

**Problem 1.** Scramble your puzzle and solve it.

**Problem 2.** Is it possible to reverse the order of the puzzle?

**Problem 3.** Is every scramble solveable? If we took out each peice and randomly inserted them into the 4x4 grid, could we get back to the starting point every time?

**Problem 4.** Suppose two configurations are connected if you can get from one to another with a sequence of legal moves. How many different "compnents" are there, or configurations that cannot be connected?

**Problem 5.** Develop an ad-hoc algorithm to solve the puzzle.

**Problem 6.** If you add an edge from any two vertices, when does it allow you to complete a non-solveable puzzle?