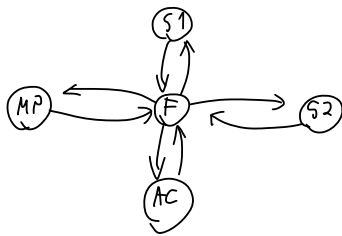


P1.



P2

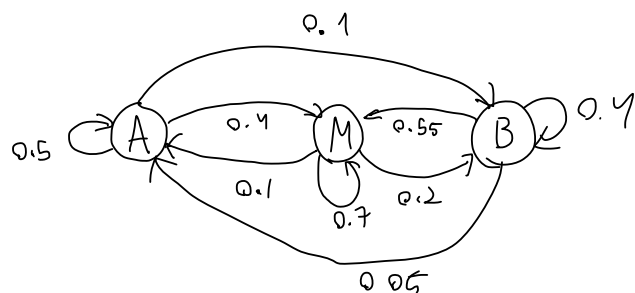


F, links

links

R
PM
1
2
3
4

P3



$$A = \begin{bmatrix} 0.5 & 0.4 & 0.1 \\ 0.1 & 0.7 & 0.2 \\ 0.05 & 0.55 & 0.4 \end{bmatrix}$$

$$P = A^T P$$

$$(A^T - I)P = 0$$

$$\begin{bmatrix} -0.5 & 0.1 & 0.05 \\ 0.4 & -0.3 & 0.55 \\ 0.1 & 0.2 & -0.6 \end{bmatrix} \begin{bmatrix} P_1 \\ P_2 \\ 1 - P_1 - P_2 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$$

$$\begin{bmatrix} P_1 \\ P_2 \\ 1 - P_1 - P_2 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$$

$$P_1 = 0.1474$$

A

$$P_2 = 0.6211$$

M

$$P_3 = 0.232$$

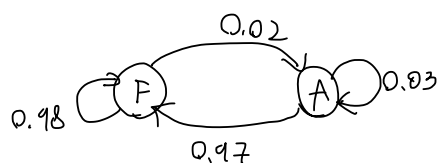
B

P4.

$$Z^T = x^+ P$$

$$Z_j = \sum_{i=1}^m x_i P_{ij}$$

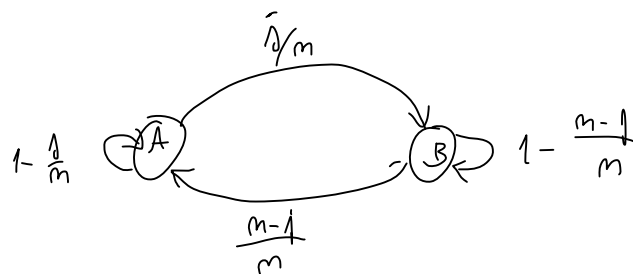
P6)



$$A = \begin{bmatrix} 0.98 & 0.02 \\ 0.97 & 0.03 \end{bmatrix}$$

$$A^T = \begin{bmatrix} 0.98 & 0.02 \\ 0.02 & 0.03 \end{bmatrix}$$

P7



$$\begin{bmatrix} -0.02 & 0.97 \\ 0.02 & -0.97 \end{bmatrix} \begin{bmatrix} P_1 \\ 1 - P_1 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$$

$$-0.02 P_1 + 0.97 - 0.97 = 0$$

P1

$$-0.99 P_1 = -0.97$$

$$P_1 = \frac{0.97}{0.99} = 0.98$$

$$P_2 = 0.02$$

P2

$$a) E = \frac{1}{2} m \dot{x}_2^2 + m g x_1$$

P3

