How can a table be converted to a matrix in R, with an example?

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A table in R can be converted to a matrix by using the "as.matrix" function. This function takes in the table as its argument and returns a matrix with the same values and dimensions as the table. For example, if we have a table named "grades" with 3 columns and 5 rows, we can convert it to a matrix by using the command "as.matrix(grades)". This will result in a 3x5 matrix with the same values as the original table. Converting a table to a matrix can be useful for performing various operations and calculations in R.

Convert a Table to a Matrix in R (With Example)

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

my_matrix <- matrix(my_table, ncol=ncol(my_table), dimnames=dimnames(my_table))

The following example shows how to use this syntax in practice.

Example: Convert Table to Matrix in R

First, let's create the following data frame in R that shows the team and position of various basketball players:

#create data frame
df <- data.frame(team=c('A', 'A', 'A', 'A', 'B', 'B', 'B', 'B'), position=c('G', 'G', 'F', 'C', 'G', 'F', 'C', 'C'))

```
#view data frame
df

team position
1 A G
2 A G
3 A F
4 A C
5 B G
6 B F
7 B C
8 B C
```

Next, let's create a table that displays the frequency of each combination of team and position:

```
#create frequency table of values for team and position
my_table <- table(df$team, df$position)

#view table
my_table

C F G
A 1 1 2
B 2 1 1
```

We can use the class() function to confirm that the object called my_table is indeed a table:

```
#display class of my_table
class(my_table)
```

```
"table"
```

Next, we can use the following syntax to convert the table to a matrix:

```
#convert table to matrix
my_matrix <- matrix(my_table, ncol=ncol(my_table), dimnames=dimnames(my_table))

#view matrix
my_matrix
```

```
  C F G
A 1 1 2
B 2 1 1
```

And we can use the class() function to confirm that the object called my_matrix is indeed a matrix:

#display class of my_matrix
class(my_matrix)

"matrix" "array"

Note #1: The ncol argument ensures that the number of columns in the matrix match the number of columns in the table.

Note #2: The dimnames argument ensures that the row names and column names match the ones from the table.