We were considering putting the following trade on, late afternoon as of 4/9/2025:

Sell 1000 contracts of 1-month SPY 95% moneyness put and use this premium buy contracts of 1-month SPY 105% moneyness call.

Perform the following tasks:

1. (Python) Create a scenario analysis template for the above trade, making reasonable assumptions.
   a. Build equity option valuation model
   b. Calculate the PnL of the trade structure, as of 1 week prior to expiry, for each scenario
2. Explain why we would/or would not put on the trade above and what will be the specific trade structure. Please perform relevant analysis to support your arguments.
   a. Perform relevant historical data analysis to support your argument
   b. Discuss the reasonable max loss/gain of your trade structure.
3. (Bonus) We may consider the following two structures instead of the above:
   a. We may consider the above structure as well as buying a further OTM put (so we sell a put spread, instead of simply selling a put) to fund the buying of the call. Is that a better structure based on the market situation that day? Why or why not?
   b. We may consider simply buying SPY outright instead of entering the above structure. What market conditions would make this trade better than the above structure?

Note: Reach out to us for the data that you may need to build out your analysis/argument. If you don't have the data to support your argument (and we cannot provide), describe what data you need, and what calculation/analysis you would perform, and what your conclusion would be depending on the results.