Exercises for the ggplot2-Package

Exercise 1

i. Load the *ggplot2* package.

ii. Get familiar with the *diamonds* dataset.

Exercise 2

i. Create a triangle with the points (0,0), (3,0) and (3,5).

ii. Fill the triangle the green colour.

Exercise 3

i. Create a scatter plot using the variables carat and price from the diamonds dataset.

ii. Add to the plot different colours based on the cut of the diamonds.

Exercise 4

Create a data frame with two variables, storing the position of three different points, e.g., (3,1),(1,4) and (5,6).

i. Create a ggplot-object that contains the position of the points and store it under p. Make sure that the axes are not labelled.

ii. Plot the three points as points by using different colour for each point. Add a title to the plot.

iii. Create a bar plot by using p. Hint: use *stat="identity".*

iv. Create a plot that combines the three points.
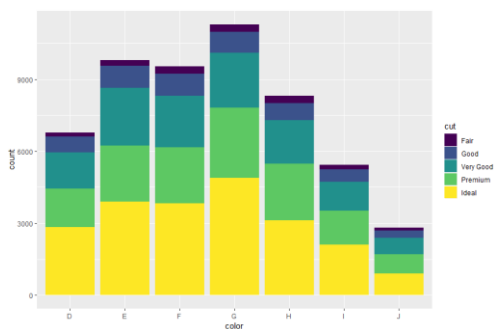
v. Fill the area under the three points.

Exercise 5

i. Create a basic ggplot-object that contains the dataset diamonds and specify as *aes* the variable carat. Create a nice histogram where the bars are separated by lines (as in base function *hist*).

ii. Create a basic ggplot-object that contains the dataset diamonds and specify as *aes* a "NULL" variable (this is the x or grouping variable) and the variable carat. Create a boxplot that you like.

Exercise 6

    i.   Create a plot with carat on the x-axis and the price on the y-axis, from the diamonds dataset, and plot them as points.

    ii.   Use different point characters or colors according to the clarity.

    iii.   Include linear regression lines in the plot such that there is a regression line for each clarity. Use a geom_...() option for the estimation.

Exercise 7 – Bar plot

    i.   Create a barplot with one bar per diamond color with each bar separated visually by the cut quality. You should obtain something like this:

Note: Further easy and elaborate exercises can be found online, e.g., on:

https://r4ds.had.co.nz/data-visualisation.html

https://tutorials.iq.harvard.edu/R/Rgraphics/Rgraphics.html

https://www.r-exercises.com/2018/02/23/practice-you-ggplot-skills-exercises/