002-Minimum Working Example

May 28, 2015

Abstract

We familiarize ourselves with the basics of `knitr` (Xie, 2015, 2013, 2014); including plots, tables and code.

1 Figures

R Example 1.1.

```
par(mar = c(4, 4, 0.1, 0.1))
x = rnorm(100)
hist(x, main = "", col = "lightblue", border = "white")
rug(x)
```

R Example 1.2.

```
plot(cars, pch = 20, col = "darkgray")
fit <- lm(dist ~ speed, data = cars)
abline(fit, lwd = 2)
```

R Example 1.3.

```
par(mfrow = c(2, 2))
plot(fit)
```

2 Tables

R Example 2.1.

```
fit <- lm(dist ~ speed, data = cars)
summary(fit)
```

```
xtable::xtable(fit, digits = 2)
```

R Example 2.2.

```
# %>% is the pipe operator from the magrittr library
cars %>% summary() %>% xtable
```

References

Stefan Milton Bache and Hadley Wickham. *magrittr: A Forward-Pipe Operator for R*, 2014. URL http://CRAN.R-project.org/package=magrittr. R package version 1.5.

David B. Dahl. *xtable: Export tables to LaTeX or HTML*, 2014. URL http://CRAN.R-project.org/package=xtable. R package version 1.7-4.

Yihui Xie. *Dynamic Documents with R and knitr*. Chapman and Hall/CRC, Boca Raton, Florida, 2013. URL http://yihui.name/knitr/. ISBN 978-1482203530. 1

Yihui Xie. knitr: A comprehensive tool for reproducible research in R. In Victoria Stodden, Friedrich Leisch, and Roger D. Peng, editors, *Implementing Reproducible Computational Research*. Chapman and Hall/CRC, 2014. URL http://www.crcpress.com/product/isbn/9781466561595. ISBN 978-1466561595. 1

Yihui Xie. *knitr: A General-Purpose Package for Dynamic Report Generation in R*, 2015. URL http://yihui.name/knitr/. R package version 1.10.5. 1

A R Code

```r
par(mar = c(4, 4, 0.1, 0.1))
x = rnorm(100)
hist(x, main = "", col = "lightblue", border = "white")
rug(x)
plot(cars, pch = 20, col = "darkgray")
fit <- lm(dist ~ speed, data = cars)
abline(fit, lwd = 2)
par(mfrow = c(2, 2))
plot(fit)
fit <- lm(dist ~ speed, data = cars)
summary(fit)
xtable::xtable(fit, digits = 2)
# %>% is the pipe operator from the magrittr library
cars %>% summary() %>% xtable
sessionInfo()
getPckg <- function(pckg) install.packages(pckg, repos = "http://cran.r-project.org")

pckg = try(require(knitr))
if (!pckg) {
    cat("Installing 'knitr' from CRAN\n")
    getPckg("knitr")
    require(knitr)
}



pckg = try(require(xtable))
if (!pckg) {
    cat("Installing 'xtable' from CRAN\n")
    getPckg("xtable")
    require(xtable)
}

pckg = try(require(dplyr))
if (!pckg) {
    cat("Installing 'xtable' from CRAN\n")
    getPckg("xtable")
    require(xtable)
}
```

```
pckg = try(require(data.table))
if (!pckg) {
    cat("Installing 'data.table' from CRAN\n")
    getPckg("data.table")
    require(data.table)
}
```

B Session Information

```
sessionInfo()
```

```
## R version 3.2.0 (2015-04-16)
## Platform: x86_64-pc-linux-gnu (64-bit)
## Running under: Ubuntu 14.04.2 LTS
##
## locale:
##  [1] LC_CTYPE=en_CA.UTF-8       LC_NUMERIC=C
##  [3] LC_TIME=en_CA.UTF-8        LC_COLLATE=en_CA.UTF-8
##  [5] LC_MONETARY=en_CA.UTF-8    LC_MESSAGES=en_CA.UTF-8
##  [7] LC_PAPER=en_CA.UTF-8       LC_NAME=C
##  [9] LC_ADDRESS=C               LC_TELEPHONE=C
## [11] LC_MEASUREMENT=en_CA.UTF-8 LC_IDENTIFICATION=C
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets
## [6] methods   base
##
## other attached packages:
## [1] data.table_1.9.4 dplyr_0.4.1      xtable_1.7-4
## [4] knitr_1.10.5
##
## loaded via a namespace (and not attached):
##  [1] Rcpp_0.11.6    assertthat_0.1 chron_2.3-45
##  [4] plyr_1.8.2     DBI_0.3.1      formatR_1.2
##  [7] magrittr_1.5   evaluate_0.7   highr_0.5
## [10] stringi_0.4-1  reshape2_1.4.1 tools_3.2.0
## [13] stringr_1.0.0  parallel_3.2.0
```