Mathematical Trading Strategies

Assignment 2

Description:
1. Calculate the correlation between closing price of nasdaq and nse.
2. Now offset the data of nse and nasdaq by 1 day and calculate new correlation.
3. I found that the correlation increased by more when nse leaded as compared when nasdaq leaded.
4. This led to the conclusion that nse leads nasdaq.
5. Now for a number of days, the correlation for various day offsets was calculated giving the info that the 4 day lead of nasdaq gives the highest correlation.
6. Now, use the 3 strategies to generate signals on nse and calculate the metrics for nasdaq on executing these signals on it by following the above method.

	MACD	Bollinger Bands	Keltner Channels
Cumulative returns	15.6%	11.2%	11.72%
Sharpe Ratio	0.16	0.64	0.71
Max Drawdown	-42.57%	-34.68%	-24.75%