

Exercise sheet 1

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Exercise 1: Iterative deletion and Nash equilibria in a 2 players game

Consider the following game:

	L	C	R
T	(2, 0)	(1, 1)	(4, 2)
M	(3, 4)	(1, 2)	(2, 3)
B	(1, 3)	(0, 2)	(3, 0)

1. What strategies survive iterative deletion of strictly dominated strategies?
2. Find all (pure strategy) Nash equilibria.
3. Is there a NE that Pareto dominates other NE? Give all NE that are Pareto optimal.

Exercise 2: Nash equilibria in a 2 players game with parameters

Consider the following game:

	L	C	R
T	(a , 1)	(1, 0)	(2, b)
M	(4, 8)	(3, 4)	(4, 1)
B	(1, 0)	(0, 2)	(8, 2)

$a, b \in \mathbb{R}$.

Find all (pure strategy) Nash equilibria.

Exercise 3: Iterative deletion and Nash equilibria in a 3 players game

Consider the following game, in which player 1 chooses the row, player 2 the column and player 3 the matrix:

	V			W	
	L	R		L	R
T	(1, 3, 1)	(1, 2, 0)	T	(1, 1, 0)	(1, 0, 1)
M	(3, 2, 0)	(0, 3, 1)	M	(2, 1, 1)	(3, 2, 0)
B	(0, 1, 1)	(3, 2, 0)	B	(3, 0, 0)	(0, 3, 1)

1. What strategies survive iterative deletion of strictly dominated strategies?
2. Find all (pure strategy) Nash equilibria.