STAT 321

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STAT 321-001

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Problem 1

```
rm(list=ls())
az <- function(n){
  sample(c("A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P","Q","R","S","T","U","V","W",
}
az(1)
```

```
## [1] "M"
```

Problem 2

Part (a)

```
library(parallel) # Results suppressed
detectCores()
cl <- makeCluster(detectCores()-1)
parLapply(cl,rep(1,1000000),az)
stopCluster(cl)
```

Part (b)

```
library(parallel)
sn <- Sys.time()
tn <- system.time(lapply(rep(1,1000000),az))
en <- Sys.time()
sl <- Sys.time()
cl <- makeCluster(detectCores()-1)
tl <- system.time(parLapply(cl,rep(1,1000000),az))
stopCluster(cl)
el <- Sys.time()
c(en-sn,el-sl,en-sn-(el-sl)) # Two different estimates of computational time difference
```

```
## Time differences in secs
## [1] 33.878987 28.712049  5.166938
```

```
c(tn[3],tl[3],tn[3]-tl[3])
```

```
## elapsed elapsed elapsed
##  33.799  25.485    8.314
```

Problem 3

```r
library(devtools)
library(remotes)
library(roxygen2)
install_github("LoyolaRamblers/az",subdir="az",force=TRUE)
```

```
## -- R CMD build -----------------------------------------------------------
## * checking for file '/private/var/folders/1q/xhd093xd0r95jmd92b_kn26c0000gp/T/RtmpTzi4T0/remotes3194
## * preparing 'az':
## * checking DESCRIPTION meta-information ... OK
## * checking for LF line-endings in source and make files and shell scripts
## * checking for empty or unneeded directories
## Omitted 'LazyData' from DESCRIPTION
## * building 'az_0.1.0.tar.gz'
```

```r
library(az)
```

Problem 4

```r
library(utils)
browseURL("https://github.com/LoyolaRamblers/az/tree/master/az")
```