

What are some examples of tables that can be printed in R?

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Tables are an important tool in data analysis and can be easily generated using the statistical programming language R. There are various types of tables that can be printed in R, depending on the type of data and the purpose of analysis. Some common examples include contingency tables, frequency tables, and summary tables. Contingency tables are used to display the relationship between two categorical variables, while frequency tables show the counts or percentages of different categories within a single variable. Summary tables, on the other hand, provide an overview of the data by displaying descriptive statistics such as mean, median, and standard deviation. Other types of tables that can be printed in R include cross-tabulation tables, correlation tables, and regression tables. These tables can be customized and formatted to suit the specific needs of the analysis, making R a versatile and powerful tool for data exploration and presentation.

Print Tables in R (3 Examples)

Often you may want to print a table to the console in R to summarize the values in some dataset.

The following examples show how to print tables in R by using the `table()` and `as.table()` functions.

Example 1: Print One-Way Table from Data

Suppose we have the following data frame in R:

```
#create data frame
```

```
df <- data.frame(team=c('A', 'A', 'A', 'B', 'B', 'B', 'C', 'C',  
'C'),  
position=c('Guard', 'Guard', 'Forward', 'Guard',  
'Forward',  
'Forward', 'Guard', 'Guard', 'Forward'))
```

```
points=c(14, 12, 15, 20, 22, 36, 10, 16, 19))
```

```
#view data frame
```

```
df
```

```
team position points
```

```
1 A Guard 14
```

```
2 A Guard 12
```

```
3 A Forward 15
```

```
4 B Guard 20
```

```
5 B Forward 22
```

```
6 B Forward 36
```

```
7 C Guard 10
```

```
8 C Guard 16
```

```
9 C Forward 19
```

We can use the `table()` function to summarize the count of each unique value in the position column:

```
#create table for 'position' variable
```

```
table1 <- table(df$position)
```

```
#view table
```

```
table1
```

Forward Guard

4 5

From the table we can see that 'Forward' appears 4 times in the position column and 'Guard' appears 5 times.

This is referred to as a one-way table because it summarizes one variable.

Example 2: Print Two-Way Table from Data

Once again suppose we have the following data frame in R:

```
#create data frame
df <- data.frame(team=c('A', 'A', 'A', 'B', 'B', 'B', 'C', 'C',
'C'),
position=c('Guard', 'Guard', 'Forward', 'Guard',
'Forward',
'Forward', 'Guard', 'Guard', 'Forward'),
points=c(14, 12, 15, 20, 22, 36, 10, 16, 19))

#view data frame
df
```

team position points

1 A Guard 14
2 A Guard 12
3 A Forward 15
4 B Guard 20
5 B Forward 22
6 B Forward 36
7 C Guard 10
8 C Guard 16
9 C Forward 19

We can use the `table()` function to summarize the count of each unique value in the `team` and `position` columns:

#create two-way table for 'team' and 'position' variables

```
table2 <- table(df$team, df$position)
```

#view table

```
table2
```

Forward Guard

A 1 2

B 2 1

C 1 2

From the table we can see:

There is 1 Forward on team A. There are 2 Guards on team A. There are 2 Forwards on team B.

And so on.

Example 3: Print Table From Scratch

Suppose we already know the values that we'd like to fill in a table.

For example, suppose we want to create the following table in R that shows the results of a survey that asked 100 people which sport they liked best:

	Baseball	Basketball	Football	Total
Male	13	15	20	48
Female	23	16	13	52
Total	36	31	33	100

We can use the `as.table()` function in R to quickly create this table:

#create matrix

```
data <- matrix(c(13, 23, 15, 16, 20, 13), ncol=3)
```

```
#specify row and column names of matrix  
rownames(data) <- c('Male', 'Female')  
colnames(data) <- c('Baseball', 'Basketball',  
'Football')#convert matrix to table  
data <- as.table(data)
```

```
#display table
```

```
data
```

```
Baseball Basketball Football
```

```
Male 13 15 20
```

```
Female 23 16 13
```

The values in the table match the values from the table we saw earlier.

Additional Resources

The following tutorials explain how to perform other common tasks in R: