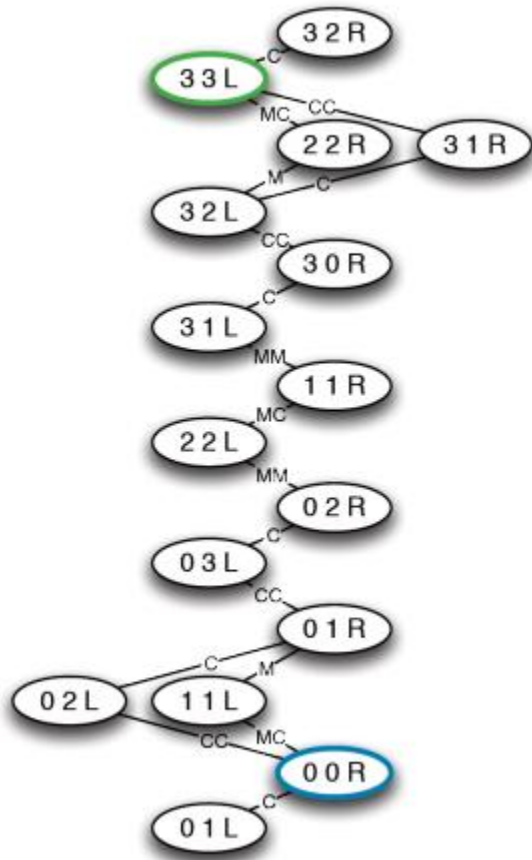


Q1 Solution:

A-1)



A-2) BFS, DFS since the search space is very small. Yes, since it is a requirement in this application.

B) Yes, it will provide an optimal result because it refers to the concept of admissibility where the estimated cost should be less than the actual cost.

C) IDS will perform much worse than DFS in the scenario where the goal node lies very near depth wise to the root node while there are a lot of branches on the tree. In this case, the algorithm will keep checking the branches before it could reach the goal state.

Q2:

