Using ggplot: Practical

1. **Load the ggplot2 library (install it if you have to) and the diamonds dataset using data()**
2. **Explore the dataset using dim(), str() and help(), which variables are continuous, which variables are discrete? Is this dataset ready for plotting with ggplot?**
3. **Use ggplot to plot a scatterplot of the relationship between the diamonds" carat and their price**
4. **Make all dots darkblue and set the alpha value to 0.1**
5. **Visualize the influence of the color of a diamond on its price by mapping the diamond color to the color aesthetic**
6. **Use a ggplot barplot to visualize diamond clarity depending on color, map diamond color to x and diamond clarity to fill**
7. **Create a boxplot of the carat of a diamond based on its clarity and add whiskers using stat_boxplot**
8. **Add a geom_point layer to the previous plot mapping the diamonds price to the color**
9. **Create a histogram of the price of the diamonds and separate the histograms into facets using diamond color, choose a good binwith or number of bins**
10. **Create a grid of facets of the same histogram by comparing both color and cut**
11. **Use 'aggregate(diamonds, by = list(cut = diamonds$cut, color = diamonds$color), mean)' to calculate the mean of all variables by cut and color. Create a heatmap of the mean prices by cut and color using geom_tile**
12. **Change the title of the heatmap to "Average prices"**
13. **Change the gradient of the fill scale using 'scale_fill_gradient2'. Have it go from darkblue to white to darkred, set the midpoint to 4500**
14. **Choose and add a theme to the heatmap, or create a theme yourself using the options listed at http://ggplot2.tidyverse.org/reference/theme.html**