

The main function creates 5 threads: 1 thread for the dealer and 4 threads for the players. These 5 threads immediately wait for a specific condition to be met before executing. The player threads each need to wait for the previous player (or the dealer) to signal that it is their turn, and the dealer thread waits for main to signal that the game has started.

Once the dealer has been signalled it picks a random player thread to start the game, signals to that player that it is their turn, and then waits for a win condition to be met. During a player's turn, it first checks if the win condition has been met (a team could have won while the player was waiting) and if it has then the player thread exits. Otherwise, it rolls two dice, stores their sum in a private variable, then checks if their sum is equal to their team's last roll, which is stored in a shared variable. If the rolls are equal, then it signals to the dealer that the win condition is met, otherwise it signals the next player to start their turn.

Once the dealer thread receives the signal that the win condition is met it first signals all the player threads to continue (this causes the player threads to exit), then declares the winner and also exits.