Q_{11}=???

- $S_{11} = P_{11} + Q_{11}$

$$P = \begin{bmatrix} P_{11} & P_{12} & P_{13} \\ P_{21} & P_{22} & P_{23} \\ P_{31} & P_{32} & P_{33} \end{bmatrix}$$

$$Q_{11} = [\,P_{12} \quad P_{13}\,] \begin{bmatrix} I_i - P_{22} & -P_{23} \\ -P_{32} & I_i - P_{33} \end{bmatrix}^{i-1} \begin{bmatrix} P_{21} \\ P_{31} \end{bmatrix}$$

- $S_{11} = P_{11} + P_{1\bar{1}}(I_i - P_1)^{i-1}P_{\bar{1}1}$
- **Similarly for S_{22} and S_{33}**
- **S_{ii}'s are called stochastic complements**
- $s_i^T S_{ii} = s_i^T$
- s_i^T = steady state of i^{th} censored chain