IGT Assignment 1

Spring 2020

You may use any programming language to write code for one of the following problems. This is a team assignment. Your team is the same as that of the scribes. The problem assigned to you can be found by **(Team Number)%3 + 1**.

Problem 1) Given a two player zero sum game, Find a mini-max equilibrium for the game. Also, find **all** possible pure strategy nash equilibria for the game.

Note: You need to find at least one mixed strategy equilibrium if it exists.

Problem 2) Find **all** weakly dominant strategy equilibria for an n-person game

Problem 3) Find **all** pure strategy nash equilibria for an n-person game

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Input Format

- Use nfg file formatted files (http://www.gambit-project.org/gambit14/formats.html#the-strategic-game-nfg-file-format -payoff-version) from the command line to generate games. You may use the Gambit library to parse the file

Instructions

- You may use a library for solving LP
- Expect bigger games such as 5 players, 10 actions each or 2 players with 1000 actions each as inputs during evaluation
- Any form of plagiarism will be severely punished

Submission Instructions

- Your submission should include a script to run your code
  - ./run <input file> <output file>
  - If you need to compile before running, it should be included in the same script
- If your program has any library requirements, include those in a readme file
- Submission Format: Assignment1_ProblemNo_TeamNo.zip
- **Deadline**: 25 March 2020, 11:59 PM