

How do I transpose a data frame in R? Can you provide examples?

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In R, transposing a data frame involves switching the rows and columns of a dataset. This can be done using the "t()" function or the "transpose()" function. Examples of transposing a data frame can be found in various R packages or by using built-in datasets.

Transpose a Data Frame in R (With Examples)

There are two common methods you can use to transpose a data frame in R:

Method 1: Use Base R

```
#transpose data frame  
t(df)
```

Method 2: Use data.table

```
library(data.table)  
  
#transpose data frame  
df_t <- transpose(df)  
  
#redefine row and column names  
rownames(df_t) <- colnames(df)  
colnames(df_t) <- rownames(df)
```

The following examples show how to use each of these methods in practice.

Method 1: Transpose Data Frame Using Base R

Suppose we have the following data frame:

```
#create data frame
```

```
df <- data.frame(A = c(1, 2, 3, 4, 5),
```

```
B = c(6, 7, 8, 9, 10),
```

```
C = c(11, 12, 13, 14, 15))
```

```
#define row names
```

```
row.names(df) <- c('One', 'Two', 'Three', 'Four', 'Five')
```

```
#view data frame
```

```
df
```

```
A B C
```

```
One 1 6 11
```

```
Two 2 7 12
```

```
Three 3 8 13
```

```
Four 4 9 14
```

```
Five 5 10 15
```

We can use the `t()` function from base R to quickly transpose the data frame:

```
#transpose data frame
```

t(df)

One Two Three Four Five

A 1 2 3 4 5

B 6 7 8 9 10

C 11 12 13 14 15

The rows and the columns are now switched.

Method 2: Transpose Data Frame Using data.table

Once again suppose we have the following data frame:

#create data frame

df <- data.frame(A = c(1, 2, 3, 4, 5),

B = c(6, 7, 8, 9, 10),

C = c(11, 12, 13, 14, 15))

#define row names

row.names(df) <- c('One', 'Two', 'Three', 'Four', 'Five')

#view data frame

df

A B C

One 1 6 11

Two 2 7 12

Three 3 8 13

Four 4 9 14

Five 5 10 15

We can use the transpose() function from the data.table package to quickly transpose the data frame:

```
library(data.table)
```

```
#transpose data frame
```

```
df_t <- transpose(df)
```

```
#redefine row and column names
```

```
rownames(df_t) <- colnames(df)
```

```
colnames(df_t) <- rownames(df)
```

```
#display transposed data frame
```

```
df_t
```

One Two Three Four Five

A 1 2 3 4 5

B 6 7 8 9 10

C 11 12 13 14 15

Note: The `data.table` method will be much faster than base R if you are working with an extremely large data frame.

The following tutorials explain how to perform other common operations on data frames in R:

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