

Assignment 2

Computer simulation course

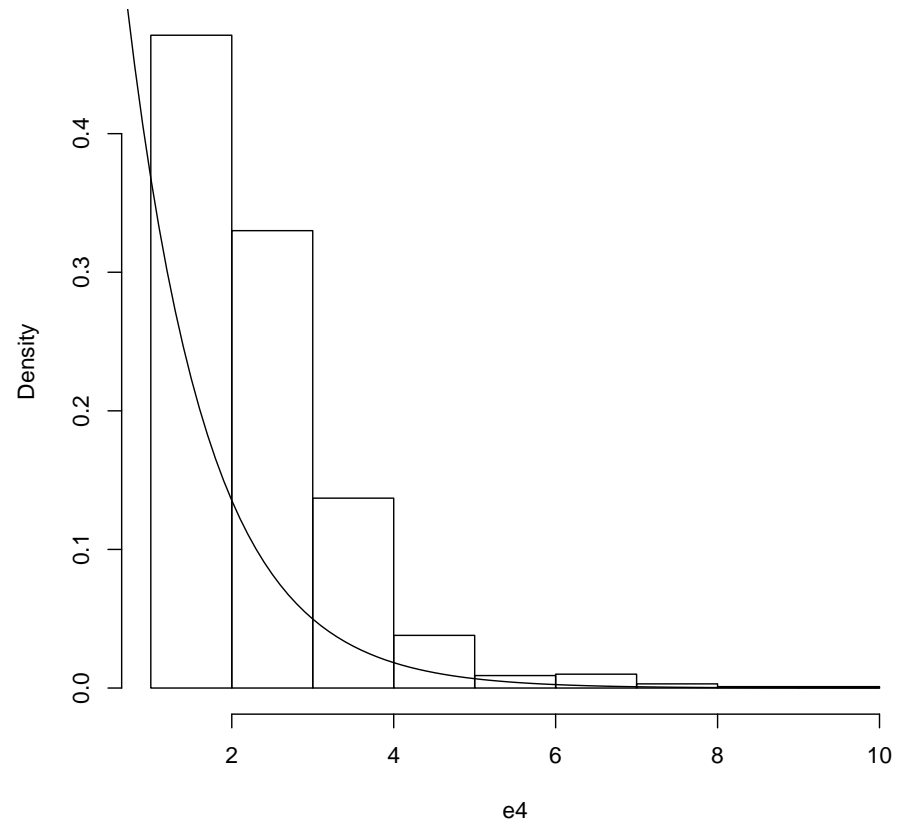
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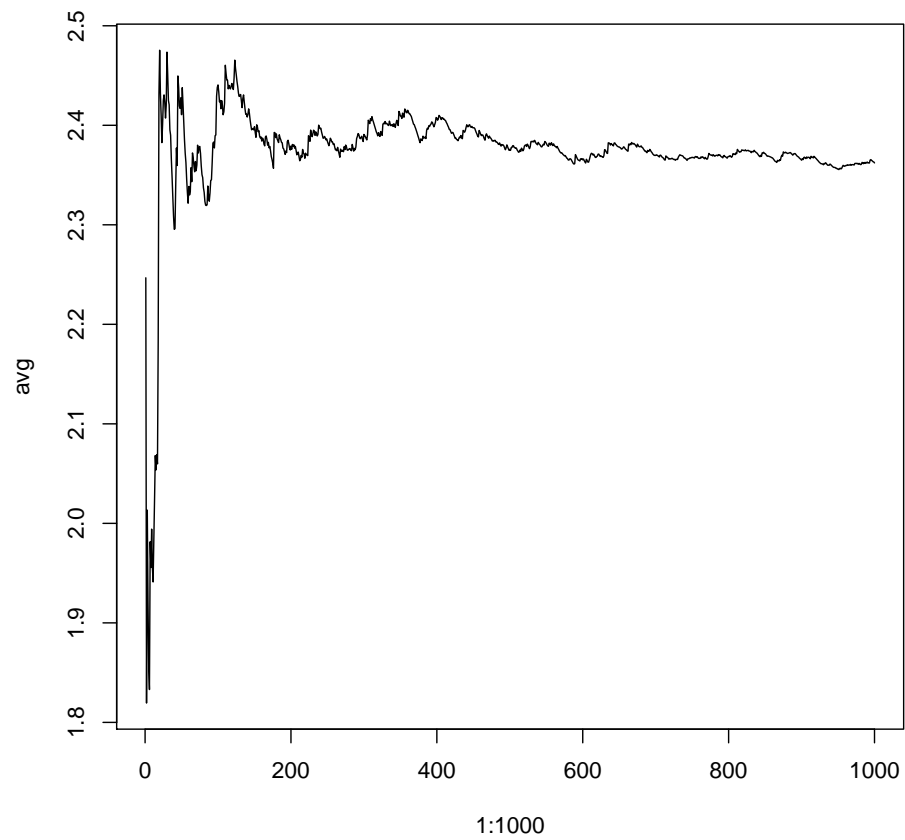
Exercise 1:

```
n=1000 # size
u=runif(n)
u1=1-u
e4=-log(u1/4)
#Use option probability =T to plot relative frequency histogram
hist(e4,probability =T)
x=seq(0,10,0.1)
lines(x,dexp(x,1))
```

Histogram of e4



```
avg <- NULL
for(i in 1:n){
  avg[i] <- sum(e4[1:i])/i
}
plot(1:1000, avg, type = 'l', lty = 1)
```



```
variance <- NULL
for(i in 1:n){
  variance[i] <- var(e4[1:i])
}
plot(1:1000, variance, type = 'l', lty = 1)
```

