I experimented with several approaches, ranging from linear programming to dynamic programming, and ultimately selected a mixed-integer linear programming (MILP) model. This choice was well-suited to the problem, as it encompassed decisions such as when to charge or discharge the battery, preventing simultaneous charge/discharge across the three markets, and controlling the number of battery cycles. Accounting for the number of cycles and charge/discharge efficiencies led to a significant improvement in the solution, resulting in approximately a 30% decrease in total profit. Although the inclusion of binary variables did increase the problem's complexity and computational time, this challenge was addressed by adjusting the optimality gap of the CBC solver. I prioritized a more detailed model over a slightly less precise optimal solution. Lastly, I chose Python as the programming language, because it is the one I am most familiar with.