

What does it mean when NAs are introduced by coercion in R, specifically in relation to the “Fix” function?

Authored by
stats writer

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In R programming, NAs (Not Available values) can be introduced by coercion, which means converting an object into a different data type. This can happen when performing certain operations or using certain functions, such as the "Fix" function. The "Fix" function is used to convert data to a numerical format, and if the data contains characters or other non-numerical values, NAs may be introduced by coercion. This means that the data may not be accurately represented in the numerical format and may require further manipulation or cleaning to properly handle the NAs.

Fix in R: NAs Introduced by Coercion

One common warning message you may encounter in R is:

Warning message:

NAs introduced by coercion

This warning message occurs when you use `as.numeric()` to convert a vector in R to a numeric vector and there happen to be non-numerical values in the original vector.

To be clear, you don't need to do anything to "fix" this warning message. R is simply alerting you to the fact that some values in the original vector were converted to NAs because they couldn't be converted to numeric values.

However, this tutorial shares the exact steps you can

use if you don't want to see this warning message displayed at all.

How to Reproduce the Warning Message

The following code converts a character vector to a numeric vector:

```
#define character vector  
x <- c('1', '2', '3', NA, '4', 'Hey')
```

```
#convert to numeric vector  
x_num <- as.numeric(x)
```

```
#display numeric vector  
x_num
```

Warning message:

NAs introduced by coercion

```
1 2 3 NA 4 NA
```

R converts the character vector to a numeric vector, but displays the warning message NAs introduced by coercion since two values in the original vector could not be converted to numeric values.

Method #1: Suppress Warnings

One way to deal with this warning message is to simply suppress it by using the `suppressWarnings()` function when converting the character vector to a numeric vector:

```
#define character vector
```

```
x <- c('1', '2', '3', NA, '4', 'Hey')
```

```
#convert to numeric vector, suppressing warnings
```

```
suppressWarnings(x_num <- as.numeric(x))
```

```
#display numeric vector
```

```
x_num
```

```
1 2 3 NA 4 NA
```

R successfully converts the character vector to a numeric vector without displaying any warning messages.

Method #2: Replace Non-Numeric Values

One way to avoid the warning message in the first place is by replacing non-numeric values in the original vector with blanks by using the `gsub()` function:

```
#define character vector
```

```
x <- c('1', '2', '3', '4', 'Hey')
```

```
#replace non-numeric values with 0
```

```
x <- gsub("Hey", "0", x)
```

```
#convert to numeric vector
```

```
x_num <- as.numeric(x)
```

```
#display numeric vector
```

```
x_num
```

```
1 2 3 4 0
```

R successfully converts the character vector to a numeric vector without displaying any warning messages.

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

How to Fix in R: longer object length is not a multiple of shorter object length