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Advanced Alg.

Project 2

In this project , we re-vamped our exhaustive algorithm from project 1 to use the greedy algorithm. For our specific problems (knapsack and graph coloring) the greedy algorithm actually turns out to be pretty efficient. The knapsack greedy algorithm ran for no longer than a couple of seconds, even at its largest, while the graph coloring greedy algorithm only took 54 seconds at its largest. This is a massive improvement over the exhaustive algorithm, which could not get through any graph but the smallest in the 10 minutes we originally provided. We could most likely still improve the runtime on the graph, but the greedy has proved to be a relatively sufficient algorithm for these graph sizes.