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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