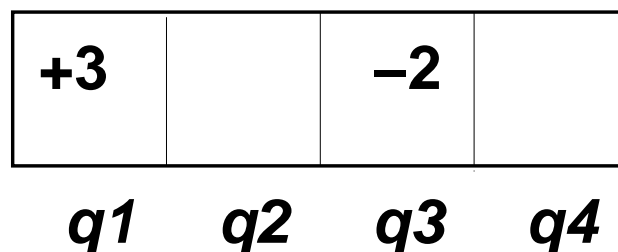


Assume that an agent is executing in the following, four-state model. It has available to it two actions: “L” and “R”. On a “L” action, if the way is unblocked, the agent moves to the square to the left of where it currently is with probability 0.8, stays in the same place with probability 0.15, and moves right one square with probability 0.05. The “R” action has the converse dynamics. If the way is blocked in either case, then the probability of moving left (right) is simply added to the probability of staying in the same place.



1. Write down the full, formal description of the MDP (i.e., \mathcal{S} , \mathcal{A} , T , and R).
2. Assume a fixed policy of $\pi(s) = R \forall s$ and a $\lambda = 0.99$. Write down the system of equations that determine $V^\pi(s)$.