# **Chapter 3 Topic of Section**

ou can write all your text in sections like this!

## 3.1 Subtopic

Here's a subheading and some text in this subsection!

## 3.1.1 Code examples

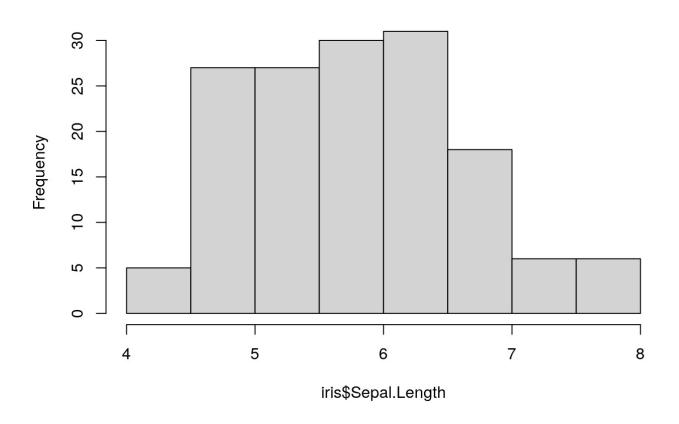
You can demonstrate code like this:

```
output_dir <- file.path("resources", "code_output")
if (!dir.exists(output_dir)) {
   dir.create(output_dir)
}</pre>
```

And make plots too:

```
hist_plot <- hist(iris$Sepal.Length)
```

## Histogram of iris\$Sepal.Length



You can also save these plots to file:

```
png(file.path(output_dir, "test_plot.png"))
hist_plot
```

```
## $breaks
## [1] 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0
##
## $counts
## [1] 5 27 27 30 31 18 6 6
##
## $density
## [1] 0.06666667 0.36000000 0.36000000 0.40000000 0.41333333 0.24000000 0.08000000
## [8] 0.0800000
##
## $mids
## [1] 4.25 4.75 5.25 5.75 6.25 6.75 7.25 7.75
##
## $xname
## [1] "iris$Sepal.Length"
##
## $equidist
## [1] TRUE
##
## attr(,"class")
## [1] "histogram"
```

```
dev.off()
```

## 3.1.2 Image example

How to include a Google slide. It's simplest to use the leanbuild package:



CC-by jhudatascience.org

But if you have the slide or some other image locally downloaded you can also use html like this:



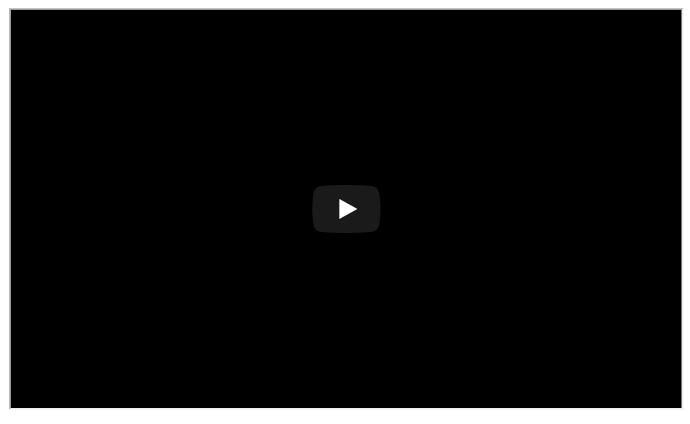
CC-by jhudatascience.org

## 3.1.3 Video examples

To show videos in your course, you can use markdown syntax like this:

A video we want to show

Alternatively, you can use knitr::include\_url() like this: Note that we are using echo=FALSE in the code chunk because we don't want the code part of this to show up. If you are unfamiliar with how R Markdown code chunks work, read this.



OR this works:



## 3.1.4 Links to files

This works:



- Current Students
- Visitors & Neighbors
- o Alumni & Paronte

Faculty & Staff	
	APPLY
	VISIT
	REQUEST INFO
<ul> <li>Quicklinks</li> <li>COVID-19 Resources</li> <li>Campus Directory</li> <li>News</li> <li>Events</li> <li>Contact us</li> </ul>	
	APPLY
	VISIT
	REQUEST INFO
• Give	
MESSIAH UNIVERSITY	
Home	
	Sorry, this download is no longer available
Or this:	

Or this:

This works.

Or this:

# MESSIAH UNIVERSITY

- Current Students
- Visitors & Neighbor.
- o Δlumni & Parent
- Faculty & Staff

APPLY VISIT

REQUEST INFO

- Quicklinks
  - COVID-19 Resources
  - Campus Directory
  - o News
  - o Events
  - Contact us

APPLY

REQUEST INFO

• Give

#### MESSIAH UNIVERSITY

Home

#### Sorry, this download is no longer available

#### 3.1.5 Links to websites

Examples of including a website link.

This works:

I'm a software engineer working at RStudio, PBC. I earned my PhD from the Department of Statistics, Iowa State University. My thesis was Dynamic Graphics and Reporting for Statistics, advised by Di Cook and Heike Hofmann. I have developed a few R packages either seriously or for fun (or both), such as knitr, animation, bookdown, blogdown, pagedown, xaringan, and tinytex. I founded a Chinese website called "Capital of Statistics" in 2006, which has grown into a large online community on statistics. I initiated the Chinese R conference in 2008. I'm a big fan of GitHub, LyX and Pandoc. I hate IE. I fall asleep when I see beamer slides, and I yell at people who use \textbf{} to write \title{}. I know I cannot eat code, so I cook almost every day to stay away from my computer for two hours.

这是谢益辉的个人主页。2013年底我从 Ames 村办大学统计系毕业,终于解决了人生前 30年被问最多的问题: "你怎么还没毕业?"目前就职于 RStudio。我支持开源,喜欢折腾网站和代码,是一个高度自我驱动的人。打羽毛球爱勾对角,打乒乓球像太极,网球满场子捡球,篮球容易被撞飞,攀岩一次,腿软。宅,口重,嗜辣,屡教不改。智商中等偏下,对麻将和三国杀有不可逾越的认知障碍,实变函数课上曾被老师叫醒。略好读书,偶尔也在网上乱翻帖子,对诗词楹联比较感兴趣,目前比较中意的一联是:千秋邈矣独留我;百战归来再读书。最喜欢的一首词是:

OR this:

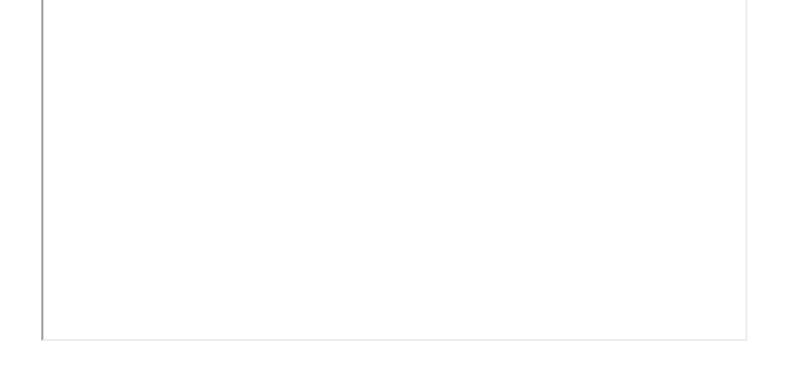


Another link

OR this:

I'm a software engineer working at RStudio, PBC. I earned my PhD from the Department of Statistics, Iowa State University. My thesis was Dynamic Graphics and Reporting for Statistics, advised by Di Cook and Heike Hofmann. I have developed a few R packages either seriously or for fun (or both), such as knitr, animation, bookdown, blogdown, pagedown, xaringan, and tinytex. I founded a Chinese website called "Capital of Statistics" in 2006, which has grown into a large online community on statistics. I initiated the Chinese R conference in 2008. I'm a big fan of GitHub, LyX and Pandoc. I hate IE. I fall asleep when I see beamer slides, and I yell at people who use \textbf{} to write \title{}. I know I cannot eat code, so I cook almost every day to stay away from my computer for two hours.

这是谢益辉的个人主页。2013 年底我从 Ames 村办大学统计系毕业,终于解决了人生前 30年被问最多的问题: "你怎么还没毕业?"目前就职于 RStudio。我支持开源,喜欢折腾网站和代码,是一个高度自我驱动的人。打羽毛球爱勾对角,打乒乓球像太极,网球满场子捡球,篮球容易被撞飞,攀岩一次,腿软。宅,口重,嗜辣,屡教不改。智商中等偏下,对麻将和三国杀有不可逾越的认知障碍,实变函数课上曾被老师叫醒。略好读书,偶尔也在网上乱翻帖子,对诗词楹联比较感兴趣,目前比较中意的一联是:千秋邈矣独留我;百战归来再读书。最喜欢的一首词是:



#### 3.1.6 Citation examples

We can put citations at the end of a sentence like this (Allaire et al. 2021). Or multiple citations Xie, Allaire, and Grolemund (2018).

but they need a; separator (Allaire et al. 2021; Xie, Allaire, and Grolemund 2018).

In text, we can put citations like this Allaire et al. (2021).

#### 3.1.7 FYI boxes

Please click on the subsection headers in the left hand navigation bar (e.g., 2.1, 4.3) a second time to expand the table of contents and enable the scroll\_highlight feature (see more).

#### 3.1.8 Dropdown summaries

▶ You can hide additional information in a dropdown menu

#### 3.2 Print out session info

You should print out session info when you have code for reproducibility purposes.

```
devtools::session_info()
```

```
## - Session info -
  setting value
   version R version 4.0.2 (2020-06-22)
            Ubuntu 20.04.3 LTS
   system x86_64, linux-gnu
   ui
            X11
   language (EN)
   collate en_US.UTF-8
   ctype
            en_US.UTF-8
             Etc/UTC
##
   tz
##
   date
            2022-02-03
##
## - Packages -
   package
               * version
                            date
                                        lib source
                            2019-03-21 [1] RSPM (R 4.0.3)
   assertthat
                  0.2.1
   backports
                 1.1.10
                            2020-09-15 [1] RSPM (R 4.0.2)
   bookdown
                  0.24
                             2022-01-26 [1] Github (rstudio/bookdown@88bc4ea)
                            2020-09-07 [1] RSPM (R 4.0.2)
   callr
                  3.4.4
                            2020-02-28 [1] RSPM (R 4.0.0)
   cli
                  2.0.2
                            2017-09-16 [1] RSPM (R 4.0.0)
                 1.3.4
   crayon
##
   curl
                  4.3
                            2019-12-02 [1] RSPM (R 4.0.3)
                            2018-05-01 [1] RSPM (R 4.0.3)
                 1.2.0
   desc
                 2.3.2
                            2020-09-18 [1] RSPM (R 4.0.3)
   devtools
   digest
                  0.6.25
                            2020-02-23 [1] RSPM (R 4.0.0)
  ellipsis
                  0.3.1
                             2020-05-15 [1] RSPM (R 4.0.3)
## evaluate
                  0.14
                             2019-05-28 [1] RSPM (R 4.0.3)
```

```
0.4.1
                              2020-01-08 [1] RSPM (R 4.0.0)
   fansi
##
   fs
                  1.5.0
                             2020-07-31 [1] RSPM (R 4.0.3)
##
   glue
                  1.6.1
                             2022-01-22 [1] CRAN (R 4.0.2)
##
   highr
                  0.8
                             2019-03-20 [1] RSPM (R 4.0.3)
                  0.5.3
                             2020-01-08 [1] RSPM (R 4.0.0)
   hms
   htmltools
                  0.5.0
                             2020-06-16 [1] RSPM (R 4.0.1)
##
   httr
                  1.4.2
                             2020-07-20 [1] RSPM (R 4.0.3)
   jquerylib
                  0.1.1
                             2020-04-30 [1] RSPM (R 4.0.0)
##
   knitr
                  1.33
                             2022-01-26 [1] Github (yihui/knitr@a1052d1)
   leanbuild
                  0.1.2
                             2022-01-26 [1] Github (jhudsl/leanbuild@1d387e1)
   lifecycle
                  1.0.0
                             2021-02-15 [1] CRAN (R 4.0.2)
   magrittr
                * 1.5
                             2014-11-22 [1] RSPM (R 4.0.0)
   memoise
                  1.1.0
                             2017-04-21 [1] RSPM (R 4.0.0)
##
    pillar
                  1.4.6
                             2020-07-10 [1] RSPM (R 4.0.2)
                  1.1.0
    pkgbuild
                             2020-07-13 [1] RSPM (R 4.0.2)
    pkgconfig
                  2.0.3
                             2019-09-22 [1] RSPM (R 4.0.3)
                  1.1.0
##
   pkgload
                             2020-05-29 [1] RSPM (R 4.0.3)
   prettyunits
                  1.1.1
                             2020-01-24 [1] RSPM (R 4.0.3)
                  3.4.4
   processx
                             2020-09-03 [1] RSPM (R 4.0.2)
                  1.3.4
                             2020-08-11 [1] RSPM (R 4.0.2)
##
    ps
    purrr
                  0.3.4
                             2020-04-17 [1] RSPM (R 4.0.3)
                  2.4.1
##
   R6
                             2019-11-12 [1] RSPM (R 4.0.0)
                  1.4.0
##
    readr
                             2020-10-05 [1] RSPM (R 4.0.2)
                  2.2.0
                             2020-07-21 [1] RSPM (R 4.0.3)
##
    remotes
##
    rlang
                  0.4.10
                             2022-01-26 [1] Github (r-lib/rlang@f0c9be5)
    rmarkdown
                  2.10
                             2022-01-26 [1] Github (rstudio/rmarkdown@02d3c25)
    rprojroot
                  1.3-2
                             2018-01-03 [1] RSPM (R 4.0.0)
   sessioninfo
                  1.1.1
                             2018-11-05 [1] RSPM (R 4.0.3)
   stringi
                  1.5.3
                             2020-09-09 [1] RSPM (R 4.0.3)
   stringr
                  1.4.0
                             2019-02-10 [1] RSPM (R 4.0.3)
   testthat
                  3.0.1
                             2022-01-26 [1] Github (R-lib/testthat@e99155a)
   tibble
                  3.0.3
                             2020-07-10 [1] RSPM (R 4.0.2)
##
   usethis
                  2.1.5.9000 2022-01-26 [1] Github (r-lib/usethis@57b109a)
   vctrs
                  0.3.4
                             2020-08-29 [1] RSPM (R 4.0.2)
   withr
                  2.3.0
                              2020-09-22 [1] RSPM (R 4.0.2)
                  0.26
##
   xfun
                              2022-01-26 [1] Github (yihui/xfun@74c2a66)
```

```
## yaml 2.2.1 2020-02-01 [1] RSPM (R 4.0.3)
##
## [1] /usr/local/lib/R/site-library
## [2] /usr/local/lib/R/library
```

### References

Allaire, JJ, Yihui Xie, Jonathan McPherson, Javier Luraschi, Kevin Ushey, Aron Atkins, Hadley Wickham, Joe Cheng, Winston Chang, and Richard Iannone. 2021. *Rmarkdown: Dynamic Documents for r.* https://github.com/rstudio/rmarkdown.

Xie, Yihui, J. J. Allaire, and Garrett Grolemund. 2018. *R Markdown: The Definitive Guide*. Boca Raton, Florida: Chapman; Hall/CRC. https://bookdown.org/yihui/rmarkdown.

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