WPI

Last modification: January 29, 2023

RBE595/CS525: Swarm Intelligence
Spring-Term 2022/2023
Homework 4

Exercise 1: Game Theory [50 points]

Find the Nash equilibria of this game:

	Player B *forward*	Player B *backward*	Player B *rotate*
Player A *forward*	4,4	7,7	5,1
Player A *backward*	7,7	4,4	1,1
Player A *rotate*	1,5	1,1	0,0

Exercise 2: Game Theory [50 points]

Consider the two-player game described by the payoff matrix below.

	Player B L	Player B R
Player A U	3,3	0,0
Player A D	0,0	1,1

1. **[20 points]** Find all pure-strategy Nash equilibria for this game.
2. **[30 points]** This game also has a mixed-strategy Nash equilibrium; find the probabilities the players use in this equilibrium, together with an explanation for your answer.