How do I use the %in% operator in R? Can you provide examples?

Authored by

stats writer

April 21, 2024

RECOMMENDED CITATION

stats writer (2024). *How do I use the %in% operator in R? Can you provide examples?*. PSYCHOLOGICAL SCALES. Retrieved from https://scales.arabpsychology.com/?p=137663

ARABPSYCHOLOGY.COM

The %in% operator in R is a logical operator that checks if a particular element or value is present in a given vector, list, or data frame. It returns a vector of TRUE or FALSE values depending on whether the element is present or not. To use the %in% operator, the element to be checked is placed on the left side, followed by the %in% symbol, and then the vector or list on the right side. For example, if we want to check if the number 5 is present in the vector c(2,4,5,6), we would write "5 %in% c(2,4,5,6)". This would return TRUE as 5 is present in the vector. Similarly, if we want to check if the string "hello" is present in the list c("hi", "hello", "hey"), we would write "'hello' %in% c('hi', 'hello', 'hey')". This would also return TRUE. The %in% operator is a useful tool in filtering and subsetting data in R.

Use %in% Operator in R (With Examples)

The %in% operator in R allows you to determine whether or not an element belongs to a vector or data frame.

This tutorial provides three examples of how to use this function in different scenarios.

Example 1: Use %in% with Vectors

We can use the %in% operator to determine how many elements of one vector belong to another vector:

```
#define two vectors of data
data1 <- c(3, 5, 7, 7, 14, 19, 22, 25)

data2 <- c(1, 2, 3, 4, 5)

#produce new vector that contains elements of data1
```

ARABPSYCHOLOGY.COM

that are in data2
data1

3 5

We can see that the values 3 and 5 are the only elements from the vector titled *data2* that are in the vector titled *data1*.

Example 2: Use %in% to filter Data Frames

We can also use the %in% operator to filter for rows in a data frame that contain certain values:

```
#define data frame
df <- data.frame(team=c('A', 'A', 'B', 'B', 'B', 'C'),
points=c(67, 72, 77, 89, 84, 97),
assists=c(14, 16, 12, 22, 25, 20))

#view data frame
df

team points assists
1 A 67 14
2 A 72 16
3 B 77 12
```

ARABPSYCHOLOGY.COM

4 B 89 22

5 B 84 25

6 C 97 20

#produce new data frame that only contains rows where team is 'B'

df_new <- df

df_new

team points assists

3 B 77 12

4 B 89 22

5 B 84 25

#produce new data frame that only contains rows where team is 'B' or 'C'

df_new2 <- df

df_new2

team points assists

3 B 77 12

4 B 89 22

5 B 84 25

6 C 97 20

ARABPSYCHOLOGY.COM

Example 3: Use %in% to Create Data Frame Columns

We can also use the %in% operator to create new data frame columns.

For example, the following code shows how to create a new column titled *division* that places teams 'A' and 'C' in the 'East' and teams 'B' in the 'West':

```
library(dplyr)

#define data frame
df <- data.frame(team=c('A', 'A', 'B', 'B', 'B', 'C'),
points=c(67, 72, 77, 89, 84, 97),
assists=c(14, 16, 12, 22, 25, 20))

#view data frame
df

team points assists
1 A 67 14
2 A 72 16
3 B 77 12
4 B 89 22
5 B 84 25
6 C 97 20
```

ARABPSYCHOLOGY.COM

```
#create new column called division
df$division = if_else(df$team %in% c('A', 'C'), 'East', 'West')
df

team points assists division
1 A 67 14 East
2 A 72 16 East
3 B 77 12 West
4 B 89 22 West
5 B 84 25 West
6 C 97 20 East
```

How to Combine Two Columns into One in R

How to Append Rows to a Data Frame in R

How to Compare Two Columns in R

ARABPSYCHOLOGY.COM