

How can I add an average line to a plot in ggplot2?

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Adding an average line to a plot in ggplot2 allows you to visually represent the overall trend or central tendency of your data. This can be done by calculating the average value of your data and then using the "geom_hline" function in ggplot2 to add a straight line at that value to your plot. This can provide valuable insights and help in understanding the overall distribution and pattern of your data.

Add an Average Line to Plot in ggplot2

You can use the following basic syntax to add a line that represents the average value in a plot in ggplot2:

```
ggplot(df, aes(x=x, y=y)) +  
geom_point() +  
geom_hline(yintercept = mean(df$y, na.rm=TRUE))
```

The following example shows how to use this syntax in practice.

Example: Add Average Line to Plot in ggplot2

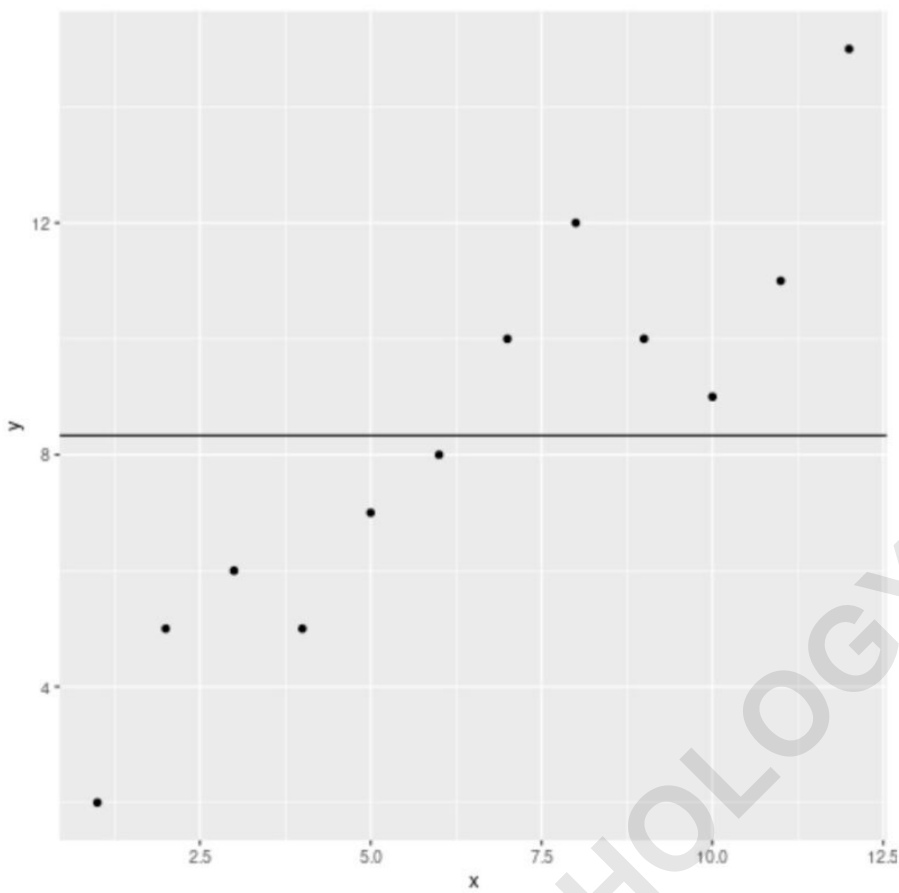
Suppose we have the following data frame in R:

```
#create data frame  
df <- data.frame(x=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12),  
y=c(2, 5, 6, 5, 7, 8, 10, 12, 10, 9, 11, 15))  
  
#view head of data frame  
head(df)
```

```
x y  
1 1 2  
2 2 5  
3 3 6  
4 4 5  
5 5 7  
6 6 8
```

We can use the following code to create a scatter plot of x vs. y and add a horizontal line that represents the average y -value:

```
library(ggplot2)  
  
#create scatter plot with average line to represent  
average y-value  
ggplot(df, aes(x=x, y=y)) +  
geom_point() +  
geom_hline(yintercept = mean(df$y, na.rm=TRUE))
```



We can see that an average line has been added to the plot just above the y-value of 8.

If we calculate the average y-value, we'll find that it's 8.333:

```
#calculate average y-value  
mean(df$y, na.rm=TRUE)
```

8.333333

Note that we can also use the `color`, `lty`, and `lwd` arguments to specify the color, line type, and line width of the average line, respectively:

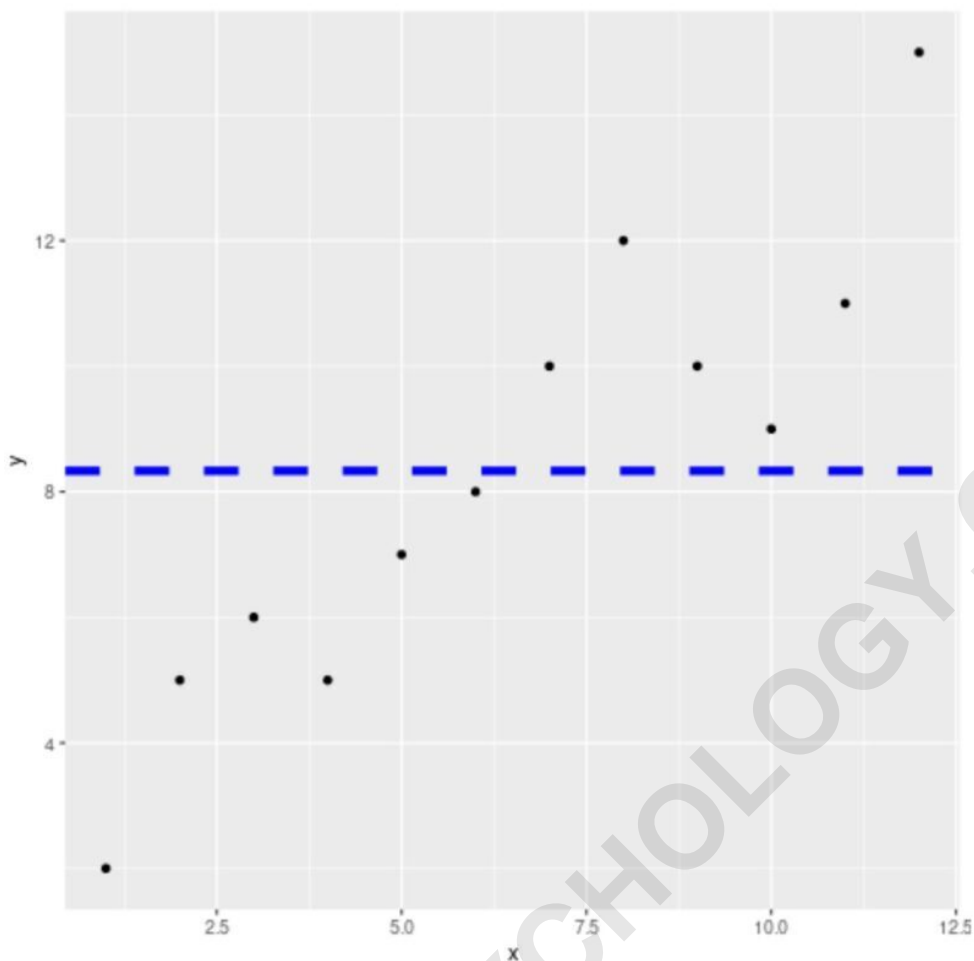
```
library(ggplot2)
```

```
#create scatter plot with custom average line
```

```
ggplot(df, aes(x=x, y=y)) +
```

```
geom_point() +
```

```
geom_hline(yintercept = mean(df$y, na.rm=TRUE),  
color='blue', lty='dashed', lwd=2)
```



The average line is now blue, dashed, and has a line width of 2.

You can find the complete online documentation for the `geom_hline()` function .

Additional Resources

The following tutorials explain how to perform other common tasks in ggplot2: