TL33: Matrices, determinantes y expresiones multilínea

Angel Francisco Morales Ramirez

08 de Julio del 2022

1. Ecuación No. 1

$$\mathbf{P}^2 = \begin{pmatrix} 0.5 & 0.3 & 0.2 \\ 0.7 & 0 & 0.3 \\ 0.5 & 0.5 & 0 \end{pmatrix} \begin{pmatrix} 0.5 & 0.3 & 0.2 \\ 0.7 & 0 & 0.3 \\ 0.5 & 0.5 & 0 \end{pmatrix} = \begin{pmatrix} 0.56 & 0.25 & 0.19 \\ 0.5 & 0.36 & 0.14 \\ 0.6 & 0.15 & 0.25 \end{pmatrix}$$

2. Ecuación No. 2

$$N = (I - Q)^{-1} = \begin{pmatrix} 0.7 & -0.1 \\ -0.2 & 0.6 \end{pmatrix}^{-1} = \begin{pmatrix} 1.5 & 0.25 \\ 0.5 & 1.75 \end{pmatrix}$$

3. Ecuación No. 3

$$P[\chi_{n+1} = j | \chi_n = i] = \begin{cases} \dfrac{N-i}{N} & \text{si } j = i+1, \\ \dfrac{i}{N} & \text{si } j = i-1, \\ 0 & \text{en otro caso.} \end{cases}$$

4. Ecuación No. 4

$$r \mapsto \begin{cases} 0 & \text{si } r = 0; \\ 2 & \text{si } r = 4; \\ 1 & \text{en otro caso.} \end{cases}$$

5. Ecuación No. 5

$$V_{R_\omega}(n,t) = \begin{cases} \binom{n}{0} + \binom{n}{1}(q-1) + \binom{n}{2}(q-1)^2 + \ldots + \binom{n}{t}(q-1)^t & \text{si } 0 \leq t \leq n; \\ q^n & \text{si } n \leq t. \end{cases}$$