ABSTRAK

SALMAN FARIZI. Application of Generator and Solver Slither Link with Answer Set Programming and Procedural Programming. Supervised by MUSHTHOFA.

Slither Link is a popular pencil-based puzzle game similar to Sudoku. This problem has been shown to be NP-Complete. The goal of the game is to link grid segments forming a loop such that the number of lines adjacent to a cell is equal to the number written on the cell. In this research, we investigate the use of Answer Set Programming as a formal representation of the game, and to prove an alternative solving method, as opposed to the procedural method. We then perform experiment to test the efficiency of Answer Set Programming compared to the procedural method in solving Slither Link. For the Answer Set Programming method, we use DLV as the solver, whereas for the procedural method we write a program in C++ to solve Slither Link in a procedural manner. The result shows that ASP performed consistently better than the procedural method we use.

Keywords: Slither Link, Answer Set Programming, Logic Programming.