Graphical Parameters

You can customize many features of your graphs (fonts, colors, axes, titles) through graphic options.

One way is to specify these options in through the par( ) function. If you set parameter values here, the changes will be in effect for the rest of the session or until you change them again. The format is par(optionname=value, optionname=value, ...)

```
# Set a graphical parameter using par()

par()               # view current settings
opar <- par()       # make a copy of current settings
par(col.lab="red") # red x and y labels
hist(mtcars$mpg)    # create a plot with these new settings
par(opar)           # restore original settings
```

Text and Symbol Size

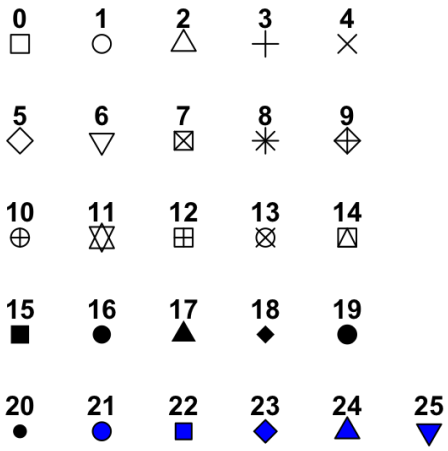
The following options can be used to control text and symbol size in graphs.

option	description
cex	number indicating the amount by which plotting text and symbols should be scaled relative to the default. 1=default, 1.5 is 50% larger, 0.5 is 50% smaller, etc.
cex.axis	magnification of axis annotation relative to cex
cex.lab	magnification of x and y labels relative to cex
cex.main	magnification of titles relative to cex
cex.sub	magnification of subtitles relative to cex

Plotting Symbols

Use the pch= option to specify symbols to use when plotting points. For symbols 21 through 25, specify border color (col=) and fill color (bg=).

For more details: http://www.sthda.com/english/wiki/r-plot-pch-symbols-the-different-point-shapes-available-in-r

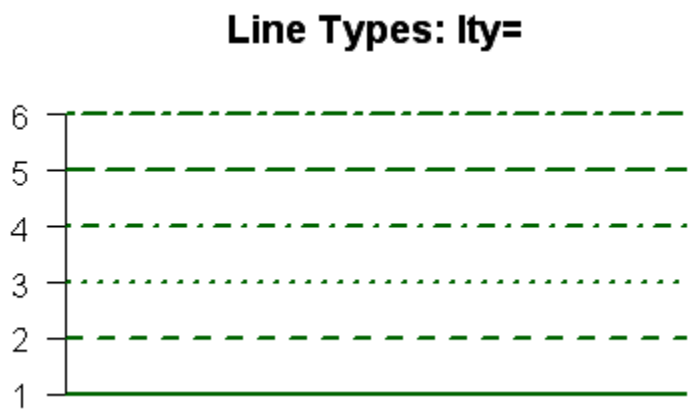


Lines

You can change lines using the following options. This is particularly useful for reference lines, axes, and fit lines.

option	description
lty	line type. see the chart below.
lwd	line width relative to the default (default=1). 2 is twice as wide.

For more details: http://www.sthda.com/english/wiki/line-types-in-r-lty



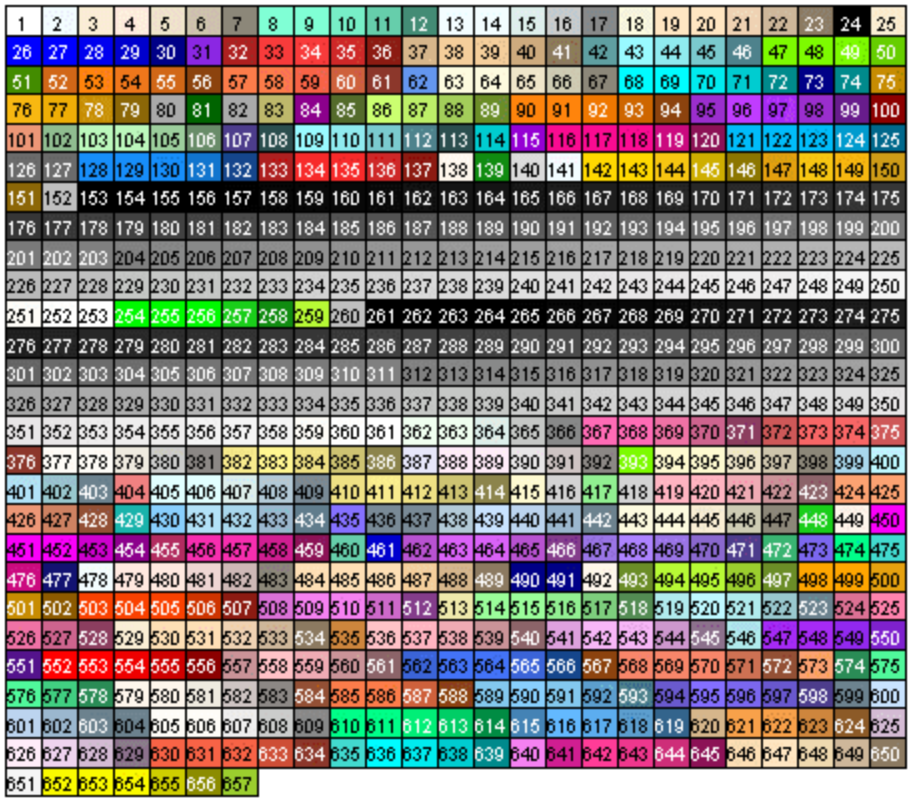
Colours

Options that specify colours include the following.

option	description
col	Default plotting color. Some functions (e.g. lines) accept a vector of values that are recycled.
col.axis	color for axis annotation
col.lab	color for x and y labels
col.main	color for titles
col.sub	color for subtitles
fg	plot foreground color (axes, boxes - also sets col= to same)
bg	plot background color

You can specify colors in R by index, name, hexadecimal, or RGB. For example **col=1**, **col="white"**, and **col="#FFFFFF"** are equivalent. The following chart was produced with code developed by Earl F Glynn.

For more details: http://www.sthda.com/english/wiki/colors-in-r



You can also create a vector of *n* contiguous colors using the functions **rainbow(*n*)**, **heat.colors(*n*)**, **terrain.colors(*n*)**, **topo.colors(*n*)**, and **cm.colors(*n*)**. **colors()** returns all available color names.

Fonts

You can easily set font size and style, but font family is a bit more complicated.

option	description
font	Integer specifying font to use for text. 1=plain, 2=bold, 3=italic, 4=bold italic, 5=symbol
font.axis	font for axis annotation
font.lab	font for x and y labels
font.main	font for titles
font.sub	font for subtitles
ps	font point size (roughly 1/72 inch) text size=ps*cex
family	font family for drawing text. Standard values are "serif", "sans", "mono", "symbol". Mapping is device dependent.

Margins and Graph Size

You can control the margin size using the following parameters.

option	description
mar	numerical vector indicating margin size c(bottom, left, top, right) in lines. default = c(5, 4, 4, 2) + 0.1
mai	numerical vector indicating margin size c(bottom, left, top, right) in inches
pin	plot dimensions (width, height) in inches

Some other useful links:

Add titles to a plot. http://www.sthda.com/english/wiki/add-titles-to-a-plot-in-r-software

Add legends to plots. http://www.sthda.com/english/wiki/add-legends-to-plots-in-r-software-the-easiest-way

Add texts to a plot. http://www.sthda.com/english/wiki/add-text-to-a-plot-in-r-software

Add straight lines. http://www.sthda.com/english/wiki/abline-r-function-an-easy-way-to-add-straight-lines-to-a-plot-using-r-software

Add an axis to a plot. http://www.sthda.com/english/wiki/add-an-axis-to-a-plot-with-r-software

Change axis scale in R. http://www.sthda.com/english/wiki/axis-scale-in-r-software-minimum-maximum-and-log-scale

Axes and Text. https://www.statmethods.net/advgraphs/axes.html

Combining Plots. https://www.statmethods.net/advgraphs/layout.html