Social Choice

Week 8
How does the setting we study in social choice differ from that we’ve considered in game theory?
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What is a social choice function?
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What is a social choice function?

What is a social welfare function?
Voting Rules

- What is plurality?
Voting Rules

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- What is Borda?
Voting Rules

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- What is Borda?
- What is pairwise (/successive) elimination?
Voting Rules

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- What is Borda?
- What is pairwise (successive) elimination?
- What is plurality with elimination?
Voting Rules

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- What is cumulative voting?
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- What is approval voting?
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- What is plurality with elimination?
- What is cumulative voting?
- What is approval voting?
- Which do you like better? Why?
Voting Rules

- What is plurality?
- What is Borda?
- What is pairwise (successive) elimination?
- What is plurality with elimination?
- What is cumulative voting?
- What is approval voting?
- Which do you like better? Why?
- ...And, what’s Condorcet consistency?
Voting Exercise

Imagine that we can take a class trip, to one of:

1. Orlando
2. Istanbul
3. New York
4. Bangkok

Where should we all go?
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Where should we all go?

- Figure out your preference ordering
Voting Exercise

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Where should we all go?

- Figure out your preference ordering
- Plurality (stand up, move into groups)
Voting Exercise

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- Plurality (stand up, move into groups)
- Plurality with elimination (shuffle the groups)
Voting Exercise

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Where should we all go?

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- Pairwise elimination (more moving around)
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- Pairwise elimination (more moving around)
- Borda (hand in preference orderings)
- Approval voting (check off items on board)
Let’s put this into practice!

We need to finalize details for projects in this course. Here are the constraints.

- Last day of class is April 4.
- Exam is April 11.
  - Must set times. 2 PM – 5 PM?
- Everything is due last day of term. April 24 is the last day of exams. Perhaps we could stretch this to April 26 (Friday). April 30 (Tuesday) is the actual last day of term.
  - Is anyone graduating this year?
- We need $k$ days to do peer evaluation. Tradeoff between available time for peer evaluation (bigger $k$) and available time for project (smaller $k$).
- So, what deadlines should we set for projects, and for peer eval?
Arrow’s Theorem

- Define Pareto efficiency
Arrow’s Theorem

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- Define independence of irrelevant alternatives
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Define dictatorship
Define Pareto efficiency
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State Arrow’s theorem
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- Why is it important? Is it surprising? What should we conclude?
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- What does the Muller–Satterthwaite theorem say?
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