Quiz 20 : Markov Chain Hitting Time

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This quiz does not count towards your grade. It exists to simply gauge your understanding. Treat this as though it were a portion of your midterm or final exam.

1 Hitting Time

1. Courtney is rushing to class. With probability $\frac{1}{4}$ she takes a step in 3 seconds. With probability $\frac{1}{2}$, she takes 2 steps in 3 seconds. Otherwise, she stops to catch her breath for 3 seconds. How long will it take Courtney to walk 3 steps?

2. Derek is counting his medals; he takes 1 second to place a medal in the "counted" stack. With probability p, he remembers his count. Otherwise, he starts over. How long does it take for him to count n medals? Approximate $1 - p$ to be 0.