In The Name Of God

MohammadAli Khosroabadi 400521297

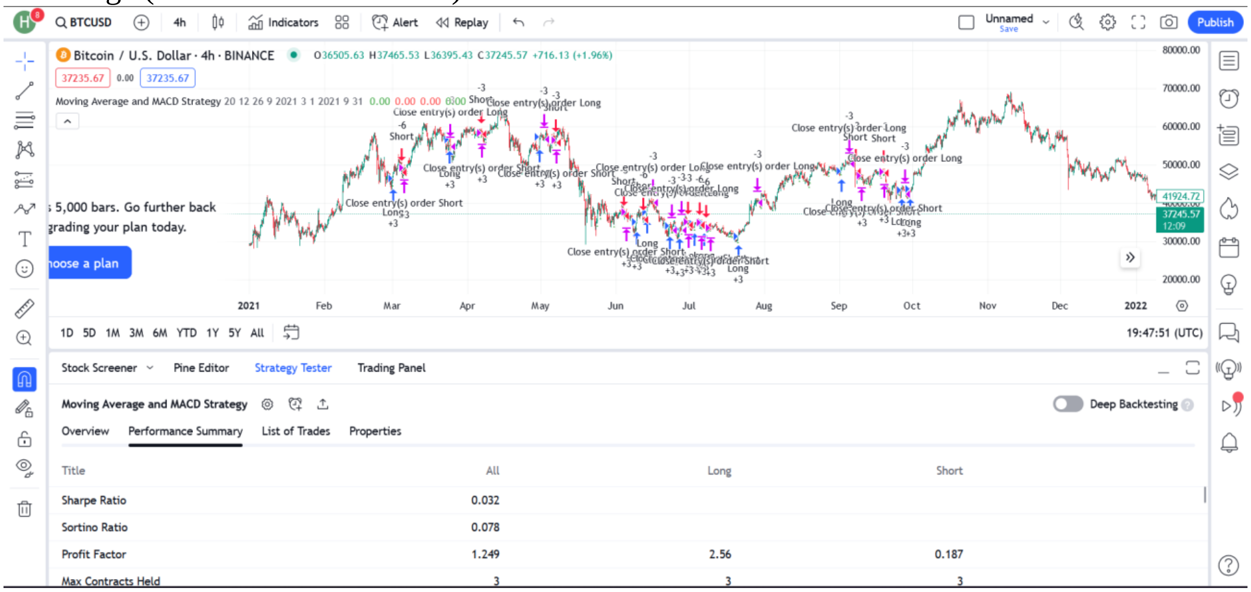
Strategy 1: Moving Average and MACD Strategy

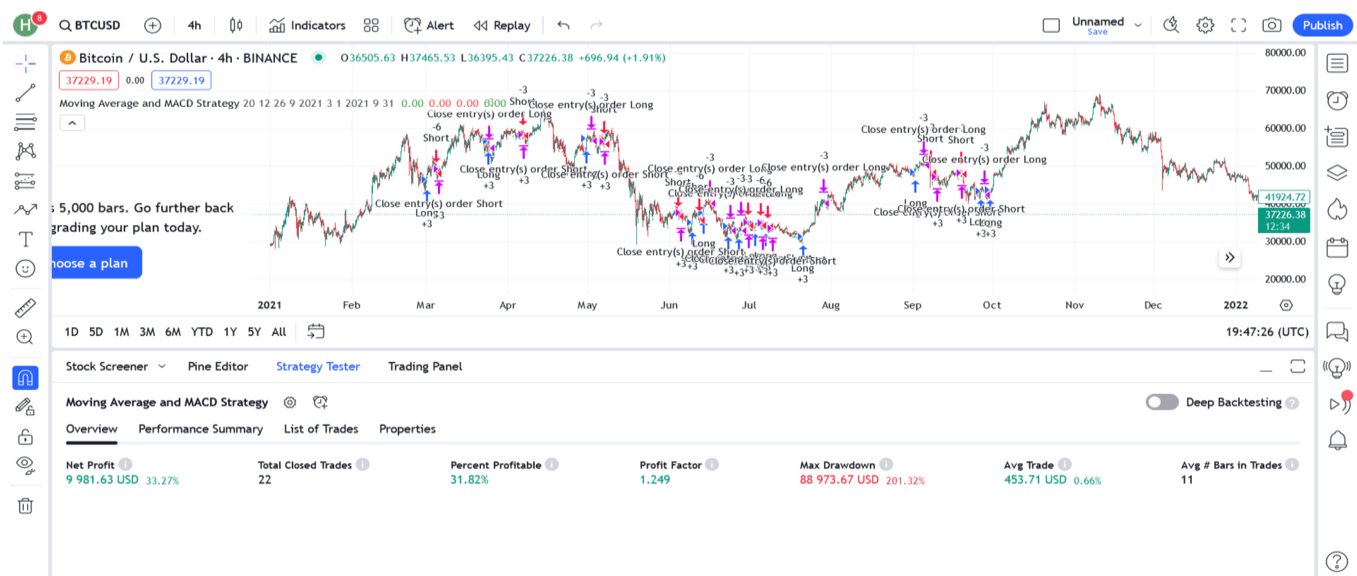
- This strategy combines the use of two technical indicators: the Moving Average (MA) and the Moving Average Convergence Divergence (MACD).
- It uses a simple moving average (SMA) of the closing prices with a specified length (parameter `maLength`).
- The MACD is calculated using the short and long periods (parameters `macdShort` and `macdLong`) along with a signal line (parameter `macdSignal`).
- The strategy generates a long entry when the close crosses above the moving average and the MACD line crosses above the signal line.
- Conversely, a short entry is signaled when the close crosses below the moving average and the MACD line crosses below the signal line.
- Exit conditions are triggered when the opposite crossovers occur or when the specified date range (`startYear` to `endYear`) is reached.

Strategy 2: Combined Moving Average and ATR Strategy with Date Range

- This strategy combines a Moving Average (MA) and the Average True Range (ATR) with the inclusion of a date range.
- It uses a simple moving average (SMA) of the closing prices with a specified length (parameter `maLength`).
- The Average True Range (ATR) is calculated with a specified length (parameter `atrLength`).
- The strategy generates a long entry when the close crosses above the moving average, and the close is greater than the moving average plus a multiplier times the ATR.
- Conversely, a short entry is signaled when the close crosses below the moving average, and the close is less than the moving average minus a multiplier times the ATR.

- Exit conditions are triggered when the opposite crossovers occur or when the specified date range (`startYear` to `endYear`) is reached.





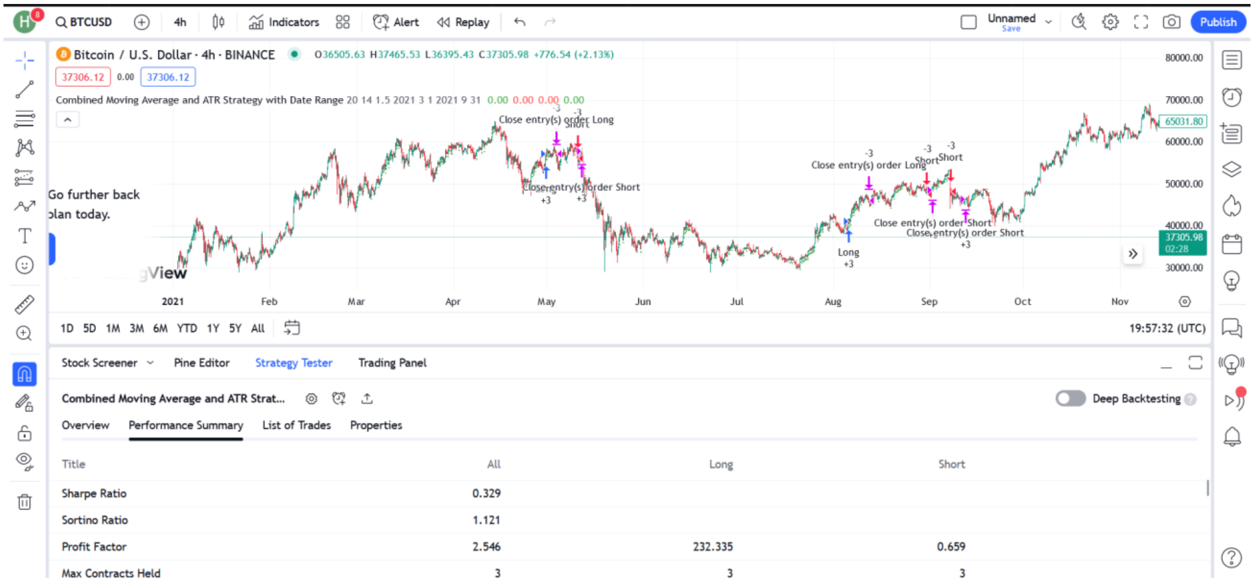
This strategy lead us to these stats in a specific timerange (2021/03/01   2021/09/31) (Initial capital:30000   Order size:3):

Net Profit:9981.63 (33.27%)

Sharpen Ratio:0.032

Sortino Ratio:0.078

Profit Factor:1.249



This strategy lead us to these stats in a specific timerange (2021/03/01　2021/09/31) (Initial capital:30000　Order size:3)：

Net Profit:12240.09(40.8)

Sharpen Ratio:0.329

Sortino Ratio:1.121

Profit Factor:2.546

Comparison:

According to extracted data, my second strategy(Moving Average & ATR) is better and is more profitable during backtesting.

CHECKING DIFFERENT TIMEFRAMES USING SECURITY

1D On Moving Average and MACD:

1W On Moving Average and MACD:

Based on tests that I have done on this strategy with and without checking different timeframe for signals,as you can see there will be more profit,sharp ratio and profit factor when we check different timeframes for signals and those can help us to write a better and more profitable strategy.

ATTENTION:

in document that provided for us it was mentioned to use different timeframe on a strategy, so I implement it on one of my strategies and test those on that.