What we are implementing

We are implementing a simple moving average crossover. When our smaller moving average goes passed our larger moving average, that indicates we should buy. Please read the What our functions are doing inside the README to understand how these functions work.

We will be analyzing three different crypto currencies, which include 'btc', 'eth', 'xrp', ‘doge’. Our parameters for all three of these will be the same, and will be listed below.

Due to the guidelines that specified pulling one years worth of data, I pulled the 5 day highs and lows for the respective crypto currencies mentioned above

Parameter 1: Moving average 1 = 2

Parameter 2: Moving average 2 = 4

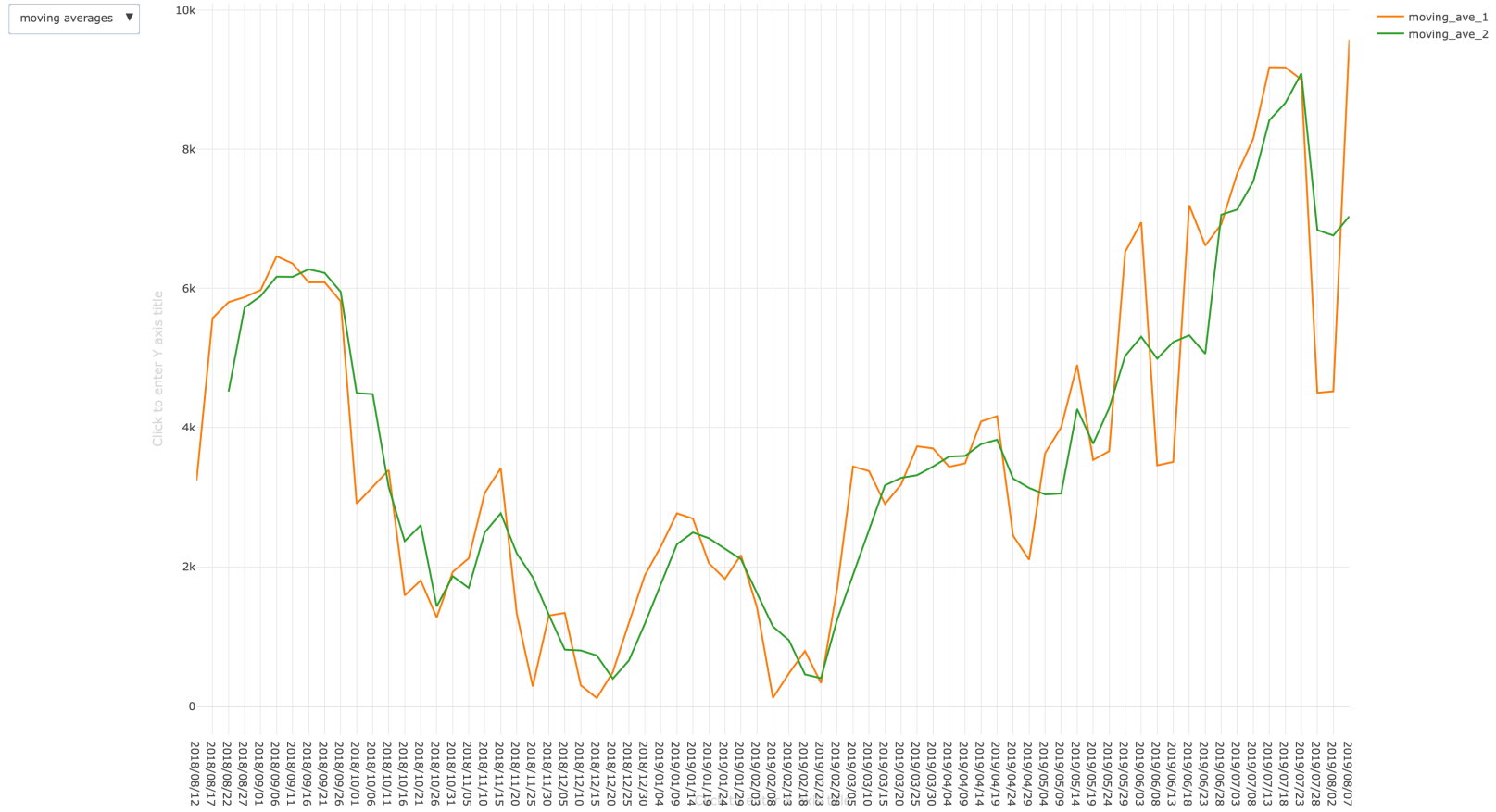
parameter 3: sell_back = 10,000
This means as soon as a crossover occurs, we buy, then sell that currency back if it reaches a value greater then 10,000 more then what we paid for

parameter 4: stop_loss = 1,000
This means as soon as a crossover occurs, we buy, then set a stop loss at 10,000 dollars less then what we paid for to ensure we don’t lose more than 10,000 dollars per trade

NOTE: The reason we set our sell_back parameter much higher than our stop_loss parameter is so every time we win, we make 10 time more money than when we lose

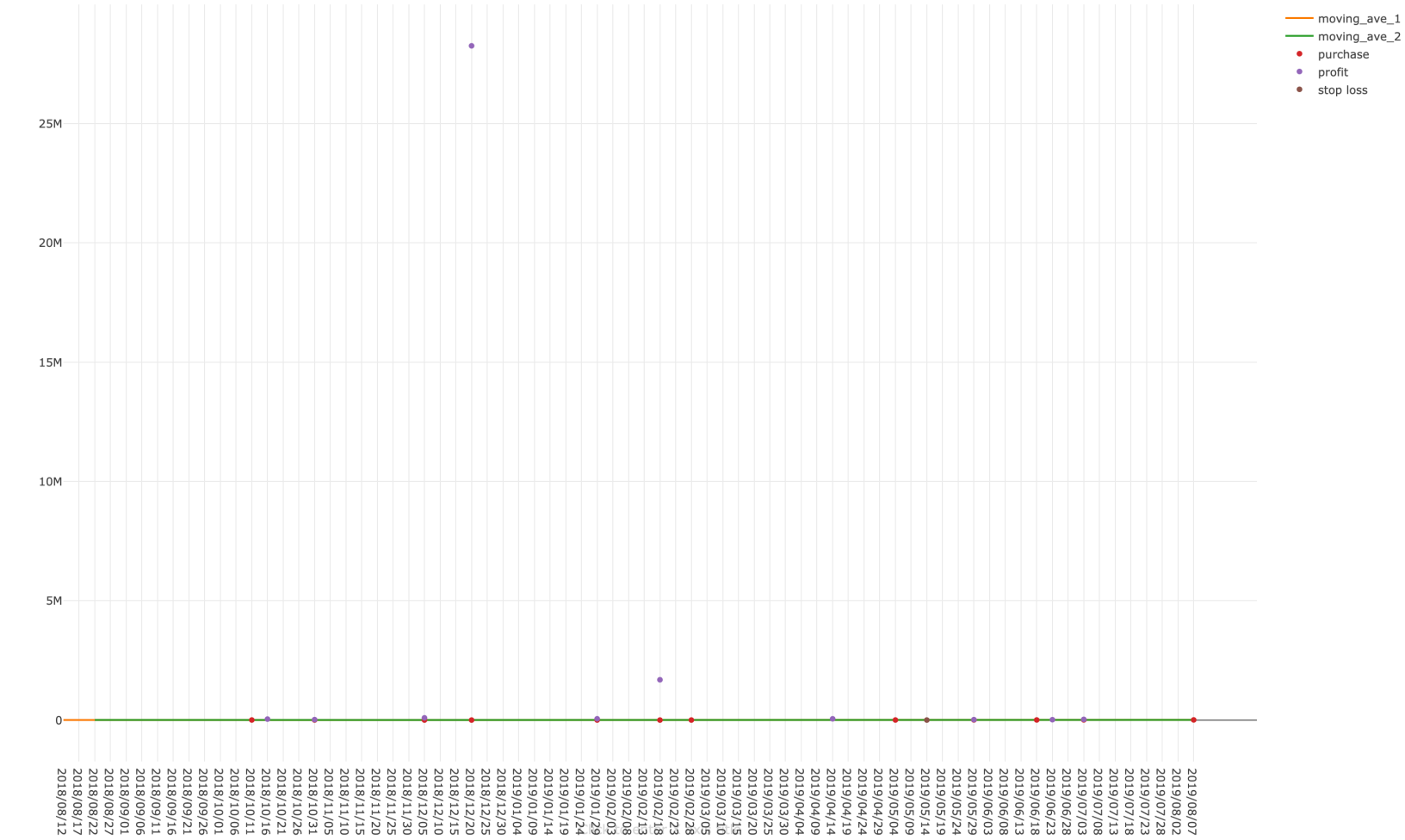
Analyses of btc

our moving averages:



Selection Data

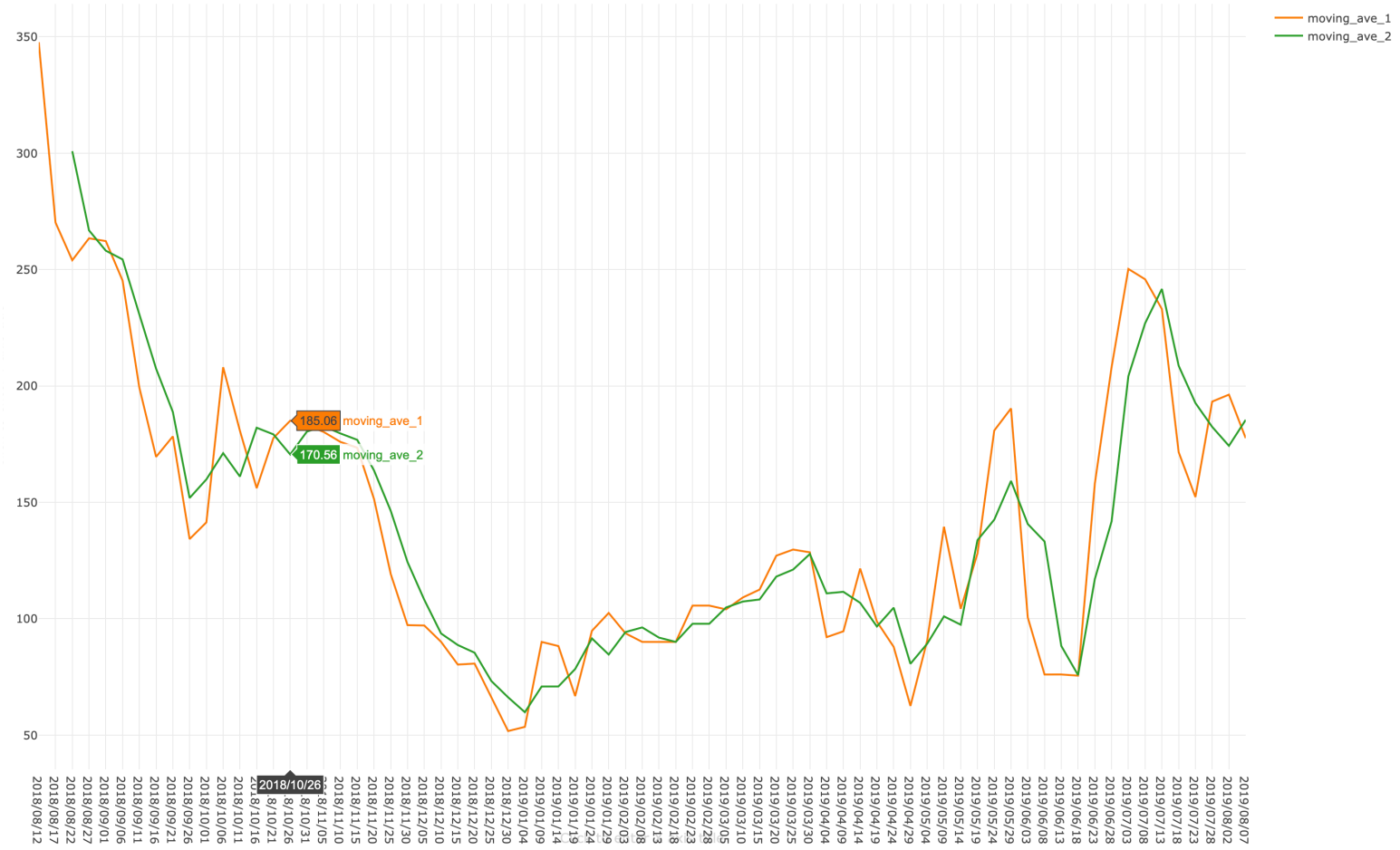
moving averages with purchase, profit, and stop loss



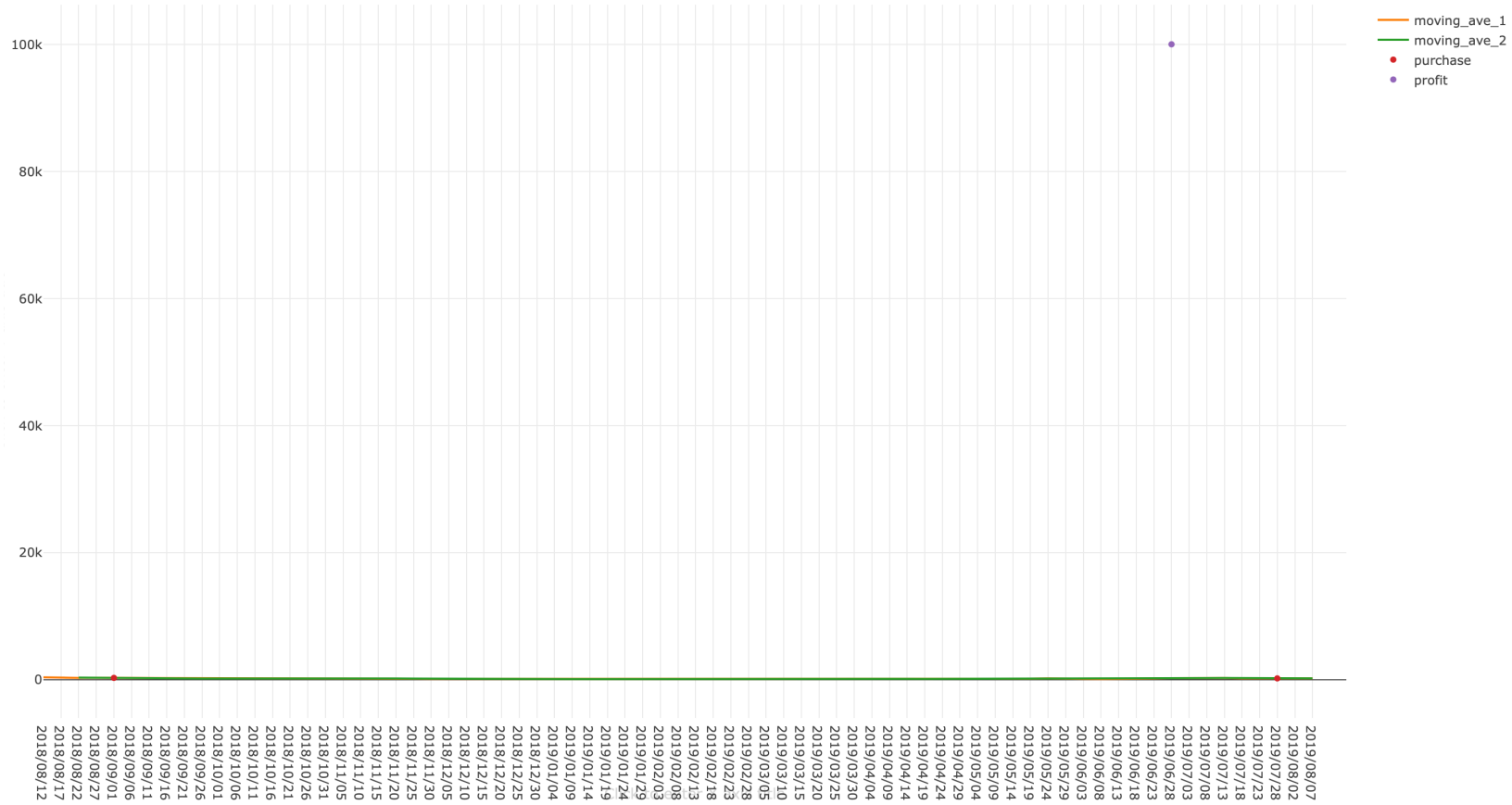
This plot shows that we won 9 of our trades and lost 1 of our trades

Analyses of eth

our moving averages:



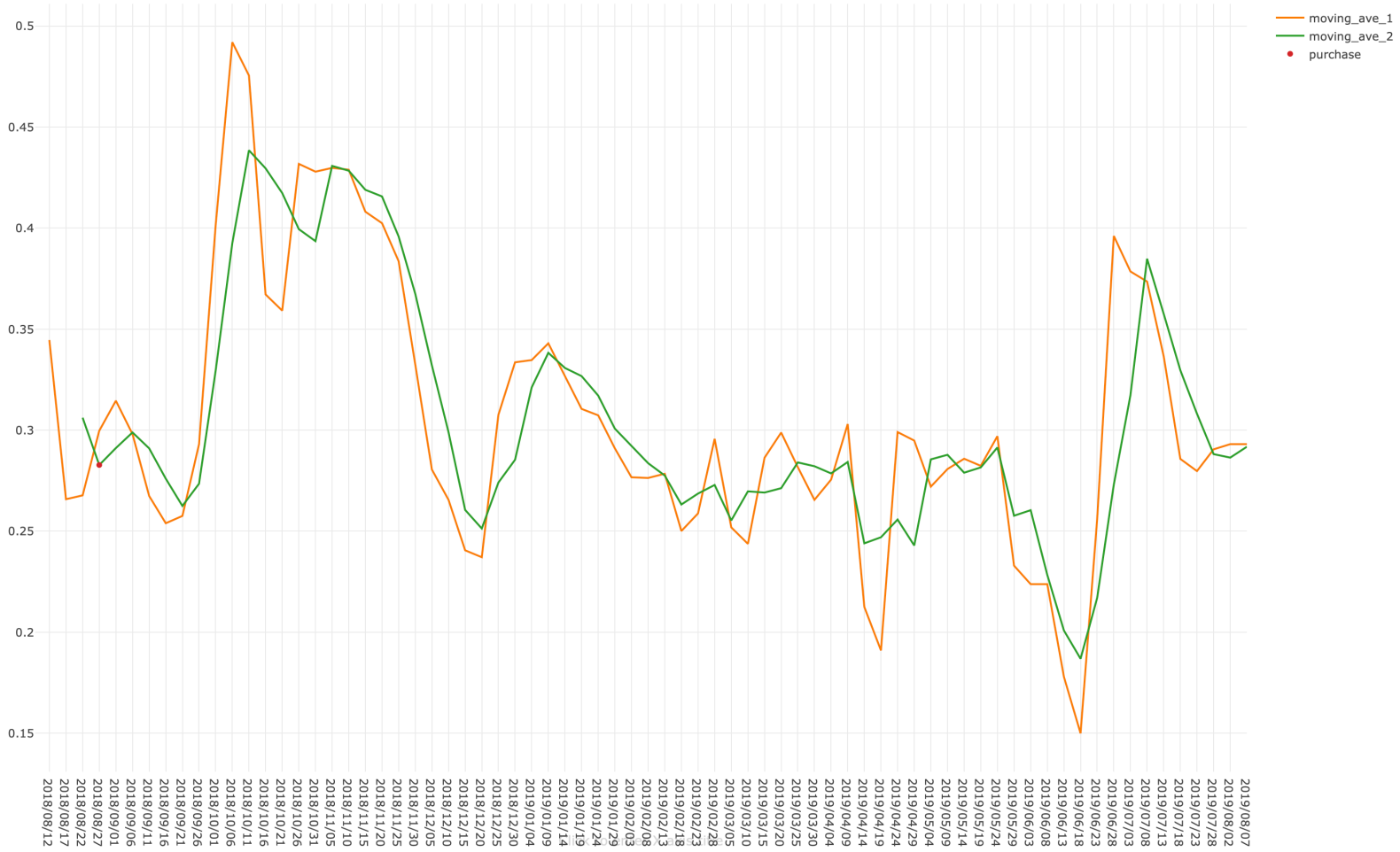
moving averages with purchase, profit, and stop loss



This plot shows we were only able to make two purchases, and only one of those purchases would result in 1 win and 0 losses

Analyses of xrp

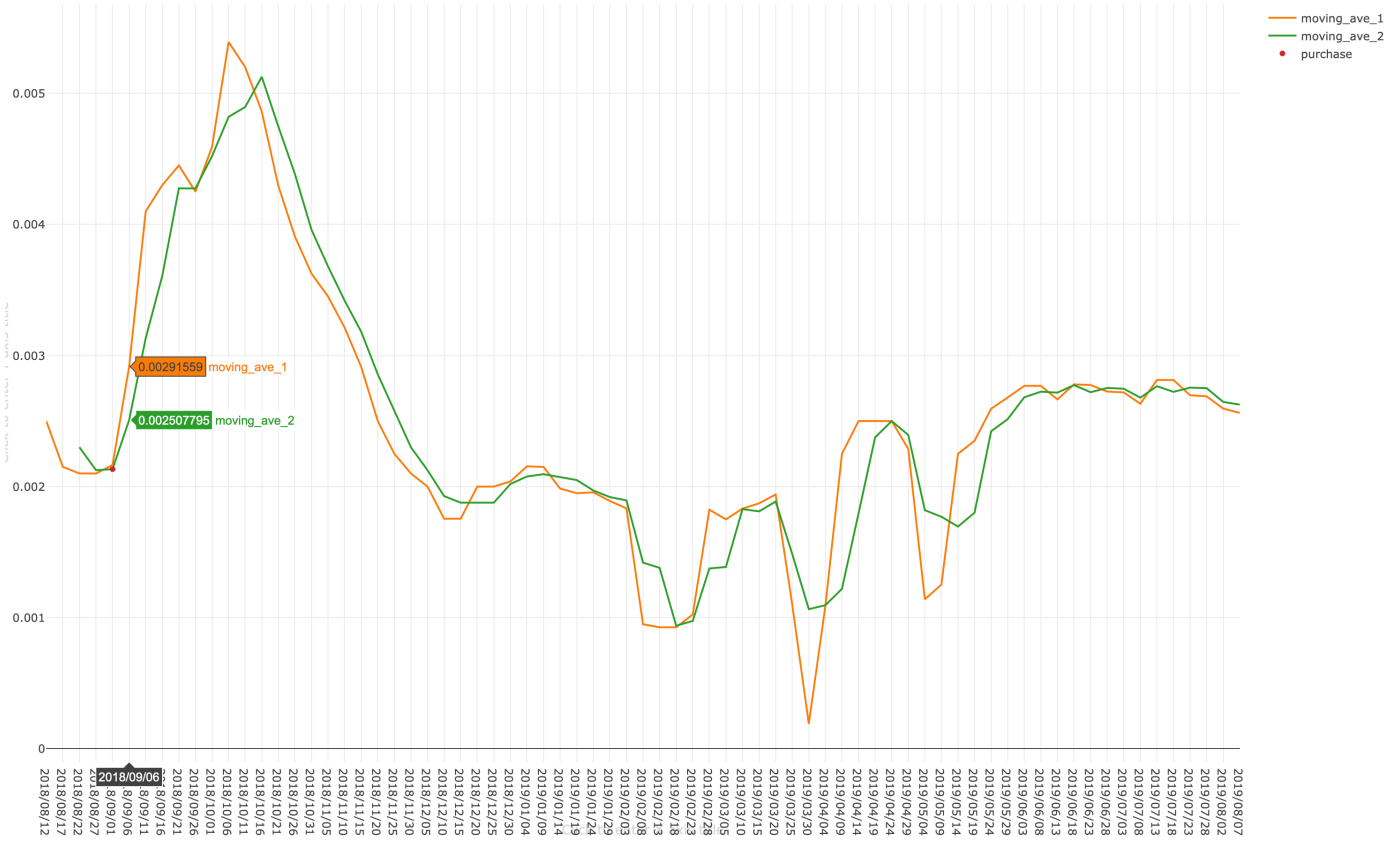
moving averages with purchase, profit, and stop loss



This plot shows that we were able to make a purchase on the 27th, but we never met the criteria to sell back our purchase

Analyses of doge

moving averages with purchase, profit, and stop loss



This plot shows that we were able to make a purchase on the 1st of September, but we never met the criteria to sell back our purchase

Example Analyses of Forex pair for USD-JPY for minute tick data

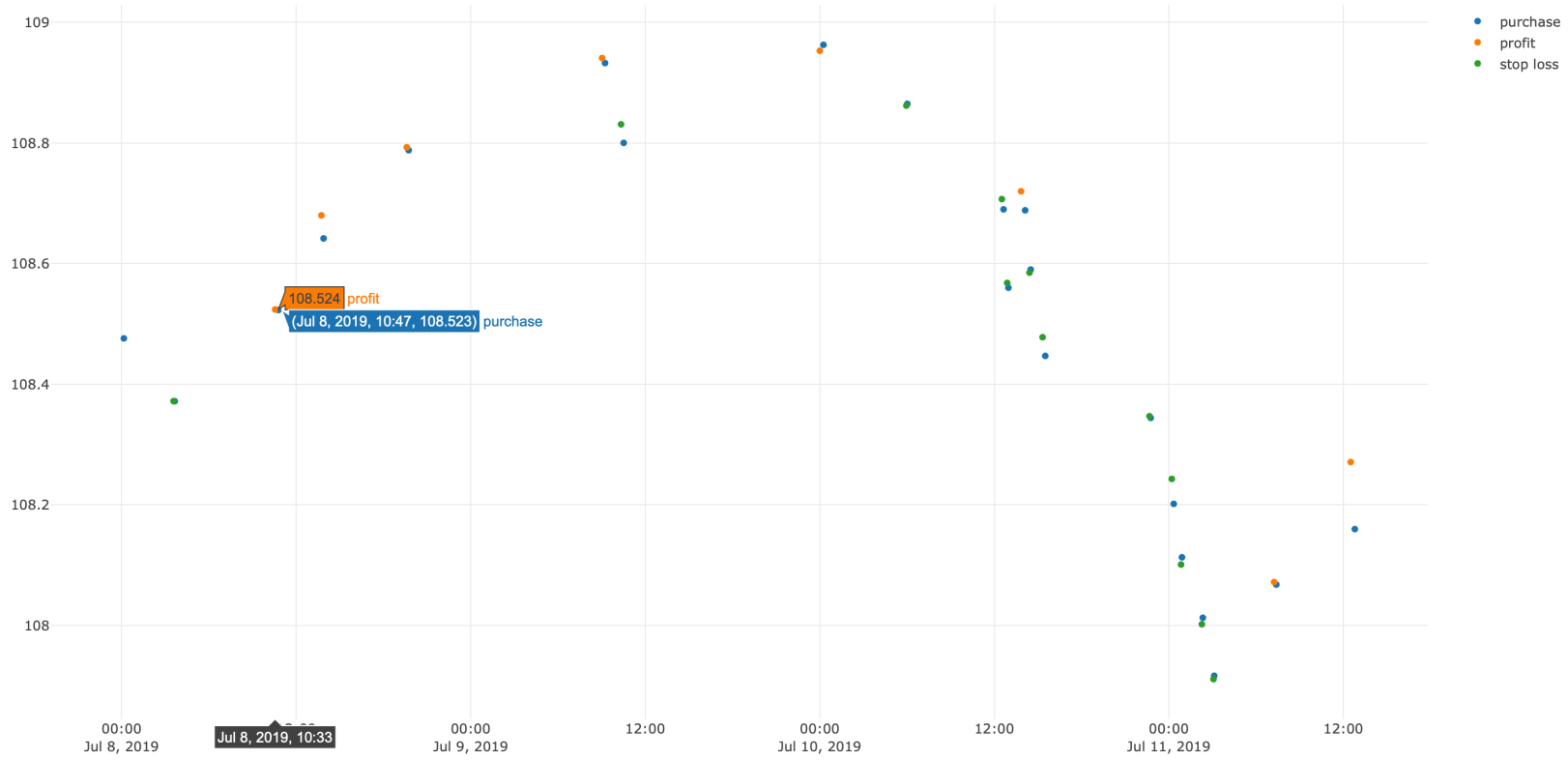
arameter 1: Moving average 1 = 2

Parameter 2: Moving average 2 = 5

parameter 3: sell_back = 0.15

parameter 4: stop_loss = 0.1

moving averages with purchase, profit, and stop loss



From this forex pair plot, we see that we won 8 of our purchases, but hit our stop loss 12 times. This crossing moving average method clearly doesn't work to well when we are in a downtrend.

Conclusion:

Realistically, this backtesting method works much more efficiently on smaller timeframes, such as seconds, minutes, or hours, which is what we used for our forex pair. We also see the extreme volatility in the crypto currencies, especially bitcoin. Although we won 9 out of our 10 trades, the potential for loss is astronomical, so I still wouldn't advise trading day trading that currency. This is specifically due to the fact that if we hit our stop loss, it doesn't necessarily mean someone is going to buy it at that price. So a stop loss of -1,000 for something as volatile as bitcoin could wind up costing you 10,000 dollars or more.