데이터 사이언티스트를 위한 R-6: Rmarkdown

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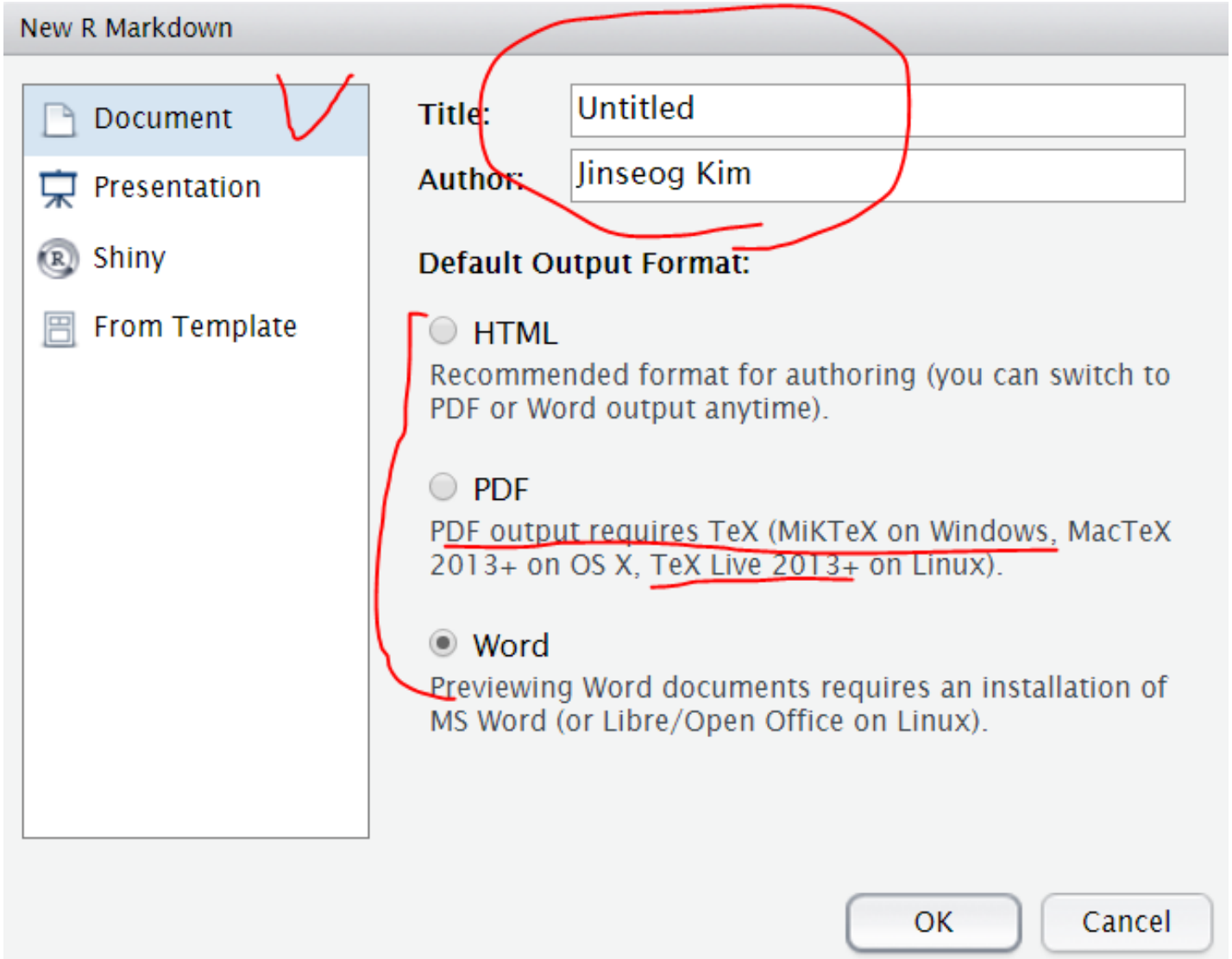
Required packages

- rmarkdown
- knitr

Getting Started

1. See Rstudio-RMarkdown : `http://rmarkdown.rstudio.com/`
2. File => New File => R Markdown



3. ...

Header

```
---
title: "Test report"
author: "Jinseog Kim"
date: "2016. 11. 8."
output: word_document
---
```

- output: word_document, pdf_document, etc, . . .
- pdf_document를 선택할 경우, LaTeX이 설치되어 있어야 함

Sectioning, lists

- #,##, ...
- unordered lists: *, +
- ordered lists: 1., 2.

```
* list 1
   + 1
   + 2
* list 2
   1. 1
   1. 2
* list 3
```

- list 1
  - 1
  - 2
- list 2
  1. 1
  2. 2
- list 3

R code chunk

```
    ```{ r, eval=TRUE, echo=TRUE}
    head(iris)
    ```
```

```r
head(iris)
```

```
##   Sepal.Length Sepal.Width Petal.Length Petal.Width Species
## 1          5.1         3.5          1.4         0.2  setosa
## 2          4.9         3.0          1.4         0.2  setosa
## 3          4.7         3.2          1.3         0.2  setosa
## 4          4.6         3.1          1.5         0.2  setosa
## 5          5.0         3.6          1.4         0.2  setosa
## 6          5.4         3.9          1.7         0.4  setosa
```

include external figure

```
![example 1](figure/rmarkdown2.PNG)
```

```
---
title: "Untitled"
author: "Jinseog Kim"
date: "2016. 11. 8."
output: word_document
---

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documer
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
embedded R code chunks within the document. You can embed an R code chunk like this:

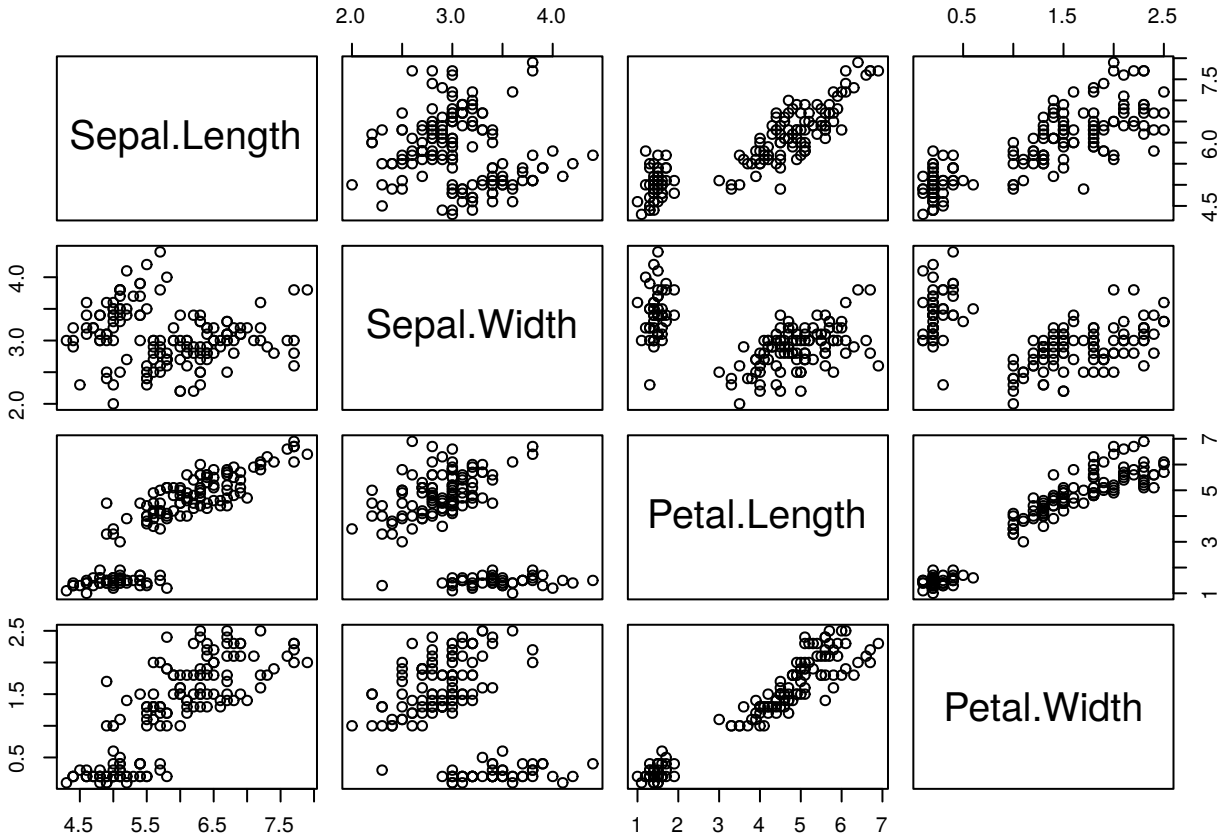
```{r}
summary(cars)
```
```

Figure 1:example 1

figures by R

```
```{ r, eval=TRUE, echo=TRUE, fig.show='asis'}
plot(iris[,1:4])
```
```

```
plot(iris[,1:4])
```



R code chunk: table

```
```{ r, eval=TRUE, echo=FALSE}
kable(head(iris))
```
```

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa

R code chunk: table

```
```{ r, eval=TRUE, echo=FALSE}
res <- anova(glm(Species~., data=iris[1:100,], family=binomial))
kable(iris)
```
```

	Df	Deviance	Resid. Df	Resid. Dev
NULL	NA	NA	99	138.62944
Sepal.Length	1	74.41817	98	64.21127
Sepal.Width	1	64.21127	97	0.00000
Petal.Length	1	0.00000	96	0.00000
Petal.Width	1	0.00000	95	0.00000

Extract R codes from Rmd file

- knitr::purl(file_name)

```
rmd_files <- list.files(".", pattern="Rmd")
select <- grepl("^R-", rmd_files)
for(i in rmd_files[select]){
  knitr::purl(i)
}
```