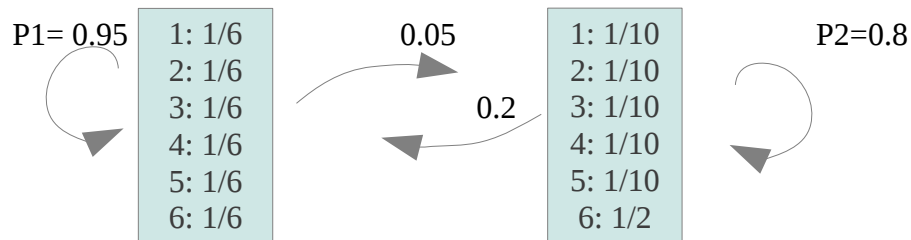


## Homework 5 – Hidden Markov Models

### Dishonest Casino

We have two dice in a casino, a fair and a biased one.



Sequence 1 of symbols: see attached file

1. What is the probability of being at state F in the last observation?
2. What is the probability of being at state F in the 5<sup>th</sup> observation?
3. What is the probability of being at state F, two steps after the last observation?
4. What is the most likely sequence of states traversed by the chain?
5. Infer  $P1$  and  $P2$  and the symbol emission probabilities at each state for the following sequence of states.

Sequence 2 of symbols: see attached file