In the name of God, the merciful

The first is the Open Gambling Example:

#n: Represents the amount that if the person's capital reaches that amount, the game is all

#K: Shows the amount of person's initial capital

#p: Indicates the chance to win or loser open gambling at any round of the game

#mean(simlist):Represents the possibility of a bankruptcy of gambling open

For example, we select the above defined parameters as below:

$k = 6 \ , n = 10 \ , p = \frac{1}{2}$

And finally we enter the necessary code in Pro R software as follows:

```
> gamble<-function(k,n,p){
+     state=k
+     while(0<state & state<n) {
+         bet=sample(c(1,-1),1,prob=c(p,1-p))
+         state=state+bet
+     }
+     if(state==0) return(1) else return(0)
+ }
> k<-6
> n<-10
> p<-1/2
> trials<-100
> simlist<-replicate(trials,gamble(k,n,p))
> mean(simlist)
[1] 0.3917
```

According to the results of example 10.1 page 15 of the book introduction to random Processes with R from Robert Pi. Dogo see that finally the possibility of losing the open gambling is equal $\frac{n-k}{n}$

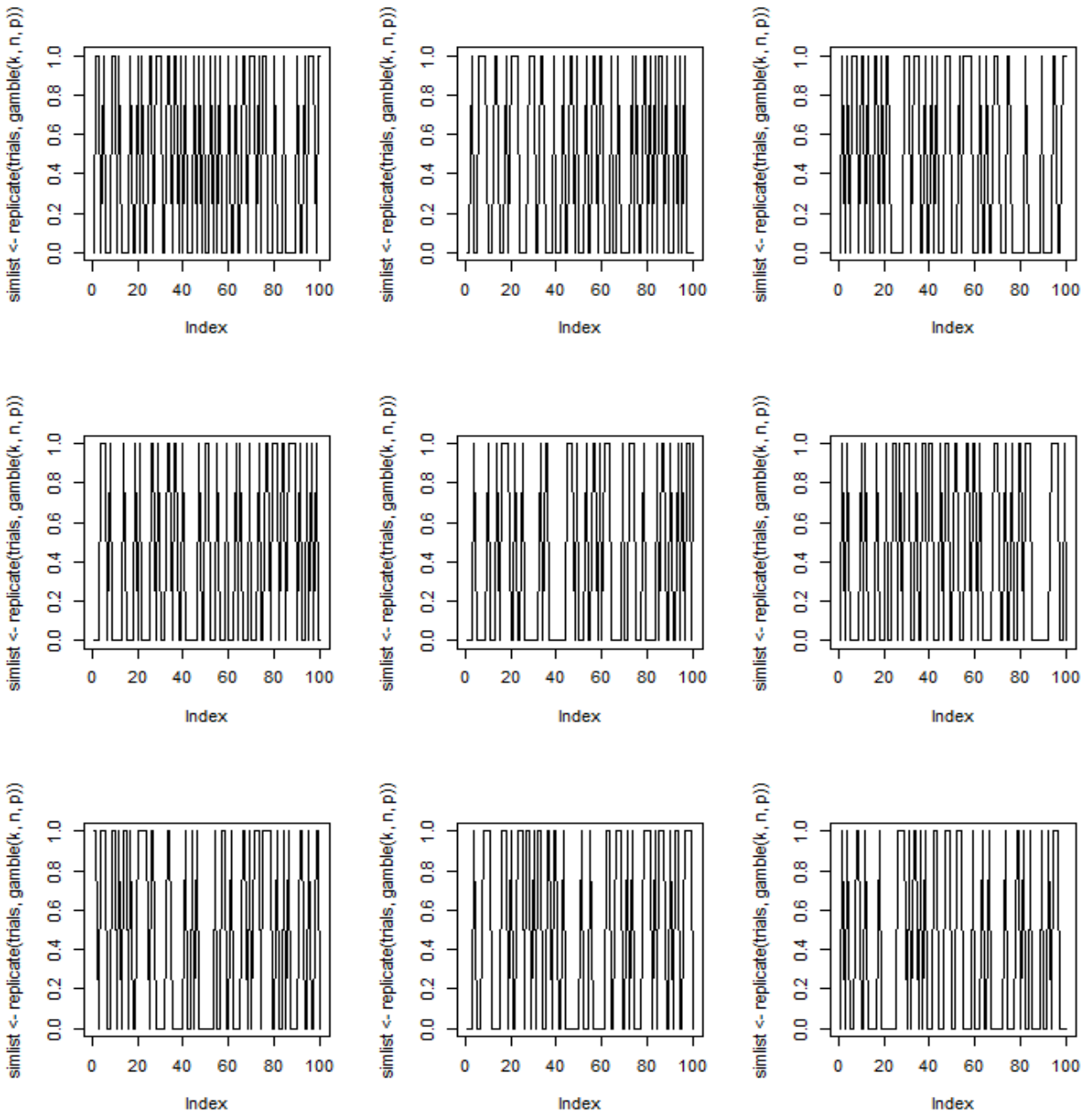
In this way, we will also be in the above example

$:\frac{10-6}{10} = \frac{4}{10} \approx 4.35$

Now, having a high-profile gambling example, we want to draw a chart of 9 different modes on one page, i.e. each chart displays a specific mode that will help you get the following code in the application:

```
> par(mfrow=c(3,3))
> replicate(9,plot(simlist<-replicate(trials,gamble(k,n,p)),type = "l"))
```

And what we see:



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End.