

Laboratory #1: Problem Solving Using Search

1. Consider the 8-puzzle , consisting of a tray with room for eight tiles and a blank space . The tiles may be slide around to produce various arrangements. The problem is to start from an initial state and move the tiles until you reach the desired position.

Example:

2 8 3	1 2 3
1 6 4	8 4
7 5	7 6 5
initial	desired

Modify the Best First algorithm (see the additional reference) to solve this problem using A*. Let the number of misplaced tiles be the estimate of the remaining distance (h function) and the actual distance from the start node to the current node is the number of moves (g function).

*(Send the *.java, and *.class files by email. Evaluation will be based on the correctness of the delivered program)*