

Task 1

A: No nodes are marked.

B: An all-marked distance is the length of a path between two nodes (u, v) where all nodes on the path, except v , are marked. Since all nodes are unmarked, there is no such path from node 0 to any node other than node 0 itself, and obviously the path from 0 to 0 has length 0, so $m[0]$ is $\min\{0\} == 0$, and all other $m[i]$ s are $\min \emptyset = \infty$.