Cheatography

ggplot2-scatterplots Cheat Sheet
by Jens Preußner (Jenzopr) via cheatography.com/18621/cs/1841/

Intro to ggplot2

The graphics package ggplot2 is powerful, aesthetically pleasing, and easy to use. The way ggplot2 works is by layering components of your plot on top of each other. You start a basic dataframe including x and y variables and then plot on top the customized layers.

Need help? Use
http://docs.ggplot2.org/0.9.2.1/index.html or
http://www.cookbook-r.com/Graphs as references.

Basic scatterplots

library(ggplot2)

library(gridExtra)

mtc <- mtcars

Basic scatterplot

p1 <- ggplot(mtc, aes(x = hp, y = mpg))

Print plot with default points

p1 + geom_point()

Change color of points

#set one color for all points

p1 + geom_point(color="red")

#set color scale by a continuous variable

p1 + geom_point(aes(color = wt))

#set color scale by a factor variable

p1 + geom_point(aes(color=factor(am)))

Change shape or size of points

#increase all points to size 5

p2 <- p1 + geom_point(size = 5)

#set point size by continuous variable

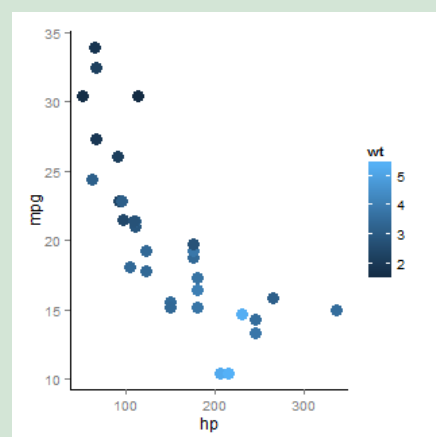p3 <- p1 + geom_point(aes(size = wt))

#set point shape by factor variable

Change shape or size of points (cont)
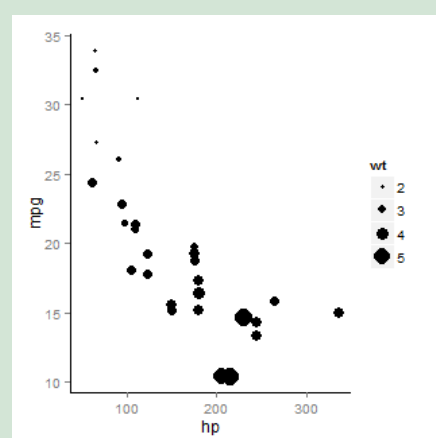
p4 <- p1 + geom_point(aes(shape = factor(am)))

More options:
http://docs.ggplot2.org/0.9.3.1/scale_manual.html

Example - change color of points

Example - change size of points

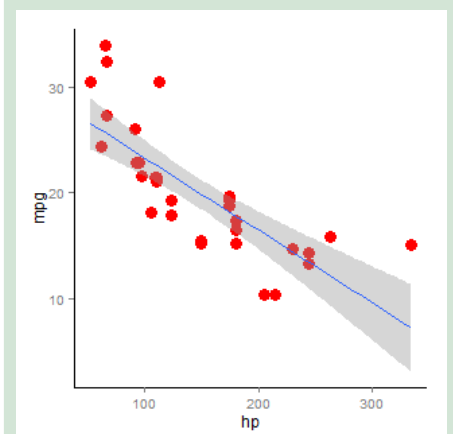### Reference

See
http://rforpublichealth.blogspot.dk/2013/11/ggplot2-cheatsheet-for-scatterplots.html for the complete cheat sheet by Slawa Rokicki.

Example - add lines to a scatterplot

Add lines to scatterplot

#connect points with line

p1 + geom_point(color="blue") + geom_line()

#add regression line

p1 + geom_point(color="red") + geom_smooth(method = "lm", se = TRUE)

#add vertical line

geom_point() + geom_vline(xintercept = 100, color="red")

Change axis labels

#label all axes at once

p2 + labs(x="Horsepower",

y = "Miles per Gallon")

#label and change font size

p2 + theme(axis.title.x = element_text(face= "bold", size=20)) + labs(x="Horsepower")

#adjust axis limits and breaks

p2 + scale_x_continuous("Horsepower",

limits=c(0,400), breaks=seq(0, 400, 50))