# Vlookup

VLOOKUP (which stands for **Vertical Lookup**) is an Excel function used to search for a specific value in the first column of a table or range of data and return a corresponding value from a specified column in the same row.

Here is the general syntax and what each part means:

VLOOKUP(lookup\_value,table\_array,col\_index\_num,[range\_lookup])

1. **lookup\_value:** This is the value you want to search for. For example, a product ID or an employee name.
2. **table\_array:** This is the range of cells that contains the data. **The key requirement is that the column containing the *lookup\_value* must be the first column in this range.**
3. **col\_index\_num:** This is the column number within the *table\_array* from which the result should be returned. The first column of your *table\_array* is column 1, the second is 2, and so on.
4. **[range\_lookup]:** This is optional, but highly important.
   * **TRUE (or omitted):** Finds an **approximate match**. The first column of the *table\_array* must be sorted in ascending order for this to work correctly.
   * **FALSE (or 0):** Finds an **exact match**. This is the most common use case.

**In simple terms, VLOOKUP does this:**

1. It takes a value (the lookup\_value).
2. It looks for that value in the far left column of your specified data range (table\_array).
3. Once it finds a match, it moves across that same row to the column number you specified (col\_index\_num).
4. It returns the value found in that cell.

For example, you could use VLOOKUP to find the price of a product just by knowing its product code.

# Hlookup

**HLOOKUP** stands for **Horizontal Lookup**. It is an Excel function designed to search for a value in the **top row** of a table or data range and return a corresponding value from a specified row in the same column.

It is essentially the horizontal equivalent of VLOOKUP (Vertical Lookup).

**HLOOKUP Syntax**

The HLOOKUP function requires four main arguments:

HLOOKUP(lookup\_value,table\_array,row\_index\_num,[range\_lookup])

1. **lookup\_value (Required):** The value you are searching for. This value must be located in the **first row** of your selected data range.
2. **table\_array (Required):** The range of cells that contains the data. HLOOKUP will search the **top row** of this range.
3. **row\_index\_num (Required):** The row number within the *table\_array* from which the matching value should be returned. The first row of your *table\_array* is row 1, the second is row 2, and so on.
4. **[range\_lookup] (Optional):** A logical value that specifies whether you want to find an approximate or an exact match.
   * **FALSE (or 0):** Find an **exact match**. This is generally recommended.
   * **TRUE (or omitted):** Find an **approximate match**. If you use this, the values in the first row of your *table\_array* must be sorted in ascending order.

**How it Works**

Imagine your data is laid out horizontally, such as a sales table with month names across the top row (Jan, Feb, Mar, etc.) and different categories of data (Sales, Expenses, Profit) in the rows below.

1. HLOOKUP takes your desired value (e.g., "Feb").
2. It scans across the top row of the data range to find "Feb".
3. Once it finds "Feb", it moves down that same column to the row number you specified (e.g., row 3 for "Profit").
4. It returns the value it finds there.

**Example**

Let's say your data has the following structure (A1:D3 is the table\_array):

|  | **A** | **B** | **C** | **D** |
| --- | --- | --- | --- | --- |
| **1** | **Month** | **Jan** | **Feb** | **Mar** |
| **2** | **Sales** | 100 | 150 | 200 |
| **3** | **Expenses** | 50 | 60 | 70 |

To find the **Sales** for **March**, the formula would be:

=HLOOKUP("Mar",B1:D3,2,FALSE)

* **"Mar"** is the lookup\_value.
* **B1:D3** is the table\_array.
* **2** is the row\_index\_num (because "Sales" is in the second row of the table\_array).
* **FALSE** asks for an exact match.

This formula would return **200**.