

Math 36 — Daily Homework
Assigned: 10/15
Due: 10/18

1. Draw examples of a Markov chain that
 - (a) is regular but P and P^2 have zero entries
 - (b) is ergodic but not regular
 - (c) has period 2, but no cycles of length 2
 - (d) is an absorbing Markov chain with more absorbing states than transient states
 - (e) has an absorbing state j where the probability of ending in that in j is the same for every starting transient state i , i.e. B_{ij} is the same for all i .

For each, draw the “lily pad diagram” of states and arrows with the transition probabilities and explain why your Markov chain has the desired property. Don’t just give the transition matrix.