R Markdown

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Introduction to R Markdown (.Rmd)

This is an R Markdown presentation.

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.

What is it?

Rmd is a convenient way to present your R scripts that allows you to:

- Embed R code
- Run R code chunks
- Display R graphics output
- Annotate and explain your code
- Display mathematical equations (LaTeX)

You will be handing in all of your homework as R markdown documents.

How to do it

From within RStudio, you need to do four things:

1. Create an rmd document
2. Write some text
3. Write some code
4. Render the document

Step 1: Create an .Rmd document

In the RStudio menu, select **File => New File => R Markdown ...**

- Give your document a title.
- Add your name.
- Add the date.
- Select **HTML** or **PDF** (you can change this later).

R markdown document sections

YAML header

- "YAML ain't markup!"
- Encodes some metadata about the document

Text

- R markdown formatted text

- LaTeX-formatted text (mainly for equations)

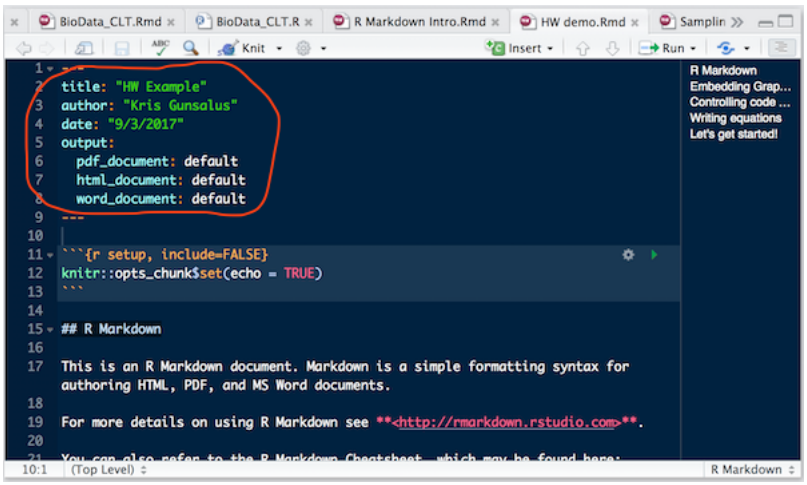
Embedded chunks of R code

- Code blocks
- Code output (text or graphics)

Step 2: Write something!

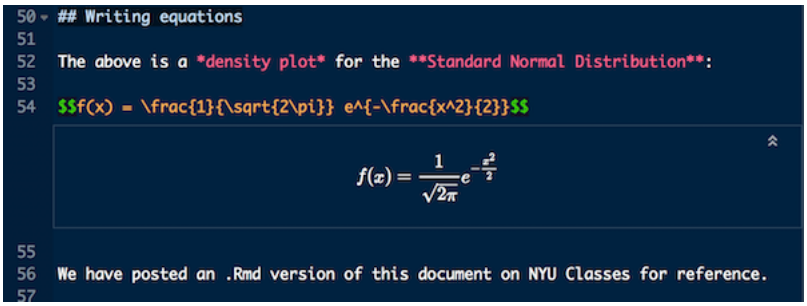
YAML header

- Always include a title, your name, and the date
- Output format: HTML and/or PDF



Step 2: Document text

- Use R Markdown tags to format the document (it's simple!)
- Headers, paragraphs, lists, etc. each use special symbols
- Use hash tags for section headers (# for H1, ## for H2, etc.)
- Enclose text with * for *italics* and ** for **bold**
- Use $ and escape char \ for special symbols like Greek letters

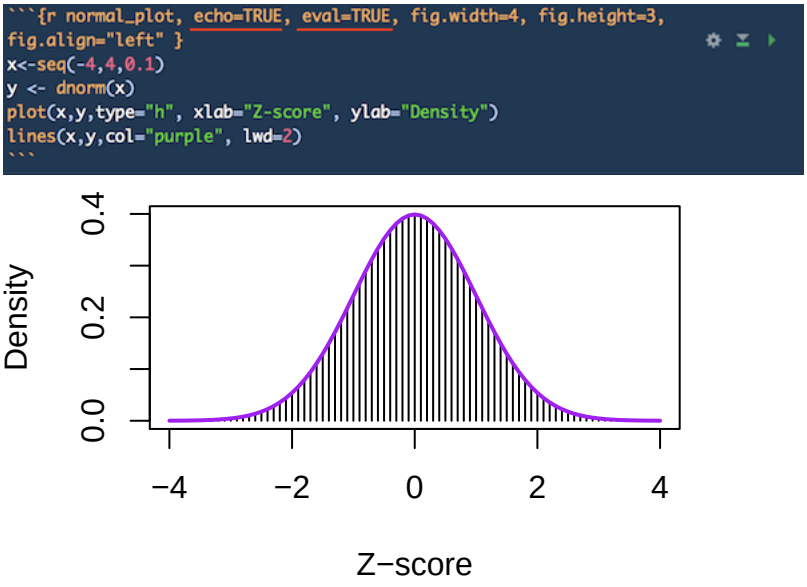


Step 3: Embed some R code

- Insert blocks of code using the RStudio menu: Insert => R
- Code blocks will be highlighted
- Code blocks always start with "'**{r}** and end with "'

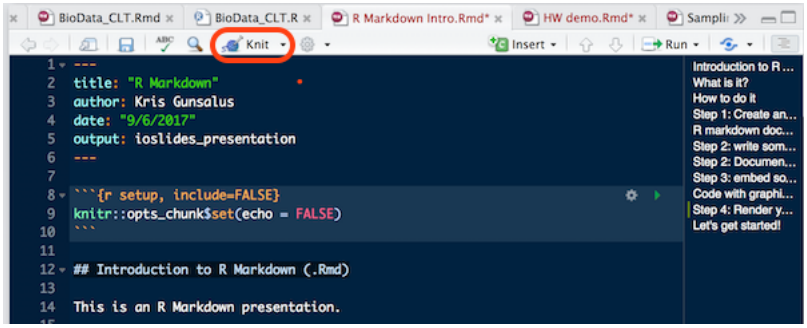
- Code blocks can be named.
- By default, both code chunks and output are rendered.
- Special directives can hide code blocks or skip running them.

Step 3: Including graphics



Step 4: Render your document

Convert your document to **HTML** or **PDF** using the **Knit** button. You can also render as a **Word** document.



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.

Let's get started!