Existence of Nash Equilibrium

Proposition

The strategic game $\{N, (A_i), (\succeq_i)\}$ *has a Nash equilibrium if for all* $i \in N$

- *the set* A_i *of actions of player* i *is a nonempty compact convex subset of Euclidean space and*
- *the preference relation* $\succeq_i$ *is*
  - *continuous and*
  - *quasi-concave on* A_i*.*