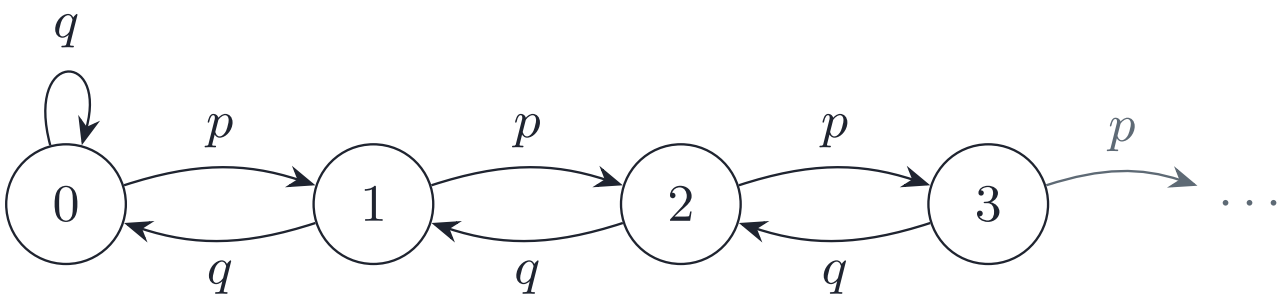


$q = 1 - p$
from $j \geq 1$, the same step: right with p, left with q

$p/q = 1/2$ gives $\pi_j = (1/2)^{j+1}$. These weights sum to 1 only for $p < q$.

