

Reproducible Reports Using R Markdown

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1/19/2017

- What is RMD?
- Elements of RMD
 - YAML Header
 - Code Chunks
 - Text
- Knitting

What is R Markdown?

One stop shop

- an authoring framework for reproducible research
- can be used to save and execute code and generate high quality data
- supports dozens of static and dynamic output formats: HTML, PDF, MS Word etc.

Elements of RMD Document

- 1 YAML Header
- 2 Code Chunks
- 3 Text

- Output Document Options
- title, author, date, text spacing etc.
- different options for different output formats
- for this presentation we will focus on PDF and HTML

```
library(dplyr)
library(nycflights13)

dim(flights)
```

```
## [1] 336776      19
```

Code Chunks: Inserting a Code Chunk

- 1 Keyboard Shortcuts
 - PC: Ctrl+Alt+I
 - Mac: Cmd+Opt+I
- 2 Click Insert chunk button
- 3 Type manually

Code Chunks: Options

- included in `{r ...}`
- start with declaring the programming language: supports R, Python, SQL, etc.
- Some Important and Useful Options:
 - `echo = TRUE`: includes a print out of the code in the output document
 - `message = FALSE`: suppress any R messages from printing into the output document
 - `warning = FALSE`: suppress warning messages from R printing onto output
 - `include = FALSE`: prevent code and results from appearing in the finished file.
 - R Markdown still runs the code in the chunk, results can be used by other chunks
 - compare to `eval = FALSE`

- Special built in RMD text formats
- inline code allows for an automatically updated report
- to include inline code type 'r code
- If using knit PDF can include latex

Knitting Output

- click knit



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