

# How can I fix the error “non-conformable arguments” in R?

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June 29, 2024

## RECOMMENDED CITATION

stats writer (2024). *How can I fix the error “non-conformable arguments” in R?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=158561>

The error "non-conformable arguments" in R refers to a situation where the dimensions of the input data or objects do not match, preventing the execution of a specific operation or function. In order to fix this error, it is necessary to carefully review the dimensions of the data or objects involved and ensure that they are compatible for the intended operation. This may involve reshaping or transforming the data, or using alternative functions that are better suited for the given data. Additionally, checking for any typos or errors in the code may also help resolve the issue. With proper attention to detail and understanding of the data, the "non-conformable arguments" error in R can be effectively resolved.

## Fix Error in R: non-conformable arguments

**One error message you may encounter when using R is:**

**Error in matrix2 %\*% matrix1 : non-conformable arguments**

**This error occurs when you attempt to multiply two matrices but the number of columns in the left matrix does not match the number of rows in the right matrix.**

**The following example shows how to resolve this error in practice.**

**How to Reproduce the Error**

**Suppose we have the following two matrices in R:**

**#create first matrix**

```
mat1 <- matrix(1:10, nrow=5)
```

```
mat1
```

```
1 6
```

```
2 7
```

```
3 8
```

```
4 9
```

```
5 10
```

```
#create second matrix
```

```
mat2 <- matrix(1:6, nrow=2)
```

```
mat2
```

```
1 3 5
```

```
2 4 6
```

Now suppose we attempt to multiply the second matrix by the first matrix:

```
#attempt to multiply second matrix by first matrix
```

```
mat2 %*% mat1
```

**Error in mat2 %\*% mat1 : non-conformable arguments**

**We receive an error because the number of columns (3) in the left matrix does not match the number of rows (5) in the right matrix.**

**How to Avoid the Error**

**To avoid the non-conformable arguments error, we must instead multiply the first matrix by the second matrix:**

**multiply first matrix by second matrix**

```
mat1 %*% mat2
```

```
13 27 41
```

```
16 34 52
```

```
19 41 63
```

```
22 48 74
```

```
25 55 85
```

**Notice that we're able to successfully multiply the two matrices without any error because the number of columns (2) in the left matrix matches the number of rows (2) in the right matrix.**

**We can also use the dim() function to display the number of columns and rows in each matrix:**

```
#view dimensions of first matrix  
dim(mat1)
```

```
5 2
```

```
#view dimensions of second matrix  
dim(mat2)
```

```
2 3
```

**From this output we can see:**

**The first matrix has 5 rows and 2 columns. The second matrix has 2 rows and 3 columns.**

**This makes it obvious that we must use the first matrix on the left and the second matrix on the right when multiplying since the first matrix has 2 columns and the second matrix has 2 rows.**

**Additional Resources**

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