Learning in Games II

Reading Questions for Monday, March 7th, 2016

We ask you to submit comments on the following paper by midnight Sunday March 6th:

- Fast Convergence of Regularized Learning in Games, V. Syrgkanis, A. Agarwal, H. Luo, R.E. Schapire, NIPS 2015

Your comments should include both answers to the specific reading questions and generic response about the papers. You are welcome to include any questions you have about the papers in your comments. After submitting your own comments, you'll be able to see others' submitted comments. You can comment on others' submissions and answer raised questions on Canvas. Discussion on Canvas is strongly encouraged.

1 Reading Questions

1. The price of anarchy of a game is the ratio of the socially optimal achievable welfare to the welfare at the worst case equilibrium. In a game with a low price of anarchy, why would you expect the correlated equilibrium to be close to the socially optimal welfare?

2. How does Optimistic Follow the Regularized Leader (OFTRL) differ from pure Follow the Regularized Leader (FTRL)? Can you give an explanation for the extra term? Feel free to consult this poster, where they make it more obvious what's going on:
`https://www.cs.princeton.edu/~haipengl/papers/games_poster.pdf`

3. Can you think of any scenario where it would be probable that your opponent is also using an algorithm like OFTRL? Would this happen in a zero-sum games?

2 Generic Response

Respond to the papers following the guidelines in the course syllabus (under "Submit Comments and Presenting Papers").