



# 第5章 Rmarkdown相关介绍

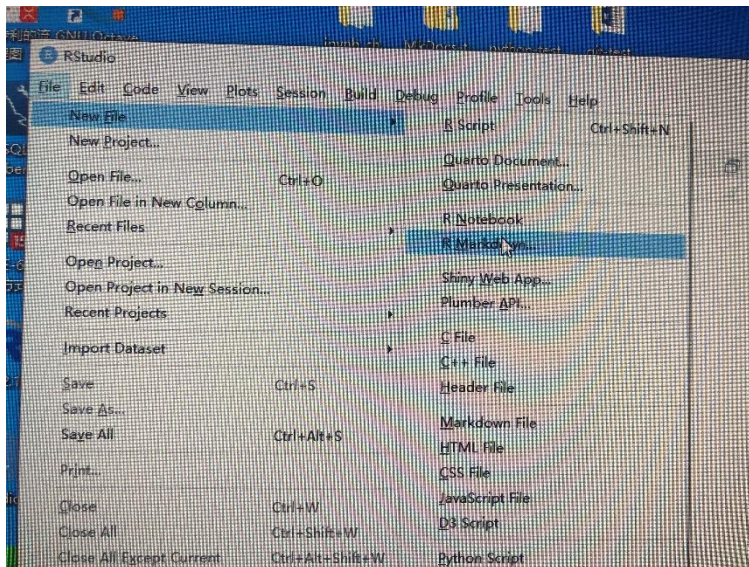
- markdown百度百科 “Markdown是一种可以使用普通文本编辑器编写的标记语言，通过简单的标记语法，它可以使普通文本内容具有一定的格式。”
- **R markdown就是 markdown + R code。**
- 它可以：1) 保存和执行代码；2) 生成可以分享的报告；
- 总的来说R Markdown用来将你的数据和R语言的分析过程和结果转化为文档报告，并且分享给别人。更重要的一点是R Markdown让你的分析过程具有可重现性。就是别人拿到了你的R Markdown文件，可以执行这个文件，看到和你一样的分析

**01** R Markdown的package是rmarkdown。

---

**02** `install.packages("rmarkdown")`

---



New R Markdown

☒ Document  
☐ Presentation  
☐ Shiny  
☐ From Template

Title: test1  
 Author: kcw  
 Date: 2023-09-12

☐ Use current date when rendering document

Default Output Format:

☒ HTML  
 Recommended format for authoring (you can switch to Pl or Word output anytime).

☐ PDF  
 PDF output requires TeX (MiKTeX on Windows, MacTeX 2013+ on OS X, TeX Live 2013+ on Linux).

☐ Word  
 Previewing Word documents requires an installation of M Word (or Libre/Open Office on Linux).

Create Empty Document OK Cancel

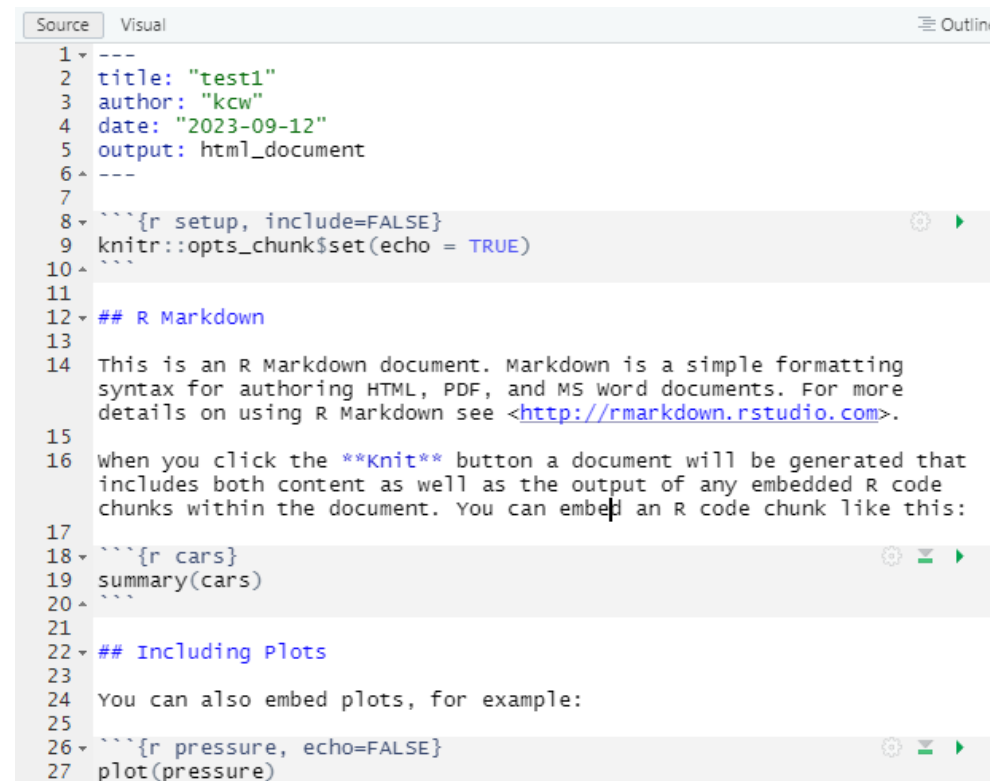
Source Visual Outline

```

1 ---
2 title: "test1"
3 author: "kcw"
4 date: "2023-09-12"
5 output: html_document
6 ---
7
8 ```{r setup, include=FALSE}
9 knitr::opts_chunk$set(echo = TRUE)
10 ```
11
12 ## R Markdown
13
14 This is an R Markdown document. Markdown is a simple formatting
15 syntax for authoring HTML, PDF, and MS word documents. For more
16 details on using R Markdown see <http://rmarkdown.rstudio.com>.
17
18 when you click the **knit** button a document will be generated that
19 includes both content as well as the output of any embedded R code
20 chunks within the document. You can embed an R code chunk like this:
21
22 ## Including plots
23
24 You can also embed plots, for example:
25
26 ```{r pressure, echo=FALSE}
27 plot(pressure)
  
```

R Markdown文件里面大致可以分为三块：

- 普通报告文字
- Markdown语法
- R code 经常使用Git或者其他markdown的会很熟悉markdown语法。截图里面是一个链接的语法。



```
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22 ```{r cars}
23 summary(cars)
24 ```
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26 ## Including Plots
27
28 You can also embed plots, for example:
29
30 ```{r pressure, echo=FALSE}
31 plot(pressure)
```

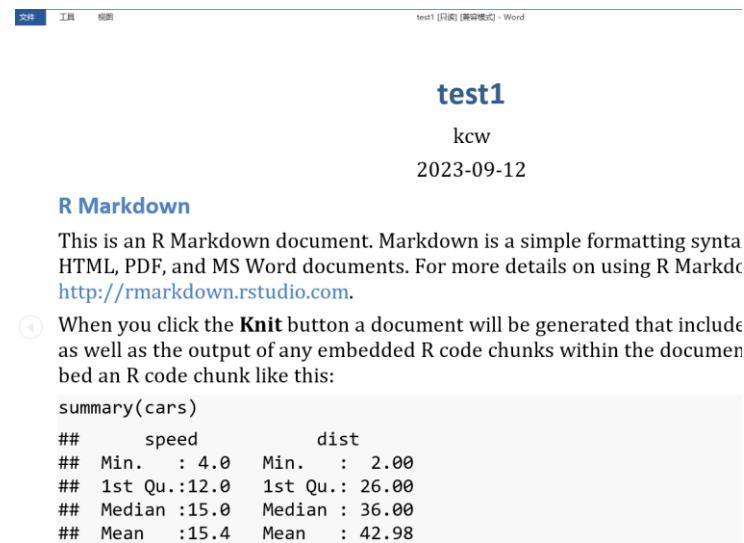
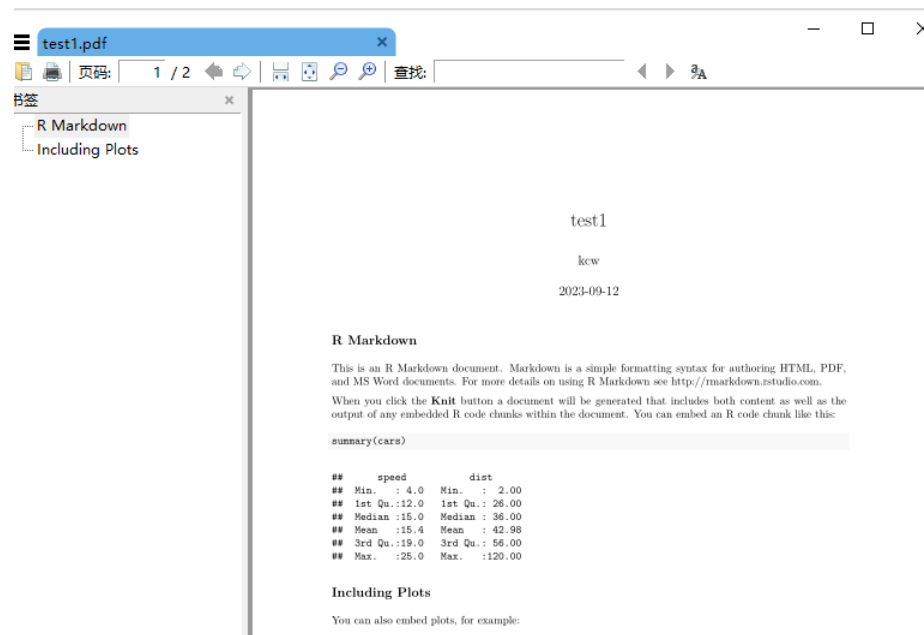
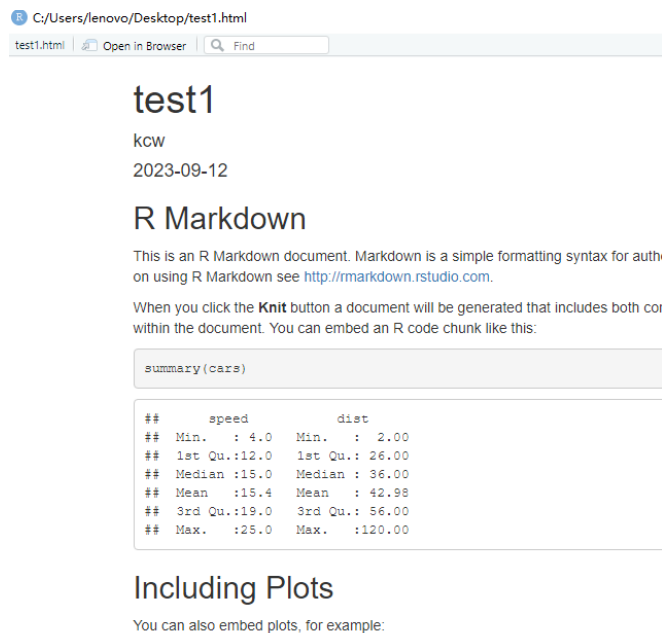
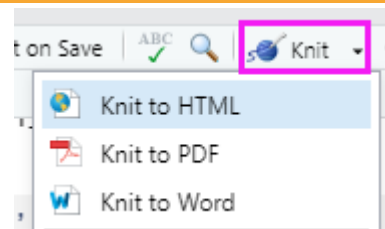
- 在R markdown里面, R code会被嵌入在一个片段。可以在上面的截图看到。这里面要提到的是, R嵌入的代码片段有几个很重要的设置, 会影响R markdown的生成。
- **include=FALSE**, 是指R code和结果都不会在报告里面显示。但是code还是会被执行, code执行的结果后面code也可以使用。
- **echo=FALSE**, 是指R code不显示, 但是执行结果会被显示在报告里面。这个很适用于画图的code。

```

17
18 when you click the **knit** button a document will be generated that
19 includes both content as well as the output of any embedded R code
20 chunks within the document. You can embed an R code chunk like this:
21
22 ```{r cars}
23 summary(cars)
24
25 ## Including Plots
26
27 You can also embed plots, for example:
28
29 ```{r pressure, echo=FALSE}
30 plot(pressure)
31
32 Note that the `echo = FALSE` parameter was added to the code chunk to
33 prevent printing of the R code that generated the plot.
34
35 # set seed
36
37 ```{r}
38 set.seed(100)
39
40
41 # generate U(0,1)
42 ```{r}
43 runif(100,0,1)
44 x1<-runif(100,0,1)
45
46
47 ```{r}
48 plot(x1)
49 hist(x1)
50

```

- 有三种输出格式，分别为HTML、PDF、WORD
- 点击按钮 Knit，选择不同输出格式，运行结果如下：



当然保存为PDF格式文档前，需要安装两个包

```
install.packages("knitr")
install.packages("tinytex")
```

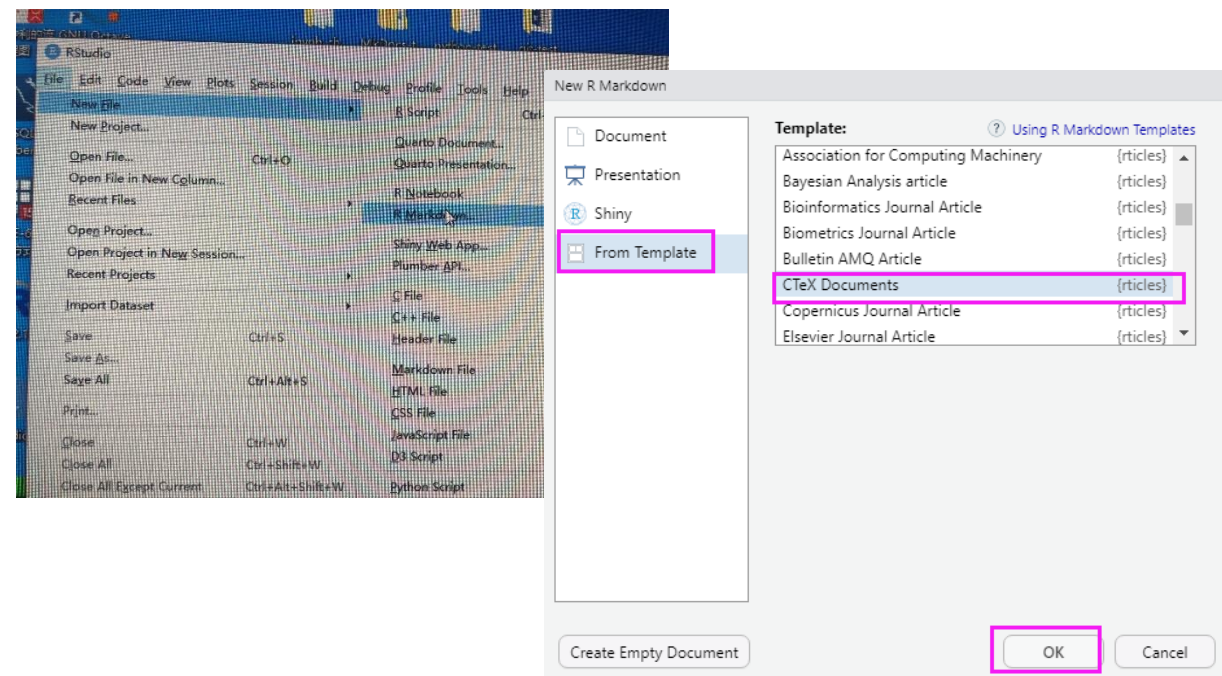


## ▶▶▶ R Markdown输出格式——PDF格式文档

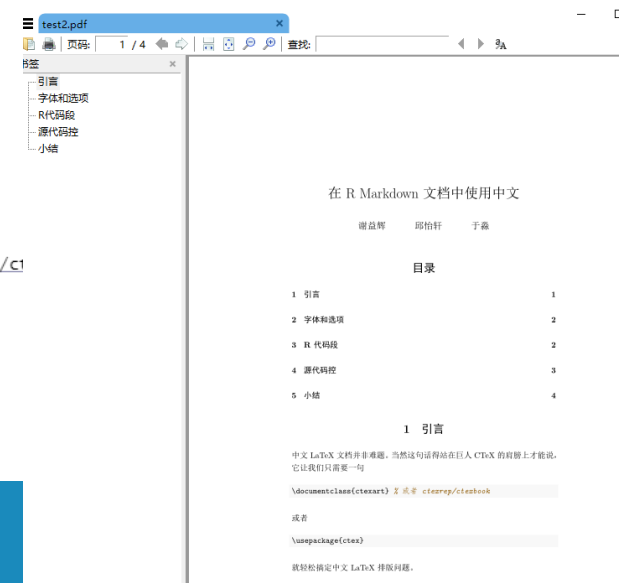
8

当然保存为PDF格式文档前，需要安装两个包  
`install.packages("knitr")`  
`install.packages("tinytex")`

发现前面生成PDF文件里，不能添加中文，所以换一种方式新建R Markdown，即可生成含有中文内容+R code的PDF文件啦~  
步骤如下：



```
1 ---
2 title: "在 R Markdown 文档中使用中文"
3 author:
4   - 谢益辉
5   - 邱怡轩
6   - 于淼
7 documentclass: ctexart
8 keywords:
9   - 中文
10  - R Markdown
11 output:
12   rticles::ctex:
13     fig_caption: yes
14     number_sections: yes
15     toc: yes
16 ---
17
18 # 引言
19
20 中文 LaTeX 文档并非难题。当然这句话得站在巨人 [CTeX] (http://www.ctex.org/)
21 的肩膀上才能说，它让我们只需要一句
22
23 \documentclass{ctexart} % 或者 ctexrep/ctexbook
24
25 或者
26
27 \documentclass{ctex}
28 \usepackage{ctex}
29
30
```





### 自己电脑配置环境时，遇到问题的解决方法可以参考这些

- RStudio 安装tinytex 不成功，可以参考这个

[https://blog.csdn.net/weixin\\_41173281/article/details/120315869](https://blog.csdn.net/weixin_41173281/article/details/120315869)

- R语言输出RMarkdown为其他格式时（如PDF）时报错LaTeX failed to compile stocks.tex.的解决办法

[https://blog.csdn.net/weixin\\_43114709/article/details/120228302](https://blog.csdn.net/weixin_43114709/article/details/120228302)

- Rmarkdown导出中文PDF解决方案

[https://blog.csdn.net/weixin\\_44533530/article/details/103511454?spm=1001.2101.3001.6650.2&utm\\_medium=distribute.pc\\_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7ERate-2-103511454-blog-103403627.t0\\_edu\\_mlt&depth\\_1-utm\\_source=distribute.pc\\_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7ERate-2-103511454-blog-103403627.t0\\_edu\\_mlt&utm\\_relevant\\_index=2](https://blog.csdn.net/weixin_44533530/article/details/103511454?spm=1001.2101.3001.6650.2&utm_medium=distribute.pc_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7ERate-2-103511454-blog-103403627.t0_edu_mlt&depth_1-utm_source=distribute.pc_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7ERate-2-103511454-blog-103403627.t0_edu_mlt&utm_relevant_index=2)