

ASSIGNMENT 4

Due Date: 19 May 2021

SUBMISSION

You implemented three AI players for Hex: Minimax, a simple MonteCarlo player and a more advanced Bandit MonteCarlo player. You will evaluate it by playing against the ClientPlayer program provided (EvaluationClientPlayer.jar). Your report should contain a very brief description of the players you implemented.

The Minimax player you must evaluate by playing 4 games against the Random player and the MonteCarlo player each. You thus have to execute 4 single player games against each algorithm (2 as player 1 and 2 as player two). These games should be played on the largest board size that Minimax is able to play on. The following table should be used to report your results:

Performance of Minimax against other players on board size 4x4			
	Number wins as player 1 (out of 2)	Number wins as player 2 (out of 2)	Total number wins
Minimax vs Random Player			
Minimax vs Monte Carlo Player			

Use the tournament option on the server to play 8 games at a time on various board sizes to evaluate your MonteCarlo player and the Bandit MonteCarlo player. The following tables should be used to report your results:

Performance of MonteCarlo against other players on various board sizes			
	Number wins as player 1 (out of 4)	Number wins as player 2 (out of 4)	Total number wins
MonteCarlo vs Provided Random Player			
MonteCarlo vs Provided MonteCarlo Player			
MonteCarlo vs Provided Bandit Player			

Performance of Bandit against other players on various board sizes			
	Number wins as player 1 (out of 4)	Number wins as player 2 (out of 4)	Total number wins
Bandit vs Provided Random Player			
Bandit vs Provided MonteCarlo Player			
Bandit vs Provided Bandit Player			

Artificial Intelligence

You may also have found that your players performed particularly well on specific board sizes. Feel free to include results like that too with an accompanying explanation.

Include one or two final board states with your submission to demonstrate that your players actually work, e.g.:

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1,1,2,1,1,1,1,  
1,2,1,2,2,2,1,  
1,2,2,2,2,1,1,  
2,1,2,2,2,2,2,  
1,2,2,2,1,2,1,  
1,1,2,2,1,2,1,  
2,1,2,1,0,1,1,
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Try to keep your report to two pages.