Homework 5

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# Question 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.

dice\_game <- function () {  
 result <- sample (1:6, 4, replace=T)  
 ifelse (result[1]==6|result[2]==6|result[3]==6|result[4]==6, return(1), return(0))}   
  
dice\_prob <- function(B) {  
sum(replicate (B, dice\_game()))/B}  
  
dice\_prob(1000)

## [1] 0.5

dice\_prob(10000)

## [1] 0.5117

# Question 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.

x=c(3,4,5,6,7,3)  
  
  
findMin <- function(x) {for (i in 1:length(x)){  
 if(sum(x[i]<=x)!=length(x)){  
 next  
 }  
 print (paste("minimum number is",x[i]))  
 print (paste("its sequence",i))  
}}  
  
findMin(x)

## [1] "minimum number is 3"  
## [1] "its sequence 1"  
## [1] "minimum number is 3"  
## [1] "its sequence 6"