1. **Approach**

I use Greedy Tree-map: duplication-**allowed** area-optimal mapping for tree.

In the Greedy packing procedure, each iteration I try to add the LUTi in the LUT[current\_node] if it is K-feasible which is duplication-allowed and can lead to better solution than duplication-free.

And the rest of part is the same.

1. **Time Complexity Analysis**

Topological Sort: O(V+E)

Mapping: each node need O(max{K, log V}), and there is V nodes in the topo\_Stack.

Thus, the complexity of mapping is O(max{K, log V}V).

Total Time complexity is **O(max{K, log V}V)**.