

Lab5 HW Assignment C.Thomas

Charlene Thomas

October 14, 2018

Assignment - Lab5

1. Modify your function from the Problem 2 (Lab5 Activity). The function should simulate N rounds of the game (instead of just one) and return the proportion of times you win the bet. Run the function with N = 1000 and 10000.

```
game <- function(n) {  
  wins = 0  
  rounds <- replicate(n, {  
    x <- sample(1:6, 6, replace = TRUE)  
  })  
  for(i in 1:ncol(rounds)) {  
    if (6 %in% rounds[,i]) {  
      wins = wins + 1  
    }  
  }  
  return(wins/n)  
}  
game(1000)
```

```
## [1] 0.673
```

```
game(10000)
```

```
## [1] 0.6582
```

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.

```
min.location <- function(x) {  
  min.value <- x[1]  
  for (i in seq_along(x)[-1])+1)  
    if (x[i] < min.value) {  
      min.value <- x[i]  
    }  
  output1 <- list("Smallest Element" = min.value, "Index of Smallest Element" = i)  
  return(output1)  
}  
love <- c(4,5,6,7,8,3)  
min.location(love)
```

```
## $`Smallest Element`
```

```
## [1] 3
```

```
##
```

```
## $`Index of Smallest Element`
```

```
## [1] 6
```