aware that, while the construction might appear logical to you, it can be difficult for others to understand the logic. Appropriate formatting also indicates quality and credibility.

There are a myriad of options for formatting in Excel. You can change row and column sizes, font types and sizes, colours, number formats, etc. You can even format the cells so that they change colour depending on their value!

## 5.1 Text and colours

You are free to format text and numbers in cells and give them colours. You can format multiple cells at once as long as you make sure they are selected first.

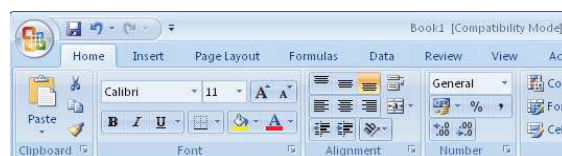
Many functions in Excel can be found in several ways. The main ways to find a function are by means of the Ribbon, “contextual menus” or shortcut keys.

### 5.1.1 Formatting using the Ribbon

Most features for text formatting are located in the “Ribbon”. Let us practice a little.

1. Try typing your name in a cell.
2. Ensure the cell is active.

The Ribbon is organised into different Tabs. You need the tab labelled “Home”, where you find the formatting functions. Please refer to Figure 28.



**Figure 28:** Text formatting in the Ribbon.

The buttons in the Ribbon are divided into groups. The group where we find the most important buttons is “Font” group.

3. Click on the button . The text will likely become red.

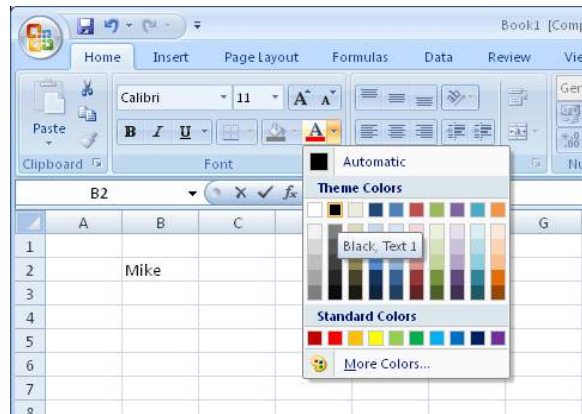


Figure 29: There are many colours to choose between.

If you have played around with it previously, the text may get a different color, since there are several possibilities. This button has a little arrow on the right side giving access to more options.

4. Try clicking on the small arrow on the button.

“I studied English for 16 years but...  
...I finally learned to speak it in just six lessons”  
Jane, Chinese architect

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This gives you the opportunity to choose between several colours. Click on one of the blue hues. Your text is now blue.

You can also format multiple cells at once.

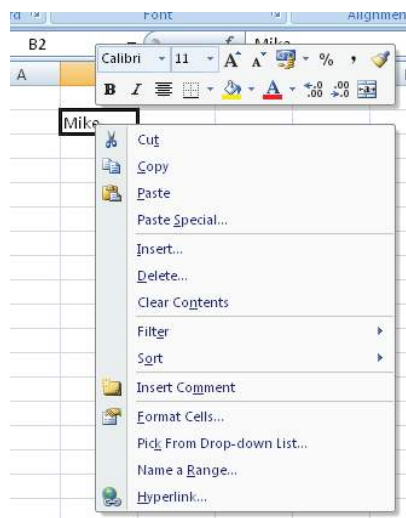
5. Highlight the cell with your name plus some more cells.
6. Click on the button in the Ribbon. Now you have a yellow background. Just as with the text, you could also have chosen a different colour.
7. If you are still not satisfied, you can click on **More Colours**, and choose from up to 16 million different colours. That should be enough for most people!
8. Click the little arrow on the right button. This button is what we call the “Font Changer”. Your font changer might display another font than “Calibri”, but you do not risk ruining anything by clicking on it anyway!
9. You are about to select another font, so try, for example “Arial Black”.
10. To the right of the font changer there is a button where you select the font size. Try for example **24**. That will make the text much larger.

Try some of the other buttons to discover their effect.

### 5.1.2 Formatting using the shortcut menu

Modern Windows programs rely largely on the shortcut menus that pop up when you click on something with your right mouse button. In the shortcut menu you find the most frequently used functions related to what you have just clicked on.

1. Type your name in a cell and press ENTER.
2. Click on the cell with the right mouse button to display the “shortcut menu”.



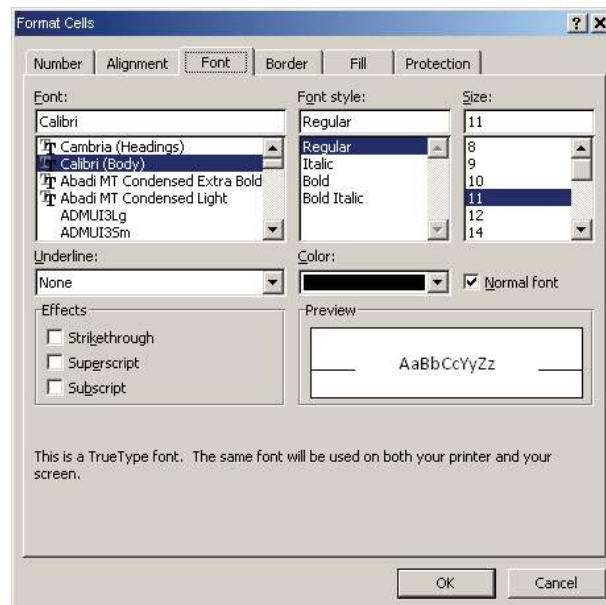
**Figure 30:** A right-click with the mouse makes the shortcut menu appear.

At the top of the shortcut menu, you will find buttons that resemble those in the Ribbon; they also work just the same way. But we must try some new features.

3. Click on the menu item **Format Cells**

This will give you access to all the options available to format one or more cells. A dialog box opens, and you can choose between different Tabs at the top.

4. Select the **Font**, Tab and the following window appears:



**Figure 31:** Here you can set the font.

5. Select the font size and color that suits you, then click the **Fill** Tab.

You can choose to fill the cell with a fill colour, a pattern or a colour effect. We have already tried a normal fill colour, so let us try something with effects!

6. Click on the **Effects** button and a new window will open.

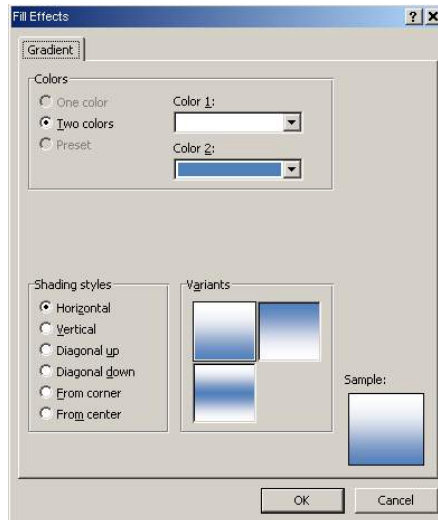


Figure 32: Effect colour.

In Excel the effect colours consist of two colours which gradually blend into each other.

7. Try choosing colours by clicking on **Colour 1** and **Colour 2**.
8. Try clicking on the different **Shading Types**. When you are satisfied, click **OK**.
9. Click **OK** again.

What do you want to do?

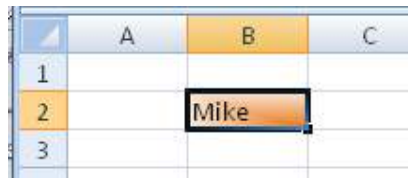
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My little experiment turned out thus:



**Figure 33:** My own experiment.

### 5.1.3 Borders and Frames

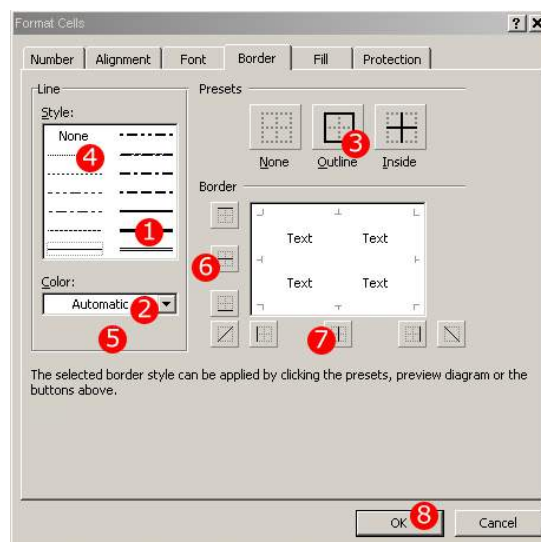
When you look at a blank worksheet, there are some thin lines that indicate where the cells are. Without these lines it would be harder to identify a particular cell in the sheet. But these “grid lines” are only auxiliary lines; they are not written out unless you specifically request it, and if you provide some cells with a fill colour, grid lines will not be displayed in that area.

But you can add borders and frames yourself, and you can even choose the colour and how thick they should be.

1. Select cell region B2:E5.
2. Click with the right mouse button inside the area and select **Format Cells**.
3. Select the **Border** Tab in the dialog box that appears.

Now we need to make some grid lines. We would like to have a thick border around the selected area and some thin grid lines that show the cells inside the area. It is actually very easy to do, but it is quite difficult to explain because you must click in many different places in the correct order.

I have therefore made the following illustration that shows what you need to click and in what order.



**Figure 34:** The approach used to make grid lines and frames in the selected area.

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The window is divided into three groups of objects you can click on. The first group is “Line” where you choose how your edges should look and what colour they should have. The next group is the “Presets”, where you can choose between **None**, **Contour** and **Interior**.

The function None is relevant if you have already made some lines that you want removed. The Contour function makes a frame around the selected cell region with the line you have chosen. The Interior function draws lines *inside* the selected cell regions, which highlights the individual cell.

The final group in the dialog box is “Border”, where you can do exactly the same thing as in the group “Presets”. The difference is that here you can control exactly which lines you want. For example, you can settle for a thick line at the top and bottom of the marked area or you can choose to have only horizontal interior lines. Let us see how it works. We will follow the numbering in Figure 38.

1. First, click the thick line.
2. Choose a colour.
3. Click on **Contour**.

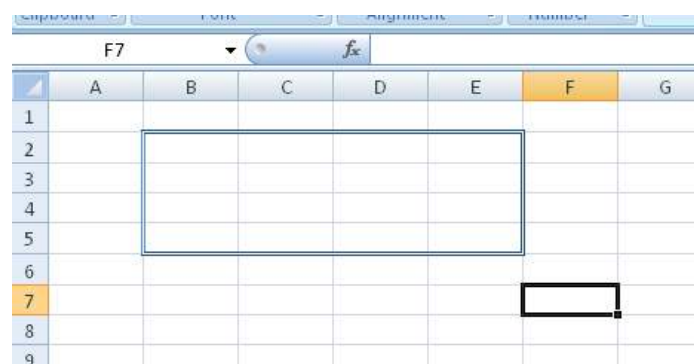
You have now defined the frame around the selected area.

4. Click on the thin line.
5. Choose a colour as in point 2, but preferably a second colour for illustration
6. Click on the button for interior horizontal lines.

If you wish, you can choose another line type and colour before you proceed to point 7.

7. Click **OK**.

Your result hopefully looks like mine in Figure 35



**Figure 35:** Frame and gridlines have been added.

Now you should have a good insight into the possibilities for colouring your worksheet. Colours can have a large impact. If used right, they can make a complicated spreadsheet much more logical, simple and inviting. I use formatting for larger spreadsheets, although I may be the only one who needs them. For example, I almost always colour cells with formulas, while I keep cells without formulas white. In this way I can quickly see which numbers are the ones being entered and which are the calculated values.

## 5.2 Number Formats

We will now leave the department of colours and stripes and return to numbers. Numbers can be displayed in many ways. Which of the following numbers do you think is most readable?

1000000

or

1.000.000

If the figure referred to money, one million could also be written as “kr 1,000,000.00. In other cases you might be interested in controlling how many decimal places to display. This you also control via formatting.

1. Type the figure 123456 in cell B2.
2. Click with the right mouse button on the cell and choose **Format Cells**.
3. Click on the **Number** Tab if it has not been selected already.

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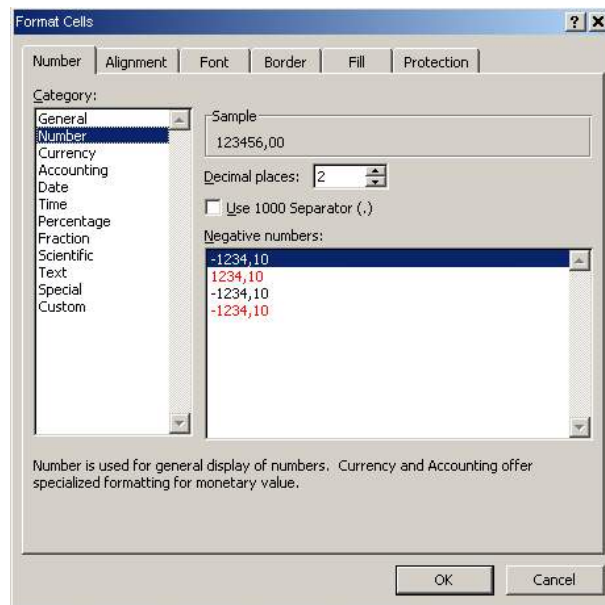
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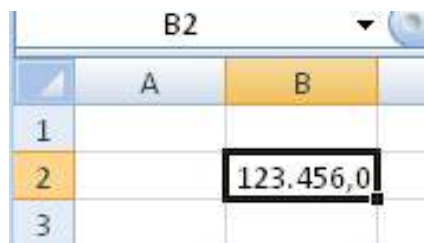
Now we can choose between a lot of different number formats. In the pane “Category” you can choose between the basic types, and depending on what you choose, different options will appear. Try clicking on the different types, so you get an idea of the possibilities before we proceed. Do not click **OK**.

Click on the category **Number**, which will make the dialog box look like Figure 36.



**Figure 36:** Formatting numbers.

4. At **Number Of Decimal Places**, choose “1”.
5. Put a check mark by **Use Thousands Separator**. This means that periods are inserted in the number, like the example with 1.000.000 instead of 1000000.
6. Click **OK**.

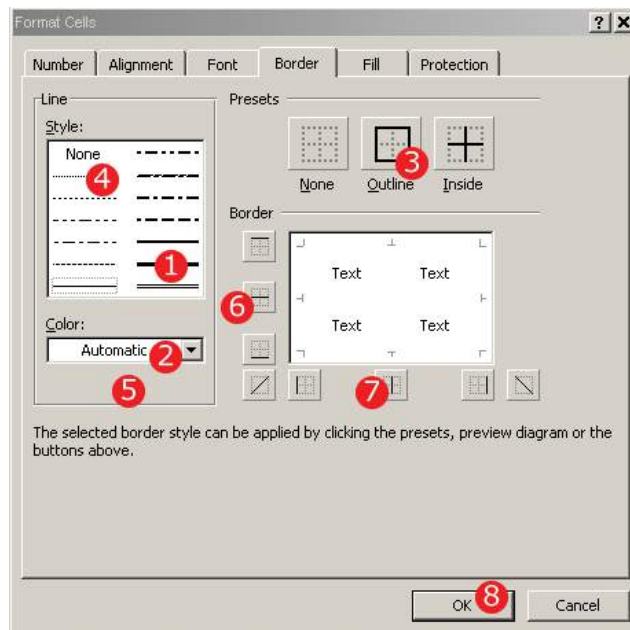


**Figure 37:** The number has been formatted.

Now your number looks like Figure 37. The figure remains the same, but it appears in a different way. Please note that, although only one decimal place is displayed, all decimals are still counted. You will see that if you look at the formula bar when the cell is selected. Number formats have no bearing on the cell value.

7. Type 25% in cell B4 and press ENTER.

In this case Excel assists a little with the number format because it actually displays “25%”. What you are not able to see is that the cell’s value is actually 0.25. You can discover that by changing the number format to a number with two decimal places. If you wish, you can try it.



**Figure 38:** By changing the number format it is shown that 25% is the same as 0.25.

### 5.3 Date and Time

You can write the date and/or time in several ways. When you type a date and/or time, Excel automatically formats the cell to an appropriate date or time format. All you have to do is type it in correctly. Dates will be recognised if you write them in one of the following ways:

25-3-2008

or

25/3/2008

Times will be recognised if you write them in one of the following ways:

17:45 (hours:minutes)

17:45:30 (hours:minutes:seconds).

Date and time can of course also be combined by putting spaces in between, for example:

25-03-2008 17:45:30

You can perform calculations with dates and times. Excel uses a clever numbering system to keep track of dates and times.

When there is a date and/or time in a cell, the cell just has a numerical value that is formatted as date/time. This could lead to headaches if it were to be used in a calculation, but it is pretty simple.

Excel's calendar begins on January 1 1900, 00:00. This time point has the value "1". January 2 1900, 00:00, has the value "2".

In other words, For each day 1 is added. The time is also part of this system, so January 2 1900 at 12.00 noon, has the value "2.5". One hour thus corresponds to  $1/24$ , or 0.041666667 to be precise. Actually, Excel operates with 10 decimal places, so you can calculate with very accurate time points.

## 5.4 Formatting Tables

When working with a spreadsheet, one usually makes tables. Once you have made a table where you have inserted sum formulas, etc., Excel can format the table automatically, so it looks neat and presentable.



	C4		fx	750		
	A	B	C	D	E	F
1						
2			January	February	March	
3		Turnover	1000	1200	950	
4		Costs	750	800	780	
5		Surplus	250	400	170	
6						

Figure 39: Create a table like this.

1. Create a table like the one in Figure 39.
2. Ensure that one of the cells in the table is the active one.
3. In the Ribbon, make sure that the “Home” Tab has been selected. Then Click on the **Format As Table** button in the Ribbon.



4. A menu will pop up and you can choose a table layout
5. A small box will appear and ask what region you wish to define as the table. It is usually right on target if you have done as I have shown.
6. Finally you must also make sure to put a marker in the **My Table Has Headers** box, which ensures that the column headers are highlighted.
7. Click **OK**.

Now your table should have been formatted with the highlighted title and everything. You can still change the formatting of individual cells if you like. My table came to look like this:

	A	B	C	D	E	F
1						
2		Column1	January	February	March	
3		Turnover	1000	1200	950	
4		Costs	750	800	780	
5		Surplus	250	400	170	
6						

Figure 40: My table looks like this.

But formatting of the table is not the only thing that has happened. In addition to formatting the table, the Ribbon at the top has changed, and you now see a range of functions that relate to the tables. A Tab has been added in the Ribbon, which is available when you activate a cell in the table.

That is because the tables in Excel are not only about the formatting. There are some special options when you define specific areas of a worksheet as tables, which we will return to later in the book.

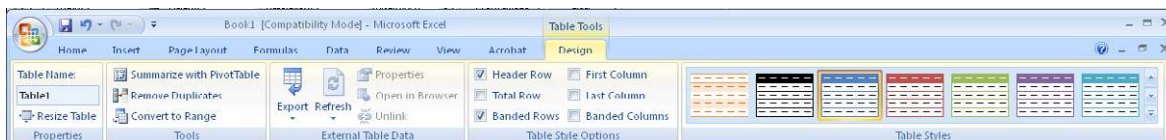


Figure 41: The Ribbon changes when you format a table.

But it is not the only thing that has happened; some arrows have appeared beside the column headers. These arrows can be used as “filters”, where you can select specific data that you want to see. It has no relevance to a table like the one we just created, but if you work with a table with many data covering hundreds of lines it can be very practical. If you print the worksheet, the arrows do not show on the printout, but you can also remove the arrows by disabling the filter. To disable the filter, do as follows:

1. Select the **Data** Tab in the Ribbon.
2. Click on the **Filter** button. It is easy to find because at present the filter is active, which means the button is highlighted with a red/orange colour.



Column1	January	February	March
Turnover	1000	1200	950

Figure 42: Excel is being “creative” by inserting column headers.

Now the arrows have disappeared from the column headers, but there has also been another change in the table. In the upper left corner it suddenly says “column1”. I wondered the first time I saw this in Excel 2007, since I had never seen it before.

The explanation is that when you define a field as a table Excel requires that all columns have a header. This is because Excel will use the headlines in connection with the sorting and filtering features that are available for tables. This is also the reason you cannot delete the text.

You can write anything you want, but Excel does not allow this cell to be empty.

If you want it to be empty anyway, I have a little “trick” for you.

1. Activate the cell.
2. Press the spacebar on the keyboard.
3. Press the ENTER key on your keyboard

Now you have typed an empty space in the cell, and spaces are invisible.

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## 5.5 Conditional Formatting

Excel can change the colour, font, etc. of a cell, depending on what value it has. You can pre-select a number format that shows negative numbers in red, but conditional formatting gives more options.

The way it works is that you give a cell the format you would like it to have as a starting point. Then you set up a list of the alternative formats it can have, and what conditions must be met for it to change the format.

Imagine an example where you want to build up statistics on absenteeism rates among a group of employees. You make a list of employees and a calculation of absence rates.

If the absence rate for the individual employee is less than 5%, the cell should have default formatting. If absence rates are greater than 5% but less than 8%, the cell should be marked with a yellow background colour. If the absenteeism rate is 8% or more, the cell should have white writing on a red background colour.

If you have worked with conditional formatting in earlier versions of Excel, this may not be new to you. But Excel 2007 has introduced a new way to define rules. It has now become much easier. In addition, it has become possible to use a value-dependent colour spectrum, which can give quite impressive results.



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	A	B	C	D	E
1					
2		1	6	11	16
3		2	7	12	17
4		3	8	13	18
5		4	9	14	19
6		5	10	15	20
7					
8					

**Figure 43:** Starting point for the exercise with conditioned formatting

Let us try a couple of exercises.

1. Create a spreadsheet as in Figure 43.
2. Select the cell region B2: E6. The selected cells will be included in the conditional formatting.
3. Ensure that the “Home” Tab has been selected in the Ribbon and click the **Conditioned Formatting** button.
4. In the menu that appears, point to “Top/Bottom Rules” to make a submenu appear.
5. Click on Top 10%. This means that those 10% of the cells that have the highest values will be highlighted.

You will now have the opportunity to fine-tune the formatting. A dialog box will appear where you can change the rate distribution. For example, you might want to highlight the cells with the top 20% values.



You also have the opportunity to choose between several predefined formattings by clicking on the list in the dialog box. If you select Custom Format on the list, you can fine-tune the format and choose exactly what colours you want.

6. Select **Light Red Fill With Dark Red Text**.
7. Click **OK**.

Now the cells with the two highest values should be selected. In my case it looks like this:

	A	B	C	D	E	F
1						
2		1	6	11	16	
3		2	7	12	17	
4		3	8	13	18	
5		4	9	14	19	
6		5	10	15	20	
7						

**Figure 44:** Conditioned formatting where the top 20% values have been highlighted

	A	B	C	D	E	F
1						
2		1	6	11	16	
3		2	21	12	17	
4		3	8	13	18	
5		4	9	14	19	
6		5	10	15	20	
7						

**Figure 45:** The Formatting changes if you change the values.

8. Try typing the number 21 in the cell with the value 7.

This will make the highlight disappear from the cell with the value 19, because now the cells with the values 20 and 21 constitute the top 10%.

9. Select all the cells again.
10. Select the **Conditioned Formatting** button again.
11. Point to **Highlight Cell Rules** to make a submenu appear.
12. Click on **Between**, which gives us the opportunity to highlight cells with values within a certain range.
13. In the dialog box that appears, write 15 in the first field and 20 in the second field.
14. Choose the format **Yellow Fill With Dark Yellow Text**.
15. Click **OK**.

If you have followed my instructions to the letter, your spreadsheet now looks like this:





Now you have two different conditional formatting that work in the same cells. First, the top 10% of cells are coloured pink, and then the cells with values between 15 and 20 are coloured yellow. The conditions operate in the order you created them. It was the yellow formatting that was created last, therefore the cell with the value 20 is also yellow, although it was previously pink.

16. Ensure the cell region we have been working with so far is selected.
17. Click on the **Conditioned Formatting** button again.
18. Choose the menu item **Administer Rules** in the menu that appears.

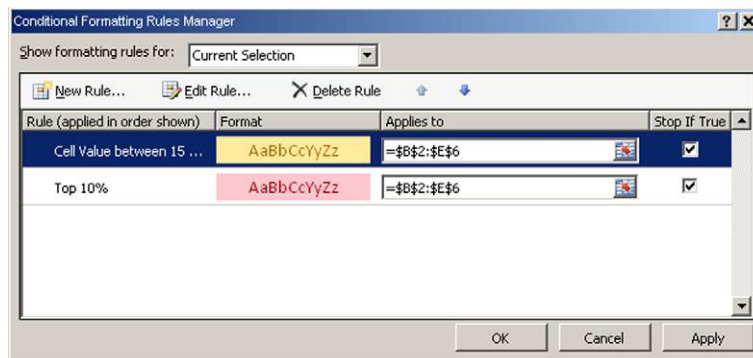


Figure 46: Rule management for conditioned formatting

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You now have the ability to manage the order of the rules you have set up for conditional formatting. You can also add, delete or modify rules. In this exercise we just need to reverse the order.

19. Ensure that the rule for **Cell Value between 15 and 20** has been chosen.

20. Click on the **Move Down** button. It looks like this: .

21. Click **OK**.

Now your spreadsheet looks like this:

	A	B	C	D	E
1					
2		1	6	11	16
3		2	21	12	17
4		3	8	13	18
5		4	9	14	19
6		5	10	15	20
7					

**Figure 47:** Now the cell with the value "20" has become pink again.

Now the rule is applied to highlight the top 10% values last, so cell E6 has become pink again.

There are many other possibilities for conditional formatting. It is, for example, possible to give the cell a hue from pale yellow to deep red, depending on how high the value is. Many of these options arguably belong to the "extra icing on the cake" category, but they can also be used to make the spreadsheet more readable.

## 5.6 Themes and Styles

Themes and Styles is a new option in Excel 2007, but you probably recognise Styles from Word and PowerPoint, where they have been used in many earlier versions.

Use of Themes and Styles helps you make "nice" worksheets where you can easily create a uniform and neat appearance. As you might have noticed by now, I like to emphasise that the spreadsheet should do more than just calculate correctly. If you are building large and complicated spreadsheets to be used by anyone other than yourself, it is important that it is logical and clearly structured, and preferably nice to look at. When it is neat and easy to understand, there will not be so many mistakes. It will also make it more credible.

If you got good grades for your arithmetic homework in school, you probably know what I mean. If you did not get good grades, it might be a consolation that Excel now can assist you.

Themes can be regarded as an overarching set of guidelines for the fonts and colour combinations you can use in your spreadsheet. You can even define your own Themes, but Excel comes with many predefined Themes where the colours already match nicely. A Theme defines for example that all header cells must have green background colour and be written in bold type, while cells with formulas should be bright green. If you change the Theme for the entire worksheet, the changes will be reflected in all the cells to which you have assigned a “Style”.

A style is something you assign to each cell. You can for example define that cell B2, C2 and D2 are headings in a table, while the cells below are general number-cells. At the bottom you might have calculated a sum, in which case you can give the lower cells the style “Calculation”.

Let us see how it works.

1. Start with a blank spreadsheet and create a table as shown in Figure 48. The table does not really make sense and is only meant as an example.

	A	B	C	D	E
1					
2			January	February	March
3		Monday	1	6	11
4		Tuesday	2	7	12
5		Wednesday	3	8	13
6		Thursday	4	9	14
7		Friday	5	10	15
8		Sum	15	40	65
9					

**Figure 48:** The starting point for the exercise.

We start by assigning a “theme” to the spreadsheet. This theme will affect our subsequent formatting of the spreadsheet.

2. Choose the **Page Layout** Tab in the Ribbon and click on the button furthest to the left, called **Themes** (Figure 49).
3. A menu will appear where you can choose between various different themes. Click on the **Sequence** theme.

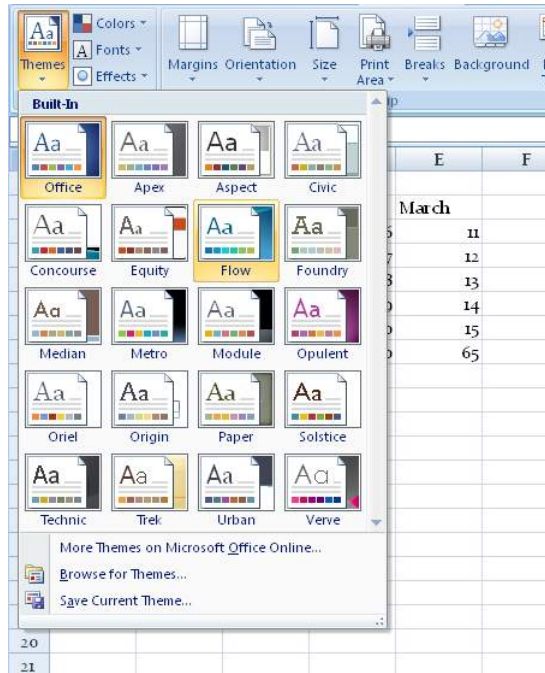


Figure 49: Choosing theme.

At the moment there are few visible changes in the spreadsheet. Only the font in the cells has changed.

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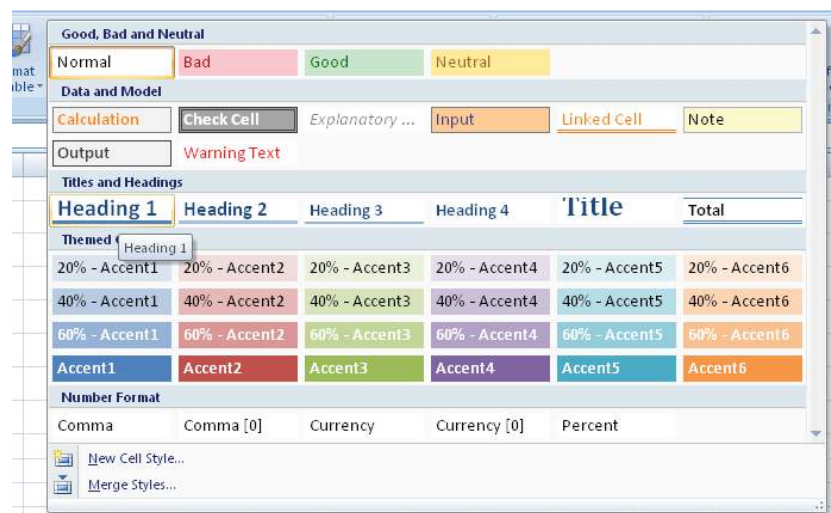


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4. Select the cell region C2:E2.
5. Choose **Home** Tab in the Ribbon and click on the **Cell Styles** button.



**Figure 50:** Choosing Cell Style.

When you click the Cell Style button, a menu will appear where you can choose from a variety of named Styles. When you point to the individual Styles with your mouse, you can see how it will look in your table.

6. Click on the Style **Heading 1**.
7. Select cell region B3:B8.
8. Click the **Cell Styles** button and choose the style **Accent1**.
9. Select cell region C8:E8.
10. Click on the Cell Style button and choose the **Calculation** Style.

If you have done as I, your spreadsheet will look like this:

	A	B	C	D	E	F	G
1							
2			January	Februa	March		
3		Monday	1	6	11		
4		Tuesday	2	7	12		
5		Wensday	3	8	13		
6		Thursday	4	9	14		
7		Friday	5	10	15		
8		Sum	15	40	65		
9							
10							

**Figure 51:** Table with Styles.

Now we will try some other colours, but we do not want to format the individual cells again so we will choose a different colour theme.

Select the **Page Layout** Tab in the Ribbon, then click the **Themes** button Search. Click on the theme Sumptuous (anything less will not do!).

Now your spreadsheet looks like this:

	A	B	C	D	E	F	G
1							
2			Janua	Februz	March		
3		Monday	1	6	11		
4		Tuesday	2	7	12		
5		Wensday	3	8	13		
6		Thursday	4	9	14		
7		Friday	5	10	15		
8		Sum	15	40	65		
9							

**Figure 52:** Spreadsheet with the the "Sumptuous".

Now you have been introduced to Themes and Styles, and you can now experiment with them on your own.

If you continue working with Themes and Styles, you may also find that when you insert charts, graphs etc., they will also have colours defined in the colour theme you have chosen, and so it all fits together.