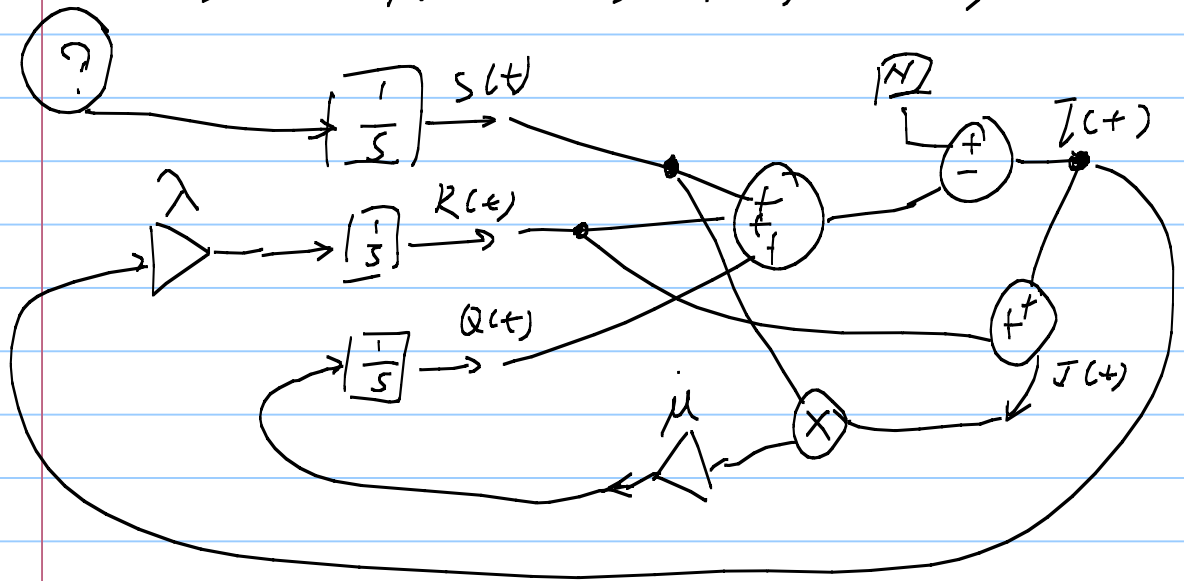


$$\begin{cases} dS(t)/dt = -\beta(t)S(t)I(t) - dQ(t)/dt \\ dR(t)/dt = \gamma I(t) \\ dQ(t)/dt = \mu S(t)J(t) \\ \beta(t) = \beta_0 [1 - I(t)/N]^\eta \\ N = S(t) + I(t) + R(t) + Q(t) \\ I(0) = I_0 \ll N; S(0) = N - I_0; R(0) = Q(0) = 0; \end{cases}$$

$$I(t) = N - S(t) - R(t) - Q(t)$$

$$J(t) = R(t) - I(t)$$



M/D/1 Queue
 $\lambda = \frac{1}{2}$ $D = \text{service time} = 1$

	t	N_A	N_D	n	$EL (T_A, T_D)$	
	0	0	0	0	(1.4, ∞)	
$A(1) = 1.4$	1.4	1	0	1	(3.5, 2.4)	exp. $T = 2.1$
$D(1) = 2.4$	2.4	1	1	0	(3.5, ∞)	
$A(2) = 3.5$	3.5	2	1	1	(4.7, 4.5)	exp. $T = 1.2$
$D(2) = 4.5$	4.5	2	2	0	(,)	