Artificial Intelligence – Integrated Lab

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1 8-Puzzle Problem
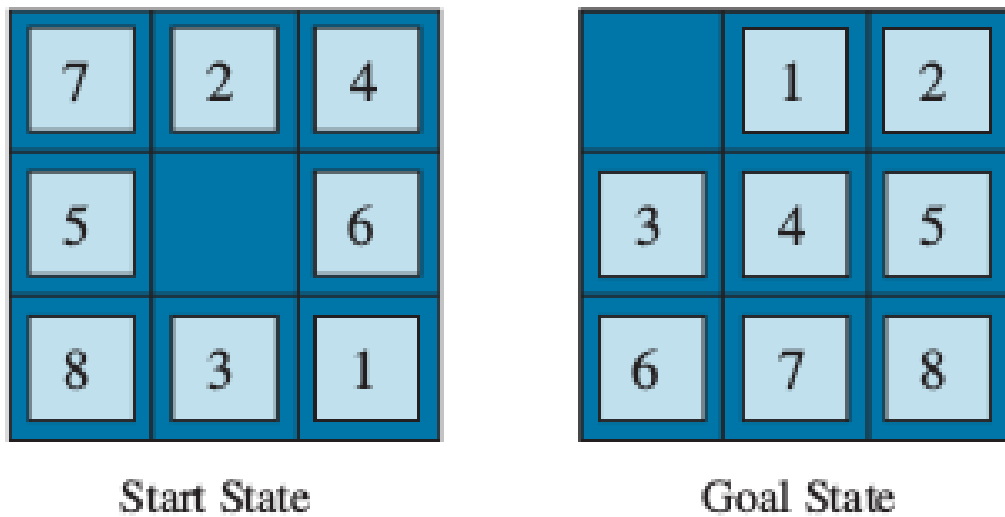

Figure 1: 8-puzzle start state and goal state

In a 3×3 board, 8 of the squares are filled with integers 1 to 9, and one square is left empty. One *move* is sliding into the empty square the integer in any one of its adjacent squares. The start state is given on the left side of the figure, and the goal state given on the right side. Find a sequence of moves to go from the start state to the goal state.

1. Formulate the problem as a state space search problem.

2. Find a suitable representation for the states and the nodes.

3. Solve the problem using any of the uninformed search strategies.