Emulsion

Emulsion is a finite territory game for two players: Black and White. It is played on the spaces *(squares)* of a square board of any size. At the start of the game, all squares of the board are covered with black and white pieces in a checkered pattern. On odd-sized boards, the center square is occupied by White.

Definitions

A piece's *value* is the number of pieces of its color orthogonally adjacent to it plus half the number of board edges adjacent to it.

A *group* is a piece along with all other like-colored pieces one could reach from it through a series of steps between orthogonally adjacent pieces of its color.

The *size* of a group is the number of pieces in it.

Play

Black plays first, then turns alternate. On your turn, *swap* the positions of two orthogonally or diagonally adjacent pieces of different colors so that the value of your piece in the pair is increased.

The game ends when there are no more moves available. Then, the players jointly remove pairs of opposite-colored groups of the same size from the board until there are no more such pairs to remove. The player with the biggest group left over wins. On even-sized boards, if the board is empty, whoever made the last move before the game's end loses.

Pie rule

The *pie rule* is used in order to make the game fair. This means White will have the option, on their first turn only, to swap sides with their opponent instead of making a regular move.
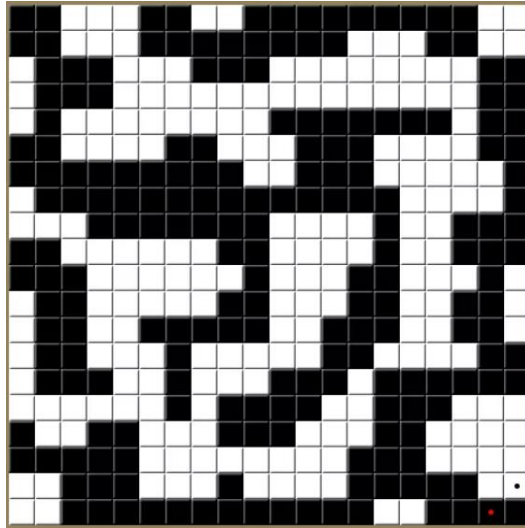
Variants

Free Emulsion: The board is initially empty. A piece's *value* is the same as in the standard game plus half the number of empty squares orthogonally adjacent to that piece. On your turn, instead of making a swap, you may place one piece of each color on orthogonally adjacent empty squares.

Notes

A swap always increases the value of both pieces in the pair by the same amount. Therefore, a legal swap for one player is always a legal swap for the other player as well.

Emulsion was inspired by Michał Zapała's Slyde.

Finished Emulsion game won by Black (92 to 89).

[BGG description, Luis Bolaños Mures, 2020]