

# How can I use the `tabulate()` function in R to count integer occurrences?

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## RECOMMENDED CITATION

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The `tabulate()` function in R is a useful tool for counting the occurrences of integers in a given dataset. By simply passing in a vector of integers, the function will return a table displaying the frequency of each integer. This allows for easy analysis and manipulation of data involving integer values. Additionally, the function allows for customization of the table's format, making it a versatile tool for data analysis. Whether used for statistical purposes or data organization, the `tabulate()` function is an efficient and effective way to count integer occurrences in R.

## Use `tabulate()` Function in R to Count Integer Occurrences

The `tabulate()` function in R can be used to count the occurrences of integer values in a vector.

This function uses the following basic syntax:

```
tabulate(bin, nbins=max(1, bin, na.rm=TRUE))
```

where:

**bin:** Name of the vector  
**nbins:** The number of bins to be used

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

### Example 1: Count Integer Occurrences in Vector

The following code shows how to use the `tabulate()` function to count the occurrences of integers in a given

**vector:**

```
#create vector of data values
```

```
data <- c(1, 1, 1, 2, 3, 3, 3, 4, 7, 8)
```

```
#count occurrences of integers in vector
```

```
tabulate(data)
```

```
3 1 3 1 0 0 1 1
```

**By default, the tabulate() function uses 1 as the minimum integer value and displays the occurrences of each successive integer in the vector.**

**For example:**

**The integer 1 occurs 3 times in the vector. The integer 2 occurs 1 time in the vector. The integer 3 occurs 3 times in the vector. The integer 4 occurs 1 time in the vector. The integer 5 occurs 0 times in the vector.**

**And so on.**

**Note that if you use the nbins argument, you simply limit the number of integers that the tabulate() function counts:**

```
#count occurrences of integers but limit output to 5  
tabulate(data, nbins=5)
```

```
3 1 3 1 0
```

**Example 2: Count Integer Occurrences in Vector with Decimals**

**If we use the tabulate() function with a vector that contains decimals, the function will simply tell us how often each integer value occurs:**

```
#create vector of data values with decimals
```

```
data <- c(1.2, 1.4, 1.7, 2, 3.1, 3.5)
```

```
#count occurrences of integers
```

```
tabulate(data)
```

```
3 1 2
```

**From the output we can see:**

**The integer value 1 occurred 3 times. The integer value 2 occurred 1 time. The integer value 3 occurred 2 times.**

**Example 3: Count Integer Occurrences in Vector with Negative Values**

**If we use the tabulate() function with a vector that**

**contains negative values or zeros, the function will simply ignore the negative values and the zeros:**

```
#create vector with some negative values and zeros  
data <- c(-5, -5, -2, 0, 1, 1, 2, 4)
```

```
#count occurrences of integers  
tabulate(data)
```

```
2 1 0 1
```

**From the output we can see:**

**The integer value 1 occurred 2 times. The integer value 2 occurred 1 time. The integer value 3 occurred times. The integer value 4 occurred 1 time.**

**An Alternative to Tabulate: The table() Function**

**If you'd like to count the occurrence of every value in a vector, it's better to use the table() function:**

```
#create vector with a variety of numbers  
data <- c(-5, -5, -2, 0, 1, 1, 2.5, 4)
```

```
#count occurrences of each unique value in vector
```

## **table(data)**

### **data**

**-5 -2 0 1 2.5 4**

**2 1 1 2 1 1**

**From the output we can see:**

**The value -5 occurred 2 times. The value -2 occurred 1 time. The value 0 occurred 1 time. The value 1 occurred 2 times. The value 2.5 occurred 1 time. The value 4 occurred 1 time.**

**Notice that the table() function counts the occurrence of every value, not just the integer values.**

**Additional Resources**