Mathematical Trading Strategies

Assignment 2

Description: The methodology for this assignment is to first analyze the correlation between the NASDAQ and NSE indices. This will help us to determine how strongly the two indices are related. Next, we will identify potential lead-lag relationships between the indices. This will help us to determine which index is likely to lead the other in terms of price movements. Finally, we will code the Keltner Channel, Bollinger Bands, and MACD indicators. These indicators can be used to identify trends and reversals in the price of a security. We will optimize the parameters for the indicators on one index and then generate buy and sell signals for the other index.

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| --- | --- | --- | --- |
|  | MACD | Bollinger Bands | Keltner Channels |
| Cumulative returns |  |  |  |
| Sharpe Ratio |  |  |  |
| Max Drawdown |  |  |  |