# Lab5

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*Due noon October 17, 2018*

**1) Suppose you are betting that you get at least one six in 4 throws of a die.Write a function that simulates one round of the game and prints out whether you win or lose.**

```r
dice = c(1:6)
win=0
game <- function(N) {
  for(i in seq_len(N)) {
    x = sample(dice, size = 4, replace=TRUE)
    if(6 %in% x ) {
      win = win + 1
    }
  }
  prop = round(win / N, 4)
  return(prop)
}

game(1000)
```

```
## [1] 0.496
```

```r
game(10000)
```

```
## [1] 0.5149
```

**2) Write a function that will find the smallest element of a given vector (built-in min() is not allowed). Your function should return the smallest element and index of the smallest element.Ex. vector is (1, 4, 2, 0, 5), then the smallest element - 0 and index is 4.**

```r
MinInd <- function(x){
min= x[1]
index=1
  if(length(x)>1){
    for(i in 2:length(x)){
      if(x[i]<min){
        min = x[i]
        index = i
      }
    }
  }
print(paste("Minimun is", min))
print(paste("Index:",c( which(x %in% c(min)))))

}
```

```r
MinInd(c(1, 4, 2, 0, 5))
```

```
## [1] "Minimun is 0"
## [1] "Index: 4"
```

```r
MinInd (c(1,7,1,0,9,0,2))
```

```
## [1] "Minimun is 0"
## [1] "Index: 4" "Index: 6"
```