

Never-Best Response - Strictly Dominated Equivalence

Lemma

An action of a player in a finite strategic game is a never-best response if and only if it is strictly dominated.

Fix a game $G = \{N, (A_i), (u_i)\}$ and a strategy a_i^* .

- Create an auxiliary zero-sum game $G' = \{\{1, 2\}, (A'_i)_{i=1}^2, (u'_i)_{i=1}^2\}$ where
 - ▶ $A'_1 = A_1 \setminus \{a_1^*\}$ and $A'_2 = A_2$.
 - ▶ $u'_1(a_1, a_{-1}) = u_1(a_1, a_{-1}) - u_1(a_1^*, a_{-1})$

	L	R
T	3, 0	0, 1
M	0, 0	3, 1
B	1, 1	1, 0

G

\Rightarrow

	L	R
T	2, -2	-1, 1
M	-1, 1	2, -2

G'