

You are a seasoned financial programmer, familiar with MetaQuotes Language 5 (MQL5) and MetaTrader. You know how to write indicators and strategies and understand their differences in code. Your task is to convert the following instructions and indicators into a strategy and then create a MetaTrader 5 (MT5) file.

Instructions

1) When to Buy and When to Sell:

- Establish a long position (buy). Consider buying when the price closes below the lower Bollinger Band (first parameter is 20 periods and 2 standard deviations) and the 20-period Commodity Channel Index (CCI) reaches -80 or below (indicating oversold conditions).
- Establish a short position (sell). Consider selling when the price closes above the upper Bollinger Band (first parameter is 20 periods and 2 standard deviations) and the 20-period Commodity Channel Index (CCI) reaches 80 or above (indicating overbought conditions).

2) The expected price will revert to the mean, returning to the Bollinger Band's middle band.

- Exit long positions (sell): Sell when the price falls back to the middle band or touches the upper band to capture the potential profit from the expected price reversal.
- Exit short positions (buy): Buy when the price falls back to the middle band or touches the lower band to capture the potential profit from the expected price reversal.

3) Please follow these instructions: Convert all indicator-specific code to strategy-specific code. Do not use any code that the strategy does not support, especially timeframes and gaps. Define these codes in your code so that their semantics are consistent with before.

- If there is timeframe logic, please retain it. Fill gaps.
- If the indicator is plotting something, the strategy code should also plot the same thing to preserve visual appeal.
- Only set long, short, and neutral.
- You can use 50-100% of your funds.
- Set commission to 0.1%.
- Set slippage to 0. - Leave all other strategy settings as default values (i.e., do not set them at all).

Important Notes

* Output Format: Code should conform to MQL5 syntax, adding comments only where necessary. Ensure the code segment clearly reflects the provided instructions.

* For MQL5, refer to: <https://www.mql5.com/en/articles/496>, "MQL5 Language Reference"

<https://www.mql5.com/files/pdf/mql5.pdf>, "MQL5 Programming for Traders" by Stanislav Korotky, "Introduction to MetaTrader 5 and Programming With MQL5" by Rafael F. V. C. Santos, or "Programming MQL5 for Algorithmic Trading: Definitive Reference for Developers and Engineers" by Richard Johnson.

* Based on the above script, please add the ADX indicator to enhance its profitability.

Based on the above script, is it possible to add some code to manage risk and stop losses, thereby maximizing profits?

您是一位資深專業的金屬程式設計師, 熟悉 MetaQuotes Language 5 (MQL5) Meta Trader, 您知道如何編寫指標和策略, 並且了解它們在程式碼中的差異。現在的任務是將以下的編寫指示及指標轉換為策略, 再寫成一個 MetaTrader 5 (MT5) 的檔案。

編寫指示

1) 何時買入和何時賣出:

- 建立多頭部位(買進)。當價格收盤價低於布林帶下軌(第一個參數為 20 週期和 2 個標準差), 並且 20 週期的商品通道指數 (CCI) 達到 -80 或以下(表明超賣狀態)時, 請考慮買入。
- 建立空頭部位(賣出)。當價格收盤價高於布林帶上軌(第一個參數為 20 週期和 2 個標準差), 並且 20 週期的商品通道指數 (CCI) 達到 80 或以上(表明超買狀態)時, 考慮賣出。

2) 預期價格將回歸均值, 回到布林通道中軌。

- 退出多頭部位(賣出) 當價格回落至中軌或觸及上軌時賣出, 從而獲得預期價格反轉帶來的潛在收益
- 退出空頭部位(買入) 當價格回落至中軌或觸及下軌時買入, 從而獲取預期價格反轉帶來的潛在收益

3) 請遵循以下說明: 將所有指標專用品程式碼轉換為策略專用品程式碼。請勿使用任何策略不支援的程式碼, 尤其是時間週期和缺口。請在程式碼中定義這些程式碼, 使其語義與之前一致。

- 如有時間週期邏輯, 請保留。填補缺口。

- 如果指標正在繪製某些內容, 策略代碼也應繪製相同的內容, 以保留視覺效果。
- 只需設定多頭、空頭和持平。
- 您可以使用 50-100% 的資金。
- 將佣金設定為 0.1%
- 將滑點設為 0。
- 將所有其他策略設定保留為預設值 (即完全不要設定它們)。

注意要點

- * 輸出格式: 程式碼應採用符合 MQL5 語法的格式, 僅在需要時新增註解。確保程式碼段清晰地反映所提供的指令。
- * 對MQL5可以參考<https://www.mql5.com/en/articles/496>,《MQL5 Language REFERENCE》
<https://www.mql5.com/files/pdf/mql5.pdf>, 又或是參考《MQL5 Programming for Traders》by Stanislav Korotky 這本書, 又或是參考《Introduction To MetaTrader 5 and Programming With MQL5》by Rafael F. V. C. Santos 這本書, 又或是參考《Programming MQL5 for Algorithmic Trading: Definitive Reference for Developers and Engineers》by Richard Johnson 這几本書的內容去編寫MQL5
- * 基於以上腳本, 請加入ADX指標, 使其更具獲利能力。
- * 基於以上腳本, 能否加入一些程式碼來管理風險並停損, 從而實現利潤最大化?