

Go

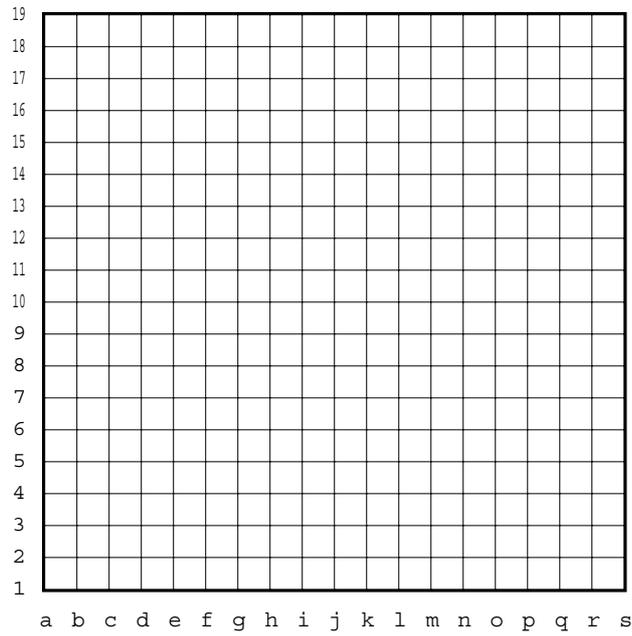


History

Go is a traditional Oriental game. It appeared in China more than 2500 years ago, was introduced in Japan around 800 AD, and is very popular in both countries. It is a game of influence, with simple rules, but with a remarkable strategic depth. In Chinese antiquity it was one of the four arts taught to the noblemen (the others were music, calligraphy and painting.) The game dynamics simulate a war with different battle locations, local interactions with consequences to the entire board. The accumulated knowledge through the centuries, in literature concerning opening theory, tactical and strategic ideas, is similar to chess.

Material

A square board with 19 rows and 19 columns, around 150 white and 150 black stones. It is also common to play on boards with size 9×9 or 13×13 for faster and less strategic games.

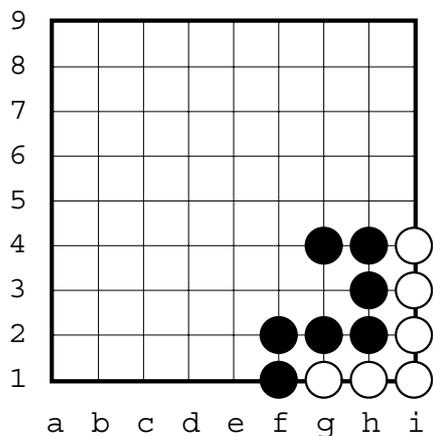


Definitions

Group — one or more friendly stones orthogonally connected.

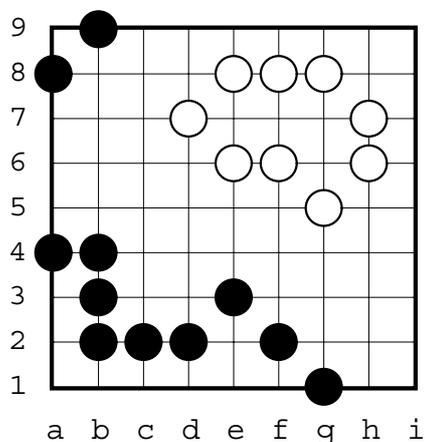
Group liberty — a liberty for a group is an empty intersection orthogonally adjacent to at least one of the group stones.

The next diagram shows a group of seven black stones (with seven liberties) and a group of six white stones (with one liberty).



Territory — a set of empty intersections surrounded by a chain of stones of only one colour and, maybe, by board edges. Both orthogonal and diagonal connections are permissible in determining this surrounding chain.

The next example shows three territories: One black territory with one intersection (at a9); another black territory with nine intersections; and one white territory with four intersections.



The number of stones needed to create territories is smaller at corners and larger in the middle of the board, as we can see in the previous diagram.

Rules

By tradition, Black starts. On each turn, each player passes his turn or drops a friendly stone in an empty intersection.

After the drop, all enemy groups without liberties are captured and removed from play. The captured stones are called prisoners.

A stone cannot make suicide, i.e., it cannot be dropped in a group that, after the drop, loses all its liberties, unless some captures are made.

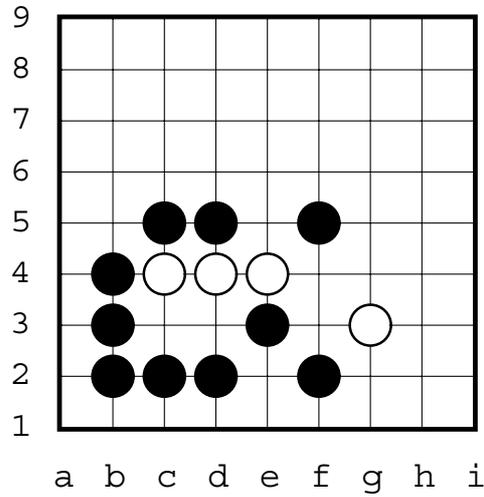
Ko rule — a player cannot repeat the board position of the previous turn.

Goal

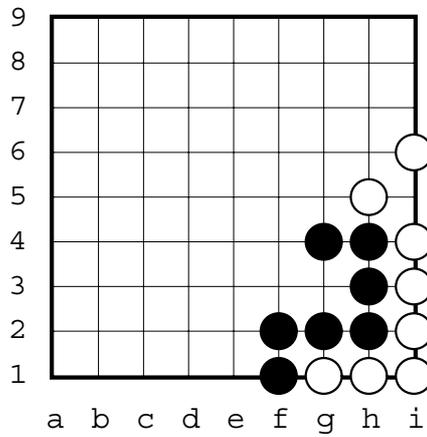
When both players pass consecutively, the game ends. Then, all stones inside enemy territory that cannot survive and would eventually be captured are removed from the board. Each player adds the number of intersection he controls (territory) with the number of his pieces on the board. Whoever has the largest total wins (if these numbers are equal White wins).

Notes

The number of liberties gives a measure of a group's strength. A group with just one liberty can be immediately captured. Players should try to avoid that, increasing the number of liberties of friendly groups, while trying to gain influence over the board. The next diagram shows a white group with four liberties. If White drops a stone at c3, the group will have three liberties. If White drops a stone at f4, the group will have five liberties. So, according to this criterion, f4 is better than c3.



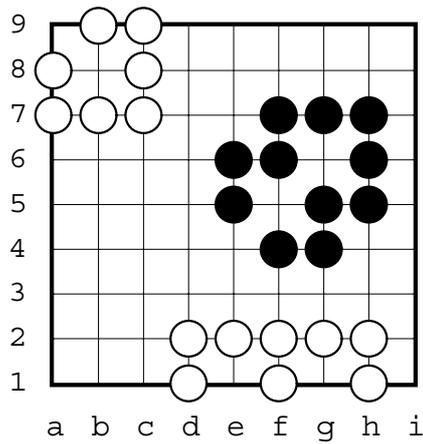
The suicide rule implies that a stone can be dropped at an intersection without liberties providing that it produces some captures. This happens because after those captures, the stone will be adjacent to empty intersections. In the next example it is valid to drop a stone at i5 because the group of six white stones is captured.



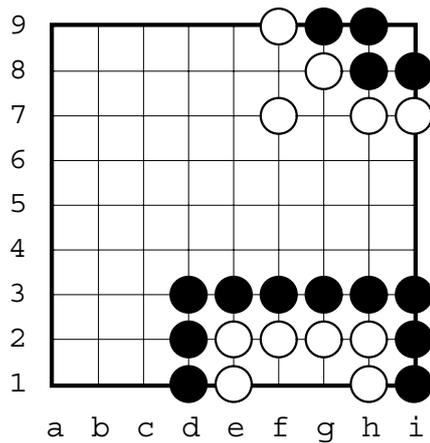
The suicide rule allows the essential pattern in Go, the living groups. A group is alive if the adversary cannot capture it at any circumstance.

The next diagram shows some living groups. In all of them, there are at least two separate territories. To place a stone in one of these territories is invalid (it would be suicide.) The only way to capture them would be to

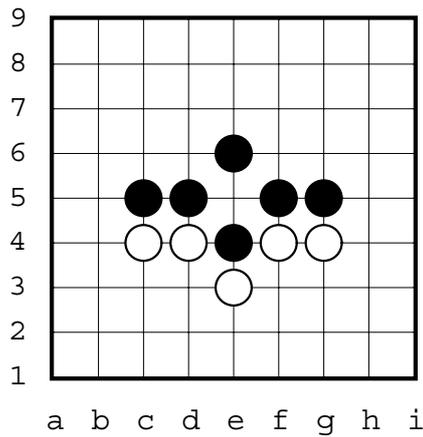
drop two stones at the same time over those territories, which is impossible according to the rules. These territories are usually called eyes, so a group is alive if it has two eyes.



The next diagram shows groups that are not alive. The black group at the upper right corner just has one liberty at i9. If White drops a stone there, the group is captured. The bottom white group has two liberties. However, if Black drops at f1, the white group is in danger. Even if White drops at g1 (capturing f1), the group will only have one liberty. Then, Black can capture the entire group by playing again at f1.



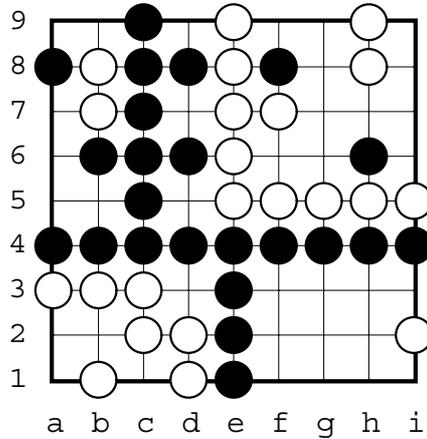
The Ko rule is essential to prevent positions where both players would endlessly repeat the same sequence of moves. In the next example, Black played at e4 capturing a white stone at e5. By the Ko rule, White cannot capture e4 by playing e5, because it would result in the previous board position. White must play elsewhere.



Notice that, on the next turn, White can play e4 unless Black has played there in the meantime.

The next diagram shows the position from a finished game. The two players just passed.

All stones not belonging to dead groups inside enemy territory are removed. In this example, there are three white stones (i2,b7,b8) and two black stones (f8,h6.)



Next, players count their territories. Each player has two. White's left territory has four intersections and the right one has 13. Black's left territory has eight while the right has 12. There are still neutral areas not belonging to either player (like d3 or d9) which are not counted.

So, White has 19 pieces + 17 (intersections) = 36 points.

Black has 20 pieces + 20 (intersections) = 40 points.

Black wins the game.

The first player (Black) has a considerable advantage, so it is common that the second player should start already with some points (this value is called Komi.) A typical Komi is 5.5 (the decimal part is to avoid ties).