

How do I convert a matrix to a data frame in R? Can you provide examples?

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To convert a matrix to a data frame in R, you can use the "as.data.frame()" function. This function takes the matrix as its argument and returns a data frame with the same values as the original matrix. Examples of this conversion can be seen below:

Example 1:

matrix

Convert Matrix to Data Frame in R (With Examples)

You can use one of the following two methods to convert a matrix to a data frame in R:

Method 1: Convert Matrix to Data Frame Using Base R

```
#convert matrix to data frame
```

```
df <- as.data.frame(mat)
```

```
#specify column names
```

```
colnames(df) <- c('first', 'second', 'third', ...)
```

Method 2: Convert Matrix to Data Frame Using Tibble Package

```
library(tibble)
```

```
#convert matrix to data frame and specify column names
```

```
df <- mat %>%
```

```
as_tibble() %>%  
setNames(c('first', 'second', 'third', ...))
```

The following examples show how to use each method in practice with the following matrix in R:

```
#create matrix  
mat <- matrix(1:21, nrow=7)
```

```
#view matrix  
mat
```

```
1 8 15
```

```
2 9 16
```

```
3 10 17
```

```
4 11 18
```

```
5 12 19
```

```
6 13 20
```

```
7 14 21
```

Example 1: Convert Matrix to Data Frame Using Base R

The following code shows how to convert a matrix to a data frame using base R:

```
#convert matrix to data frame
```

```
df <- as.data.frame(mat)
```

```
#specify columns of data frame
```

```
colnames(df) <- c('first', 'second', 'third')
```

```
#view structure of data frame
```

```
str(df)
```

```
'data.frame': 7 obs. of 3 variables:
```

```
$ first : int 1 2 3 4 5 6 7
```

```
$ second: int 8 9 10 11 12 13 14
```

```
$ third : int 15 16 17 18 19 20 21
```

From the output we can see that the matrix has been converted to a data frame with seven observations (rows) and 3 variables (columns).

Example 2: Convert Matrix to Data Frame Using Tibble Package

The following code shows how to convert a matrix to a data frame in R:

```
library(tibble)
```

```
#convert matrix to tibble
```

```
df <- mat %>%
```

```
as_tibble() %>%  
setNames(c('first', 'second', 'third'))
```

```
#view tibble
```

```
df
```

```
# A tibble: 7 x 3
```

```
first second third
```

```
1 1 8 15
```

```
2 2 9 16
```

```
3 3 10 17
```

```
4 4 11 18
```

```
5 5 12 19
```

```
6 6 13 20
```

```
7 7 14 21
```

From the output we can see that the matrix has been converted to a tibble with 7 rows and 3 columns.

Note: There are many benefits to using tibbles instead of data frames, especially with extremely large datasets. Read about some of the benefits .

Additional Resources