Question1

```
x  <- rexp(1024,0.2)

hist(x)

s <- seq(0,20,length.out = 1000)

plot(dexp(s,0.2))
```
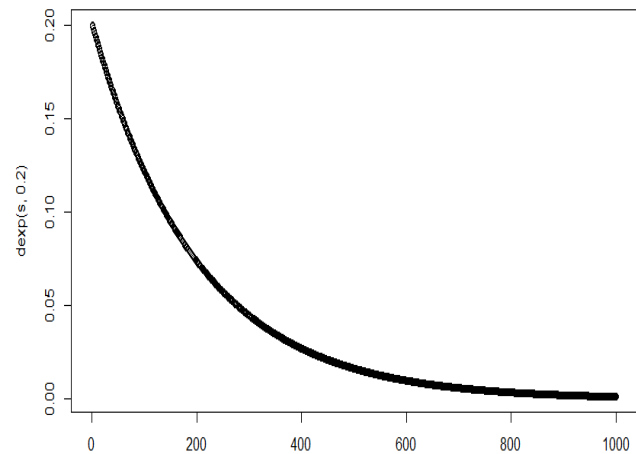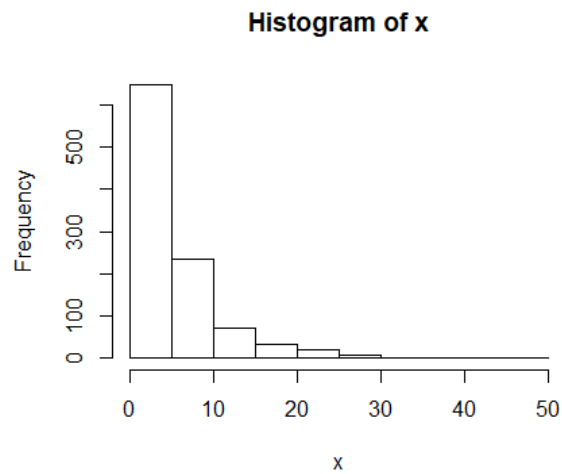

Question2

```
xnorm <- rnorm(1024)

hist(xnorm)

plot(dnorm(seq(-10,10,length.out=1000)))
```
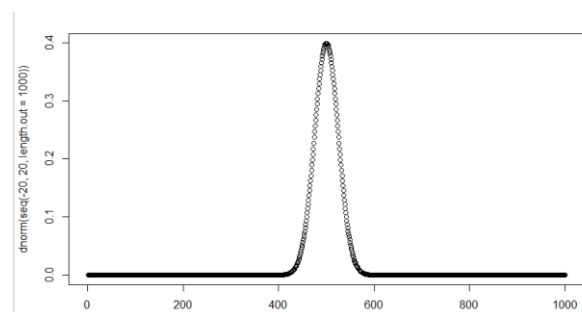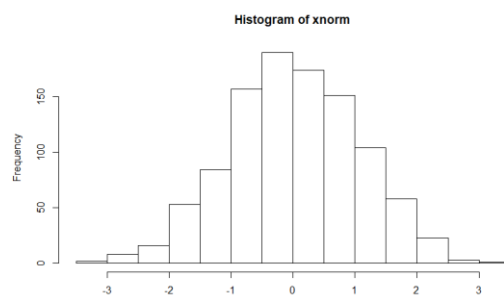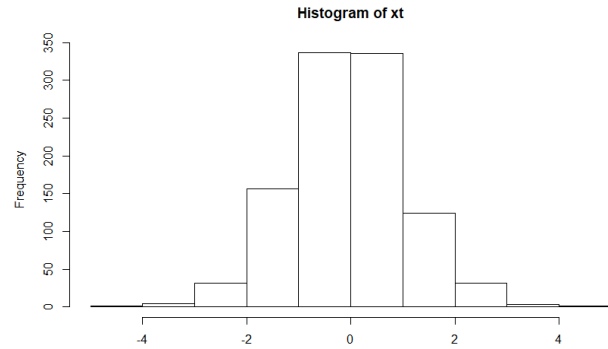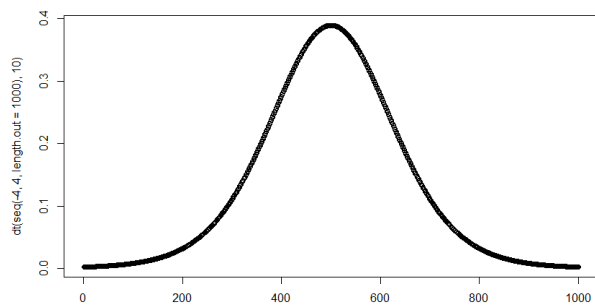


```
xt <- rt(1024,10)

hist(xt)

plot(dt(seq(-4,4,length.out = 1000),10))
```
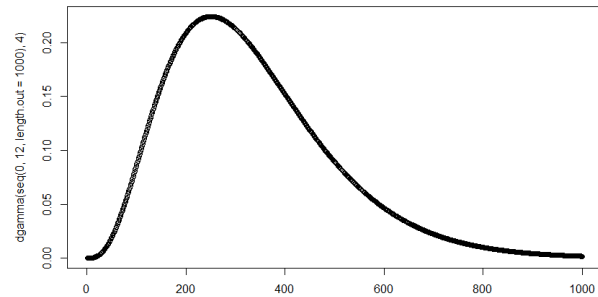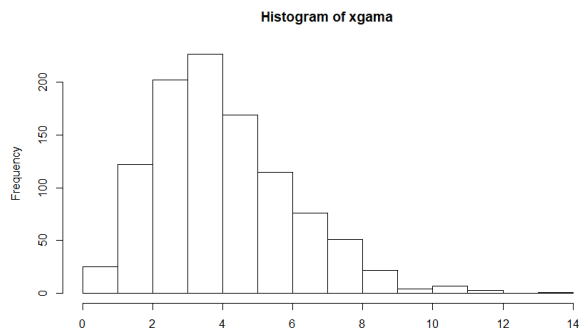
```
xgamma <- rgamma(1024,4)

hist(xgamma)

plot(dgamma(seq(0,12,length.out = 1000),4))
```


Question3

```
write.table(datasets::EuStockMarkets,"C:/Users/kaihu/Desktop/output.txt",sep ="\t")

dataset = read.table(,"C:/Users/kaihu/Desktop/output.txt")

summary(dataset)

cor(dataset)

var(dataset)

hist(dataset[,1])

hist(dataset[,2])

hist(dataset[,3])

hist(dataset[,4])
```

```
> var(dataset)
           DAX   SMI   CAC   FTSE
DAX   1176775.3 1788080.3 608260.1 1033234.0
SMI   1788080.3 2765657.0 913749.2 1608010.5
CAC   608260.1 913749.2 336764.6 519035.5
FTSE 1033234.0 1608010.5 519035.5 953973.2
```

```
        DAX   SMI   CAC   FTSE
 Min.   :1402   Min.   :1587   Min.   :1611   Min.   :2281
 1st Qu.:1744   1st Qu.:2166   1st Qu.:1875   1st Qu.:2843
 Median :2141   Median :2796   Median :1992   Median :3247
 Mean   :2531   Mean   :3376   Mean   :2228   Mean   :3566
 3rd Qu.:2722   3rd Qu.:3812   3rd Qu.:2274   3rd Qu.:3994
 Max.   :6186   Max.   :8412   Max.   :4388   Max.   :6179
```
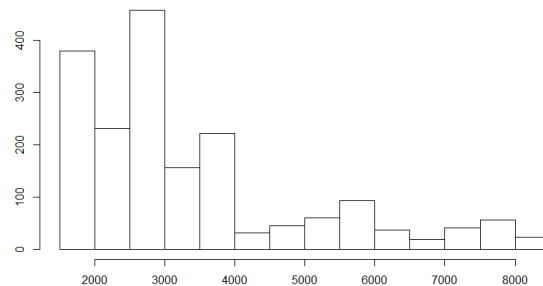```
> cor(dataset)
           DAX       SMI       CAC      FTSE
DAX  1.0000000 0.9911539 0.9662274 0.9751778
SMI  0.9911539 1.0000000 0.9468139 0.9899691
CAC  0.9662274 0.9468139 1.0000000 0.9157265
FTSE 0.9751778 0.9899691 0.9157265 1.0000000
```
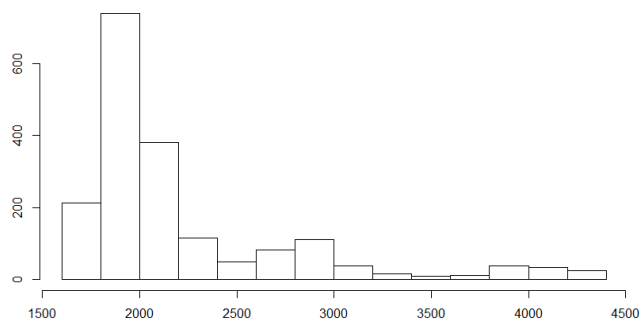
Histogram of dataset[, 1]
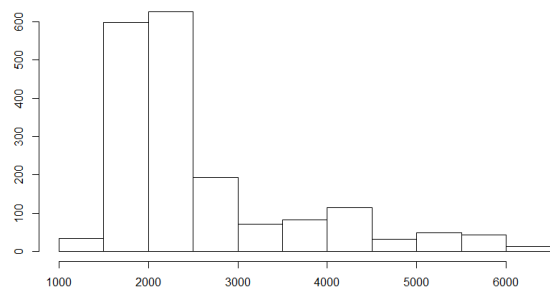
Histogram of dataset[, 2]

Histogram of dataset[, 3]

Histogram of dataset[, 4]