Overview of creating a reproducible report

R Markdown script

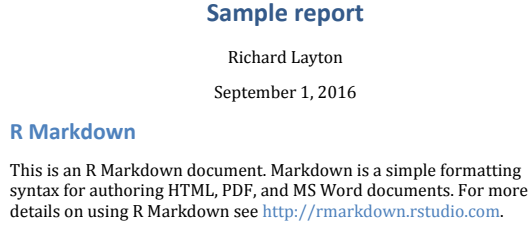
````
---
title: "Sample report"
author: "Richard Layton"
date: "September 1, 2016"
output: word_document
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)
```

## R Markdown

This is an R Markdown document. 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>.
````

Output document



Sample report

Richard Layton

September 1, 2016

R Markdown

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script

```
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. You can embed
an R code chunk like this:

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

output

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. You can embed an R code chunk like this:

```r
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2.00
##  1st Qu.:12.0   1st Qu.: 26.00
##  Median :15.0   Median : 36.00
##  Mean   :15.4   Mean   : 42.98
##  3rd Qu.:19.0   3rd Qu.: 56.00
##  Max.   :25.0   Max.   :120.00
```

script

```
## Including Plots

You can also embed plots, for example:

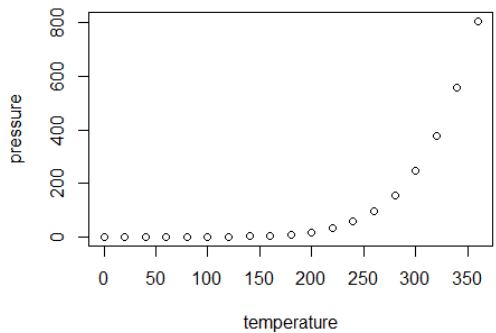
```{r echo=FALSE}
plot(pressure)
```

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.
```

output

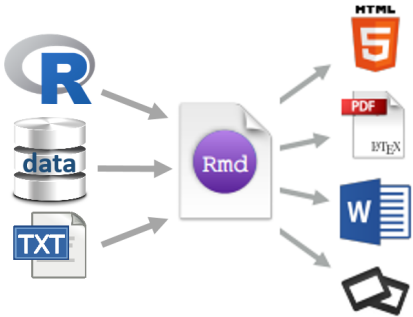
Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

Eliminate copy and paste & GUI menu clicks



- text and R code in the same script
- R for computing and graphics
- flexible output formats

Software overview

R	learn a new language for data analysis and computing
R Markdown	learn a new mark-up syntax for formatted prose
Git	for local version control (via RStudio)
GitHub	for collaboration (vis RStudio)
RStudio	one GUI to find them and in the research bind them