



2. (35 points) Consider the following instance of the logical tree structure for implementing token-based mutual exclusion. The tree is the complete binary tree on 7 nodes, which are labeled inorder. Node 1 has the token and all queues are empty initially. At this moment requests to claim the token come every one unit time apart in the order 7,6,5,4,3,2,1. Assume communication delay between each pair of nodes is also one unit. Show the distribution of requests in the request queue at each node after node 7 has claimed the token and has been in its critical section for 3 units of time. What is the final order of execution sequence?

