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*February 5, 2018*

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# R Markdown

```
library(quantmod) # also loads xts and TTR

## Warning: package 'quantmod' was built under R version 3.4.3
## Loading required package: xts
## Warning: package 'xts' was built under R version 3.4.3
## Loading required package: zoo
## Warning: package 'zoo' was built under R version 3.4.3
##
## Attaching package: 'zoo'
##
## The following objects are masked from 'package:base':
##
##      as.Date, as.Date.numeric
## Loading required package: TTR
## Warning: package 'TTR' was built under R version 3.4.3
## Version 0.4-0 included new data defaults. See ?getSymbols.
# Fetch all Symbols & store only the tickers to retrieve the data
Symbols <- stockSymbols()

## Fetching AMEX symbols...
## Fetching NASDAQ symbols...
## Fetching NYSE symbols...

Symbols <- Symbols[,1]

symbols=Symbols[1:100]
dataset<- xts() # Only run once
# cool progress bar to see the % of completion
n <- length(symbols)
pb <- txtProgressBar(min = 0, max = n, style=3)

##
|
|

# Actual loop:
for(i in 1:length(symbols)) {
  symbols[i]-> symbol
# specify the "from" date to desired start date
tryit <- try(getSymbols(symbol,from="2014-01-01", src='yahoo'))
if(inherits(tryit, "try-error")){
```

```

    i <- i+1
  } else {
    # specify the "from" date to desired start date
    data <- getSymbols(symbol, from="2014-01-01", src='yahoo')
    dataset <- merge(dataset, Ad(get(symbols[i])))
    rm(symbol)
  }
  setTxtProgressBar(pb, i)
}

```

```

## '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.

```

```

##
## WARNING: There have been significant changes to Yahoo Finance data.
## Please see the Warning section of '?getSymbols.yahoo' for details.

```

```

## This message is shown once per session and may be disabled by setting
## options("getSymbols.yahoo.warning"=FALSE).

```

```

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| == | 3%
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| === | 4%
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| === | 5%
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| ==== | 6%

```

```

## Warning: AINC contains missing values. Some functions will not work if
## objects contain missing values in the middle of the series. Consider using
## na.omit(), na.approx(), na.fill(), etc to remove or replace them.

```

```

## Warning: AINC contains missing values. Some functions will not work if
## objects contain missing values in the middle of the series. Consider using
## na.omit(), na.approx(), na.fill(), etc to remove or replace them.

```

```

##
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```

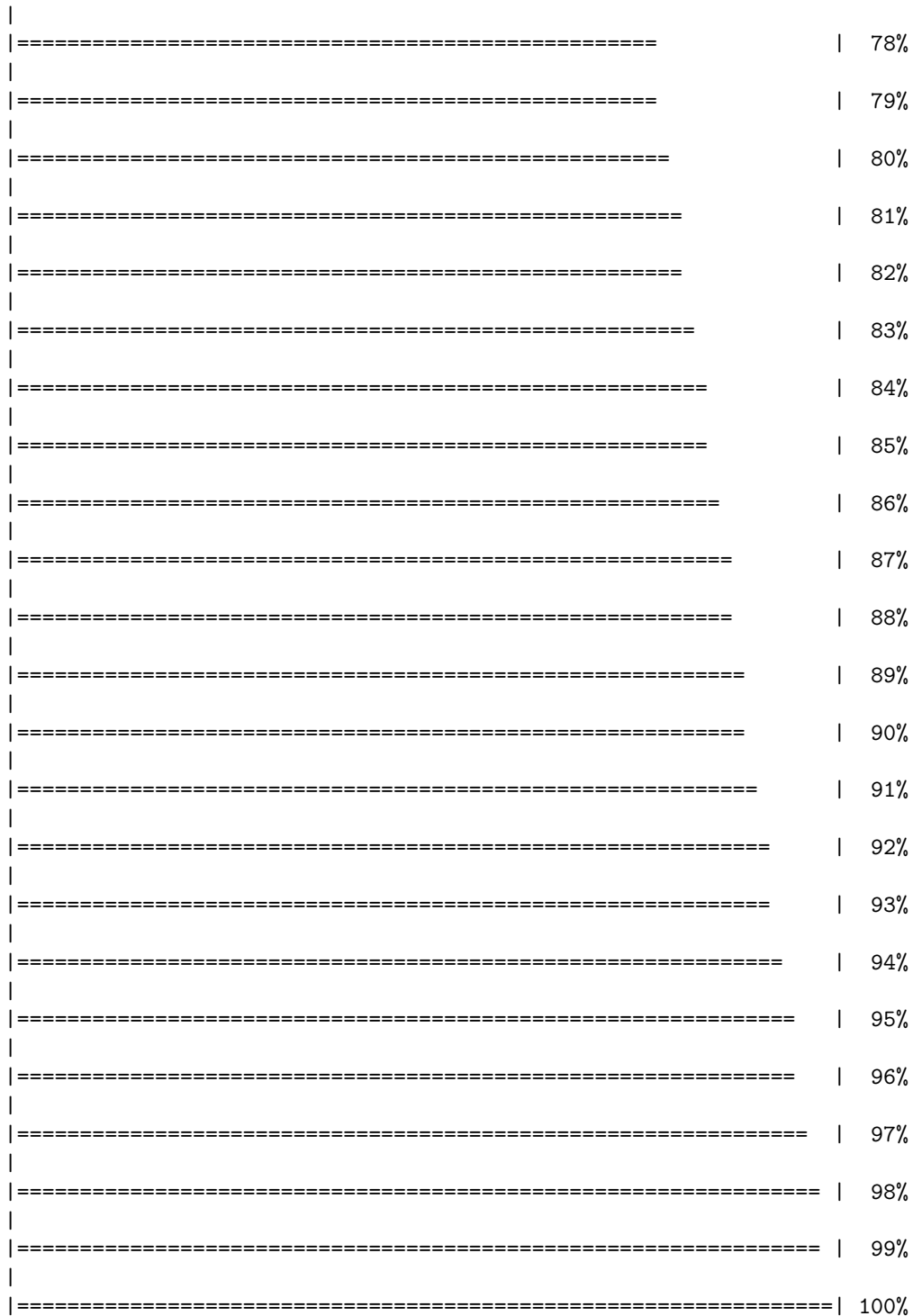
```

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## Warning: APHB contains missing values. Some functions will not work if
## objects contain missing values in the middle of the series. Consider using
## na.omit(), na.approx(), na.fill(), etc to remove or replace them.
## Warning: APHB contains missing values. Some functions will not work if
## objects contain missing values in the middle of the series. Consider using
## na.omit(), na.approx(), na.fill(), etc to remove or replace them.
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## Warning: ATEST download failed; trying again.
##
|
|=====| 20%
## Warning: AUG contains missing values. Some functions will not work if
## objects contain missing values in the middle of the series. Consider using
## na.omit(), na.approx(), na.fill(), etc to remove or replace them.
## Warning: AUG contains missing values. Some functions will not work if
## objects contain missing values in the middle of the series. Consider using
## na.omit(), na.approx(), na.fill(), etc to remove or replace them.
##
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## Warning: BPMX contains missing values. Some functions will not work if	
## objects contain missing values in the middle of the series. Consider using	
## na.omit(), na.approx(), na.fill(), etc to remove or replace them.	
## Warning: BPMX contains missing values. Some functions will not work if	
## objects contain missing values in the middle of the series. Consider using	
## na.omit(), na.approx(), na.fill(), etc to remove or replace them.	
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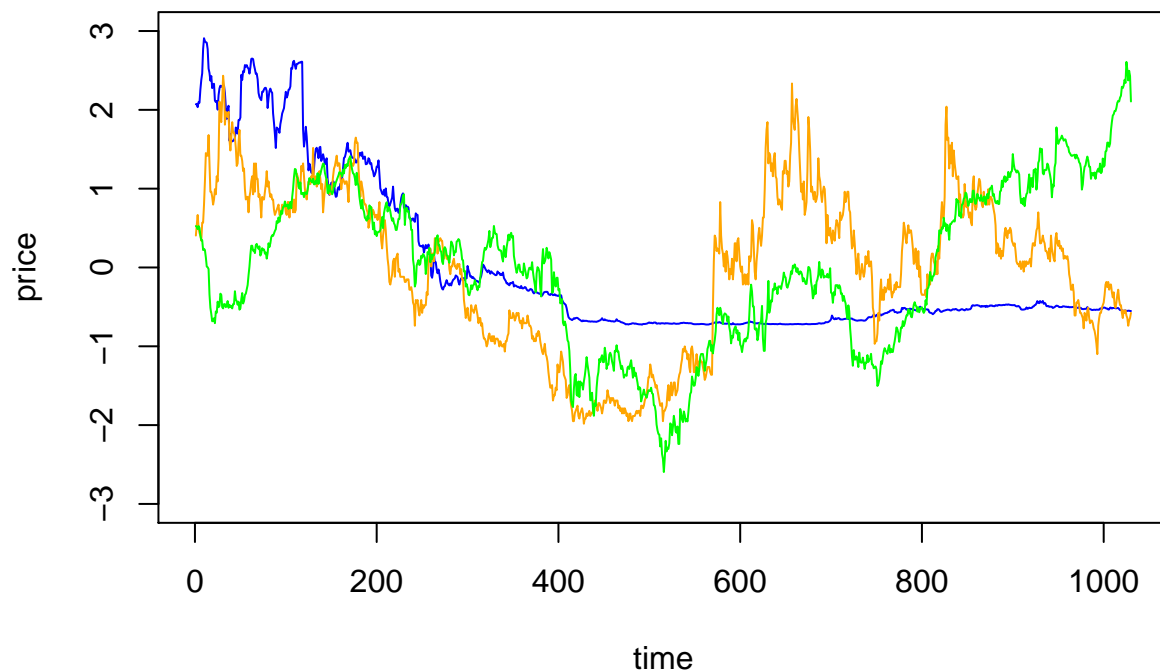
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	=====		77%



```
n=nrow(dataset)
plot(1:n,scale(dataset[,1]),type="l",xlab = "time",ylab="price",col="blue",ylim=c(-3,3),title="Example of a time series plot")

## Warning in plot.window(...): "title" is not a graphical parameter
## Warning in plot.xy(xy, type, ...): "title" is not a graphical parameter
## Warning in axis(side = side, at = at, labels = labels, ...): "title" is not
## a graphical parameter
```

```
## Warning in axis(side = side, at = at, labels = labels, ...): "title" is not
## a graphical parameter
## Warning in box(...): "title" is not a graphical parameter
## Warning in title(...): "title" is not a graphical parameter
lines(1:n,scale(dataset[,2]),col="orange")
lines(1:n,scale(dataset[,3]),col="green")
```



```
library(fields)

## Warning: package 'fields' was built under R version 3.4.1
## Loading required package: spam
## Warning: package 'spam' was built under R version 3.4.1
## Loading required package: dotCall64
## Warning: package 'dotCall64' was built under R version 3.4.1
## Loading required package: grid
## Spam version 2.1-1 (2017-07-02) is loaded.
## Type 'help( Spam)' or 'demo( spam)' for a short introduction
## and overview of this package.
## Help for individual functions is also obtained by adding the
## suffix '.spam' to the function name, e.g. 'help( chol.spam)'.
##
```

```
## Attaching package: 'spam'
## The following objects are masked from 'package:base':
##
##      backsolve, forwardsolve
## Loading required package: maps
image.plot(cor(dataset))
```

