GamesCrafters
Undergraduate Game Theory Research and Development Group
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Motivation:
- Games have been played for a millennia.
- Wall paintings over 5000 years old have been found in Egypt.
- People are playing the same games now they were back then, but only now, are we able to strongly solve them.
- The GamesCrafters research and development group was formed to explore the fertile area of combinatorial and computational game theory.

Games We Solve:
- Two players (Left & Right)
- No chance, such as dice or shuffled cards
- Both players have perfect information
  - No hidden information, as in Stratego & Magic
  - The game must be finite - it must end

Moves / Positions:
- Winning Move: Either wins the game, or leaves opponent with losing moves.
- Losing Move: Either loses the game, or leaves the opponent with winning moves.
- Tying Move: Either makes a tie, or leaves opponent with tying and losing moves.
- Using these definitions:
  - Win: A position in which there exists a winning move.
  - Lose: A position in which all moves are losing moves.
  - Tie: A position in which all moves are tying and losing.

How We Do It:
The value of a game is determined by a brute-force exhaustive search of the game tree. The value of a particular board configuration, or position, is based on the values of its children, i.e., the positions that are one legal move away. A position has a value of either Win, Lose, or Tie. Moves are also labeled with one of these three values.