ECON 201C - Spring 2010
Lecture 1

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Definition of a Game

- Displays the strategic interaction between decision makers;
  - each of whose payoffs depend not only on what he/she has chosen,
  - but also, on the choice of the other decision makers.
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Important Categories for Games – I

Timing:

- Simultaneous choice: Normal–form games
  
  (Also called, simultaneous move games, strategic-form games.)
  
  Example: Rock-Scissor-Paper

- Sequential choice: Extensive–form games

  Example: Chess, Backgammon
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**Information:**

- **Perfect information:**
  
  Every player observes all the important features of the strategic interaction perfectly.

- **Imperfect information:**
  
  Some of the important aspects are not observed by at least one decision maker, like the type of the opponent, or his/her previous moves.
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Categories for Games

Games are generally categorized into 4 subgroups:

1. Normal–form games under perfect information;
2. Extensive–form games under perfect information;
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Normal–Form Games Under Perfect Information

We will adopt the following formulation by von Neumann:

- **Timing:**

  Players choose at the very same time.

  This strategic interaction has not happened in the past, and will not happen in the future.

- **Payoffs:**

  The payoffs from the strategic interaction summarizes all the important aspects there is to this interaction.
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A normal–form game under perfect information is defined by:

1. Who the decision makers (*players*) are;

2. What each player can choose, i.e. his set of actions or *strategies*;

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