2019150445/Shin Baek Rok

2020 10 6

# 1.

prime\_number<-function(x){  
 z<-0  
 for(i in 1:x){  
 while(i%%2==0){  
 z<-z+1  
 i<-i/2  
 }  
 }   
 print(z)  
   
   
}  
prime\_number(100)

## [1] 97

# 2.

council<-rep(c("A.local","A.pr","B.local","B.pr","C.local","C.pr","D.local","D.pr","E.local","E.pr")  
 ,c(161,13,84,19,1,5,0,3,7,7))  
   
sample<-sample(council,30)-  
  
a<-data.frame(local=c(sum(sample%in%'A.local'),sum(sample%in%'B.local'), sum(sample%in%'C.local'),sum(sample%in%'D.local'),sum(sample%in%'E.local'))  
 ,pr=c(sum(sample%in%'A.pr'),sum(sample%in%'B.pr'),sum(sample%in%'C.pr'),sum(sample%in%'D.pr'),sum(sample%in%'E.pr'))  
 ,row.names=c('A','B','C','D','E'))  
a

## local pr  
## A 19 3  
## B 5 3  
## C 0 0  
## D 0 0  
## E 0 0

# 3.

f<-function(x,m){  
 n<-length(x)  
 y<-ceiling(runif(m,0,n))  
 z<-vector(length=m)  
 for(i in 1:m){  
 z[i]<-x[y[i]]  
 }  
 return(z)  
}  
f(1:10,5)

## [1] 1 9 4 9 4

f(1:10,5)

## [1] 4 5 9 9 4

# 4.

x <- c(1.83, 0.50, 1.62, 2.48, 1.68, 1.88, 1.55, 3.06, 1.30)  
y <- c(0.878, 0.647, 0.598, 2.05, 1.06, 1.28, 1.07, 3.14, 1.29)  
  
  
func<-function(x,y,paired=FALSE){  
 z<-0  
 if(paired==FALSE){  
 for(j in 1:length(y)){  
 for(i in 1:length(x)){  
 if(x[i]>y[j]){  
 z<-z+1  
 }  
 }  
 }  
 }  
 if(paired==TRUE){  
 rank<-rank(abs(x-y),ties.method='average')  
 z<-sum(rank\*ifelse(x>y,1,0))  
 }  
 print(z)  
}  
  
func(x,y,paired=F)

## [1] 58

func(x,y,paired=T)

## [1] 40