

Data Analysis using R

Level: Beginner

Erick Ouko N.

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Session 1 Exercises

Exercise 1

We will work from an R Script during the course. This script will be saved regularly to preserve work completed in previous sessions. Open and save a new R script and give it the name “R_Data_Analysis_YourName”

Exercise 2

It is preferable in many instances to redirect R to a working directory which is usually a preferred folder in your project where you save the project information. This will allow for fast saving of plots, processed data, workspace etc and reading files without inserting the full folder path.

- a) Print the current working directory
- b) Set your working directory to the R folder which you have dedicated to the course and check again to confirm.

Exercise 3

R contains a dataset called **InsectSprays**.

- a) Use `help()` function to inspect and describe the dataset here as well as the variables included.
- b) Use the function `head()` to inspect the first rows of the dataset, `tail()` to inspect the last rows and `View()` to open whole dataset.
- c) Find the maximum, minimum, mean, median, sum, variance and standard deviation of the variable “count” in the dataset **InsectSprays**
- d) How many values are greater than 20 and less than 5 in the **InsectSprays** dataset?
- e) Print out the following:

- Second column of the dataset
- Third row of the dataset
- Rows 6, 8, 10 and columns 1, 2 of the dataset.

Exercise 4

You would like to use the function “**sd**” in R but you are not sure about some of its details. Use R help options to ask for help about the function “**sd**”, list all functions that contain “**sd**” and to obtain examples where you can use it.

Exercise 5

Make a dataset (factor) composed of 40 variables for marital status “**married**”, 30 variables for status “**single**” and 30 variables for status “won’t say”. Inspect this dataset using `summary()` function.

Exercise 6

Make and name a matrix consisting of the numbers between 50 and 60 with 2 rows and 5 columns. Inspect whether it is a matrix, its length and dimensions.