Gomoku

Opening rules

1. Standards

Black plays first, and players alternate in placing a stone of their colour on an empty intersection. There's no restriction where to put, the players put their stones alternately until an unbroken row of five stones are collected either horizontally, vertically, or diagonally.This rule is 100% black win mathematically.

2. Pro

The starting player (black) puts the first stone to the middle intersection of the board (H8), this move is compulsory. The second player can put the second move anywhere on the board. Now it's black's turn and the third move has to be outside a 5x5 square from the centre of the board (H8).This restriction stands for a more balanced game in which black's first two stones are not so close to each other so black cannot have so many opportunities and white can equal the game and has better chances to win.

3. Long Pro

The first move of the starting player (black) is compulsory to be put to the middle intersection of the board (H8). Then the second player (white) can put the second stone anywhere on the board. The 3rd move must be put outside a 7x7 square. The centre of the square is the first black stone on H8. Long pro is an upgrade of pro rule. The essence of long pro is that black has to put his/her second stone further than in standard or pro.Hereby the game becomes more equal and white has more chance in this opening rule than in standard or pro games.

4. Swap

The starting player puts the first three stones anywhere on the board (two black stones and a white one). The second player can decide whether s/he wants to stay at white and put a fourth stone or s/he can swap and control the black stones. After this ceremony the players keep on moving till someone gets five in a row.

5. Swap 2

The first player puts three stones (two blacks and one white) on any intersections of the gomoku board. The second player has three options now:

a)   s/he can choose white and puts the 4th stone

b)   s/he can swap and controls the black stones

c)   s/he can put two more stones (one black and one white stone) so there will be a position composed of five stones on the board and s/he passes the opportunity to choose colour to the opponent.

6. Swap(x,y,z)

One player places on the board *x* stones of the first-moving color and a lesser number *y* stones of the second-moving color ("slicing" in the pie metaphor); the other player is entitled to choose between *a*) playing from the starting position, in which case the selecting player is also entitled to choose which color to play, and *b*) placing *z* (usually [(x - y) + 1]) more stones on the board at locations of that player's choice ("reslicing" in the pie metaphor, with limitations created by the board's existing setup akin to limitations arising from the existing slices in the pie), in which case the former player is entitled to choose which color side to play on.

Source : http://gomokuworld.com/gomoku/2

Additional bans

Black (the player who makes the first move) was long known to have a big advantage. So a number of variations are played with extra rules that aimed to reduce black's advantage.
- The rule of **three and three** bans a move that simultaneously forms two open rows of three stones (rows not blocked by an opponent's stone at either end).
- The rule of **four and four** bans a move that simultaneously forms two rows of four stones (open or not).
- Alternatively, a handicap may be given such that after the first "three and three" play has been made, the opposing player may place two stones as their next turn. These stones must block an opponent's row of three.

General variations

Most variations are based on either **Free-style gomoku** or **Standard gomoku:**

- **Free-style gomoku** requires a row of five or more stones for a win.

- **Standard gomoku** requires a row of exactly five stones for a win: rows of six or more, called **overlines**, do not count.

Specific variations

- **Renju** is played on a 15×15 board, with the rules of three and three, four and four, and overlines applied to Black only and with opening rules, some of which are following the *swap* pattern.
- In **Caro**, the winner must have an overline or an unbroken row of five stones that must not be blocked at **both** ends (overlines are immuned to this rule). This makes Gomoku more balanced and provides more power for White to defend.
- **Omok** is played the same as Standard Gomoku; however, it is played on a 19×19 board and include the rule of *three and three*. The **overlines** rules, do not count.

Theoretical generalization

- *m,n,k*-games are a generalization of gomoku to a board with *m*×*n* intersections, and *k* in a row needed to win.
- Connect(*m,n,k,p,q*) games are another generalization of gomoku to a board with *m*×*n* intersections, *k* in a row needed to win, *p* stones for each player to place, and *q* stones for the first player to place for the first move only. Each player may play only at the lowest unoccupied place in a column. In particular, Connect(*m,n*,6,2,1) is called Connect6.