ggplot2 exercises

Download the data set dat_mmrm2.csv from: `http://www.dsbs.dk/moder/Rcourse/`

Boxplot

We are going to start by using the dat_mmrm2.csv data set for making a boxplot and making various modifications to it.

1. Load the dat_mmrm2.csv data set by using read_csv()
   `df <- read_csv(dat_mmrm2.csv)`
2. Make a boxplot with visit as the x-aesthetic and aval as the y-aesthetic. Does the boxplot work for both visit variables (avisit and ADY)?
3. Let's focus on the Thickness param. Subset the data by using subset()
   `ggplot(subset(df, param=="Thickness"),...`
4. Add a color for each treatment.
   Should the color variable be of type integer or factor?
5. Try changing the "color" aesthetic to "fill".
6. Try changing `geom_boxplot()` to `geom_violin()`. Now everybody at the office will think that you are really cool!

Spaghetti plot

Instead of looking at the whole population, we will now make some plots where we can see the data for each individual subject.

1. Subset to the Redness param and make a scatter plot with visit on the x-axis and aval on the y-axis. Hint: use `geom_point` for scatter plots.
2. To make a spaghetti plot you need to change `geom_point` to `geom_line`. Does it work?
3. For ggplot to make a proper spaghetti plot it needs to know which variable each line should be *group*ed by. There is probably an aesthetic for *group*ing the data. What could it possibly be called? Try adding the aesthetic.
4. Add color for each treatment.
5. Keep `geom_line` and add `geom_point` as well. Your plot should have both lines and dots now.

Facets

So far we have looked at the param Redness and Thickness separately. We will now try to use facets to plot both params at the same time.

1. Use the plot you created in last exercise and remove the subset command.
2. Use `facet_wrap()` to create separate coordinate systems for each param. Hint: remember to enclose the variable you are wrapping around with `vars()`.
3. By default ggplot uses the same scale for the y-axis, however `facet_wrap()` takes the argument `scales="free"`. Try it.

Themes

Save one of your plots in a variable `p1 <- ggplot(...)`. Try modifying the plots with `p1 + theme(...)`.