

How can I create smooth lines in ggplot2?

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Creating smooth lines in ggplot2 involves utilizing the "geom_smooth" function, which allows for the creation of a smooth curve to represent the relationship between two variables in a plot. This function fits a statistical model to the data and produces a smoothed line, providing a clearer understanding of the overall trend in the data. The smoothness of the line can be adjusted by specifying the "method" argument, which allows for the use of different smoothing techniques such as "loess" or "gam". Additionally, the "se" argument can be used to add confidence intervals to the curve, providing a measure of uncertainty in the smooth line. By incorporating these features, ggplot2 allows for the creation of visually appealing and informative plots with smooth lines.

Create Smooth Lines in ggplot2 (With Examples)

You can plot a smooth line in ggplot2 by using the **geom_smooth()** function, which uses the following basic syntax:

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

This tutorial shows several examples of how to use this function in practice.

Example: Create Smooth Lines in ggplot2

Suppose we have the following data frame:

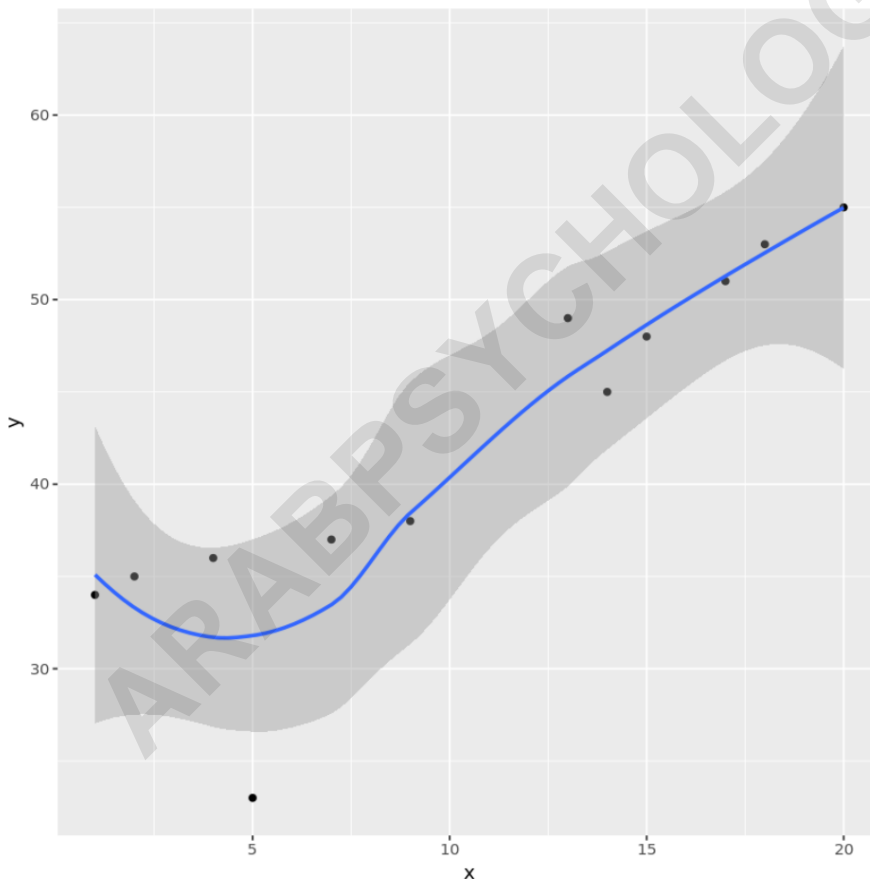
```
df <- data.frame(x=c(1, 2, 4, 5, 7, 9, 13, 14, 15, 17, 18, 20),  
y=c(34, 35, 36, 23, 37, 38, 49, 45, 48, 51, 53, 55))
```

We can use the following code to create a **scatterplot** of

the values in the data frame and add a smooth line to capture the trend:

```
library(ggplot2)
```

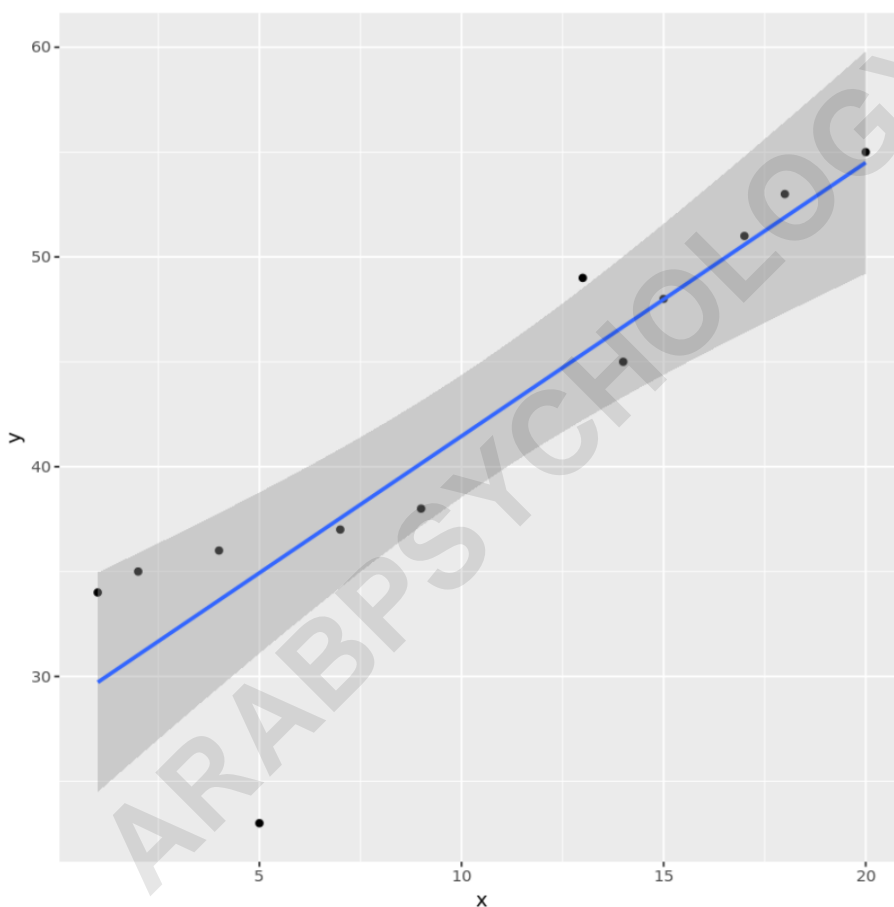
```
ggplot(df, aes(x=x, y=y)) +  
geom_point() +  
geom_smooth()
```



By default, the `geom_smooth()` function uses a loess method to fit the line to the dataset, but we can specify

a different method such as `lm` to fit a straight line to the dataset instead:

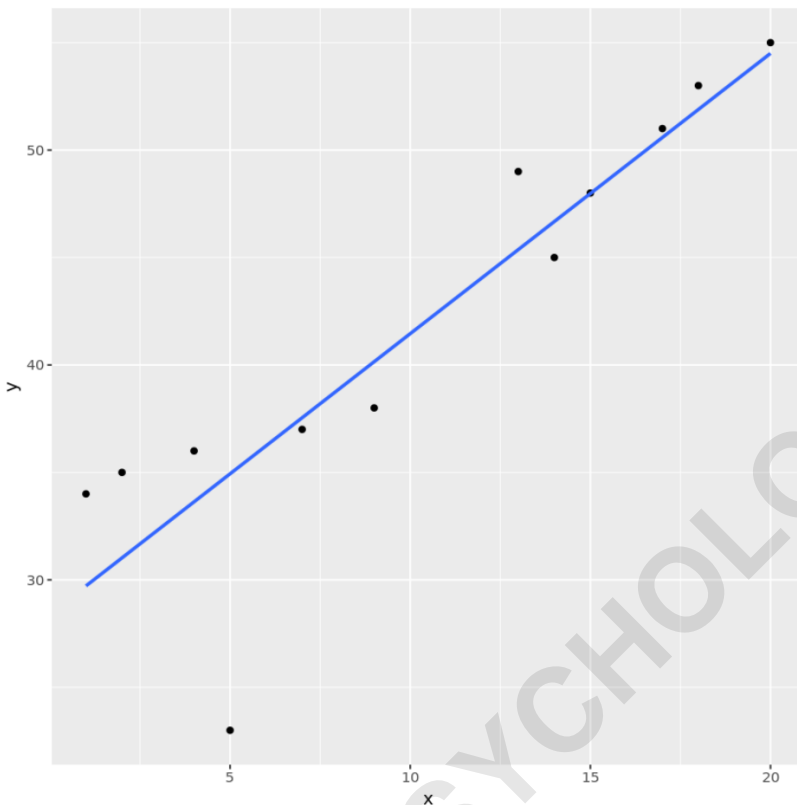
```
ggplot(df, aes(x=x, y=y)) +  
geom_point() +  
geom_smooth(method='lm')
```



We can also hide the standard error bands by specifying `se=FALSE`:

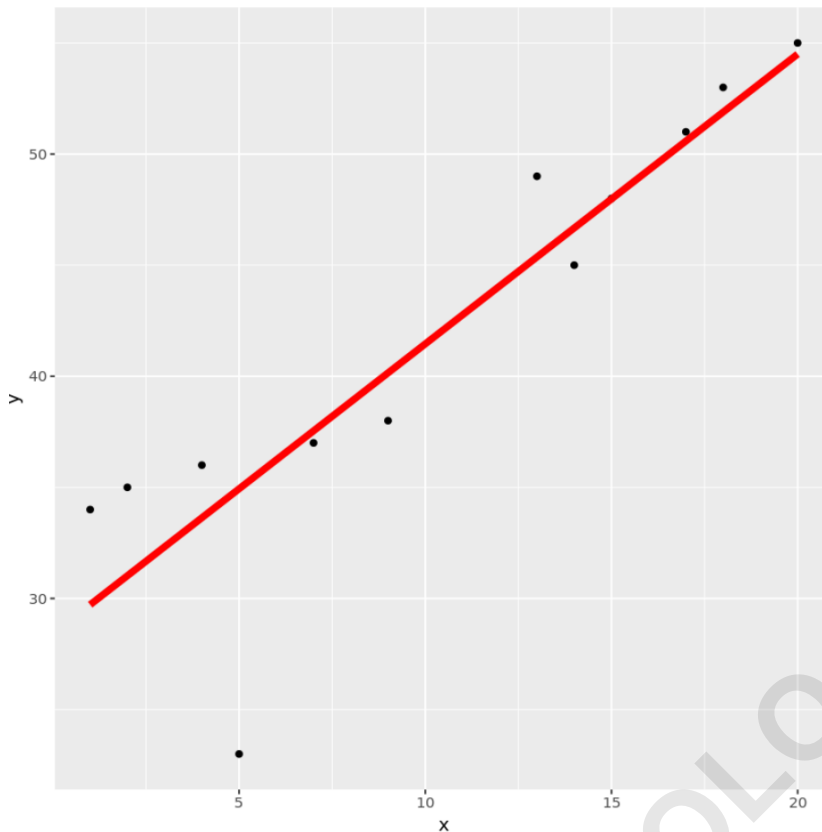
```
ggplot(df, aes(x=x, y=y)) +
```

**geom_point() +
geom_smooth(method='lm', se=FALSE)**



You can also quickly change the size and color of the line by using the size and col arguments:

**ggplot(df, aes(x=x, y=y)) +
geom_point() +
geom_smooth(method='lm', se=FALSE, col='red',
size=2)**



You can find the complete documentation for the `geom_smooth()` function [here](#).

[How to Plot a Linear Regression Line in ggplot2](#)

[How to Add a Vertical Line to a Plot Using ggplot2](#)

[How to Create Side-by-Side Plots in ggplot2](#)