MATHEMATICAL MODELLING IN NONOGRAM GAME

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ABSTRACT

Mathematical approach involving mathematical models can be used as a method to find the solution in games. Games, specifically parlor games are a type of games that requires little to no physical activity and it involves strategic and logical thinking in its gameplay. This project's focus would be on one parlor game, which is nonogram. This project seeks to develop mathematical models that can be used to solve nonograms and to determine the manual solution to solve nonogram. In order to achieve the objectives, the study on the games of nonogram is conducted. Firstly, the rules and types of this game are identified. Then, from the previous information, the mathematical solution for nonogram is developed. Next, the mathematical models developed would be used to manually solve 3 sizes of nonogram for each black-and-white and multicolored nonograms. Those manual solution of nonogram are compared to the actual solution by a nonogram solver, Cross+A. The results serve as proofs for the effectiveness of using mathematical formulas to help player in solving nonogram.

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