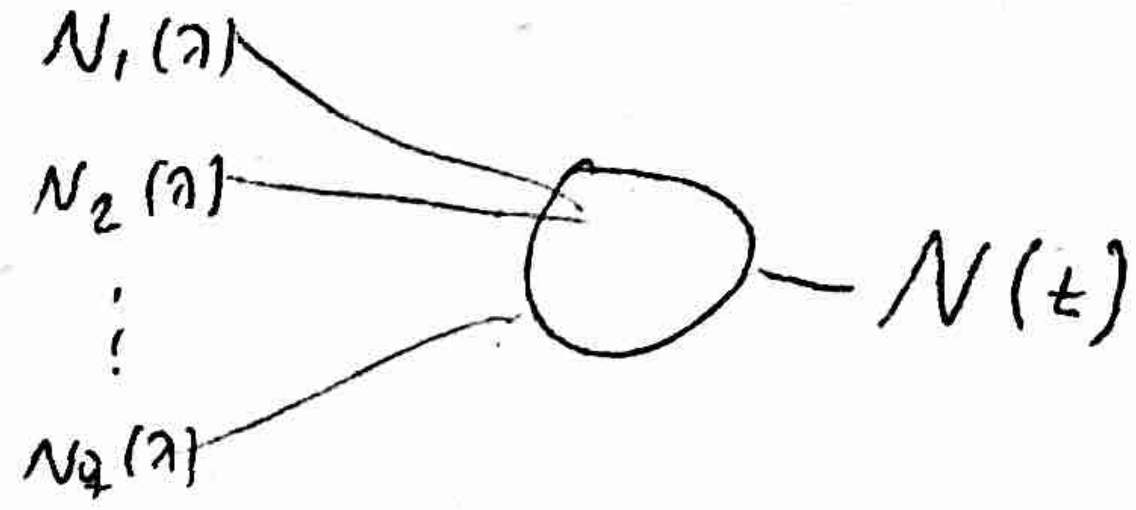
2 Propiedades Poisson

Agregación: $N_1, \dots, N_q$ variables aleatorias independientes con distribución Poisson, $P_o(N_j = n_j \mid \lambda_j)$.



- $N = \sum_{j=1}^{q} N_j$ y $N \sim$ Poisson
- N tiene $\lambda = \sum_{j=1}^{q} \lambda_j \Rightarrow \lambda_i = \dfrac{\lambda_i}{\lambda_1 + \lambda_2 + \dots + \lambda_q}$

$$M_n(t) = \exp\{\lambda(e^t - 1)\}$$

$F(x) = ?$

$$M_n(t) = \exp\left[\lambda(e^t - 1)\right] \Rightarrow M_N(t) = M_{N_1}(t) \cdot M_{N_2}(t) \cdot \dots \cdot M_{N_q}(t)$$

$$= e\left[\lambda\left(\frac{\lambda_1}{\lambda} M_{N_1}(t) + \frac{\lambda_2}{\lambda} M_{N_2}(t) + \dots + \frac{\lambda_q}{\lambda} M_{N_q}(t) - 1\right)\right]$$

$$F(x) = \frac{\lambda_1}{\lambda} F_1(x) + \frac{\lambda_2}{\lambda} F_2(x) + \dots + \frac{\lambda_q}{\lambda} F_q(x)$$