Case Study 1: Rock-Paper-Scissors Game

A finite automaton is the study of devices that can be in one of a finite number of states. Many different problems can be modeled using finite state automata. For example, a door closing when a person stands on a pad can be modeled with a series of states. For example, when someone is standing on the pad, if the door is open or closed and if someone is standing on the other pad. Automaton is a state of finite machines that are represented in a directed graph. Usually with a starting state and a terminating state. Finite state machines can be also used to measure the validity of set of characters. For example, if the string satisfies the automaton than it can be used for further exploration.

Along with finite state machines there is also a probabilistic counterpart called Markov chains. Markov chains are used to predict the probability of an event occurring with the combination of historical events. This paper will explore the game of rock, paper, and scissors using markov chains to predict the probability of the next hand.