

LOOKUP FUNCTION AND DATA RETRIEVAL

Agenda

Vlookup Basics

Using Vlookup to retrieve data

Using Vlookup to compare lists

Xlookup Basics

Xlookup vs Vlookup

Vlookup Formula Syntax

- Vlookup Syntax
 - Lookup Value (What you're searching for)
 - Table Array (Where Excel searches)
 - Column Index Number (Which column to return)
 - Range Lookup (FALSE = Exact Match, TRUE = Approximate Match)

VLOOKUP(lookup_value,table_array,col_index_num,range_lookup)

Looks for a value in the leftmost 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 an ascending order.

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

Table_array is a table of text, numbers, or logical values, in which data is retrieved. Table_array can be a reference to a range or a range name.

Col_index_num is the column number in table_array from which the matching value should be returned. The first column of values in the table is column 1.

Range_lookup is a logical value: to find the closest match in the first column (sorted in ascending order) = TRUE or omitted; find an exact match = FALSE.

Vlookup Function

- **=VLOOKUP([@[Parcel_Number]],Table2,3,FALSE)**

- Value searching for: [@[Parcel_Number]]
- Where Excel searches: Table 2
- Which Column to return 3
- Match Type: FALSE or Exact Match

Using Vlookup to retrieve data from another table

Example of Closest Match

Assume the lookup table contains the following values:

Number	Letter
1	A
2	B
4	D
5	E

Using a closest-match VLOOKUP:

Looking up **1** returns **A**

Looking up **2** returns **B**

Looking up **3** returns **B** (because 2 is the closest value less than or equal to 3)

Looking up **4** returns **D**

Xlookup

- Xlookup Syntax
 - Lookup Value (What you're searching for)
 - Lookup Array (Where Excel searches)
 - Return Array (The field to return from the lookup table)
 - If Not Found (what to return if the lookup value is not found)
 - Match Mode (how to compare the lookup value to the values in the lookup array)
 - Search Mode (where to start searching and in what direction to search the lookup array)

XLOOKUP(lookup_value,lookup_array,return_array,if_not_found,match_mode,...)

Searches a range or an array for a match and returns the corresponding item from a second range or array. By default, an exact match is used.

Lookup_value is the value to search for.

Lookup_array is the array or range to search.

Return_array is the array or range to return.

If_not_found returned if no match is found.

Match_mode specify how to match lookup_value against the values in lookup_array.

Search_mode specify the search mode to use. By default, a first to last search will be used.

Xlookup vs Vlookup

- Advantages of Xlookup
 - Looks left or right
 - No column numbers
 - Exact match by default
 - Custom “Not Found” message
 - Searches vertically or horizontally
 - Easier to read

Xlookup vs Vlookup

- An example of XLOOKUP and VLOOKUP, both formulas do the same thing
 - =XLOOKUP([@[Parcel_Number]],Table2[Parcel_Number],Table2[Tax1Description],"Not Found",0,1)
 - =VLOOKUP([@[Parcel_Number]],Table2,3,FALSE)

Using lookup to compare two tables to find missing data

- For this alternate use of the lookup formulas, we are going to take advantage of the exact match portion.
- Any values that are not found will return a N/A error or a value of our choice signaling to us that the value was not found and is missing in the other table.
- This checking can be done just one way or both ways to identify values in both tables that are missing in the other.

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