Heatmap and Hierarchical Clustering

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```
# import libraries for heatmap and correlation
library(plotly)
```

```
## Loading required package: ggplot2
```

```
##
## Attaching package: 'plotly'
```

```
## The following object is masked from 'package:ggplot2':
##
##     last_plot
```

```
## The following object is masked from 'package:stats':
##
##     filter
```

```
## The following object is masked from 'package:graphics':
##
##     layout
```

```
library(heatmaply)
```

```
## Loading required package: viridis
```

```
## Loading required package: viridisLite
```

```
## Registered S3 method overwritten by 'seriation':
##   method         from
##   reorder.hclust gclus
```

```
##
## ======================
## Welcome to heatmaply version 1.1.0
##
## Type citation('heatmaply') for how to cite the package.
## Type ?heatmaply for the main documentation.
##
## The github page is: https://github.com/talgalili/heatmaply/
## Please submit your suggestions and bug-reports at: https://github.com/talgalili/heatmaply/iss
ues
## Or contact: <tal.galili@gmail.com>
## ======================
```

```
library(ggcorrplot)
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
```

```
## Version 0.4-0 included new data defaults. See ?getSymbols.
```

```
library(magrittr)
```

```
start <- as.Date("2020-02-01")
end <- as.Date("2020-06-01")
getSymbols("FB", src = "yahoo", from = start, to = end)
```

```
## '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] "FB"
```

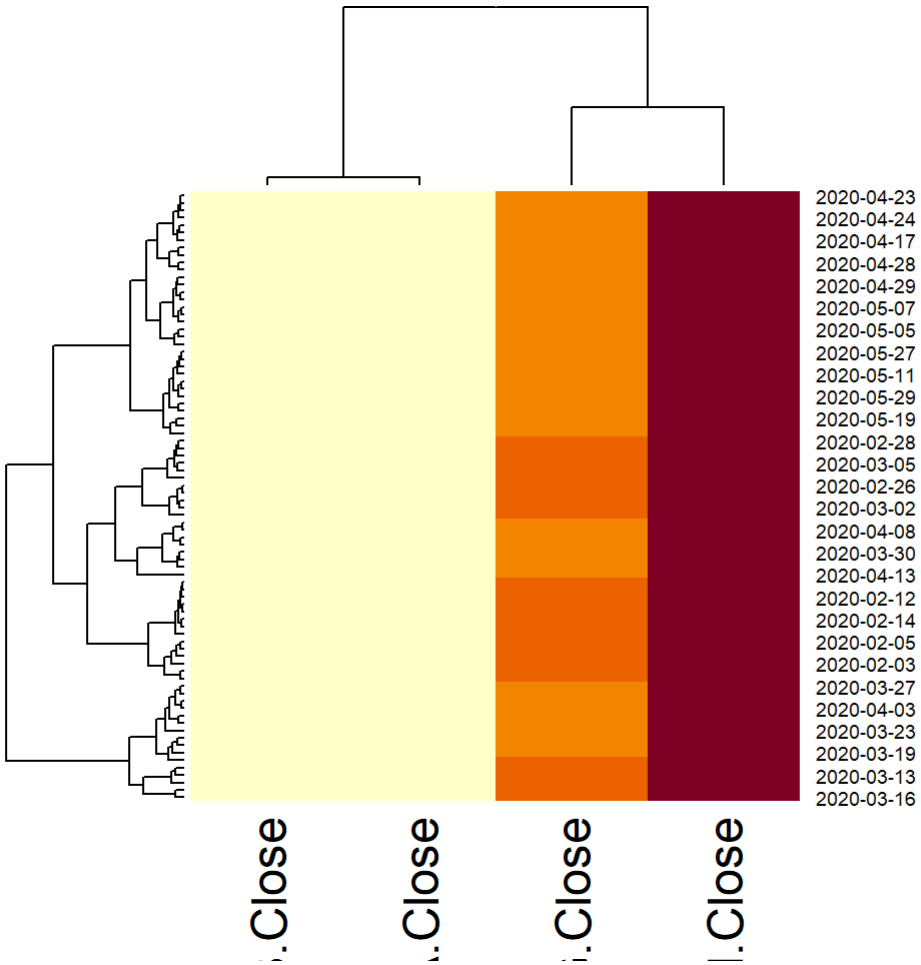
```
getSymbols(c("BA", "GOOG", "AMZN"), src = "yahoo", from = start, to = end)
```

```
## [1] "BA"   "GOOG" "AMZN"
```

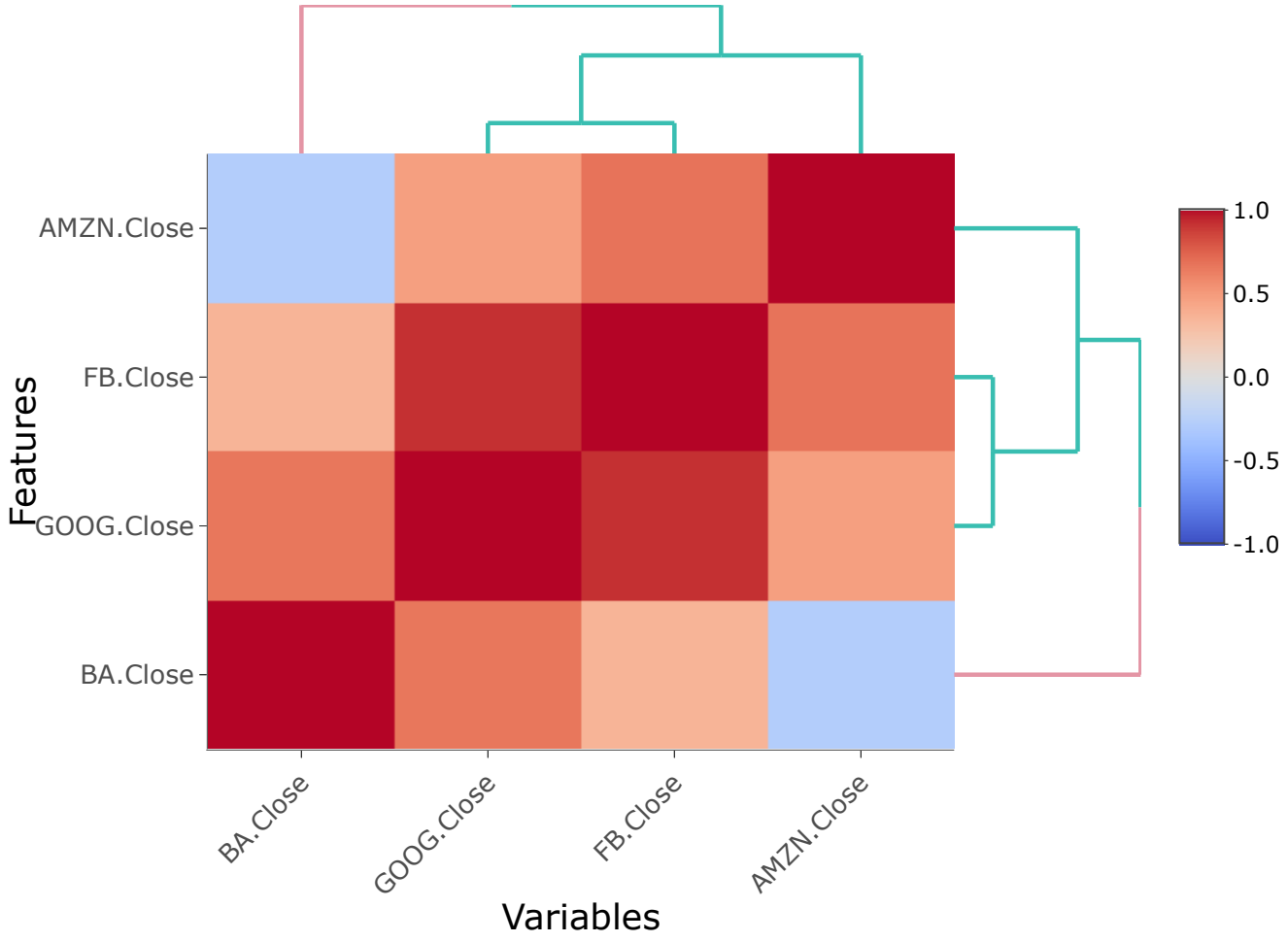
```
stocks <- as.xts(data.frame(FB = FB[, "FB.Close"], BA = BA[, "BA.Close"], GOOG = GOOG[, "GOOG.Cl
ose"], AMZN = AMZN[, "AMZN.Close"]))
```

```
data3 <- as.matrix(stocks)
```

```
heatmap(data3)
```



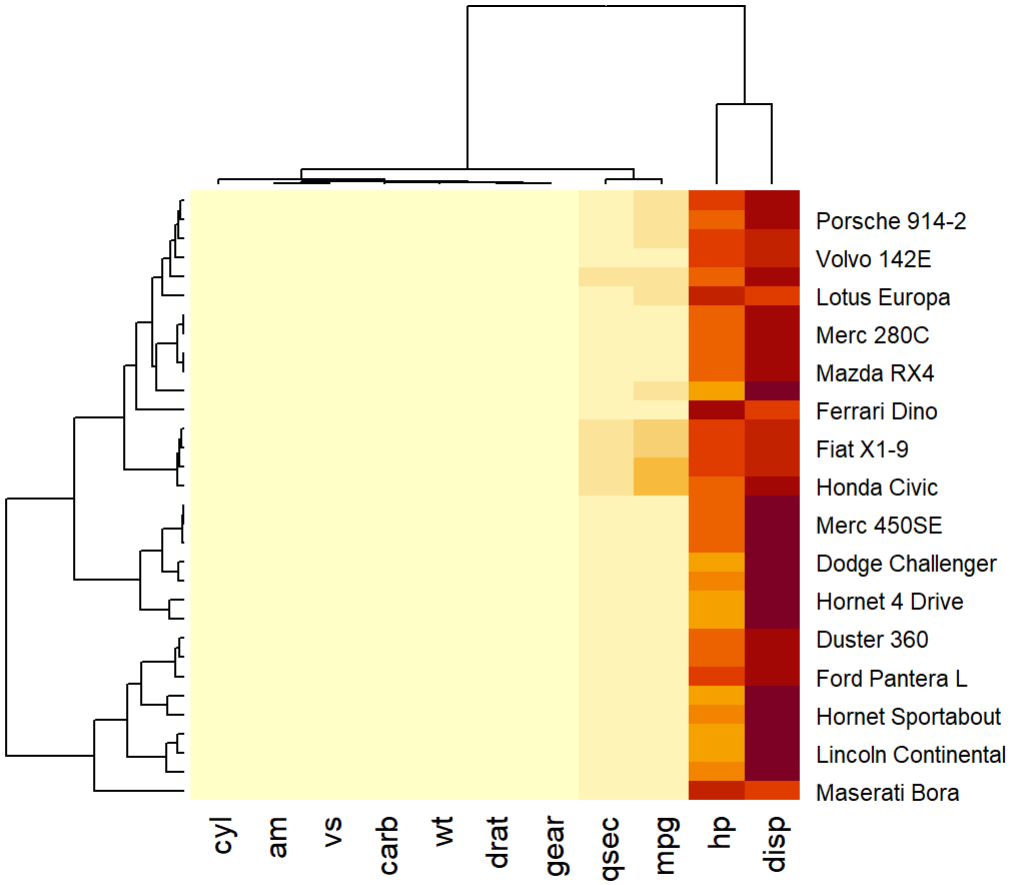
```
heatmaply_cor(
  cor(stocks),
  title = "Heatmap and Hierarchical Clustering",
  xlab = "Variables",
  ylab = "Features",
  k_col = 2,
  k_row = 2
)
```



Example with the simple 'mtcars' dataset.

```
data2 <- as.matrix(mtcars)
```

```
heatmap(data2)
```


Porsche 914-2
Volvo 142E
Lotus Europa
Merc 280C
Mazda RX4
Ferrari Dino
Fiat X1-9
Honda Civic
Merc 450SE
Dodge Challenger
Hornet 4 Drive
Duster 360
Ford Pantera L
Hornet Sportabout
Lincoln Continental
Maserati Bora
cyl
am
vs
carb
wt
drat
gear
qsec
mpg
hp
disp