

R Markdown

R for Data Science workshop

2019-05-01 (updated: 2019-07-14)

R Markdown

Outline

- Overview
- R Markdown basics
- Code chunks
- YAML header

Data science workflow



Image source: [R for Data Science](#) by Hadley Wickham & Garrett Golemund.

Data science workflow

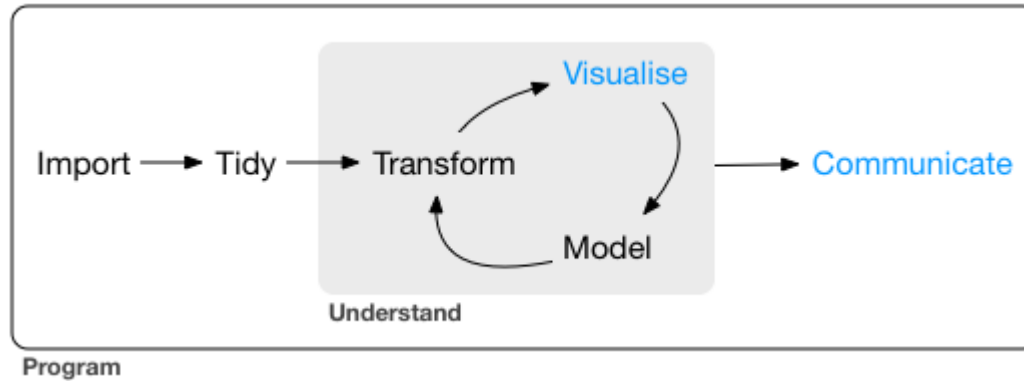


Image source: [R for Data Science](#) by Hadley Wickham & Garrett Golemund.

R Markdown Overview

Use cases:

- Communicating with decision makers
- Collaborating with other data scientists
- Environment for *doing* data science

Reproducible research

```
Karl -- this is very interesting,  
however you used an old version of  
the data (n=143 rather than n=226).
```

```
I'm really sorry you did all that  
work on the incomplete dataset.
```

```
Bruce
```

R Markdown basics

Many output formats are available. See [Formats](https://rmarkdown.rstudio.com/Formats) at rmarkdown.rstudio.com.

R Markdown basics

Plain text file with extension *.Rmd*

Three types of content

1. Optional **YAML** header
2. **Chunks** of R code
3. Text with **Markdown** formatting

"Knitting" with **knitr**



R Markdown basics

Markdown Quick Reference in RStudio Help

Demo

Code chunks

knitr provides almost 60 options for code chunks.

RStudio provides help for the most common ones.

Inline code too.

Demo

Couldn't figure out how to display markdown in markdown. 😊

YAML header

- Used for "whole document" settings.
- Can use it to parameterize a document.

```
title: "Parameters example"
output: html_document
params:
  year: 2018
---
```

- Knit with parameters or

```
rmarkdown::render("my-report.Rmd", params = list(year = 2019))
```

In the document, use parameters like this in a code chunk:

```
filter(year == params$year)
```

- Much more

R Markdown resources

- Extensive documentation and examples at rmarkdown.rstudio.com
- [R Markdown: The Definitive Guide](#) by Yihui Xie, J. J. Allaire, Garrett Grolemund

Your turn

R Markdown

- Create a new R Markdown document with *File > New File > R Markdown...*
- Knit it by clicking the appropriate button.
- Knit it by using the keyboard short cut. (Look on the File menu.)
- Using the R Markdown quick reference:
 - Add a horizontal rule.
 - Add a blockquote.
- Add a plot.

10:00