Log-Returns Analysis & Simulation

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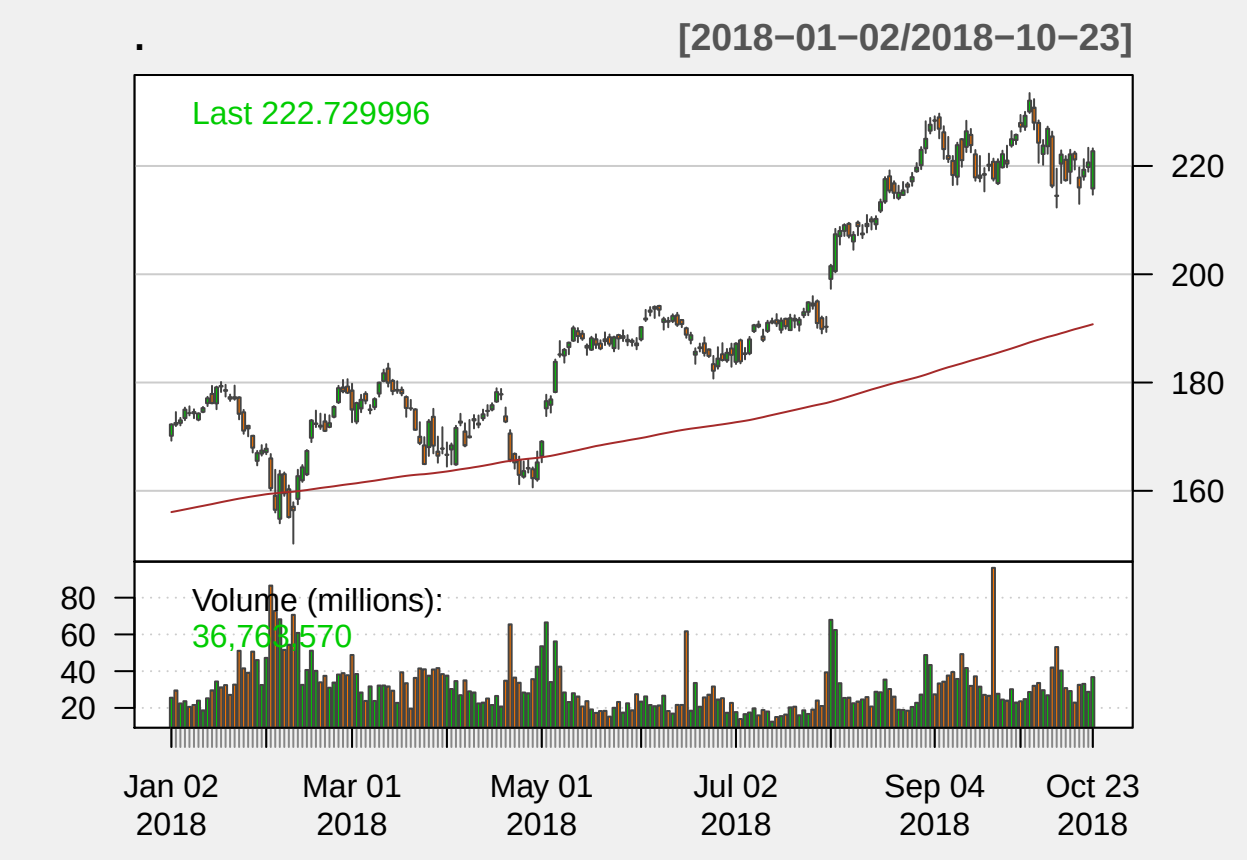
Overview

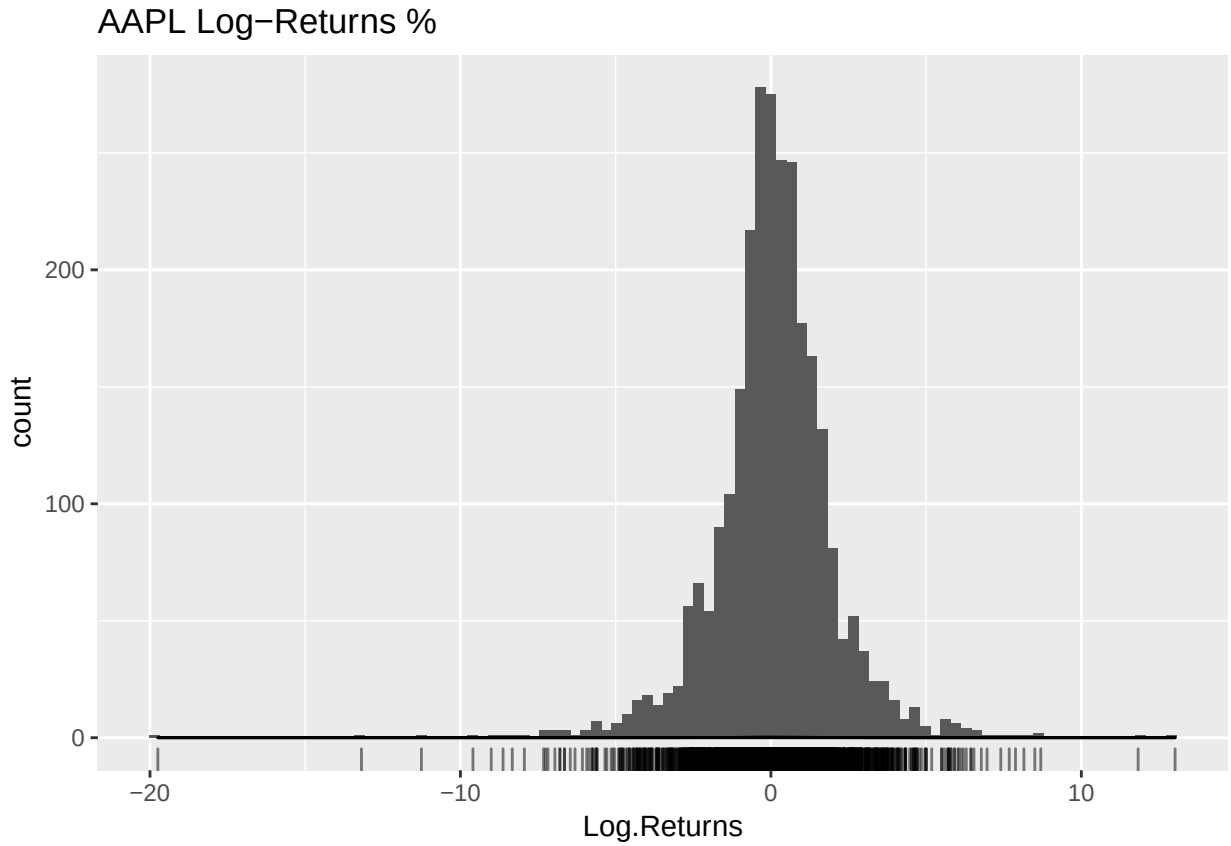
```
## [1] "AAPL"
```



Calculate the log returns of "AAPL". Latest observations:

```
##            daily.returns
## 2008-01-02         0.000
## 2008-01-03         0.000
## 2008-01-04        -0.079
## 2008-01-07        -0.013
## 2008-01-08        -0.037
## 2008-01-09         0.046
## 2008-01-10        -0.008
```

Histogram:



Quantiles:

```
##   0.5%   2.5%    25%    50%    75%  97.5%  99.5%
## -0.067 -0.041 -0.008  0.001  0.011  0.039  0.062
```

Mean and Std.Dev:

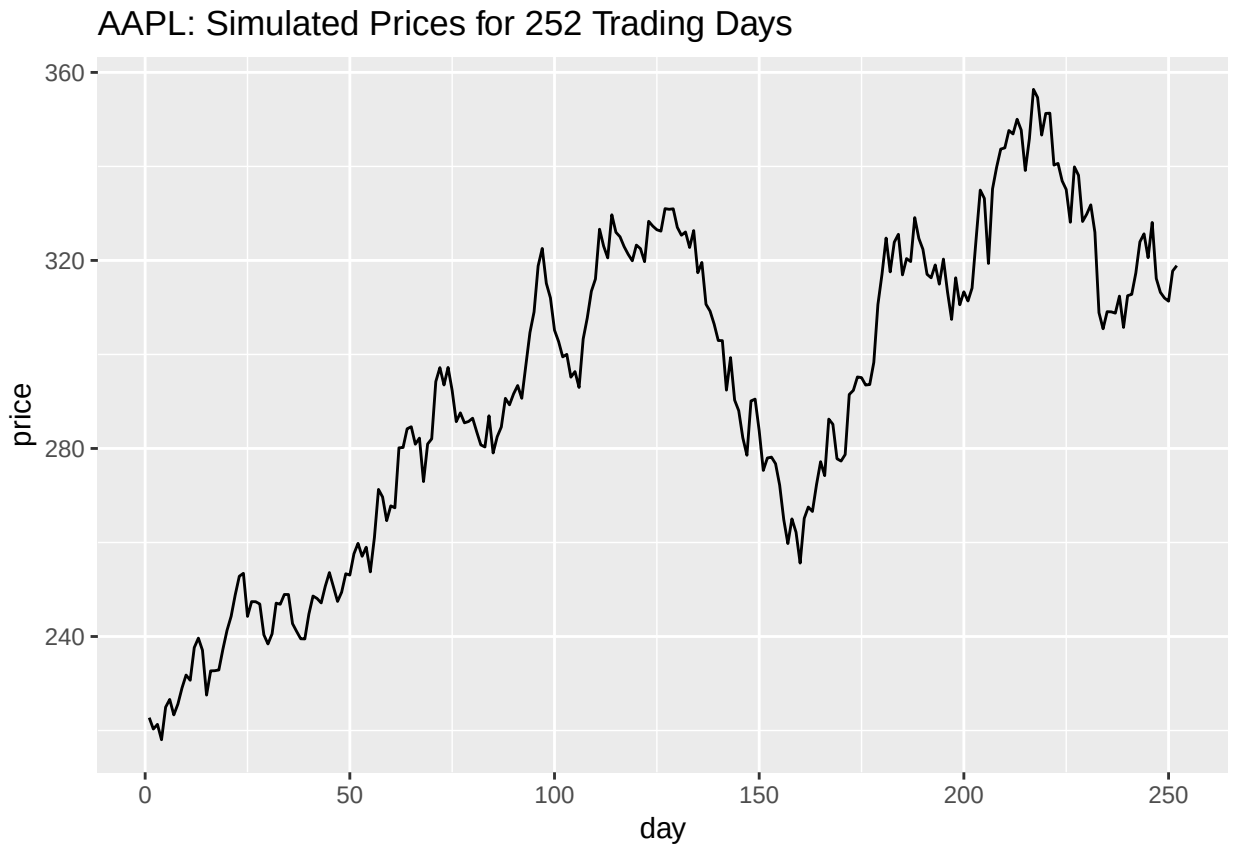
```
## [1] "Mean log return:"        "0.001"
## [3] "Std.Dev of log returns:" "0.019"
```

Average daily percent return:

```
## [1] 0.10005
```

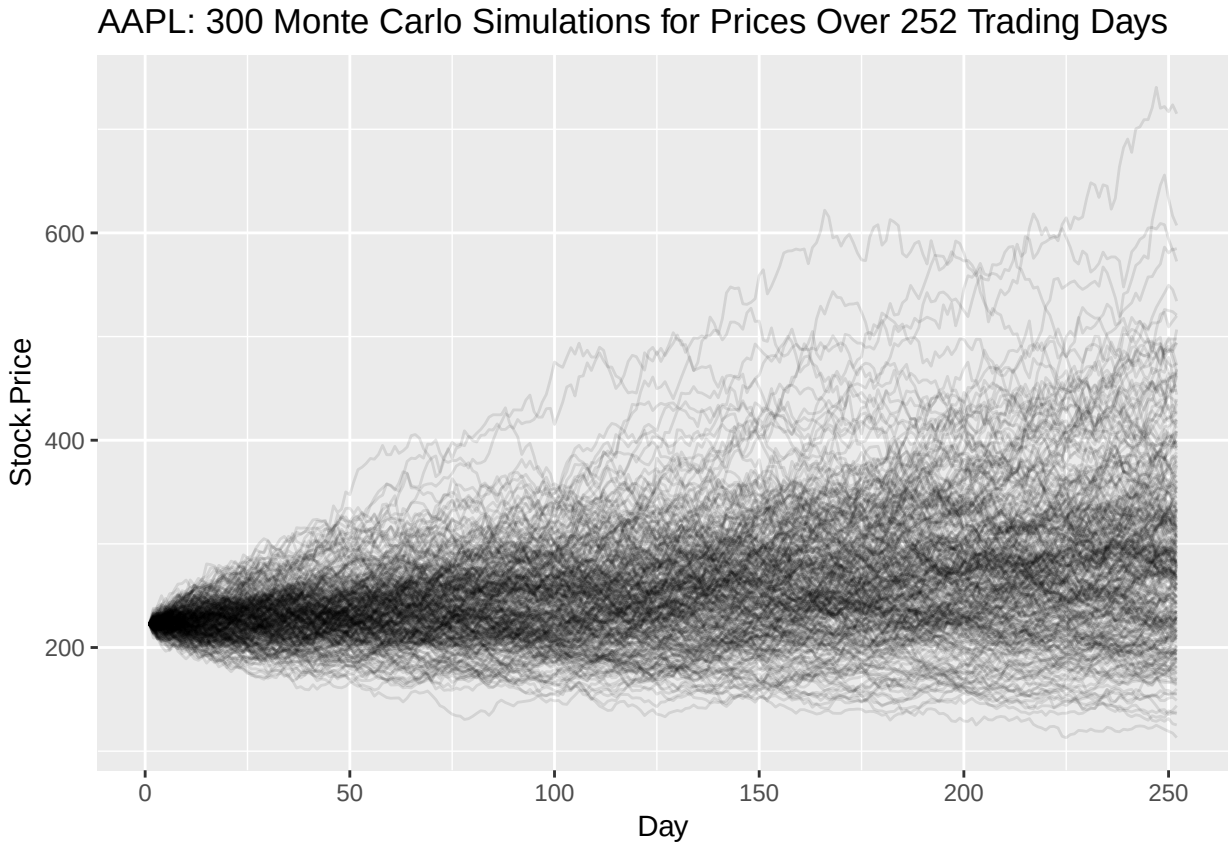
Simulations

Random-Walk simulation (252 days):



Monte-Carlo analysis:

```
N <- 252 # number of days to simulate
M <- 300 # number of monte carlo simulations
```



Intervals:

```
##   0.5%   2.5%    25%    50%    75%  97.5%  99.5%
## 130.54 157.59 229.32 280.92 338.63 502.46 596.14
```

Median Monte-Carlo simulation price:

```
## [1] 280.9164
```

CAGR Comparison:

```
## [1] "AAPL CAGR %: " "22.59"
```

```
## [1] "Simulation CAGR %: " "26.12"
```