

ECE368 Project4 Report

Yinuo Li

	Elapsed time for one packing	Elapsed time for smallest room	Best width	Best height
r3.po	0	0	8.618902e+06	2.728840e+06
r4.po	0	0	9.515508e+06	1.018544e+07
r5.po	0	0	2.286623e+07	1.365289e+07
r6.txt	0	0	1.300000e+01	1.100000e+01

I used preorder-traversal to re-root.

Preorder traversal is defined as follows ,

1. Visit the root.
2. Traverse to the left subtree in preorder.
3. Traverse the right subtree in preorder .

Time complexity : $O(n)$

Space complexity : $O(n)$

I used a stack to build the strictly binary tree.

I used a while loop to read all the nodes. If the node is a leaf node, do the stack push once. If the node is a non-leaf node, do the stack pop twice, following by a stack push once.

Time complexity : $O(n)$

Space complexity : $O(n)$