Othello game agent design proposal

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Topic

Design a game agent in order to play Othello game.

Background

Reversi is a strategy board game for two players, played on an 8×8 unchecked board. There are sixty-four identical game pieces called disks (often spelled "discs"), which are light on one side and dark on the other. Players take turns placing disks on the board with their assigned color facing up. During a play, any disks of the opponent's color that are in a straight line and bounded by the disk just placed and another disk of the current player's color are turned over to the current player's color.The object of the game is to have the majority of disks turned to display your color when the last playable empty square is filled.[1]

Aim

Based on some Artificial intelligence algorithm to build a game agent that has the ability to play the Othello game with human being. The agent has the ability to evaluate the current situation in the board and can use search algorithm to sense potiential danger(lose or adverse situation).

Methodology

The agent will use Python 2.7 as programming language, Pycharm and Python Notebook as the IDE. Implement will use algorithm like MinMax, AlphaBeta and value function.Search algorithms are for detecting some good steps in current board and revealing all possible situations after current step in future to choose best one. The value function will use to help make decision for the agent, this function will design according to othello game rule and classic common senses. In conclusion, search algorithm and value function will give the agent the ability to ‘think’ when it is playing.

Reference

[1]: https://en.wikipedia.org/wiki/Reversi