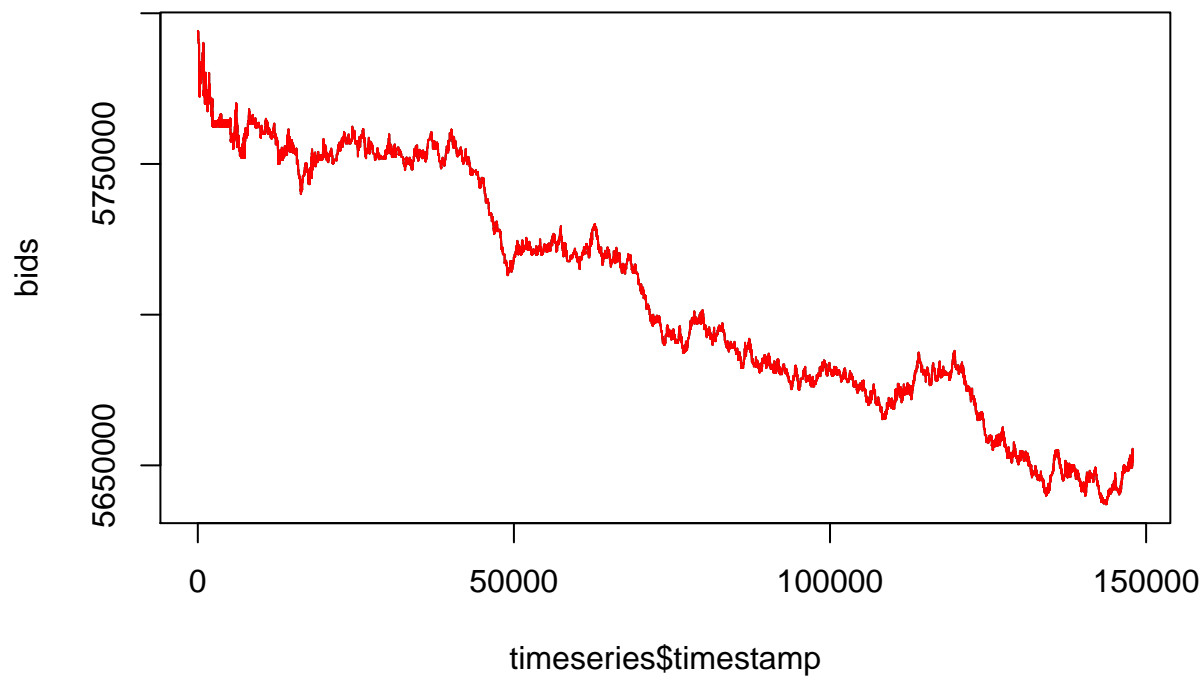


The following includes some exploratory data analysis on the Lobster orderbook data. For this analysis, we use the Google ticker set 10 price levels per orderbook.

We start by observing the overall state of the asset (Google class A shares). We plot the asks:

```
# Plots  
# Asks  
plot(timeseries$timestamp, asks, "l")
```



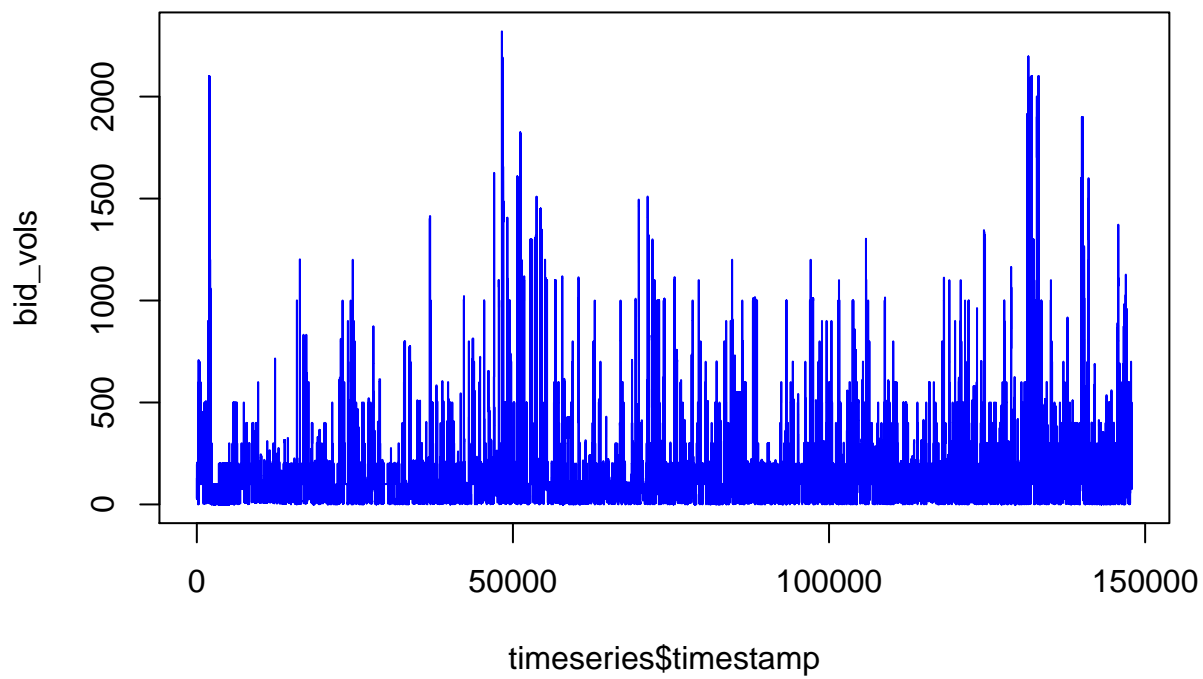


Followed by the bids:

The the price of the asset is in a clear state of decline over the course of the period. This market regime have several affets on the overall state of the algorithm and learning environment.

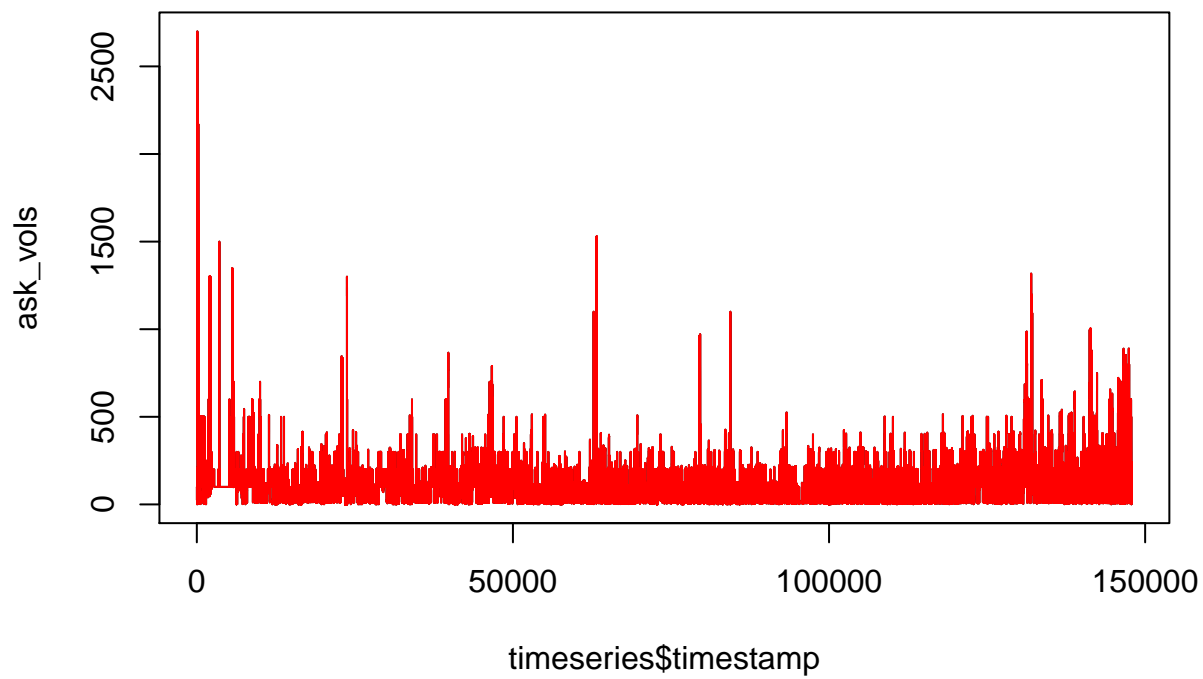
We continue with bid volumes:

```
# Bid vols  
plot(timeseries$timestamp, bid_vols, "l", col="blue")
```



And ask volumes:

```
# Ask vols  
plot(timeseries$timestamp, ask_vols, "l")  
lines(timeseries$timestamp, ask_vols, col="red")
```



The volume on the spread:

```
# Vol spread  
plot(timeseries$timestamp, vol_spread, "l", col="blue")
```

