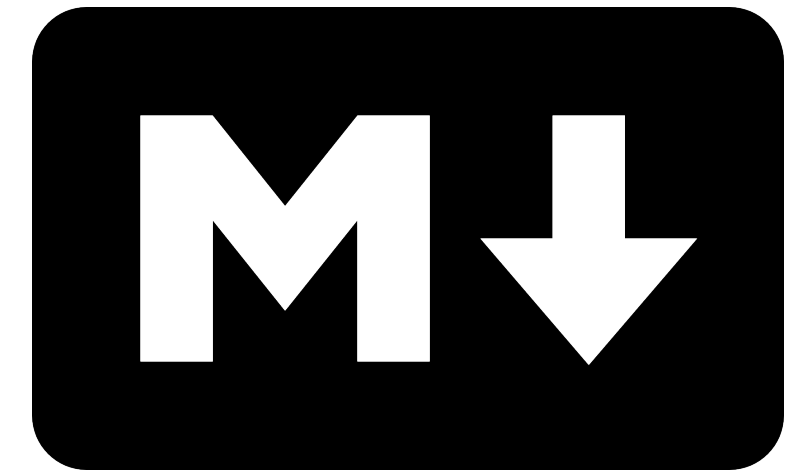# Composing your prose with markdown

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Text and headers

- Text can be plain text or decorated as *italic* or **bold**

- Headers use #s

  # Header 1

  ## Header 2

  ### Header 3

Numbered sections

Tips

Show / hide document outline
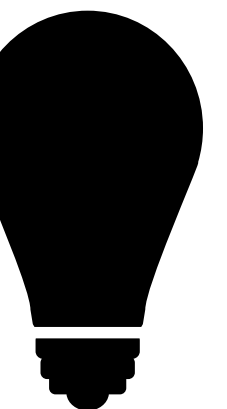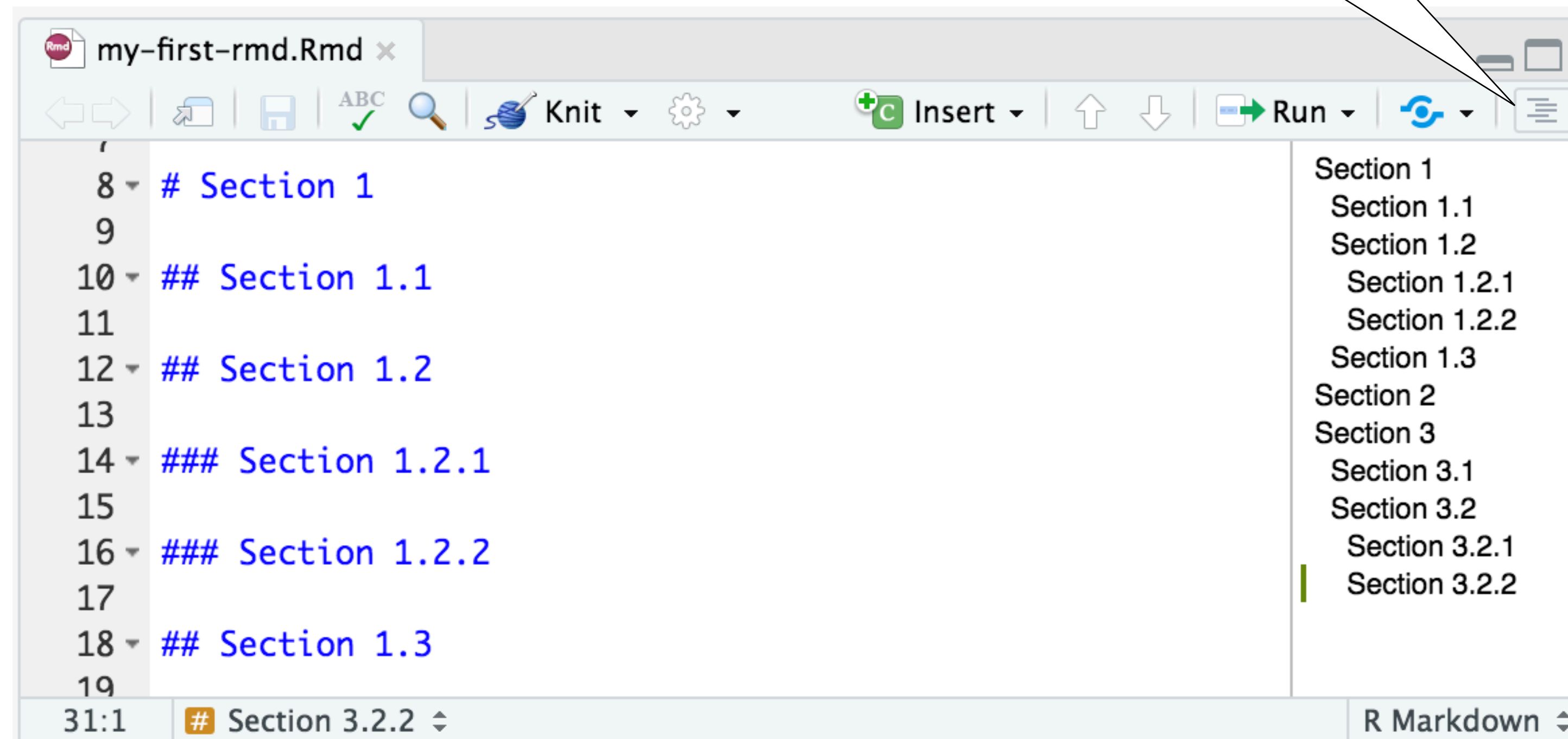
Links
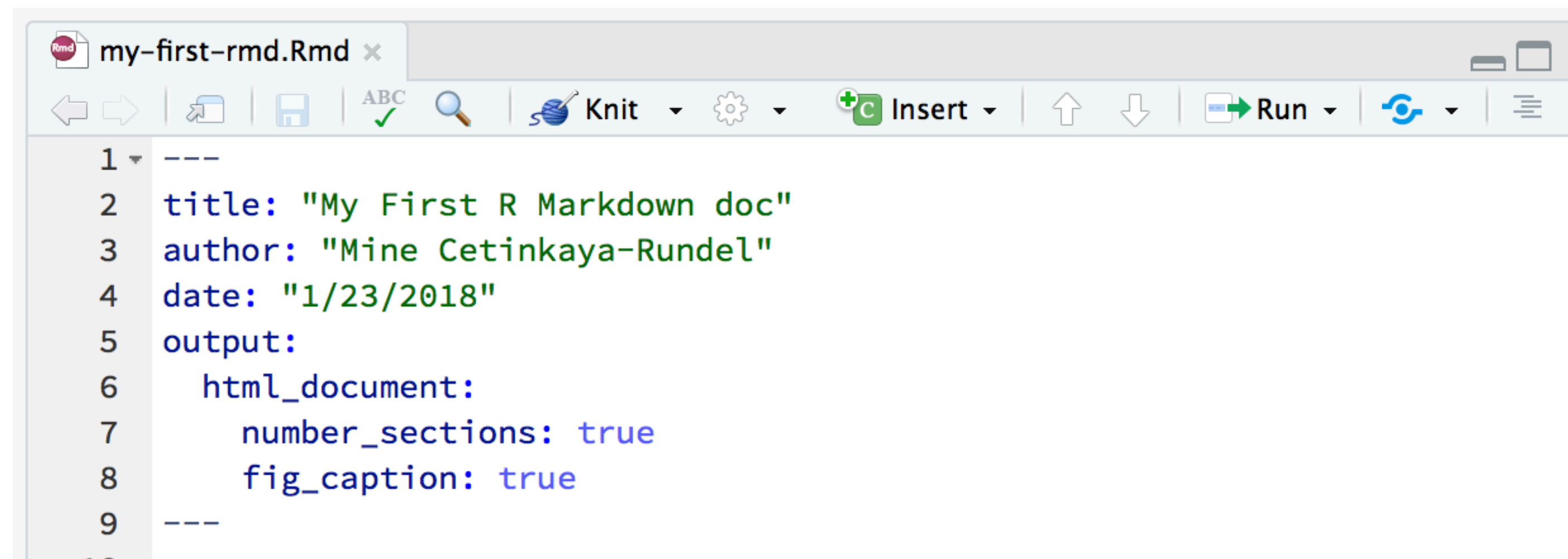
- Links can be plain http address or they can add a link to a phrase:

  - http://rmarkdown.rstudio.com/

  - [R Markdown website](http://rmarkdown.rstudio.com/)

Images

- Including an image is very similar to hyperlinking

- Images can be on the web:

  ![RStudio logo](https://www.rstudio.com/wp-content/uploads/2014/04/rmarkdown.png)

- Or they can be locally stored:

  ![RStudio logo](img/rmarkdown.png)

Tips

- To improve the accessibility of your document, always add **alt text** to you images.

- To print the **alt text** underneath the image as a caption, use **fig_caption: true** in the YAML, and make sure there is a line break before the figure call.


```
my-first-rmd.Rmd

1  ---
2  title: "My First R Markdown doc"
3  author: "Mine Cetinkaya-Rundel"
4  date: "1/23/2018"
5  output:
6    html_document:
7      number_sections: true
8      fig_caption: true
9  ---
```
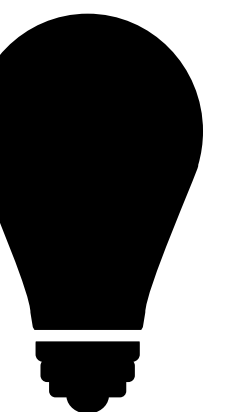
Reference style links and images

- Links

  - A [linked phrase][id]

  - At the bottom of the document: [id]: http://example.com/ "Title"

- Images

  - ![alt text][id]

  - At the bottom of the document: [id]: figures/img.png "Title"

- Useful if you'll be linking to the same target/image multiple times throughout the document

Math text

- If you already know some LaTeX, you're good to go

- Equations can be inline: $\bar{x} \sim N (\mu, \frac{\sigma}{\sqrt{n}})$

- And equations can be centered in a new line:

$$ \bar{x} \sim N (\mu, \frac{\sigma}{\sqrt{n}}) $$

- Equations can be inline: $\bar{x} \sim N \left(\mu, \frac{\sigma}{\sqrt{n}}\right)$

- And equations can be centered in a new line:

$$\bar{x} \sim N \left(\mu, \frac{\sigma}{\sqrt{n}}\right)$$

Tables

- Tables are often a bit of a pain…

- Dashes separate the header row from content cells, and pipes separate the columns

- Colons can be used to align columns

```
| Column A | Column B | Column C  |
|----------|:--------:|----------:|
| left     | center   |     right |
| aligned  | aligned  |   aligned |
| text     | text     |      text |
```

Column A	Column B	Column C
left	center	right
aligned	aligned	aligned
text	text	text

Your turn

- Go back to **my-first-rmd.Rmd**.

- Recreate the following table on the right. Hint: HTML code (mostly) works in markdown.

- You can also use a helper tool like https://www.tablesgenerator.com/markdown_tables.

Roses	Violets	Markdown	R Markdown
are	are	is	is
Red	Blue	**sweet**	*too*

5m 00s

Tips

- The outer pipes (I) on a Markdown table are optional.

- You don't need to make the raw Markdown line up prettily.

- You can use inline Markdown within tables.
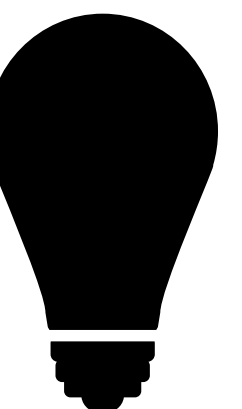
Markdown Quick Reference

In RStudio: Help ➡ Markdown Quick Reference

Markdown Quick Reference

R Markdown is an easy-to-write plain text format for creating dynamic documents and reports.
See Using R Markdown to learn more.

Emphasis

```
*italic*   **bold**

_italic_   __bold__
```

Headers

```
# Header 1

## Header 2

### Header 3
```

Lists

Unordered List

```
* Item 1
* Item 2
    + Item 2a
    + Item 2b
```

Analyze. Share. Reproduce.

and do it all

with R Markdown

Your data tells a ~~joke~~ story. Tell it with `R` Markdown. Turn your analyses into **high quality** documents, reports, presentations and dashboards – and don't forget to drink some H_2O while you do that.[1]

R Markdown documents are fully reproducible. Use a productive notebook interface[2] to weave together narrative text and code to produce *elegantly formatted* output. Use multiple languages including

- R
- Python

and

- SQL

Do you need still need convincing to use R Markdown? See what a friend once said:

> I used to use Sweave, and get terrible headaches. Now I use R Markdown, and life is much more pleasant.

---

1. Or coffee, whatever floats your boat.↵
2. This link should point to http://rmarkdown.rstudio.com/r_notebooks.html.↵

Your turn

Open **analyze-share-repro.Rmd** and add styling to the text to recreate the look on the left.

Done early? See the next slide for **stretch goals**.

10m 00s

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Your turn

Stretch goals:
(1) Change the theme
(2) Use a Font Awesome icon for "boat" in the footnote. See https://fontawesome.com/ for more on Font Awesome.
(3) Add R Markdown logo from https://www.rstudio.com/about/logos/ and place it inline with text.

Tips

- Keep your text to max ~80 characters across, especially if you use a version control system (like git)

- Starting a list? Leave an empty line before the first item on your list

- Need to test out bits of markdown code without knitting the entire document, use another document with bits and pieces of code to test out

rmarkdown