**ASSIGNMENT 4 MTS**

First of all I started by importing the necessary libraries then I wrote the RSI strategy .

RSI

In RSI strategy we have sell signals when the stock is in overbought region that is rsi>70 and buy signals when RSI is in oversell region that is <30 . the formula of rsi is 100 – 100/1+rs where rs stands for average gain /average loss .

After that I found the buy and sell dates for the same . now the number of buy and sell dates were coming un even because the stock can remain in overbought position for long time and even if it gives down it may not come in oversell region so there were multiple sell signals between two buy signals and vice versa. So, I adjusted the buys dates and sell dates to make them even out by taking only those buy dates which are immediately before sell dates and those sell dates which have atleast buy date in between them .

PATTERN

In this I was unable to plot the patterns but I was able to find the breakthrough points with the help of Scipy library . and found the breakthrough points of ascending triangle (buy dates) and breakthrough points of descending triangle (sell dates) . again same problem came of unequal buy and sell dates . so I solved it the same way I solved the problem in RSI strategy

COMBINING THE ABOVE TWO STRATEGY AND PATTERNS-

Now I have buy and sell dates of both RSI and pattern so I took the union of those buy dates and sell dates of patterns which were lying inside the RSI buy and sell range . I did this buy rejecting those buy dates which were lying between sell date of previous set of buy and sell dates of RSI strategy and buy date of current set of buy and sell dates of RSI . It left me with some buy and sell dates common of rsi and pattern. so, I bought the stock for those dates only .

THE DAILY RETURNS TOTAL SUMMATION IS

7.795124855391913 PERCENT

THE CUMULATIVE RETURN IS

37.83218508220771 PERCENT

SHARPE RATIO

1.5911376259338117

VOLATILITY

0.03761749239728785

MDD

-15.576552990316966