//**@version=**5

strategy("JMA Strategy with ADX Filter (Buy Only)", overlay=true)

// Inputs for Jurik Moving Average

length = input.int(title="JMA Length", defval=51)

phase = input.int(title="JMA Phase", defval=30)

power = input.int(title="JMA Power", defval=3)

src = input.source(title="JMA Source", defval=close)

highlightMovements = input.bool(title="Highlight Movements for JMA?", defval=true)

// Inputs for ADX

adxlen = input.int(title="ADX Smoothing", defval=5)

dilen = input.int(title="DI Length", defval=5)

// Calculate JMA

phaseRatio = phase < -100 ? 0.5 : phase > 100 ? 2.5 : phase / 100 + 1.5

beta = 0.45 \* (length - 1) / (0.45 \* (length - 1) + 2)

alpha = math.pow(beta, power)

var **float** jma = na

var **float** e0 = na

var **float** e1 = na

var **float** e2 = na

e0 := (1 - alpha) \* src + alpha \* nz(e0[1], src)

e1 := (src - e0) \* (1 - beta) + beta \* nz(e1[1], 0)

e2 := (e0 + phaseRatio \* e1 - nz(jma[1], src)) \* math.pow(1 - alpha, 2) + math.pow(alpha, 2) \* nz(e2[1], 0)

jma := e2 + nz(jma[1], src)

jmaColor = highlightMovements ? (jma > jma[1] ? color.green : color.red) : color.new(#6d1e7f, 0)

plot(jma, title="JMA", linewidth=2, color=jmaColor)

// ADX Calculation (Using provided ADX code)

dirmov(len) =>

    up = ta.change(high)

    down = -ta.change(low)

    plusDM = na(up) ? na : (up > down and up > 0 ? up : 0)

    minusDM = na(down) ? na : (down > up and down > 0 ? down : 0)

    truerange = ta.rma(ta.tr, len)

    plus = fixnan(100 \* ta.rma(plusDM, len) / truerange)

    minus = fixnan(100 \* ta.rma(minusDM, len) / truerange)

    [plus, minus]

adx(dilen, adxlen) =>

    [plus, minus] = dirmov(dilen)

    sum = plus + minus

    adx = 100 \* ta.rma(math.abs(plus - minus) / (sum == 0 ? 1 : sum), adxlen)

    adx

adxValue = adx(dilen, adxlen)

plot(adxValue, color=color.red, title="ADX")

// Calculate average candle length (high - low) over the last 50 candles

avg\_candle\_len = ta.sma(high - low, 50)

// Chaikin Money Flow Calculation

length\_cmf = input.int(title="CMF Length", defval=21)

clv = high == low ? 0 : (close - low - (high - close)) / (high - low)

mfv = clv \* nz(volume, 1)

cmfLine = math.sum(mfv, length\_cmf) / math.sum(nz(volume, 1), length\_cmf)

// Strategy Logic

jmaIsGreen = jma > jma[1]

jmaIsRed = jma < jma[1]

adxIsAbove25 = adxValue >= 25

var touchingJMA = false

// Check if previous candle touched the JMA

if (close[1] >= jma[1] and low[1] <= jma[1])

    touchingJMA := true

else

    touchingJMA := false

// Check if total length of the preceding candle (high - low) is greater than 120% of the average length of the last 50 candles

prev\_candle\_len = high[1] - low[1]

length\_condition = prev\_candle\_len > 1.2 \* avg\_candle\_len

// Buy when JMA is green, ADX is above 25, previous candle touched JMA, and length condition is met

if (jmaIsGreen and adxIsAbove25 and touchingJMA and length\_condition)

    strategy.entry("Buy", strategy.long)

// Exit conditions

exit\_condition = cmfLine > 0.4 // Chaikin Money Flow greater than 0.4

if (jmaIsRed or exit\_condition)

    strategy.close("Buy")