

# Formalizing Knights and Knaves Logic Puzzles in Lean Using Set Theory

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## Overview

URL: [here](#)

This project formalizes knights and knaves logic puzzles using set theory (finite sets).

This will be integrated into the knights and knaves game later on in the future

## Core Property

The axioms of knights and knaves logic puzzles and 'obvious' consequences from that in addition to solutions of various logic puzzles

## Challenges

- Prepping explanations to be ready for lean 4 game
- **Encoding Statements:** Translating natural language statements into precise set-theoretic formulas suitable for Lean.
- **Automation:** defining the write helper theorems/lemmas and tactics/macros to encapsulate patterns of reasoning and improve experience for the user