Algorithmic Operation Research

Project Presentation

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November 23, 2019

Beginnings

It all started at UC Berkeley in October 2006..

Beginnings

..with a chessboard

The Main Idea

What's the Idea?

Play chess as usual, but..

- Do not alternate moves.
- Bid for the right to play.
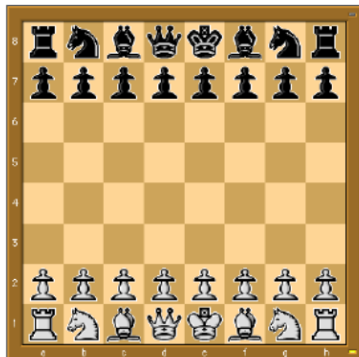
Rules

How do we play?

- Each player starts with 100 bidding chips.
- Before each move, each player writes down a bid.
- The player who bids higher gives that many chips to the other player, and makes a move.

Rules

How do you win?

- By taking opponent's king.

Example

BIDDING CHIPS

W: 100*

B: 100

Example

BIDDING CHIPS

W: 100*
B: 100

BIDS

W: 13*
B: 12

Example

BIDDING CHIPS

W: 87
B: 113*

Example

BIDDING CHIPS

W: 87
B: 113*

BIDS

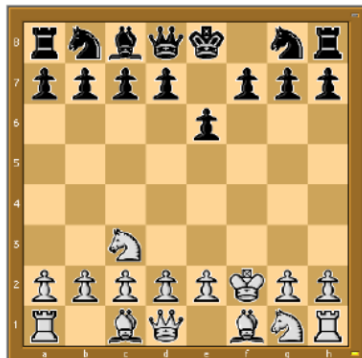W: 11
B: 11*

Example

BIDDING CHIPS

W: 98*

B: 102

Example

Fast forward..

Example

BIDDING CHIPS

W: 70
B: 130*

BIDS

W: 30
B: 25*

Example

BIDDING CHIPS

W: 40
B: 160*

Example

- That was a total mindf**k.

What are we dealing with?

- Bidding Games investigated by David Richman and Richman's theory about continuous bidding.

- Descrete vs Continuous bidding games.

- Berlekamp's Economist's view of combinatorial games.

- Another game of bidding: Tic-Tac-Toe.