

CHAPTER OVERVIEW

12: Markov Chains

A **Markov chain** refers to a sequence (or "chain") of discrete events, generated according to a fixed set of probabilistic rules. The most important property of these rules is that they can only refer to the current state of the system, and cannot depend on the past states of the system. Markov chains have numerous applications in physics, mathematics, and computing. In statistical mechanics, for instance, Markov chains are used to describe the random sequence of micro-states visited by a system undergoing thermal fluctuations.

[12.1: The Simplest Markov Chain- The Coin-Flipping Game](#)

[12.2: General Description](#)

[12.3: The Ehrenfest Model](#)

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