Report Reproducibly with

Navigate to the 03-Report folder.

Open 03-Report-Exercises.Rmd

R Markdown

How it works

```
---
title: "Test markdown"
author: "Vendula"
date: "07/03/2020"
output: html_document
---

```{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 a document will be generated that includes both content as
well as the output of any embedded R code chunks within the document. You can embed an R code
chunk like this:

```{r cars}
summary(cars)
```

Including Plots

You can also embed plots, for example:

```{r pressure, echo=FALSE}
plot(pressure)
```

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the
R code that generated the plot.
```

Test markdown

Vendula

07/03/2020

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When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2.00
##  1st Qu.:12.0   1st Qu.: 26.00
##  Median :15.0   Median : 36.00
##  Mean   :15.4   Mean   : 42.98
##  3rd Qu.:19.0   3rd Qu.: 56.00
##  Max.   :25.0   Max.   :120.00
```

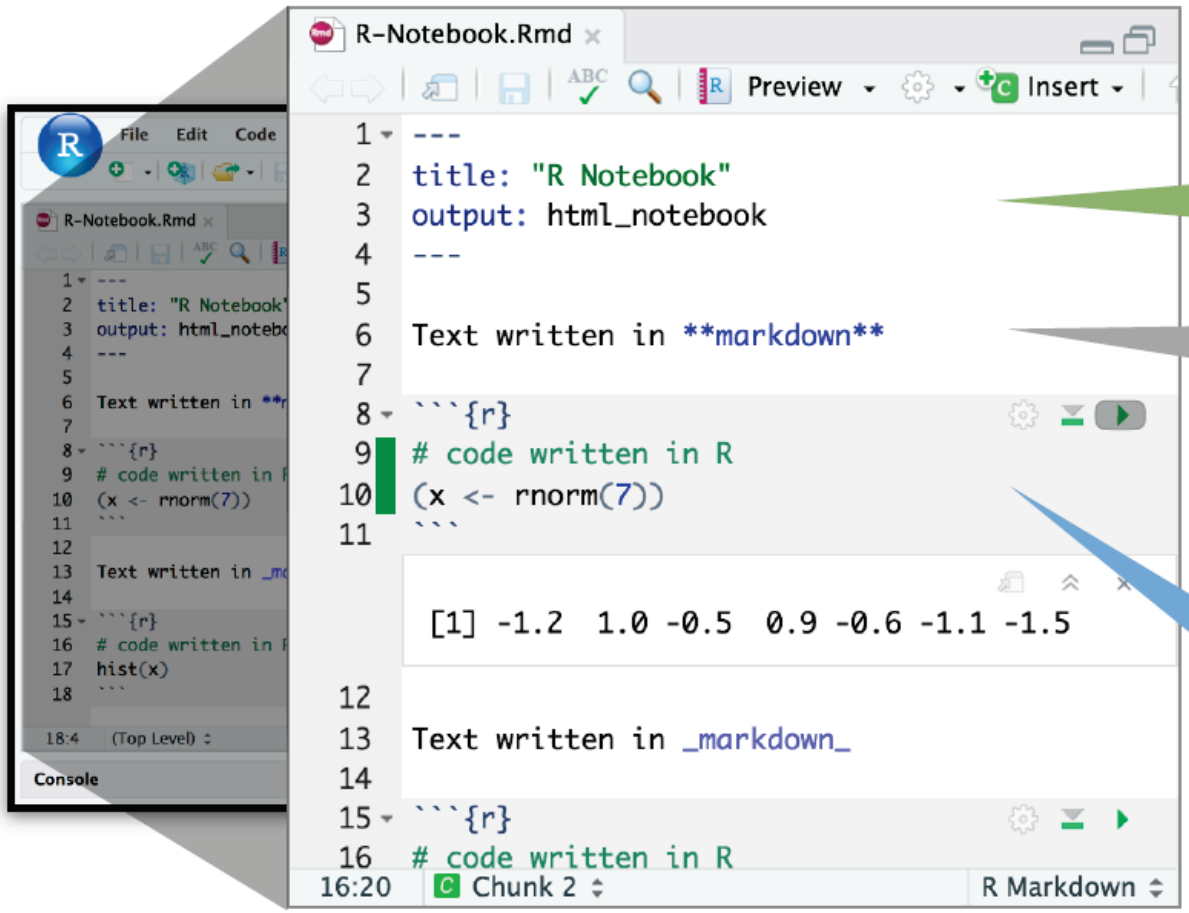
Including Plots

You can also embed plots, for example:

Write some code about your data, click on the button and get the report

R Markdown

Plain text file with 3 types of content:

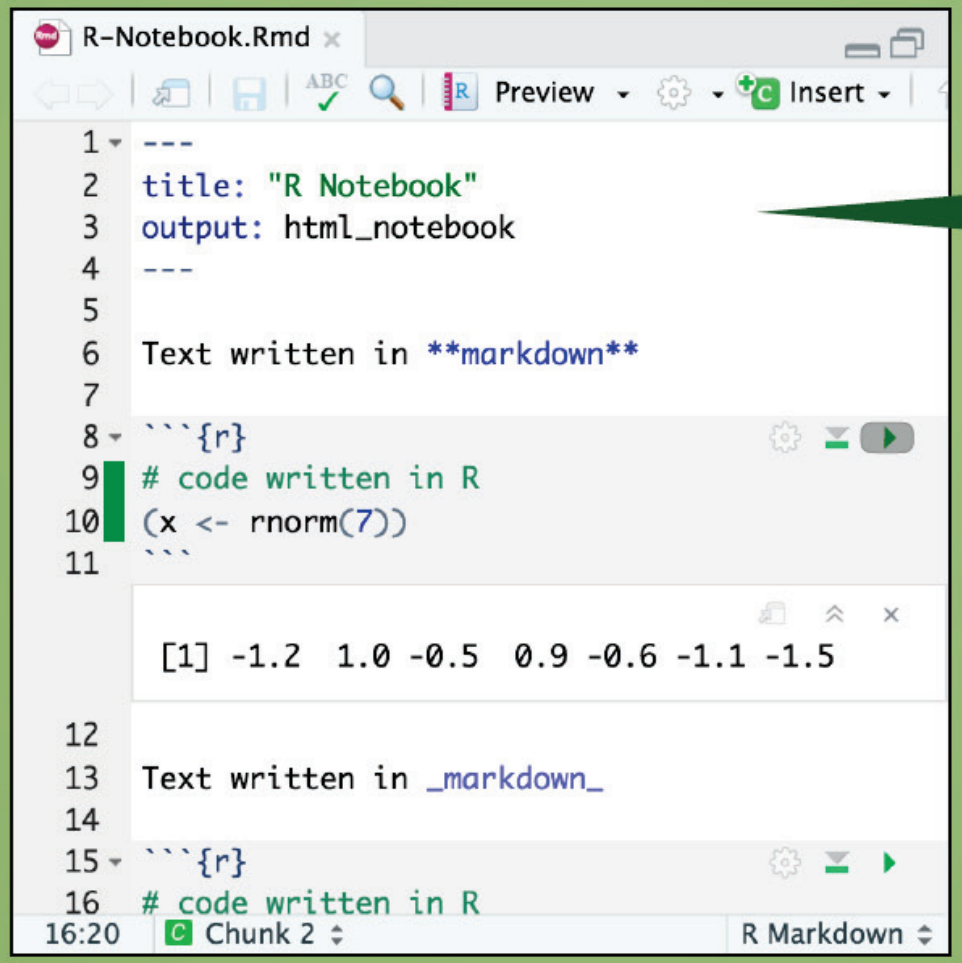


A YAML header surrounded by

Text in markdown

Code chunks surrounded by ```

YAML

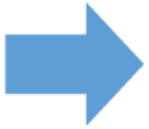


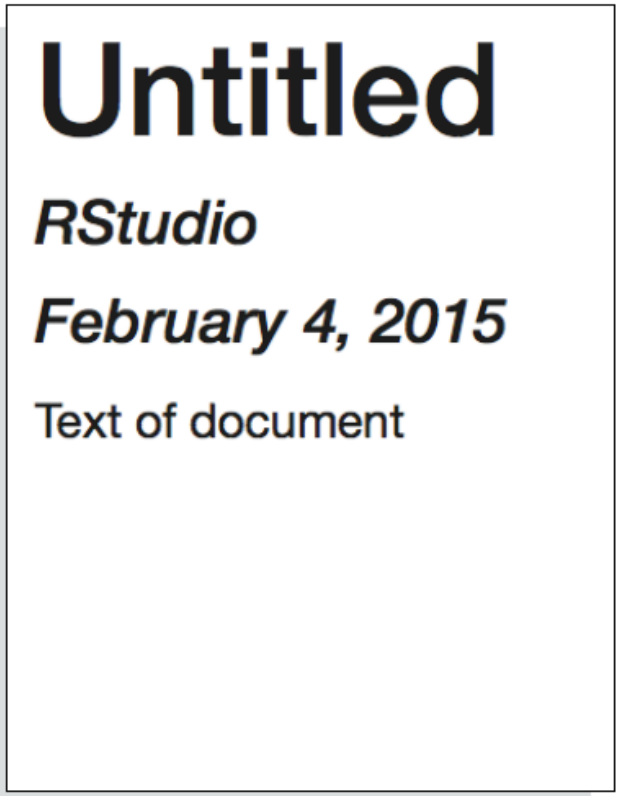
A YAML header surrounded by

YAML

A section of key:value pairs
separated by dashed lines ———

```
---
title: "Untitled"
author: "RStudio"
date: "February 4, 2015"
output: html_document
---
Text of document
```

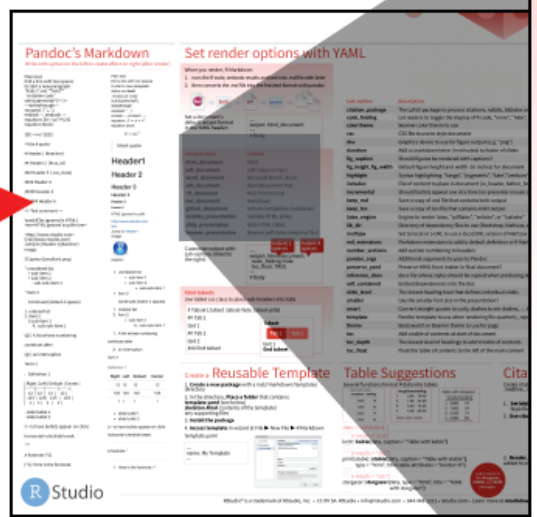




output

The output: field sets the format of the final report

on back

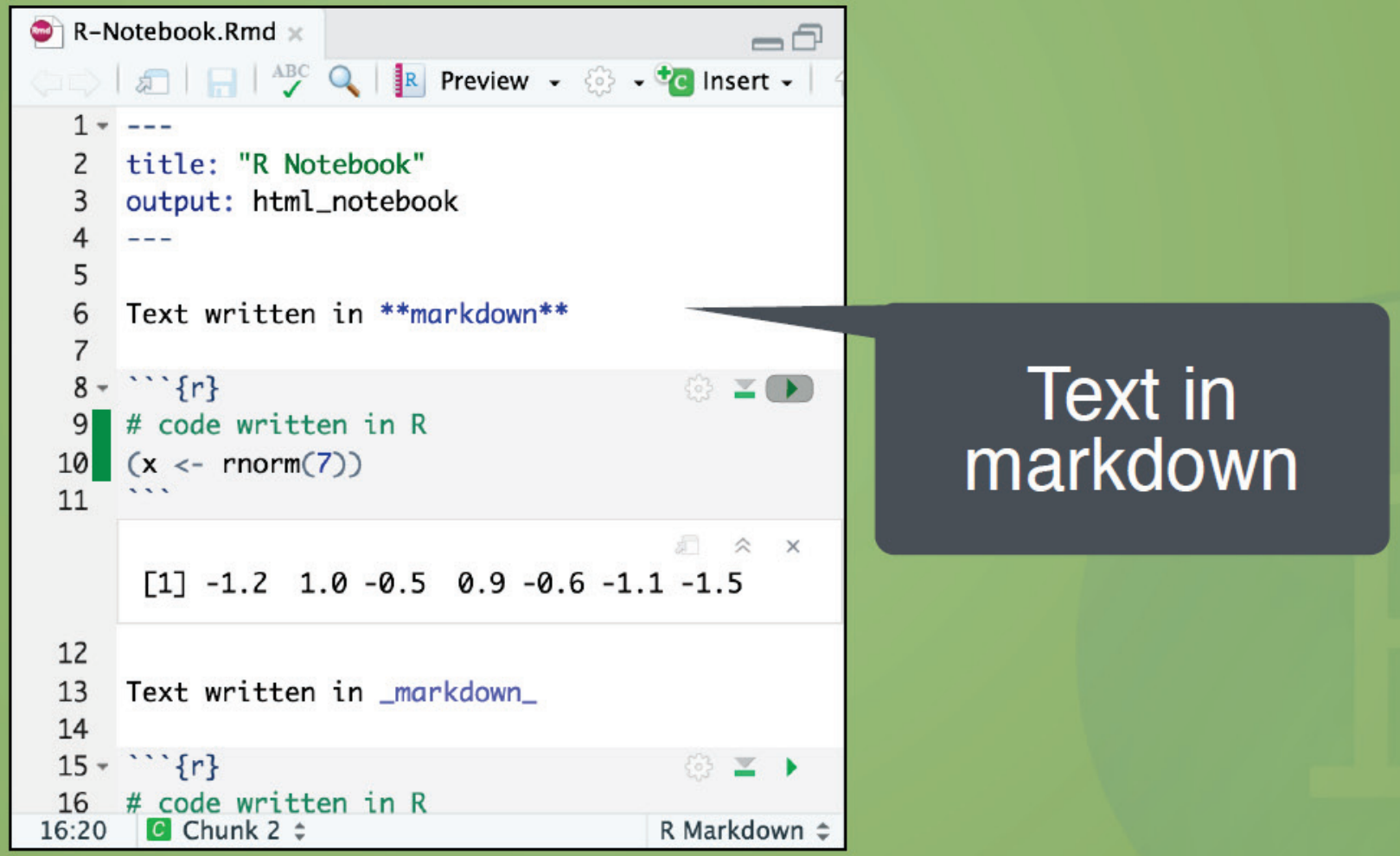


output value	creates
html_document	html
pdf_document	pdf (requires Tex)
word_document	Microsoft Word (.docx)
odt_document	OpenDocument Text
rtf_document	Rich Text Format
md_document	Markdown
github_document	Github compatible markdown
ioslides_presentation	ioslides HTML slides
slidy_presentation	slidy HTML slides
beamer_presentation	Beamer pdf slides (requires Tex)

More at rmarkdown.rstudio.com/formats.html

rmarkdown

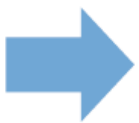
Markdown


R-Notebook.Rmd
Preview
Insert
1 ---
2 title: "R Notebook"
3 output: html_notebook
4 ---
5
6 Text written in **markdown**
7
8 ```{r}
9 # code written in R
10 (x <- rnorm(7))
11 ```
[1] -1.2 1.0 -0.5 0.9 -0.6 -1.1 -1.5
12
13 Text written in _markdown_
14
15 ```{r}
16 # code written in R
16:20
Chunk 2
R Markdown
Text in markdown

Headers

Use # to create headers.
Multiple #'s create lower level

```
# Header 1
## Header 2
### Header 3
#### Header 4
##### Header 5
###### Header 6
```



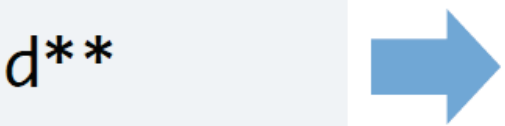
Header 1
Header 2
Header 3
Header 4
Header 5
Header 6

Text

Add two spaces at the end of a line to start a new line

Text is rendered as plain text. Surround text with _, **, or ` to

```
Text
_italics_
**bold**
`code`
```



Text

italics

bold

`code`

rmarkdown

Lists

Use asterisks to make bullet points.
Use numbers to make numbered lists.

```
Bullets

* bullet 1
* bullet 2

Numbered list

1. item 1
2. item 2
```

Bullets

- bullet 1
- bullet 2

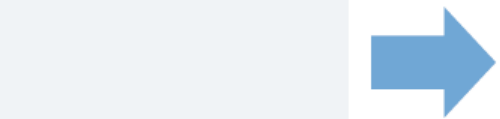
Numbered list

1. item 1
2. item 2

Hyperlinks

Use brackets to denote a link.
Place the URL in parentheses.

```
This is a
[link](www.git.com).
```



This is a link.

Images

Use a link preceded by an ! to insert an image.

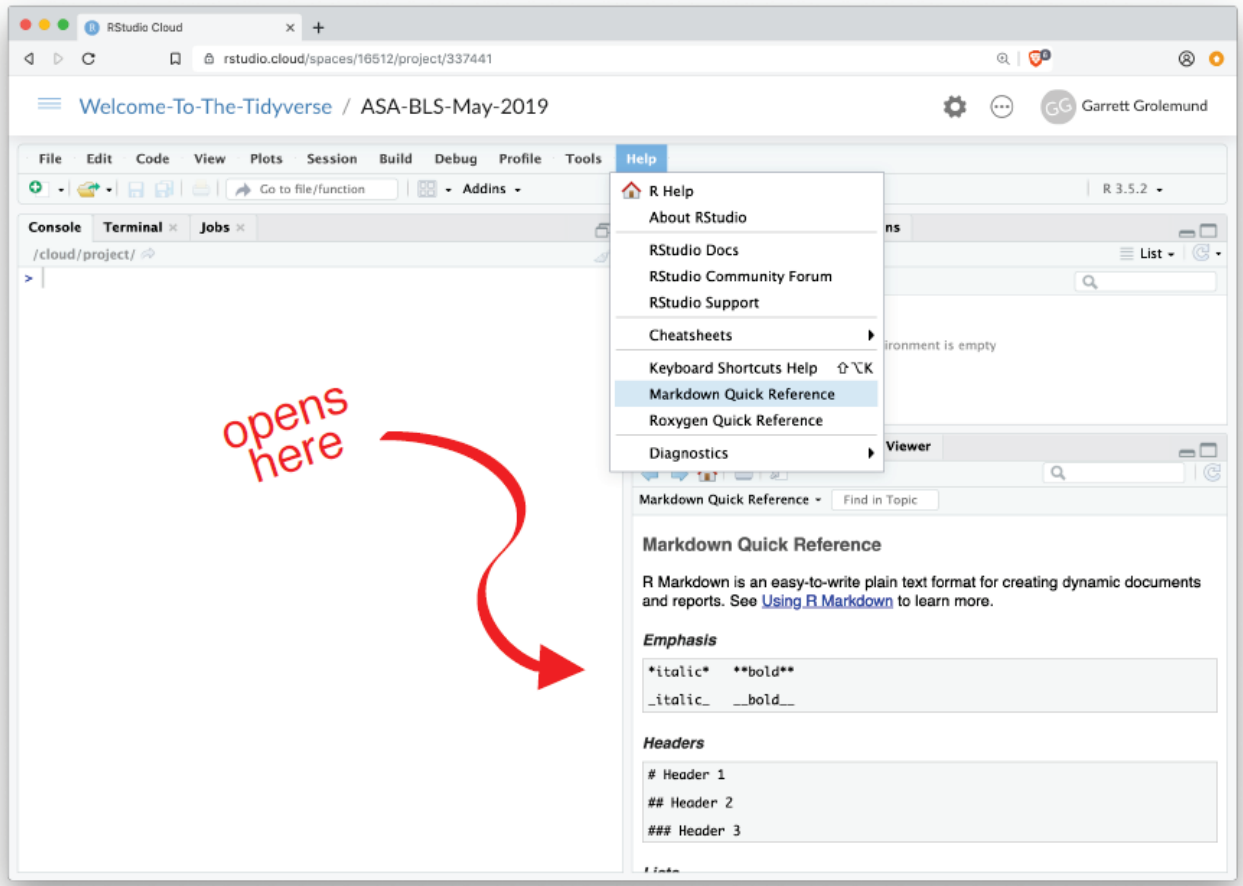
The link text should be a URL (if the image is hosted online), or a file path (if the image is saved as a file)

```
![](images/1.png)
The RStudio logo.
```

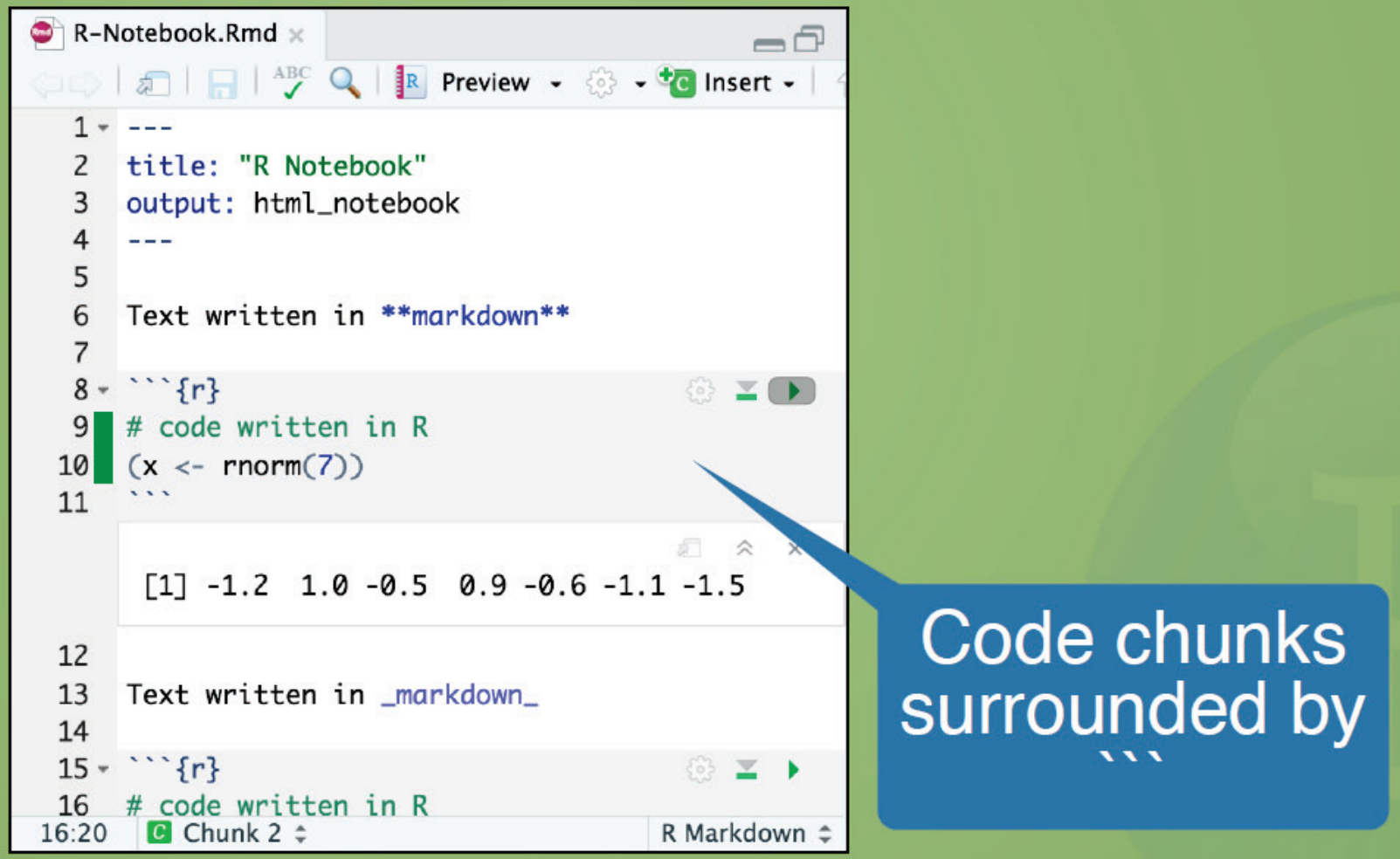
rmarkdown

IDE Reference

Go to Help > Markdown Quick Reference



Code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13 Text written in _markdown_
14
15 ```{r}
16 # code written in R
16:20
Chunk 2
R Markdown
Code chunks surrounded by ```

Code chunks

Insert a chunk of R code with

````
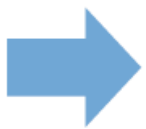
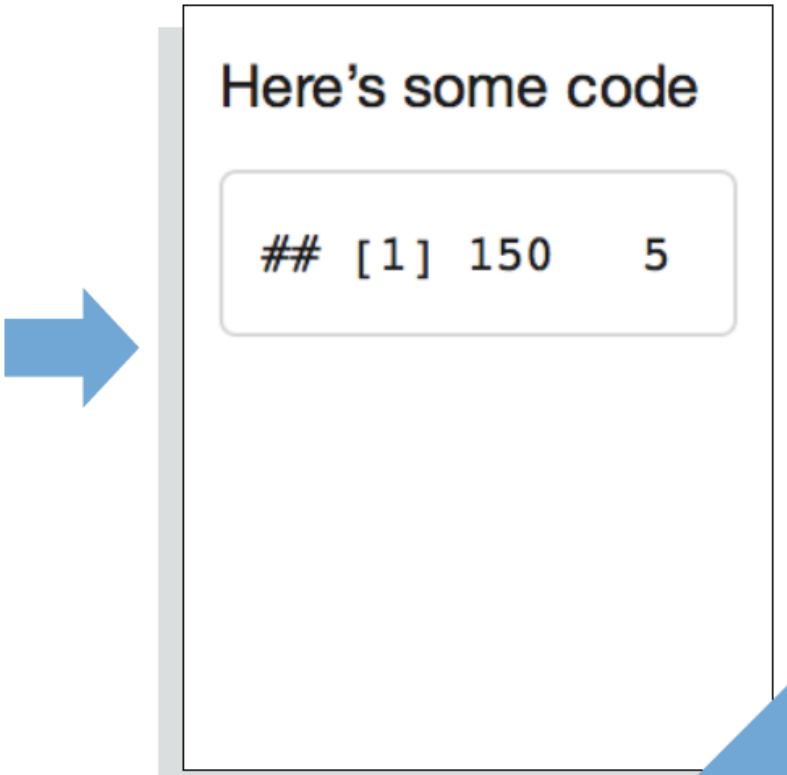
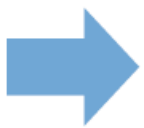
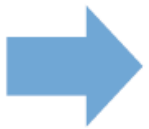
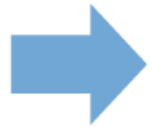
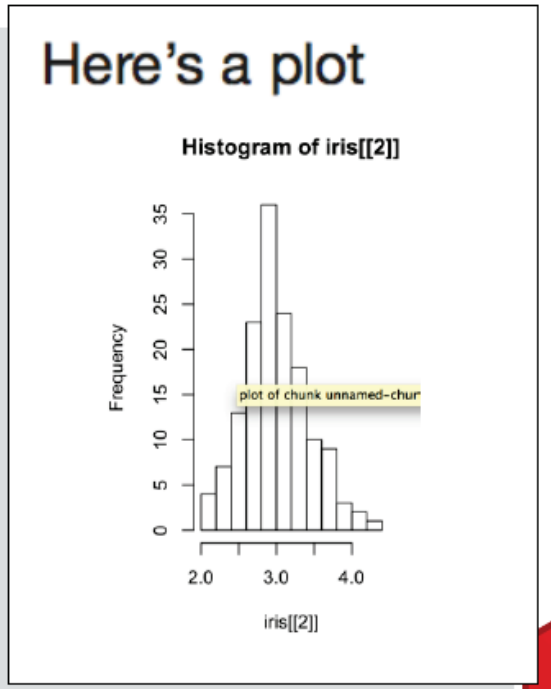
```{r}
# some code
```
````

When you render the report, R Markdown will run the code and include its results. R Markdown will also remove the ```` ```{r} ```` and ```` ``` ````.

Code chunks

Insert a chunk of R code with

```
```{r}
# some code
```
```

chunk options

By default, R Markdown includes both the code and its results

````
Here's some code
```{r}
dim(iris)
```
````



Here's some code

```
dim(iris)
```

```
## [1] 150   5
```

chunk options

- write in the brackets after letter "r" or
- as general statement e.g. knitr::opts_chunk$set(echo = TRUE) on the beginning

````
```{r setup, include=FALSE}
knitr::opts_chunk$set(
  echo = TRUE,
  fig.height = 15,
  fig.width = 14,
  message =TRUE,
  warning = TRUE,
  comment = "",
  results = "asis",
  supressMessage = FALSE
  )

library(tidyverse)

```
````

echo

Add options in the brackets after r.
echo = FALSE hides the code.

````
Here's some code
```{r echo=FALSE}
dim(iris)
```
````



Very useful for plots

eval

eval = FALSE prevents the code from being run. As a result, no results will be displayed with the code.

````
Here's some code

```{r eval=FALSE}
dim(iris)
```
````



Here's some code

```
dim(iris)
```

include

include = FALSE runs the code, but prevents both the code and the results from appearing (e.g. to setup).

````
Here's some code

```{r include=FALSE}
dim(iris)
```
````



Here's some code

fig.height, fig.width

Specify the dimension of plots (in inches) with fig.width and fig.height. Separate multiple arguments with commas.

````
Here's a plot

```{r echo=FALSE, fig.width=3, fig.height=5}
hist(iris[[2]])
```
````





Your Turn

- INSERT code for boxplot graph into for loop
- Write a sentence below graphs containing words with bold, italics, and underlined formatting
- Change size a plot to 13 inches wide and 15 inches high
- Test different Chunk options (echo, message, warnigs for final document

Report Reproducibly with

Thank you