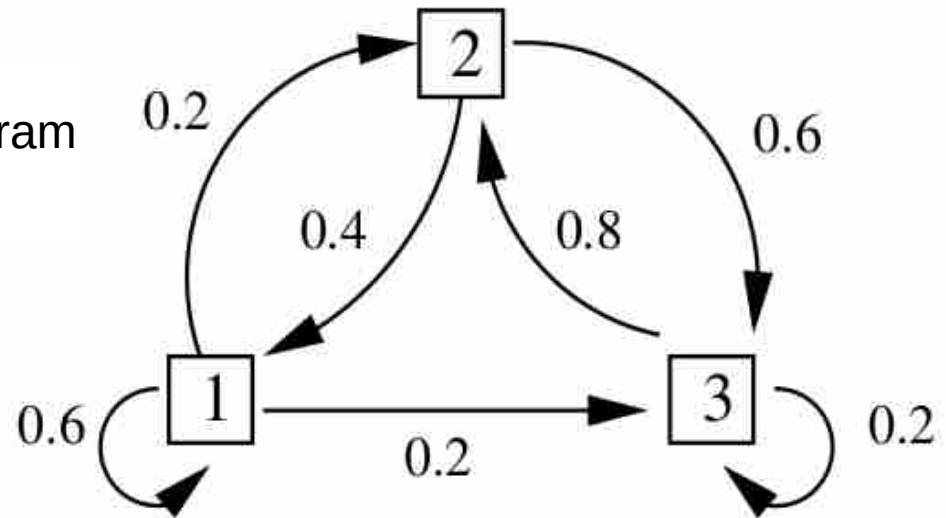


# Introduction to Bioinformatics for Computer Scientists

## Lecture 8b – Some Exercises

# Exercise

Given the following transition diagram



- Find the transition matrix  $P$
- Find  $P(X_2=3 \mid X_0=1)$
- Suppose that the process is equally likely to start in any state at time 0  
→ Find the probability distribution of  $X_1$
- Suppose that the process begins in state 1 at time 0  
→ Find the probability distribution of  $X_2$
- Suppose that the process is equally likely to start in any state at time 0  
→ Find the probability of obtaining the trajectory (3, 2, 1, 1, 3).