Programming task

The *bitcoin.csv* file contains daily Bitcoin quotes in the OHLC format (https://en.wikipedia.org/wiki/Open-high-low-close_chart). Write a function *mymethod()* in Matlab that takes as arguments:

1) name of the file with Bitcoin quotes,
2) the USD amount in the wallet on the last trading day,
3) the amount of Bitcoins in the wallet on the last trading day,

and returns the amounts in the portfolio for the next day (considering the dates from the quotation file and your investment strategy) in the format [*amountUSD*, *amountBitcoin*], which reflects the decisions to buy, sell or not take any action.

The solution should contain files with source codes (including *mymethod.m*) and a *report.m* file with the *report()* function depending on the *train* and *test* parameters, which correspond to training and test files with Bitcoin quotes in the OHLC format and use the strategy stored in the *mymethod()* for subsequent days from the test set. The report function should:

- draw a line plot (in black) of average Bitcoin prices from the test period with marked points where purchases (red) or sales (green) were made, and then save it to the file *strategy.jpg*,
- print on the screen a summary of the wallet's balance in Bitcoins in the following days (calculating at the average Bitcoin price on a given day), assuming that at the end of the training period, there were 5 Bitcoins and 0 USD in the wallet,
- return the wallet balance in Bitcoins on the last day of the test set.

We assume that there is always a sufficient amount of each currency in the order book, and that you can only have USD and Bitcoins in your wallet. You can use additional functions in the implementation. The solution should be compressed into the file *surname_name.zip* (without national characters).

You can get a maximum of 20 points for a code. The 25% of people with the best results on the test set will receive an additional 5 points, and the next 25% of the best results will receive 2 points.