

Mixed Strategy Nash Equilibrium

Definition

The **mixed extension** of the strategic game $\{N, (A_i), (u_i)\}$ is the strategic game $\{N, (\Delta(A_i)), (U_i)\}$.

Definition

A **mixed strategy Nash equilibrium of a strategic game** is a Nash equilibrium of its mixed extension. Specifically, for every player $i \in N$

$$U_i(\alpha^*) \geq U_i(\alpha_i, \alpha_{-i}^*) \text{ for every } \alpha_i \in \Delta(A_i).$$