

Step 1

for $i = \{0, \dots, N-1\}$

$$\begin{cases} a_{ji} = -\frac{a_{ji}}{a_{ii}} & \text{for all } j > i \end{cases}$$

$$a_{jk} = a_{jk} + a_{ji} a_{ik} \quad \text{for all } j, k > i$$

$i = 0$

$$A_0 = \begin{bmatrix} * & * & * \\ * & * & * \\ * & * & * \end{bmatrix}$$

$j, k > i$

$i = 1$

$$A_1 = \begin{bmatrix} * & * & * \\ * & * & * \\ * & * & * \end{bmatrix}$$

$j, k > i$

Step 2

for $i = \{N-1, \dots, 0\}$

$$x_i = -\sum_{j=i+1}^N a_{ij} x_j / a_{ii}$$

$$\begin{bmatrix} * & * & * \\ * & * & * \\ * & * & * \end{bmatrix} \begin{bmatrix} x_0 \\ x_1 \\ x_2 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$$

Set $v_m = 1$

Step 3

for $i = \{0, 1, \dots, N\}$

$$\pi_i = \frac{x_i}{\sum_{j=0}^N x_j}$$