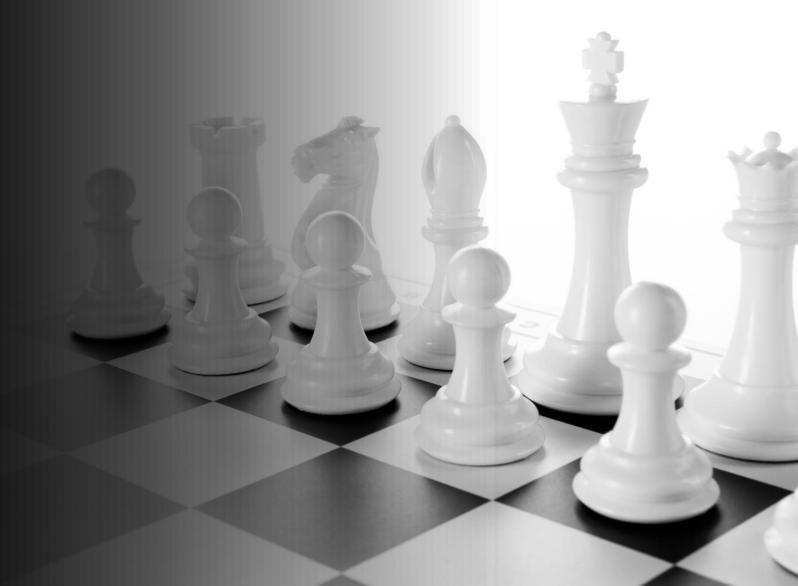# Board Games and Computational Thinking

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Where are we going?

Board Game and Computation

Case Study: Quirky Circuits

Game Design as Learning

Part 1: Board Games and Computation

Platforms:

- Facilitate Creative Production and Processes
- Abstract away low level functionality

Board Games

- Platforms made up by Players, Components, and Rules
- "Analog game systems have always been an abstraction of mathematical and spatial manipulations of objects."
- Use the processes and materiality to facilitate creative/computational output.

Part 2: Quirky Circuits and Learning to Code

- Quirky Circuits
  - Cooperative programming game
  - Foregrounds the execution of programs
  - Relies on players to build and execute programs
  - Familiarizes players with the act and processes of programming

Part 3: Board Game Design and Learning

Game Design

- Communicates Complex Tasks
- Design thematically and mechanically interesting gameplay
- Codify mechanics into modular processes
- Represent processes to players
- Facilitate Creative Production and Processes
- Abstract away low level functionality

Conclusions and Takeaways

Games are already educational

Players learn through play

Designing games teaches communication

Design and Play introduce computational and programmatic thinking