

Lecture on July 8th, 2019
Introduction to Markov Chain II

1 Markov Chains (MC) Examples - See Chap 3.3

- Example: Inventory Model - See Chap 3.3.1
- Example: Ehrenfest Urn Model - See Chap 3.3.2

2 Simple First Step Analysis - See Chap 3.4.1

- Idea: analyze the first step and then use LTP + Markov property(M.P.)
- Example: Let $\{X_n\}$ be a MC with

$$P = \begin{pmatrix} 1 & 0 & 0 \\ \alpha & \beta & \gamma \\ 0 & 0 & 1 \end{pmatrix}$$

where $0 < \alpha, \beta, \gamma < 1$.

Question:

- (1) Probability of absorption in state 0?
- (2) Mean time of absorption?