How to turn a vector into a matrix in R?

I have a vector with 49 numeric values. I want to have a 7x7 numeric matrix instead.

Is there some sort of convenient automatic conversion statement I can use, or do I have to do 7 separate column assignments of the correct vector subsets to a new matrix? I hope that there is something like the oposite of `c(myMatrix)`, with the option of giving the number of rows and/or columns I want to have, of course.

r vector matrix

asked Jan 30 '13 at 22:19

rumtscho
583 2 11 26

2 I don't understand the downvotes. I am aware that this is a beginner-level question, but I thought that these are accepted here. Googling the question did not find an answer because practically all results were people asking how to do the opposite (turn a matrix into a vector). Could somebody please explain what is wrong with the question? – rumtscho Jan 30 '13 at 23:14

Probably because when *I* Google "create matrix in R" nearly every result points you to the function `matrix`. (Gavin's solution is less discoverable, though.) – joran Jan 30 '13 at 23:22

1 @joran I wasn't googling "create matrix", I was googling "convert vector to matrix" and "turn vector to matrix". One has to know that creating a new matrix can take a vector as an argument in order to come up with the idea to search for "create", which makes it something of a chicken-and-egg problem :(But thank you for explaining. – rumtscho Jan 30 '13 at 23:26

2 The very first result when I Google "convert a vector to matrix in R" is this which tells you to use `matrix`. – joran Jan 30 '13 at 23:29

2 Answers

Just use `matrix`:

```
matrix(vec,nrow = 7,ncol = 7)
```

One advantage of using `matrix` rather than simply altering the dimension attribute as Gavin points out, is that you can specify whether the matrix is filled by row or column using the `byrow` argument in `matrix`.

edited Jan 30 '13 at 22:35

answered Jan 30 '13 at 22:20

joran
89.5k 10 192 242

Marking your answer as accepted because of the "byrow" information (of course, both answers work). – rumtscho Jan 30 '13 at 23:15

A matrix is really just a vector with a `dim` attribute (for the dimensions). So you can add dimensions to `vec` using the `dim()` function and `vec` will then be a matrix:

```
vec <- 1:49
dim(vec) <- c(7, 7)  ## (rows, cols)
vec
```

```
> vec <- 1:49
> dim(vec) <- c(7, 7)  ## (rows, cols)
> vec
     [,1] [,2] [,3] [,4] [,5] [,6] [,7]
[1,]    1    8   15   22   29   36   43
[2,]    2    9   16   23   30   37   44
[3,]    3   10   17   24   31   38   45
[4,]    4   11   18   25   32   39   46
[5,]    5   12   19   26   33   40   47
[6,]    6   13   20   27   34   41   48
[7,]    7   14   21   28   35   42   49
```

answered Jan 30 '13 at 22:24

Gavin Simpson

94.8k 9 172 278

+1 for most efficient. – John Zwinck Aug 12 '14 at 9:47