Exercises of Week 1

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Exercise 1

Here : https://github.com/lifters/Exercise-Repository

Exercise 2

We take a sample of 100 values based on the log-normal distribution with μ= 1 and σ= 0.25

```
x<-rlnorm(100, meanlog = 1, sdlog = 0.25)
```

Then we create a histrogram of the distribution of x

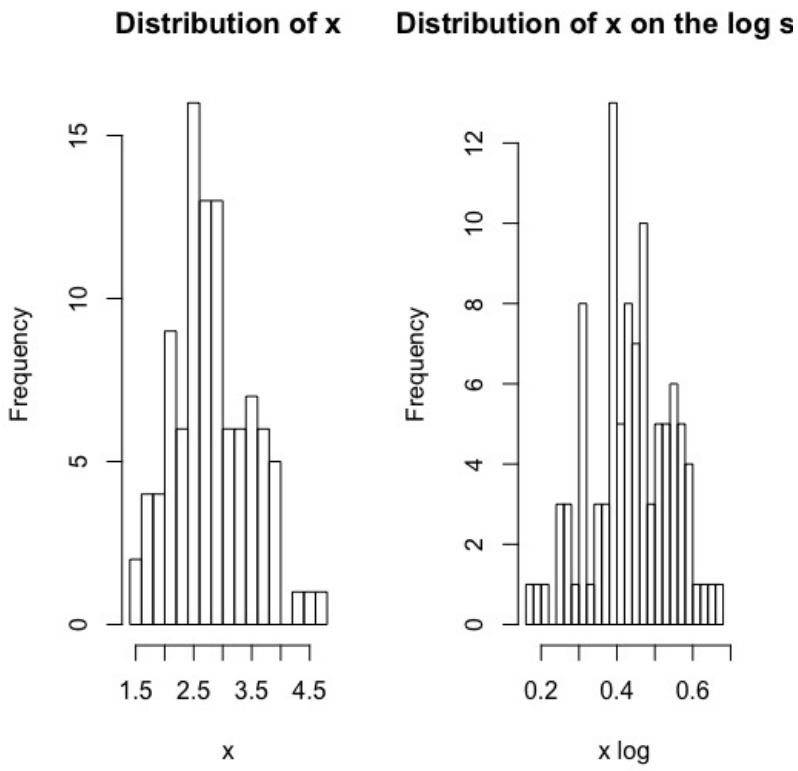
```
x1<-hist(x, main = "Distribution of x" ,breaks = 20 , xlab = "x")
```

We adjust the distribution to the log scale and we create the histogram

```
q<-log10(x)
x2<-hist(q, main = "Distribution of x on the log scale", breaks = 20, xlab = "x log")
```

Then we illustrate the histograms side-to-side

```
par(mfrow = c(1,2))
x1<-hist(x, main = "Distribution of x" ,breaks = 20 , xlab = "x")
q<-log10(x)
x2<-hist(q, main = "Distribution of x on the log scale", breaks = 20, xlab = "x log")
par(mfrow= c(1,1))
```



Calculating mean and variance of x. Mean is 2.75 and variance is 0.53.

```
mean(x)
var(x)
```