

Math 490 Class Notes Feb 26

Open Questions from class today:

- Is there any other positional voting system (other than Borda) that is also a pairwise system?
- Is there any other positional voting system (other than Borda) that can't put the Condorcet candidate last?
- An example with three candidates:

| | 3 | 2 | 2 | 4 |
|---|---|---|---|---|
| A | A | A | B | C |
| B | C | C | C | B |
| C | B | A | A | A |

by choosing s in $(0, s, 1)$ we could get at least 3 (really 7) different outcomes. How many outcomes are possible? What values give ties in the outcome?

- How can you combine voting systems? When you combine, what kinds of things happen (with respect to properties/criteria)?
- How often do voting systems fail criteria? ("How often" gets tricky to define/quantify/measure!)
- Is there a systematic way to find examples for voting systems?
- Could we construct a criterion where if a voter votes in a way that doesn't reflect their true preferences it doesn't hurt their preferred candidates? (Strategic Voting)
- How does strategic voting play into approval voting?

A few proposed variations on approval/range voting:

- Each ballot gives the option to identify a voter's first place candidate as well as any other candidates they approve of.
- STAR voting with a second runoff between the top two candidates which only counts those ballots where those two candidates were ranked differently
 - Wikipedia link
 - starvoting.us