

How can I set axis limits in ggplot2?

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"Setting axis limits in ggplot2 allows for precise control over the range of values displayed on the x and y axes of a graph. This feature is particularly useful in visualizing data that may have extreme or outlier values. By specifying the minimum and maximum values for each axis, users can effectively zoom in or out on specific portions of their data, providing a more accurate and informative representation. This can be done by using the 'xlim' and 'ylim' functions within the ggplot2 package in R, allowing for customizable and tailored visualizations."

Set Axis Limits in ggplot2

Often you may want to set the axis limits on a plot using **ggplot2**. You can easily do this using the following functions:

xlim(): specifies the lower and upper limit of the x-axis.
ylim(): specifies the lower and upper limit of the y-axis.

Note that both of these methods will remove data outside of the limits, which can sometimes produce unintended consequences. To change the axis limits without dropping data observations, you can instead use **coord_cartesian():**

coord_cartesian(): specifies the limits for the x-axis and y-axis without dropping observations.

This tutorial explains several ways to use these functions using the following scatterplot made with the

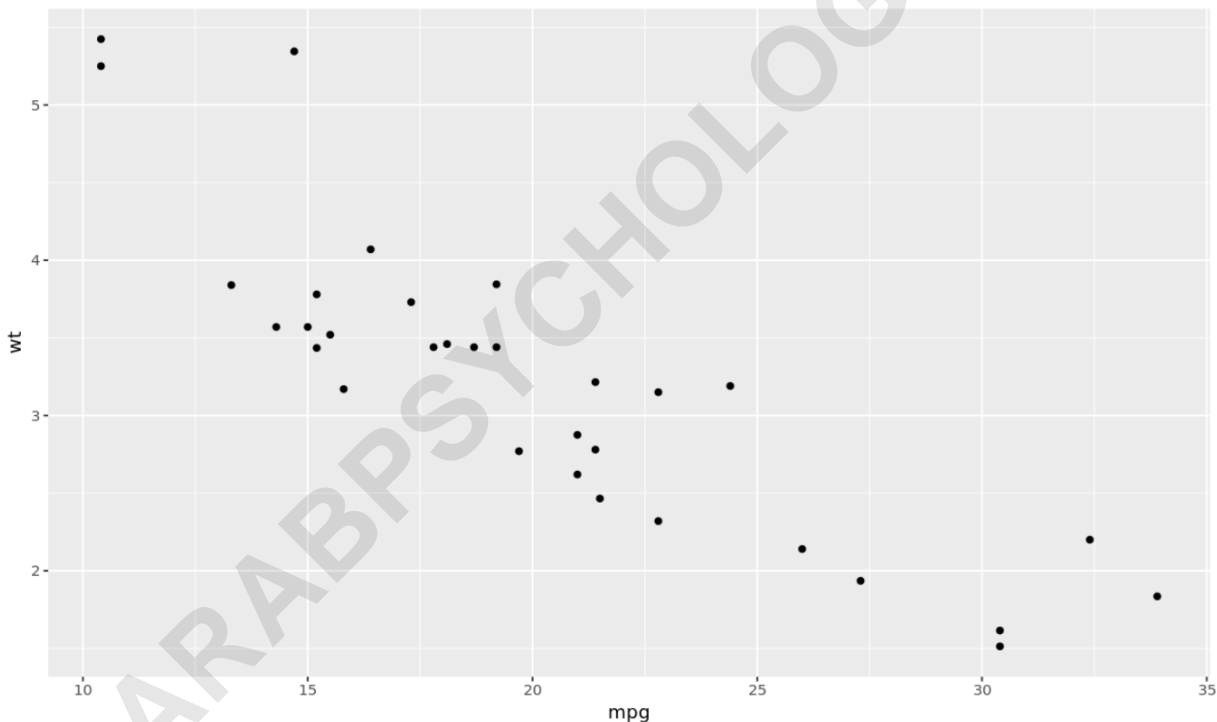
built-in R dataset *mtcars*:

```
#load ggplot2
```

```
library(ggplot2)
```

```
#create scatterplot
```

```
ggplot(mtcars, aes(mpg, wt)) +  
geom_point()
```



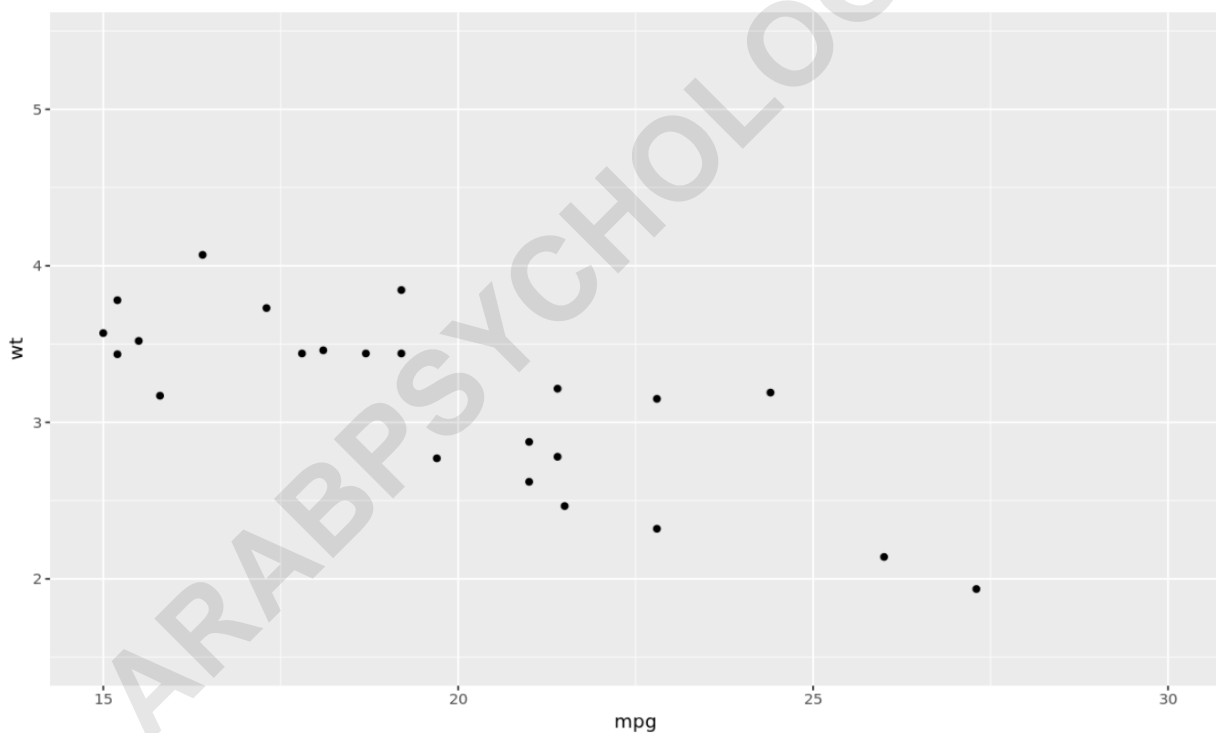
Example 1: Set X-Axis Limits Using `xlim()`

The following code shows how to set the x-axis limits of the scatterplot using the `xlim()` function:

```
#create scatterplot with x-axis ranging from 15 to 30  
ggplot(mtcars, aes(mpg, wt)) +  
geom_point() +  
xlim(15, 30)
```

Warning message:

"Removed 9 rows containing missing values (geom_point)."



You can also use NA to only set the upper limit of the x-axis and let ggplot2 automatically choose the lower limit:

```
#create scatterplot with x-axis upper limit at 30  
ggplot(mtcars, aes(mpg, wt)) +  
geom_point() +  
xlim(NA, 30)
```

Warning message:

***"Removed 4 rows containing missing values
(geom_point)."***

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