//**@version=5**

indicator('MIX RSI - CCI - MACD')

Src = close

//===========inputs=======//

indicator = input.string(defval='RSI', title='Indicator', options=['RSI', 'CCI', 'MACD'])

rsilen = input.int(defval=14, title='RSI Length', minval=1)

ccilen = input.int(defval=20, title='CCI Length', minval=1)

fast\_length = input.int(12,"Macd Fast Length")

slow\_length = input.int(26,"Macd Slow Length")

signal\_length = input.int(9,"Macd Signal")

//==================RSI =============//

ma(source, length, type) =>

    switch type

        "SMA" => ta.sma(source, length)

        "Bollinger Bands" => ta.sma(source, length)

        "EMA" => ta.ema(source, length)

        "SMMA (RMA)" => ta.rma(source, length)

        "WMA" => ta.wma(source, length)

        "VWMA" => ta.vwma(source, length)

maTypeInput = input.string("SMA", title="MA Type", options=["SMA", "Bollinger Bands", "EMA", "SMMA (RMA)", "WMA", "VWMA"], group="MA Settings")

maLengthInput = input.int(14, title="MA Length", group="MA Settings")

bbMultInput = input.float(2.0, minval=0.001, maxval=50, title="BB StdDev", group="MA Settings")

up = ta.rma(math.max(ta.change(Src), 0), rsilen)

down = ta.rma(-math.min(ta.change(Src), 0), rsilen)

rsi = down == 0 ? 100 : up == 0 ? 0 : 100 - (100 / (1 + up / down))

rsiMA = ma(rsi, maLengthInput, maTypeInput)

isBB = maTypeInput == "Bollinger Bands"

//==================MACD==================//

sma\_source = "EMA"

sma\_signal = "EMA"

// Plot colors

col\_macd = (#2962FF)

col\_signal = (#FF6D00)

col\_grow\_above = (#26A69A)

col\_fall\_above = (#B2DFDB)

col\_grow\_below = (#FFCDD2)

col\_fall\_below = (#FF5252)

//===========Calculation===============//

fast\_ma = ta.ema(close, fast\_length)

slow\_ma = ta.ema(close, slow\_length)

macd = fast\_ma - slow\_ma

signal = ta.ema(macd, signal\_length)

hist = macd - signal

Rsi = ta.rsi(Src, rsilen)

Cci = ta.cci(hlc3, ccilen)

//========Source Options===============//

source1 = indicator == 'RSI' ? Rsi : indicator == 'CCI' ? Cci : indicator == 'MACD' ? macd : na

source2 = indicator == 'RSI' ? rsiMA : indicator == 'CCI' ? na : indicator == 'MACD' ? signal : na

sourcemacd = indicator == "MACD" ? hist : na

hline1 = indicator == 'RSI' ? 70 : indicator == 'CCI' ? 100 : na

hline2 = indicator == 'RSI' ? 30 : indicator == 'CCI' ? -100 : na

//================PLOT====================//

h1 = hline(hline1)

h2 = hline(hline2)

fill(h1, h2, color=color.new(#9915ff, 90))

plot(source1, linewidth=2)

plot(source2, linewidth=1, title = "RSI-based MA", color=color.yellow)

bbUpperBand = plot(isBB ? source2 + ta.stdev(rsi, maLengthInput) \* bbMultInput : na, title = "Upper Bollinger Band", color=color.green)

bbLowerBand = plot(isBB ? source2 - ta.stdev(rsi, maLengthInput) \* bbMultInput : na, title = "Lower Bollinger Band", color=color.green)

fill(bbUpperBand, bbLowerBand, color= isBB ? color.new(color.green, 90) : na, title="Bollinger Bands Background Fill")

plot(sourcemacd, title="Histogram", style=plot.style\_columns, color=(hist>=0 ? (hist[1] < hist ? col\_grow\_above : col\_fall\_above) : (hist[1] < hist ? col\_grow\_below : col\_fall\_below)))

plot(source1, title="MACD", color=col\_macd)

plot(source2, title="Signal", color=col\_signal)

//=============ALERTS===============//

macdBull = ta.crossover( macd,0) and barstate.isconfirmed

macdBear = ta.crossunder(macd,0) and barstate.isconfirmed

histDN = hist > 0 and hist < hist[1] and barstate.isconfirmed

histUP = hist < 0 and hist > hist[1] and barstate.isconfirmed

alertcondition(macdBull,"Macd Bullish Cross","Macd Bullish Cross")

alertcondition(macdBear,"Macd Bearish Cross","Macd Bearish Cross")

alertcondition(Rsi>70,"Rsi at OverBought","Rsi at OverBought")

alertcondition(Rsi<30,"Rsi at OverSold","Rsi at Oversold")

alertcondition(ta.crossover(Cci,-100),"CCI Crossing -100 Level","CCI Crossing -100 Level")

alertcondition(ta.crossunder(Cci,100),"CCI Cross 100 Level","CCI cross 100 Level")