

Exo2_séance2

Balde

2025-08-17

R Markdown

```
# Loading the quantmod package  
library(quantmod)
```

```
## Loading required package: xts
```

```
## Loading required package: zoo
```

```
##
```

```
## Attaching package: 'zoo'
```

```
## The following objects are masked from 'package:base':
```

```
##
```

```
## as.Date, as.Date.numeric
```

```
## Loading required package: TTR
```

```
## Registered S3 method overwritten by 'quantmod':
```

```
## method from
```

```
## as.zoo.data.frame zoo
```

```
# Access financial information on Apple stock (affiche les informations de AAPL)  
getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
head(AAPL)
```

```
##           AAPL.Open AAPL.High AAPL.Low AAPL.Close AAPL.Volume AAPL.Adjusted  
## 2020-01-02    74.0600    75.1500    73.7975    75.0875    135480400    72.53851  
## 2020-01-03    74.2875    75.1450    74.1250    74.3575    146322800    71.83330  
## 2020-01-06    73.4475    74.9900    73.1875    74.9500    118387200    72.40568  
## 2020-01-07    74.9600    75.2250    74.3700    74.5975    108872000    72.06516  
## 2020-01-08    74.2900    76.1100    74.2900    75.7975    132079200    73.22440  
## 2020-01-09    76.8100    77.6075    76.5500    77.4075    170108400    74.77976
```

```
# Quel est le minimum de la valeur ajustée de l'action Apple ? Complétez le code suivant.
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Insert le code pour afficher le minimum
min(AAPL$AAPL.Adjusted)
```

```
## [1] 54.31694
```

```
# Quel est le maximum de la valeur ajustée de l'action Apple ?
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Insert le code pour afficher le maximum
max(AAPL$AAPL.Adjusted)
```

```
## [1] 133.1902
```

```
# Quelle est la médiane de la valeur ajustée de l'action Apple ?
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Insert le code pour afficher la mediane
median(AAPL$AAPL.Adjusted)
```

```
## [1] 88.76704
```

```
# Quelle est la moyenne de la valeur ajustée de l'action Apple ?
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Insert le code pour afficher la moyenne
mean(AAPL$AAPL.Adjusted)
```

```
## [1] 92.46473
```

```
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Quelle est la moyenne tronquée à 5 % de la valeur ajustée de l'action Apple ?
# Insert le code pour afficher la moyenne tronquée
mean(AAPL$AAPL.Adjusted, trim = 0.05)
```

```
## [1] 92.36818
```

```
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Quel est le troisième quartile (75 %) de la valeur ajustée des actions d'Apple ?
```

```
# Insert the missing code below
```

```
quantile(AAPL$AAPL.Adjusted, probs = 0.75)
```

```
##          75%
```

```
## 112.5611
```

```
# Qu'est-ce que le premier quartile (25 %) et 80 % de la valeur ajustée des actions d'Apple ?
```

```
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Insert the missing code below
```

```
quantile(AAPL$AAPL.Adjusted, probs = c(0.25, 0.80))
```

```
##          25%          80%
```

```
## 74.77252 114.05116
```

```
# Quelle est la variance de l'échantillon et l'écart standard de la valeur ajustée des actions d'Apple ?
```

```
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Insert the missing code below
```

```
var(AAPL$AAPL.Adjusted); sd(AAPL$AAPL.Adjusted)
```

```
##          AAPL.Adjusted
```

```
## AAPL.Adjusted      454.0614
```

```
## [1] 21.30872
```

```
# Quelle est la valeur IQR de l'action ajustée d'Apple ?
```

```
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Insert the missing code below
```

```
IQR(AAPL$AAPL.Adjusted)
```

```
## [1] 37.78856
```

```
# Asymétrie de l'échantillon  
quantmod::getSymbols("AAPL", src="yahoo", from="2020-01-01", to="2020-12-31")
```

```
## [1] "AAPL"
```

```
# Insert the missing code below  
library(e1071)  
skewness(AAPL$AAPL.Adjusted)
```

```
## [1] 0.09720953
```

```
2*sqrt(6/length(AAPL$AAPL.Adjusted))
```

```
## [1] 0.3086067
```