



## Simple Guide to Excel - Part 4

John Hookham presents a simple and slightly unorthodox approach to explaining the basics of Microsoft Excel.

### Introduction

Part 1 established that the spreadsheet cells have a position and can have content such as text, numbers and dates etc. Part 2 looked at position and content in more detail. Part 3 looked at how excel can be used just to store text. This section examines the use of numbers in Excel.

### Using Numbers within the Excel cells.

A key use for Excel in the business world is the generation of management reports. Many companies email a standard sheet to their employees who enter the month's sales figures etc and email the completed sheet back to the central office. When all of the sheets are received the data is extracted and is often uploaded into a Finance or ERP (Enterprise Resource Planning) system to produce consolidated sales figures. The company will use the information to produce management accounts to show how the business is performing.

The example below is a simple spreadsheet that could be used for reporting the sales from, in this case, the Northern region. There are only five products but in many cases there may be fifty or 100 different products or other numbers to be reported. Often this data is available in other systems and may be transferred automatically, but often the numbers need to be entered into the spreadsheet manually.

The screenshot shows the Microsoft Excel interface. The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, and Help. The toolbar contains various icons for file operations and editing. The spreadsheet has columns A through G and rows 1 through 18. The data is as follows:

	A	B	C	D	E	F	G
1	North	Sold	Price	Value			
2	Product1	12	£123.00	£1,476.00			
3	Product2	4	£45.00	£180.00			
4	Product3	5	£343.00	£1,715.00			
5	Product4	12	£342.00	£4,104.00			
6	Product5	3	£32.00	£96.00			
7	Totals	36	£885.00	£7,571.00			
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							



In this example the number of items sold for a particular product lines has the value calculated (Sold x Price = Value) and the value column is totalled to provide a sales figure for the Northern region; £7,571.00.

Normally the Northern region sells £6,000 so the sales figure for this particular month look good and based on this the company may chose to invest or pay a bonus.

The total number of products sold; 36 has some interest, but the total price (£885.00) is largely irrelevant as it is just the sum of the individual prices of each of the products. The key figures are the Total Value of Sale; £7571.00 and the sales of the individual Product lines.

However the spreadsheet contains some errors, not in the calculations or in producing the totals but in the base data itself. In reality the Northern region sold less than £3,000.00 and so had a bad month not a good month.

Below is the spreadsheet with the correct data.

	A	B	C	D	E	F	G
1	North	Sold	Price	Value			
2	Product1	2	£123.00	£246.00			
3	Product2	4	£45.00	£180.00			
4	Product3	5	£343.00	£1,715.00			
5	Product4	2	£342.00	£684.00			
6	Product5	3	£32.00	£96.00			
7	Totals	16	£885.00	£2,921.00			
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

The simple mistake is a keying error where '12' has been entered in two Sold cells rather than the correct value of 2, easily done. And without additional checks or in a rush to send out the spreadsheet the error has been missed.

But Excel has some built-in functionality to help prevent this type of data entry error. In this (simple) example we will assume that it is unlikely that the Northern region would ever sell more than 9 or any individual products.

We can use Excel to make a conditional check on the entered sales figures.



Conditional formatting has a form that resembles a mathematical formula but reads like a logical sentence.

Each Condition has a number 1, 2 or 3

The Range of Cells is selected as below (the Sold figure)

The Condition option is 'Cell Values' (rather than formula)

The Selection, between, greater than, less than etc

Value eg between 1 and 5, greater than 9 etc

Select the figures that need a conditional check, in this cases the sales figures need to be check to ensure they are less than 9. Then chose *format* followed by *conditional formatting*.

th	Sold	Price	Value			
ct1	2	£123.00	£246.00			
ct2	4	£45.00	£180.00			
ct3	5	£343.00	£1,715.00			
ct4	2	£342.00	£684.00			
ct5	3	£32.00	£96.00			
als	16	£885.00	£2,921.00			

  

Conditional Formatting

Condition 1

Cell Value Is between and

Preview of format to use when condition is true: No Format Set

Add >> Delete... OK Cancel

The correct values in the example are less than 9. So **if** (this is Condition 1) the values are greater than 9 the figure need to be highlighted (in red) so use the drop down box to select the 'greater than' function and enter the value 9 as below.

In basic terms we will be asking Excel to do the following:

*If the Cell Value is greater than 9 then display the data using a specific format ie red bold.*



The next two screen examples show how this is entered using the drop down option and entering the numerical values.

nth	Sold	Price	Value
act1	2	£123.00	£246.00
act2	4	£45.00	£180.00
act3	5	£343.00	£1,715.00
act4	2	£342.00	£684.00
act5	3	£32.00	£96.00
als	16	£885.00	£2,921.00

  

Conditional Formatting dialog box showing Condition 1: Cell Value Is greater than 9. Preview of format to use when condition is true: AaBbCcYyZz. Buttons: Add >>, Delete..., OK, Cancel.

Press the format button and define the format (as per MS Word).

Format Cells dialog box showing Font tab. Font: 106 Beats That. Font style: Bold. Size: 8. Underline: none. Color: red. Effects: Strikethrough checked. Preview: AaBbCcYyZz. Buttons: OK, Cancel.



Now when data is entered Excel checks the cell contents and if (condition 1) the cell value is greater than 9, in the example 12 is entered and 12 is greater than 9 so the data format will be displayed in bold red, as below.

	A	B	C	D	E	F	G
1	<b>North</b>	<b>Sold</b>	<b>Price</b>	<b>Value</b>			
2	Product1	<b>12</b>	£123.00	£1,476.00			
3	Product2	4	£45.00	£180.00			
4	Product3	5	£343.00	£1,715.00			
5	Product4	<b>12</b>	£342.00	£4,104.00			
6	Product5	3	£32.00	£96.00			
7	Totals	36	£885.00	<b>£7,571.00</b>			
8							
9							
10							
11							
12							
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23							

## Summary

Excel spreadsheets are used extensively in business and all too often contain errors.

These errors can be due to incorrect formulae but in many cases the errors are a result of keying and data input errors. Conditional formatting ensures that any keyed data that is outside of a pre-defined range is highlighted. The data might still be correct but the highlighting ensures the data is given an additional check.

## About the author

*John Hookham is a director of a website design and marketing services company.*