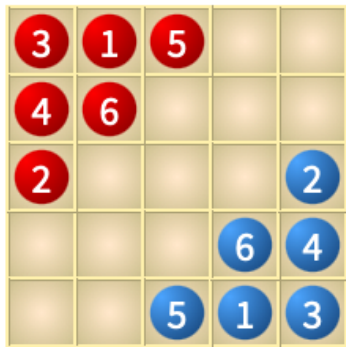# Theory of Computer Games (Fall 2023)
Final Project

NTU CSIE

Due: 2024/1/4 14:20

Outline

1 Game Description

2 Homework Requirements

3 Submission and Grading Policy

EWN

- EWN-wiki
- 愛因斯坦棋-中文版維基

Homework Requirements

- Implement an agent of EWN with the following required parts:
  - star1
  - NegaScout
  - transposition table
- Participate in the final competition.
- Beat the random baseline.
- Write a report.
- Cannot use mcts or deep learning.

Competition

- Date
    - 2023/1/4 14:20 (UTC+8)
    - Players are expected to prepare for the tournament between 1pm and 2pm.
    - Late comers will be treated as no show.
    - Get 0 point if you didn't attend the competition.
- Game Setting
    - Tournament format: Swiss-system
    - Round: 2n, $n \geq 3$
    - Time limit: 60s for each game
    - You lose if your program crash in a game.
    - In case of any violation, the referee has the right to decide the result of a game or if it may be restarted.

Submission

- Directory Hierarchy
  - student_id
    - Makefile
    - src // a folder containing all your codes
    - report.pdf
- Compress "student_id" into a zip file named student_id.zip.
- The first letter of your student id should be lowercase.
- Send your zip file to ntu.theory.of.computer.games@gmail.com.
- Due to server limitation, the file size is restricted to 2 MB.
- You will get some penalty (-10 points) if you don't follow these rules.

Report

- Your report should be named report.pdf.
- Your report should include but not limit to the following:
    - What algorithms and heuristics you've implemented.
    - Details of the evaluation function.
    - Discuss benefits of various enhancements.
    - Experiment results and findings of your implementation.

Grading Policy

- Generate the agent named agent after running "make" (5%)
- Beat the random baseline 50 times (25%)
  - Win: +0.5
  - Lose: +0
- Coding score (40%)
  - star1 (20%)
  - NegaScout (10%)
  - transposition table (10%)
- Report (30%)
- Bonus
  - Implement star2.5 (5%)
  - Good performance in the competition (TBD)