Strategy Backtesting Using Python

Vivek Krishnamoorthy

Today's Agenda

- Step-wise approach to creating and testing trading strategies
- Strategy 1A: Simple Moving Averages (on 5 minute data)
- Strategy 1B: Exponential Moving Averages (on 5 minute data)
- Strategy 2: Big moves on Mondays
- Strategy 3: Moving Average Crossover (The "Hello World" of quant trading approaches)
- Strategy 4: MACD (if time permits)
- Automating the download of multiple stocks

** The red portions will be covered in the Jupyter Notebook shared via the LMS*

Step-wise approach to creating and testing trading strategies

1. **Come up with a trading/strategy idea *(Sources: Trader forums, news, blogs, academic studies, gut instinct, etc.)***
2. **Download the relevant data. Daily historical data is straightforward to obtain. Higher frequency data (5 minutely, minutely, etc.) can be expensive. Check with your broker.**
3. **Come up the algorithm (to buy and sell)**
    a. Calculate/build the indicators
    b. Create the rules
    c. Calculate returns, P & L, etc.

Step-wise approach to creating and testing trading strategies

4. Program it stepwise and test each part after completion.

5. Annotate your code with comments. If not, you'll spend hours trying to understand your own code when you revisit it after a few days.

6. Fragment the code. You don't need to run the data download part every single time. Save the data download part as a function or a separate script/file.

7. Contingency plan

- What if the code to download data automatically doesn't work?
- Download the data manually as a csv file and use it instead.