DS4B: Ongoing Tasks

A. Fidalgo

Last update: *March 15, 23:06*

This document is a thread of the tasks that structure our class. Of course, not all of them will be documented here. It would be impossible to keep such a level of detail. But those below are certainly compulsory benchmarks.
Notice that the file will be updated in reverse chronological order (last section entries appear first; normal order *within* the section). That is meant to help follow the thread. The table of contents, specially on HTML-like formats, will be very useful to navigate the tasks.
The pdf file (and only it) is instructed to count the sections in reverse order.
A preview of the HTML file, which is easier to navigate, is available: preview html here.

3 Homework for March 22

3.1 Train the workflow

Play around with the example that we did in class to illustrate **reproducible research** (rr) and **dynamic documents** (dd).
The file is on GitHub, but I slightly modified the YAML in order to allow the illustration of cross-references of sections. This new format (`bookdown::pdf_document2`) requires a R package. Hence, you need to install it with `install.packages('bookdown')` or by using the menu *Tools> Install Packages...*.

2 Lecture on March 15

2.1 Check your R/Rstudio/Latex installation

Create a new Rmd file *File> New File> R Markdown*. And then click on Knitr, possibly by chosing the output format on the scroll down menu (i.e., Knit to...).

If needed, install required packages (e.g., `knitr`).

```
install.packages("knitr")
```

Notice that, in order to create a pdf document, you must have a Latex distribution installed; similarly for Word output, Microsoft Word is necessary.

2.2 Create own Rmd file

Notice that everytime such new file is created with the menu, it comes with pre-populated content. It can help, but it can also be annoying because you need first to erase it and start writing your stuff.

Your first Rmd can be a change in this default content or a copy from the class GitHub (or your very own).

2.3 Create class folders

In your machine, create a folder for this class. Within that folder, create a folder for your book. Members of the same group must have the **same name** for that book folder.
Put your first Rmd file into your book folder.

2.4 Create your project

File> New project> Existing Directory and chose that book folder.
Now, everytime you create content for your book, you must start a Rstudio session *File> Open Project...*
All the files of the project are the files of the folder, and vice versa.

1 Prior to the first Lecture

1.1 Install applications

Please download the following FREE applications, available on all platforms:

1. R (https://cran.uni-muenster.de/)
2. RStudio, free Desktop version (https://www.rstudio.com/products/rstudio/download/#download)
3. A Latex distribution (e.g., MacTex for Mac or MiKTeX for Windows machines)

The first two are easily and quickly installed. The last is a very large program (a few Gb) and needs time to install.

Planned tasks

This is a very incomplete list of tasks that will enter our workflow at some point. They are mentioned here for a reference.

Install a Git application

Another application needed in the class is a Git (https://git-scm.com/downloads) distribution. This is also a free software.

Set up GitHub

One member of the group must create a free GitHub (https://github.com/join) account. In that account, you will create a new repository (pronounced 'repo') whose name is exactly the same as your R project / book folder (e.g., 'myRbook').
The linking between GitHub and Rstudio will be explained later.

Include images

Referencing of sections/figures/equations...

Introduction to Latex

This is particularly important for writing math expressions and for output customization.

Introduction to html customization (css)

As requested by Mr. Miebach.