

How can I change the axis scales in R plots?

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R is a popular programming language used for statistical computing and graphics. In R plots, the axis scales refer to the numerical values displayed on the x and y axes of a graph. These scales can be customized to better represent the data being plotted and to enhance the overall visual presentation of the graph. There are various methods for changing the axis scales in R plots, such as using the "xlim" and "ylim" functions to set the limits of the axes, or using the "scale_x_continuous" and "scale_y_continuous" functions to adjust the range and labels of the axes. Some examples of changing axis scales in R plots include transforming the scales to a logarithmic or exponential scale, changing the interval between tick marks, and adjusting the range of the axes to focus on a specific portion of the data. These techniques allow for more precise and meaningful interpretation of the plotted data.

Change Axis Scales in R Plots (With Examples)

Often you may want to change the scale used on an axis in R plots.

This tutorial explains how to change axis scales on plots in both base R and ggplot2.

Example 1: Change Axis Scales in Base R

To change the axis scales on a plot in base R, we can use the `xlim()` and `ylim()` functions.

The following code shows how to use these functions in practice:

```
#define data
```

```
df <- data.frame(x=c(1, 3, 3, 4, 6, 8, 12, 13, 15, 18, 21, 22),  
y=c(13, 15, 9, 17, 22, 25, 29, 35, 39, 44, 45, 40))
```

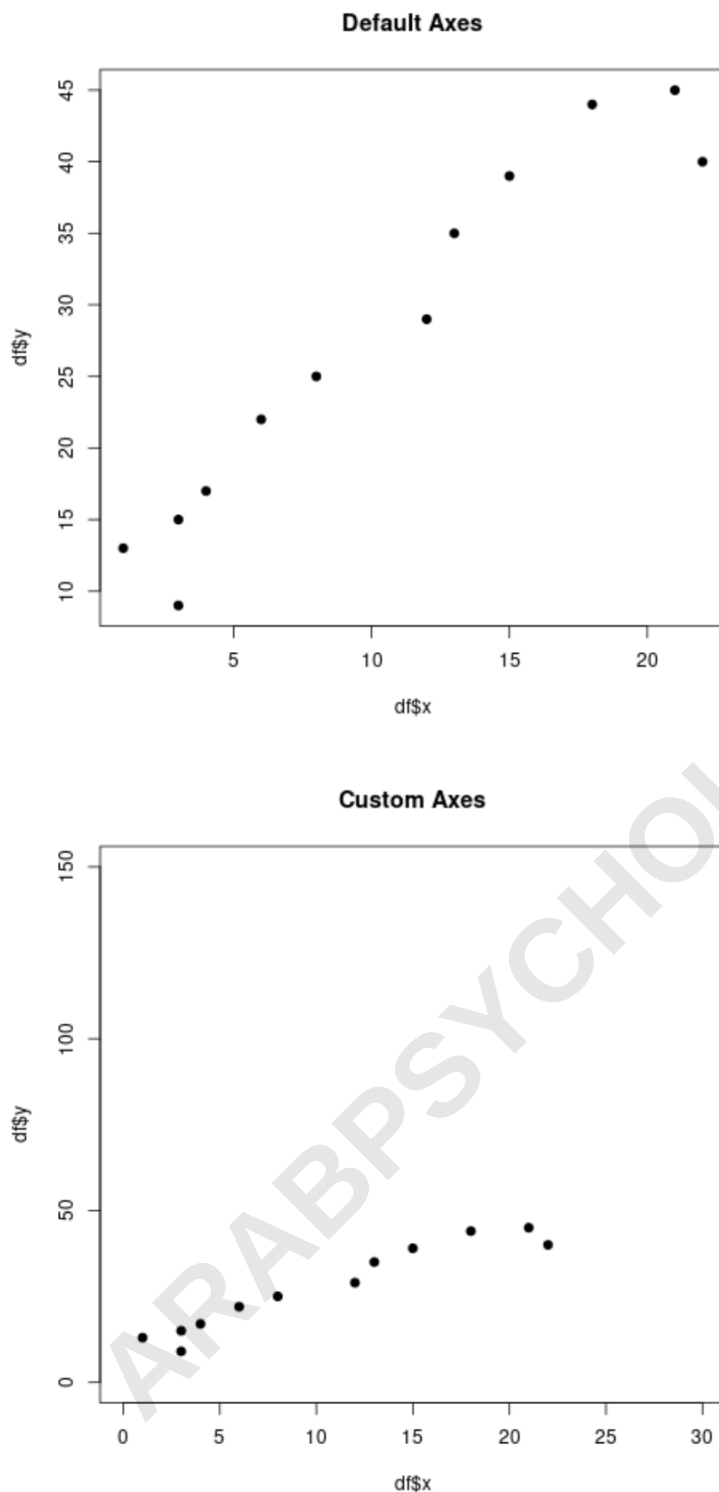
#create plot with default axis scales

plot(df\$x, df\$y, pch=19, main='Default Axes')

#create plot with custom axis scales

**plot(df\$x, df\$y, pch=19, xlim=c(0,30), ylim=c(0,150),
main='Custom Axes')**

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Note that you can also quickly transform one of the axes to a log scale by using the `log` argument. For example, the following code shows how to transform

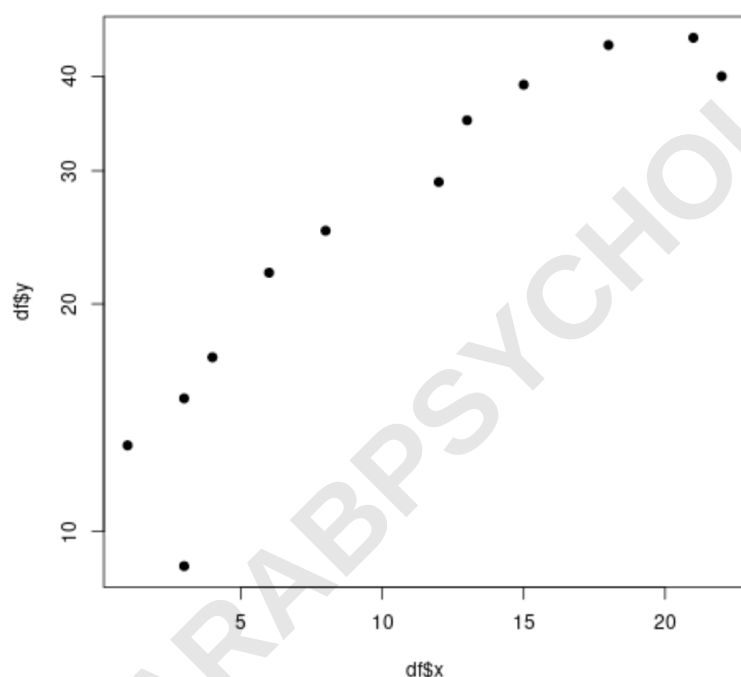
the y-axis to a log scale:

#define data

```
df <- data.frame(x=c(1, 3, 3, 4, 6, 8, 12, 13, 15, 18, 21, 22),  
y=c(13, 15, 9, 17, 22, 25, 29, 35, 39, 44, 45, 40))
```

#create plot with log y-axis

```
plot(df$x, df$y, log='y', pch=19)
```



Example 2: Change Axis Scales in ggplot2

To change the axis scales on a plot in base R, We can also use the `xlim()` and `ylim()` functions to change the axis scales

The following code shows how to use these functions in practice:

```
library(ggplot2)
```

```
#define data
```

```
df <- data.frame(x=c(1, 3, 3, 4, 6, 8, 12, 13, 15, 18, 21, 22),  
y=c(13, 15, 9, 17, 22, 25, 29, 35, 39, 44, 45, 40))
```

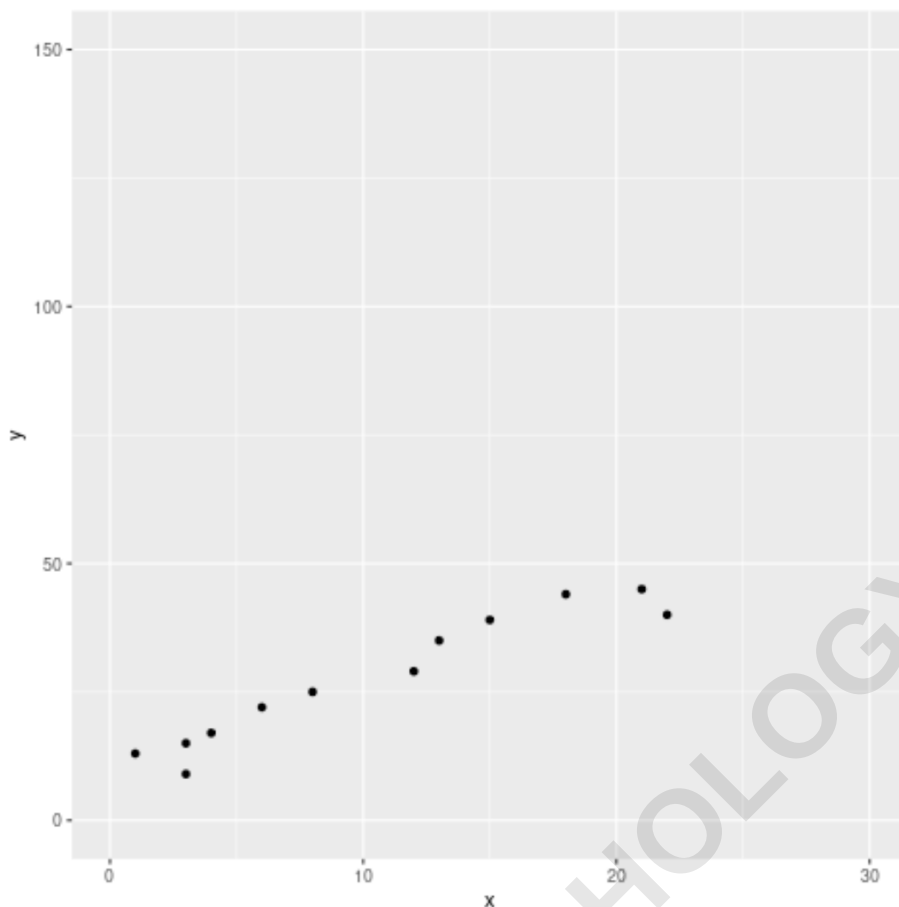
```
#create scatterplot with custom axes
```

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

```
geom_point() +
```

```
xlim(0, 30) +
```

```
ylim(0, 150)
```



We can also transform either of the axes to a log scale by using the following arguments:

```
scale_x_continuous(trans='log10')
```

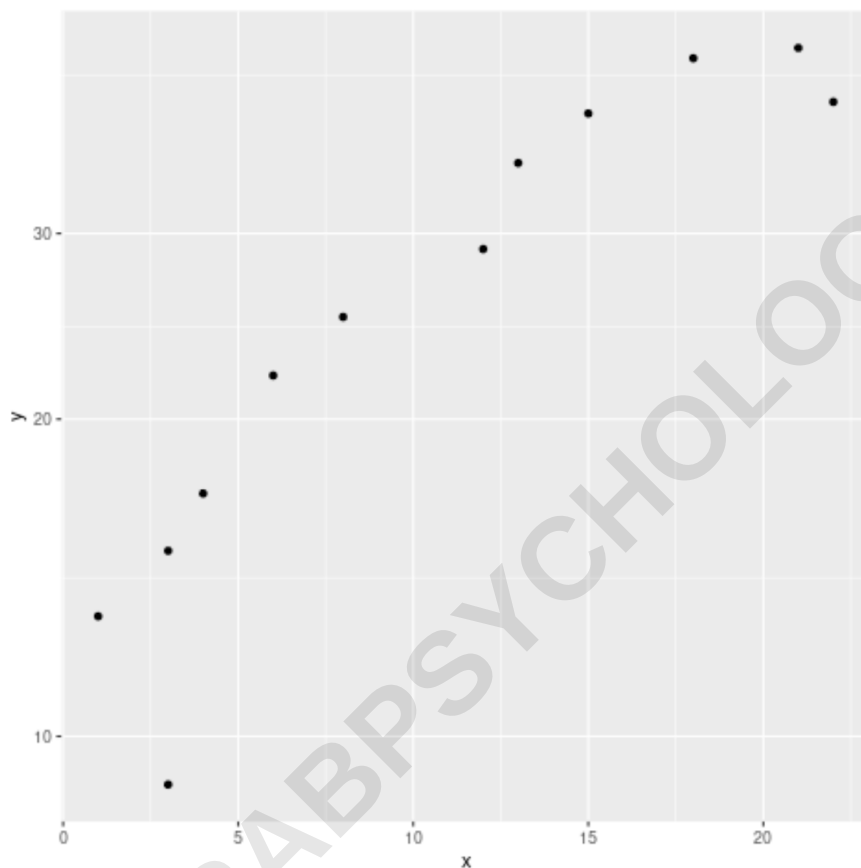
```
scale_y_continuous(trans='log10')
```

```
library(ggplot2)
```

```
#define data
```

```
df <- data.frame(x=c(1, 3, 3, 4, 6, 8, 12, 13, 15, 18, 21, 22),  
y=c(13, 15, 9, 17, 22, 25, 29, 35, 39, 44, 45, 40))
```

```
#create scatterplot with log y-axis  
ggplot(data=df, aes(x=x, y=y)) +  
geom_point() +  
scale_y_continuous(trans='log10')
```



You can find more R data visualization tutorials on .