R STUDIO

```
#install.packages("quantmod")
#install.packages("tidyquant")
#install.packages('TTR')
library(tidyquant)
library(TTR)

#prices
getSymbols("AAPL", from='2017-01-01',to ="2022-01-01",warnings =
FALSE,auto.assign = TRUE,periodicity = 'monthly')
getSymbols("INDEX",from='2017-01-01',to ="2022-01-
01",warnings=FALSE,auto.assign=TRUE,periodicity = 'monthly')

#colnames(AAPL)
data<-cbind(AAPL$AAPL.Adjusted,INDEX$INDEX.Adjusted)
colnames(data)[1] <- 'AAPL'
colnames(data)[2] <- 'INDEX'

#csv
write.csv(data,"01_ForBeta.csv")

#in che directory lavoriamo
getwd()
#plot
chart_Series(data$AAPL)
chart_Series(data$INDEX)

#ret
n <- nrow(data)
rety<-diff(data$AAPL)/lag(data$AAPL)
retx<-diff(data$INDEX)/lag(data$INDEX)

#plot
library(ggplot2)
ggplot(data, aes(x=retx, y=rety)) +
  geom_point(shape=18, color="blue", size=1) +
  geom_smooth(method=lm, se=FALSE, color="red") +
  labs(
    x = "INDEX",
    y = "APPL",
    title = "AAPL versus INDEX",
    caption = "Made by CLAMDA"
  )

#linear model
linearMod <- lm(rety ~ retx)
print(linearMod)
summary(linearMod)
```