Project 1 - Individual Essay

Stat 159, Fall 2016, Prof. Sanchez

Your first reproducible project

The goal of this project assignment is to practice with the computational tools covered so far in the course: bash, markdown, pandoc, git, github, Make, and a text editor of your preference.

Specifically, we want you to write a paper about such tools. In other words, you have to write a paper about writing the paper, commenting on the tools you are using to accomplish this task, and what is the role that each tool plays in this process.

You have to describe—in your own words—how you work on this assignment (tell us about your experience), commenting on the following aspects:

- Explain what is a Makefile and the role it plays in this reproducible workflow.
- Explain what is Git, and its role in this reproducible workflow.
- Explain what is GitHub, and its role in this project.
- Explain what is pandoc, and comment on its usefulness (or advantages).
- Explain what is Markdown.
- What resources you used to get the job done?
- What were the "easy" parts?
- What were the challenging parts?
- What things you were stuck with?
- What was the most time consuming part?
- Did you work with and/or get help from someone else? If yes, in what manner?
- How much time did it take?

If it helps, pretend that you have to write a blog post about using the tools we've seen so far, explaining the role they play. Imagine that the target audience are other undergrad students in statistics (or similar fields). Keep in mind that the paper you write may become a tutorial: a document that you may read later in the future in order to remember how you did something (e.g. write a Makefile).

Instructions

What you need to "turn in" is basically the github repository of this project. Add us (i.e. the instructor and the GSI) as collaborators in GitHub. Our usernames are: `gastonstat` and `SindhujaJeyabal`

The final file-structure of your project should look like this:

```
stat159-fall2016-project1/
    .gitignore
    README.md
    Makefile
    paper/
        sections/
            00-abstract.md
            01-introduction.md
            02-discussion.md
            03-conclusions.md
        paper.md
        paper.html
    images/
        git-logo.png
        github-logo.png
        markdown-logo.png
        pandoc-logo.png
        stat159-logo.png
```

- `README.md` is a file (written in markdown) describing the project's structure, author's name, and creative commons license of your choice. See https://creativecommons.org/choose/ for more info about these licenses.
- The content of the `README.md` file should allow any "competent" user to follow the instructions and be able to reproduce your paper.
- The file `Makefile` should contain two targets: the html paper `paper.html`, and a `clean` *phony* target that removes the html file.
- The way you should write your paper is to break down its structure in four (or more) sections, each section written in a separate `.md` file (do NOT use `.Rmd` files). These markdown files are essentially the ONLY files that you should be editing (not the `paper.md` file):
  - `00-abstract.md`
  - `01-introduction.md`
  - `02-discussion.md`
  - `03-conclusions.md`
- The file `paper.md` should be assembled from those `.md` files in `sections/`. This file must NOT be inside `sections/`.
- The file `paper.html` is the output from running pandoc on `paper.md`, via the `Makefile`.
- The content of the paper should not exceed 20,000 characters. This is approximately six pages, single spaced in 12 point font, when pasted in a typical word processor (e.g. MS Word).
- The `.png` image files are the files that come in the `images` folder of this project's github repo. You will have to include those images somewhere in your `.md` files.

Miscelanea

- Practice writing good commit messages
- Commit soon and often (commits are cheap!)
- Don't be afraid of undoing things