

# How can I convert a list to a matrix in R? Can you provide some examples?

Authored by  
**stats writer**

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## RECOMMENDED CITATION

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Converting a list to a matrix in R is a process that involves organizing the data in a list into a two-dimensional structure with rows and columns. This can be done using the "matrix" function in R, which takes in the list as input and returns a matrix object. Some examples of this conversion include converting a list of numerical values into a matrix for easier manipulation and analysis, or converting a list of categorical data into a matrix for visual representation. The resulting matrix can be used for a variety of purposes, such as performing statistical calculations or creating charts and graphs.

## Convert List to Matrix in R (With Examples)

You can use the following syntax to convert a list to a matrix in R:

```
#convert list to matrix (by row)
```

```
matrix(unlist(my_list), ncol=3, byrow=TRUE)
```

```
#convert list to matrix (by column)
```

```
matrix(unlist(my_list), ncol=3)
```

The following examples show how to use this syntax in practice.

**Example 1: Convert List to Matrix (By Rows)**

The following code shows how convert a list to a matrix (by rows) in R:

```
#create list
```

```
my_list <- list(1:3, 4:6, 7:9, 10:12, 13:15)
```

```
#view list
```

```
my_list
```

```
]
```

```
1 2 3
```

```
]
```

```
4 5 6
```

```
]
```

```
7 8 9
```

```
]
```

```
10 11 12
```

```
]
```

```
13 14 15
```

```
#convert list to matrix
```

```
matrix(unlist(my_list), ncol=3, byrow=TRUE)
```

```
1 2 3
```

```
4 5 6
```

```
7 8 9
```

```
10 11 12  
13 14 15
```

**The result is a matrix with 5 rows and 3 columns.**

**Example 2: Convert List to Matrix (By Columns)**

**The following code shows how to convert a list to a matrix (by columns) in R:**

```
#create list
```

```
my_list <- list(1:5, 6:10, 11:15)
```

```
#view list
```

```
my_list
```

```
[
```

```
1 2 3 4 5
```

```
[
```

```
6 7 8 9 10
```

```
[
```

```
11 12 13 14 15
```

```
#convert list to matrix
```

```
matrix(unlist(my_list), ncol=3)
```

```
1 6 11
```

```
2 7 12
```

```
3 8 13
```

```
4 9 14
```

```
5 10 15
```

The result is a matrix with 5 rows and 3 columns.

Cautions on Converting a List to Matrix

Note that R will throw an error if you attempt to convert a list to a matrix in which each position of the list doesn't have the same number of elements.

The following example illustrates this point:

```
#create list
```

```
my_list <- list(1:5, 6:10, 11:13)
```

```
#view list
```

```
my_list
```

```
]
```

```
1 2 3 4 5
```

```
]
6 7 8 9 10
```

```
]
11 12 13
```

```
#attempt to convert list to matrix  
matrix(unlist(my_list), ncol=3)
```

**Warning message:**

```
In matrix(unlist(my_list), ncol = 3) :  
data length is not a sub-multiple or multiple of the  
number of rows
```

**The following tutorials explain how to perform other common conversions in R:**