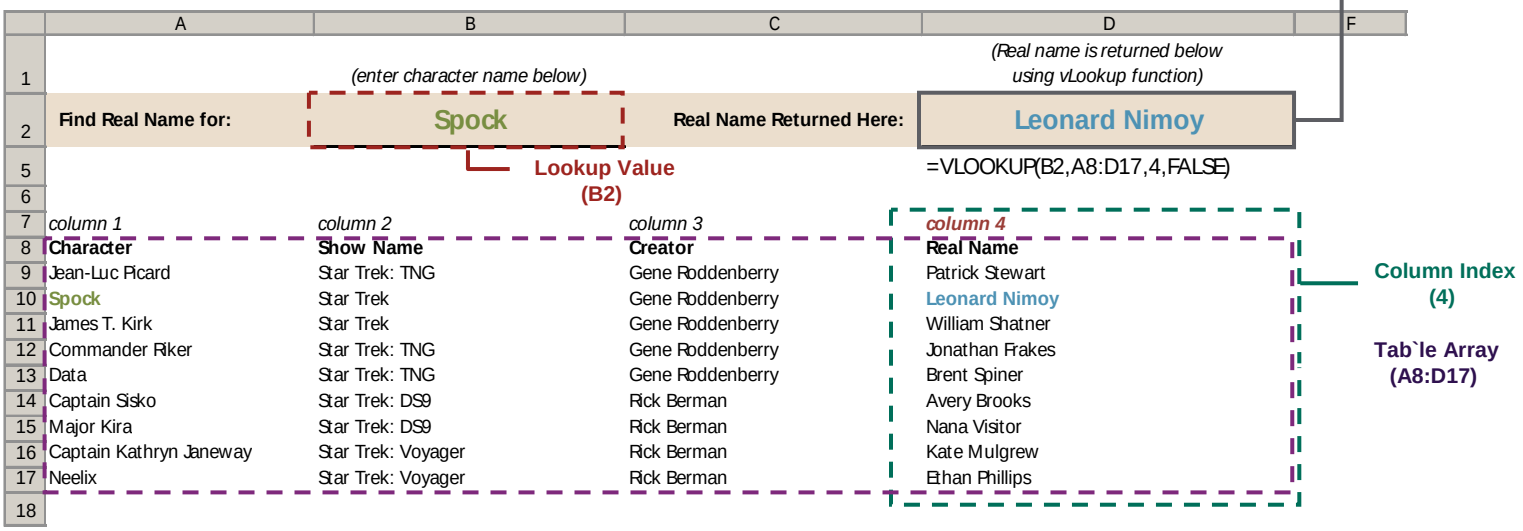
Excel 2003—vLookup Function

The vLookup function searches for a value in the first column of a table array and returns a value in the same row from another column specified in the table array

Function Structure:

=vlookup(lookup_value, table_array, col_index_num, range lookup)

=vlookup(B2 , A8:D17 , 4 , FALSE)



	column 1	column 2	column 3	column 4
8	Character	Show Name	Creator	Real Name
9	Jean-Luc Picard	Star Trek: TNG	Gene Roddenberry	Patrick Stewart
10	Spock	Star Trek	Gene Roddenberry	Leonard Nimoy
11	James T. Kirk	Star Trek	Gene Roddenberry	William Shatner
12	Commander Riker	Star Trek: TNG	Gene Roddenberry	Jonathan Frakes
13	Data	Star Trek: TNG	Gene Roddenberry	Brent Spiner
14	Captain Sisko	Star Trek: DS9	Rick Berman	Avery Brooks
15	Major Kira	Star Trek: DS9	Rick Berman	Nana Visitor
16	Captain Kathryn Janeway	Star Trek: Voyager	Rick Berman	Kate Mulgrew
17	Neelix	Star Trek: Voyager	Rick Berman	Ethan Phillips

Lookup_value

- The value to search for in the *first column* of the table array
  - can be a value or a reference

Table_array

- A table of information in which data is looked up
- The values in the *first column* of the table array are the values searched by lookup_value
- Can be a reference to a range or a *range name*
  - recommended to use a named range if referencing the table in multiple functions

Col_index_num

- The column number in the table array from which the matching value will 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, function returns the #VALUE! error value. If greater than the number of columns in table_array, functions returns the #REF! error value

Range_lookup

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. If an exact match is not found, the next largest value that is less than lookup_value is returned
  - the values in the first column of table_array must be placed in ascending sort order, otherwise, vLookup may not give the correct value
- If **FALSE**, vLookup will find an *exact match*
  - if range lookup is FALSE, table array does not need to be sorted
  - if there are two or more values in the first column of table_array that match the lookup_value, the first value found is used
  - if an exact match is not found, the error value #N/A is returned

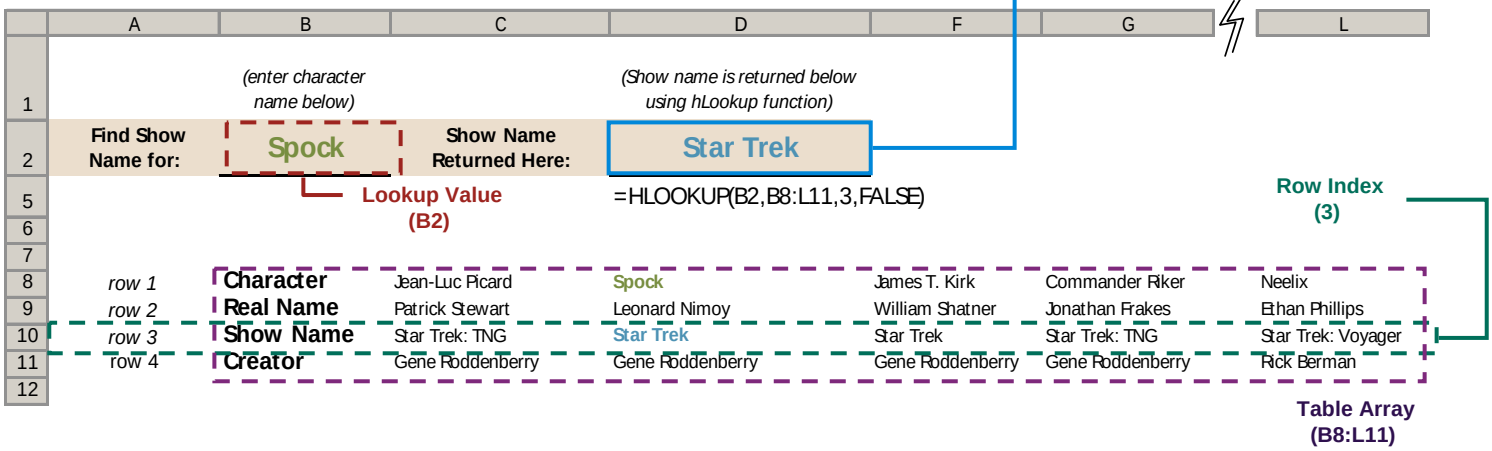
Excel 2003—hLookup

The hLookup function searches for a value in the first row of a table array and returns a value in the same column from another row specified in the table array

Function Structure

=hlookup(lookup_value, table_array, row_index_num, range lookup)

=hlookup(B2 , B8:L11 , 3 , FALSE)



Lookup_value

- The value to search for in the first row of the table array
  - can be a value or a reference

Table_array

- A table of information in which data is looked up
- The values in the *first row* of the table array are the values searched by lookup_value
- Can be a reference to a range or a *range name*
  - recommended to use a named range if referencing the table in multiple functions

Row_index_num

- The row number in the table array from which the matching value will be returned
  - a row index num of 1 returns the value in the first row in table_array; a row index num of 2 returns the value in the second row in table_array, and so on
  - if row index num is less than 1, HLOOKUP returns the #VALUE! error value. If greater than the number of rows on table array, HLOOKUP returns the #REF! error value

Range_lookup

A logical value that specifies whether you want hLookup to find an *exact match* or an *approximate match*

- If **TRUE** or omitted, an *approximate match* is returned. If an exact match is not found, the next largest value that is less than lookup_value is returned
  - the values in the first row of table array must be placed in ascending order, otherwise, hLookup may not give the correct value
- If **FALSE**, hLookup will find an *exact match*
  - if range lookup is FALSE, table array does not need to be sorted
  - if there are two or more values in the first row of table_array that match the lookup_value, the first value found is used
  - if an exact match is not found, the error value #N/A is returned

Excel 2003—SumIf Function

The SumIf function adds the cells specified by a given criteria

Function Structure

=SumIF(range,criteria,sum_range**)**

Range

- The range of cells that you want evaluated by criteria

Criteria

- 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", or "apples"

Sum_Range

- The actual cells to add if their corresponding cells in range match criteria
  - if sum_range is omitted, the cells in range are both evaluated by criteria and added if they match criteria

	A	B	C	D
1				
2	**Location**	**Property Value**	**Commission**	
3	124 5th Avenue	1,967,366	406,613	
4	783 42nd Street	2,000,000	1,500,000	
5	908 Avenue of the Americas	3,203,721	2,770,636	
6	1725 3rd Avenue	5,298,016	268,689	
7	384 Broadway	3,026,530	2,519,248	
8	27 Union Square South	5,554,066	2,912,200	
9	34 Irving Place	5,756,216	400,651	
10	2991 Columbus	7,126,878	2,837,636	
11				
12				
13	Sum of the **property values** over 4 million		**23,735,176**	=SUMIF(**B3:B10,">4000000"**)
14	Sum of the **commissions** for **property values** over 3 million		**11,709,060**	=SUMIF(**B3:B10,">3000000",C3:C10**)
15	Sum of the **property values** for **commissions** <= to 2 million		**1,922,226**	=SUMIF(**C3:C10,"<=2000000",B3:B10**)

Range

Criteria

Sum_Range

Excel 2003—Pivot Tables

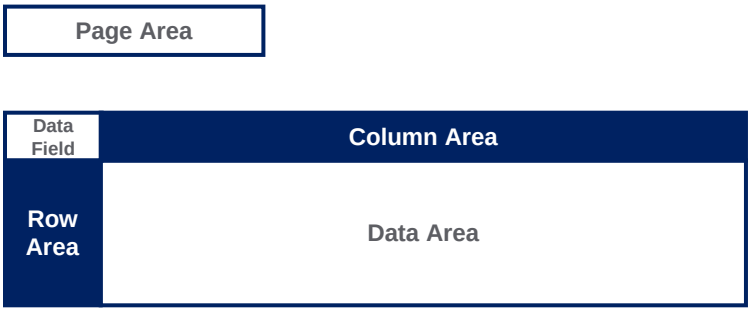
Excel PivotTable Reports organize, summarize, and analyze data to reveal its meaning and easily recognize trends and patterns. PivotTable reports offer comparisons, reveal patterns and relationships, and analyze trends. They do this by displaying different views of data, turning data into information that makes sense.

A PivotTable report can help show the "big picture" by summarizing and analyzing the data. It can control how Excel summarizes the data—for example, by sum, average, or count—without entering a single formula.

PivotTable Report Structure

A PivotTable report consists of four areas where you can display fields:

- The page area, column area, row area, and data area (defined by data field)



Page Area

A field from the source data that you assign to a page (or filter) orientation in a PivotTable report

Column Area

A field from the source data that you assign to a column orientation in a PivotTable report

Row Area

A field from the source data that you assign to a row orientation in a PivotTable report

Data Area

The cells in a PivotTable report that contain summarized data

Data field

A field from the source data that contains values to be summarized.

For most types of source data choose how to summarize data (for example, by sum, average, or count). A data field usually summarizes numbers, but it can also summarize text. For example, it can count the number of times a specific text entry (such as Yes or No) appears in a field.