

$${}^t_n \mathcal{A} + \mathfrak{H} {}^t_n \mathcal{A} = c e^{\mu t} = {}^t_n \mathcal{A} + \sum_j^n \mathfrak{H}_j^j {}^t_n \mathcal{A}$$

$$P(\lambda) = \lambda^n + \sum_j^n \mathfrak{H}_j \lambda^j$$

$$P(\mu) \neq 0 \Rightarrow {}^t \psi_0 = \frac{c}{P(\mu)} e^{\mu t} \text{ part sol}$$

$$\frac{{}^t \psi_{k=0}}{P(\mu)} e^{\mu t} \Rightarrow {}^t_n \psi + \sum_j^n \mathfrak{H}_j^j {}^t_n \psi = \frac{c}{P(\mu)} e^{\mu t} \left(\mu^n + \sum_j^n \mathfrak{H}_j \mu^j \right) = \frac{c}{P(\mu)} e^{\mu t} P(\mu) = c e^{\mu t}$$