# How can I perform a VLOOKUP, similar to Excel, in R?

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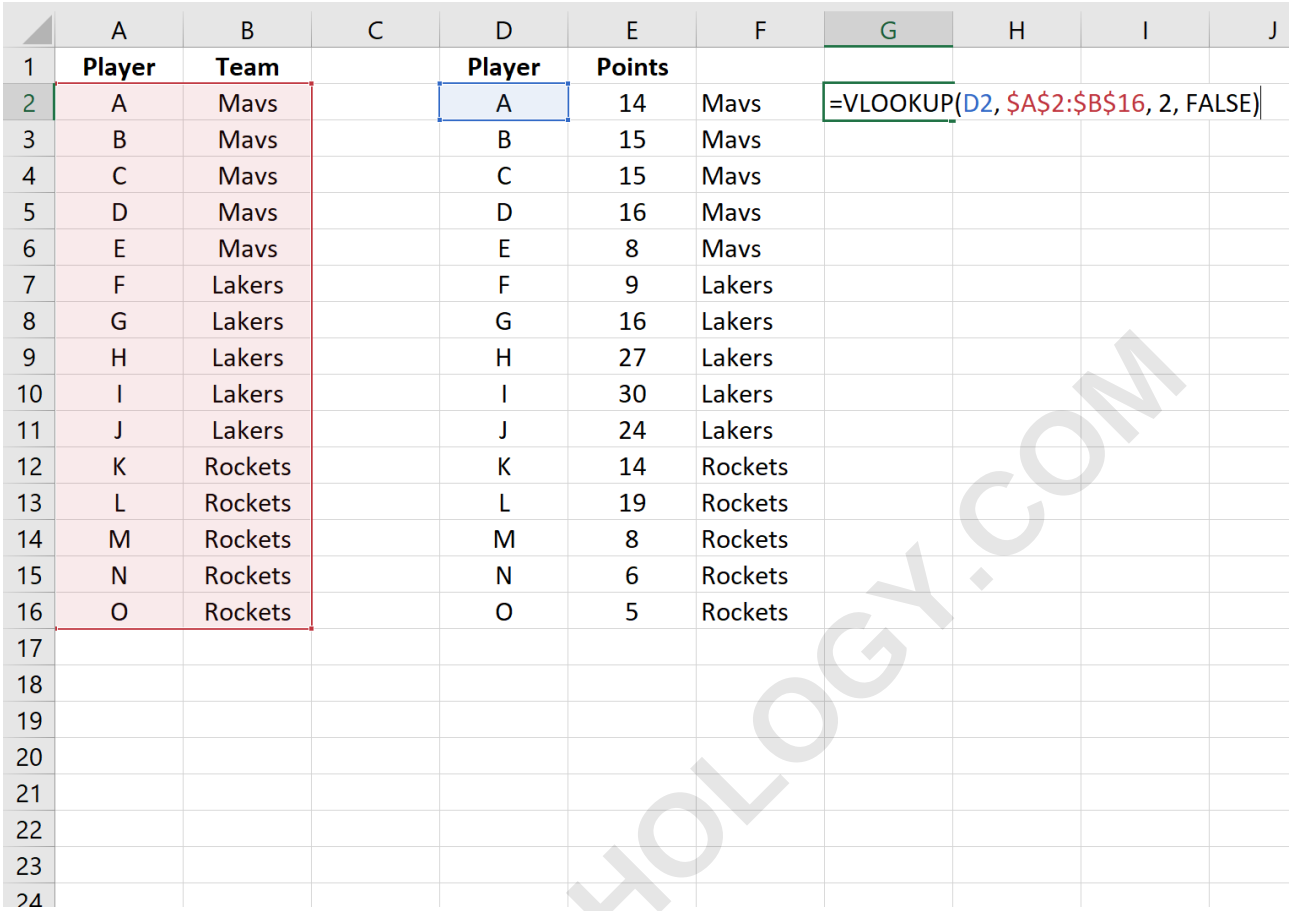
VLOOKUP is a function commonly used in Microsoft Excel to search for a specific value in a table and return a corresponding value from a different column. This same functionality can be achieved in R by using the "merge" function. The merge function allows for the combination of two datasets based on a common column or key. By specifying the appropriate parameters, users can perform a VLOOKUP-like operation to retrieve desired values from a separate dataset. This can be particularly useful for data analysis and manipulation tasks in R.

## Perform a VLOOKUP (Similar to Excel) in R

## The VLOOKUP function in Excel allows you to look up a value in a table by matching on a column.

## For example, in the following Excel worksheet we can look up a player's team name by using the VLOOKUP to match on player name and return the player's team:



| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Player** | **Team** | | **Player** | **Points** | | | | | |
| 2 | A | Mavs | | A | 14 | Mavs | =VLOOKUP(D2, $A$2:$B$16, 2, FALSE) | | | |
| 3 | B | Mavs | | B | 15 | Mavs | | | | |
| 4 | C | Mavs | | C | 15 | Mavs | | | | |
| 5 | D | Mavs | | D | 16 | Mavs | | | | |
| 6 | E | Mavs | | E | 8 | Mavs | | | | |
| 7 | F | Lakers | | F | 9 | Lakers | | | | |
| 8 | G | Lakers | | G | 16 | Lakers | | | | |
| 9 | H | Lakers | | H | 27 | Lakers | | | | |
| 10 | I | Lakers | | I | 30 | Lakers | | | | |
| 11 | J | Lakers | | J | 24 | Lakers | | | | |
| 12 | K | Rockets | | K | 14 | Rockets | | | | |
| 13 | L | Rockets | | L | 19 | Rockets | | | | |
| 14 | M | Rockets | | M | 8 | Rockets | | | | |
| 15 | N | Rockets | | N | 6 | Rockets | | | | |
| 16 | O | Rockets | | O | 5 | Rockets | | | | |
| 17 | | | | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | | | | | | | | | | |
| 24 | | | | | | | | | | |



## We can replicate this function using base R or the dplyr package:

## Using Base R:

## merge(df1, df2, by="merge_column")

## Using dplyr:

## inner_join(df1, df2, by="merge_column")

**The following examples show how to use each of these functions in R to replicate the VLOOKUP function from Excel.**

### VLOOKUP Using Base R

**The following code shows how to perform a function similar to VLOOKUP in base R by using the merge() function:**

```
#create first data frame
df1 <- data.frame(player=LETTERS,
team=rep(c('Mavs', 'Lakers', 'Rockets'), each=5))

#create second data frame
df2 <- data.frame(player=LETTERS,
points=c(14, 15, 15, 16, 8, 9, 16, 27, 30, 24, 14, 19, 8, 6, 5))

#merge the two data frames
merge(df1, df2, by="player")

player team points
1 A Mavs 14
2 B Mavs 15
3 C Mavs 15
```

4 D Mavs 16

5 E Mavs 8

6 F Lakers 9

7 G Lakers 16

8 H Lakers 27

9 I Lakers 30

10 J Lakers 24

11 K Rockets 14

12 L Rockets 19

13 M Rockets 8

14 N Rockets 6

15 O Rockets 5

Notice that this returns the same results as the VLOOKUP function from the introductory example. Also note that you can specify multiple columns to merge on using the by argument.

### VLOOKUP Using dplyr

```
library(dplyr)

#create first data frame
df1 <- data.frame(player=LETTERS,
team=rep(c('Mavs', 'Lakers', 'Rockets'), each=5))
```

```
#create second data frame
df2 <- data.frame(player=LETTERS,
points=c(14, 15, 15, 16, 8, 9, 16, 27, 30, 24, 14, 19, 8, 6,
5))

#merge the two data frames using inner_join
inner_join(df1, df2, by="player")

player team points
1 A Mavs 14
2 B Mavs 15
3 C Mavs 15
4 D Mavs 16
5 E Mavs 8
6 F Lakers 9
7 G Lakers 16
8 H Lakers 27
9 I Lakers 30
10 J Lakers 24
11 K Rockets 14
12 L Rockets 19
13 M Rockets 8
14 N Rockets 6
15 O Rockets 5
```

**Notice that this returns the same results as the VLOOKUP function in Excel. Also note that you can specify multiple columns to merge on using the by argument.**

**Also, if you'd like non-matches to be shown you can instead use the left_join function.**

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