W1.summary

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- Self-interested —preference→ Utility max
  - $N=\{1,\dots,n\}$ i
  - i - A_i - $A=A_1\times\dots\times A_n$　　$a=(a_1,\dots,a_n)\in A$
  - i - $u_i: A\to R$

Game: Matrix form

Large Collective Action

- Prisoner's dilemma

  pure competitive : $u_1(a)+u_2(a)=c$　　$c=0$, Zero Sum

  pure cooperative　　$\forall a\in A$　　$\forall i,j$　　$u_i(a)=u_j(a)$

  competitive & cooperative　　mismatch $(0,0)$

  match　　$u_i(a)\neq u_j(a)$

- Keynes Beauty Contest Game

  Nash Equilibrium: Best Responds to others.

  others: $i\to a_i^*$　　a_i　　$-i\to a_{-i}$

- Best response　　iff $u_i(a_i^*, a_{-i})\geq u_i(a_i, a_{-i}) \Rightarrow a_i^*\in BR(a_i)$

  Nash Equilibrium　　iff $a_i\in BR(a_{-i}) \Rightarrow a=(a_1,\dots a_n)$ N.E.

  step by step

- Dominates

  strict $s_i\ s_i'$　　$i\to u_i(s_i, s_{-i}) > u_i(s_i', s_{-i})$

  very weak s_i, s_i'　　$i\to u_i(s_i, s_{-i})\geq u_i(s_i', s_{-i})$

  s_i Dominants.

- Pareto Dominates

  ↳ Pareto Optimal