Artificial Intelligence for Robotics
Week 5

Assignment

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1. The time complexity of IDDFS is $O(b^d)$ and the space complexity is O(bd),
where b is the branching factor and d is the depth of the shallowest node.

2. IDDFS does not go into a loop during visiting and storing nodes. IDDFS does not usually store the states/nodes that have been visited, hence not allowing the algorithm to get into a loop unlike DFS.

IDDFS is better than BFS because of its space complexity. This algorithm has a better worst case performance in comparison to BFS.

3. This algorithm is used mainly when the size of the state space is large and the depth of the solution is not known.