

First Homework Assignment for Math 496 and 827

Due: Friday, January 30th, in class.

All references are to the Bertsimas and Tsitsiklis text.

Problems for Math 496 and 827:

1. Formulate the economic game from the first class from the perspective of Alice (who picks a row, rather than a column). Show this for both the 2×2 example given in class and the general case of an $m \times n$ matrix.
2. Take the dual of the two formulations of question 1. Make a variable substitution to show that this is equivalent to the problem from Bob's perspective.
3. What are the optimal strategies for Alice and Bob in the 2×2 example?
4. Exercise 1.4.
5. Exercise 2.6.

Problems mainly for Math 827:

6. Exercise 1.12.
7. Exercise 2.5.
8. Exercise 2.10.

Reading:

Chapters 1, 2 and 4.

Notes:

Class will not meet on Wednesday, January 28th. The class may rescheduled later in the term.

The tentative midterm date is now Wednesday, March 4th.