

Each student submits their own assignment. Discuss this assignment only within your group. You can post questions asking for question clarification on the eclass discussion forum, but do not post answers or hints or solution suggestions there or anywhere else.

1. List all members of your discussion group, including yourself. Acknowledge that you understand that discussion of this assignment with anyone outside your group is considered plagiarism. Acknowledge any resources (except for class notes or text) you accessed when working on this assignment.
2. Chapter 5 Exercise 1 (p 104)
3. Chapter 5 Exercise 2
4. Chapter 5 Exercise 7
5. Chapter 5 Exercise 8
6. Chapter 5 Exercise 9
7. Chapter 5 Exercise 10
8. Consider this 0-sum matrix game. Scores shown are for R.

$$\begin{array}{ccc} 1 & 3 & 1 \\ 1 & -1 & 0 \\ 2 & 1 & 2 \end{array}$$

Formulate the problem of finding a mixed strategy p for R with best guarantee as a linear program. Using sagemath, find the value of this matrix game and an optimal mixed strategy for R. Explain briefly.

9. Repeat the above question for C. Omit the explanations: instead, explain how this answer helps prove the correctness of the previous problem, and vice versa.