

Why is the number of rows in the result not a multiple of the vector length in argument 1?

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The number of rows in the result is not always a multiple of the vector length in argument 1 due to the fact that the vector length and the number of rows in the result are independent of each other. This means that even if the vector length is a multiple of the number of rows, the result may not necessarily have a row count that is a multiple of the vector length. This is because the result is determined by the input data and any operations performed on it, rather than being directly influenced by the vector length. Therefore, the number of rows in the result will vary depending on the data and operations involved, and may not always be a multiple of the vector length in argument 1.

Fix: number of rows of result is not a multiple of vector length (arg 1)

One warning message you may encounter when using R is:

Warning message:

In `cbind(A, B, C)` :

number of rows of result is not a multiple of vector length (arg 1)

This warning usually occurs when you attempt to use the `cbind()` function to column-bind together vectors of different lengths.

It's worth noting that this message is simply a *warning* and your code will still run, but the results you get may be different than you were expecting.

The following example shows how to avoid this warning in practice.

How to Reproduce the Warning

Suppose we use the function to column-bind together three vectors into a data frame:

```
#define three vectors with different lengths
```

```
A = c(4, 2, 3, 6)
```

```
B = c(9, 1, 8, 7, 0, 7)
```

```
C = c(3, 5, 3, 3, 6, 4)
```

```
#column bind three vectors into data frame
```

```
df <- cbind(A, B, C)
```

```
#view data frame
```

```
df
```

Warning message:

In cbind(A, B, C) :

number of rows of result is not a multiple of vector length (arg 1)

```
A B C
```

```
4 9 3
```

```
2 1 5
```

3 8 3

6 7 3

4 0 6

2 7 4

The `cbind` function works with the three vectors, but notice that the values of the first vector simply repeat over and over again.

This is known as "recycling" in R.

How to Avoid the Warning

To avoid the warning altogether, we must make sure that the length of each of the vectors we're using is the same.

One way to accomplish this is to fill in the missing values in the shorter vector with NA values as follows:

```
#calculate max length of vectors
```

```
max_length <- max(length(A), length(B), length(C))
```

```
#set length of each vector equal to max length
```

```
length(A) <- max_length
```

```
length(B) <- max_length
```

```
length(C) <- max_length
```

```
#cbind the three vectors together into a data frame
```

```
df <- cbind(A, B, C)
```

```
#view data frame
```

```
df
```

```
A B C
```

```
4 9 3
```

```
2 1 5
```

```
3 8 3
```

```
6 7 3
```

```
NA 0 6
```

```
NA 7 4
```

Notice that we don't receive any warning message this time and the values of the short vector are simply filled in with NA values to ensure that each of the three vectors we used have equal lengths.

The following tutorials explain how to fix other common errors in R: