

# Looking Ahead

- Assignment 11 (due Nov 9) is the last assignment.
- **Week 12 (Nov 6):**
  - Tournaments (~1 hour)
  - **Optional material:** Proof of Nash equilibrium existence (~1 hour)
- **Week 13 (Nov 13):**
  - **Midterm 3** (80 minutes)
  - No lecture after midterm

# Midterm 3 Logistics

- Midterm 3 on Nov 13 (6:30–7:50pm)
- Closed-book, closed-notes, no calculator or other electronic devices
- Topics & terms to know:
  - **Nash equilibrium:** Normal-form game, Nash equilibrium, pure Nash equilibrium, strictly dominated strategy, action
  - **Cooperative games:** Induced subgraph game, weighted voting game, Shapley value, core
  - **Cake cutting:** Dubins–Spanier protocol, Even–Paz protocol, Robertson–Webb query model, envy-free, proportional, Pareto optimal, truthful/strategyproof
  - **Rent division:** (no additional term)
  - **Committee voting:** Social welfare, coverage, AV, CC, GreedyCC, MES, PAV, JR, EJR
  - **Tournaments:** Outdegree, Condorcet winner/loser, Copeland set, top cycle, uncovered set, Banks set
- Some terms may be relevant for more than one topic.

## Midterm 3 Logistics

- 2 proof questions worth 6 points each (out of 60)
  - Writing “Don't know” on each proof question guarantees 1 point
- Practice questions for cake cutting, rent division, committee voting already posted on Canvas
  - Practice questions for tournaments to be posted by Week 12 (Nov 6)