CS 5368 Intelligent Systems

Project-1 Report

Team: Intuitive Trios

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Design of Program:

Modules:

The Modules used in developing Squeeze-it game:

No Modules imported, except for basic module available in python package like math and os.

Interface:

PyCharm IDE

Language: Python 3.7

Heuristic evaluation functions:

Minimax Algorithm

Alpha Beta Pruning

One of the Heuristic functions we used is Minimax algorithm. Minimax algorithm is used in finding the best position to place the coin in order to win the game by making maximum squeezes possible.

For optimization (to find the best path), we have used alpha-beta pruning. The main reason for using this is to make the program run fast and to reduce the depth of the search tree. The combination of minimax with alpha-beta pruning is more efficient than compared to normal minimax algorithm.

Search strategies:

- **BFS:** For the given position of a coin, BFS is used in finding available positions that the coin can traverse in all the possible directions**.**
- **DFS:** This is used in finding next move to win the game by moving deep into the tree.

Average response time: 7 seconds per move