

R Markdown Tutorial

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R Markdown

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

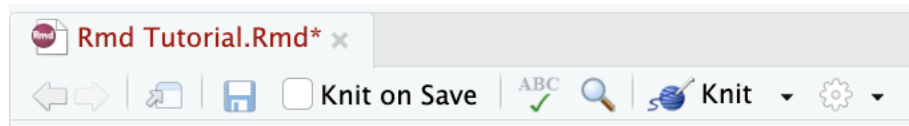


Figure 1: Knit button

Download and Install L^AT_EX

If you would like to create PDF documents from R Markdown, you will need to have a L^AT_EX distribution installed (can be downloaded [here](#)). R Markdown users should also install TinyTeX, which can be installed through RStudio. L^AT_EX provides the robust typesetting and formatting capabilities needed to produce well-structured documents. When you knit an R Markdown file to PDF, the process involves Pandoc converting the markdown content into L^AT_EX code, which L^AT_EX then compiles into a PDF.

Create a R Markdown File

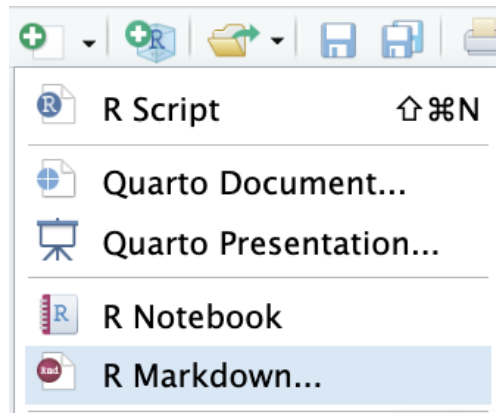


Figure 2: Create a R Markdown File 1

- Step 1: Click the icon on the top, and then select R Markdown

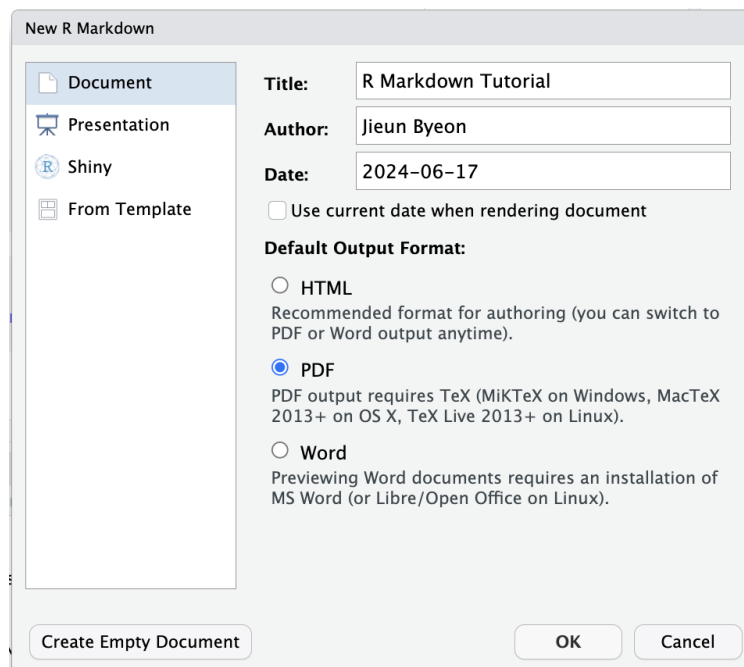


Figure 3: Create a R Markdown File 2

- Step 2: In the dialog that appears, fill in the Title and Author fields, choose Document as the type of output (default is HTML), and click OK.

YAML

YAML is the metadata that tells R Markdown exactly how to process or display the document. You can adjust the font, font size, and spacing by using `fontfamily: ,` `fontsize: ,`

```

---
title: "R Markdown Tutorial"
author: "Jieun Byeon"
date: "`r format(Sys.Date(), '%B %d, %Y')`"
output: pdf_document
fontfamily: mathpazo
fontsize: 12pt
spacing: single
---

```

Figure 4: YAML Sample

and spacing: . For more options, please refer to [this resource](#).

Code Chunks

You can quickly insert chunks into your file with the keyboard shortcut Ctrl + Alt + I (OS X: Cmd + Option + I)

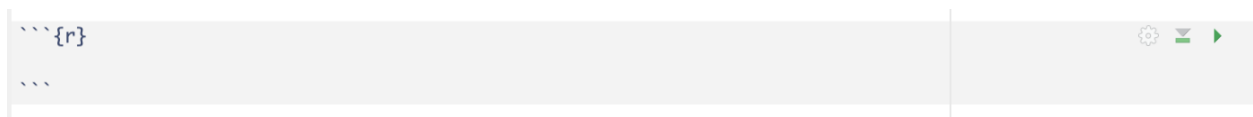


Figure 5: R Chunk 1

To hide your code but display the output in your PDF file, use echo=FALSE. If you wish to exclude both the code and its output from the PDF, use include=FALSE.

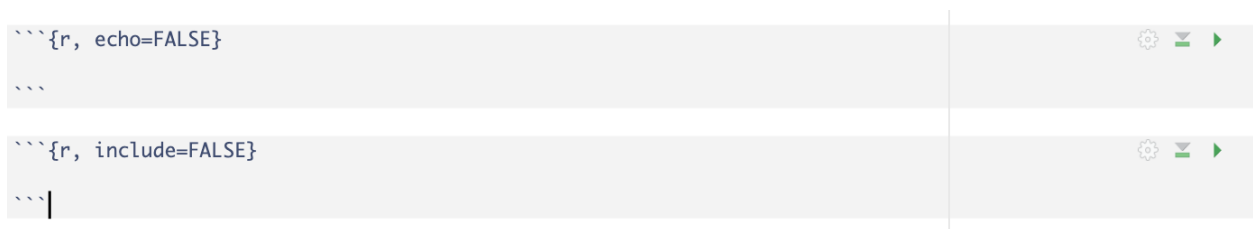


Figure 6: R Chunk 2

Examples

Calculation

```
(4 * 30 + 6)^0.5
```

```
## [1] 11.22497
```

Creating an object

```
X1 <- 10  
X2 <- 20  
X3 <- X1 * X2
```

```
X3
```

```
## [1] 200
```

Homework submission rules

1. Submissions must include both responses to the questions and/or interpretations of the output and the code necessary to complete each exercise in R.
2. Submissions must be knitted/compiled to a PDF file.