

ECS256 - Homework II

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Problem 1.a

First, we'll derive π_i . The definition of the tree searching markov model leads to the following set of balance equations for the long-run state probabilities:

$$\pi_i = \pi_{i-1}q_{i-1} \quad \forall i \geq 1, \text{ and}$$

$$\pi_0 = \sum_{i=1}^{\infty} \pi_i(1 - q_i).$$