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Objective:
Create a robust backtesting solution leveraging Backtrader or something similar to aid in validating various technical trading rules using MTF (Multiple Timeframe) and several technical indicators to ensure I can test many different combinations.

Timeframes:
- Daily (Base Timeframe)
- Weekly
- Monthly
- Quarterly

Data:
- Market Indices - DOW, S&P, Nasdaq, maybe more
- ETF's
- Optionable US based stocks
- Maybe Mutual funds

Indicators:
- (WAD) Williams A/D - HERE
    - Variables
        - (A) = WAD Line CLOSE
        - (B) = WAD Moving Average CLOSE
        - (C) = Positive Slope/Diff (5)
        - (D) = Negative Slope/Diff (-5)
        - (Z) = % Diff separation between (A) and (B)
- (RSI) Relative Strength Index - Details HERE
    - Variables
        - (E) = RSI Line CLOSE
        - (F) = Overbought (80)
        - (G) = Oversold (30)
        - (H) = Midline (50)
        - (I) = Positive Slope/Diff (5)
        - (J) = Positive Slope/Diff (-5)

BEARISH ENTRY EXAMPLE:

On **Quarterly chart** I look at the Williams A/D line and for or this Bearish example I want:

- Williams A/D (4) line current bar to be lower than previous bar
- Williams A/D (4) current bar - previous bar >= Variable % to ensure the slope isn't flat
- Williams A/D (4) line to be lower than the Williams A/D Moving Average
- The RSI (4) to be less than Overbought line of (80)

On Monthly chart I look at the Williams A/D line and for or this Bearish example I want:

- Williams A/D (4) line current bar to be lower than previous bar
- Williams A/D (4) current bar - previous bar >= Variable % to ensure the slope isn't flat
- Williams A/D (4) line to be lower than the Williams A/D Moving Average
- The RSI (4) to be less than Middle line of (50)

I dont use the weekly as much but it may be relevant for entries/exits
On Weekly chart I look at the Williams A/D line and for or this Bearish example I want:

- Williams A/D (4) line current bar to be lower than previous bar
- Williams A/D (4) current bar - previous bar >= Variable % to ensure the slope isn't flat
- Williams A/D (4) line to be lower than the Williams A/D Moving Average
- The RSI (4) to be less than OverSold (30)

Exit Strategy

- When Monthly OR Quarterly no longer meet entry criteria is my exit. So…
- Williams A/D (4) line current bar becomes greater than previous bar
- Williams A/D (4) line rises above the Williams A/D Moving Average
- The RSI (4) rises above Middle Line (50)

Additional thoughts

- The distance of separation between the Williams A/D line and the Williams Moving Average may have relevance in my strategy but not certain - would appreciate having a calculation of the DIFF in percentage between the A/D line and A/D moving average per

timeframe. Similar to a Bollinger Band when the lines separate from each other there is a strong movement

- The strategy outlined above uses those 4 rules per timeframe and I would like to test each timeframe independent of each other and also in combination with each other such as Quarterly and Monthly together.
- Strategy is opposite for Bull Entries but can write it out if needed

Tried to write out the rules here but also tried to use plain english above

Strategy Components:

Williams A/D (These rules should apply for weekly/monthly/quarterly but be able to be backtested independent for each timeframe)

- BULL = (A) Current Bar > (A) Previous Bar [WAD sloping up]
- BULL = (DIFF (A) Current Bar - (A) Previous Bar) >= (C) [WAD Slope not flat in %
- BULL = (A) Current Bar >= (B) Current Bar [WAD line above WAD moving Average]
- BEAR = (A) Current Bar < (A) Previous Bar [WAD sloping down]
- BEAR = (DIFF (A) Current Bar - (A) Previous Bar) <= (D) [WAD Slope not flat in %]
- BEAR = (A) Current Bar < (B) Current Bar [WAD line below WAD moving Average]
- ALL = DIFF (A) - (B) = (Z) to calculate diff between Williams A/D line vs Moving Average

RSI (These rules should apply for weekly/monthly/quarterly but be able to be backtested independent for each timeframe)

- BULL = (E) Current Bar > (E) Previous Bar [RSI sloping up]
- BULL = (DIFF (E) Current Bar - (E) Previous Bar) >= (I) [RSI Slope not flat in %]
- BULL = (E) Current Bar >= (G) Oversold [RSI line above Oversold]
- BEAR = (E) Current Bar < (E) Previous Bar [RSI sloping down]
- BEAR = (DIFF (E) Current Bar - (E) Previous Bar) >= (J) [RSI Slope not flat in %]
- BEAR = (E) Current Bar < (F) Overbought [RSI below Overbought]