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1. What is Algorithmic Trading?

Dictionary
Definitions from Oxford Languages · Learn more

Search for a word

algorithm
/ˈalgərɪð(ə)m/

noun

a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.
"a basic **algorithm for** division"

1. What is Algorithmic Trading?

- Your Trading follows a set of rules without exception

- You can code Algorithmic Trading Strategies based on Technical Indicators or Fundamental Data

- Because Algorithmic Trading Strategies have clearly defined rules, they can easily be automated using languages such as Python or MQL

- Algorithmic Trading Strategies can easily be backtested and optimized based on historical data

2. Process of developing Algorithmic Trading Strategies

Hypothesis:
"Trend is your friend"

Quantify Market Properties using Technical Indicators:
"Moving Average Crossovers (Trends)"

Backtest the strategy:
"I will run the strategy using historical data and try to find optimal parameters"

Build a Trading Strategy based on those Indicators:
"When fast moving average (f-ma) is above slow moving average (s-ma) -> BUY,
if vice versa -> SELL"

Forward Testing:
"If backtest is successful, I will Trade the strategy on DEMO
Or with small amount on LIVE"

Live Trading:
"If after several weeks to months the Forward Testing is successful, I will deploy the Strategy with Investment Capital"

3. Automating Trading Strategies with Python

Why Python?

- Easy Language for beginners
- Many libraries for backtesting and algorithmic trading

Libraries:

- Pandas (Data Analysis) - https://pandas.pydata.org/
- Plotly (Data Visualisation) - https://plotly.com/python/
- MetaTrader5 Python Integration (Historical Data and Trading) - https://www.mql5.com/en/docs/integration/python_metatrader5

3. Automating Trading Strategies with Python
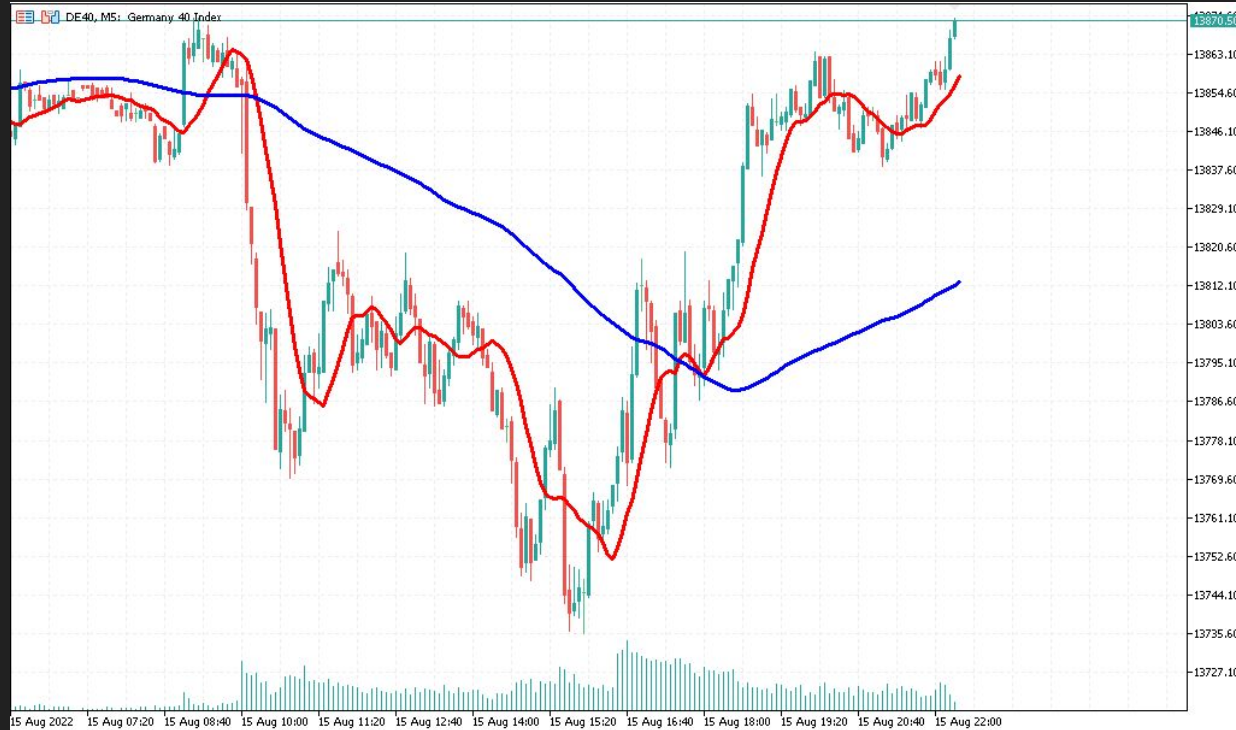
Symbol = DE40

Timeframe = M5

fma = 10, sma = 100

–

```
if fma > sma:
    buy()
elif fma < sma:
    sell()
```

Automating Trading Strategies with Python

Backtest and ready-made Strategy:

https://github.com/traderpy/algo-trading-strategies

Guide and Tutorials:

https://www.youtube.com/channel/UC9xYCyyR_G3LIuJ_LITiEVQ

How to start

- Think about a Trading Strategy and how it could be automated

- After you have all rules clearly defined, we can start setting up Python on your PC, run backtests and trade Live (or Demo) using a bot

Tip:

- Keep your strategy simple! You can always add more over time