How can I plot a function curve in R? Can you provide an example?

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To plot a function curve in R, you can use the "plot" function, which takes in the x and y values as arguments. This will create a scatter plot of the points. To create a smooth curve, you can use the "curve" function, which takes in the function equation as well as the range of x values to be plotted. This will generate a continuous curve based on the specified function. Here is an example:

x

Plot a Function Curve in R (With Example)

You can use the following methods to plot a function curve in R:

Method 1: Use Base R

curve(x^3, from=1, to=50, xlab='x', ylab='y')

Method 2: Use ggplot2

library(ggplot2)

df <- data.frame(x=c(1, 100))
eq = function(x){x^3}

#plot curve in ggplot2
ggplot(data=df, aes(x=x)) +
stat_function(fun=eq)

Both methods will produce a plot that shows the curve

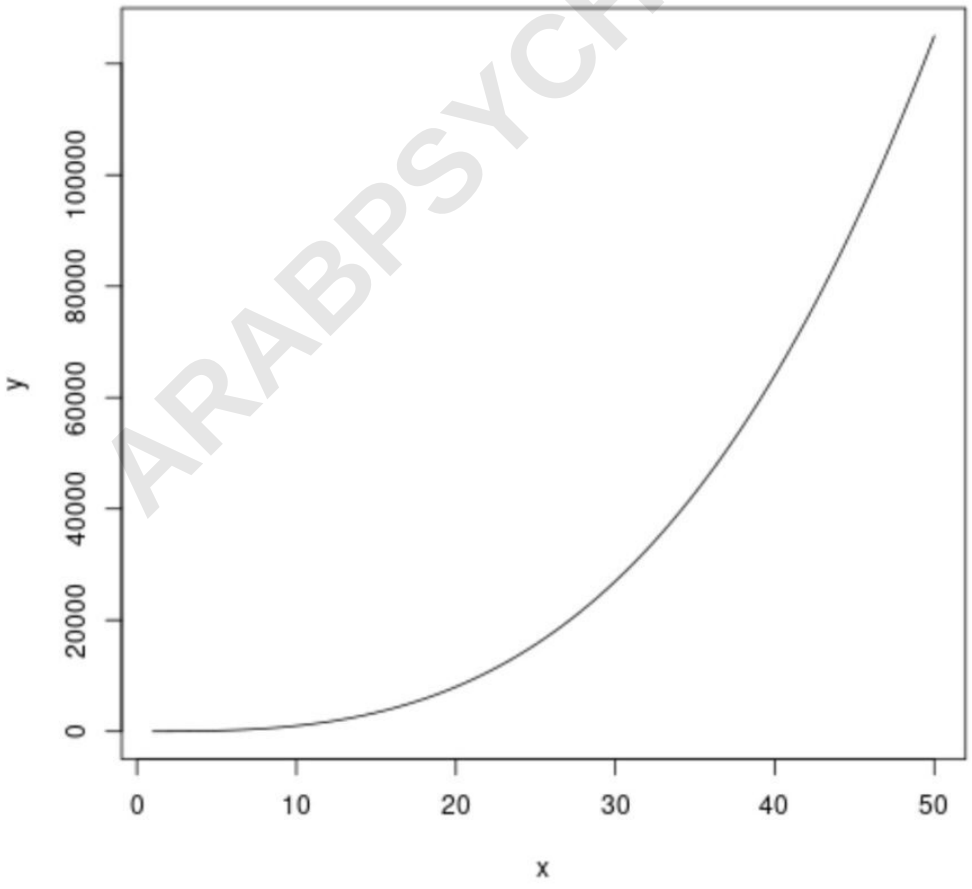
of the function y = x3.

The following examples show how to use each method in practice.

Example 1: Plot Function Curve Using Base R

The following code shows how to plot the curve of the function y = x3 using the curve() function from base R:

```
#plot curve using x-axis range of 1 to 50
curve(x^3, from=1, to=50, xlab='x', ylab='y')
```

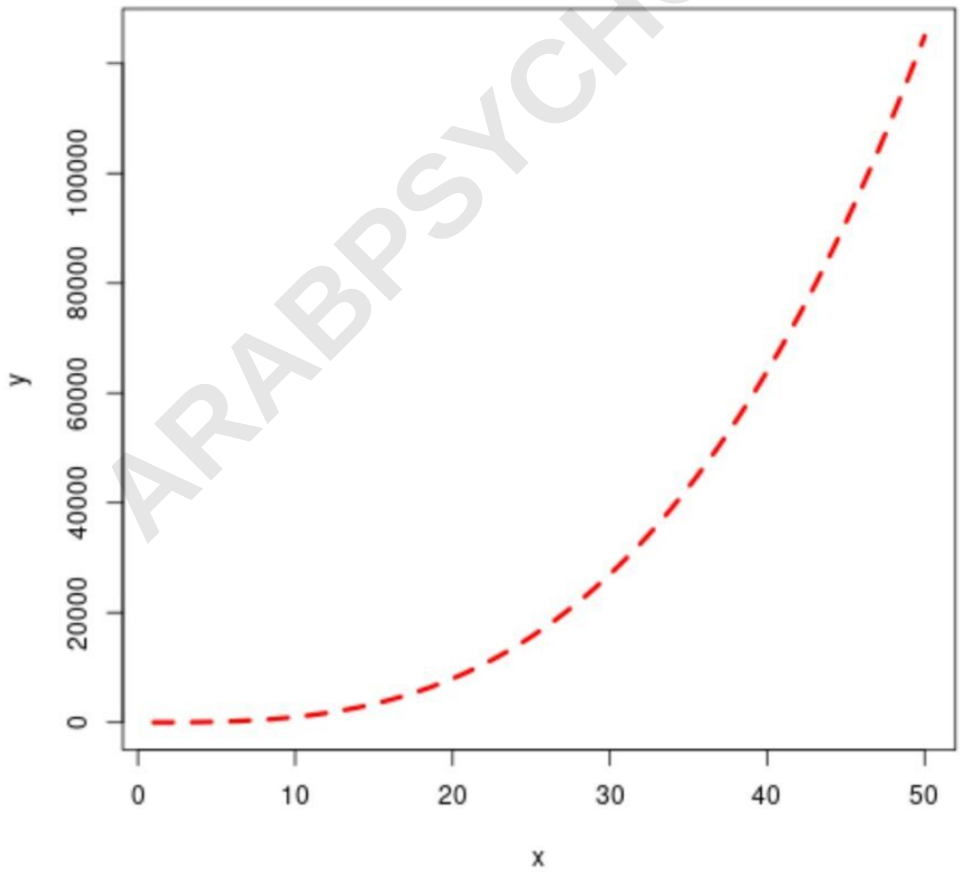


Note that you can use the following arguments to modify the appearance of the curve:

lwd: Line widthcol: Line colorlty: Line style

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

```
#plot curve using x-axis range of 1 to 50
curve(x^3, from=1, to=50, xlab='x', ylab='y', lwd=3, col='red', lty='dashed'))
```



Feel free to play around with the values for these arguments to create the exact curve you'd like.

Example 2: Plot Function Curve Using ggplot2

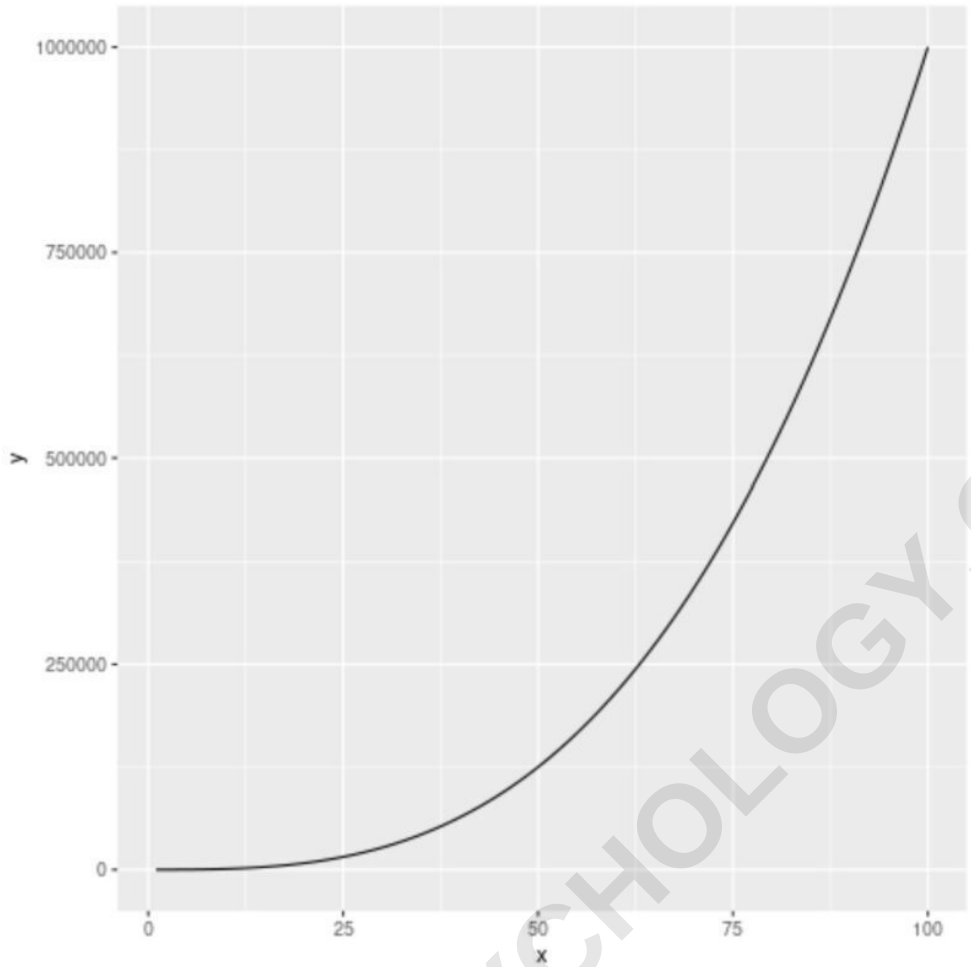
The following code shows how to plot the curve of the function y = x3 using the stat_function() function from ggplot2:

```
library(ggplot2)

#define data frame
df <- data.frame(x=c(1, 100))

#define function
eq = function(x){x^3}

#plot curve in ggplot2
ggplot(data=df, aes(x=x)) +
stat_function(fun=eq)
```



You can also use the lwd, col, and lty functions within the stat_function() function to modify the appearance of the curve:

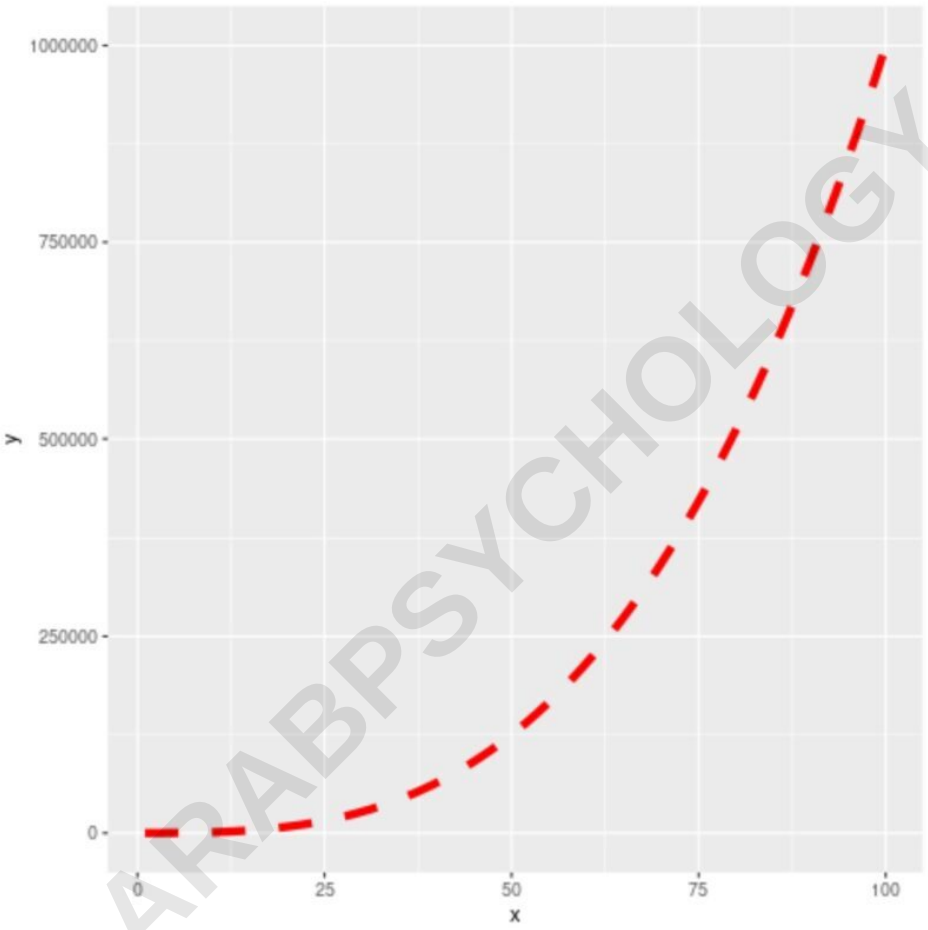
```
library(ggplot2)

#define data frame
df <- data.frame(x=c(1, 100))

#define function
```

```
eq = function(x){x^3}

#plot curve in ggplot2 with custom appearance
ggplot(data=df, aes(x=x)) +
stat_function(fun=eq, lwd=2, col='red', lty='dashed')
```



Note: You can find the complete documentation for the ggplot2 stat_function() function .