

Abstract

The thesis systematizes the enumeration of essentially different Sudoku squares using Burnside's lemma. This enumeration significantly depends on the description of conjugacy classes of symmetry group of Sudoku square, which was in previous works provided only with the strong help of mathematical software. The first chapter of this thesis sums up facts about a group action and about conjugacy classes and proposes the description of conjugacy classes of wreath product, in the second chapter Sudoku square of symmetric group is formally defined and with the help of presented theory are counted representatives and sizes of its conjugacy classes.