Assignment 1

Start Assignment

Due 21 Mar by 22:00 **Points** 10 **Submitting** a file upload **File types** html
Available until 21 Mar at 22:00

*This assignment draws on lecture and lab content from Module 1: Creating HTML by combining modern technologies. The knowledge and skills assessed by the assignment will be covered in lectures/labs **by the end** of Module 1. Consequently, the order of the assignment instructions below does not necessarily reflect the order the material is covered in lectures/labs.*

Prep work

- If you do not already have a **GitHhub (https://github.com)** account, you will need to set up a free account for use during this course (and beyond!). **Think wisely about what to name your account - remember future employers might look at it!**
- You will also need access to a computer that has **R (https://cran.r-project.org/)** installed and **RStudio (https://www.rstudio.com/products/rstudio/download/)** installed. If installing R and RStudio onto your computer is a problem, you can use the free level of **RStudio Cloud (https://rstudio.cloud/)**
- Install the R package {magick}
- Create a folder **on your computer (or within RStudio Cloud)** called stats220. Within this folder, create a new project using RStudio that is called “Assignment1”

Remember, you can use the lab sessions to get help with completing your assignment, and with any technical difficulties you face, like installing R or RStudio, or any packages 😀

Part A

- Create a new R file within your *Assignment1* project called “meme.R”.
  - Edit the first line of the file so that it reads `library(magick)`
- Develop R code within the *meme.R* file to create a new/original meme. Your R code needs to demonstrate the following:
  - use of *at least* the following functions: `c()`, `image_blank()`, `image_read()`, `image_annotate()`, `image_append()`
  - use of pipes e.g. `%>%`
  - use of named objects e.g. `meme <- image_read(url)`

- To save your meme as an image file (e.g. *.png*), use the `image_write()` function.
    - For example, to save the {magick} object called `meme` as an image file called *my_meme.png*, use the code `image_write(meme, "my_meme.png")`
- In your GitHub account, create a new repository called “stats220”.
    - Choose the option to create a *README.md* file at the same time as creating your new repository.
    - Set up GitHub Pages for your *stats220* repository (repo).
- Edit the *README.md* file so that it contains a link to the **website** for your *stats220* repo.
    - Your *README.md* file should also contain some information about the purpose of the repo, so that other people who view your repo on GitHub know why you made it.
- Upload your meme image file (e.g. *my_meme.png*) from your computer into your *stats220* repo.
- Create a new file within your stats220 repo called “index.md”.
    - Edit the *index.md* file so that it displays a new original meme that you have created using R code and the {magick} package, as well as the R code you used to create it.
    - Your *index.md* file needs contain information about the meme you created, for example, what the motivation was, and how your meme is new/original (e.g. an adaption of an existing meme format).
- Either one or both of your *README.md* and *index.md* files needs text that demonstrates *at least* the following Markdown syntax:
    - use of two different levels of headers
    - use of two different types of bullet points (ordered or unordered)
    - use of **bold** and *italics*
    - use of links to other websites
    - use of images, including those within your repository and those accessed from other websites
    - use of code fences

> *Remember, that your repo is public, so only write and share content that you are comfortable with others viewing. You can **view the “test” repo Anna set up on GitHub (https://github.com/datasci4everyone/test)** for some ideas to get started, although you can not copy this exactly, and it **does not** cover all the requirements listed above!*

Part B

- Create a new Rmd file within the *Assignment1* project called “index.Rmd”, with the title “Assignment 1” and with your name as the author. **Note: RStudio will automatically install**

the packages needed to write and knit .Rmd files.

- Edit the YAML of the *index.Rmd* file so that the subtitle is “STATS 220 Semester One 2022”.
- Edit the `knitr::opts_chunk$set()` so that messages are not displayed.
- Structure the page using second-level headings as follows:
  - GitHub repository information
  - Animated GIF creation
  - Learning reflection
- Under the *GitHub repository information* section of your report, provide a link to your github STATS220 **repo**.
  - The link should look like this: `https://github.com/datasci4everyone/stats220`. For your link, the **datasci4everyone** part will be replaced by **your github username**.
  - Summarise what you are sharing in your stats220 repository.
- Under the *Animated GIF creation* section of your report, use R chunks to develop and display a new/original animated GIF. Your R code needs to demonstrate the following:
  - use of at least the `image_animate()` function
  - creation of at least 4 different frames for the animation using a combination of different functions from the {magick} package
  - use of named objects e.g. `meme <- image_read(url)`
  - use of comments
  - use of indenting and “white space”
- Under the *Learning reflection* section of your report you need to write at least 100 words where you:
  - describe in your own words at least ONE important idea you learned from Module 1 *Creating HTML by combining modern technologies*.
  - discuss what things related to data technologies that you are more curious about exploring further.
- Add at least one CSS chunk to your *index.Rmd* file that changes the visual appearance of your report in at least two different ways.
- Knit your *index.Rmd* file to create a self-contained *index.html* file.
  - For all code chunks used within the file, make sure you have set `echo = TRUE` so that your code can be viewed in the web page.

*For this assignment, you will submit the HTML file generated from **Part B**. This HTML file must contain a link to your stats220 repository, so that the contents of your stats220 repository can be assessed for this assignment (Part A).*

Marking guide

The assignment will be marked out of 10.

Part A

- The GitHUb repo contains the two required Markdown files and GitHub Pages has been set up (1 mark)
- The Markdown syntax used meets the stated requirements (1 mark)
- The R code used meets the stated requirements (1 mark)
- The README.md file contains sufficient information its purpose and the index.md file contains sufficient information about the creation of the meme (1 mark)
- Both Markdown files demonstrate creativity (1 mark)

Part B

- The report contains a *GitHub repository information* section that contains the link to repository and summary of what has been shared (1 mark)
- The report contains a *Animated GIF creation* section that contains R code that meets the stated requirements and a new/original animated GIF (1 mark)
- The report contains a *Learning reflection* section that meets the stated requirements (1 mark)
- The visual appearance of the report has been modified using CSS code (1 mark)
- The report demonstrates creativity (1 mark)

> *What does "demonstrate creativity" mean? It means that you have gone beyond what was asked in terms of your explanations, creations, presentation or use of data technologies. For this assignment, that could mean using additional functions from the {magick} package that were not covered in the lectures/labs, using more CSS than what was required to change the appearance of your Part B report, adding more content to your GitHub Markdown pages, or the creativity of the meme or animated GIF produced.*

Assignment 1

Criteria	Ratings		Pts
The report contains a GitHub repository information section that contains the link to repository and summary of what has been shared	**1 Pts Full marks**	**0 Pts No marks**	1 pts
The GitHub repo contains the two required Markdown files and GitHub Pages has been set up	**1 Pts Full marks**	**0 Pts No marks**	1 pts
The Markdown syntax used meets the stated requirements	**1 Pts Full marks**	**0 Pts No marks**	1 pts
The R code used meets the stated requirements	**1 Pts Full marks**	**0 Pts No marks**	1 pts
The README.md file contains sufficient information its purpose and the index.md file contains sufficient information about the creation of the meme	**1 Pts Full marks**	**0 Pts No marks**	1 pts
Both Markdown files demonstrate creativity	**1 Pts Full marks**	**0 Pts No marks**	1 pts
The report contains a Animated GIF creation section that contains R code that meets the stated requirements and a new/original animated GIF	**1 Pts Full marks**	**0 Pts No marks**	1 pts
The report contains a Learning reflection section that meets the stated requirements	**1 Pts Full marks**	**0 Pts No marks**	1 pts
The visual appearance of the report has been modified using CSS code	**1 Pts Full marks**	**0 Pts No marks**	1 pts

Criteria	Ratings		Pts
The report demonstrates creativity	**1 Pts** **Full marks**	**0 Pts** **No marks**	1 pts
			Total points: 10