

R Markdown workshop

MS Teams

6 May 2020, 11:00 - 12:30

R Markdown

Set your input and output in stone using [R Markdown](#). The analysis reports may be enriched with website features (HTML/CSS) and published as HTML, PDF or Word documents. Moreover, with R packages such as `bookdown`, `bookdownplus`, `blogdown` and `flexdashboard`, the documents can be formatted as [websites \(link\)](#), [digital papers and books \(link\)](#), and [data dashboards / web applications \(link\)](#). Other useful packages include `rmarkdown`, `knitr`, `DT`, `kableExtra` and `ggplot2`.

As well as facilitating the reproducibility of analyses and results to third parties, R Markdown is helpful *during the creation* of a report. In particular, it reduces the chances of errors and the number of repetitive tasks. For instance, any part of the data can be inputted in the text directly from the source, rather than manually copying it (e.g., ``r mean(dat[dat$location=='Havana', 'measure'])``; [see further information](#)). Thus, if and when the analysis needs to be changed or updated, the report can be automatically updated at the click of a button. In another area, the captions of figures and tables can be automatised using [cross-reference labels](#) (e.g., `Table \@ref(tab:mtcars)`). This secures the match between the text and the captions, and also automatically updates the numbering whenever and wherever a new figure or table is introduced.

Programme

- Basics: [text formatting \(link\)](#), [code integration \(link\)](#) and [output formats](#)
- [Tables](#) and [plots](#)
- [Cross-referencing](#) and further options for [tables](#) and [plots](#)
- Text formatting using some [HTML and CSS](#) code
- Article formatting using [bookdown](#), [rticles](#) and [bookdownplus](#) packages

Each section is formed of a concise presentation, a task in small groups, and a general-group recap to share any challenges and resources found during the task, as well as any questions.

Preparation

- Updating **R** and **RStudio**
- No problem if this can't be done (we'll have a ready-to-go RStudio Cloud workspace just in case).

- Installing packages:

```
install.packages('tidyverse')
install.packages('rmarkdown')
install.packages('bookdown')
install.packages('lme4')
install.packages('afex')
install.packages('sjPlot')
install.packages('knitr')
install.packages('DT')
install.packages('ggplot2')
install.packages('plotly')
install.packages('bookdown')
install.packages('bookdownplus')
install.packages('rticles')
install.packages('tinytex')
```

- For the 'tinytex' package, if necessary, please [see information](#);
No problem if these packages can't be installed in advance, as they may be quickly installed at the beginning of the workshop.

Further background

- [Slides by Ed Berry](#)
- [Presentation by Michael Frank](#)
- [More general information](#)