

# R Base Graphics Cheatsheet

## SET GRAPHICAL PARAMETERS

*the following can only be set with `par()`*

### `par (...)`

<i>multiple plots</i>	<code>mfcol = c(nrow,ncol)</code>	<i>plot margins (outer)</i>	<code>oma = c(bottom, left, top, right) default: c(0, 0, 0, 0) lines</code>
<i>plot margins</i>	<code>mar = c(bottom, left, top, right) default: c(5.1, 4.1, 4.1, 2.1) lines</code>	<i>query x &amp; y limits</i>	<code>par ("usr")</code>

## CREATE A NEW PLOT

<b>Bar charts</b>	<code>barplot(height, ...)</code>	<b>Histograms</b>	<code>hist(x, ...)</code>
<i>bar labels</i>	<code>names.arg =</code>	<i>breakpts</i>	<code>breaks =</code>
<i>border</i>	<code>border =</code>		
<i>fill color</i>	<code>col =</code>		
<i>horizontal</i>	<code>horiz = TRUE</code>		
<b>Box plots</b>	<code>boxplot(x, ...)</code>	<b>Line charts</b>	<code>plot(x, type = "l")</code>
<i>horizontal</i>	<code>horizontal = TRUE</code>	<i>line type</i>	<code>lty = "blank" 0 "solid" 1 "dashed" 2 "dotted" 3</code>
<i>box labels</i>	<code>names =</code>	<i>line width</i>	<code>lwd =</code>
<b>Dot plots</b>	<code>dotchart(x, ...)</code>	<b>Scatterplots</b>	<code>plot(x, ...)</code>
<i>dot labels</i>	<code>labels =</code>	<i>symbol</i>	<code>pch =</code>

## REMOVE

<i>axis labels</i>	<code>ann = FALSE</code>
<i>axis, tickmarks, and labels</i>	<code>xaxt = "n" yaxt = "n"</code>
<i>plot box</i>	<code>bty = "n"</code>

NOTE: Many of the parameters here can be also be set in `par()`. See R help for more options.

## ADJUST

<i>allow plotting out of plot region</i>	<code>xpd = TRUE</code>
<i>aspect ratio</i>	<code>asp =</code>
<i>axis limits</i>	<code>xlim =, ylim =</code>
<i>axis lines to match axis limits</i>	<code>xaxs = "i", yaxs = "i" (internal axis calculation)</code>

## ADD TEXT

### location

<i>axis labels</i>	<code>xlab =, ylab =</code>
<i>subtitle</i>	<code>sub =</code>
<i>title</i>	<code>main =</code>

### style

<i>font face</i>	<code>font = 1 (plain) 2 (bold) 3 (italic) 4 (bold italic)</code>
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<i>font family</i>	<code>family = "serif" "sans" "mono"</code>
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### size

*(magnification factor)*

<i>all elements</i>	<code>cex =</code>
<i>axis labels</i>	<code>cex.lab =</code>
<i>subtitle</i>	<code>cex.sub =</code>
<i>tick mark labels</i>	<code>cex.axis =</code>
<i>title</i>	<code>cex.main =</code>

### position

<i>text direction</i>	<code>las = 1 (horizontal)</code>
<i>justification</i>	<code>adj = 0 .5 1 (left, center, right)</code>

## ADD TO AN EXISTING PLOT


<b>Add new plot</b>	<code>[any plot function] (..., add = TRUE)</code>
	ex. <code>barplot(x, add = TRUE)</code>

<b>Axes</b>	<code>axis(side, ...)</code>
<i>location</i>	<code>side = 1 2 3 4 (bottom, left, top, right)</code>

<i>tick mark:</i>	
<i>labels</i>	<code>labels =</code>
<i>location</i>	<code>at =</code>
<i>remove</i>	<code>tick = FALSE</code>
<i>rotate text</i>	<code>las = 1 (horizontal)</code>

<b>Axis labels</b>	<code>mtext(text, ...)</code>
<i>location</i>	<code>side = 1 2 3 4 (bottom, left, top, right)</code>
<i>lines to skip</i>	<code>line = (from plot region, default = 0)</code>

<i>position</i>	<code>at = x or y-coord (depending on side)</code>
<i>justification</i>	<code>adj = 0 .5 1 (left, center, right)</code>

<b>Lines</b>	<code>lines(x, ...)</code>
<i>line style</i>	<code>lty =</code>
<i>line width</i>	<code>lwd =</code>
<i>color</i>	<code>col =</code>
<b>Points</b>	<code>points(x, ...)</code>
<i>symbol</i>	<code>pch =</code>
	
<i>color</i>	<code>col =</code>
<i>fill color</i>	<code>bg = (pch: 21-25 only)</code>

<b>Text</b>	<code>text(x, y, text, ...)</code>
<i>position (rel. to x,y)</i>	<code>pos = 1 2 3 4 (below, left, above, right) (default=center)</code>

<b>Title</b>	<code>title(main, ...)</code>
<i>axis labels</i>	<code>xlab =, ylab =</code>
<i>subtitle</i>	<code>sub =</code>
<i>title</i>	<code>main =</code>

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