

How can a horizontal legend be created in base R using two different methods?

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A horizontal legend in base R is a graphical representation of the labels and colors used in a plot, displayed in a horizontal orientation. There are two different methods to create a horizontal legend in base R.

Method 1: Using the "legend" function

- The "legend" function in base R allows for the creation of a legend in a plot.
- To create a horizontal legend, the "legend" function should be called with the "xjust" and "yjust" arguments set to 0 (left-justified) and 1 (top-justified) respectively.
- The "horiz" argument should also be set to TRUE to display the legend in a horizontal orientation.

Method 2: Using the "plot" function

- The "plot" function in base R can also be used to create a horizontal legend.
- After plotting the data, the "legend" function can be called with the "x" and "y" arguments set to the desired position of the legend.
- Again, the "horiz" argument should be set to TRUE to display the legend horizontally.

Both methods result in a horizontal legend being displayed in the plot. The choice of method may depend on personal preference or the complexity of the plot.

Create a Horizontal Legend in Base R (2 Methods)

You can use the following methods to create a horizontal legend in a plot in base R:

Method 1: Use the horiz argument

```
legend('bottom', fill=fill_cols, legend=c('A', 'B', 'C', 'D',  
'E', 'F'),  
horiz=TRUE, inset=c(0, -.1), xpd=TRUE)
```

This particular example creates a horizontal legend below the plot in which each item in the legend is on the

same row.

Method 2: Use the ncol argument

```
legend('bottom', fill=fill_cols, legend=c('A', 'B', 'C', 'D',  
'E', 'F'),  
ncol=3, inset=c(0, -.15), xpd=TRUE)
```

This particular example creates a horizontal legend below the plot with three columns.

The `inset(x, y)` argument controls the location of the legend. By using negative values for the y-value, we can push the legend down outside of the plot.

The `xpd=TRUE` argument allows us to place the legend outside of the plot and still be seen in the plotting area.

The following examples show how to use each method in practice.

Example 1: Use `horiz` Argument to Create a Horizontal Legend in Base R

The following code shows how to use the `horiz=TRUE` argument within the `legend()` function to create a

horizontal legend on the bottom of a plot in base R:

```
#create vector of values
```

```
data <- c(4, 10, 7, 5, 4, 3)
```

```
#specify fill colors to use
```

```
fill_cols <- c('red', 'pink', 'blue', 'green', 'purple', 'brown')
```

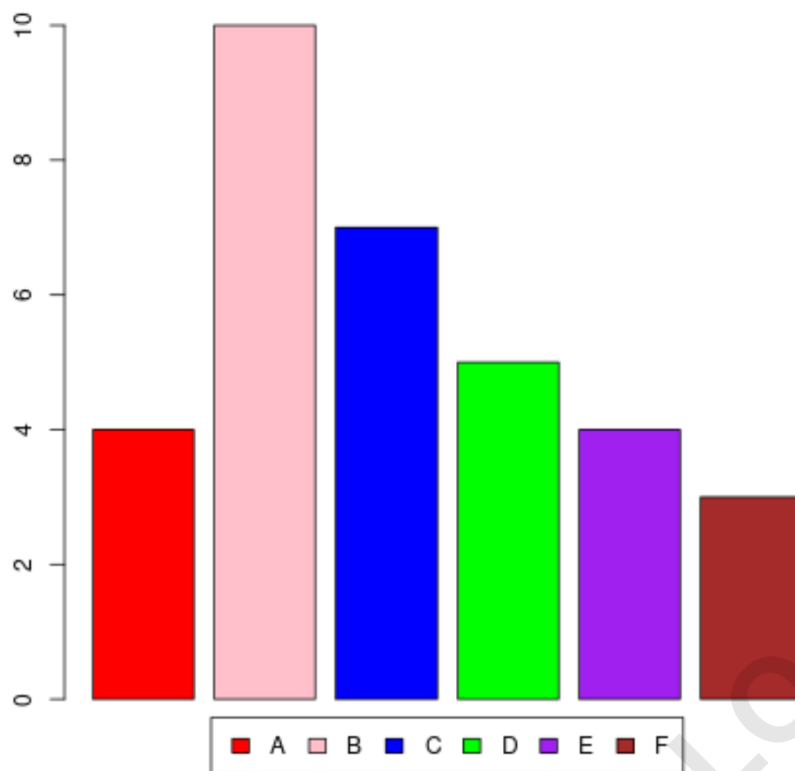
```
#create bar plot to visualize values in vector
```

```
barplot(data, col=fill_cols)
```

```
#add legend to bottom of plot
```

```
legend('bottom', fill=fill_cols, legend=c('A', 'B', 'C', 'D',  
'E', 'F'),
```

```
horiz=TRUE, inset=c(0, -.1), xpd=TRUE)
```



Notice that a horizontal legend has been created and is placed at the bottom of the plot.

Feel free to play around with the values in the inset argument to adjust the location of the legend as well.

For example, we can make the y-value for the inset argument even more negative to push the legend even lower down:

```
#create vector of values  
data <- c(4, 10, 7, 5, 4, 3)
```

```
#specify fill colors to use
```

```
fill_cols <- c('red', 'pink', 'blue', 'green', 'purple', 'brown')
```

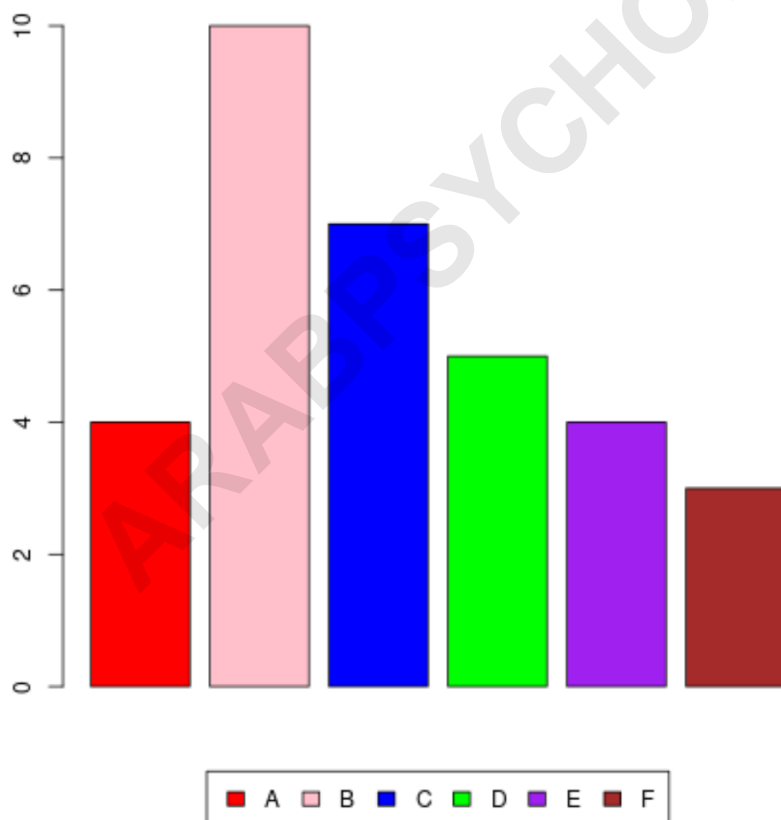
```
#create bar plot to visualize values in vector
```

```
barplot(data, col=fill_cols)
```

```
#add legend to bottom of plot
```

```
legend('bottom', fill=fill_cols, legend=c('A', 'B', 'C', 'D',  
'E', 'F'),
```

```
horiz=TRUE, inset=c(0, -.2), xpd=TRUE)
```



Notice that the horizontal legend has been pushed even

lower down below the plot.

Example 2: Use ncol Argument to Create a Horizontal Legend in Base R

The following code shows how to use the `ncol` argument within the `legend()` function to create a horizontal legend with three columns on the bottom of a plot in base R:

```
#create vector of values
```

```
data <- c(4, 10, 7, 5, 4, 3)
```

```
#specify fill colors to use
```

```
fill_cols <- c('red', 'pink', 'blue', 'green', 'purple', 'brown')
```

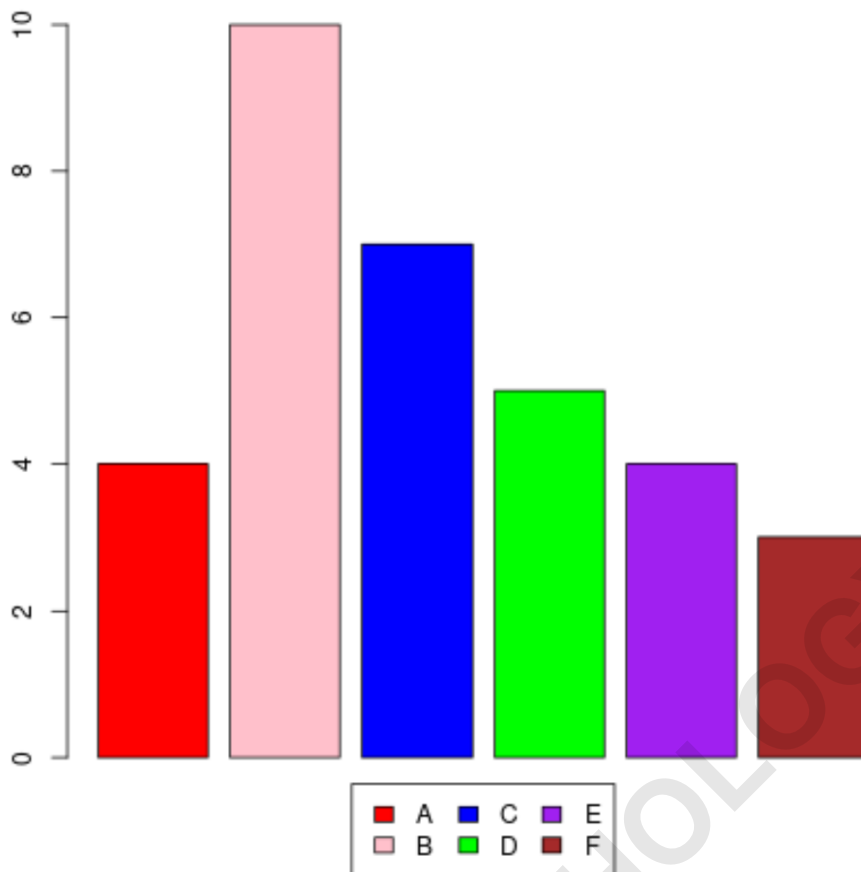
```
#create bar plot to visualize values in vector
```

```
barplot(data, col=fill_cols)
```

```
#add legend to bottom of plot
```

```
legend('bottom', fill=fill_cols, legend=c('A', 'B', 'C', 'D', 'E', 'F'),
```

```
ncol=3, inset=c(0, -.15), xpd=TRUE)
```



Notice that a horizontal legend with three columns has been created and is placed at the bottom of the plot.

Feel free to change the value for the ncol argument to create a legend with a different number of columns.