

How can I create a frequency table of multiple variables in R?

Authored by
stats writer

April 28, 2024

RECOMMENDED CITATION

stats writer (2024). *How can I create a frequency table of multiple variables in R?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=140518>

Creating a frequency table of multiple variables in R involves using the "table" function to tabulate the occurrences of each variable. This function allows for the simultaneous calculation of frequencies for multiple variables, making it a useful tool for data analysis. To create a frequency table, the user must first input the variables of interest into the table function, and then the output will display the number of times each value appears for each variable. This process is useful for summarizing and organizing data, allowing for easier interpretation and identification of patterns within the variables. Additionally, R offers various options for customizing the frequency table, such as adding labels and sorting the values in ascending or descending order.

Create a Frequency Table of Multiple Variables in R

To calculate a frequency table for multiple variables in a data frame in R you can use the `apply()` function, which uses the following syntax:

`apply(X, MARGIN FUN)`

where:

X: An array, matrix, or data frame
MARGIN: Apply a function across rows (1) or columns (2)
FUN: The function to be applied

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

Example 1: Frequency Table for All Variables in R

The following code shows how to calculate a frequency table for every variable in a data frame:

```
#create data frame
```

```
df <- data.frame(var1=c(1, 1, 2, 2, 2, 2, 3),  
var2=c('A', 'A', 'A', 'A', 'B', 'B', 'B'),  
var3=c(6, 7, 7, 7, 8, 8, 9))
```

```
#view first few rows of data frame
```

```
head(df)
```

```
var1 var2 var3
```

```
1 1 A 6
```

```
2 1 A 7
```

```
3 2 A 7
```

```
4 2 A 7
```

```
5 2 B 8
```

```
6 2 B 8
```

```
#calculate frequency table for every variable in data  
frame
```

```
apply((df), 2, table)
```

```
$var1
```

```
1 2 3
```

```
2 4 1
```

```
$var2
```

```
A B
```

```
4 3
```

```
$var3
```

```
6 7 8 9
```

```
1 3 2 1
```

The result is three frequency tables - one for each variable in the data frame.

Here's how to interpret the first frequency table:

The value 1 appears 2 times in the "var1" column
The value 2 appears 4 times in the "var2" column
The value 3 appears 1 time in the "var3" column

The other frequency tables can be interpreted in a similar manner.

Example 2: Frequency Table for Specific Variables in R

The following code shows how to calculate a frequency table for specific variables in a data frame

```
#create data frame
```

```
df <- data.frame(var1=c(1, 1, 2, 2, 2, 2, 3),
```

```
var2=c('A', 'A', 'A', 'A', 'B', 'B', 'B'),  
var3=c(6, 7, 7, 7, 8, 8, 9))
```

```
#calculate frequency table for var1 and var3 columns  
apply((df), 2, table)
```

```
$var1
```

```
1 2 3
```

```
2 4 1
```

```
$var3
```

```
6 7 8 9
```

```
1 3 2 1
```

Example 3: Frequency Table for All But One Variable in R

Suppose we have an index column in a data frame and we would like to calculate a frequency table for every variable in the data frame *except* the index column.

```
#create data frame
```

```
df <- data.frame(index=c(1, 2, 3, 4, 5, 6, 7),
```

```
var2=c('A', 'A', 'A', 'A', 'B', 'B', 'B'),
```

```
var3=c(6, 7, 7, 7, 8, 8, 9))
```

#calculate frequency table for all columns except index column

apply((df), 2, table)

\$var2

A B

4 3

\$var3

6 7 8 9

1 3 2 1

ARABPSYCHOLOGY.COM