

Enclose5 game description

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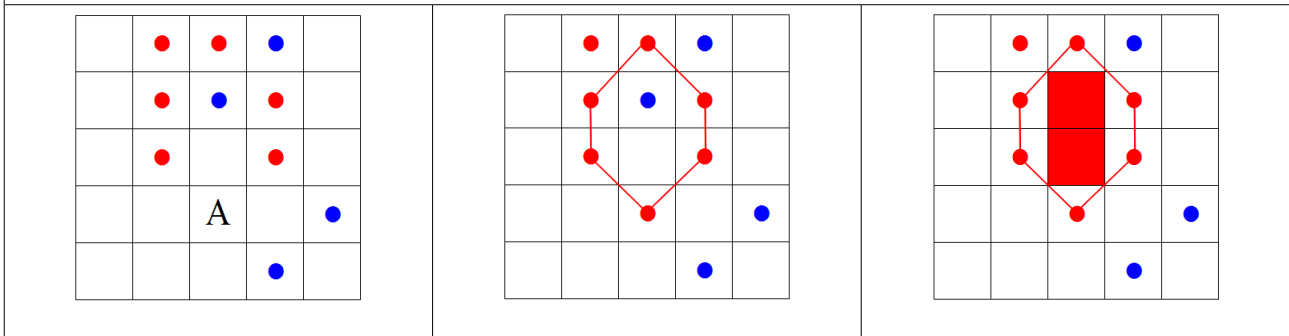
Game outline

Enclose5 is an abstract strategy game for two players, that shares some features with the well-known *Gomoku* (a.k.a. *Five in a row*). Like the classic game, *Enclose5* can be played on a plain grid paper sheet, each player using just a colored pen.

Goal of the Game and Rules set

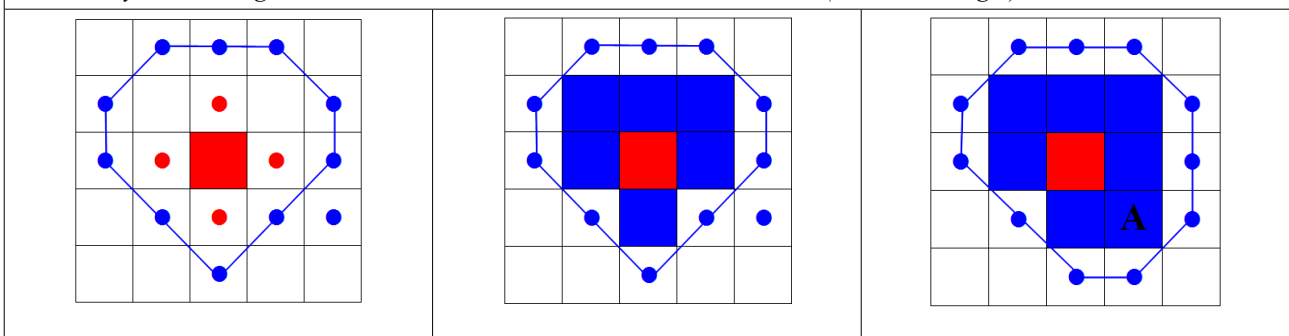
1. *Enclose5* is played on a square grid. Typically, a grid paper sheet is used. If played on a game board, a grid size exceeding 20x20 is recommended.
2. The two players use marks of two different colors (in the following, red and blue dots). They alternately place a mark of their color inside an empty cell of the grid.
3. Each time a player completes a closed polygon with his/her marks, all the internal cells take that color. A *closed polygon* is any closed path connecting marks of the same color, each adjacent horizontally, vertically or diagonally to next one (see Example1 below).

Example 1: if the red player occupies the cell labelled A, he/she closes the red polygon and then colors the two internal cells, disregarding if they are empty or not.



4. The grid cells, once colored, are blocked. They cannot change their color even when they are enclosed in a new polygon of the opposite color and do not take part to any alignment of marks.
5. A player can always enlarge an existing polygon by adding new marks.

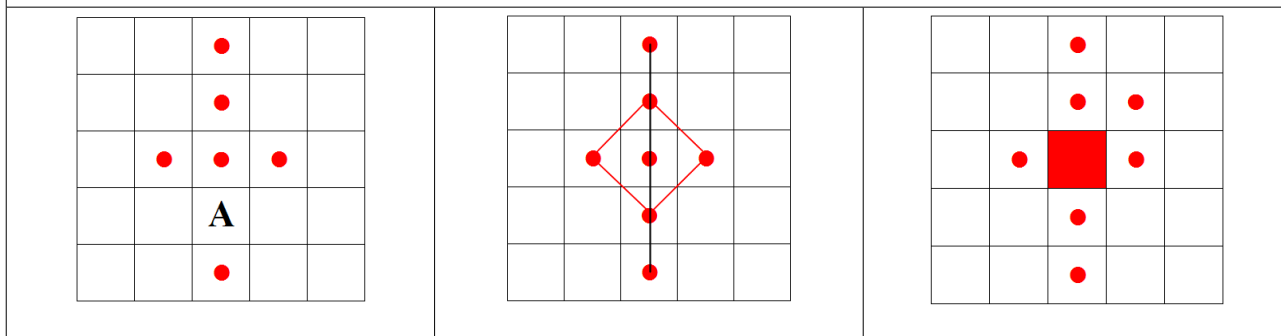
Example 2: if the blue player makes an enclosure like the one below (left), he/she colors all the internal cells but the one already red. Adding another blue mark, he/she can color one more cell (labelled A, right)



6. The goal of the game is to color an arranged number of cells, by default 20. The two players can choose a different number at the beginning of the match.
7. If a player makes a winning alignment of five or more marks (horizontally, vertically or diagonally), he/she gains additional moves: one for an alignment of 5, two for an alignment of 6, and so on (for n signs, n-4 moves, with $n \geq 5$). The following conditions holds:

- 7.1. the gained moves must be played sequentially, in the same turn of play.
 - 7.2. they cannot be used to increase in length a winning alignment built in the same turn.
 - 7.3. if an additional move makes a different winning alignment, the gained moves add up.
8. if a move closes a polygonal, the coloring of its internal cells is mandatory and has the priority over marks alignments. See example3 below:

Example 3: if the red player places a mark in A (left), he/she at the same time (central figure) makes a winning alignment of 5 (black line) and closes a polygonal (red line). The polygonal has always the priority, so the final situation is the one in the rightmost figure: the red player wins a colored cell, but loses the alignment.



Opening move

In *Enclose5*, as in the classical *Gomoku*, the player opening the game has some advantage. This has an impact only in a match between skilled players, and can be overcome using a more complex opening procedure, based on some “pie rule”.

See the link below for the swap2 opening used in *Gomoku* championships:

http://en.wikipedia.org/wiki/Gomoku#Variations_and_opening_rules

End of the game

The players can also decide to play until the board is full (i.e. there are no more useful moves), but this choice can produce very long games. It's anyway suggested to have a match constituted by an even number of games, opened alternately by the players, and to add up the scores of all the games.