

HelpSheet: VLOOKUP (Details) Function

Introduction

Background

Many of the Functions contained in Excel are only partially used. Consequently their effect is diluted and the reports which use them are not as powerful as they should be.

Hit The Ground Sprinting are producing a series of videos which, when used in conjunction with a Helpsheet such as this, will fully explore not only individual Excel Functions but will also examine how different Functions can be combined for even more effective reporting and the introduction of End User interactivity.

If you have not read the Helpsheet How Single Functions Work we suggest you do so before commencing this Helpsheet, as the theory behind how Functions work will help your understanding of the process.

Introduction

This helpsheet should be used in conjunction with the VLOOKUP (Details) video produced by Hit The Ground Sprinting details of which can be found at www.hitthegroundsprinting.com

Function Purpose

The Function looks up a value in one column based on a value in another column specified by a criteria.

Video Commentary

Watch the Video, read the Helpsheet. Watch the Video again and do examples.

VLOOKUP Function (Details Explained)

This Video explains the basics of the VLOOKUP Function.

Anyone with no knowledge of VLOOKUP Functions is advised to start here before viewing any of our other Videos about VLOOKUP.

The box to the right of the VLookup Function defines it as 'Looks for a value in the left hand column of a table, and then returns a value in the same row from a column you specify. By default the table must be sorted in ascending order'

To run a VLOOKUP Function correctly we start by choosing a data set (range of cells, which will span more than one column). But the data set MUST have certain characteristics.

The left most column must be in alphabetical order (the data set can be sorted if necessary before starting the VLOOKUP).

The left most column cannot contain duplicates, as VLOOKUP will select the first instance it finds of the required criteria and return the value relating to that.

The video demonstrates where VLOOKUP cannot be used.

This and other Helpsheets can be found at www.hitthegroundsprinting.com

The following data set, cells 'D4' to 'F10' cannot be used for VLOOKUP, the left hand column, 'D' is not alphabetical and 'Colin' appears more than once in the left hand column.

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3	<table border="1"><thead><tr><th>No.</th><th>Name</th><th>Food</th><th>Quantity</th></tr></thead><tbody><tr><td>1</td><td>Andrew</td><td>Apples</td><td>1</td></tr><tr><td>2</td><td>Colin</td><td>Apples</td><td>2</td></tr><tr><td>3</td><td>Belinda</td><td>Bananas</td><td>3</td></tr><tr><td>4</td><td>Eddie</td><td>Pears</td><td>4</td></tr><tr><td>5</td><td>Colin</td><td>Pears</td><td>5</td></tr><tr><td>6</td><td>Denise</td><td>Plums</td><td>6</td></tr><tr><td>7</td><td>Freda</td><td>Plums</td><td>7</td></tr><tr><td colspan="3">Totals</td><td>28</td></tr></tbody></table>				No.	Name	Food	Quantity	1	Andrew	Apples	1	2	Colin	Apples	2	3	Belinda	Bananas	3	4	Eddie	Pears	4	5	Colin	Pears	5	6	Denise	Plums	6	7	Freda	Plums	7	Totals			28									
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We are now going to the actual set of data which meet the criteria we need for the VLOOKUP Function.

The demonstration then puts in the VLOOKUP Function, and a round bracket.

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When the round bracket is entered a breakdown of what is in the Function appears in a box beneath it.

The explanation is as follows (commas separate each section).

'vlookup_value' (the value to be looked up, this is in **bold** because it is the current part of the Function and awaits completion)

'table_array' (the data set which covers all of the columns VLOOKUP requires)

This and other Helpsheets can be found at www.hitthegroundsprinting.com

'col_index_number' (the index number of the column within the data set that will be the result when the VLOOKUP value is found, it is a number of a column, counting the left most column as 1)

'[range_lookup]' (will be either TRUE, if an approximation to our 'vlookup_value' is required, or FALSE if an exact match is required)

We then continue the VLOOKUP Function by hard coding in the 'vlookup_value', which is 'Colin' and will appear in the Function in double quotation marks, "".

This is followed by a comma, to separate the two parts of the Function, and then the 'table_array'.

The Function should look like this.

No.	Name	Food	Quantity
1	Andrew	Apples	1
2	Belinda	Bananas	2
3	Colin	Pears	3
4	Denise	Plums	4
5	Eddie	Apples	5
6	Freda	Pears	6
7	Graham	Plums	7
	Totals		28

`=vlookup("Colin",d4:f10`
VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])

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Note that 'd4:f10' have turned blue, as has the border of the cells 'D4' to 'F10', which shows they are linked, and also that 'table_array' in the box below the Function is bold, showing it is the current element of the Function being entered.

Continuing on to the 'col_index_number' another comma is entered, followed by a number, counting from the left of our data set.

Column 'D' = 1

Column 'E' = 2

Column 'F' = 3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
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3	Colin	Pears	3
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5	Eddie	Apples	5
6	Freda	Pears	6
7	Graham	Plums	7
Totals			28

```
=vlookup("Colin",d4:f10,3|
```

VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])

So the number chosen is '3', as it corresponds to the column from where the result will be returned.

Another comma is inserted and then the last element, 'TRUE' or 'FALSE'.

'TRUE' is an approximate match, 'FALSE' is an exact match.

The last item to enter is a closing round bracket and the whole Function looks like this.

	A	B	C	D	E	F	G	H	I	J	K	L	M	
1	VLOOKUP Demonstration							www.hitthegroundsprinting.com						
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5	Eddie	Apples	5
6	Freda	Pears	6
7	Graham	Plums	7
Totals			28

```
=vlookup("Colin",d4:f10,3,false|
```

'FALSE' will, in practice, always be the choice

When 'enter' is pressed '3' is the answer because we looked up 'Colin' in the left hand column of the data set, column 'D', and returned the value in the third column of the data set, column 'F'. So the Function went to cell 'D6' and returned the value in cell 'F6'.

What happens if the value looked up does not occur in the left hand column?

The next two examples look at this.

This and other Helpsheets can be found at www.hitthegroundsprinting.com

Firstly if 'Col' is entered as the 'lookup_value' and 'FALSE' as the '[range_lookup]'

VLOOKUP Demonstration				www.hitthegroundsprinting.com
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4				<code>=vlookup("Col",d4:f10,3,false)</code>
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No.	Name	Food	Quantity
1	Andrew	Apples	1
2	Belinda	Bananas	2
3	Colin	Pears	3
4	Denise	Plums	4
5	Eddie	Apples	5
6	Freda	Pears	6
7	Graham	Plums	7
	Totals		28

The result returned is '#N/A', short for '# Not Applicable'

Another video shows how to remove this and put in the text of your choice. See www.hitthegroundsprinting.com for further details.

The second scenario is if 'TRUE' is entered as the '[range_lookup]'

We already know that 'TRUE' should return an approximate match, whereas 'FALSE' should return an exact match. But what happens?

VLOOKUP Demonstration				www.hitthegroundsprinting.com
1				
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4				<code>=vlookup("Col",d4:f10,3,true)</code>
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No.	Name	Food	Quantity
1	Andrew	Apples	1
2	Belinda	Bananas	2
3	Colin	Pears	3
4	Denise	Plums	4
5	Eddie	Apples	5
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When 'Enter' is pressed the value expected would be '3', because the nearest approximation in column 'D' to 'Col' is 'Colin'.

However the answer returned is '2', which means the Function thinks 'Belinda' is a better match with 'Col' than 'Colin'.

This and other Helpsheets can be found at www.hitthegroundsprinting.com

The reason 'Belinda' is thought to be a better match is that the Function matches alphabetically, and it searches down column 'B' until it finds a value which is greater than the 'lookup_value'. Having found it the previous value is then chosen, hence '2' is returned.

The conclusion therefore is to use 'FALSE' on all occasions, never 'TRUE'

As practice makes perfect apply the above at every practical opportunity

Finally

This Helpsheet was written by Norman of Hit The Ground Sprinting Ltd. Its distribution is Free but please acknowledge the author and company in any communications concerning it. Further it is intended for guidance purposes only. For more information and other Helpsheets please check out the website www.hitthegroundsprinting.com or contact by email on norman@hitthegroundsprinting.com