



## Recitations 19

### [Definitions used today]

- Perfect Equilibrium, perturbation, perturbed game, u-robust utility,

### Question 1

Let  $I = \{1, 2\}$  and consider the game  $G$  defined by

	L	R
T	1,1	0,0
B	0,0	$x, y$

- Find BR correspondences and write down Nash Equilibria in following cases:
  0.  $x, y > 0$
  1.  $x < 0 < y$
  2.  $x, y < 0$
  3.  $x = y = 0$
  4.  $x = 0 < y$
- Consider (3) case and find all perfect equilibrium sets. Hint:  $(1, 0), (1, 0)$  is PE and  $(0, 1), (0, 1)$  is not. Show it!

### Question 2

Show that if  $s \in S$  is a PE, then it is also a NE.

### Question 3

Prove that if  $s \in S$  is a fully mixed NE, then it is also a PE.