//@version=5

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strategy(title='JS-TechTrading: VWAP Momentum\_Pullback Strategy', initial\_capital=100000, default\_qty\_type=strategy.percent\_of\_equity, default\_qty\_value=100, pyramiding=0, currency='USD', overlay=true)

//// Stoploss and Take Profit Parameters

// Enable Long Strategy

enable\_long\_strategy = input.bool(true, title='Activate Long-Strategy', group='SL/TP for Long-Strategy', inline='1')

long\_stoploss\_value = input.float(defval=3, title='Stop-Loss (SL) %', minval=0, group='SL/TP for Long-Strategy', inline='2')

long\_stoploss\_percentage = close \* (long\_stoploss\_value / 100) / syminfo.mintick

long\_takeprofit\_value = input.float(defval=7, title='Take-Profit (TP) %', minval=0, group='SL/TP for Long-Strategy', inline='2')

long\_takeprofit\_percentage = close \* (long\_takeprofit\_value / 100) / syminfo.mintick

// Enable Short Strategy

enable\_short\_strategy = input.bool(false, title='Activate Short-Strategie', group='SL/TP for Short-Strategy', inline='3')

short\_stoploss\_value = input.float(defval=50, title='Stop-Loss (SL) %', minval=0, group='SL/TP for Short-Strategy', inline='4')

short\_stoploss\_percentage = close \* (short\_stoploss\_value / 100) / syminfo.mintick

short\_takeprofit\_value = input.float(defval=50, title='Take-Profit (TP) %', minval=0, group='SL/TP for Short-Strategy', inline='4')

short\_takeprofit\_percentage = close \* (short\_takeprofit\_value / 100) / syminfo.mintick

// Plot Stoploss & Take Profit Levels

long\_stoploss\_price = strategy.position\_avg\_price \* (1 - long\_stoploss\_value / 100)

long\_takeprofit\_price = strategy.position\_avg\_price \* (1 + long\_takeprofit\_value / 100)

short\_stoploss\_price = strategy.position\_avg\_price \* (1 + short\_stoploss\_value / 100)

short\_takeprofit\_price = strategy.position\_avg\_price \* (1 - short\_takeprofit\_value / 100)

plot(enable\_long\_strategy and not enable\_short\_strategy ? long\_stoploss\_price : na, color=color.new(#ff0000, 0), style=plot.style\_linebr, linewidth=2, title='Long SL Level')

plot(enable\_long\_strategy and not enable\_short\_strategy ? long\_takeprofit\_price : na, color=color.new(#008000, 0), style=plot.style\_linebr, linewidth=2, title='Long TP Level')

plot(enable\_short\_strategy and not enable\_long\_strategy ? short\_stoploss\_price : na, color=color.new(#ff0000, 0), style=plot.style\_linebr, linewidth=2, title='Short SL Level')

plot(enable\_short\_strategy and not enable\_long\_strategy ? short\_takeprofit\_price : na, color=color.new(#008000, 0), style=plot.style\_linebr, linewidth=2, title='Short TP Level')

// Date Range

start\_date = input.int(title='Start Day', defval=1, minval=1, maxval=31, group='Time-Period for Back-Testing', inline='1')

end\_date = input.int(title='until Day', defval=1, minval=1, maxval=31, group='Time-Period for Back-Testing', inline='1')

start\_month = input.int(title='Start Month', defval=10, minval=1, maxval=12, group='Time-Period for Back-Testing', inline='2')

end\_month = input.int(title='until Month', defval=1, minval=1, maxval=12, group='Time-Period for Back-Testing', inline='2')

start\_year = input.int(title='Start Year', defval=2022, minval=1800, maxval=3000, group='Time-Period for Back-Testing', inline='3')

end\_year = input.int(title='until Year', defval=2077, minval=1800, maxval=3000, group='Time-Period for Back-Testing', inline='3')

in\_date\_range = time >= timestamp(syminfo.timezone, start\_year, start\_month, start\_date, 0, 0) and time < timestamp(syminfo.timezone, end\_year, end\_month, end\_date, 0, 0)

//// Indicator Inputs

// RSI

rsi\_over\_sold = input.int(defval=40, minval=1, title='Oversold Level', group='RSI')

rsi\_over\_bought = input.int(defval=70, minval=1, title='Overbought Level', group='RSI')

rsi\_length = input.int(defval=14, minval=1, title='RSI Length', group='RSI')

rsi = ta.rsi(close, rsi\_length)

// VWAP

maSource = input(title='SMA source', defval=close,group = "VWAP")

maInterval = input.int(title='SMA interval', minval=0, maxval=999, step=1, defval=7,group = "VWAP")

ma = ta.sma(maSource, maInterval)

//// Strategy

// Creating Long and Short Strategy

was\_over\_sold = ta.barssince(rsi <= rsi\_over\_sold) <= 10

was\_over\_bought = ta.barssince(rsi >= rsi\_over\_bought) <= 10

crossover\_bull = ta.crossover(ma, ta.vwap)

crossover\_bear = ta.crossunder(ma, ta.vwap)

buy\_signal = was\_over\_sold and crossover\_bull

sell\_signal = was\_over\_bought and crossover\_bear

// Long Strategy

if buy\_signal and in\_date\_range and enable\_long\_strategy == true

strategy.entry('Long', strategy.long, when=buy\_signal, alert\_message='Open Long Position')

strategy.exit('Long SL/TP', from\_entry='Long', loss=long\_stoploss\_percentage, profit=long\_takeprofit\_percentage, alert\_message='Your SL/TP-Limit for the Long-Strategy has been activated.')

strategy.close('Long', when=sell\_signal, alert\_message='Close Long Position')

// Short Strategy

if sell\_signal and in\_date\_range and enable\_short\_strategy == true

strategy.entry('Short', strategy.short, when=sell\_signal, alert\_message='Open Short Position')

strategy.exit('Short SL/TP', from\_entry='Short', loss=short\_stoploss\_percentage, profit=short\_takeprofit\_percentage, alert\_message='Your SL/TP-Limit for the Short-Strategy has been activated.')

strategy.close('Short', when=buy\_signal, alert\_message='Close Short Position')