Introduction to Business Problem

VLOOKUP

VLOOKUP function looks up a value in the first column of a given range and returns a value in the same row from another column. The letter "V" stands for "vertical" as it searches for the value in the vertical direction (column).

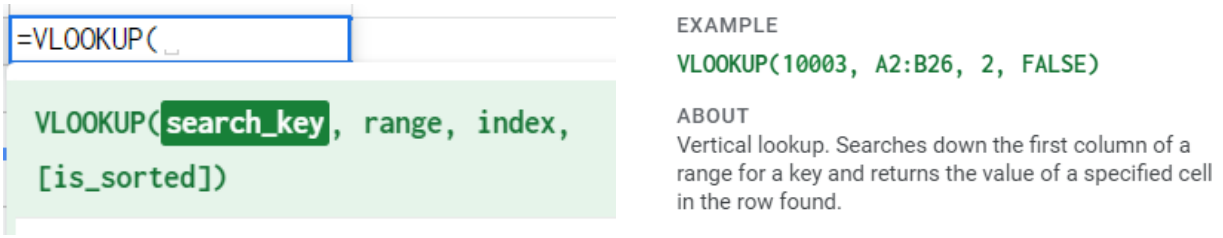

Figure 1: Google spreadsheets VLOOKUP formula with an example

Formula: =VLOOKUP(search_key, range, index, [is_sorted])

The VLOOKUP function has four arguments:

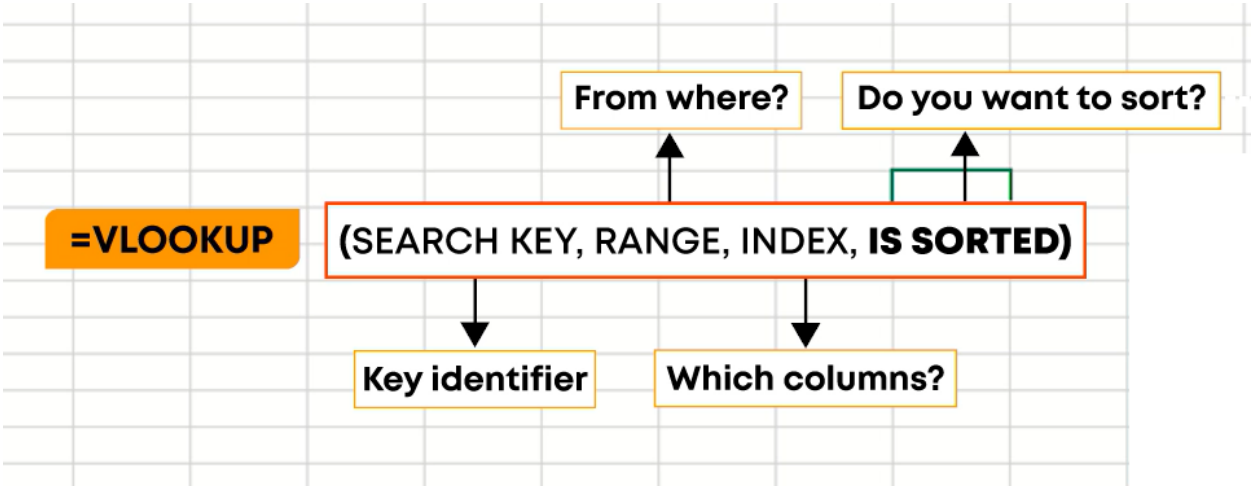

Figure 2: Figure showing the formula and four arguments of VLOOKUP

1. **search_key** represents the unique identifier or key-value you want to look up. It can either be a value or a reference to a cell containing the value.
2. The **range** is the range of cells (in the source table) within which the VLOOKUP function should search.
3. The **index** is the column number within the range from which the corresponding value (the one in the same row as Search key) should be retrieved.

`search_key`
The value to search for. For example, '42', 'Cats' or 'I24'.

`range`
The range to consider for the search. The first column in the range is searched for the key specified in 'search_key'.

`index`
The column index of the value to be returned, where the first column in 'range' is numbered 1.

`is_sorted - [optional]`
Indicates whether the column to be searched (the first column of the specified range) is sorted, in which case the closest match for 'search_key' will be returned.

4. **is_sorted** is an optional parameter. It can either be **TRUE** or **FALSE**.

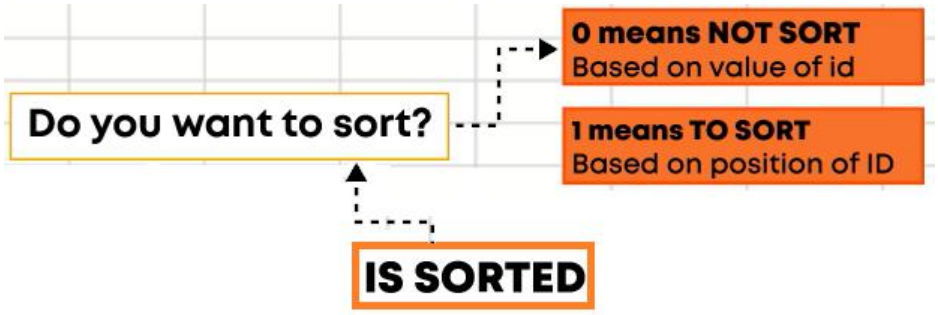

Figure 3: Figure showing the hyperparameters of is_sorted

- A FALSE value for "is_sorted" indicates that the first column of range does not need to be sorted in ascending order. So, the VLOOKUP function searches for an exact match of the "search_key".
- If there is more than one value equal to "search_key", then VLOOKUP accesses the first occurrence of the "search_key".

VLOOKUP from the same sheet

You can directly use the lookup formula and provide the required parameters.

VLOOKUP from another sheet, same workbook

The most common way VLOOKUP is done is when the data is present in two different sheets. To do VLOOKUP from a different sheet - We put the worksheet's name followed by an exclamation mark in the table_array argument before the range reference.
If the spreadsheet name contains spaces or is non-alphabetical characters, it must be enclosed in single quotation marks, e.g., 'Price list'!$A$2:$C$9.

Formula: =VLOOKUP(lookup_value, 'Sheet2'!cell range, 2, False)

To lock any cell value or any column, we do this by using the "$" sign to lock any cell value or any column.

Steps:

1. Click on the first cell of your target column (where you want the VLOOKUP results to appear).
2. Type =VLOOKUP, followed by opening parentheses.
3. Next, select the cell containing the value you want to lookup
4. Select the second sheet tab (to open the Employees sheet). Select the range of cells that you want VLOOKUP to search in.
5. Put a comma, followed by the index of the column that contains the values you want to retrieve
6. Finally, close the parentheses.

VLOOKUP from another workbook

VLOOKUP to fetch data from a sheet in a different workbook. we use the same function but with a slight difference in the second parameter. The second parameter is going to include the IMPORTRANGE function.

Formula: =VLOOKUP(search_key,Importrange("{sheetsURL}", "{sheetname}!{cellrange}"), index,is_sorted)

The IMPORTRANGE function is used to import values from cells in another spreadsheet into your current spreadsheet. The syntax for the formula is as follows:

Formula: =IMPORTRANGE(spreadsheet_key, range_string)

It contains two parameters
spreadsheet_key: This is the URL of the spreadsheet you want to import the data. It should be specified in double quotes.
range_string: This refers to the range of cells you want to import. The range_string parameter should contain the sheet name and the range of cells that you want.

Steps:

- Click on the first cell of your target column (where you want the VLOOKUP results to appear).
- Type =VLOOKUP, followed by opening parentheses.
- Next, select the cell containing the value you want to look up.
- For the second parameter, enter the function IMPORTRANGE, followed by an opening parenthesis.
- Open the workbook you want to look up, secondwb('Second Workbook') and select the sheet tab.
- Copy the URL of this worksheet from the location bar of your browser.
- Return to the current workbook, paste the URL at the end of the formula and enclose the URL in double quotes.
- Next, add a comma, followed by the sheet name of the source sheet
- Add an exclamation mark (!) and type in the range of cells you want to look up from the source sheet. In double quotes, enclose the whole parameter (source sheet name, exclamation mark, and sheet name).
- Put a comma, followed by closing parentheses (to close the IMPORTRANGE function).

- Put a comma, followed by the index of the column that contains the values you want to retrieve
- Finally, close the parentheses.

Note: You must note that the VLOOKUP function is case insensitive,

A drawback of the VLOOKUP function is that it can't look to its left. It will look down the leftmost column of a table and return information from the right.

VLOOKUP Errors

The most common reasons are that something was wrong when you created the VLOOKUP or mismatches in the data.

There can be two types of errors: #N/A or #REF!

1. **#N/A Error**
   - Numbers formatted as text
   - The column with lookup values is not farthest to the left in your lookup table.
   - Typos or additional spaces in the lookup data
   - Typos or additional spaces in your lookup value

2. **#REF! Error**
   - Column Index Number is greater than the number of columns
   - The references in the VLOOKUP formula points to cells that no longer exists.

Read More

- https://spreadsheetpoint.com/how-to-vlookup-from-another-sheet-google-sheets/