RMarkdown Tutorial

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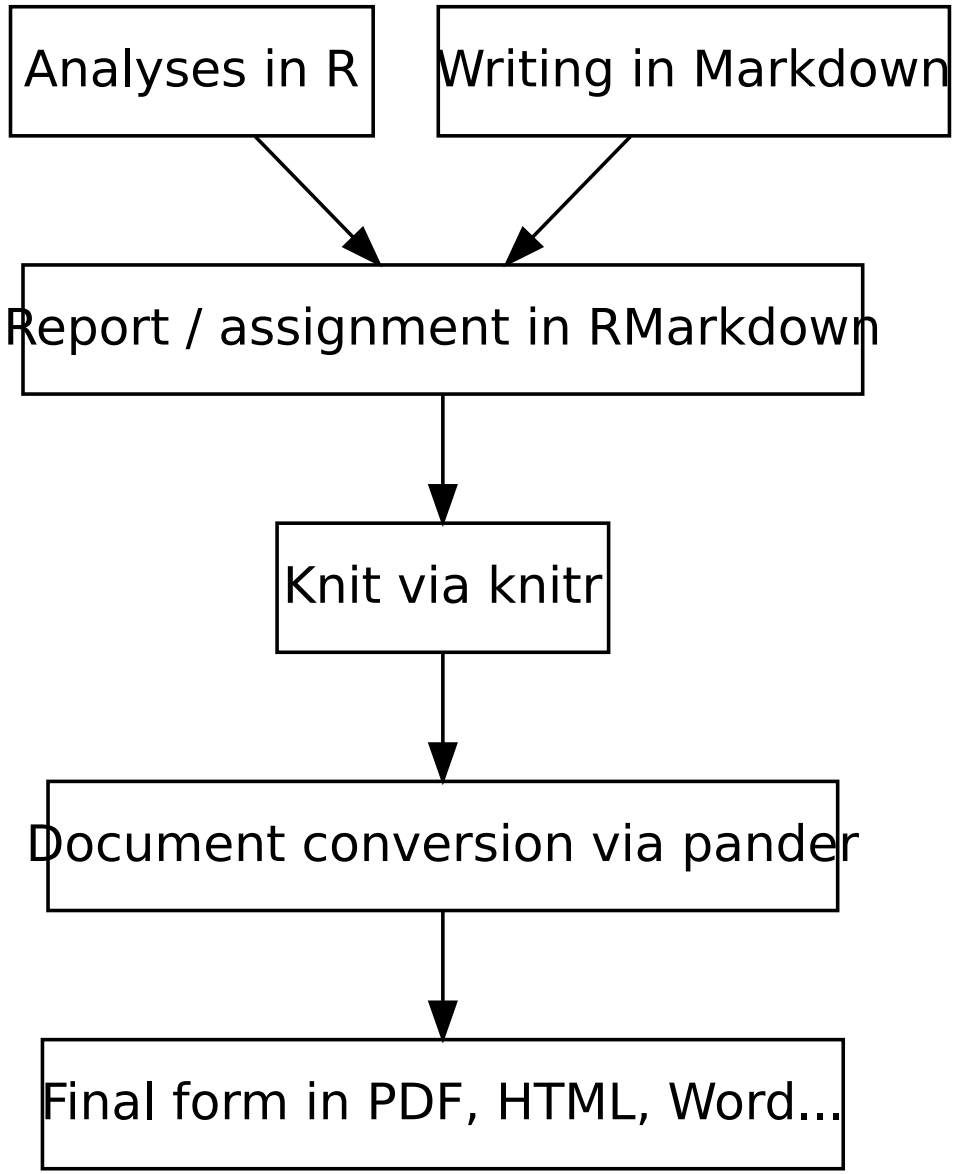
16 March 2020

R Markdown

Combining scientific analyses and writing in one programme.



Installation

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

- Or just install RStudio, which comes with RMarkdown thesedays.
- To compile PDFs, you may need to manually:

```
install.packages("tinytex")
tinytex::install_tinytex()
```

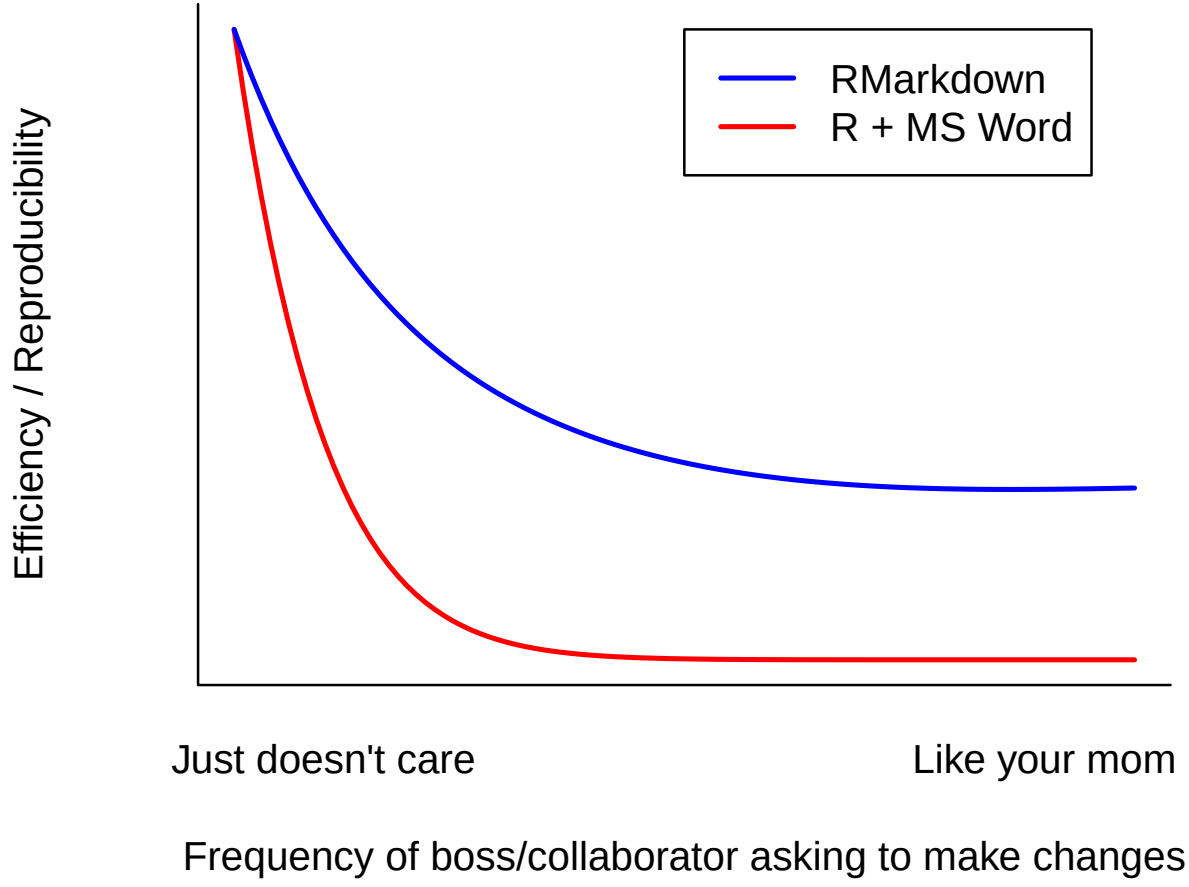
How to learn RMarkdown

- Come to this session (peer support)
- RMarkdown cheatsheets: link
- RStudio > Help > Markdown Quick Reference
- Google

Some examples: link

Why all the fuss?

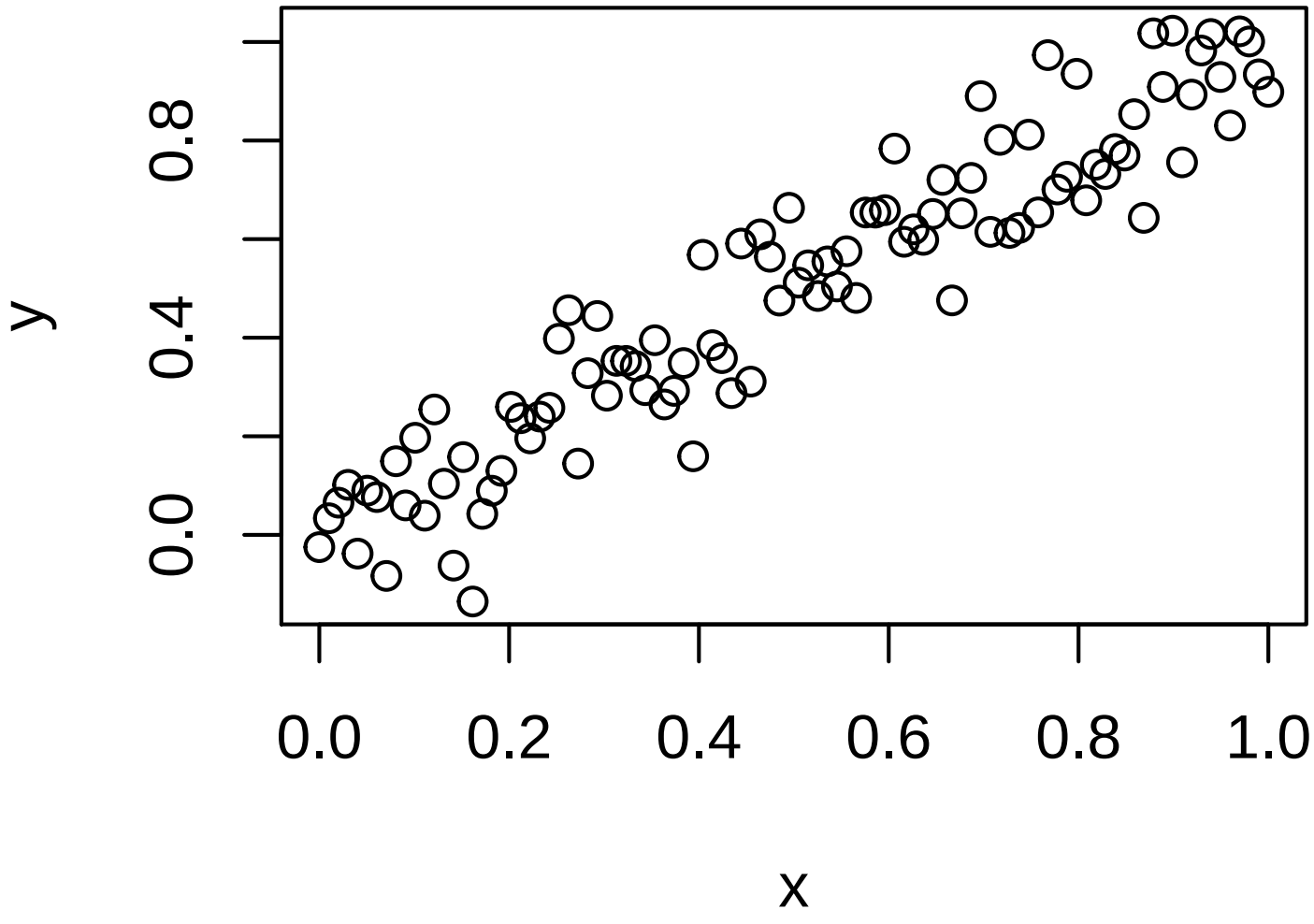
- Reproducibility



- More of a "one-stop-shop" than LaTeX

Reproducible plot

```
x <- seq(0, 1, length.out = 100)
y <- x + rnorm(length(x), 0, 0.1)
plot(x, y)
```



Reproducible analyses

```r
mod <- lm(y ~ x)
summary(mod)
```

```
##
## Call:
## lm(formula = y ~ x)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.29285 -0.06869  0.00312  0.06545  0.21473
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.002602   0.020351  -0.128    0.899
## x            0.991556   0.035160  28.201   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.1025 on 98 degrees of freedom
## Multiple R-squared:  0.8903, Adjusted R-squared:  0.8892
## F-statistic: 795.3 on 1 and 98 DF,  p-value: < 2.2e-16
```

Reproducible analyses

```
plot(x, y)
abline(mod, col = "red", lwd = 2)
```