

README

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programming lang: java

Code structure

The program uses the alpha-beta pruning algorithm to search the game tree and make the best decision for the computer player. The `maximizeFunction` and `minimizeFunction` methods implement the two players' strategies. The `evaluationfunction` method assigns a score to a game state, and the `alphaBetaDecision` method returns the best move for the computer player based on the current state of the game.

The `start` method is the main game loop that alternates between the two players' turns until the game is over. If the human player is playing, the program prompts them to choose a red or a blue ball to remove. If the computer player is playing, it uses the `alphaBetaDecision` method to choose the best move.

The program takes command-line arguments to specify the number of red and blue balls, the maximum search depth for the alpha-beta algorithm, and whether the human player is playing. If the human player is playing, the third argument should be "human". If the maximum search depth is not specified, it defaults to infinity. If player is not specified, it defaults to computer.

How to run:

Compile: `javac RedBlueGame.java`

Run:

`java RedBlueGame 5 2 computer 2`

Here 5 is the no. of red marbles, 2 is the number of blue marbles, computer indicates the first player turn, 2 indicates depth limit

Players turn and depth limit is optional

