

MODIFIKASI METODE BACKTRACKING UNTUK MEMBANTU MENCARI PENYELESAIAN PERMAINAN PEG SOLITAIRE

Susana Limanto dan Monica Widiastri
Universitas Surabaya, Surabaya
susana @ubaya.ad.id dan monica@ubaya.ac.id

ABSTRACT

Peg Solitaire is a board game. The board has several holes. Each hole contains a peg except at least one empty hole. The player must move an pegs into an empty one. The allowed move is jumping over one other peg. The player will win the game if there is one peg left on the board. If the player made a wrong move and the rest of the pegs on the board has been reduced, the player is not possible to make the leap since the peg's location is far from each other and the game will end with a defeat. This situation is usually occur at beginners. To help the player learns how to win the game, an application is needed. This application must provide information about how to solve the Peg Solitaire game step by step. Backtracking method is a method that can be used to find an optimal solution by searching all possible solutions. This method can be used to search the Peg Solitaire's solution. It is necessary to prune some possibilities to accelerate the search time. Pruning can be done when a possibility has a symmetry horizontal, vertical, diagonal up, or diagonal down board condition compared to the previous possibility. This can be done because the search of the two symetry boards will give results that are also mutually simetry. This paper will discuss the use of backtracking method in a symmetry condition to solve the Peg Solitare game more efficiently.

Keywords: Peg Solitare, Backtracking.