

# Untitled

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## R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
cur <- read.csv("data/crypto.csv"); head(cur)
```

```
##           DateTime      Open      High      Low      Close VolumeBTC  Volume
## 1 6/26/2017 20:00 5.700e-07 5.70e-07 5.70e-07 5.700e-07      0.00 0.0000
## 2 6/26/2017 20:00 1.600e-07 1.60e-07 1.60e-07 1.600e-07      0.00 0.0000
## 3 6/26/2017 20:00 2.335e-04 2.43e-04 2.18e-04 2.139e-04  90175.87 20.6400
## 4 6/26/2017 20:00 1.600e-07 1.60e-07 1.60e-07 1.600e-07      0.00 0.0000
## 5 6/26/2017 20:00 4.200e-04 4.20e-04 4.20e-04 4.200e-04      0.00 0.0000
## 6 6/26/2017 20:00 3.240e-05 3.24e-05 2.50e-05 2.500e-05  14695.07 0.3959
##      Symbol
## 1      EOC
## 2     RATIO
## 3      CPC
## 4      RYC
## 5      XBS
## 6      IXC
```

```
index <- which(cur$Symbol=="LTC")
ltc <- cur[index,]; head(ltc)
```

```
##           DateTime      Open      High      Low      Close VolumeBTC  Volume
## 180 6/26/2017 20:00 0.01583 0.01592 0.01475 0.01531  482940.1  7377.75
## 1371 6/25/2017 20:00 0.01626 0.01645 0.01462 0.01583 1247042.1 19255.55
## 2555 6/24/2017 20:00 0.01658 0.01689 0.01573 0.01626  732687.6 12023.89
## 3739 6/23/2017 20:00 0.01692 0.01696 0.01634 0.01658  553495.3  9201.07
## 4923 6/22/2017 20:00 0.01712 0.01728 0.01659 0.01692  681957.7 11547.27
## 6107 6/21/2017 20:00 0.01660 0.01772 0.01635 0.01712 1244285.7 21210.14
##      Symbol
## 180      LTC
## 1371     LTC
## 2555     LTC
## 3739     LTC
## 4923     LTC
## 6107     LTC
```

```
var(ltc$Close) #variance of 5.495 x 10^-5
```

```
## [1] 5.494839e-05
```

```
ltc <- ltc[c(0:691), c(1:8)]
```

```
index <- which(cur$Symbol=="ETH")
eth <- cur[index,]; head(eth)
```

```
##           DateTime    Open    High      Low    Close VolumeBTC    Volume
## 761  6/26/2017 20:00 0.1050 0.1051 0.09281 0.09716  536452.3  53202.65
## 1947 6/25/2017 20:00 0.1112 0.1146 0.09286 0.10500 1490351.1 152471.66
## 3131 6/24/2017 20:00 0.1186 0.1204 0.10360 0.11120  850435.5  95821.56
## 4315 6/23/2017 20:00 0.1214 0.1222 0.11850 0.11860  357689.1  43076.71
## 5499 6/22/2017 20:00 0.1201 0.1247 0.11850 0.12140  450954.0  54654.83
## 6683 6/21/2017 20:00 0.1232 0.1249 0.11680 0.12010  644577.6  77979.23
##           Symbol
## 761           ETH
## 1947          ETH
## 3131          ETH
## 4315          ETH
## 5499          ETH
## 6683          ETH
```

```
var(eth$Close) #variance of 0.000600
```

```
## [1] 0.000600421
```

```
length(eth$Close)
```

```
## [1] 691
```

```
cov(ltc$Close, eth$Close) #covariance of 2.635 x 10^-5
```

```
## [1] 2.635474e-05
```

## Including Plots

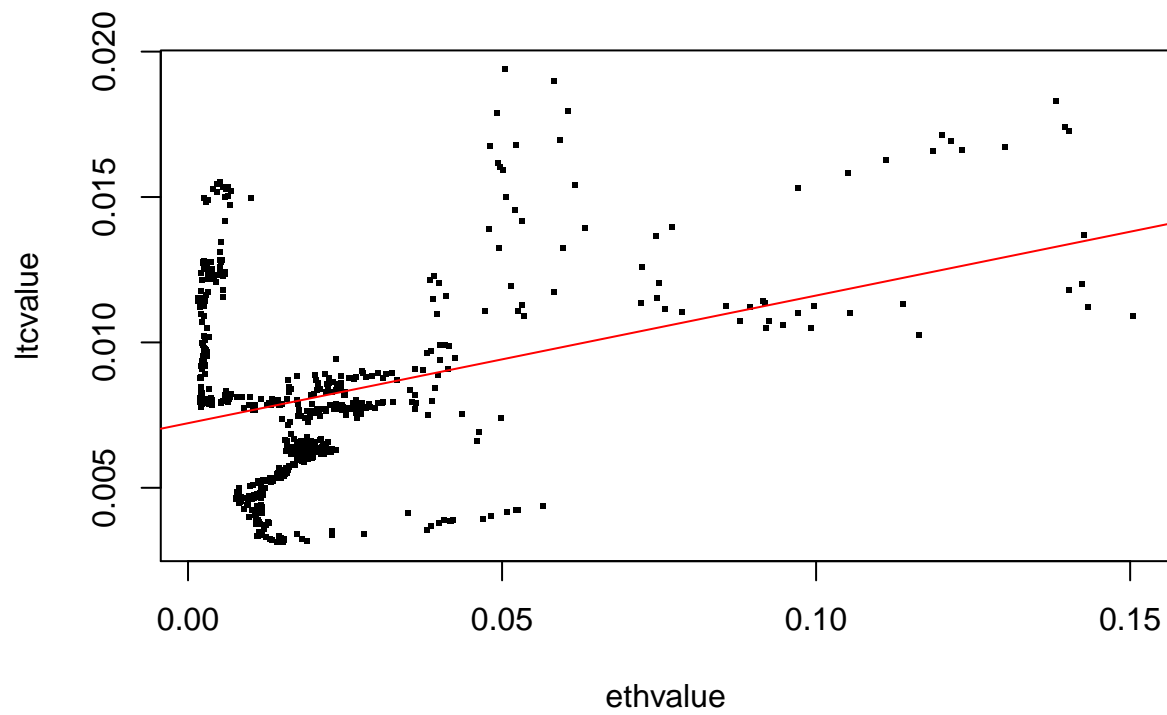
You can also embed plots, for example:

```
## [1] 0.3311912
```

```
## [1] 0.04389377
```

```
## [1] 0.04389377
```

```
## [1] 0.007222182
```



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.