xts_excercise_luo

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XTS Exercise

Use the quantmod package: 1. Get the dividend payments of the company. 2. Extract the date of the last dividend payment. 3. Download and show Yahoo prices from 3 days before to 3 days after the last dividend payment. 4. Compare the Close and Adjusted Price and explain their difference

1. Get the dividend payments of the company.

```
div<-getDividends("VOW.DE", return.class="ts")
```

```
## Warning in read.table(file = file, header = header, sep = sep,
## quote = quote, : incomplete final line found by readTableHeader
## on 'https://query2.finance.yahoo.com/v7/finance/download/VOW.DE?
## period1=-2208988800&period2=1622332800&interval=1d&events=split&crumb=Pb448j2TnrD'
```

```
div %>% head()
```

```
##            VOW.DE.div
## 2000-05-24       0.77
## 2001-06-08       1.20
## 2002-04-17       1.30
## 2003-04-25       1.30
## 2004-04-23       1.05
## 2005-04-22       1.05
```

2. Extract the date of the last dividend payment.

```
end(div)
```
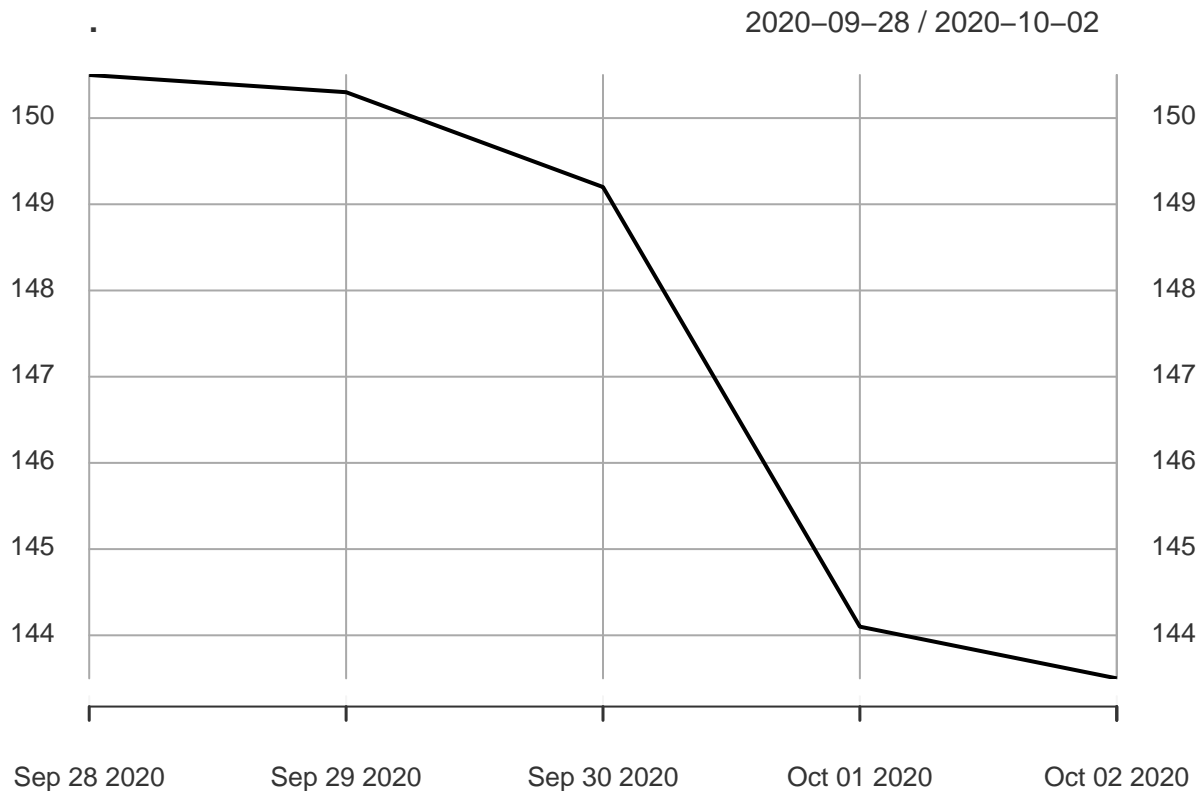
```
## [1] "2020-10-01"
```

3. Download and show Yahoo prices from 3 days before to 3 days after the last dividend payment.

```
getSymbols("VOW.DE",from=as.Date(end(div))-3, to=as.Date(end(div))+3)
```

```
## 'getSymbols' currently uses auto.assign=TRUE by default, but will
## use auto.assign=FALSE in 0.5-0. You will still be able to use
## 'loadSymbols' to automatically load data. getOption("getSymbols.env")
## and getOption("getSymbols.auto.assign") will still be checked for
## alternate defaults.
##
## This message is shown once per session and may be disabled by setting
## options("getSymbols.warning4.0"=FALSE). See ?getSymbols for details.
```

```
## [1] "VOW.DE"
VOW.DE[,"VOW.DE.Close"] %>% plot()
```


4. Compare the Close and Adjusted Price and explain their difference

```
VOW.DE %>% as.data.frame() %>% mutate(difference= VOW.DE.Close - VOW.DE.Adjusted)
```

```
##    VOW.DE.Open VOW.DE.High VOW.DE.Low VOW.DE.Close VOW.DE.Volume VOW.DE.Adjusted
## 1        147.0       150.5      146.4        150.5         55020        145.6582
## 2        150.6       151.1      148.5        150.3         56067        145.4646
## 3        150.3       151.1      148.8        149.2         57800        144.4000
## 4        146.5       147.1      143.7        144.1         62188        144.1000
## 5        143.5       144.9      140.9        143.5         80289        143.5000
##   difference
## 1   4.841827
## 2   4.835388
## 3   4.800003
## 4   0.000000
## 5   0.000000
```

The difference reprecents the dividend VW payed per share. The adjusted price is the close price substracted by that.