R you ready?
IntRo to RStudio and R Markdown
for open data and reproducibility

Unit 6:

Code chunks in R Markdown

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NOTEBOOKS ARE AWESOME!
RMARKDOWN IS AWESOME!
EVERYTHING IS AWESOME!

R Markdown: What is it?

Coding language that allows for text-to-HTML conversion

Easy-to-read and easy-to-write plain text format

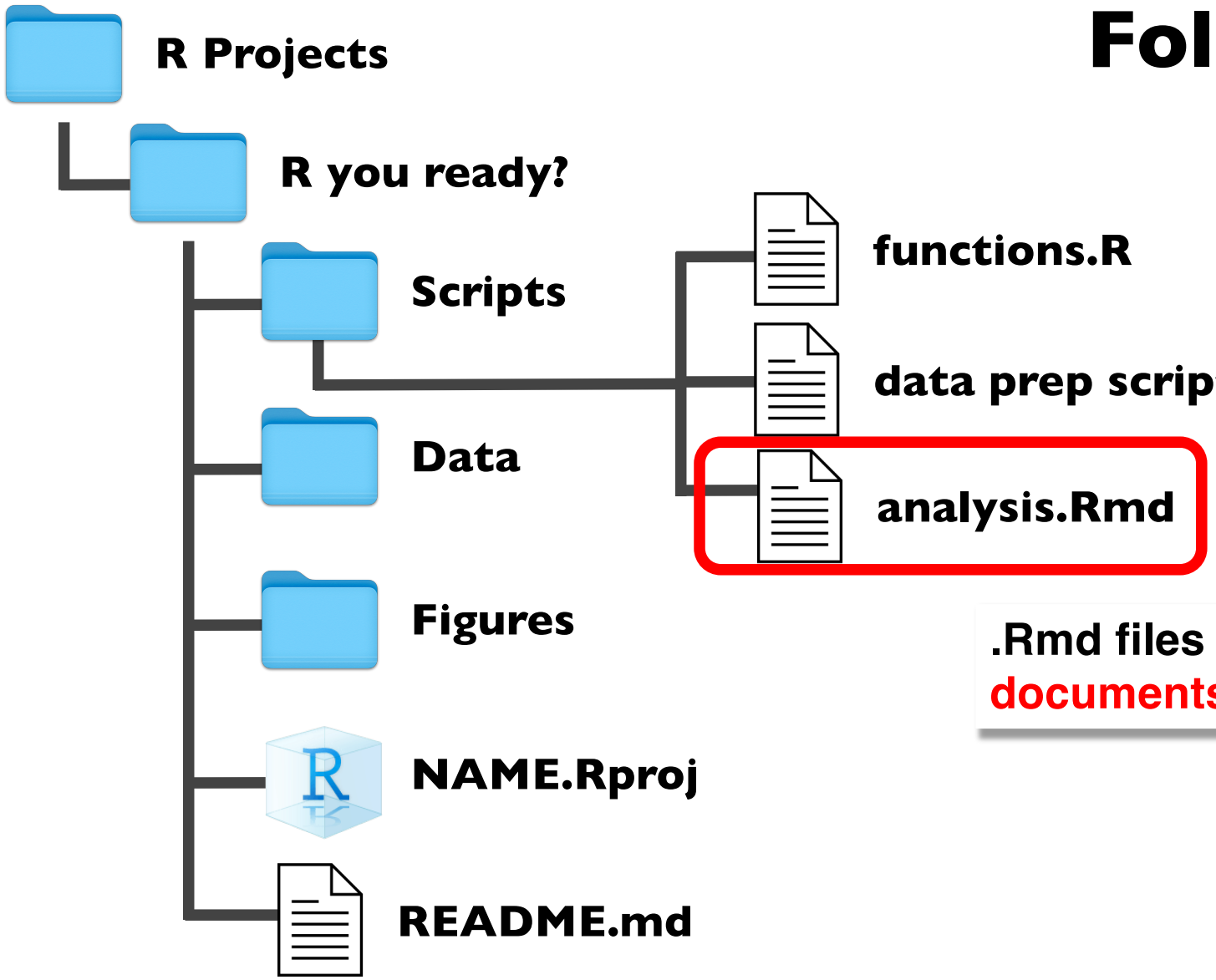
Can create R Markdown documents (HTML, Word, PDF), websites, Markdown books, etc.

Websites → https://rstudio.github.io/distill/website.html

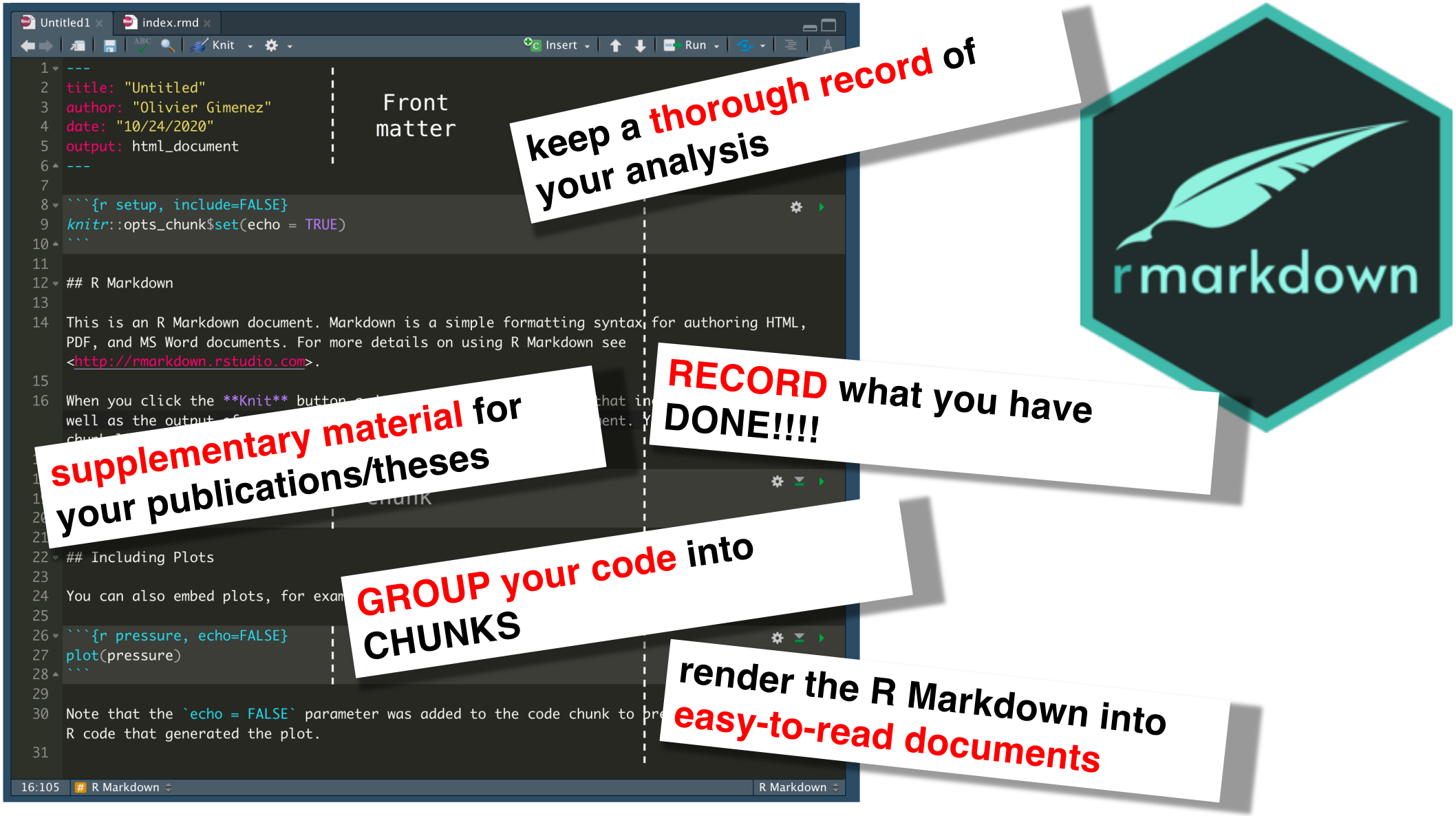
Books → https://bookdown.org/yihui/bookdown/

Documents → https://bookdown.org/yihui/rmarkdown/

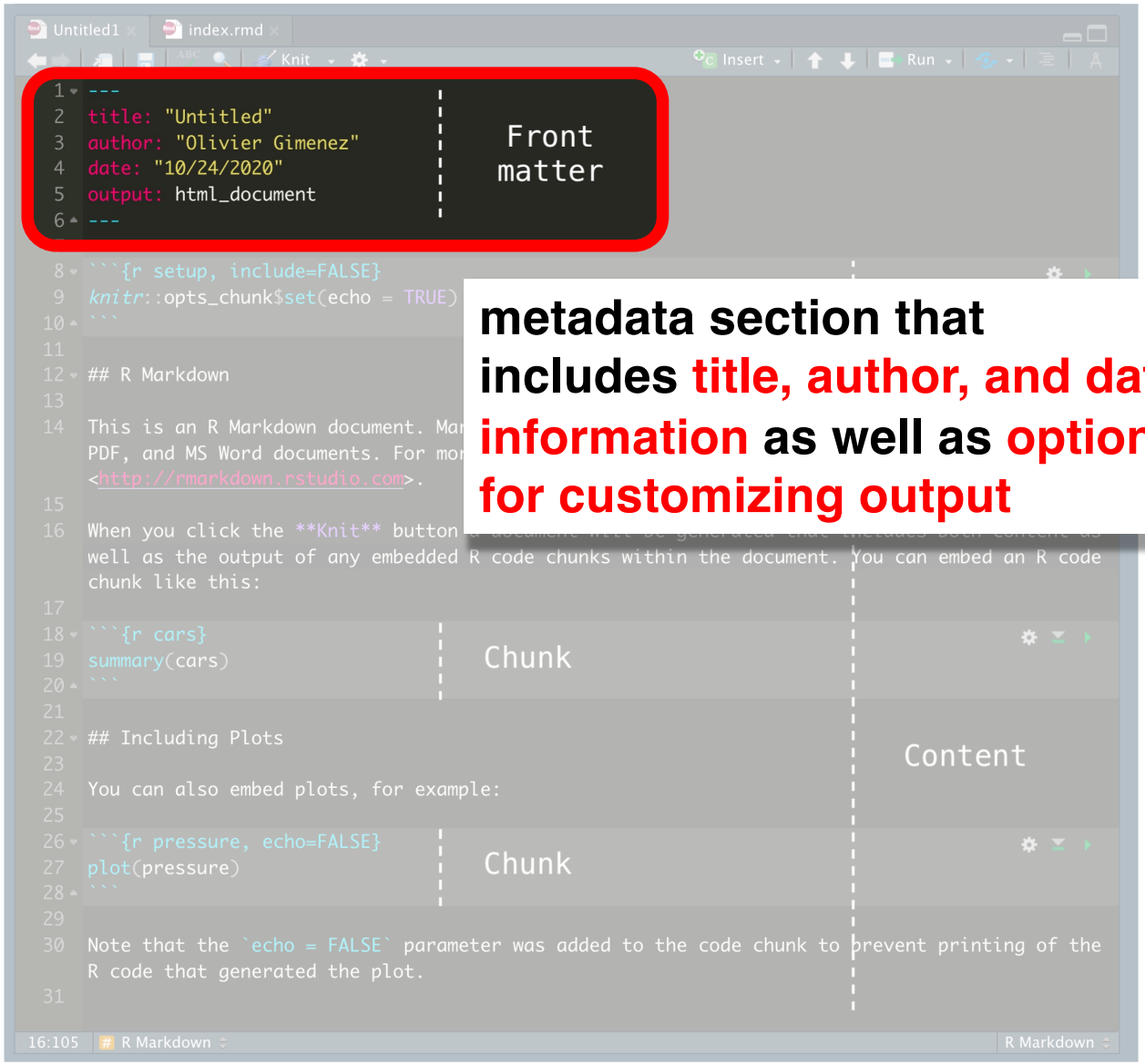
Folder structure



.Rmd files are R Markdown documents

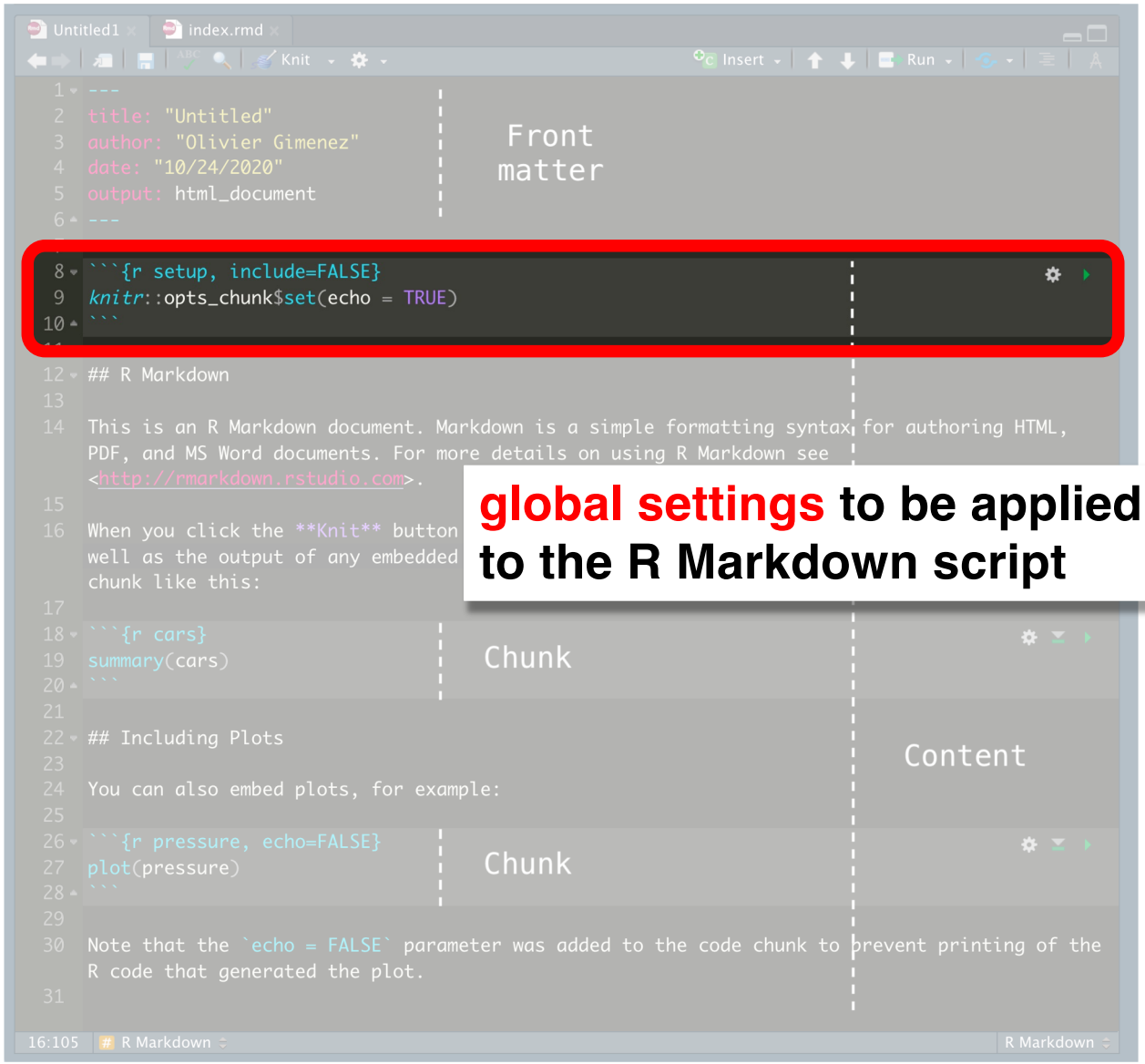

Untitled1
index.rmd
Knit
Insert
Run
---
title: "Untitled"
author: "Olivier Gimenez"
date: "10/24/2020"
output: html_document

Front matter
keep a thorough record of your analysis
```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)
```
R Markdown
This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.
When you click the **Knit** button
supplementary material for your publications/theses
RECORD what you have DONE!!!!
Including Plots
You can also embed plots, for exam
GROUP your code into CHUNKS
```{r pressure, echo=FALSE}
plot(pressure)
```
Note that the `echo = FALSE` parameter was added to the code chunk to pr
R code that generated the plot.
render the R Markdown into easy-to-read documents
16:105
R Markdown
R Markdown
rmarkdown



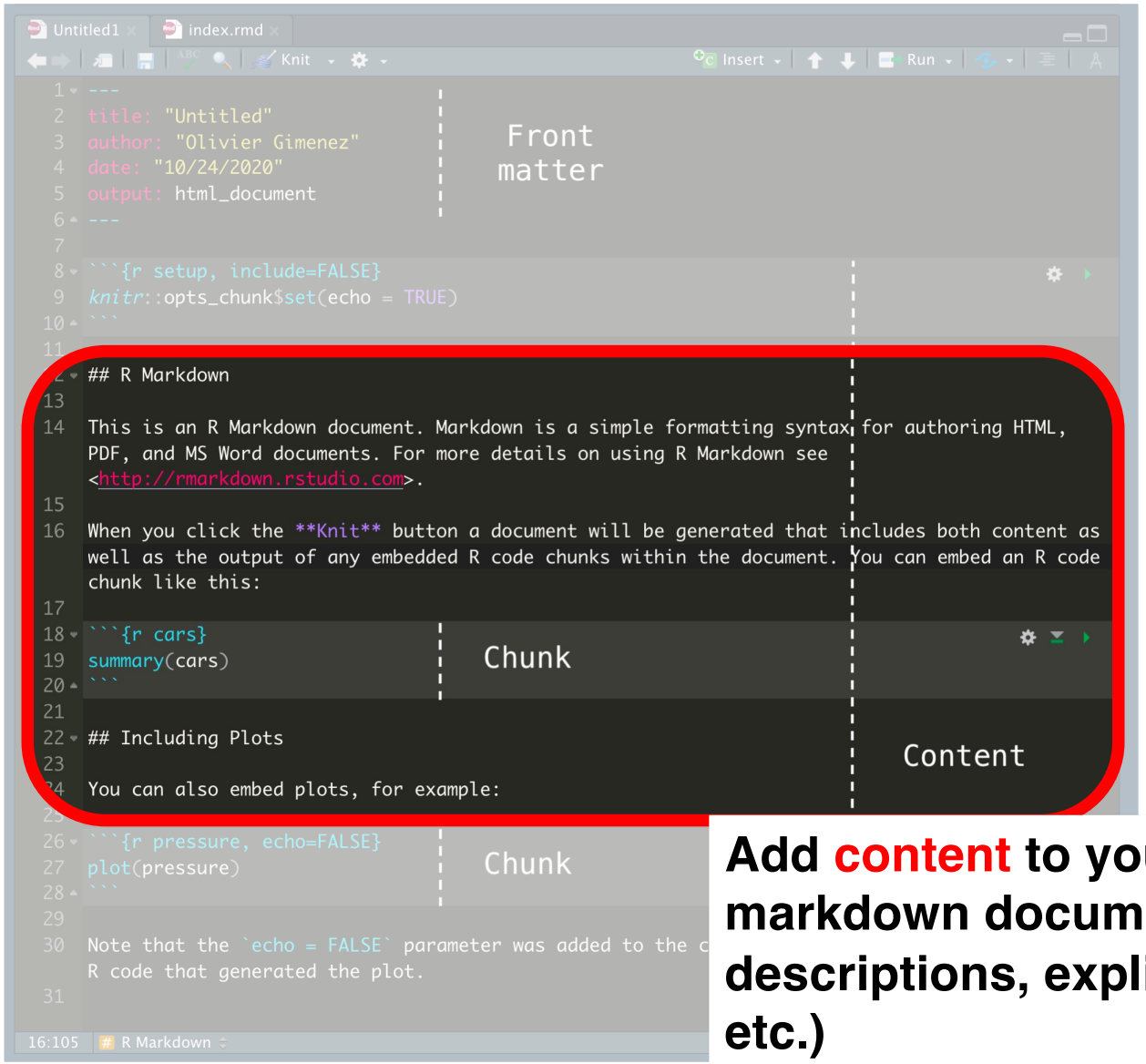
metadata section that includes title, author, and date information as well as options for customizing output

?

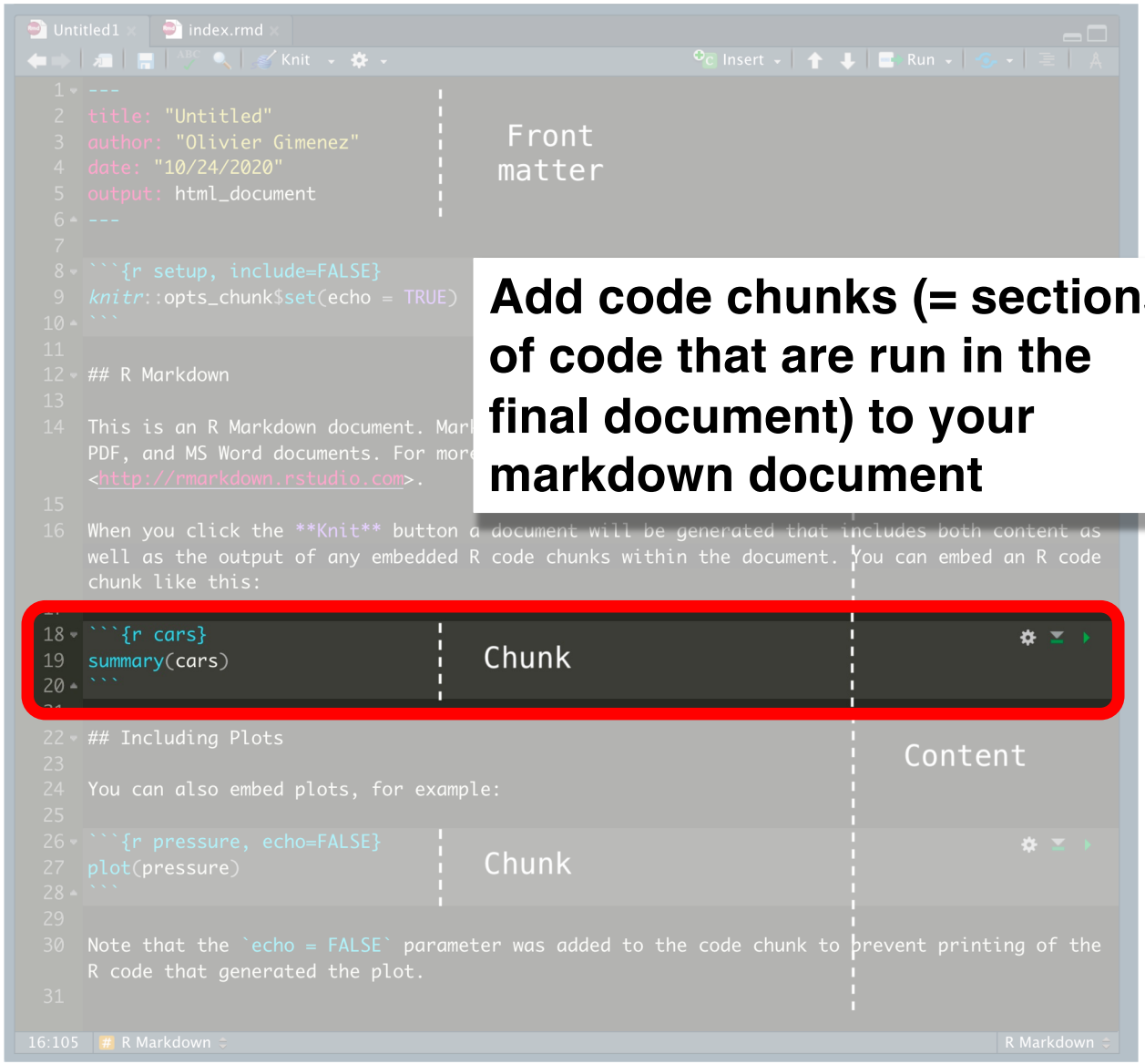


global settings to be applied to the R Markdown script

?

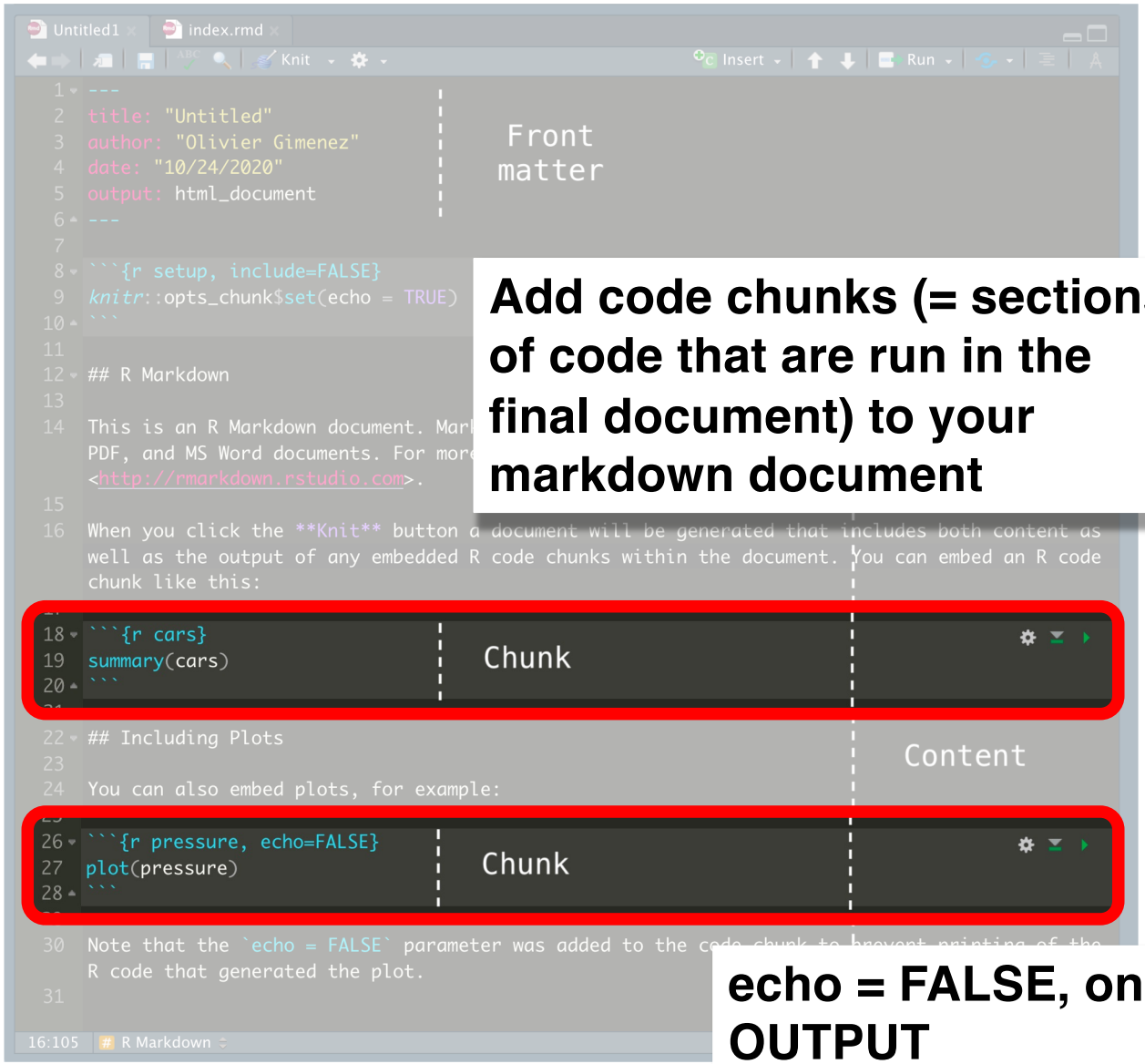


Add content to your markdown document (e.g. descriptions, explicit info, etc.)



Add code chunks (= sections of code that are run in the final document) to your markdown document

?



Add code chunks (= sections of code that are run in the final document) to your markdown document

?

echo = FALSE, only include OUTPUT

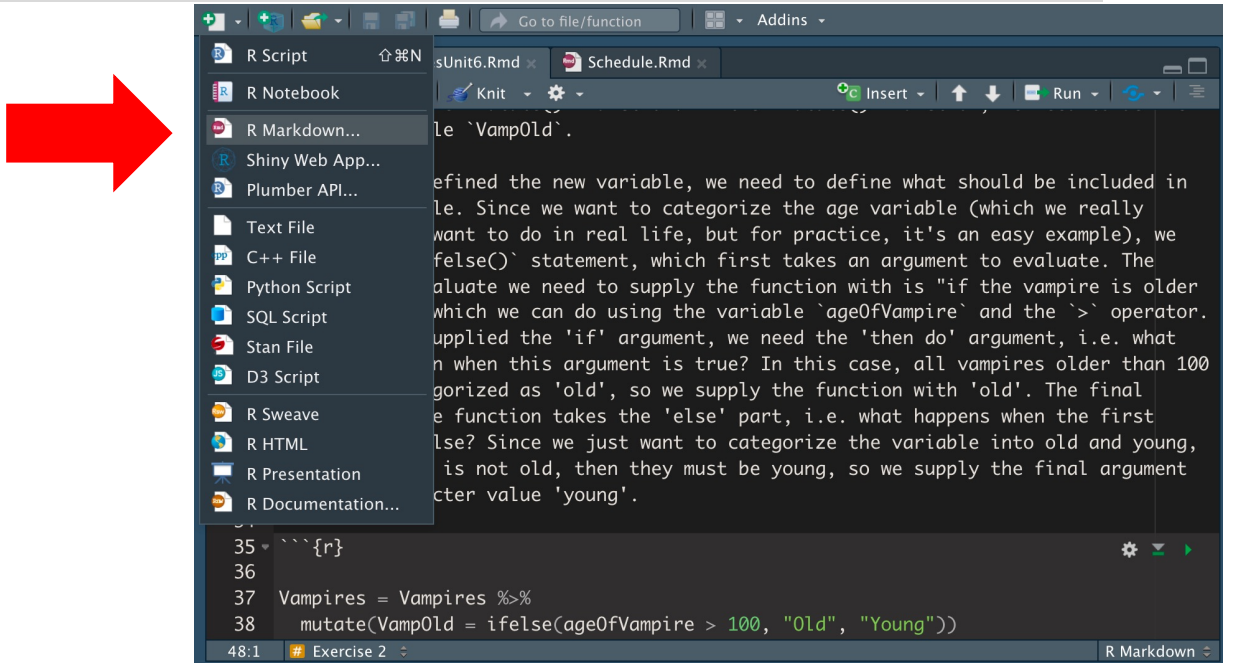
?

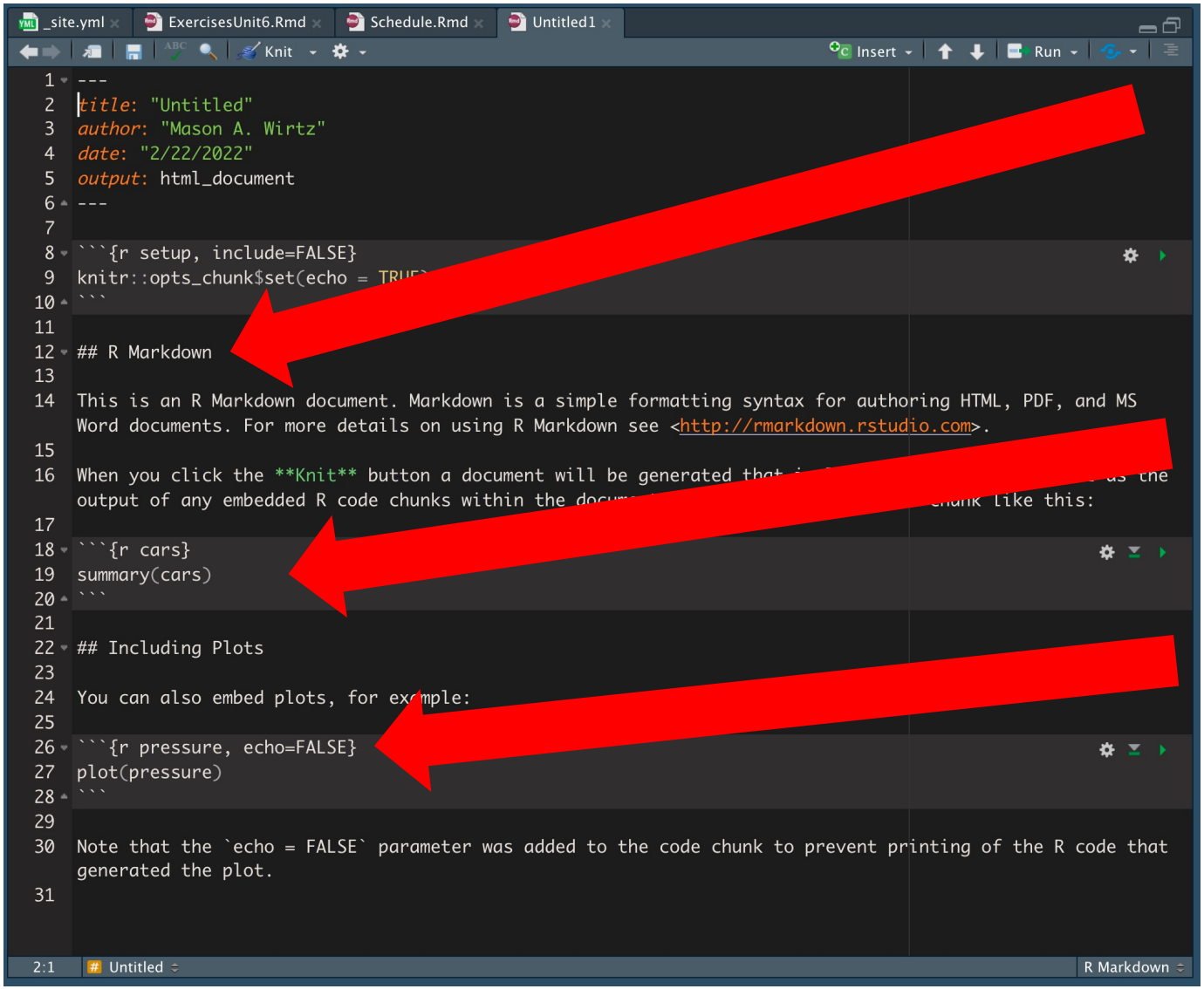
Install R Markdown

Everyone, go ahead and type in the following code:

```
> install.packages("rmarkdown")
```

OR
open an R Markdown document → this should automatically install the package

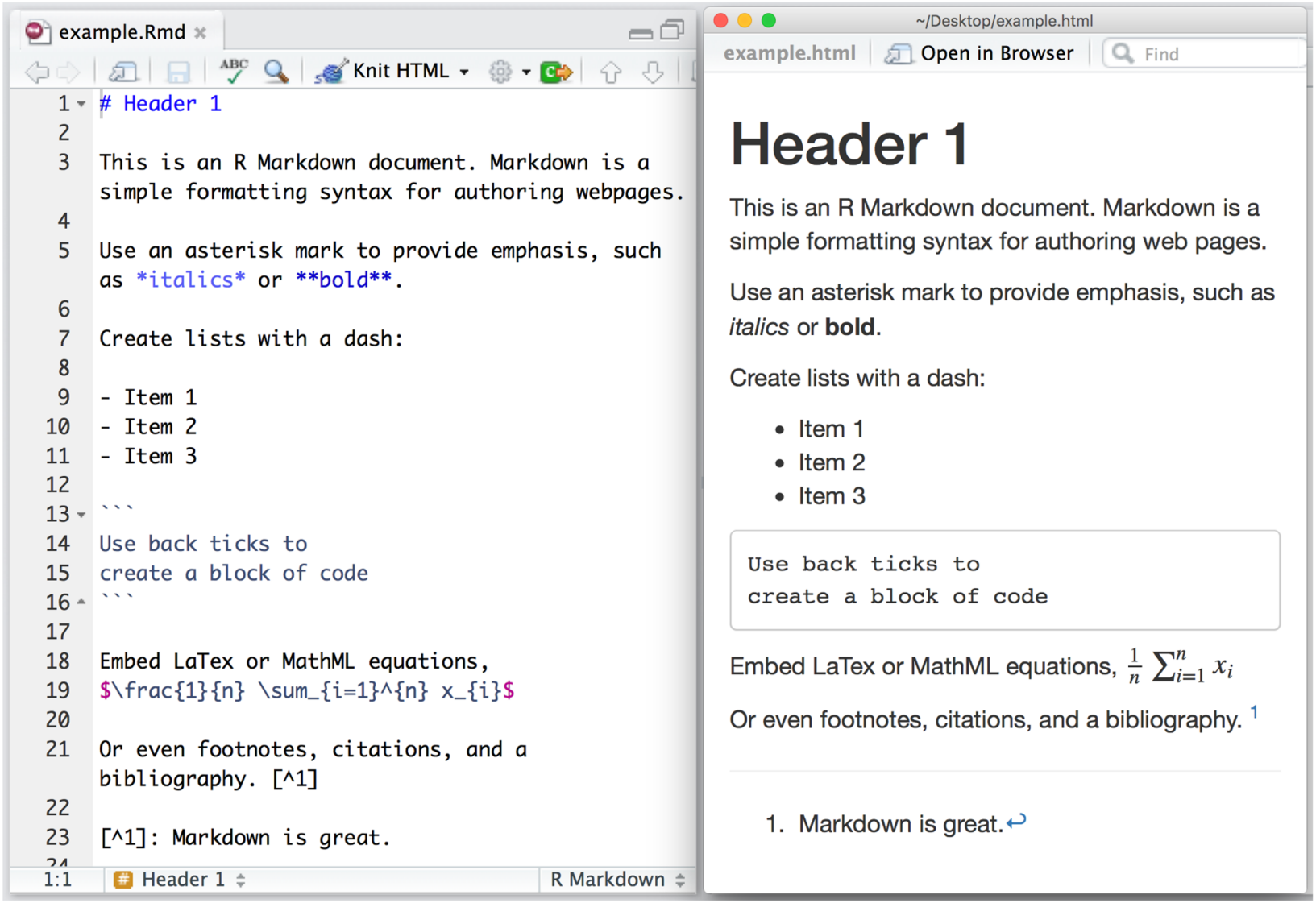




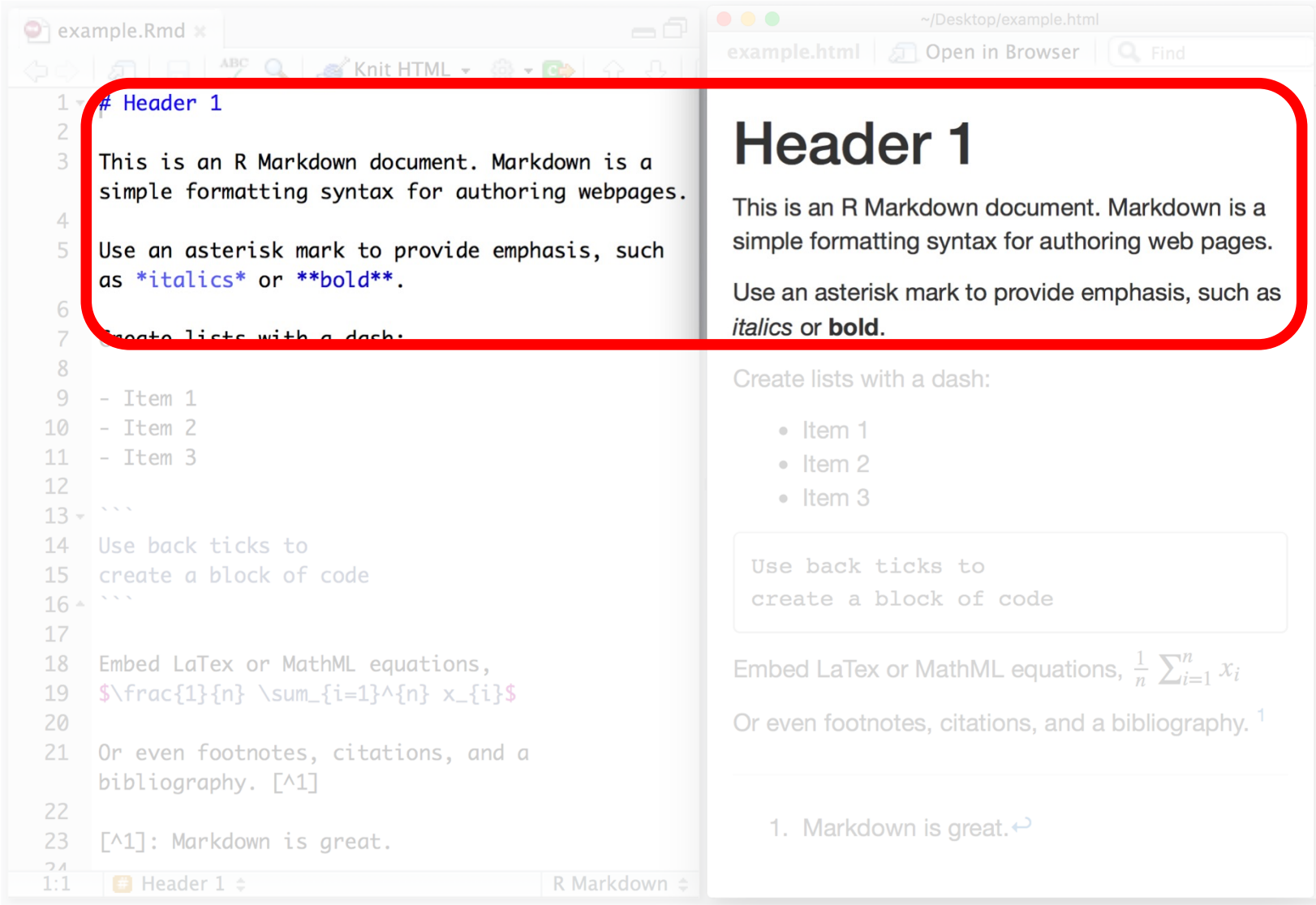
Headings: Organize your document according to chapters

Code chunks: organize your code in chunks (1 topic/analysis → 1 code chunk)

Code chunks: only plot the output



https://rmarkdown.rstudio.com/authoring_quick_tour.html#Markdown_Basics



Block-level elements

 # First-level

Second-level

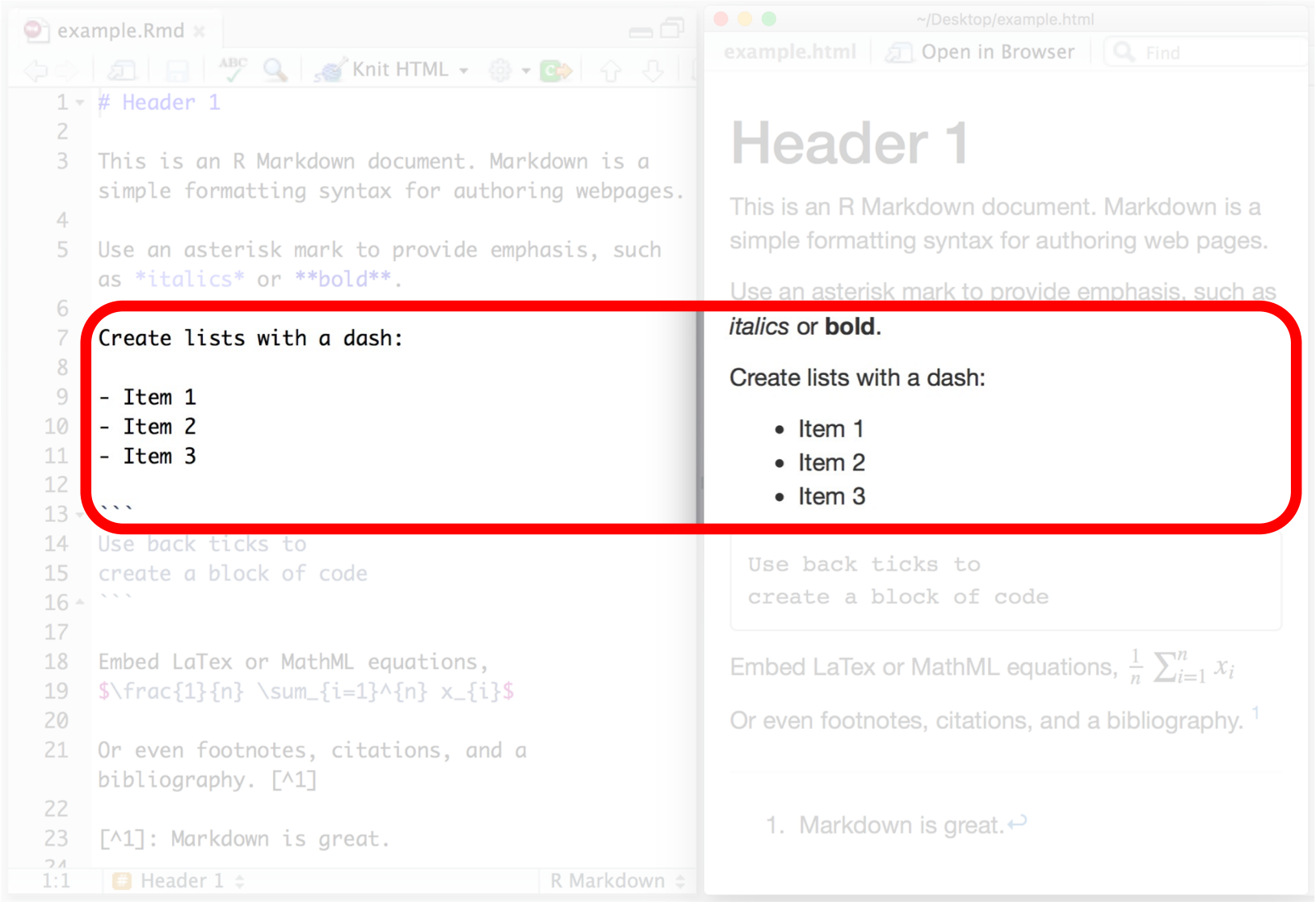
Third-level

Inline formatting

italics

****bold****

https://rmarkdown.rstudio.com/authoring_quick_tour.html#Markdown_Basics



Unordered lists

- Item 1
- Item 2
- Item 3
  - Item 3.1
  - Item 3.2

Ordered lists

1. Item 1
2. Item 2
3. Item 3

https://rmarkdown.rstudio.com/authoring_quick_tour.html#Markdown_Basics

chunks.Rmd

Knit HTML | Chunks

```
1  R Code Chunks
2  ==========
3
4  With R Markdown, you can insert R code
   chunks including plots:
5
6  ```{r qplot, fig.width=4, fig.height=3,
   message=FALSE}
7  # quick summary and plot
8  library(ggplot2)
9  summary(cars)
10 qplot(speed, dist, data=cars) +
11       geom_smooth()
12 ```
13
```

RStudio: Preview HTML

Preview: ~/chunks.html | Save As | Publish

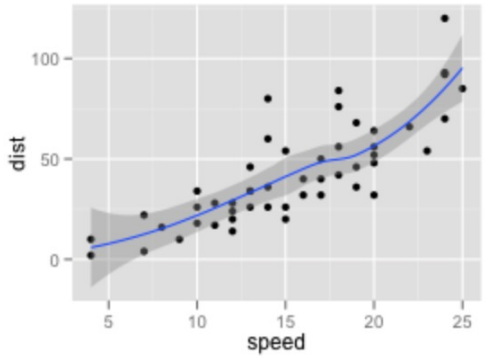
R Code Chunks

With R Markdown, you can insert R code chunks including plots:

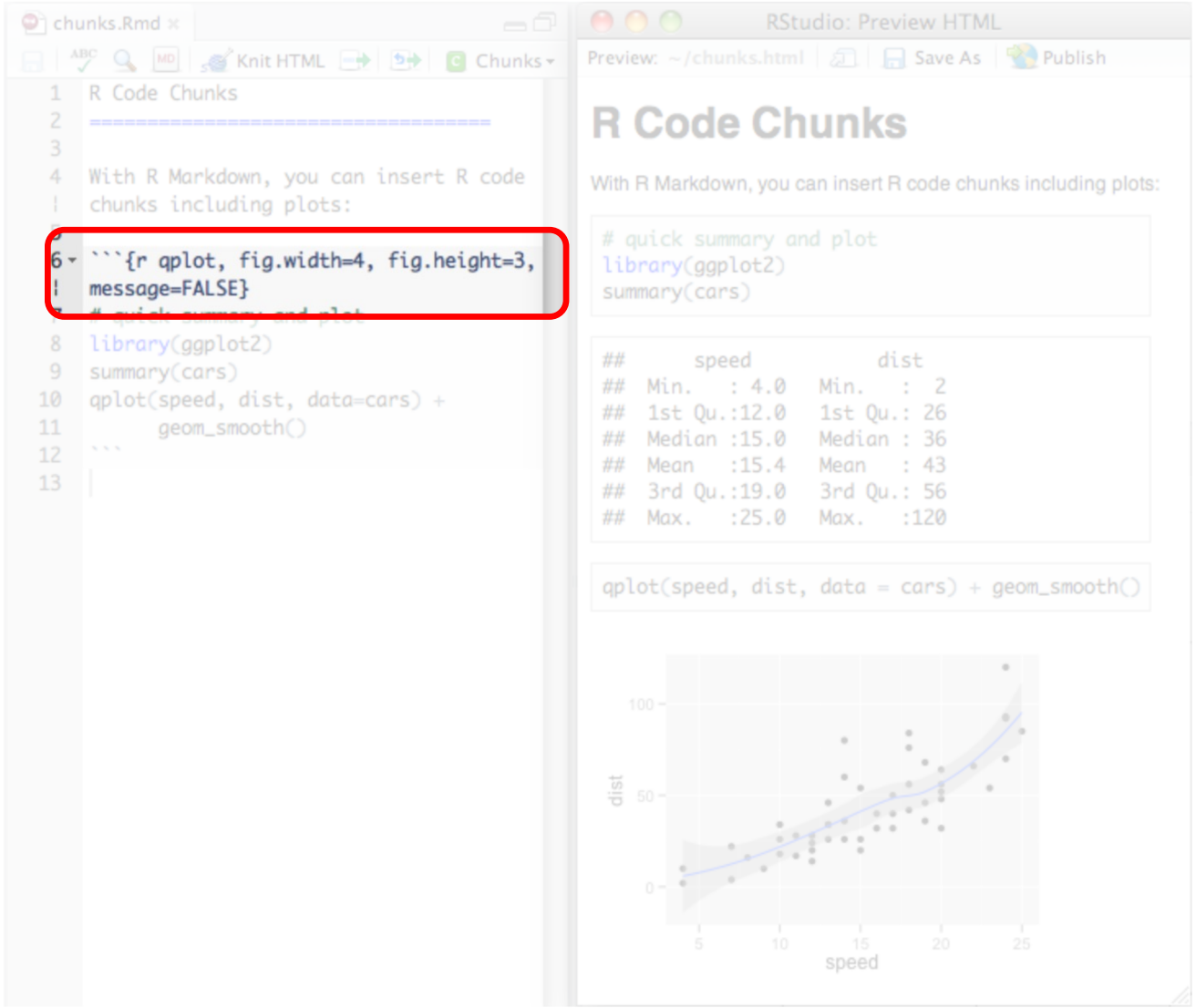
```
# quick summary and plot
library(ggplot2)
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2
##  1st Qu.:12.0   1st Qu.: 26
##  Median :15.0   Median : 36
##  Mean   :15.4   Mean   : 43
##  3rd Qu.:19.0   3rd Qu.: 56
##  Max.   :25.0   Max.   :120
```

```
qplot(speed, dist, data = cars) + geom_smooth()
```



https://rmarkdown.rstudio.com/authoring_quick_tour.html#Markdown_Basics



Chunk options

- **eval**: whether to valuate code chunk
- **echo**: whether to echo source code
- **include**: whether to include a code chunk
- **fig.width / fig.height**: output size of plots in output document
- **out.width / out.height**: output size of plots in output document, using scaling (e.g. out.width = 80%)
- See (https://bookdown.org/yihui/rmarkdown/r-code.html) for more options

https://rmarkdown.rstudio.com/authoring_quick_tour.html#Markdown_Basics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makeameme.org