

Problem Set II

2.1 (cf. MAS-COLELL, p.262, 8.C.2)

Prove that the order of removal does not matter for the set of strategies that survives a process of iterated deletion of strategies that are never a best response.

2.2 (cf. MAS-COLELL, p.262, 8.B.6)

Prove that if pure strategy s_i is a strictly dominated strategy in game $\Gamma_N = [I, \{\Delta(\mathcal{S}_i)\}, \{u_i(\cdot)\}]$, then so is any strategy that plays s_i with positive probability.

2.3 Consider the following normal form game.

	t_1	t_2	t_3	t_4	t_5
s_1	0, 100	0, 100	0, 100	0, 100	0, 100
s_2	81, 19	20, 80	20, 80	20, 80	20, 80
s_3	81, 19	49, 51	40, 60	40, 60	40, 60
s_4	81, 19	49, 51	25, 75	60, 40	60, 40
s_5	81, 19	49, 51	25, 75	9, 91	80, 20
s_6	81, 19	49, 51	25, 75	9, 91	1, 99

- a) Determine all strictly dominant strategies.
- b) Determine all weakly dominant strategies.
- c) Determine all strictly dominated strategies.
- d) Determine all weakly dominated strategies.
- e) Determine which strategies survive the iterative elimination of weakly dominated strategies.
- f) Determine all rationalizable strategies.

Enjoy!

Please direct queries to: michael.mueller@kit.edu