Building a Mean reverting strategy on the Bank Nifty daily data

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Methodology:

- Got the data from yahoo finance starting from 2015 to the current day. Viewed and understood the data and then cleaned it for further use.

- Using the Pandas\_ta library and the available OHLC data, created 3 indicators i.e RSI, Bbands and ADX. RSI is used for generating the exit signal. Bbands and ADX to generate the entry signal. We will be taking long and short positions both.

- Entry logic. We need the High of the day to be above the Upper\_bb and ADX value to be below 35, so we know that the asset is not trending with high momentum to generate a sell signal. Similarly, we need the low of the day to be below the Lower\_bb and ADX to be below 35 to generate a buy signal so as to capture the mean reverting nature of the market.

- Exit logic. We need to be in a buy position and the RSI to be above 50 to exit the trade. In a sell trade, we need RSI to be below 50 to exit the trade. Have generated the signals on the following logic.

- After generating the signals, I have used the backtesting module in python to generate trade data and after building a function, have used it to get the following metrics.

I have written the code in iPython notebook format. It is recommended that the code be opened in Jupyter notebooks for the best visualizations and for better visibility and cleaner formatting.

I have commented the code in detail so that the reader can best understand my though process and how I have leveraged various tools at my disposal to create a mean reverting strategy.

It is highly recommended that the reader refer to the code for a better and indepth understanding of the strategy.