

# R Graphics Cheatsheet

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## Base Package Graphics

### par

For colors, see 'Color Specification' below

RO = Read Only; PO = set only by calling 'par()'

NDC = Normalized Device Coordinates

<b>adj</b>	0=left, 0.5=center, 1=right-justified
<b>ann</b>	FALSE=no annotation
<b>bg</b>	background color
<b>bty</b>	box around plots: characters o,l,7,c,u,j,n
<b>cex</b>	amount to magnify text and symbols
<b>cex.axis</b>	amount to magnify axis annotation relative to cex
<b>cex.lab</b>	amount to magnify x & y labels relative to cex
<b>cex.main</b>	amount to magnify main titles relative to cex
<b>cex.sub</b>	amount to magnify main sub-titles relative to cex
<b>cin</b>	character size in inches (='cra' with different units) RO
<b>col</b>	default plotting color
<b>col.axis</b>	color for axis annotation
<b>col.lab</b>	color for x & y labels
<b>col.main</b>	color for main titles
<b>col.sub</b>	color for sub-titles
<b>cra</b>	character size in raster units (pixels) RO
<b>crt</b>	character rotation in degrees (see 'srt' for strings)
<b>csi</b>	character height (size) in inches (='cin[2]') RO
<b>cxy</b>	character size (width, height) in user coordinates (par("cxy")=par("cin")/par("pin") scaled to user coords). RO [strwidth() & strheight() are more precise]
<b>din</b>	device dimensions (width, height) in inches RO
<b>err</b>	degree of error reporting desired [unimplemented]
<b>family</b>	name of font family
<b>fg</b>	foreground color
<b>fig (PO)</b>	figure region in the display region of the device in NDC; numerical vector c(x1, x2, y1, y2). To add to an existing plot, use new=TRUE.
<b>fin (PO)</b>	figure region dimensions (width, height) in inches. Starts a new plot.
<b>font</b>	an integer which specifies which font to use. 1 plain; 2 bold; 3 italic; 4 bold italic; 5 Symbol font.
<b>font.axis</b>	font for axis annotation
<b>font.lab</b>	font for x & y labels
<b>font.main</b>	font for main titles
<b>font.sub</b>	font for sub-titles

<b>lab</b>	axis style: 0 parallel; 1 horizontal; 2 perpendicular; 3 vertical
<b>lend</b>	line end style, integer or string: 0 or "round"; 1 or "butt"; 2 or "square"
<b>lheight (PO)</b>	line height multiplier
<b>ljoin</b>	line join style, integer or string: 0 or "round"; 1 or "mitre"; 2 or "bevel"
<b>lmitre</b>	line mitre limit (larger than 1; default 10)
<b>lty</b>	line type, integer or string: 0 "blank"; 1 "solid"; 2 "dashed"; 3 "dotted"; 4 "dotdash"; 5 "longdash"; 6 "twodash"
<b>lwd</b>	line width; default 1
<b>mai (PO)</b>	margin size in inches; numerical vector c(bottom, left, top, right)
<b>mar (PO)</b>	margin size in lines; numerical vector c(bottom, left, top, right); default is c(5,4,4,2)+0.1
<b>mex (PO)</b>	character size expansion factor used to describe coordinates in the margins of plots
<b>mfcoll</b>	number of cols and rows in an array of plots; numerical vector c(nr,nc); try alternatives layout() or split.screen()
<b>mfrow (PO)</b>	which figure in an array of figures is being drawn (query) or is to be drawn (set); numerical vector c(i,j); the array must have already been set with mfcoll and/or mfrow
<b>mfg (PO)</b>	margin line (in mex units) for the axis title, labels and axis line; numeric vector c(mltitle,mlaxislabels,mlaxisline)
<b>mgp</b>	margin line (in mex units) for the axis title, labels and axis line; numeric vector c(mltitle,mlaxislabels,mlaxisline)
<b>new (PO)</b>	if TRUE, don't clean the frame; if FALSE (default), clean the frame before drawing; a warning is issued of the device does not already contain a high-level plot
<b>oma (PO)</b>	outer margins in lines of text; numeric vector c(bottom, left, top, right)
<b>omd (PO)</b>	region inside outer margins in NDC; numeric vector c(x1,x2,y1,y2)
<b>omi (PO)</b>	outer margin size in inches; numeric vector c(x1, x2, y1, y2)
<b>page</b>	boolean indicating if the next call to plot.new() will start a new page. May be FALSE with multiple figures on the page. RO
<b>pch</b>	integer specifying a symbol or a character to be used as the default symbol for plotting points.

<b>pin (PO)</b>	plot dimensions in inches; numeric vector c(width, height)
<b>plt (PO)</b>	coordinates of the plot region as fractions of the current figure region; numeric vector c(x1, x2, y1, y2)
<b>ps (PO)</b>	point size of text (not of point symbols), usually in 1/72 of an inch; integer
<b>pty (PO)</b>	plot region type; character: "s" square plot; "m" maximal plot
<b>srt</b>	string rotation in degrees (see crt); only supported by text()
<b>tck</b>	tick mark length as a fraction of the smaller of width or height of plotting region; tck=1 draws grid lines; tck=NA (default) ⇒ tcl=-0.5
<b>tcl</b>	tick mark length as a fraction of the height of a line of text; default -0.5; tcl=NA ⇒ tck=-0.01
<b>usr (PO)</b>	extremes of the user coordinates of the plotting region; numeric vector c(x1, x2, y1, y2); for log scales, x-limits will be 10 ^ par("usr")[1:2] (y-limits will be [3:4])
<b>xaxp</b>	non-log scale: extreme tick-marks and number of intervals log scale: lowest and highest power of 10 inside the user coordinates and n=1 marks at 10 ^ j for integerj; n=2 marks at k 10 ^ j with k in {1,5}; n=3 marks at 10 ^ j with k in {1,2,5}
<b>xaxs</b>	numeric vector c(x1, x2, n) style of x-axis interval calculation: "r" regular; "i" internal
<b>xaxt</b>	x-axis type; "n" no axis plotting; "s" standard
<b>xlog (PO)</b>	x-axis log scale boolean
<b>xpd</b>	plot clipping: FALSE plot region; TRUE figure region; NA device region
<b>yaxp</b>	non-log scale: extreme tick-marks and number of intervals log scale: see <b>xaxp</b> above numeric vector c(y1, y2, n)
<b>yaxs</b>	style of y-axis interval calculation: "r" regular; "i" internal
<b>yaxt</b>	y-axis type; "n" no axis plotting; "s" standard
<b>ylbias (PO)</b>	used in the positioning of text in the margins by <b>axis()</b> and <b>mtext()</b> ; set to 0.2
<b>ylog (PO)</b>	y-axis log scale boolean

## Base Package Plotting Functions

`text(x, y=NULL, labels=seq_along(x), adj=NULL, pos=NULL, offset=0.5,  
vfont=NULL, cex=1, col=NULL, font=NULL,...)  
points(x, y=NULL, type="p", ...)`

draws strings in vector labels at pt. x, y  
  
get help //

## Color Specification

Color