Markdown

Markdown is a lightweight markup language and created by John Gruber in 2004. Nowadays markdown is one of the world's most popular markup languages. The file extension of a Markdown file is .md or .markdown. To compile a markdown file user needs an application capable of processing markdown files like Microsoft Word, Dillinger, etc. These applications utilize a Markdown parser which converts a markdown file to printable HTML code.

R Markdown

R Markdown is a way of generating fully reproducible documents, in which both text and code can be combined. That's how things can be made as bullets, bold, italics, links, or run inline R codes.

Why use R Markdown?

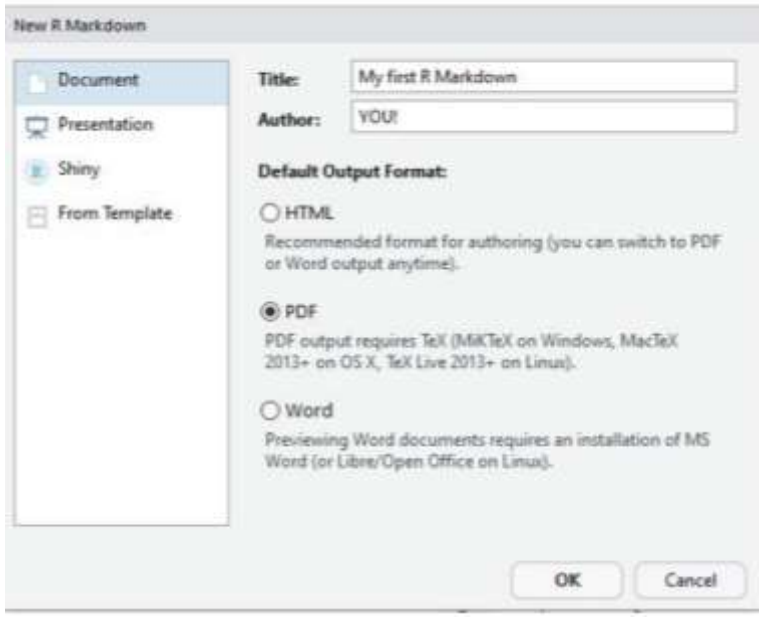
reproducibility

version control systems.

very easy to use
install.packages(“rmarkdown”).

Getting started with R Markdown

To create an R Markdown document, in R Studio, go to File > New File > R Markdown. The following window will appear:



There are three important sections of an R Markdown document.

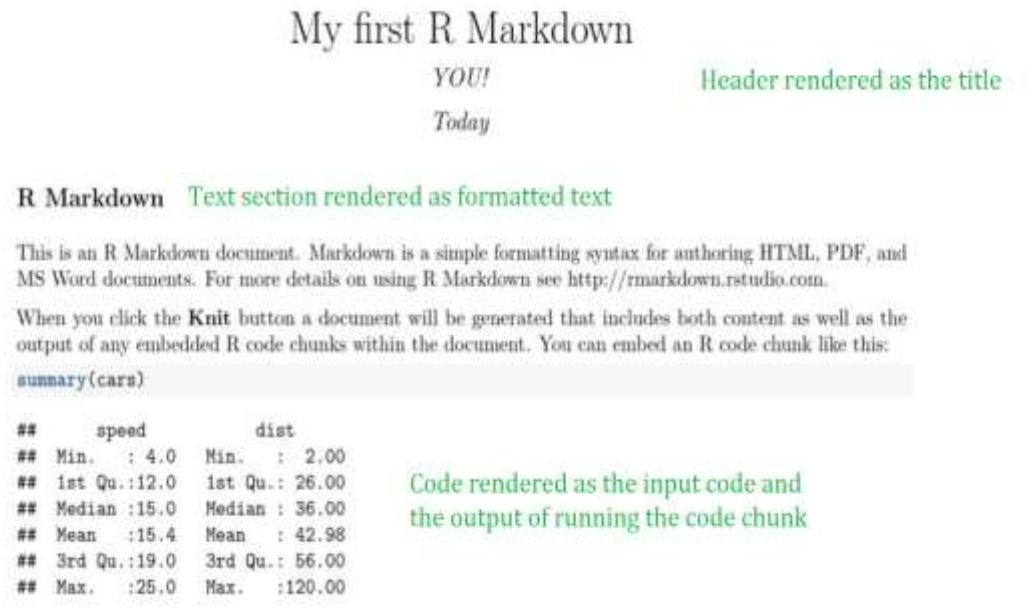
Header: The first one is the header at the top, bounded by the three dashes. This is where the user specifies the details like the title, name, the date, and what kind of document you want to output. If the user has filled in the blanks in the window earlier, these should be already filled out.

Text: Also on this page, one can see text sections, for example, one section starts with “## R Markdown” this section will render as text when the PDF of this file is produced and all of the formattings that the user will learn generally applies to this section.

Code Chunk: And finally, the user will see code chunks. These are bounded by the triple backticks. These are pieces of R code chunks that can run right from within the document and the output of this code will be included in the PDF when created. The easiest way to see how each of these sections behave is to produce the PDF.

Knitting the document

When the user is done with a document, in R Markdown, then one has to “knit” his plain text and code into his final document. To do so, click on the Knit button which is present on the top of the source panel. When one does so, it will prompt him to save the document as an RMD file. Do so. A document like this can be seen:



R Markdown files are the source code for rich, reproducible documents. You can transform an R Markdown file in two ways.

knit - You can knit the file. The rmarkdown package will call the knitr package. knitr will run each chunk of R code in the document and append the results of the code to the document next to the code chunk. This workflow saves time and facilitates reproducible reports.

Example: Consider how authors typically include graphs (or tables, or numbers) in a report. The author makes the graph, saves it as a file, and then copy and pastes it into the final report. This process relies on manual labor. If the data changes, the author must repeat the entire process to update the graph.

In the R Markdown paradigm, each report contains the code it needs to make its own graphs, tables, numbers, etc. The author can automatically update the report by re-knitting.

convert - You can convert the file. The rmarkdown package will use the pandoc program to transform the file into a new format.

Example :you can convert your .Rmd file into an HTML, PDF, or Microsoft Word file. You can even turn the file into an HTML5 or PDF slideshow. rmarkdown will preserve the text, code results, and