Task 1

0 _ _ H H H T T T

1 **H T** H H _ _ T T

2 H T _ _ **H H** T T

3 H T **T T** H H _ _

4 H T T _ _ H **T H**

5 _ _ T **H T** H T H

Yellow shows the pair that is about to get moved. The Bold is what was just moved. It is solvable in 5 moves.

Task 2

0 _ _ H H H T T

1 **H T** H H _ _ T

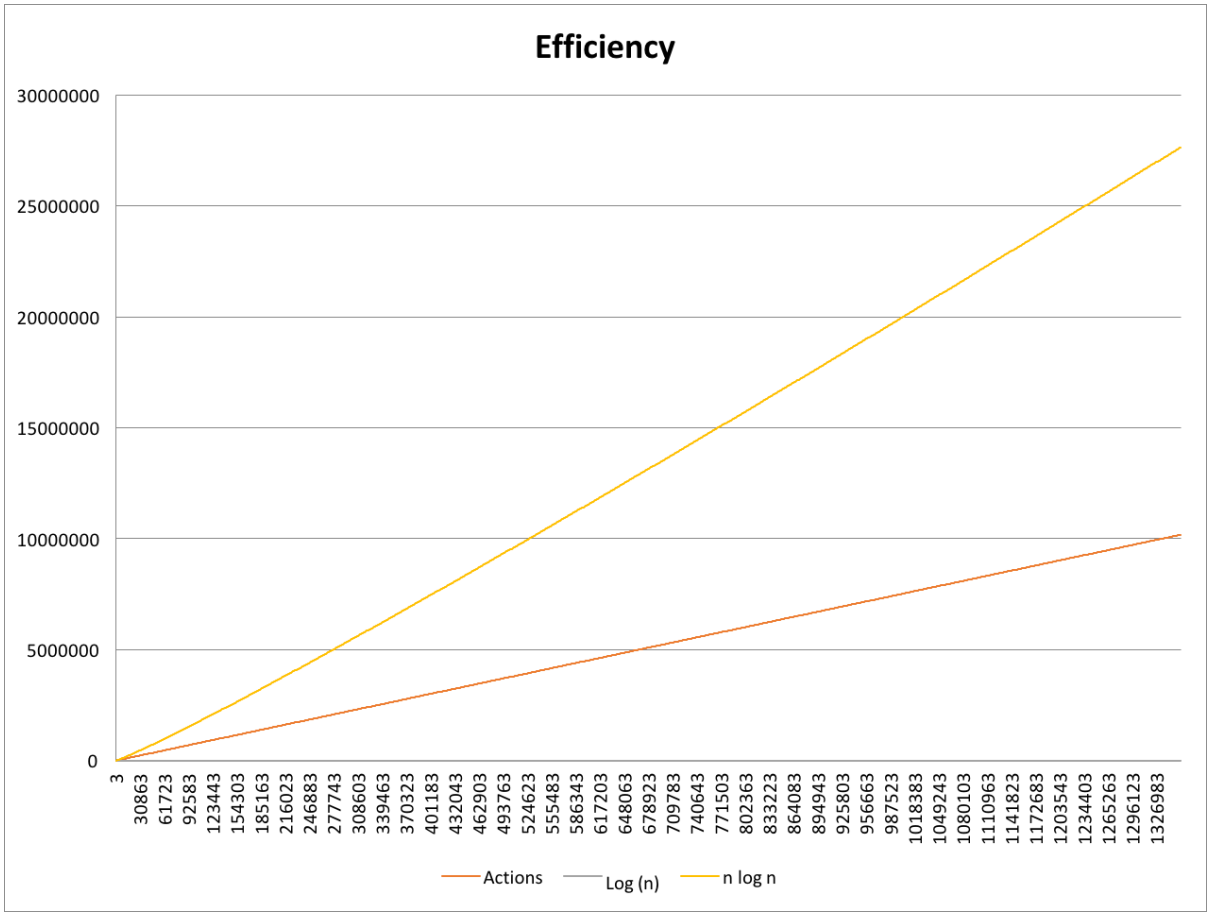
2 H T _ _ **H H** T

3 H T **H T** H _ _

Yellow shows the pair that is about to get moved. The Bold is what was just moved. It is solvable in 3 moves.

Efficiency

Because we're no longer looping through the iteration, we weren't too sure how to count the actions/iterations. We included a num_actions counter for all actions that were updating coin positions, deleting coin positions and making changes to the various indexes for our algorithm. Our n is based on the number of coins.


Efficiency
30000000
25000000
20000000
15000000
10000000
5000000
0
3
30863
61723
92583
123443
154303
185163
216023
246883
277743
308603
339463
370323
401183
432043
462903
493763
524623
555483
586343
617203
648063
678923
709783
740643
771503
802363
833223
864083
894943
925803
956663
987523
1018383
1049243
1080103
1110963
1141823
1172683
1203543
1234403
1265263
1296123
1326983
Actions
Log (n)
n log n