

AI Exp-3

Postlab

Q.1] Time complexity of water Jug Prblm?

→ In worst case scenario, we would need to visit every possible state to find solution. Each state has six possible next states so branching factor is 6. \therefore T.C is exponential $O(6^d)$

Q.2] Why DFS not used for solving water jug problem?

- A DFS is not typically used for solving water jug prblm efficiently becoz DFS tends to search deeply into search space bt considering other branches. In water jug prblm, the search space can be large & DFS may end up exploring a large portion of it before finding a solutⁿ, which can be inefficient. The water jug prblm involves finding a seq of steps to measure out a certain volume of water using jug of capacities. The state space prblm consists of all possible combinations of water levels in jugs. While DFS can be used to solve the prblm.