Lecture 3 – Iterative Deletion And The Median Voter Theorem

We apply the main idea from last time, iterative deletion of dominated strategies, to analyze an election where candidates can choose their policy positions. We then consider how good is this classic model as a description of the real political process, and how we might build on it to improve it. Toward the end of the class, we introduce a new idea to get us beyond iterative deletion. We think about our beliefs about what the other player is going to do, and then ask what is the best strategy for us to choose given those beliefs?

Tip: Try to identify all the dominated strategies of all the players before you delete, then delete. Then look again. Try to identify all the dominated strategies of all the players again, and then delete.

Model of Politics

Two candidates chose positions on political spectrum (1-10) with 10% votes at each portion. Voters vote for the closest candidate. If there is a tie, then voters split. Candidates aim to maximize their share of votes. 2 strictly dominates 1. 9 strictly dominates 10. 2 and 9 are not dominated but they are dominated once we realise that 1 and 10 won't be played. Iterative deletion leads to deleting all except 5 and 6.

Median Voter Theorem: Candidates crowd the center.

Limitation of Median Voter Theorem

1. The voters are not evenly distributed.
2. More than two candidates and people not voting.
3. The inability to commit to a position.
4. Primaries.
5. Other dimensions.