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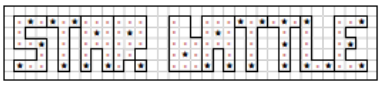
Winter 2020 - CS541
Final Project Proposal – Two Not Touch (aka Star Battle)

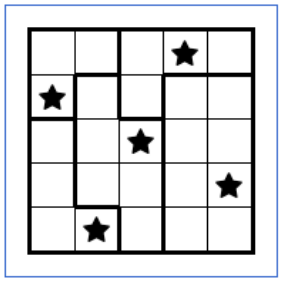
For our project we propose to create two types of solvers for the “Two Not Touch” or “Star Battle” puzzles. These puzzles require the player to place stars on a board (boards are squares of sizes between 5x5 up to 14x14 with demarcated interior regions of assorted sizes and shapes) such that no two stars are adjacent horizontally, vertically, or diagonally and every row and column on the board contains one star. These puzzles have attributes similar to both the “8-queens Puzzle” and the “Four Color Theorem”. We will modify the Genetic Algorithm Based Solver for 8-queens for a baseline approach to solving the puzzles. We will also produce a Constraints Satisfaction algorithm to solve the puzzle. For our final presentation we will briefly discuss the mechanics behind the two algorithmic solvers, demonstrate each of them solving the same puzzle, and then present a quantitative comparison between the two for various scenarios.

Here is an example of a solved puzzle on https://www.puzzle-star-battle.com/



Congratulations! You have solved the puzzle in 02:37.66

Submit your score to the Hall of Fame



Here is an example of the "Two Not Touch" puzzles as printed in the New York Times: