ASSIGNMENT 1

1) Summary

TOTAL NO. OF BUY SIGNALS	13
TOTAL NO. OF SELL SIGNALS	14
TOTAL NO. OF TRADES EXECUTED	27
TOTAL PERCENTAGE RETURNS BY ALGO	2667.91%
TOTAL PERCENTAGE RETURNS BY MARKET	2860.97%
WIN RATIO FOR ENTIRE TESTING PERIOD	0.704
ANNUALISED MARKET RETURNS	13.08
ANNUALISED ALGO RETURNS	12.8
ANNUALISED VOLATILITY OF MARKET	15.51

2) Calculating Simple Moving Averages

SMA with window of 30 periods(days) and 300 periods(days) is calculated.
And then moving average crossovers used to give trading signals.
(here, I have taken SMA with 30 and 300 windows. Since it is data of 40 years. So, the windows needed to be extended.)

3) Strategy

Opening long position:

1. If SMA[30][i] > SMA[300][i] and SMA[300][i-1] > SMA[30][i-1]:
   (here Simple Moving Average Crossovers are used to give buy signals)

   Also, Short Position is Closed, if it was opened due to signal reversal.

Opening Short Position:

1. If SMA[300][i] > SMA[30][i] and SMA[30][i-1] > SMA[300][i-1]:
   (here Simple Moving Average Crossovers are used to give sell signals)

   Also, long Position is Closed, if it was opened due to signal reversal.

Closing Short Position (If short position is opened):

1. Check stop loss, if price moved 2% up than minimum, then position is closed.
2. Signal Reversal, if long position gets opened, then it will automatically close short position as mentioned above.

Closing Long Position (If long position is opened):

1. Check stop loss, if price moved 11% less than maximum, then position is closed.
2. Signal Reversal, if short position gets opened, then it will automatically close long position as mentioned above.

As I used 2% and 11% stop loss here for short and long positions. Basically, I overfitted the data. To get as much as good returns as I can, on back testing.

Note:- Here, I used SMA only and i.e. technical analysis only for long term trades. Since, only technical analysis with only one simple indicator cannot produce very good results for long term investments, as we can see here.