

UNIVERSITY OF CALIFORNIA, BERKELEY

DEPARTMENT OF STATISTICS

STAT-155: Game Theory

Fall 2013

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Assignment # 8

Date Given: November 04, 2013 (Monday)
Date Due: November 11, 2013 (Monday)

Total Points: 20

1. Consider a two-person zero-sum game with the following payoff matrix

$$\begin{pmatrix} 8 & 3 & 0 & 5 \\ 0 & 4 & 4 & 1 \end{pmatrix}$$

Find the value of the game and a pair of optimal strategies for the two players. Give explanation for your answers.

Now consider a different payoff matrix given by

$$\begin{pmatrix} 8 & 0 \\ 3 & 4 \\ 0 & 4 \\ 5 & 1 \end{pmatrix}$$

Can you find the value of this new game and a pair of optimal strategies for the two players? Give reason for your answers.

2. Using the method of domination, find the value and a pair of optimal strategies for a two-person zero-sum game with the two players for the following payoff matrix:

$$\begin{pmatrix} 0 & 8 & 5 \\ 8 & 4 & 6 \\ 12 & -4 & 3 \end{pmatrix}.$$