

圍棋
碁
Go



A strategy game three millennia old

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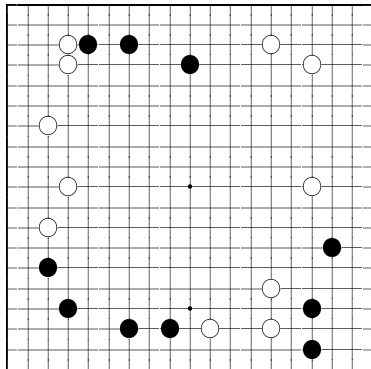
Overview

Game setup

- ▶ 2 players
- ▶ rectangular board: Goban
- ▶ Black and White *stones*
- ▶ players place alternatively stones on empty intersections
- ▶ scoring: captured stones and encircled territories

Game category

- ▶ zero-sum
- ▶ perfect information
- ▶ deterministic strategy



Typical amateur start game on a 19×19 Goban.

Overview

Social Context

- ▶ origin from ancient China
- ▶ first written reference 548 BC
- ▶ world-wide popularity
- ▶ very famous in East Asia



2200 years old porcelain Goban

Computer Science Context

- ▶ best computer programs only reach medium amateur level
- ▶ huge complexity: $\approx 2 \times 10^{170}$ valid game states
- ▶ involves both strategy and pattern recognition
- ▶ non-local interactions
- ▶ non-binary victory

Rules and Concepts

Play



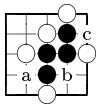
Black and *White* place alternatively stones on empty intersections.

Chain



A group of mutually connected stones of same color.

Liberty



An empty intersection adjacent to a chain.

Removal



A chain with no more liberty is *dead*. Killing a chain *captures* it.

Eye



Black group is *alive*, because it has two eyes.

Ko



No consecutive repetitions of the same shape.

References



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