

Performance Evaluation – Master UBINET

Assignment 2

Solutions have to be sent by February 8th 2014 to `giovanni.neglia@inria.fr`.

Ex. 1 — Solve the following games:

	A	B	C	D
A	5	1	4	-2
B	-5	2	1	4

	A	B
A	(0,1)	(1,2)
B	(1,3)	(0,1)

Ex. 2 — Tragedy of the commons

Two farmers let their cows graze on the same meadow. The day milk production in liters of a cow (P) depends on the total number (n_T) of cows in the meadow according to the following formula: $P = 6 - n_T$ for $n_T = 1, 2, 3, 4, 5$ and $P = 0$ for $n > 5$ (the meadow is overexploited).

At the begin of 2011 each farmer has to decide how many cows he wants to raise on the meadow. Model their decision in a game theoretical framework. Study this game, in particular

- determine if it is zero-sum or not,
- determine equilibria in pure strategies and Pareto optimal outcomes.