

project.point1

2023-12-23

Point 1

```
n<-40
meanExp<-1/0.2
nsim<-1000000
mat<- matrix(NA,nsim,n)
meanExpData<-vector("numeric",nsim)
sdExpData<-vector("numeric",nsim)
varExpData<-vector("numeric",nsim)
## obtengo mis datos
for(i in 1:nsim){
  mat[i,]<-rexp(40,0.2)
  meanExpData[i]<- mean(mat[i,])
  sdExpData[i]<-sd(mat[i,])
  varExpData[i]<- sum((mat[i,]-meanExpData[i])^2)/(n-1)
}
```

conclusions

the mean is $1/0.2 = 5$ and the variance is $(1/0.2)^2 = 25$

```
## mean
mean(meanExpData)
```

```
## [1] 5.000226
```

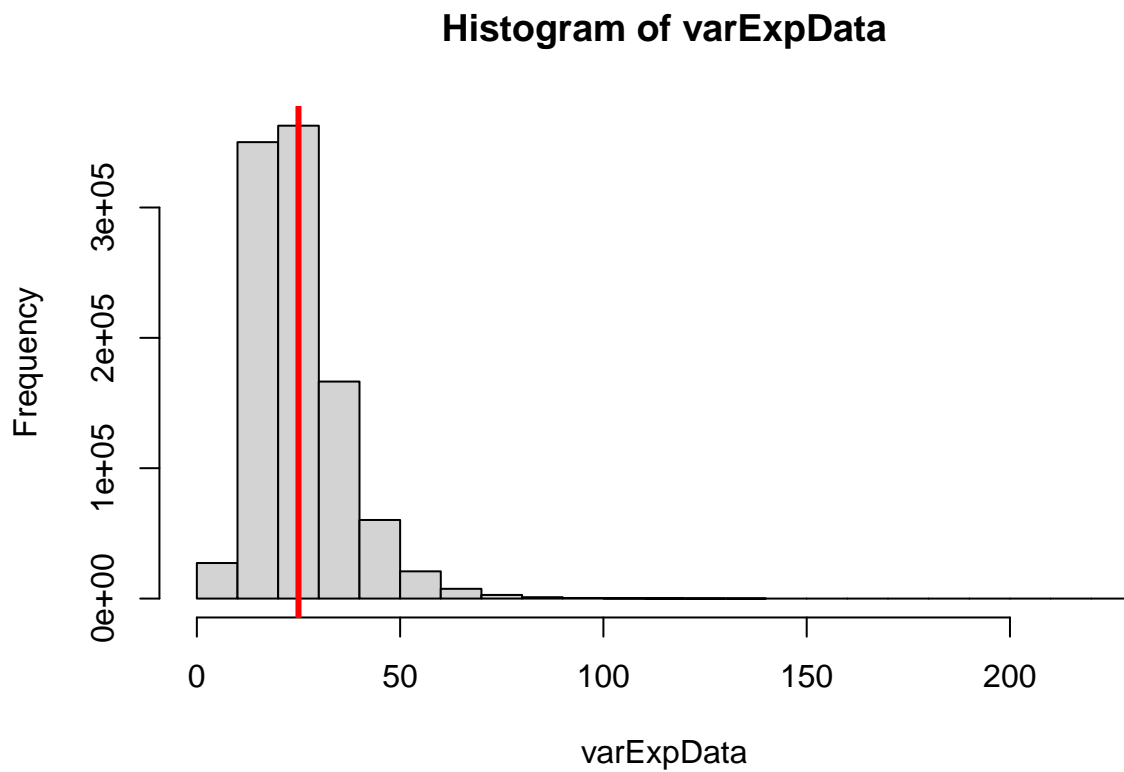
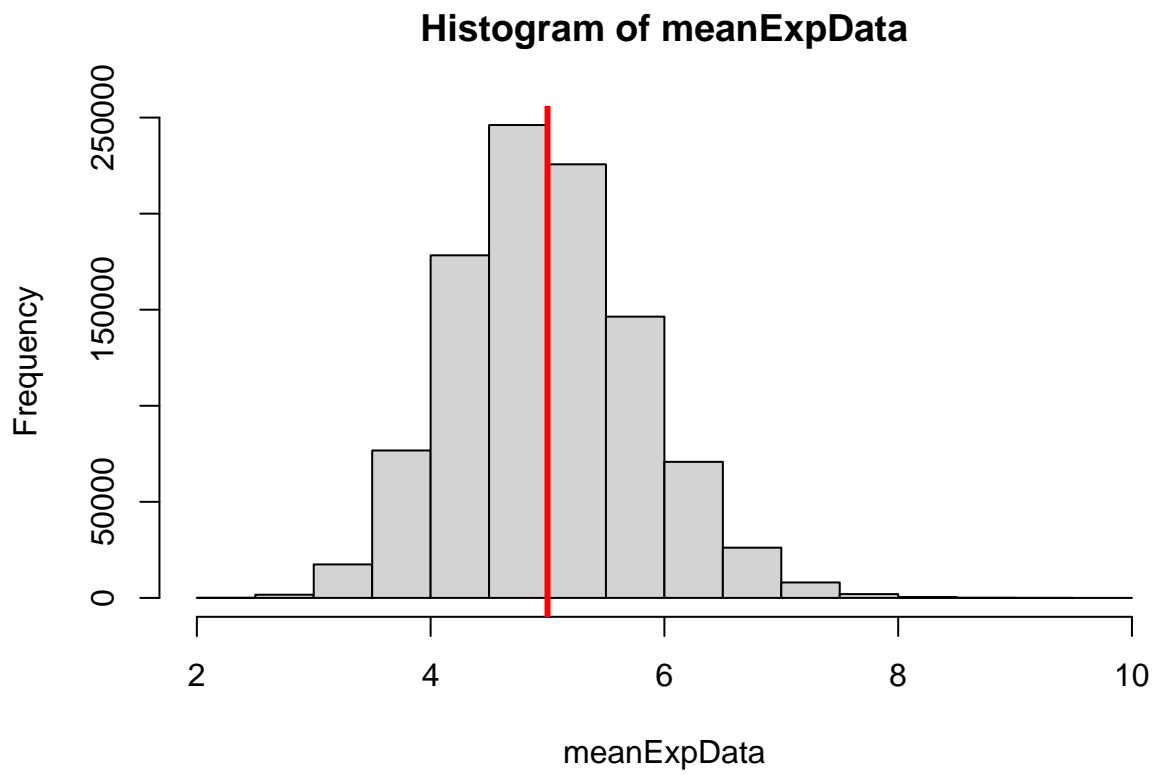
```
##variance and sd
mean(varExpData)
```

```
## [1] 24.99865
```

```
#sd
sqrt(mean(varExpData))
```

```
## [1] 4.999865
```

Plots



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.