DETAILS OF CODES

Strategy 1/2/3 : Price Action

1) Import all the libraries which are needed:
    a. Broker library
    b. Time and datetime to get current time
    c. Pandas to make pandas (excel) variable for paper trading
2) Give inputs of the strategy
    a. Login inputs (based on broker)
    b. Entry time (hour, minute, second)
    c. Stock : the stock we want to trade in
    d. Otm : this is used if we are finding options based on ATM/ITM/OTM.
        i. Otm = 0 means ATM
        ii. Otm = 100 means 100 points otm
        iii. Otm = -100 means 100 points itm
    e. Sl_point: this is individual stoploss in terms of points
    f. SL_percentage: this is individual stoploss In terms of percentage. Example: if you want to put 20%, then write 20.
    g. Target_percentage: this is individual target in terms of percentage. Example: if you want to put 20%, then write 20.
    h. For_every_x_point, trail_by_y_point: this is used to trail stoploss.
    i. Pnl = 0. This is the starting pnl of the strategy. It should be kept at 0.
    j. Premium: this is used in case we are finding options which is closest to a certain premium
    k. Expiry: we have to give year, month and day in the correct format. Check the expiry format excel for each broker. Also, make sure that that the symbols you are adding here are already added in the subscribe file.
    l. Clients: Only need to put quantity here. This is quantity and NOT lots.
3) findStrikePriceATM(): This functions finds the current ltp of the underlying index and find the option we want to trade based on ATM/ITM/OTM. We will use the “otm” variable that was made earlier.
    a. In the beginning it finds the variable “name” , which is the index symbol based on the broker.
    b. intExpiry is the concatenation of the day, month, year in the correct format of the broker. This is take from the inputs that you have done at the top for the expiry.
    c. Ltp is the current market price of the spot.
    d. Closest_strike finds the ATM strike
    e. Closest_strike_ce and closest_strike_pe are the strikes that we will be trading based on the “otm” variable that we have added at the top.
    f. atmCE and atmPE are the complete symbol that we will be trading. The symbol format is dependent on the broker.
    g. Then it calls the takeEntry function.

4) findStrikePricePremium(): this function makes a list of strikes. Then gets the ltp of each strike (make sure that you have subscribed to all these symbols). Then finds CE and PE which has the premium closest to the variable (premium) we have made earlier.
    a. In the beginning it finds the variable “name” , which is the index symbol based on the broker.
    b. intExpiry is the concatenation of the day, month, year in the correct format of the broker. This is take from the inputs that you have done at the top for the expiry.
    c. Ltp is the current market price of the spot.
    d. We create a list (strikeList) which will have all the strikes from -x to +x. This value of x is mentioned in the for loop (for i in range (-8 to 8)). Make sure that whatever strikes you are adding here, should be added in the subscribe file as well.
    e. Then in the next for loop, we keep getting the live price of each of the option and we keep comparing it to see if the value is closest to the “premium” we have defined at the beginning. The closest strike of ce is saved in Closest_strike_ce. Similary, the closest strike of put is saved in closest_strike_pe
    f. atmCE and atmPE are the complete symbol that we will be trading. The symbol format is dependent on the broker.
    g. Then it calls the takeEntry function.

5) takeEntry ():
    a. get ltp of entry symbols (Ce and Pe)
    b. PNL is the temporary pnl. Since we are selling the option pnl = ce + pe price
    c. calculate sl/target for both ce and pe
    d. place selling orders for both ce and pe
    e. call exitPosition function
6) takeExit():
    a. We have an infinite loop (while) which will keep getting the live price of both ce and pe
    b. check for stoploss/target/time exit.
    c. If there is trail, update the stoploss
    d. When one condition is true (either stoploss, target, time), exit the leg
    e. For remaining position, update the value of stoploss to cost price.
    f. Again there is the infinite loop for the pending leg and we will again exit based on stoploss/target/time exit
    g. Strategy is closed.
7) getLTP(): this function is used to get the live price of stock/option/index. Make sure that the symbol is subscribed
8) checktime_tofindstrike(): this will keep waiting till your starting time and then start finding option strikes
9) placeorder(): placement of live/paper trading order. If papertrading value is 0, then its paper trading. If papertrading value is 1, then its live trading.

Strategy 4/5 : Indicator

1) Import all the libraries which are needed:
    a. Broker library
    b. Time and datetime to get current time
    c. Pandas to make pandas (excel) variable for paper trading
2) getHistorical() : This function gives the dataframe of time, open, high, low, close, volume, oi for the symbol. Please note volume/oi is dependent on broker whether they give or not. Also, the different times frames allowed are dependent on the broker.
3) getLTP(): this function is used to get the live price of stock/option/index. Make sure that the symbol is subscribed
4) findStrikePriceATM(stock, cepe): This functions finds the current ltp of the underlying index and find the option we want to trade based on ATM/ITM/OTM. We will use the "otm" variable that was made earlier. Then it also takes the trade.
    a. In the beginning it finds the variable "name" , which is the index symbol based on the broker.
    b. intExpiry is the concatenation of the day, month, year in the correct format of the broker. This is take from the inputs that you have done at the top for the expiry.
    c. Ltp is the current market price of the spot.
    d. Closest_strike finds the ATM strike
    e. Closest_strike_ce and closest_strike_pe are the strikes that we will be trading based on the "otm" variable that we have added at the top.
    f. atmCE and atmPE are the complete symbol that we will be trading. The symbol format is dependent on the broker.
    g. Based on the input to the function (cepe), it takes trade in either CE or PE. Currently the code is for option buy.
    h. The option in which trade was taken is stock as tradeCEoption and tradePEoption
5) exitPosition(): This function just takes the exit (SELL) trade in the option we are already in.
6) placeorder(): placement of live/paper trading order. If papertrading value is 0, then its paper trading. If papertrading value is 1, then its live trading.

7) Give inputs of the strategy
    a. Login inputs (based on broker)
    b. checkInstrument: This is the symbol on which we will put the indicator
    c. Stock : the stock we want to trade in (for options)
    d. Timeframe: the time frame of the strategy
    e. tradeCEoption and tradePEoption : keep them empty
    f. Expiry: we have to give year, month and day in the correct format. Check the expiry format excel for each broker. Also, make sure that that the symbols you are adding here are already added in the subscribe file.
    g. Clients: Only need to put quantity here. This is quantity and NOT lots.
    h. Otm : this is used if we are finding options based on ATM/ITM/OTM.
        i. Otm = 0 means ATM
        ii. Otm = 100 means 100 points otm
        iii. Otm = -100 means 100 points itm

i. Close, opens, high and low are list which have the historical prices on which we will calculate the indicator values.
j. Op list is just a list in which we put the indicator name, and the parameters
k. Gt = 1. When gt = 1, that means I can go for buying trade. When gt = 0, that means buying trade is not possible
l. lt = 1. When lt = 1, that means I can go for selling trade. When lt = 0, that means selling trade is not possible
m. firsttrade = 0. When this is 0, that means the trade is the first trade of the day. If this is 1, then it is not the first trade of the day. Whenever we have first trade, we will go for only entry. For next trades, we will have to exit the previous trade and take the new trade.
n. Maxtrade. You can edit the code to use this variable to add if you want to make max numbers of trades in this strategy.
o. St = “”. Keep this empty. This will have the latest value of supertrend.

8) Strategy
    a. there is an infinite while loop
    b. the first if condition (dt1.second <=1 and dt1.minute % timeframe == 0) is true when the time is at our intervals. So if the timeframe is 5 minutes, then this if condition will be true at 9:15, 9:20, 9:25, 9:30, etc.
    c. it gets the historical data in data variable. And then from this data variable, we will populate our list opens, high, low, close.
    d. Then we will find the value of the indicator. We can use the pdf file as shown to get value of different indicators. Multiple indicators can be found and each value can be stored in a different variable. Always note that if we put iloc[-1], that will give us the latest candle value of the indicator. If we want previous candle, then its iloc[-2].
    e. When it comes to else, then it starts checking the logic of the strategy. This is where the code is different from strategy 4 (stop and reverse) and strategy 5 (which is based on stoploss, etc)
9) Strategy (4)
    a. st!='' and close[-1]>st and gt==1 and st!='nan' : this means that supertrend is green and gt=1 means that we can take the buying trade.
    b. It checks if firsttrade is 0. If yes, only entry is done. If no, exit the previous trade and take the new buy trade.
    c. Update the value of gt and lt so that we don’t take same direction trade again.
    d. st!='' and close[-1]<st and lt==1 and st!='nan' : this means that supertrend is red and lt=1 means that we can take the selling trade.
    e. It checks if firsttrade is 0. If yes, only entry is done. If no, exit the previous trade and take the new buy trade.
    f. Update the value of gt and lt so that we don’t take same direction trade again.
    g. Finally, it checks if its end of the day. And based on gt and lt, it exits the last open position.
10) Strategy (5)
    a. In this strategy st=0 means that I am not in trade. St=1 means I am in trade.

b. First I will make a condition of the indicators which gives my buy entry. As soon as I get the entry, I will find the value of stoploss (sl). Target can be found here as well. And I will update the value of st=1 so that I can only do exit. Also, the typ shows whether I am in buy direction or sell direction
c. Then I will check if st==1 (that means I am already in trade). Then inside that I will see if the stoploss got hit/target got hit/time exit got hit. If yes, I will exit the trade and also update the value of st=0 so that I can take entry again.
d. At the end, I check for time exit and if I am in any trade, I will exit that trade and come out of the while loop.