

How can I use cex to change the size of plot elements in R?

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CEX is a function in the R programming language that allows users to change the size of plot elements in their graphs. By specifying a numerical value in the cex argument, users can adjust the size of points, text, and symbols in their plots. This function is particularly useful for creating visually appealing and easily interpretable graphs. By experimenting with different cex values, users can customize the size of plot elements to best represent their data and convey their message effectively. Overall, cex provides a simple and efficient way to alter the size of plot elements in R.

R: Use cex to Change the Size of Plot Elements

You can use the cex argument within the plot() function in R to change the size of symbols and text relative to the default size.

The default value for cex is 1.

A value of 2 will double the size and a value of 0.5 will cut the size in half.

There are actually five cex arguments you can use to change the size of specific plot elements:

cex: Changes the size of symbols
cex.axis: Changes the size of axis tick mark annotations
cex.lab: Changes the size of x-axis and y-axis labels
cex.main: Changes the size of the plot title
cex.sub: Changes the size of the plot subtitle

The following example shows how to use these arguments in practice.

Example: Use cex to Change Size of Plot Symbols

Suppose we have the following data frame in R:

```
#create data frame
```

```
df <- data.frame(x=c(1, 2, 2, 4, 5, 3, 5, 8, 12, 10),
```

```
y=c(5, 9, 12, 14, 14, 13, 10, 6, 15, 18))
```

```
#view data frame
```

```
df
```

```
x y
```

```
1 1 5
```

```
2 2 9
```

```
3 2 12
```

```
4 4 14
```

```
5 5 14
```

```
6 3 13
```

```
7 5 10
```

```
8 8 6
```

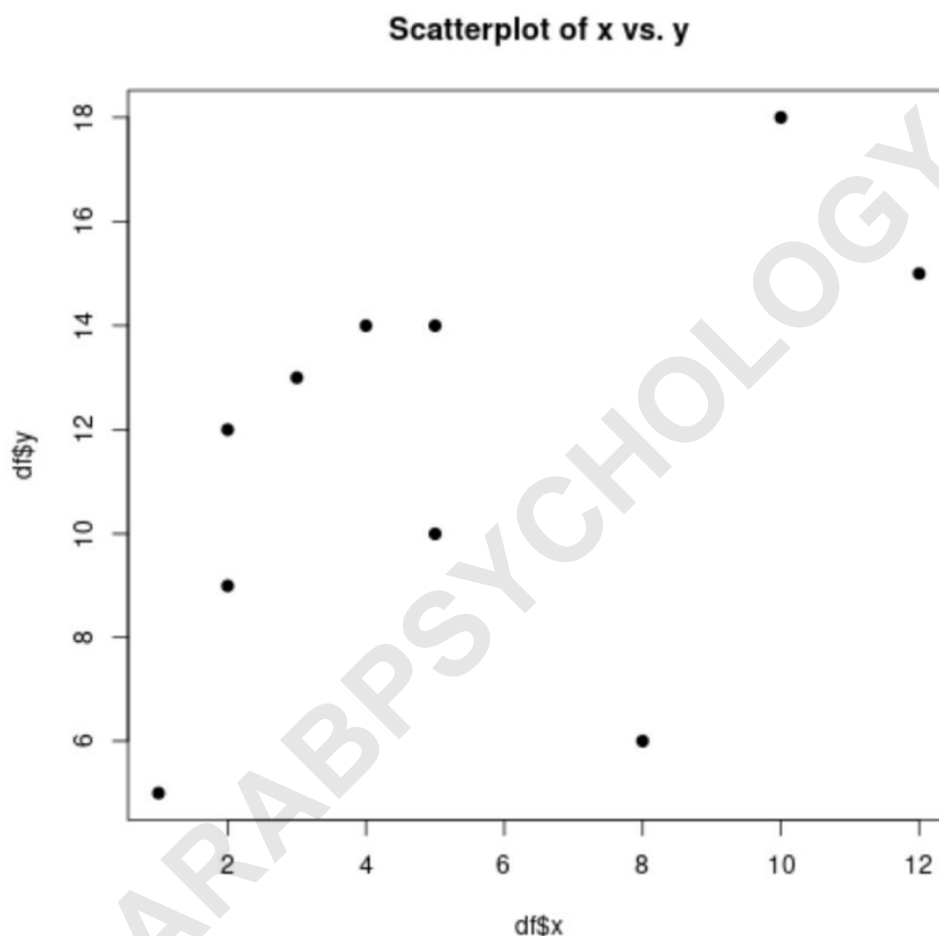
```
9 12 15
```

```
10 10 18
```

Suppose we use the `plot()` function in R to create a simple scatterplot:

```
#create scatterplot of x vs. y
```

```
plot(df$x, df$y, pch=19, main='Scatterplot of x vs. y')
```



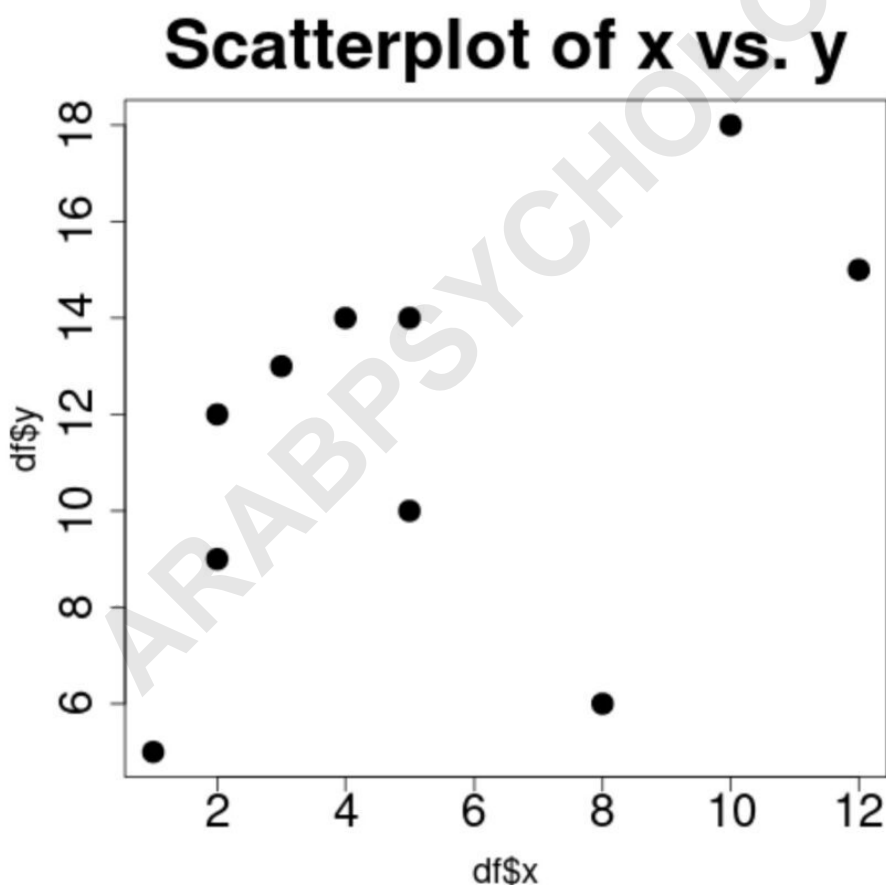
Note: The argument `pch=19` specifies that a filled-in circle should be used as the symbol for the points in the plot.

By default, the symbols in the plot and the text

elements all have a cex value of 1.

However, we can use the various cex arguments to change the sizes of the symbols and the text elements in the plot relative to the default size:

```
#create scatterplot with custom symbol and text sizes  
plot(df$x, df$y, pch=19, main='Scatterplot of x vs. y',  
cex=2, cex.main=3, cex.lab=1.5, cex.axis=2)
```



Here's exactly how we changed the various plot

elements:

cex=2: Increased the size of the circles in the plot 2 times.
cex.main=3: Increased the size of the title text by 3 times.
cex.lab=1.5: Increased the size of the x and y-axis labels by 1.5 times.
cex.axis=2: Increased the size of the tick mark annotations by 2 times.

Feel free to play around with the values for each of these cex arguments to create a plot with the exact sizes that you'd like.

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