

UNIVERSITY OF CALIFORNIA
Department of Electrical Engineering
and Computer Sciences
Computer Science Division

CS61B
Summer 2000

Chief Arbiter: M. Brudno

Connect 4 Tournament

Due: Monday, August 7, 2000 at 11:59pm

The CS61B Connect 4 tournament will be held Wednesday, August 9th at 11:00am in 155 Evans. The contest will most likely be run from a computer in the lab, but if we are able to find a faster one we will use it instead.

Format

The contest will be played on a 7 by 6 board. It will be run as a double elimination tournament, there will be a winners and a losers bracket. A team which loses while playing in the winners bracket gets bumped down to the losers bracket, while one that loses in the losers bracket is eliminated from the competition. Initially all teams are in the winners bracket. If the number of strategies is not a power of 2, an appropriate number of strategies (determined randomly) will get free byes into the second round. Each of the head-to-head matches will be either one game or best out of three, depending on the number of entries. In either case a draw will count in favor of the team which played blue more times. The player moving first (red) will be determined randomly for the first game, and if the contest is run in three game format for the third game again. The final will be between the winners of the winners and losers bracket and will be best out of 3 games at least.

Contest Rules

1. Every person is allowed to submit no more than 1 strategy to participate in the tournament.
2. You are not allowed to load into memory before the game any sort of an opening book which maps positions to moves.
3. Your strategy should have no more than one thread (with regular priority) running while it is not its turn to move.
4. Your strategy will have 4 seconds to make a move. If you do not make a move in the allotted time you will receive a warning (get a yellow card) and your timer will be restarted. The second time you get a warning (on same or any subsequent game of the same match) you will forfeit the game (but not the match).

Guidelines

For the contest you are to submit the assignment **contest** using the usual submit procedure, containing the strategy and a file **README** with your names, an e-mail that you check often and anything else you want to say. The strategy is to be contained in a single .java file: any accessories that you need (boards, timers, etc.) are to be inner classes within your strategy. Your strategy should have a cool name (e.g. Terminator 4). That should be the name of your class, NOT ComputerPlayer. Your class should have all of the methods of ComputerPlayer as given in the skeleton and extend Player. It must support a call to setColor to set it's color before the game s actually started. setDimension will be called on it for redundancy purposes, but you can assume that the dimensions will be 7 by 6 and have setDimensions do nothing. you must also have a public **reset()** method, taking no arguments, which will reset your strategy and prepare it to play the next game. During this weekend there will be a test suite on line which will check if your program complies with the requirements for strategies. All questions should be addressed to the Chief Arbiter.

Extra Credit

The extra credit is due on the same day as the project (August 3rd). The grading will be harsh. Nevertheless, one well-implemented feature will get you more credit than several half-working ones. The amount of credit you will get will depend on your creativity and the difficulty of the problem you solve. Instead of a strict 5pt maximum (as announced earlier) I reserve the right to give as many points as I deem worthy. You will need to submit the assignment **extra** using the standard mechanism and include the file **EXTRACREDIT** in which you should discuss *in detail* what problems you solved and how you went about doing this.