Template for contribution to Computo using Rmarkdown

Computo team

2021-06-10

1 Abstract

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2 Introduction

2.1 About this document

This document provides a Rmarkdown[1] template for contributions to the Computo (https://computo.sfds.asso.fr/) journal. We show how `R` or `Python` code can be included.

2.2 Advice for writting your manuscript

First make sure that you are able to build your manuscript as a regular notebook on your system. Then you can start configure the binder environment.

3 Formatting

This section covers basic formatting guidelines using Rmarkdown. Rmarkdown (http://rmarkdown.rstudio.com) is a simple formatting system for authoring HTML and PDF documents, that relies on the Pandoc Markdown (https://rmarkdown.rstudio.com/authoring_pandoc_markdown.html) markup language.

To render/compile a document as HTML within Rstudio, click the **Knit** button. A document will be generated that includes both content as well as the output of any embedded code chunks within the document.

3.1 Mathematical formulae

LaTeX (https://www.latex-project.org/) code is natively supported, which makes it possible to use mathematical formulae:

$$f(x_1, \ldots, x_n; \mu, \sigma^2) = \frac{1}{\sigma\sqrt{2\pi}} \exp\left(-\frac{1}{2\sigma^2} \sum_{i=1}^{n} (x_i - \mu)^2\right)$$

3.2 Code

`R` code (R Core Team 2020) chunks may be embedded as follows:

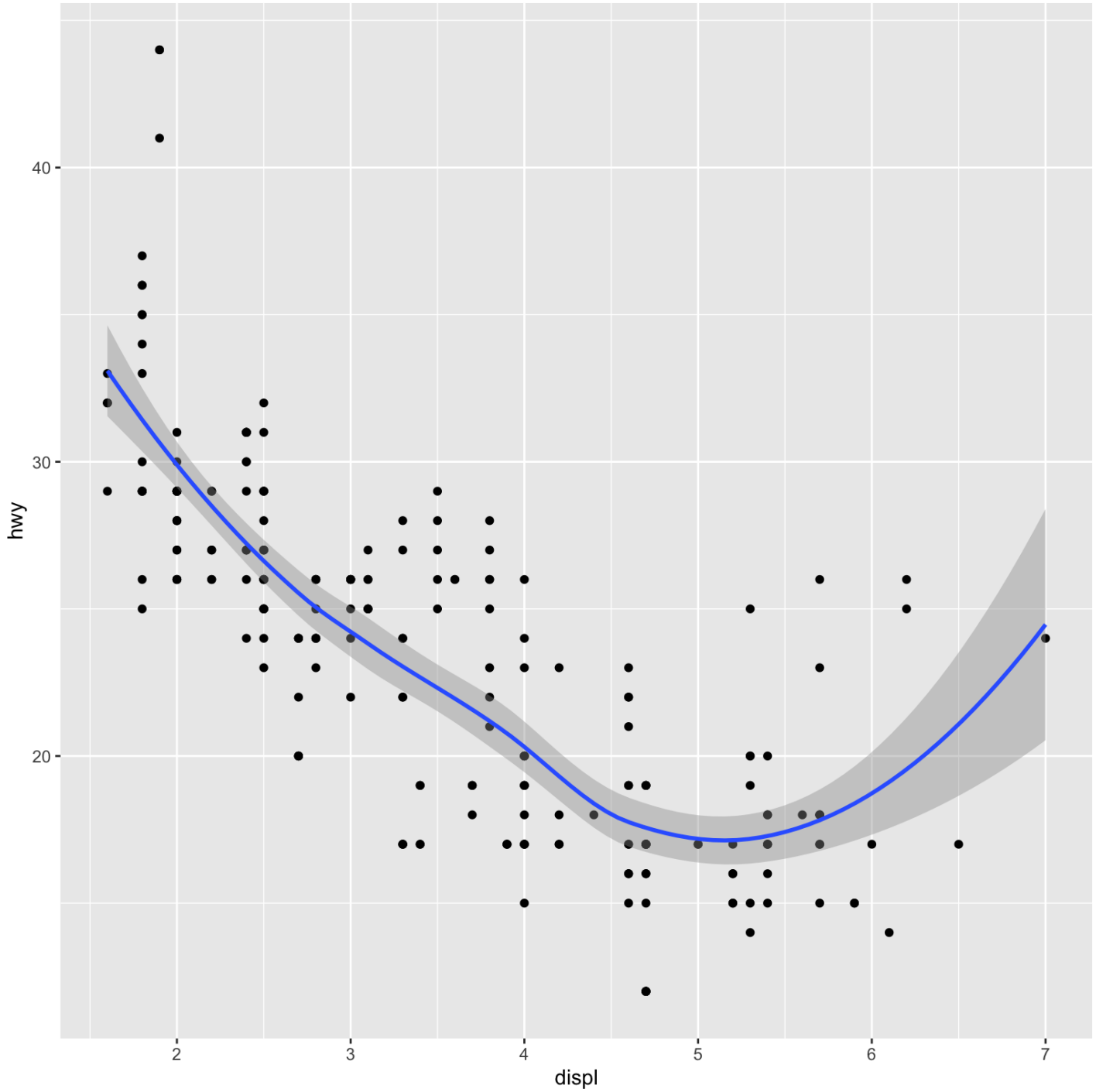
```
x <- rnorm(10)
```

The R code from the other code chunks in this document has been hidden from the output, but is visible from the source document.

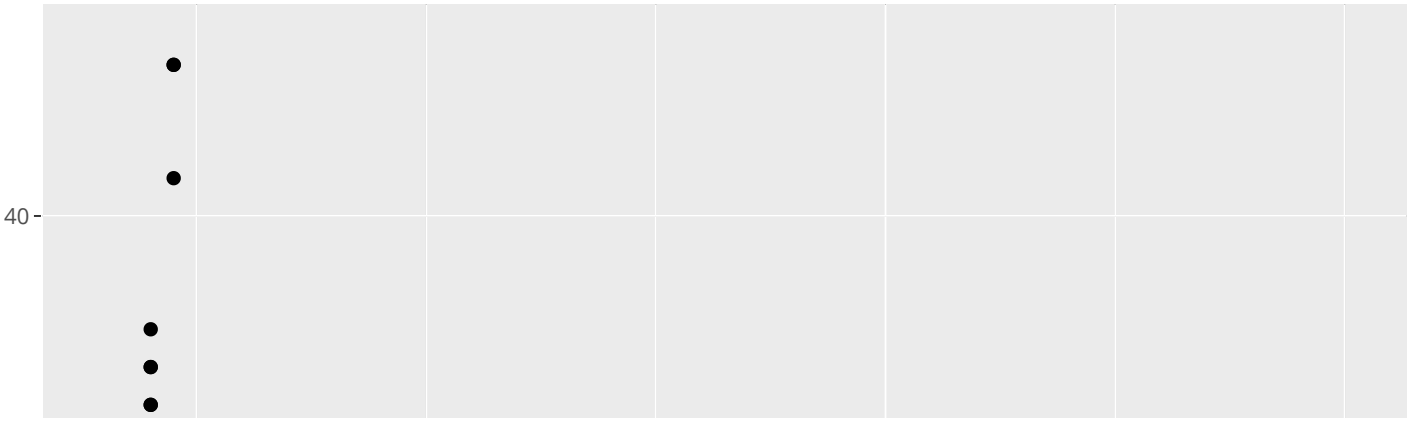
It is also possible to include inline code. For example the mean of `x` is 0.1213263.

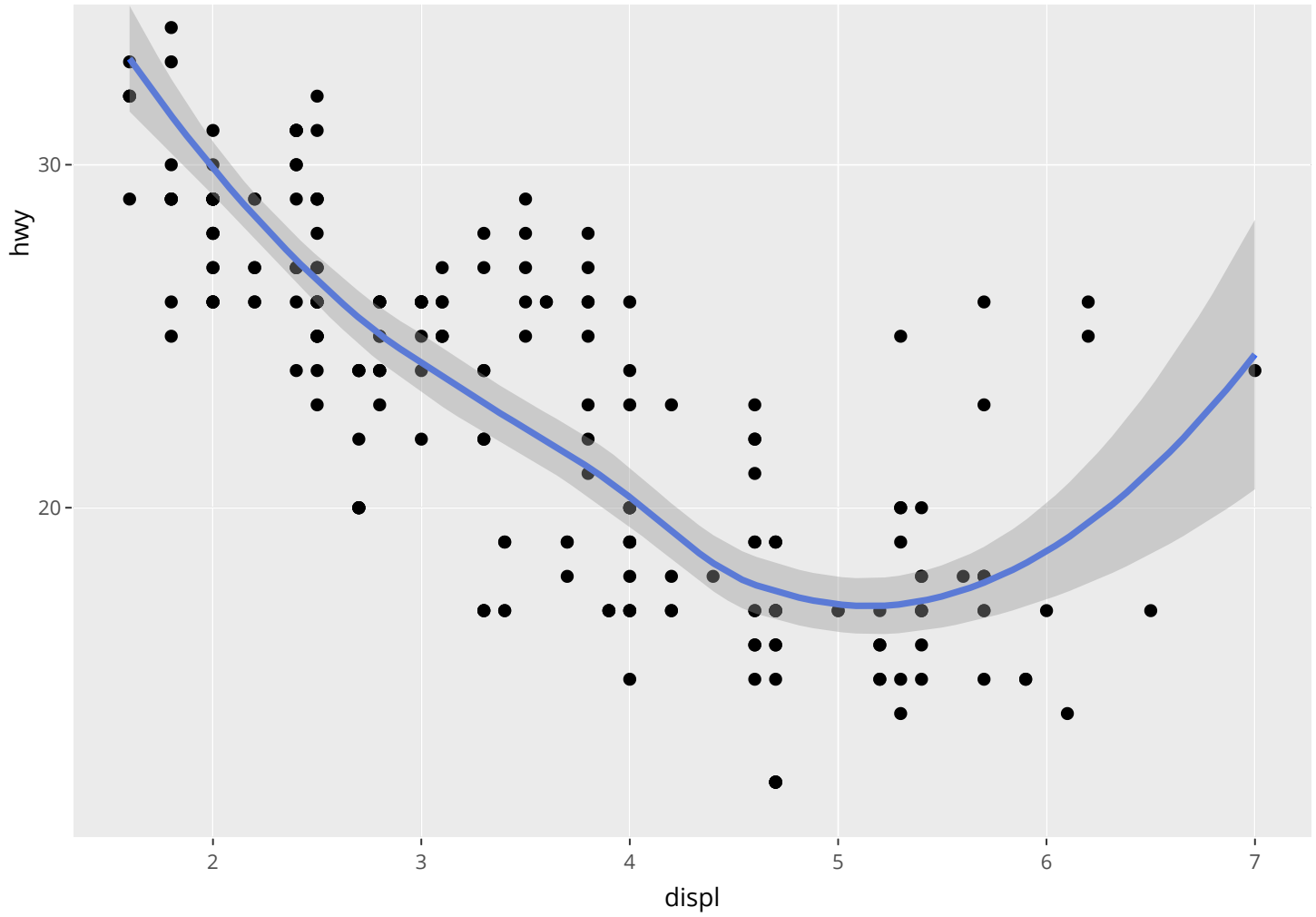
3.3 Figures

Plots can be generated as follows:



Interactive plots may also be produced in the HTML output of the document:





It is also possible to create figures from static images:

SFdS logo (c.a. 2021).

3.4 Tables

Tables can be generated as follows:

Table caption.

	speed	dist
	Min. : 4.0	Min. : 2.00
	1st Qu.:12.0	1st Qu.: 26.00
	Median :15.0	Median : 36.00
	Mean :15.4	Mean : 42.98
	3rd Qu.:19.0	3rd Qu.: 56.00
	Max. :25.0	Max. :120.00

Other options for tables are listed here (https://rmarkdown.rstudio.com/lesson-7.html).

3.5 Bibliographic references

References are displayed as footnotes using BibTeX (http://www.bibtex.org/), e.g. `[@computo]` will be displayed as (Computo Team 2020), where `computo` is the bibtex key for this specific entry. The bibliographic information is automatically retrieved from the `.bib` file specified in the header of this document (here: `template-computo-Rmarkdown.bib`).

3.6 Beyond R code

Other languages can be included in Rmarkdown documents, including python, Julia and C++. In particular, the R package reticulate (https://cran.r-project.org/package=reticulate) (Ushey, Allaire, and Tang 2020) includes a Python engine for R Markdown that enables easy interoperability between Python and R chunks. We refer to the vignette R Markdown Python Engine (https://cran.r-project.org/web/packages/reticulate/vignettes/r_markdown.html) for a more detailed description.

4 Session information

```
## R version 4.1.0 (2021-05-18)
## Platform: x86_64-apple-darwin13.4.0 (64-bit)
## Running under: macOS Catalina 10.15.7
##
## Matrix products: default
## BLAS/LAPACK: /usr/local/miniconda/envs/computorbuild/lib/libopenblasp-r0.3.15.dylib
##
## locale:
## [1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## other attached packages:
## [1] plotly_4.9.4  ggplot2_3.3.3
##
## loaded via a namespace (and not attached):
##  [1] highr_0.9         pillar_1.6.1      compiler_4.1.0    tools_4.1.0
##  [5] digest_0.6.27     viridisLite_0.4.0 jsonlite_1.7.2    lattice_0.20-44
##  [9] evaluate_0.14     lifecycle_1.0.0   tibble_3.1.2      gtable_0.3.0
## [13] nlme_3.1-152      mgcv_1.8-36       pkgconfig_2.0.3   rlang_0.4.11
## [17] Matrix_1.3-4      DBI_1.1.1         crosstalk_1.1.1   yaml_2.2.1
## [21] xfun_0.23         httr_1.4.2        withr_2.4.2       stringr_1.4.0
## [25] dplyr_1.0.6       knitr_1.33        htmlwidgets_1.5.3 generics_0.1.0
## [29] vctrs_0.3.8       grid_4.1.0        tidyselect_1.1.1  data.table_1.14.0
## [33] glue_1.4.2        R6_2.5.0          fansi_0.5.0       rmarkdown_2.8
## [37] tidyr_1.1.3       farver_2.1.0      purrr_0.3.4       magrittr_2.0.1
## [41] scales_1.1.1      ellipsis_0.3.2    htmltools_0.5.1.1 splines_4.1.0
## [45] assertthat_0.2.1  colorspace_2.0-1  labeling_0.4.2    utf8_1.2.1
## [49] stringi_1.6.2     lazyeval_0.2.2    munsell_0.5.0     crayon_1.4.1
```

References

Computo Team. 2020. “Computo: Reproducible Computational/Algorithmic Contributions in Statistics and Machine Learning.”
R Core Team. 2020. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/ (https://www.R-project.org/).
Ushey, Kevin, JJ Allaire, and Yuan Tang. 2020. *Reticulate: Interface to Python*. https://github.com/rstudio/reticulate (https://github.com/rstudio/reticulate).

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1. https://rmarkdown.rstudio.com/ (https://rmarkdown.rstudio.com/)↩