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MULTIVAR STATS IN ECOL AND GENETICS — EXERCISES, SHEET 1

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1. The file abcdx.txt contains four factors A, B, C, D and one numerical variable X. How does X depend on the four factors? Take possible interactions between the variables into account.

2. The file bp.txt contains simulated blood pressures (bp), treatments, ages, body lengths [cm] and weights [kg] of 40 imaginary patients. How does their blood pressure depend on the other variables? Fit several models to the data and decide which one explains the data best.

3. Got to `http://highstat.com/index.php/analysing-ecological-data` and follow the link "Data and R code for chapter 27". Ignore the R files in the downloaded folder and analyse the data: How are the different variables correlated, which have a strong influence on biodiversity? To explore this, try different ways to visualize the data and fit multivariate linear models. In one of the tables in file RIKZ.xls a column ShannonW is given, which is a measure for biodiversity.