# Reinforcement Learning Notes

## Partially Observable Markov Decision Processes

### The Finite State Partially Observable Markov Decision Processes

Let be a random variable defined on a sample space where ; assume takes on values in the finite set . The stochastic process called the *core process*, is assumed to be a finite state Markov chain with stationary transition probability matrix . The core process is completely described by and the initial distribution over denoted by , where . The core process is not directly observable; that is, the realization of is not determinable with certainty at time .

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