Game Theory and Computational Social Choice

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**Game Theory**

Game theory is the study of mathematical models for the analysis of strategic interactions between rational agents. **Example:**

![Game Theory Table]

**Keywords:** strategic games, mechanism design, coalitional games
Computational Social Choice

Social choice theory is concerned with the design and analysis of methods for collective decision making. Example:

2 Germans: Beer ≻ Wine ≻ Milk
3 Frenchmen: Wine ≻ Beer ≻ Milk
4 Dutchmen: Milk ≻ Beer ≻ Wine

Keywords: voting theory, fair allocation, judgment aggregation
Course Characteristics

• **Commonalities**
  – Analysis and discussion of formal models of real-world concepts
  – Lots of problem solving / proofs, mathematical maturity expected
  – No programming required, though some possible

• **Game Theory**
  – Focus on textbook material in mathematical economics
  – Assessment: homework (TBC)

• **Computational Social Choice**
  – Focus on current research, topics change every year
  – Assessment: homework + exam (instead of group projects)

Appeal: Full information on both courses is available from my [website](#). Please have a look before registering.