

# Gráficos en R

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# Introducción

A lo largo de este contenido se pretende revisar el estado del arte de los paquetes para graficar en R, categorizándolos según su tipología. En la actualidad, junto a Python, R es uno de los lenguajes con mayor uso para el análisis de datos, con una infinidad de paquetes creados ad hoc para realizar tareas específicas. Además, cuenta con una comunidad muy sólida que reporta bugs y contribuye a seguir expandiendo el entorno de R. Su versatilidad y su reciente incorporación de formatos como Bookdown, R Markdown, y Quarto lo hacen idóneo para realizar análisis de datos centrándose únicamente en dicho análisis y no perder tiempo en diseñar el entorno en el que se presentarán.

Este proyecto se ha realizado en Bookdown<sup>1</sup> con la idea de que sea fácilmente exportable a PDF o leído desde la web, además de poder evolucionar en el tiempo, incluyendo correcciones tipográficas o nuevos apartados. Se expondrán los diferentes tipos de paquetes para graficar en R, clasificándolos según su propósito: visualización exploratoria, visualización de resultados estadísticos, gráficos interactivos, gráficos para informes y publicaciones, entre otros. Esto permitirá una comprensión integral de las herramientas disponibles y su adecuada aplicación en diversos contextos de análisis de datos.

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<sup>1</sup>Ver (Xie 2017) para más información sobre Bookdown.



# ggplot 2

All chapters start with a first-level heading followed by your chapter title, like the line above. There should be only one first-level heading (#) per .Rmd file.



# Sharing your book

## Publishing

HTML books can be published online, see: <https://bookdown.org/yihui/bookdown/publishing.html>

## 404 pages

By default, users will be directed to a 404 page if they try to access a webpage that cannot be found. If you'd like to customize your 404 page instead of using the default, you may add either a `_404.Rmd` or `_404.md` file to your project root and use code and/or Markdown syntax.

## Metadata for sharing

Bookdown HTML books will provide HTML metadata for social sharing on platforms like Twitter, Facebook, and LinkedIn, using information you provide in the `index.Rmd` YAML. To setup, set the `url` for your book and the path to your `cover-image` file. Your book's `title` and `description` are also used.

This `gitbook` uses the same social sharing data across all chapters in your book— all links shared will look the same.

Specify your book's source repository on GitHub using the `edit` key under the configuration options in the `_output.yml` file, which allows users to suggest an edit by linking to a chapter's source file.

Read more about the features of this output format here:

<https://pkgs.rstudio.com/bookdown/reference/gitbook.html>

Or use:

```
?bookdown::gitbook
```



# Blocks

## Equations

Here is an equation.

$$f(k) = \binom{n}{k} p^k (1-p)^{n-k} \text{ (\#eq : binom)} \quad (1)$$

You may refer to using `\@ref(eq:binom)`, like see Equation `@ref(eq:binom)`.

## Theorems and proofs

Labeled theorems can be referenced in text using `\@ref(thm:tri)`, for example, check out this smart theorem `@ref(thm:tri)`.

For a right triangle, if  $c$  denotes the *length* of the hypotenuse and  $a$  and  $b$  denote the lengths of the **other** two sides, we have

$$a^2 + b^2 = c^2$$

Read more here <https://bookdown.org/yihui/bookdown/markdown-extensions-by-bookdown.html>.

## Callout blocks

The R Markdown Cookbook provides more help on how to use custom blocks to design your own callouts: <https://bookdown.org/yihui/rmarkdown-cookbook/custom-blocks.html>



# Footnotes and citations

## Footnotes

Footnotes are put inside the square brackets after a caret `^[]`. Like this one <sup>2</sup>.

## Citations

Reference items in your bibliography file(s) using `@key`.

For example, we are using the **bookdown** package [R-bookdown] (check out the last code chunk in `index.Rmd` to see how this citation key was added) in this sample book, which was built on top of R Markdown and **knitr** [xie2015] (this citation was added manually in an external file `book.bib`). Note that the `.bib` files need to be listed in the `index.Rmd` with the YAML `bibliography` key.

The RStudio Visual Markdown Editor can also make it easier to insert citations: <https://rstudio.github.io/visual-markdown-editing/#/citations>

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<sup>2</sup>This is a footnote.



# Parts

You can add parts to organize one or more book chapters together. Parts can be inserted at the top of an .Rmd file, before the first-level chapter heading in that same file.

Add a numbered part: `# (PART) Act one {-}` (followed by `# A chapter`)

Add an unnumbered part: `# (PART\*) Act one {-}` (followed by `# A chapter`)

Add an appendix as a special kind of un-numbered part: `# (APPENDIX) Other stuff {-}` (followed by `# A chapter`). Chapters in an appendix are prepended with letters instead of numbers.

Xie, Yihui. 2017. *Authoring Books and Technical Documents with R Markdown*. 1st ed. Chapman & Hall. <https://bookdown.org/yihui/bookdown/>.

