Extensive Game with Perfect Information and Simultaneous Moves

Definition

An extensive game with perfect information and simultaneous moves is a tuple $\{N, H, P, (\succeq_i)\}$ where N is a finite set of players, H is a set of histories, for each $i \in N, \succeq_i$ is player i's preference relation over Z, and

- P is a correspondence from $H \backslash Z$ to N.
- For every $h \in H \backslash Z$ there is a collection $\{A_i(h)\}_{i \in P(h)}$ for which $A(h) = \{a : (h, a) \in H\} = \times_{i \in P(h)} A_i(h)$.

- A strategy of player $i \in N$ is a function that assigns an action in $A_i(h)$ to every nonterminal history h for which $i \in P(h)$.
- Definition of subgame perfect equilibrium is the same as before except that $P(h) = i$ is replaced by $i \in P(h)$.
  - One deviation property holds.
  - Kuhn's theorem does not.