Proposal for Implementing Iterative Deepening A* for the 15-Puzzle:

In this project, I aim to implement the Iterative Deepening A* (IDA*) search algorithm to solve the classic 15-Puzzle problem, where a 4x4 grid is filled with numbered tiles and one blank space, and the objective is to rearrange the tiles into a target configuration using the blank space. IDA* combines the benefits of both depth-first search (in terms of space efficiency) and the heuristic intelligence of the A* algorithm to efficiently navigate the vast solution space of the puzzle. My implementation will evaluate the performance of the IDA* algorithm in terms of solution depth, search time, and memory requirements, and provide insights into its effectiveness for the 15-Puzzle domain.