

1) Lookup Tables and Pull-Down Menus (UP7 sheet)

VLOOKUP

Searches for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify in the table. Use VLOOKUP instead of HLOOKUP when your comparison values are located in a column to the left of the data you want to find.

Syntax

VLOOKUP(lookup_value,table_array,col_index_num,range_lookup)

Lookup_value is the value to be found in the first column of the array. *Lookup_value* can be a value, a reference, or a text string.

Table_array is the table of information in which data is looked up. Use a reference to a range or a range name, such as Database or List.

- If *range_lookup* is TRUE, the values in the first column of *table_array* must be placed in ascending order: ..., -2, -1, 0, 1, 2, ..., A-Z, FALSE, TRUE; otherwise VLOOKUP may not give the correct value. If *range_lookup* is FALSE, *table_array* does not need to be sorted.
- You can put the values in ascending order by choosing the **Sort** command from the **Data** menu and selecting **Ascending**.
- The values in the first column of *table_array* can be text, numbers, or logical values.
- Uppercase and lowercase text are equivalent.

Col_index_num is the column number in *table_array* from which the matching value must be returned. A *col_index_num* of 1 returns the value in the first column in *table_array*; a *col_index_num* of 2 returns the value in the second column in *table_array*, and so on. If *col_index_num* is less than 1, VLOOKUP returns the #VALUE! error value; if *col_index_num* is greater than the number of columns in *table_array*, VLOOKUP returns the #REF! error value.

Range_lookup is a logical value that specifies whether you want VLOOKUP to find an exact match or an approximate match. If TRUE or omitted, an approximate match is returned. In other words, if an exact match is not found, the next largest value that is less than *lookup_value* is returned. If FALSE, VLOOKUP will find an exact match. If one is not found, the error value #N/A is returned.

Remarks

- If VLOOKUP can't find *lookup_value*, and *range_lookup* is TRUE, it uses the largest value that is less than or equal to *lookup_value*.
- If *lookup_value* is smaller than the smallest value in the first column of *table_array*, VLOOKUP returns the #N/A error value.
- If VLOOKUP can't find *lookup_value*, and *range_lookup* is FALSE, VLOOKUP returns the #N/A value.

Example

	A	B	C	D
1	Air at 1 atm pressure			
2	Density	Viscosity	Temp	
3	(kg/cubic m)	(kg/m*s)*1E+05	(degrees C)	
4	0.457	3.55	500	
5	0.525	3.25	400	
6	0.616	2.93	300	
7	0.675	2.75	250	
8	0.746	2.57	200	
9	0.835	2.38	150	
10	0.946	2.17	100	
11	1.09	1.95	50	
12	1.29	1.71	0	

With this worksheet, where the range A4:C12 is named Range:

VLOOKUP(1,Range,1,TRUE) equals 0.946

VLOOKUP(1,Range,2) equals 2.17

VLOOKUP(1,Range,3,TRUE) equals 100

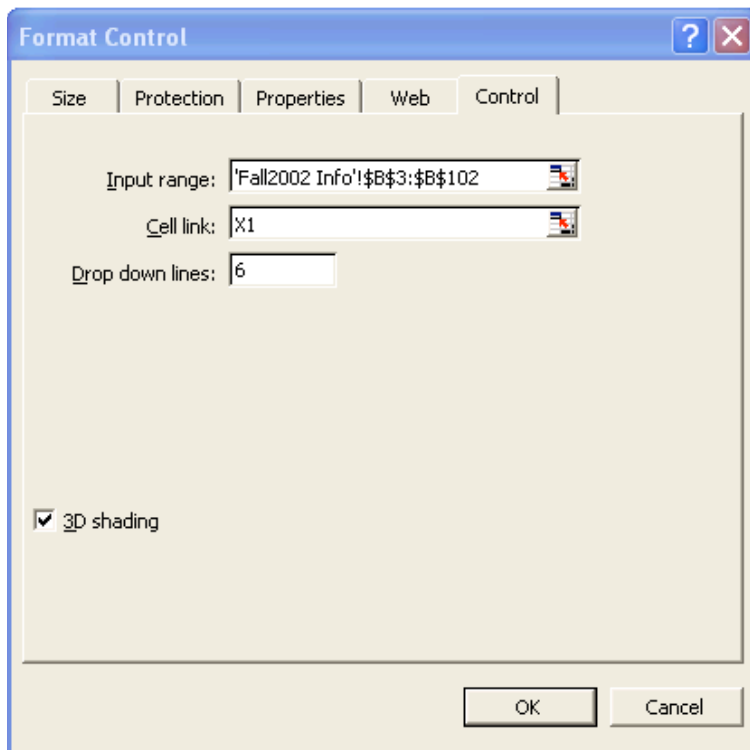
VLOOKUP(.746,Range,3,FALSE) equals 200

VLOOKUP(0.1,Range,2,TRUE) equals #N/A, because 0.1 is less than the smallest value in column A

VLOOKUP(2,Range,2,TRUE) equals 1.71

DROP-DOWN OBJECT

Allows you to refer to a “list” of items in the workbook, be able to choose an item in the list, and put the number of that item into a cell. We can look at the construction of the drop-down box by Right-Clicking on the object, then selecting Format Control. The most important section is the Control tab:



The “Input Range” defines the list of items in your workbook.

The “Cell Link” defines where the numeric representation of the list item will be placed.

The “Drop down lines” defines how many list items you will see when you pull down.

2) Using Cell Formatting and Quick Web Pages (CALENDAR sheet)

Neat things that you can do within the Format → Cells command:

- [Alignment] tab
 - Wrapped Text
 - Gives you the ability to put a lot of information into one cell without "spilling over" into an adjacent cell
 - Shrink To Fit
 - It doesn't matter how much text you put into the cell - the contents WILL fit!
 - Merged Cells
 - Combine two or more cells "together" and simulate one "big" cell
- [Border] tab
 - Allows you to customize where you want borders placed, and how thick the lines are

Neat things that you can do within the File → Page Setup command:

- [Page] tab
 - Portrait / Landscape orientation
 - Shrink to fit 1 page or manually adjust the size
- [Margins] tab
 - Set margins for all four sides of the page
 - Center the sheet vertically or horizontally on the page
- [Header/Footer] tab
 - Allows for the placement of generic or specific headers and footers
- [Sheet] tab
 - Print area
 - Print titles
 - Gridlines

Quick and easy way to create a Table for a Web Page

- Select an area of the spreadsheet you wish to 'publish'
- File → Save As HTML
- Follow the wizard, then open the file in your web browser!

3) Balancing your checkbook (CHECKBOOK sheet)

SUMIF

Adds the cells specified by a given criteria.

Syntax

SUMIF(range,criteria,sum_range)

Range is the range of cells you want evaluated.

Criteria is the criteria in the form of a number, expression, or text that defines which cells will be added. For example, criteria can be expressed as 32, "32", ">32", "apples".

Sum_range are the actual cells to sum. The cells in *sum_range* are summed only if their corresponding cells in *range* match the criteria. If *sum_range* is omitted, the cells in *range* are summed.

Remark

Microsoft Excel provides additional functions that can be used to analyze your data based on a condition. For example, to count the number of occurrences of a string of text or a number within a range of cells, use the COUNTIF function. To have a formula return one of two values based on a condition, such as a sales bonus based on a specified sales amount, use the IF worksheet function.

Example

Suppose A1:A4 contain the following property values for four homes: \$100,000, \$200,000, \$300,000, \$400,000, respectively. B1:B4 contain the following sales commissions on each of the corresponding property values: \$7,000, \$14,000, \$21,000, \$28,000.

SUMIF(A1:A4,">160000",B1:B4) equals \$63,000

4) Making Columns Easily (ANSWER SHEET and SHORT FORM)

Nothing really fancy in these sheets. In the Answer Sheet file, we have a set of multiple choice questions, and want to create an answer sheet for the students taking the test. Excel already has columns built-in, so all we're doing is taking advantage of that. We can also add a header (and footer if necessary) to make the layout look professional. In the Short Form file, we have an evaluation form for a soccer referee. We also include a special font called Windings. Not only does this sheet demonstrate how you can customize Excel into your own form to be printed and given to someone, you can also fill out the form in Excel (using "r" for an empty box and "n" for a filled box). Then all you have to do is paste a copy of your signature from a picture file and you're done!

5) Pivot Tables (CHECKBOOK sheet)

OVERVIEW

A PivotTable report is an interactive table that you can use to quickly summarize large amounts of data. You can rotate its rows and columns to see different summaries of the source data, filter the data by displaying different pages, or display the details for areas of interest.

When to use a PivotTable report: Use a PivotTable report when you want to compare related totals, especially when you have a long list of figures to summarize and you want to compare several facts about each figure. Use PivotTable reports when you want Microsoft Excel to do the sorting, subtotaling, and totaling for you. Because a PivotTable report is interactive, you or other users can change the view of the data to see more details or calculate different summaries.

Creating a PivotTable report: To create a Pivot Table report, use the PivotTable and PivotChart Wizard as a guide to locate and specify the source data you want to analyze and to create the report framework. You can then use the **PivotTable** toolbar to arrange the data within that framework.

Types of PivotTable reports: You can display a PivotTable report in indented format, to view all the summary figures of the same type in one column. You can create a PivotChart report to view the data graphically. You

can also make a PivotTable report available on the Web by using a PivotTable list on a Web page. When you publish an Excel PivotTable report to a PivotTable list, others can view and interact with the data from within their Web browsers.

SOURCE DATA

Source data for a PivotTable report: You can create a PivotTable report from a Microsoft Excel list, an external database, multiple Excel worksheets, or another PivotTable report. Source data from Excel lists and most databases is organized in rows and columns. Your source data must have similar facts in the same column, and each column **MUST** have a heading.

ORGANIZING REPORT DATA

Fields and items: A PivotTable report contains fields, each of which corresponds to a column in the source data and summarizes multiple rows of information from the source data. Fields in a PivotTable report list items of data across rows or down columns. The cells where the rows and columns intersect show summarized data for the items at the top of the column and the left side of the row.

Data fields and cells: A data field, such as Sum of Sales, provides the values that are summarized in the PivotTable report.

Summary functions: To summarize the data field values, PivotTable reports use summary functions, such as Sum, Count, or Average. These functions also provide subtotals and grand totals automatically, where you choose to show them.

Viewing details: In most PivotTable reports, you can view the detail rows from the source data that make up the summary value in a particular data cell.

Changing the layout: By dragging a field button to another part of the PivotTable report, you can view your data in various ways and calculate different summarized values. For example, you can view the names of salespersons across the columns instead of down the rows. This is accomplished by clicking anywhere within the pivot table, then going to the Data menu and selecting Pivot Table; then click on the Layout button.

Changing data: If you change a value in your source data, you must tell Excel to refresh the pivot table. This is accomplished by clicking anywhere within the pivot table, then going to the Data menu and selecting Refresh Data.