

Practical Exercises for **Wednesday, July 24, 2019, Day 3**

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Exercise 9: Get to know `bacteria` data set

- (a) Install package `MASS`. Load data set `bacteria`.
- (b) Describe in your own words what the data set `bacteria` contains.
- (c) Do summary statistic (numerically and graphically).
- (d) Select only observations collected during the second week.
- (e) How many levels has the factor variable `trt` from `bacteria`?
- (f) Define a new variable `trt.new` in which you combine the levels `drug` and `drug+` into one single level and label it as `treated`. The new variable `trt.new` should in the end have two levels: `placebo` and `treated`.
- (g) Do summary statistics for `placebo` and `treated` group.

Exercise 10: Get to know `ToothGrowth` data set

- (a) Load data set `ToothGrowth`.
- (b) Do summary statistic (numerically and graphically).
- (c) Define additional column `dose.factor` by converting the numeric variable `dose` into a factor variable.
- (d) Are the tooth length measurements normally distributed within the treatment (`supp`: `VC` or `OJ`) and within in the different doses (`dose`: 0.5, 1, 2)?