

R Workshop 2

Unix environments

- `library("parallel")`
- `?parallel`
- `library(help="parallel")`
- `parallel<TAB><TAB>`
- `parallel::detectCores()`
- `mc.cores=2`
- `mclapply(LakeHuron, sqrt)`

Windows Environment

- `library(parallel)`
- `cl <- makeCluster(2)`
- `parLapply(cl, LakeHuron, sqrt)`
- `stopCluster(cl)`

```
library(boot)
cd4.rg <- function(data,mle) MASS::mvrnorm
(nrow(data), mle$m, mle$v)
cd4.mle <- list(m=colMeans(cd4), v=var(cd4))
cd4.boot <- boot(cd4, corr, R=999, sim="
parametric", ran.gen=cd4.rg, mle=cd4.mle)
boot.ci(cd4.boot, type=c("norm", "basic",
"perc"), conf=0.9, h=atanh, hinv=tanh)
```

```
cd4.rg <- function(data,mle) MASS::mvrnorm(nrow
(data), mle$m, mle$v)
cd4.mle <- list(m=colMeans(cd4), v=var(cd4))
run1 <- function(...) boot(cd4, corr, R=500, sim="
parametric", ran.gen=cd4.rg, mle=cd4.mle)
mc <- 2
set.seed(123, "L'Ecuyer")
cd4.boot <- do.call(c, mclapply(seq_len(mc),
run1))
boot.ci(cd4.boot, type=c("norm", "basic", "perc"),
conf=0.9, h=atanh, hinv=tanh)
```

```
library("biglm")
data(trees)
ff <- log(Volume) ~ log(Girth) + log(Height)
chunk1 <- trees[1:10,]
chunk2 <- trees[11:20,]
chunk3 <- trees[21:31,]
a <- biglm(ff, chunk1)
a <- update(a, chunk2)
a <- update(a, chunk3)
summary(a)
deviance(a)
AIC(a)
```

```
install.packages("foreach")  
library("foreach")  
foreach_plain <- function() {  
  foreach(i=1:10000) %do%  
    sqrt(i)  
}  
system.time(foreach_plain())
```

```
foreach_par <- function() {  
  foreach(i=1:10000) %dopar%  
    sqrt(i)  
}  
system.time(foreach_par())
```