

1041_GEAMANU_Elena_Anexa.R

AnEI

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```
NETFLIX<-read.csv("NETFLIX.csv")
#View(NETFLIX)

options(scipen=999)

#Rentabilitate preturi actiune Netflix

rentab_act<-c()
rentab_act[1]=0
for(x in 1:nrow(NETFLIX))
{
    rentab_act[length(rentab_act)+1]<-(NETFLIX[x+1, 2]/NETFLIX[x, 2])-1
}
rentab_act<-na.omit(rentab_act)
#View(as.matrix(rentab_act))

#Rentabilitate preturi actiune S&P500
rentab_indice<-c()
rentab_indice[1]=0
for(x in 1:nrow(NETFLIX))
{
    rentab_indice[length(rentab_indice)+1]<-(NETFLIX[x+1, 4]/NETFLIX[x, 4])-1
}
rentab_indice<-na.omit(rentab_indice)
#View(as.matrix(rentab_indice))

#creez un data frame cu cele 2 rentabilitati
date_netflix<-data.frame(rentab_act,
                        rentab_indice)

#View(as.matrix(date_netflix))

#creez un data frame cu datele despre Netflix impreuna cu cele 2 rentabilitati
date_NFLX<-data.frame(NETFLIX$Date,
                      NETFLIX$Pret_act_NFLX,
                      NETFLIX$Vol_act_NFLX,
                      NETFLIX$Pret_indice,
                      NETFLIX$Vol_indice,
                      date_netflix$rentab_act,
                      date_netflix$rentab_indice)

#View(date_NFLX)

#modific numele coloanelor
colnames(date_NFLX)<-c("Date",
                      "Pret_act_NFLX",
```

```
      "Vol_act_NFLX",
      "Pret_indice",
      "Vol_indice",
      "Rentab_act",
      "Rentab_indice")

summary(date_NFLX)
```

##	Date	Pret_act_NFLX	Vol_act_NFLX	Pret_indice
##	Length:252	Min. :298.8	Min. : 1144000	Min. :2237
##	Class :character	1st Qu.:380.9	1st Qu.: 4485700	1st Qu.:3035
##	Mode :character	Median :469.0	Median : 5846000	Median :3275
##		Mean :446.5	Mean : 6940018	Mean :3216
##		3rd Qu.:495.7	3rd Qu.: 7898025	3rd Qu.:3403
##		Max. :556.5	Max. :24991400	Max. :3735
##	Vol_indice	Rentab_act	Rentab_indice	
##	Min. :1885090000	Min. :-0.111389	Min. :-0.1198405	
##	1st Qu.:3928765000	1st Qu.: -0.013407	1st Qu.: -0.0062195	
##	Median :4665490000	Median : 0.001056	Median : 0.0023285	
##	Mean :4926536349	Mean : 0.002265	Mean : 0.0007767	
##	3rd Qu.:5477307500	3rd Qu.: 0.017607	3rd Qu.: 0.0100462	
##	Max. :9044690000	Max. : 0.116087	Max. : 0.0938277	

```
#calculez amplitudinea pentru preturile actinuii Netflix
ampl_NFLX<-max(date_NFLX$Pret_act_NFLX)-min(date_NFLX$Pret_act_NFLX)

#calculez abaterea standard
sd_Pret_act_NFLX<-sd(date_NFLX$Pret_act_NFLX)
sd_Vol_act_NFLX<-sd(date_NFLX$Vol_act_NFLX)
sd_Pret_indice<-sd(date_NFLX$Pret_indice)
sd_Vol_indice<-sd(date_NFLX$Vol_indice)
sd_Rentab_act<-sd(date_NFLX$Rentab_act)
sd_Rentab_indice<-sd(date_NFLX$Rentab_indice)

#calculez media
mean_Pret_act_NFLX<-mean(date_NFLX$Pret_act_NFLX)
mean_Vol_act_NFLX<-mean(date_NFLX$Vol_act_NFLX)
mean_Pret_indice<-mean(date_NFLX$Pret_indice)
mean_Vol_indice<-mean(date_NFLX$Vol_indice)
mean_Rentab_act<-mean(date_NFLX$Rentab_act)
mean_Rentab_indice<-mean(date_NFLX$Rentab_indice)

#calculez coeficientul de variatie
cv_Pret_act_NFLX<-sd_Pret_act_NFLX/mean_Pret_act_NFLX
cv_Vol_act_NFLX<-sd_Vol_act_NFLX/mean_Vol_act_NFLX
cv_Pret_indice<-sd_Pret_indice/mean_Pret_indice
cv_Vol_indice<-sd_Vol_indice/mean_Vol_indice
cv_Rentab_act<-sd_Rentab_act/mean_Rentab_act
cv_Rentab_indice<-sd_Rentab_indice/mean_Rentab_indice

#library(moments)

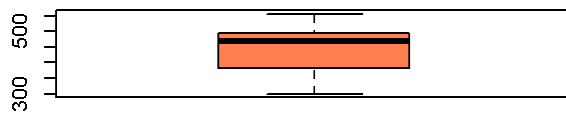
#calculez skewness
#sk Pret act NFLX<-skewness(date_NFLX$Pret_act_NFLX)
```

```
#sk_Vol_act_NFLX<-skewness(date_NFLX$Vol_act_NFLX)
#sk_Pret_indice<-skewness(date_NFLX$Pret_indice)
#sk_Vol_indice<-skewness(date_NFLX$Vol_indice)
#sk_Rentab_act<-skewness(date_NFLX$Rentab_act)
#sk_Rentab_indice<-skewness(date_NFLX$Rentab_indice)

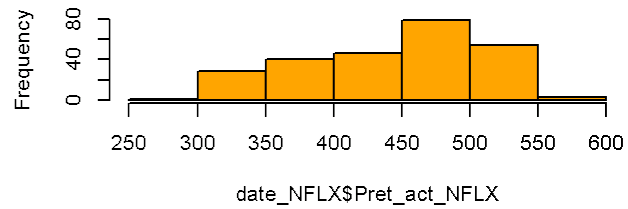
#calculez kurtosis
#k_Pret_act_NFLX<-kurtosis(date_NFLX$Pret_act_NFLX)
#k_Vol_act_NFLX<-kurtosis(date_NFLX$Vol_act_NFLX)
#k_Pret_indice<-kurtosis(date_NFLX$Pret_indice)
#k_Vol_indice<-kurtosis(date_NFLX$Vol_indice)
#k_Rentab_act<-kurtosis(date_NFLX$Rentab_act)
#k_Rentab_indice<-kurtosis(date_NFLX$Rentab_indice)

#histogramele impreuna cu boxploturile
windows()
par(mfrow=c(3, 2))
boxplot(date_NFLX$Pret_act_NFLX,
        main="Boxplot pret actiune Netflix",
        col="coral")
hist(date_NFLX$Pret_act_NFLX,
     main="Histograma pret actiune Netflix",
     col="orange")
boxplot(date_NFLX$Vol_act_NFLX,
        main="Boxplot volum actiune Netflix",
        col="coral")
hist(date_NFLX$Vol_act_NFLX,
     main="Histograma volum actiune Netflix",
     col="orange")
boxplot(date_NFLX$Pret_indice,
        main="Boxplot pret indice S&P500 ",
        col="coral")
hist(date_NFLX$Pret_indice,
     main="Histograma pret indice S&P500 ",
     col="orange")
```

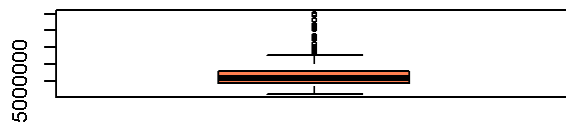
Boxplot pret actiune Netflix



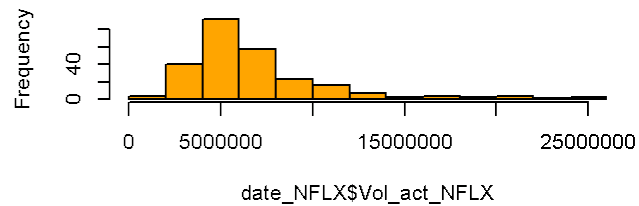
Histograma pret actiune Netflix



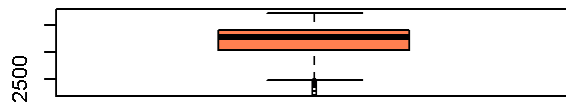
Boxplot volum actiune Netflix



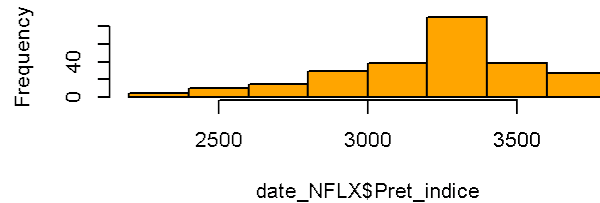
Histograma volum actiune Netflix



Boxplot pret indice S&P500



Histograma pret indice S&P500

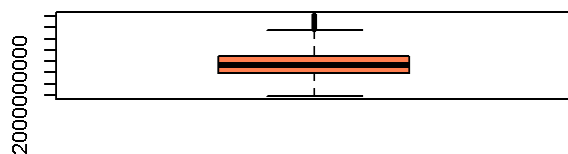


```

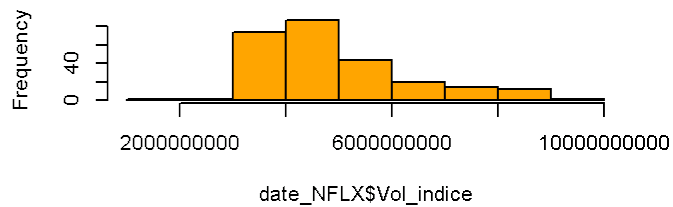
windows()
par(mfrow=c(3, 2))
boxplot(date_NFLX$Vol_indice,
        main="Boxplot volum indice S&P500 ",
        col="coral")
hist(date_NFLX$Vol_indice,
     main="Histograma volum indice S&P500 ",
     col="orange")
boxplot(date_NFLX$Rentab_act,
        main="Boxplot rentabilitate actiuni Netflix",
        col="coral")
hist(date_NFLX$Rentab_act,
     main="Histograma rentabilitate actiuni Netflix",
     col="orange")
boxplot(date_NFLX$Rentab_indice,
        main="Boxplot rentabilitate indice S&P500 ",
        col="coral")
hist(date_NFLX$Rentab_indice,
     main="Histograma rentabilitate indice S&P500 ",
     col="orange")

```

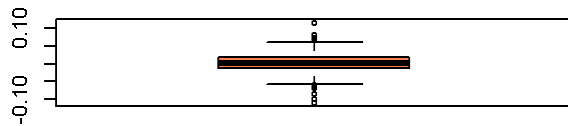
Boxplot volum indice S&P500



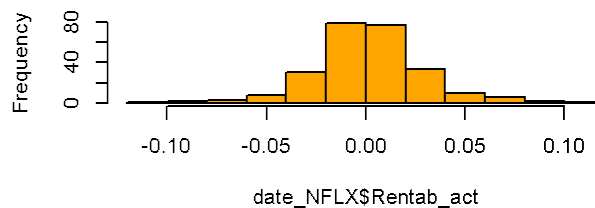
Histograma volum indice S&P500



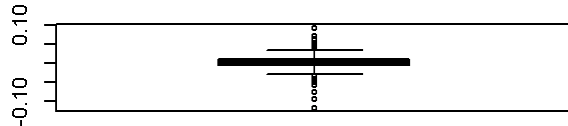
Boxplot rentabilitate actiuni Netflix



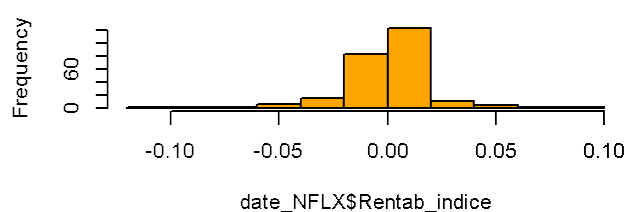
Histograma rentabilitate actiuni Netflix



Boxplot rentabilitate indice S&P500



Histograma rentabilitate indice S&P500



```
#sapply(date_NFLX, class)

#creez un nou data frame care sa nu contina data pentru a putea face matricea de corelatie
date_NFLX2<-data.frame(date_NFLX$Pret_act_NFLX,
                        date_NFLX$Vol_act_NFLX,
                        date_NFLX$Pret_indice,
                        date_NFLX$Vol_indice,
                        date_NFLX$Rentab_act,
                        date_NFLX$Rentab_indice)

#View(date_NFLX2)

#modific numele coloanelor din noul data frame creat
colnames(date_NFLX2)<-c("Pret_act_NFLX",
                        "Vol_act_NFLX",
                        "Pret_indice",
                        "Vol_indice",
                        "Rentab_act",
                        "Rentab_indice")

#creez matricea de corelatie
matrice_corelatie<-cor(date_NFLX2)
#View(matrice_corelatie)

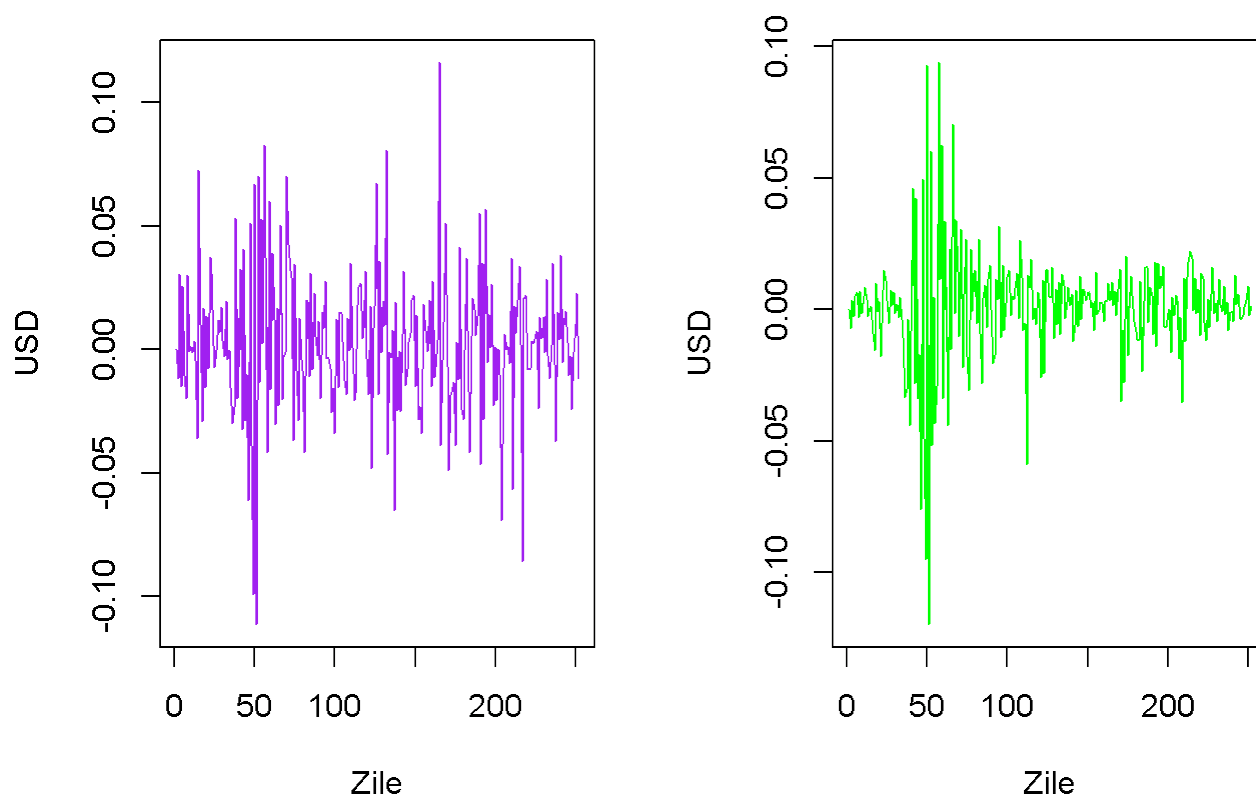
#library(corrplot)

#graficul matricei de corelatie
```

```
#corrplot(matrice_corelatie)

#graficele pentru actiunea Netflix, S&P500 si rentabilitate
par(mfrow=c(1,2))
plot(date_NFLX2$Rentab_act,
      main="Rentabilitatea actiunii Netflix in anul 2020",
      xlab="Zile",
      ylab="USD",
      type="l",
      col="purple")
plot(date_NFLX2$Rentab_indice,
      main="Rentabilitatea actiunii SP500 in anul 2020",
      xlab="Zile",
      ylab="USD",
      type="l",
      col="green")
```

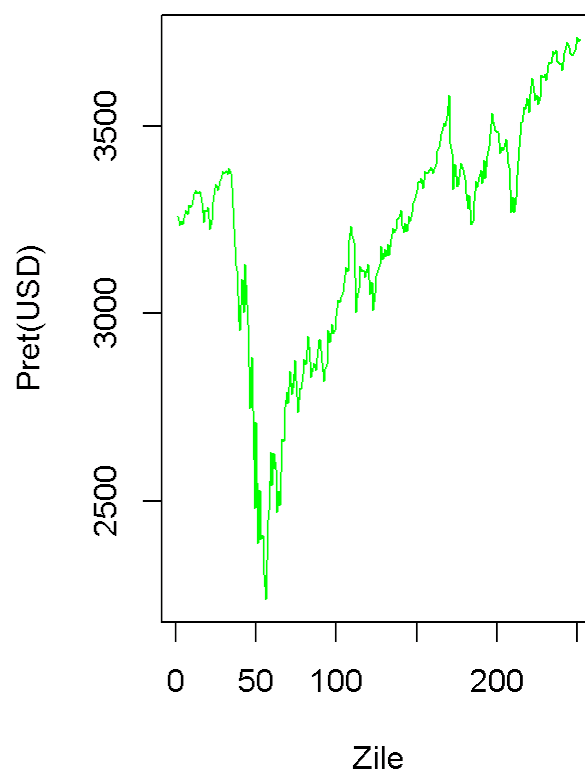
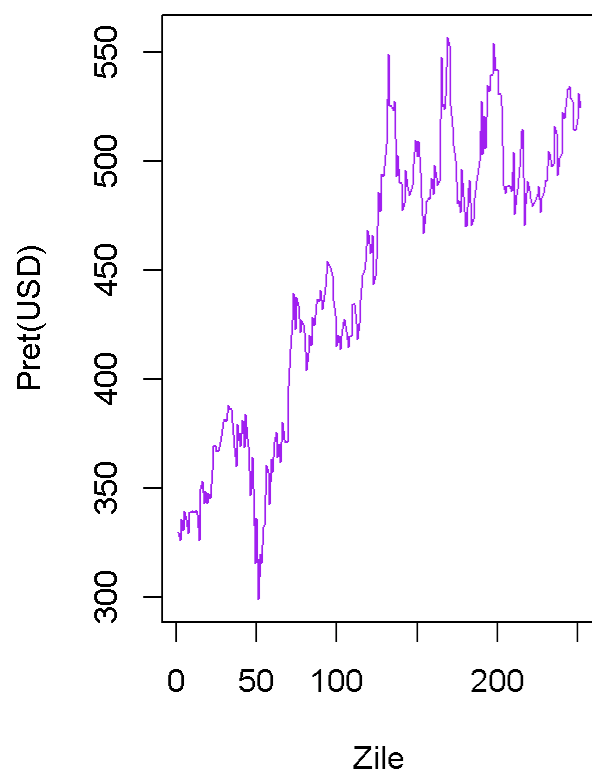
Rentabilitatea actiunii Netflix in anul 2020 **Rentabilitatea actiunii SP500 in anul 2020**



```
par(mfrow=c(1,2))
plot(date_NFLX2$Pret_act_NFLX,
      main="Preturile actiunii Netflix in anul 2020",
      xlab="Zile",
      ylab="Pret(USD) ",
      type="l",
      col="purple")
plot(date_NFLX2$Pret_indice,
      main="Preturile actiunii SP500 in anul 2020",
```

```
xlab="Zile",
ylab="Pret(USD)",
type="l",
col="green")
```

Preturile actiunii Netflix in anul 2020 Preturile actiunii SP500 in anul 2020



```
par(mfrow=c(1,2))
plot(date_NFLX2$Vol_act_NFLX,
      main="Volumulele actiunii Netflix in anul 2020",
      xlab="Zile",
      ylab="USD",
      type="l",
      col="purple")
plot(date_NFLX2$Vol_indice,
      main="Volumele actiunii SP500 in anul 2020",
      xlab="Zile",
      ylab="USD",
      type="l",
      col="green")
```

Volumulele actiunii Netflix in anul 2020 Volumele actiunii SP500 in anul 2020

