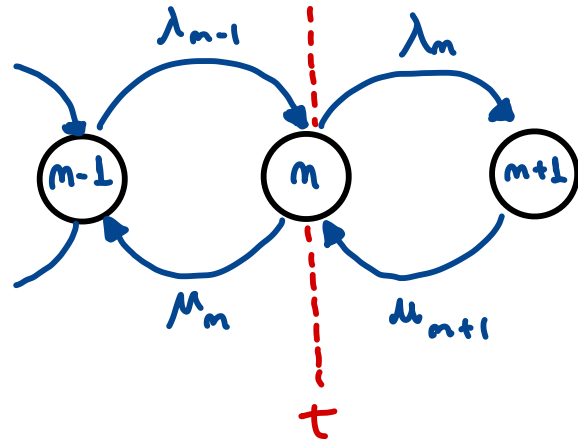


$$\begin{cases} \overset{t}{\Delta t} \\ m \rightarrow m+1 \text{ (birth)} \\ m \rightarrow m-1 \text{ (death)} \end{cases}$$

m = $\overset{\circ}{n}$ of jobs into the system at state m

$A(t) = \overset{\circ}{n}$ of times enter at m

$C(t) = \overset{\circ}{n}$ of times leave m



$$|A(t) - C(t)| \leq 1$$

$$\lim_{t \rightarrow \infty} \left| \frac{A(t)}{t} - \frac{C(t)}{t} \right| \leq \lim_{t \rightarrow \infty} \frac{1}{t}$$

$$\lim_{t \rightarrow \infty} \frac{A(t)}{t} = \lim_{t \rightarrow \infty} \frac{C(t)}{t}$$

mean rate in = mean rate out

rate in = rate out