tema_micro—Hlandan-Cristina.R

crist

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```
#setam cale de lucru
#setwd("C:/FACULTATE/SEM II/MICRO manag sem/Analiza firma")

#importam date
Date_firma <- read.csv("Boeing.csv")

summary(Date_firma)
```

```
##      Date              Pret_act     Pret_indiceSP  Pret_act_rent
##  Length:251         Min.   :188.2   Min.   :3701   Min.   :-0.0577338
##  Class :character   1st Qu.:211.8   1st Qu.:4068   1st Qu.:-0.0132872
##  Mode  :character   Median :222.7   Median :4300   Median :-0.0022815
##                     Mean   :224.6   Mean   :4271   Mean   : 0.0002481
##                     3rd Qu.:236.7   3rd Qu.:4483   3rd Qu.: 0.0122676
##                     Max.   :269.2   Max.   :4793   Max.   : 0.0811805
##  Pret_indiceSP_rent     Vol_act          Vol_indiceSP
##  Min.   :-0.025678   Min.   : 4515000   Min.   :2.195e+09
##  1st Qu.:-0.003230   1st Qu.: 8851550   1st Qu.:3.037e+09
##  Median : 0.001328   Median :10606000   Median :3.486e+09
##  Mean   : 0.001053   Mean   :12176187   Mean   :3.826e+09
##  3rd Qu.: 0.006127   3rd Qu.:13845600   3rd Qu.:4.495e+09
##  Max.   : 0.023791   Max.   :35264300   Max.   :9.878e+09
```

```
write.csv(summary(Date_firma[-1]),file="statistici_Boeing.csv")
#abaterea standard
Date_firma <- na.omit(Date_firma)
sd_act <- sd(Date_firma$Pret_act)
sd_act
```

```
## [1] 17.04481
```

```
sd_indice <- sd(Date_firma$Pret_indiceSP)
sd_indice
```

```
## [1] 286.3201
```

```
sd_act_rent <- sd(Date_firma$Pret_act_rent)
sd_act_rent
```

```
## [1] 0.0224211
```

```r
sd_indice_rent <- sd(Date_firma$Pret_indiceSP_rent)
sd_indice_rent
```

```
## [1] 0.008205412
```

```r
sd_vol_act <- sd(Date_firma$Vol_act)
sd_vol_act
```

```
## [1] 5419717
```

```r
sd_vol_indice <- sd(Date_firma$Vol_indiceSP)
sd_vol_indice
```

```
## [1] 1145415924
```

```r
#coeficint de variatie
cv_act <- (sd(Date_firma$Pret_act)/mean(Date_firma$Pret_act))*100
cv_act
```

```
## [1] 7.587848
```

```r
cv_indice <- (sd(Date_firma$Pret_indiceSP)/mean(Date_firma$Pret_indiceSP))*100
cv_indice
```

```
## [1] 6.703156
```

```r
cv_act_rent <- (sd(Date_firma$Pret_act_rent)/mean(Date_firma$Pret_act_rent))*100
cv_act_rent
```

```
## [1] 9036.433
```

```r
cv_indice_rent <- (sd(Date_firma$Pret_indiceSP_rent)/mean(Date_firma$Pret_indiceSP_rent))*100
cv_indice_rent
```

```
## [1] 779.4848
```

```r
cv_volact <- (sd(Date_firma$Vol_act)/mean(Date_firma$Vol_act))*100
cv_volact
```

```
## [1] 44.51079
```

```r
cv_volindice <- (sd(Date_firma$Vol_indiceSP)/mean(Date_firma$Vol_indiceSP))*100
cv_volindice
```

```
## [1] 29.93627
```

```r
#kurtosis-coef de boltire/aplatizare, folosim pachetul moments
library(moments)
k_act<-kurtosis(Date_firma$Pret_act)
k_act
```

```
## [1] 2.366424
```

```r
k_indice <-kurtosis(Date_firma$Pret_indiceSP)
k_indice
```

```
## [1] 1.989481
```

```r
k_act_rent<-kurtosis(Date_firma$Pret_act_rent)
k_act_rent
```

```
## [1] 4.244711
```

```r
k_indice_rent <-kurtosis(Date_firma$Pret_indiceSP_rent)
k_indice_rent
```

```
## [1] 3.71731
```

```r
k_vol_act <- kurtosis(Date_firma$Vol_act)
k_vol_act
```

```
## [1] 6.268716
```

```r
k_vol_indice <- kurtosis(Date_firma$Vol_indiceSP)
k_vol_indice
```

```
## [1] 6.08037
```

```r
#skewness-coef de asimetrie
sk_act <- skewness(Date_firma$Pret_act)
sk_act
```

```
## [1] 0.2711563
```

```r
sk_indice <- skewness(Date_firma$Pret_indiceSP)
sk_indice
```

```
## [1] -0.1942304
```

```r
sk_act_rent <- skewness(Date_firma$Pret_act_rent)
sk_act_rent
```

```
## [1] 0.5900881
```

```
sk_indice_rent <-  skewness(Date_firma$Pret_indiceSP_rent)
sk_indice_rent
```

```
## [1] -0.3426856
```

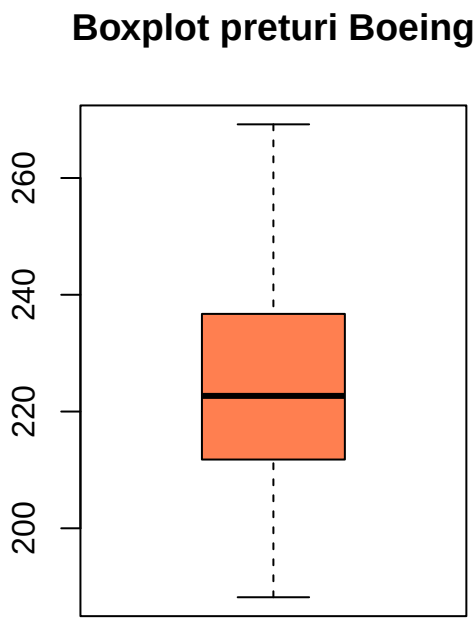
```
sk_vol_act <- skewness(Date_firma$Vol_act)
sk_vol_act
```

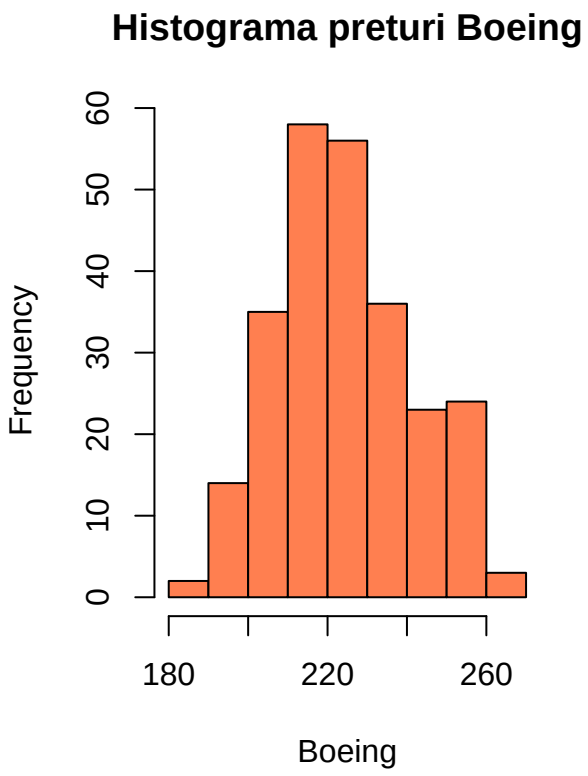
```
## [1] 1.685184
```

```
sk_vol_indice <- skewness(Date_firma$Vol_indiceSP)
sk_vol_indice
```

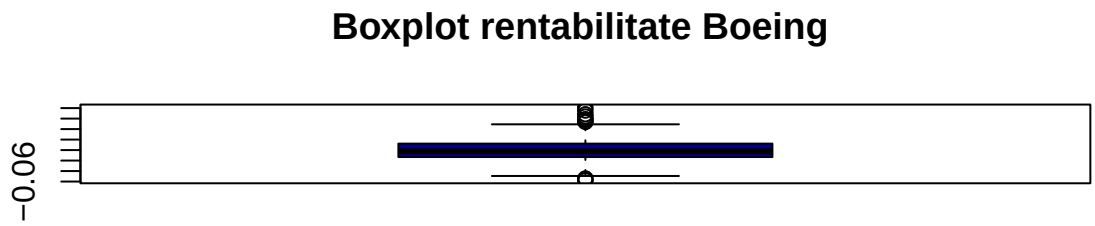
```
## [1] 1.457492
```

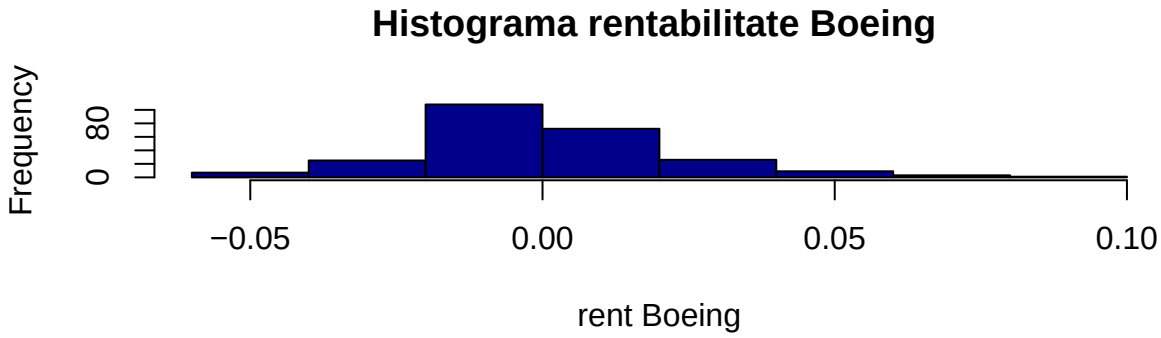
```
#histograme +boxplot
# windows()
 par(mfrow=c(1,2))
boxplot(Date_firma$Pret_act,
        main="Boxplot preturi Boeing",
        col="coral")
hist(Date_firma$Pret_act,
     main="Histograma preturi Boeing",
     xlab="Boeing",
     col="coral")
```



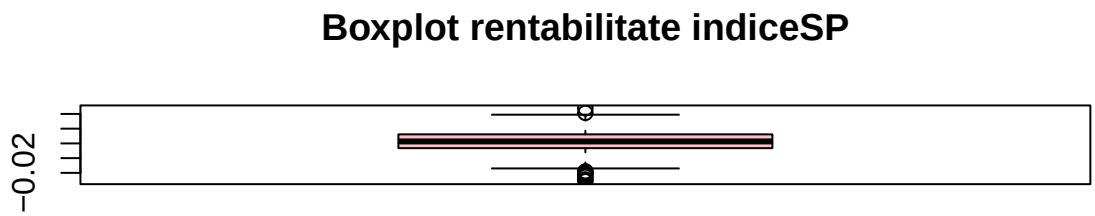


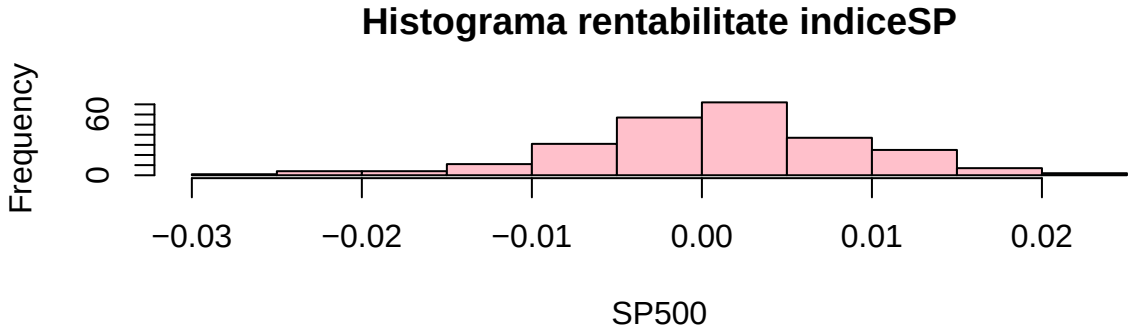
```r
# windows()
 par(mfrow=c(2,1))
boxplot(Date_firma$Pret_act_rent,
        main="Boxplot rentabilitate Boeing ",
        col="blue4")
hist(Date_firma$Pret_act_rent,
     main="Histograma rentabilitate Boeing ",
     xlab="rent Boeing",
     col="blue4")
```






```r
# windows()
par(mfrow=c(2,1))
boxplot(Date_firma$Pret_indiceSP_rent,
        main="Boxplot rentabilitate indiceSP",
        col="pink")
hist(Date_firma$Pret_indiceSP_rent,
     main="Histograma rentabilitate indiceSP",
     xlab="SP500",
     col="pink")
```






```
#matrice cu toti coeficientii
data<-c(sd_act,sd_indice,sd_act_rent,sd_indice_rent,sd_vol_act,sd_vol_indice,cv_act,cv_indice,cv_act_re
#View(data)
Matrice_coeficienti=matrix(data,nrow=6,ncol=4, byrow=FALSE, dimnames=list(c("Boeing", "indice SP500", "
                                                                           c("Abatere standard","Coeficie
Matrice_coeficienti
```

```
##                              Abatere standard Coeficient variatie
## Boeing                           1.704481e+01            7.587848
## indice SP500                     2.863201e+02            6.703156
## Boieng rentabilitate             2.242110e-02         9036.433482
## indice SP500 rentabilitate       8.205412e-03          779.484761
## Volum Boeing                     5.419717e+06           44.510791
## Volum indice SP 500              1.145416e+09           29.936268
##                              Coeficient aplatizare Coeficient asimetrie
## Boeing                                  0.2711563             2.366424
## indice SP500                           -0.1942304             1.989481
## Boieng rentabilitate                    0.5900881             4.244711
## indice SP500 rentabilitate             -0.3426856             3.717310
## Volum Boeing                            1.6851840             6.268716
## Volum indice SP 500                     1.4574919             6.080370
```

```
#salvare in csv
write.csv(Matrice_coeficienti,file="Matrice coeficienti.csv")
```

```r
#matricea de corelatie
cor(Date_firma[-1])
```

```
##                        Pret_act Pret_indiceSP Pret_act_rent Pret_indiceSP_rent
## Pret_act            1.000000000   -0.24525239   0.144469663         0.11703663
## Pret_indiceSP      -0.245252390    1.00000000  -0.053404200         0.03667863
## Pret_act_rent       0.144469663   -0.05340420   1.000000000         0.52998789
## Pret_indiceSP_rent  0.117036634    0.03667863   0.529987885         1.00000000
## Vol_act             0.319503052   -0.48089395   0.152031772        -0.09029117
## Vol_indiceSP        0.008613298   -0.76234842   0.005371203        -0.15644336
##                        Vol_act Vol_indiceSP
## Pret_act            0.31950305  0.008613298
## Pret_indiceSP      -0.48089395 -0.762348417
## Pret_act_rent       0.15203177  0.005371203
## Pret_indiceSP_rent -0.09029117 -0.156443360
## Vol_act             1.00000000  0.495837062
## Vol_indiceSP        0.49583706  1.000000000
```

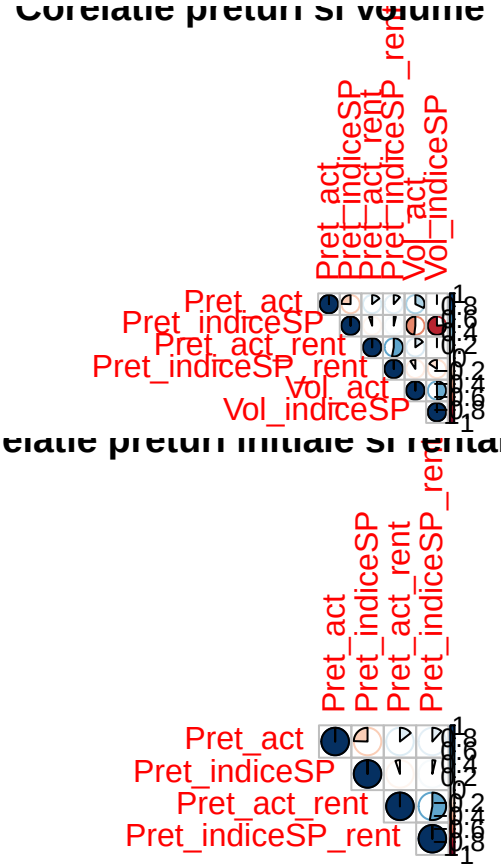
```r
corelatie <- cor(Date_firma[-1])
corelatie[1:6,1:6]
```

```
##                        Pret_act Pret_indiceSP Pret_act_rent Pret_indiceSP_rent
## Pret_act            1.000000000   -0.24525239   0.144469663         0.11703663
## Pret_indiceSP      -0.245252390    1.00000000  -0.053404200         0.03667863
## Pret_act_rent       0.144469663   -0.05340420   1.000000000         0.52998789
## Pret_indiceSP_rent  0.117036634    0.03667863   0.529987885         1.00000000
## Vol_act             0.319503052   -0.48089395   0.152031772        -0.09029117
## Vol_indiceSP        0.008613298   -0.76234842   0.005371203        -0.15644336
##                        Vol_act Vol_indiceSP
## Pret_act            0.31950305  0.008613298
## Pret_indiceSP      -0.48089395 -0.762348417
## Pret_act_rent       0.15203177  0.005371203
## Pret_indiceSP_rent -0.09029117 -0.156443360
## Vol_act             1.00000000  0.495837062
## Vol_indiceSP        0.49583706  1.000000000
```

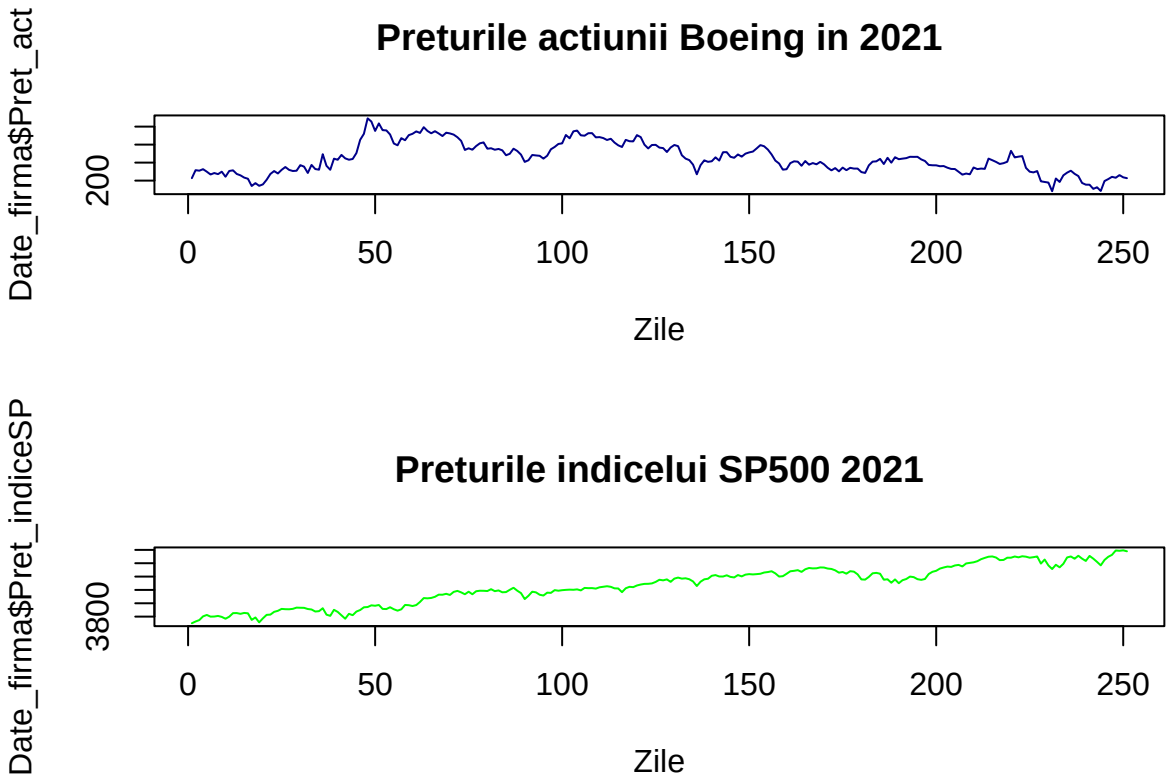
```r
write.csv(corelatie,file="Matrice_corelatie.csv")
library(corrplot)
```

```
## corrplot 0.95 loaded
```

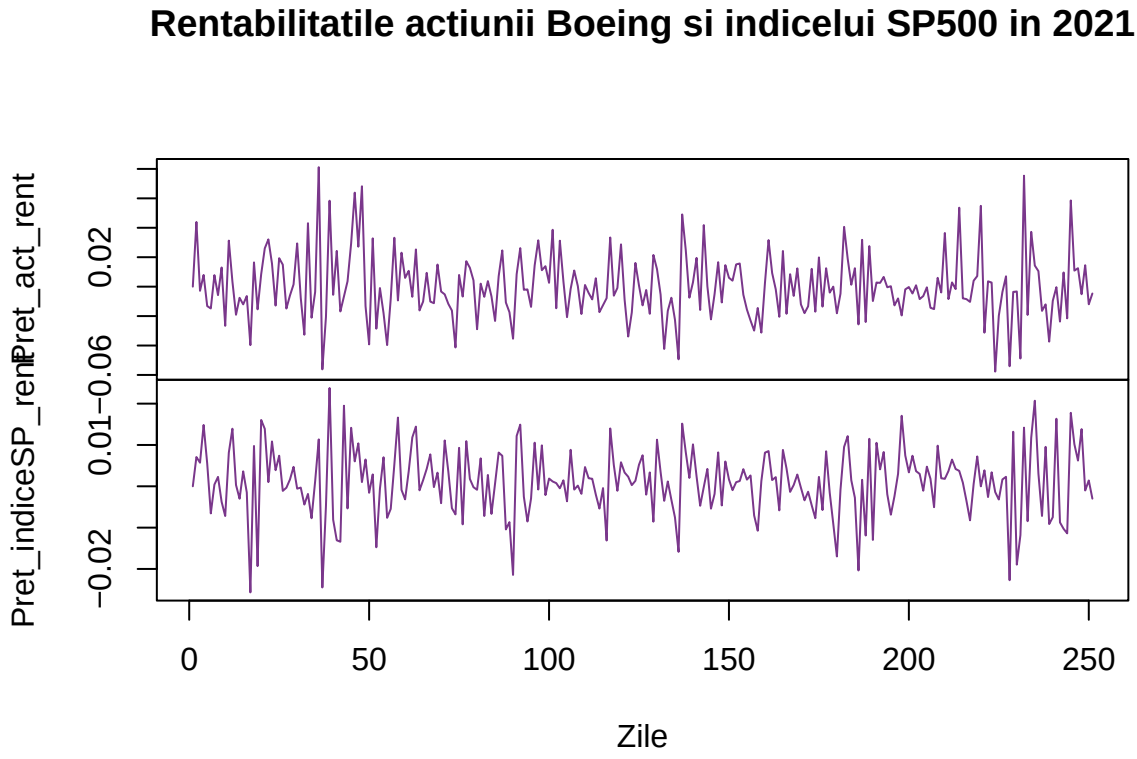
```r
# windows()
corrplot(corelatie[1:6,1:6],
         method=c("pie"),
         type=c("upper"),
         title=c("Corelatie preturi si volume"))

corrplot(corelatie[1:4,1:4],
         method=c("pie"),
         type=c("upper"),
         title=c("Corelatie preturi initiale si rentabile"))
```



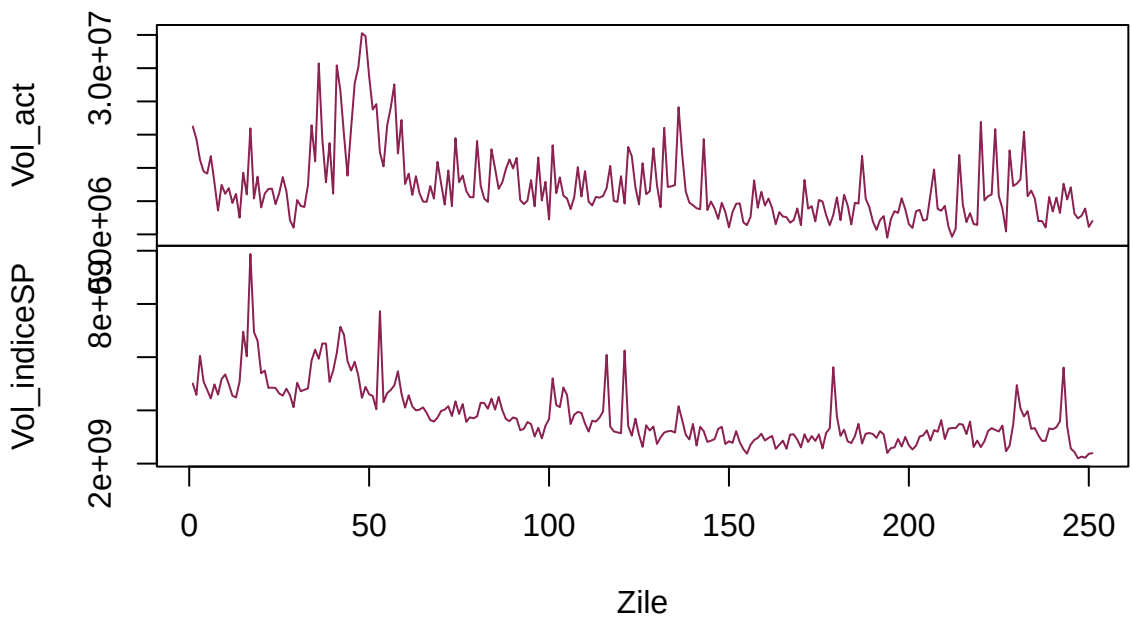

```
#?plot()
# windows()
par(mfrow=c(2,1))
plot(Date_firma$Pret_act,
     main="Preturile actiunii Boeing in 2021",
     xlab="Zile",
     type="l",
     col="blue4")
plot(Date_firma$Pret_indiceSP,
     main="Preturile indicelui SP500 2021",
     xlab="Zile",
     type="l",
     col="green")
```




```
# windows()
plot.ts(Date_firma[,4:5],
        main="Rentabilitatile actiunii Boeing si indicelui SP500 in 2021",
        xlab="Zile",
        type="l",
        col="mediumorchid4")
```




```
# windows()
plot.ts(Date_firma[,6:7],
        main="Volumele actiunii Boeing si a indicelui SP500 in 2021",
        xlab="Zile",
        type="l",
        col="violetred4")
```




```
#valorile maxime si minime ale preturilor
which.max(Date_firma[,2])
```

```
## [1] 48
```

```
which.max(Date_firma[,3])
```

```
## [1] 250
```

```
which.min(Date_firma[,2])
```

```
## [1] 231
```

```
which.min(Date_firma[,3])
```

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