

INTRODUCTION to ARTIFICIAL INTELLIGENCE

2015-2016 FALL SEMESTER

LABORATORY MANUAL

Experiment 2

Introduction problem solving with AI

Write a program to implement 8-puzzle problem that is described below. Use any programming language (C, C++, C#, Java ...) to code this problem.

The problem: The 8-puzzle problem that is invented by Noyes Palmer Chapman in the 1870s is played on a 3-by-3 grid with 8 square blocks labeled 1 through 8 and a blank square. The figure below shows a sequence of legal moves from an initial position to the goal position.

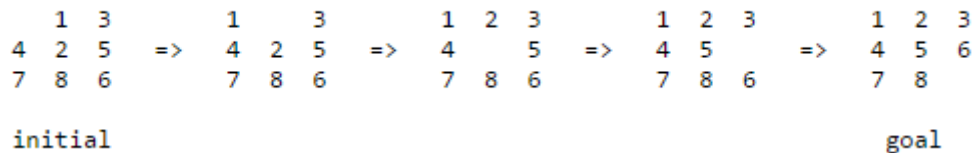


Fig. 1. The 8-puzzle problem

Rules of game:

1. Slide the blocks horizontally or vertically into the blank square.
2. The goal is to rearrange the blocks so that they are in order.