Introduction to Artificial Intelligence

Project 2 - Multi-Agent

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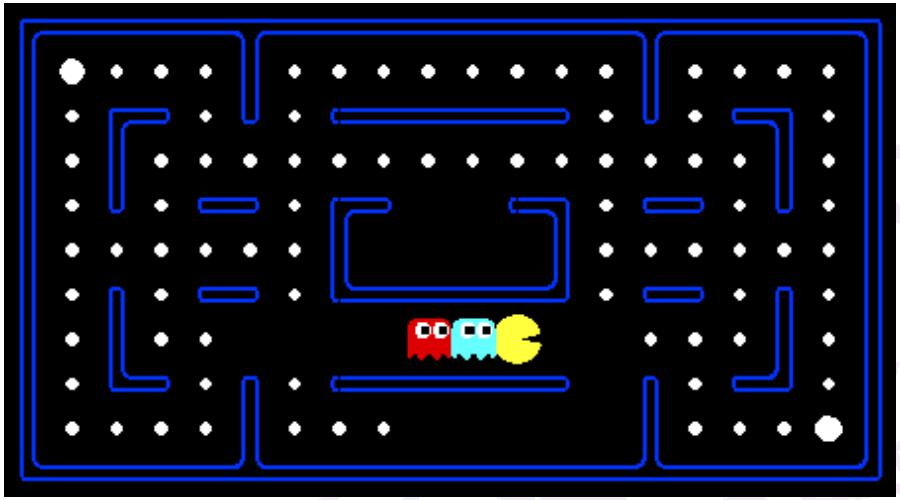
Multi-Agent Search



- Berkeley Pac-Man Project 2
  - https://inst.eecs.berkeley.edu/~cs188/sp20/project2/
  - https://inst.eecs.berkeley.edu/~cs188/sp20/assets/files/multiagent.zip

Basic Tasks (1)

- ReflexAgent
  - Improve the ReflexAgent in multiAgents.py (3 points)
- MinimaxAgent
  - Implement minimax algorithm for any number of ghosts in the provided MinimaxAgent class stub in multiAgents.py (4 points)
- AlphaBetaAgent
  - Implement alpha-beta pruning algorithm in the provided AlphaBetaAgent class stub in multiAgents.py (4 points)
- ExpectimaxAgent
  - Implement the ExpectimaxAgent (4 points)

Bonus

- Better Evaluation Function
  - Write a better evaluation function for pacman in the provided function betterEvaluationFunction
  - 1 points

Submission

- A 2-3 pages report (either Chinese or English)
  - Compare how these agents perform, e.g. state numbers, time, win rate, etc
  - Discussion
- Zip the files as the following structure
  - student_id.zip (e.g. 20090112xx.zip)
    - student_id.pdf
    - multiAgents.py

Grading

- Due
  - 2020/4/19 23:59:59
- Correctness & performance of agents (80%)
  - Run multiple games for each agent
  - Grading rules
- Report (20%)

谢谢！