CS1699 Deliverable 2: Mining

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[https://github.com/minj131/cs1699/tree/master/d](https://github.com/minj131/cs1699/tree/master/d1)2

**Summary**

Approaching this problem with maximizing transaction fees in mind, I implemented a 0/1 knapsack algorithm. For the weights, I used the transaction itself. Each transaction had a weight of 1, and the weight limit was 15. The last transaction was reserved for the coinbase transaction which I added to the transaction list at the end. The values I determined were the transaction fees which were calculated by subtracting the input transactions and output transactions. Using these values and weights, the algorithm decided what the max value that can be determined while meeting the weight requirements. Then, using the results, I determined the transactions that were used to determine the max fees and appending the transactions to the transaction and concat roots. I did not decide to include 0 fee transactions. However, it might be worth considering to add 0 fee transactions to meet the max block size limit requirements in order to meet the target. In my implementation, I did not encounter such problems so I decided to exclude the 0 fee transactions.