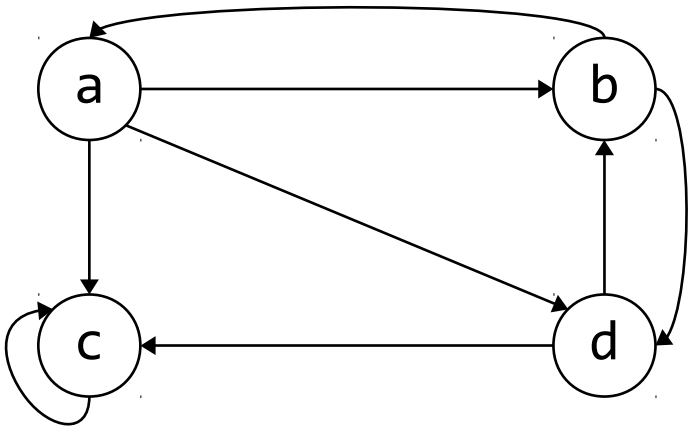
Example



Transition matrix:

$$\begin{bmatrix} 0 & 1/2 & \mathbf{0} & 0 \\ 1/3 & 0 & \mathbf{0} & 1/2 \\ 1/3 & 0 & \mathbf{1} & 1/2 \\ 1/3 & 1/2 & \mathbf{0} & 0 \end{bmatrix}$$

$$\vec{v} = \beta M \vec{v} + \frac{(1-\beta)}{n}\vec{1}$$

- $\beta = 0.8 = 4/5$

$$\vec{v} = \begin{bmatrix} 0 & 2/5 & 0 & 0 \\ 4/15 & 0 & 0 & 2/5 \\ 4/15 & 0 & 4/5 & 2/5 \\ 4/15 & 2/5 & 0 & 0 \end{bmatrix} \vec{v} + \begin{bmatrix} 1/20 \\ 1/20 \\ 1/20 \\ 1/20 \end{bmatrix}, \quad \vec{v}_0 = \left[\frac{1}{4}, \frac{1}{4}, \frac{1}{4}, \frac{1}{4}\right].$$

- **Solution:** $\vec{v} = \left[\frac{15}{148}, \frac{19}{148}, \frac{95}{148}, \frac{19}{148}\right]$.