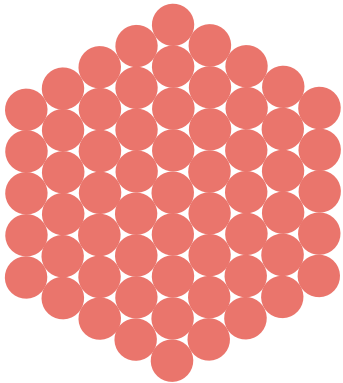# Odd

Figure 1: the board

Odd is a game for two players, played with black and white stones, on the board shown in Figure 1.

Definitions
1. A *group* of stones is a set of stones on the board, all of the same color, for which it is possible to trace a continuous path between any two of them by stepping between adjacent stones of that color.
2. The *size* of a connected group is the number of stones in it. Figure 2 shows a board with two connected groups on it, each of size 5
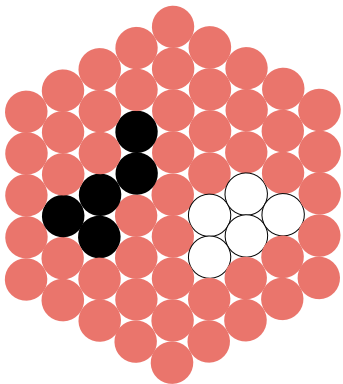
Rules of the Game
1. The board begins empty.
2. Players take turns. On each turn a player places one stone of *either* color onto any empty space.
3. The game ends when the board is full. Player 1 wins if there is an odd number of groups of at least size 5 on the board, and Player 2 wins otherwise. Important: When counting groups, add up the total number of connected groups of *both* colors.

Figure 2: Two groups, Both size 5.

In practice, it will become obvious to one player that she is going to lose well before the game is complete, and in that case, she should resign, so as not to delay matters.

Note: One can change the character of the game by increasing or decreasing the minimum size which a group must have in order to be counted at the end. Try minimum group sizes of 4, 6, or 7.
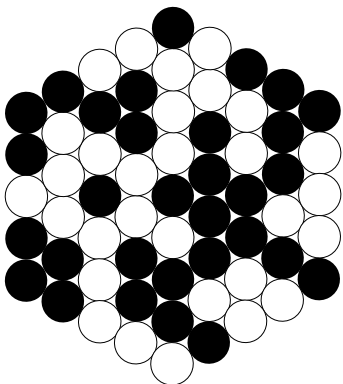
Figure 3 shows a completed game. There are three groups on the board of at least size 5 (1 white group and two black groups), so player 1 wins.

Figure 3: A finished game. Player 1 wins.