

Introduction to Quarto

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Invalid Date

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1 Introduction to Quarto

Quarto is a new engine for rendering markdown into user-friendly documents. Quarto does not exactly replace Rmarkdown - it is a kind of parallel development, implementing lessons from Rmarkdown (which will continue to work just as before).

1.1 Quarto or Rmarkdown?

You can mostly do the same things in Quarto as in Rmarkdown. There are two main differences, as far as I can tell:

1. RStudio (the company) wants their brand to be less R-focused. Quarto works just as well with Python and Julia as with R (Rmarkdown could do this but it was kind of a kludge to run R just as an environment for Python.)
2. Rmarkdown is essentially a way to write a document. By defining that language, it became possible to write a whole lot of tools and plugins and extensions to write blogs or books or journal articles or workshops or whatever. Quarto is not just a way to write, it is also a piece of software that interprets that writing and converts it into whatever format you want. That is, the conversion tools are not separate from Quarto, and the software also is able to manage the tools and extensions you use (e.g., Quarto can manage its TeX install and you can use quarto to load the correct formatting styles for journals). Being in everything into one tool also means the parts work together better than when they were separate. For instance, bibliographies and footnotes finally work!

Compare the Rmd workflow Figure [1.1](#) and the Quarto workflow Figure [1.2](#) - they look the same!

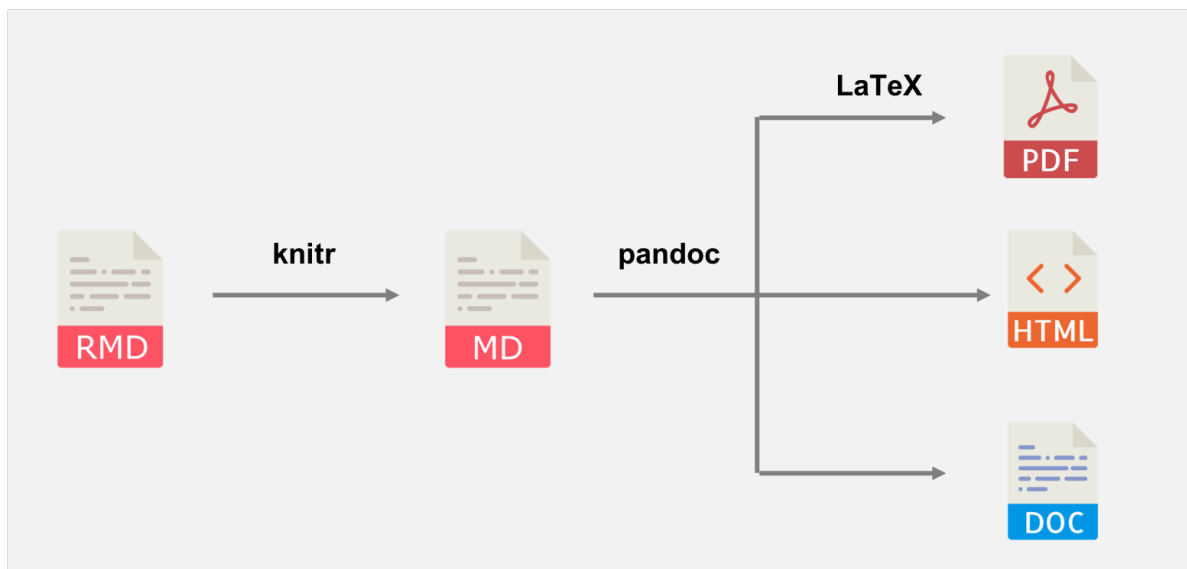


Figure 1.1: Rmd

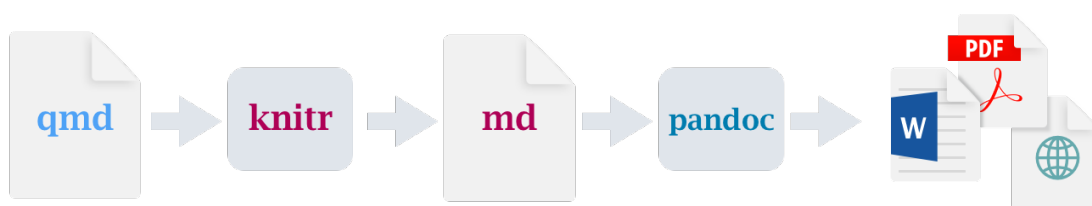


Figure 1.2: Quarto

2 Introduction

Here are some things you can do:

2.1 Code blocks

```
sin(8)
```

```
[1] 0.9893582
```

2.2 Citations

You can include citations in your Quarto document by putting a bibliography file (e.g., BibTeX format) in the directory where the document lives and indicating its location in the `bibliography:` tag in the YAML. Then you can put formatted citations into the text by tagging them with the `@` symbol. Datalab is a service unit within UC Davis library (Jared Joseph (2017)). By default the bibliography goes at the end of the chapter, but you can control that with YAML settings.

2.3 Math

There is support for LaTeX style math¹. There are

$$\bar{X} = \frac{1}{N} \sum_{i=1}^N X_i$$

¹There are multiple engines used behind the scenes to render the math into a readable format. [MathJax](#) is the default and the one I know best but you can

2.3.1 Figures

```
library( ggplot2 )
data(cars)

ggplot(cars) +
  aes(x=speed, y=dist) +
  geom_point() +
  geom_smooth() +
  xlab( "Speed (mph)" ) +
  ylab( "Stopping distance (ft)" )
```

`geom_smooth()` using method = 'loess' and formula = 'y ~ x'

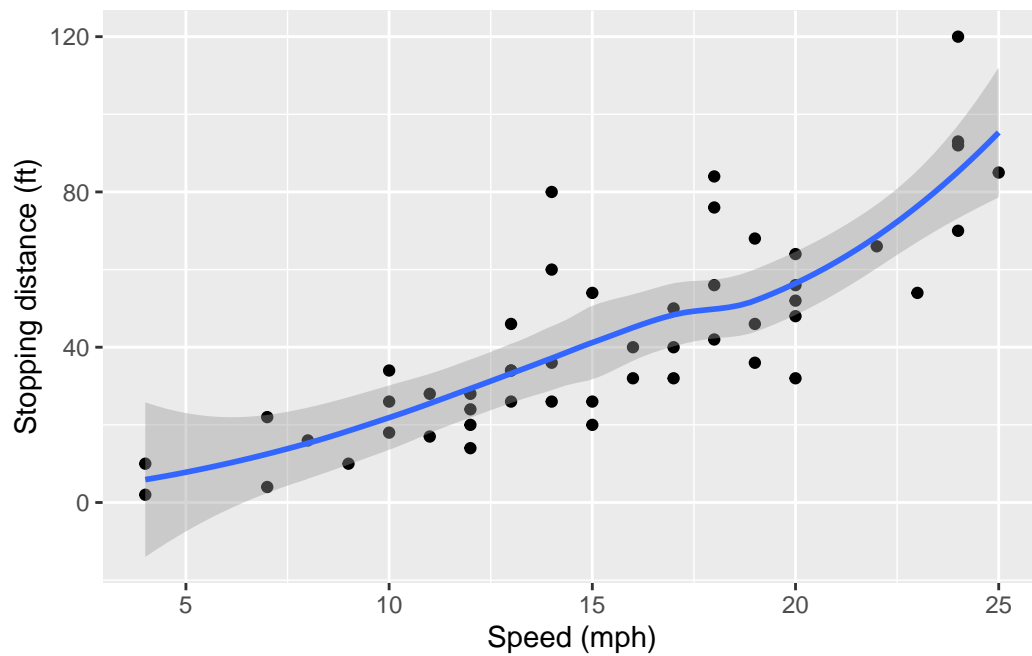


Figure 2.1: Stopping distance as a function of speed

```
print("hello world!")
```

hello world!

2.4 Cross-references

Check out Figure 2.1.

Everybody loves Figure 2.3.

Have you ever seen an Figure 2.2?



Figure 2.2: elephant

Jared Joseph. 2017. “UC Davis Datalab.” <https://datalab.ucdavis.edu>.



Figure 2.3: Bucky badger