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24.222 Decisions, Games, and Rational Choice  
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### THIRD HOMEWORK ASSIGNMENT

Your task is to choose a game (in the game-theoretic sense), describe its abstract structure (as well as whatever concrete details might be relevant), and discuss what would or should happen when your game is played by rational players, and how the players should reason about what to do. The game could be one discussed in the reading, or in class, a modification of such a game, or one that you make up to show something interesting. It should be a game that mixes some common interest with some conflict, and it should be a game that you think shows something interesting about strategic reasoning. You might think that the reasonableness of some course of action in your game depends on some further assumptions (beyond the assumption that the players are rational, and assume that the others are rational). If so, try to identify the assumptions. If it is relevant to the game you choose, you might consider some general patterns of strategic reasoning, such as backward induction and so-called forward induction (where one reasons that an early move would be rational only if the player intended to make a certain move later), and what the conditions are under which such forms of reasoning are sound.

You might begin with a concrete description of a particular kind of interactive situation, and then describe the abstract structure (in either extensive or normal form) that you think it has. Or, you might start with an abstract game.

Examples: you might discuss the money burning game, the iterated prisoners dilemma, or an iterated version of some other game of interest. You might consider a game where explicit communication plays a role, and where it is not obvious whether a message is credible or not. Use your imagination and ingenuity.

You should aim for a paper of about five pages. It is due on Friday, April 18. You can submit it on line, or by email, or turn in a hard copy.