Introduction to R

Session 1 exercises

Statistical Consulting Centre

1 March, 2017

1 Using R as a calculator

(i) Find the values of:

(a) $1 + 4$

(b) $2^3 + \frac{4}{\sqrt{34}}$

(c) $\log 30$

(d) $\log_{10} 30$

(e) $|-2|$ (Hint: $|x|$ denotes the *absolute value* of x. Search on Google if you're unsure.)

(ii) Now open Rstudio, open a `R` script clicking `File` → `New` → `R` script.

(iii) Save this script by clicking `File` → `Save As...`.

(iv) Select a directory/location and save the script. Note: the saved script should have `.r` as extension. For example, if you call your file `exercise one`, then you should save it as `exercise one.r`

(v) Copy and paste the code you typed (*not the output, not the > symbol, just the code you typed*) at the console for **1**(i) into the `R` script opened in Rstudio.

(vi) Submit your entire script at once to the `R` Console by highlighting all codes and pressing Ctrl + R.

(vii) From now on, type all of your code in your `R` script and submit it to the `R` Console using Ctrl + R.

2 Reading data into R

(i) We are going to use Leisure Time and Sports Questionnaire done by ISSP at 2007 for our exercises. Again we only take a small proportion of the survey (`sports.csv`). Please see the questionnaire provided.

(ii) Read the data into `R`, saving it in an object named `sports.df`.

(iii) Use `dim()` and `head()` to look at some of the properties of the dataset you have just read into `R`. *Always* perform these two important checks of your data to ensure what you have read into `R` is as it should be.

(iv) Calculate the mean and standard deviation of age.

(v) Check the frequency of gender.

(vi) Produce a two-way frequency table between ethnicity and age.

(vii) Turn the frequency table in 2(vi) into column proportions, keep only 1 decimal place.

(viii) Now turn the frequency table in 2(vi) into row proportions, keep only 1 decimal place.