Code and Data Styles

With the people sitting next to you, see how many differences can you find in each of these examples. Discuss which difference you prefer and why. If you discover anything you'd like to emulate (or not!), write it in your personal style guide. We'll come together as a whole group to discuss each example in turn.

Example 1

in file `todayswork.r`

```
data <- read.csv("data.csv",sep="\t")
attach(data)
height_for_each_person<-Feet/12+inches
V3 <- factor(V3)

mymodel=lm(height_for_each_person~V3+V4)
summary( mymodel )
```

in file `analyze_height-2014-04-30.R`

```
### read and manipulate data --------------
d <- read.csv("height.csv", sep="\t")
d <- within(d, {
  Height <- Feet / 12 + Inches
  Sex <- factor(Sex, levels=1:2,
                     labels=c("M", "F"))
})
### data analysis -------------------------
model.height <- lm(Height ~ Sex + Age, data=d)
summary(model.height)
```

Example 2

```
## my box-cox function
my.func <- function(a ,b) {
  if( b==0 ) {
    log( a )
  }
  else
  (a^b- 1)/b
}
```

```
## the Box-Cox transformation
##   x: the data to be transformed
##   lambda: the Box-Cox parameter
## output: the transformed data
myBoxCox <- function(x, lambda) {
  if (lambda == 0) {
    log(x)
  } else {
    (x^lambda - 1) / lambda
  }
}
```

Example 3

```
dat <- read.csv("mydata.csv")
dat_byday <- split(dat, dat$day)
mean.and.sd <- function(x) {c(m=mean(x), sd=sd(x)}
day1.summary <- mean.and.sd(dat_byday$`1`$response)
DayTwoSummary <- mean.and.sd(dat_byday$`2`$response)
```

```
dat <- read.csv("mydata.csv")
dat.byday <- split(dat, dat$day)
getMeanAndSd <- function(x) {c(m=mean(x), sd=sd(x)}
day1.summary <- getMeanAndSd(dat.byday$`1`$response)
day2.summary <- getMeanAndSd(dat.byday$`2`$response)
```

Style Guide

"Good coding style is like using correct punctuation. You may think you can manage without it, but it sure makes things easier to read. As with styles of punctuation, there are many possible variations. [Well-known examples are by Hadley Wickham, Yihui Xie, and Google.] You don't have to use [one of theirs]. However, you do need to have and to use a consistent style." (from `http://adv-r.had.co.nz/Style.html`)

Consider your own personal style guide. What would you include in each topic?

file naming

variable naming (both in code and in data frames)

function naming

braces

indentation

commenting

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Name: _____

Which element of the code style guide do you think will be most helpful to you?

_____

_____

_____