### VLOOKUP Formula Structure

The VLOOKUP function in Excel has the following syntax:

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

### Components of the VLOOKUP Formula

1. **lookup\_value**: This is the value you want to search for in the first column of the table\_array.
2. **table\_array**: This is the range of cells that contains the data you want to retrieve. The first column in this range should contain the lookup\_value.
3. **col\_index\_num**: This is the column number in the table\_array from which to retrieve the value. The first column is 1, the second is 2, and so on.
4. **[range\_lookup]**: This is an optional argument. Use TRUE for an approximate match or FALSE for an exact match. If omitted, TRUE is the default.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Stu | Maths | Science | English | SST |
| Riya | 71 | 82 | 49 | 43 |
| Megha | 39 | 71 | 78 | 62 |
| Neha | 66 | 71 | 69 | 81 |
| Tina | 92 | 91 | 94 | 89 |
| Sonu | 83 | 85 | 88 | 72 |

**71 =VLOOKUP("Riya", A2:E6,2,FALSE)** or in place of 2 you use row(a2)

66 ==VLOOKUP("Riya", A2:E6,2) wrong because the order is not in ascending

The FALSE parameter in the VLOOKUP function specifies that you want an exact match for the lookup value. If you omit this parameter or use TRUE, VLOOKUP will perform an approximate match, which can lead to incorrect results if your data is not sorted in ascending order by the lookup column.

Here's an explanation:

* **Exact Match (FALSE)**: VLOOKUP will return a value only if it finds an exact match in the lookup column. If there is no exact match, it returns #N/A.
* **Approximate Match (TRUE or omitted)**: VLOOKUP will return the closest match that is less than or equal to the lookup value. The data in the lookup column must be sorted in ascending order for this to work correctly. If it is not sorted, VLOOKUP may return incorrect results.

In your case, omitting FALSE or using TRUE causes VLOOKUP to perform an approximate match, which results in an incorrect value (66 in this case). This happens because the data is not sorted, and VLOOKUP incorrectly matches the closest value less than or equal to "Riya."

Here is how you can ensure you always get the correct result:

1. **Use Exact Match (FALSE)**:

 =VLOOKUP("Riya", A2:E6, 2, FALSE)

This formula will return 71, which is the correct Maths score for Riya.

1. **Ensure Data is Sorted (if using TRUE or omitting the match parameter)**:
   * If you want to use approximate match (not recommended for text lookups), make sure your data in column A is sorted in ascending order.

Here’s a practical demonstration:

keyboard\_arrow\_down

Example with Data Not Sorted:

=VLOOKUP("Riya", A2:E6, 2, TRUE)

This might return 66 (or another incorrect value) because the data is not sorted and VLOOKUP returns an approximate match.

Example with Data Sorted:

If column A was sorted (which it isn't in your data), and you used:

=VLOOKUP("Riya", A2:E6, 2, TRUE)

It would return the correct value, but sorting the data is not practical or recommended for exact text lookups.

Correct Formula to Always Use:

=VLOOKUP("Riya", A2:E6, 2, FALSE)

This will always return the correct result (71 for Riya's Maths score) regardless of the sort order.

In summary, always use FALSE for exact matches, especially when looking up text values like names. This ensures you get the precise result without relying on the sort order of your data.