1 R demonstration

- Download the R Users Guide from vUWS.
- The lab demonstrator will demonstrate the use of R based on the section "Using R in Chapter 3" of the R Users Guide.

  During this time, observe how the instructor is interacting with R and try out some of the code on your own computer.

2 Lab exercise

- Download the documentation of the `Lock5Data` package from the subject's vUWS site or from the CRAN archive at http://cran.r-project.org/web/packages/Lock5Data/Lock5Data.pdf.
- Read the description of the data set `NutritionStudy` in the documentation of the `Lock5Data` package.
- Write an R script that performs the following tasks:
  1. Load the data `NutritionStudy` from the `Lock5Data` package.
  2. Compute and plot the bootstrap distribution for the mean number of calories consumed per day, then:
     (a) compute the 95% confidence interval for the mean number of calories consumed per day using the standard error.
     (b) compute the 99% confidence interval for the mean number of calories consumed per day using the percentiles.
  3. Compute and plot the bootstrap distribution for the proportion of people who smoke. Then compute 95% confidence interval for the proportion of people who smoke.
  4. Compute and plot the bootstrap distribution for the correlation between grams of fibre consumed per day and number of calories consumed per day. Then compute the 90% confidence interval of the correlation.

  The whole script should run without errors. Make sure to save the script in your directory. Remember to add comments to your script as you go, so that you can still understand it later.

Workshop Exercise 3

- Download the Workshop Exercise task sheet and the R Markdown template from the unit's vUWS site.
- Answer all questions, editing the R Markdown file as required.
- Use R Studio to produce ("knit") a MS Word document from your R Markdown file. You may have to use the package manager in R Studio to install the packages `knitr` and `rmarkdown`.
- Use MS Word to convert the Word document to PDF.
- Submit your solution in PDF format on vUWS by clicking on the link **"Workshop Exercise 1"**.

Do NOT use the link "Practice Workshop Exercise" to submit your solution!

If you cannot knit your R Markdown file, start a text submission in vUWS and paste the content of your R Markdown file into the text entry field. Do not upload the R Markdown file.

Submission closes at exactly 5 minutes to the hour, just before the end of your workshop.

Do you feel that you could do with some extra help understanding statistics? – If so, please make use of the free help offered by MESH and the PASS programme. Check out the *MESH* and *PASS* tabs on the unit's vUWS site for more information.