How can I create a barplot in ggplot2 with multiple variables?

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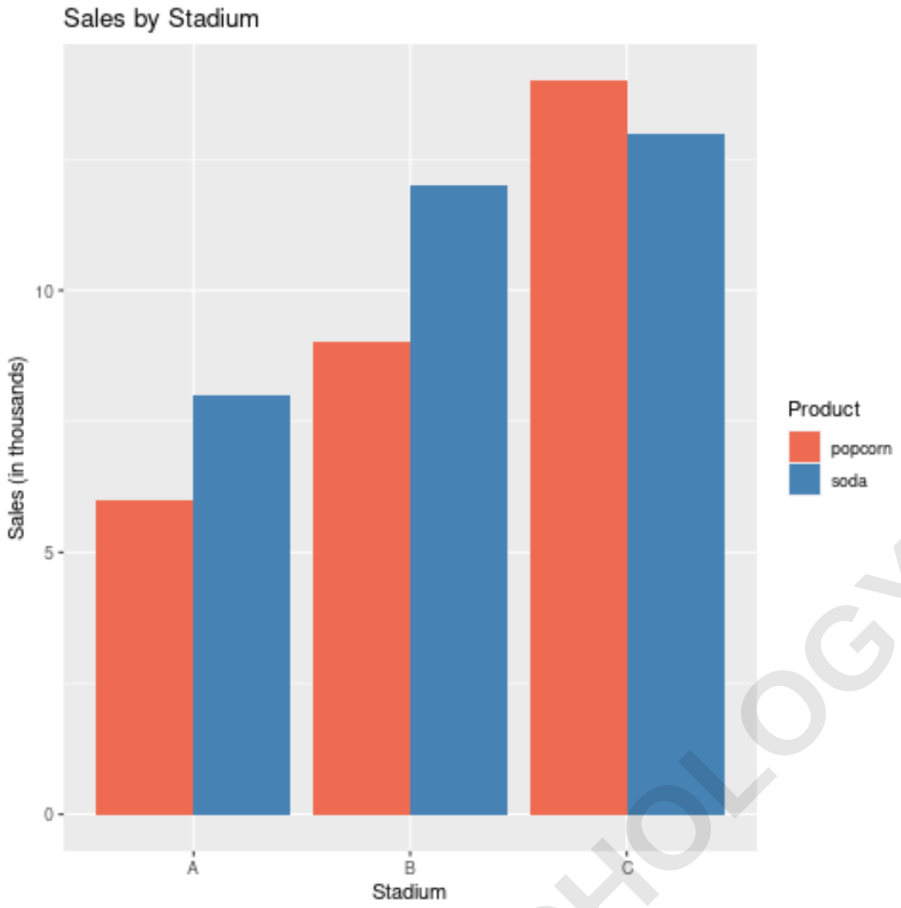
To create a barplot in ggplot2 with multiple variables, one can use the "geom_bar" function to plot the variables on the x and y axis. The "aes" function can be used to specify which variables should be plotted on each axis. Additionally, the "position" argument can be used to adjust the placement of the bars on the plot. By following these steps, a visually appealing and informative barplot can be easily created in ggplot2.

Create a Barplot in ggplot2 with Multiple Variables

A barplot is useful for visualizing the quantities of different categorical variables.

Sometimes we want to create a barplot that visualizes the quantities of categorical variables that are split into subgroups.

For example, we may want to visualize the total popcorn and soda sales for three different sports stadiums. This tutorial provides a step-by-step example of how to create the following barplot with multiple variables:



Step 1: Create the Data

First, let's create a data frame to hold our data:

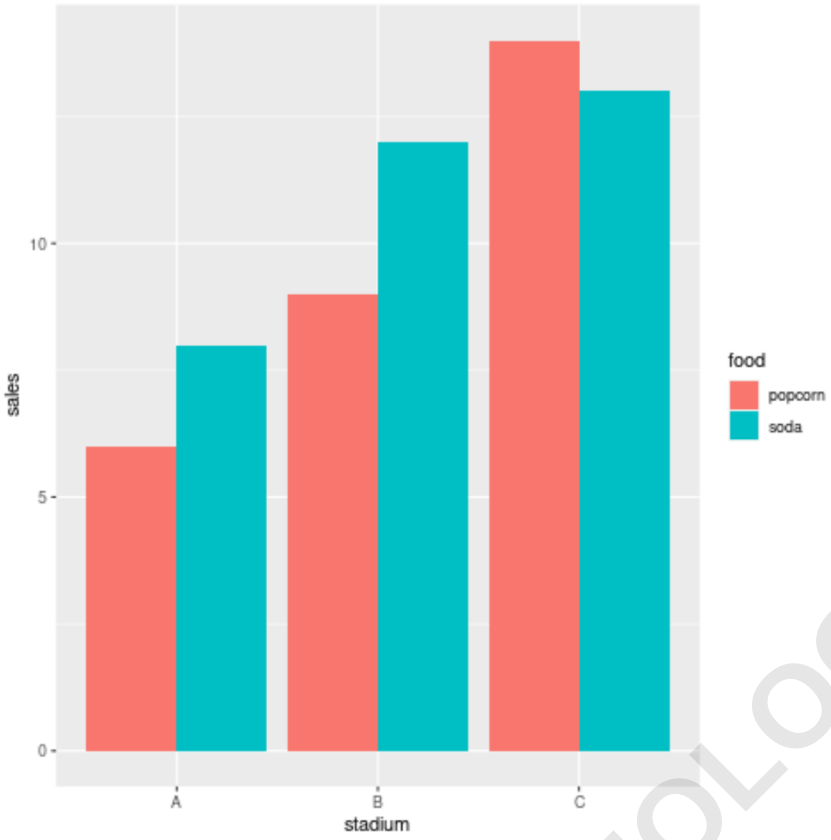
```
#create data
df <- data.frame(stadium=rep(c('A', 'B', 'C'), each=4),
food=rep(c('popcorn', 'soda'), times=6),
sales=c(4, 5, 6, 8, 9, 12, 7, 9, 9, 11, 14, 13))

#view data
df
```

stadium food sales
1 A popcorn 4
2 A soda 5
3 A popcorn 6
4 A soda 8
5 B popcorn 9
6 B soda 12
7 B popcorn 7
8 B soda 9
9 C popcorn 9
10 C soda 11
11 C popcorn 14
12 C soda 13

Step 2: Create the Barplot with Multiple Variables

The following code shows how to create the barplot with multiple variables using the geom_bar() function to create the bars and the 'dodge' argument to specify that the bars within each group should "dodge" each other and be displayed side by side.

```
ggplot(df, aes(fill=food, y=sales, x=stadium)) +
geom_bar(position='dodge', stat='identity')
```



The various stadiums - A, B, and C - are displayed along the x-axis and the corresponding popcorn and soda sales (in thousands) are displayed along the y-axis.

Step 3: Modify the Aesthetics of the Barplot

The following code shows how to add a title, modify the axes labels, and customize the colors on the barplot:

```
ggplot(df, aes(fill=food, y=sales, x=stadium)) +
geom_bar(position='dodge', stat='identity') +
ggtitle('Sales by Stadium') +
```

```
xlab('Stadium') +
ylab('Sales (in thousands)') +
scale_fill_manual('Product',
values=c('coral2','steelblue'))
```