Lab-1.2: Assignment

`Git, Quarto, and Remote file transfer`

Note: We will be moving back to more “traditional” Data-science methods in the coming weeks, however, we want you to acquire the following Computer-Science fundamentals as early as possible!

`Important`: If you don’t know how to do something, start first by `Googling`, e.g *how to embed a video in quarto*

Assignment components

- **WINDOWS USERS**: For terminal commands, ideally use `WSL`, but if not, the commands should work using a combination of `anaconda powershell` and/or `windows powershell`

Component-1

- Create an online repo on your private GitHub account called `5000-lab-1.2`, include a README.md file
- **Submission**: take screenshot of the created repo from the browser –> `github-1.png`

Component-2

- Use the terminal, to Clone the repo to your local machine with `git clone`
  - **Submission**: Record the commands and command output in a text file `commands.txt` for later upload to canvas

Component-3

- Make sure the `Quarto` extension is installed in VS-Code.
- Using VS-Code –> New file –> "Quarto project" –> create a blank Quarto "Website" project in your `5000-lab-1.2` repo call `simple_quarto_website`
  - **Note**: All paths in the website should be relative NOT absolute
- Add a `reference.bib` file to the repo, use google-scholar to get **TWO** arbitrary `bibtex` citations to put in this file
- From the terminal inside `5000-lab-1.2/simple_quarto_website`
  - Run `rm styles.css` to remove `styles.css` file and remove `css: styles.css` line from `_quarto.yml`
  - Run `mkdir images` inside `5000-lab-1.2/simple_quarto_website` to make a folder
  - Run `mkdir slides` inside `5000-lab-1.2/slides` to make a folder
  - Convert `about.qmd` to `about.ipynb` with `quarto convert about.qmd`
  - Run `ls` to see the folder contents
  - Run `more reference.bib`
  - **Submission**: Record the commands & command output in a text file `commands.txt`

for later upload to canvas

- modify `_quarto.yml` accordingly `- about.qmd` –> `- about.ipynb`

Component-4

- **Note**: Use `quarto preview` from inside `5000-lab-1.2/simple_quarto_website` to monitor your progress as you do the following steps
- Inside `index.qmd` do the following
  - Add some text separated by header (h1,h2,h3) (call the sections whatever you want, be professional)
    - **Note**: Use of `ipsum lorem` place-holder text is allowed
    - Some of the text must be formatted text with two columns
    - Some of the text must be in a bulleted list
  - Add at least one markdown table to the page
  - Add at least one inline-math LaTex equation `$ $`
  - Make sure there is a table of contents on the page
  - Add at least one non inline-math LaTex equation `$$ $$`
  - Include a least one foot-note in the file `[^1]`
  - Include at least one quote using `>`
  - Add at least two embedded images sortd in (be professional)
  - Add at least one embedded video (be professional)

- Add at least one embedded video (be professional)
- Include at least one `Mermaid` diagram
- Include at least one instance of the citations from your `.bib` file

Component-5

- Inside `about.ipynb` do the following
  - Add some text separated by header (h1,h2,h3) (call them whatever you want but be professional)
    - **Note**: Use of `ipsum lorem` place-holder text is allowed
  - Add at least one `python code cell` with an output plot (any plot is fine)

Component-6

- Create a folder `slides` in the repo, if you haven't already
  - Inside `slides/slides.ipynb` build a simple presentation file using `reveal.js` format
    - See the following for more https://quarto.org/docs/presentations/revealjs/
    - Modify the `yaml` header in `slides.ipynb` to set this up
- Make at least 3 slides inside `slides/slides.ipynb`, using the syntax `##` to separate slides
- Include at least one citation in the slide deck from your `reference.bib` file
- Include at least two images in the slide-deck, stored the `.pngs` (or what-ever format) in `slides/images`
- Add at least one `python code cell`, Using `code-folding` with the output plot shown in the slide deck

Component-7

- Render your final website from within `5000-lab-1.2/simple_quarto_website`
  - `quarto render`
  - If all goes well, this will create an `_site` folder with your website
- **Submission**: Compress your `5000-lab-1.2` folder for upload to Canvas

Component-8

- From command line, sync your changes to github with `git add`, `git commit`, `git push`
  - **Submission**: Record the commands & command output in a text file `commands.txt` for later upload to canvas
  - **Submission**: Take a screenshot of the updated cloud repo on `github.com` from the browser –> `github-2.png`

Component-9

Final submission

Upload all of the various sub-components submissions to Canvas