

The M/M/1 Queue

\bullet Write out the transition graph for an M/M/1 Queue with finite capacity
\bullet Write out the jump rate matrix for an M/M/1 Queue with infinite capacity
• How do you determine the stationary distribution of a continuous time Markov chain.
• Explain why the Poisson process does not have a stationary distribution.

 \bullet Calculate the fourth element of the stationary distribution vector π for an M/M/1 Queue.



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• Explain why the zeroth element of the stationary distributin vector π_0 is given by $\pi_0 = \left(1 - \frac{\lambda}{\mu}\right)$.