

Sungka in R

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Sungka is a traditional game in the Philippines, and belongs to the bigger family of mancala games of the Malays. I remember playing it as a kid. Sungka is played on a board with 14 wells and two homes. This picture of a sungka board is from Wikimedia Commons, and available at <http://tinyurl.com/onj3u2l>:



It takes two to play sungka, each player having seven wells on his side of the board, as well as the home to his left. At the start of the game, wells are filled with seven counters, usually shells. Players take turns picking up shells from one of their own wells, and distributing them clockwise, skipping only the opposing player's home. The fun begins after a player drops the last shell on his turn. If the last shell drops into the player's home, he selects another of his wells and continues. He also continues if that last shell drops into any well that is not empty, and in this case he picks up the shells in that well and continues. However, if the last shell drops into an empty well that is not on his side of the board, he loses the turn. He also loses the turn if he arrives at an empty well on his side of the board, except that in this case, he captures shells, if there are any, in the other player's well directly across. Captured shells are placed in his home. Finally, the player loses a turn if his wells are all empty. The game continues until there are no shells left in any well. In the end, the player with more shells in his home wins.

sungka.R is a simple simulation of sungka, which I wrote to learn R. It does not incorporate strategy of any kind, and players simply select wells at random. A shrewd sungka player could choose to lose a turn if it means capture of a handful of shells. Also, there are many variations to the game, in particular to the way the game is started, and to the potential for two players to play multiple rounds. I'm not sure I will have the time to write these variations into the code, but it might be fun to attempt the following:

Multiple rounds, in which players refill as many of their wells after each round, using only the shells they captured.

Strategy, in which we teach a computer to play to win. I would not know how to do this, or if it is even possible. I found a paper describing a mathematical search of winning strategies. I did not quite understand it, but a copy is available at <http://tinyurl.com/osveyz6>.

Interactivity, so that geeks or the young-at-heart get to play.

Contributions are welcome!