

STAT 473 – Game Theory
Spring 2020
Problem Set 5

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Due: 5/1/20, 9:30 am

Consider the modified game of Rock-Paper-Scissors in Figure 1 where players are both punished when they both play the same action.

	R	P	S
R	(-1,-1)	(-1,1)	(1,-1)
P	(1,-1)	(-1,-1)	(-1,1)
S	(-1,1)	(1,-1)	(-1,-1)

Table 1: The payoff matrix for players 1 and 2 of modified Rock-Paper-Scissors.

- [10 pts]** Find a Nash equilibrium of the game in Figure 1. What is the expected payoff to both players? Is this equilibrium evolutionarily stable? Why or why not?
- [10 pts]** Find a correlated equilibrium of the game in Figure 1 that results in an expected higher payoff (than the Nash equilibrium) to both players and explain why that distribution is in fact a correlated equilibrium.