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Based on the combination permutation, we have created 21 different cases to design a strategy for maximizing the net value of a portfolio containing 10000 Microsoft shares as an underlying asset, with a focus on hedging with a strike price of 210 USD and call and put options costing 20 and 18 USD, respectively. We have considered two different paths for the market going up and down and analyzed the equity value for each case with and without hedging.

In the first case, we calculated the equity value of having no hedge. In the second case, we bought naked call and put options in different ratios, including 100:0, 75:25, 50:50, 25:75, and 0:100. The third and fourth cases involved buying calls and shorting puts and shorting calls and buying puts, respectively. In the fifth case, we shorted both call and put options.

After analyzing the equity value of all 21 cases, we calculated the average returns for different market conditions every ten days for up to 60 days. We found that shorting the put and losing money from shorting the call was profitable in the case where Microsoft only moved up in one direction, but the loss from shorting the call was not significant enough compared to other cases.

From cases 19 to 21, the strategy of shorting call and put options with a ratio of 50:50 to 0:100 was profitable as the outcall short was minimized after every case. Therefore, the Theta decay strategy in cases 19 to 21 was profitable on average for both market paths.