Texts in R Graphs Cheat Sheet

Base R Text Formatting

Font: **family** = "…"

Font style: **font** = … (1=plain, 2=bold, 3=italic, 4=bold italic, 5=symbol)

Font size: **cex** = …

Color: **col** = "…"

Position:

line	specifying a value for line overrides the default placement of labels, and places them this many lines outwards from the plot edge.
adj	one or two values in [0, 1] which specify the x (and optionally y) adjustment ('justification') of the labels, with 0 for left/bottom, 1 for right/top, and 0.5 for centered. On most devices values outside [0, 1] will also work.

Formatting different texts in graphs:
XXX represents **font/cex/col…**

i. **XXX.axis**: font for axis annotation
ii. **XXX.lab**: font for x and y labels
iii. **XXX.main**: font for titles
iv. **XXX.sub**: font for subtitles

Title & Subtitle & Axis

Tittle: **main** = "…"

Subtitle: **sub** = "…"

Title function: **title**(main = NULL, sub = NULL, xlab = NULL, ylab = NULL, line = NA, outer = FALSE, ...)

outer	a logical value. If TRUE, the titles are placed in the outer margins of the plot.

par() function can also be used to customize the titles.
axis() adds an axis to the current plot, allowing the specification of the side, position, labels, and other options.

Label for the x/y axis: **xlab/ylab** = "…"

Note: **xlab/ylab** = ""/NULL/NA removes axis labels.

Label & Annotation

In the plot: **text**(x, y, labels, adj, pos ...)

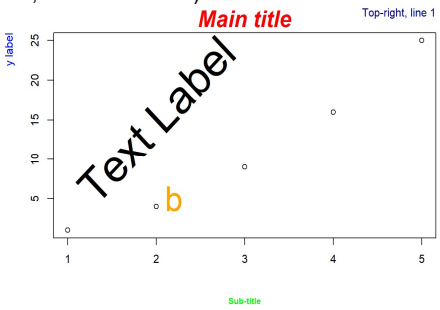
pos	a position specifier for the text. If specified this overrides any adj value given. Values of 1, 2, 3 and 4, respectively indicate positions below, to the left of, above and to the right of the specified (x,y) coordinates.
srt	Text rotation

Out of the plot: **mtext**(text, side…)

side	on which side of the plot (1=bottom, 2=left, 3=top, 4=right).

Example: x<-1:5; y=x*x

```
plot(x, y, type="p", xlab = NA, ylab = "y label", col.lab = "Blue", adj = 1)
title(main = "Main title", sub = "Sub-title", xlab = "X", ylab = "Y", cex.main = 2,   font.main= 4, col.main= "red", cex.sub = 0.75, font.sub = 2, col.sub = "green")
text(x = 2, y = 15, label = "Text Label", srt = 45 , cex = 4)
text(x = x[2], y = y[2]+1, label = "b", col = "orange" , cex = 3)
mtext("Top-right, line 1", side = 3, adj = 1, line = 1, col = "darkblue")
```



ggplot2 Text Formatting

theme(text = element_text(family, size, color…))

Text can be replaced by plot.title, plot.caption.position, axis.title.x, …

Check for details:

https://ggplot2.tidyverse.org/reference/theme.html

Font: **family** = "…"

Font style: **face** = "…" ("plain", "italic", "bold", "bold.italic")

Font size: **size** = …

Color: **colour/color** = "…"

Angle: **angle** = … (similar to **srt**)

Position:

hjust	Hori justification(in [0, 1])
vjust	Vertical justification (in [0, 1])

Line spacing: **lineheight** = …

Title & Subtitle & Axis

Tittle: **labs(title** = "…") / **ggtitle**("…")

Subtitle: **labs/ggtitle(subtitle** = "…")

Caption: **labs**(**caption** = "…")

Tag: **labs**(**tag** = "…")
Note: tag.position can be "top", "topright", "left", "right", "bottomleft", "bottom" or "bottomright".

Label for the x/y axis: **xlab/ylab**()

Note: **theme(plot.title/axis.title.x = element_blank())** removes titles/labels.

Label & Annotation

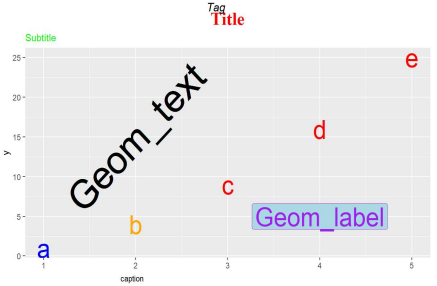
geom_text/geom_label(mapping = (x ,y , label), data, stat, position, …)

Note: Set **stat = "unique"**, otherwise the label will be redrawn for each data point on your data frame.

Note: **geom_text()** adds only text to the plot. **geom_label()** draws a rectangle behind the text, making it easier to read.

ggrepel: geom_text_repel and **geom_label_repel** functions make the labels repel away from each other as much as possible.

Example: **ggplot**(p,aes(x=x,y=y, label = c("a","b","c","d","e"))) +
geom_text(check_overlap = TRUE, color = c("blue","orange",rep("red",3)), size = 10) +
geom_text(aes(x = 2, y = 15, label = "Geom_text"), size = 15,angle = 45) +
geom_label(aes(x = 4, y = 5, label = "Geom_label"), stat = "unique", color = "purple", fill = "lightblue", size = 10) +
labs(title = "Title", subtitle = "Subtitle", caption = "caption", tag = "Tag") +
theme(plot.title = element_text(family = "serif", face = "bold", color = "red", hjust = .5, size = 20), plot.subtitle = element_text(hjust = 0, color = "green"), plot.caption = element_text(hjust = 0.25), plot.tag = element_text(face = "italic"), plot.caption.position = "panel", plot.tag.position = "top", axis.title.x = element_blank())



Other tips

i. **\n** can be used for text splitting to make text into several lines.
ii. **windowsFont()** handles the translation of a device-independent R graphics font family name to a windows font description and are available only on Windows

Related Cheat sheet:

https://www.maths.usyd.edu.au/u/UG/SM/STAT3022/r/current/Misc/data-visualization-2.1.pdf