Matrices, determinantes y expresiones multilínea

Quiros Díaz Veronica Jackeline TL33_VJQD

June 2020

1. Expresiones multilínea

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.
$$\mathbf{N} = (I - Q)^{-1} = \begin{pmatrix} 0{,}7 & -0{,}1 \\ -0{,}2 & 0{,}6 \end{pmatrix}^{-1} = \begin{pmatrix} 1{,}5 & 0{,}25 \\ 0{,}5 & 1{,}75 \end{pmatrix}$$

3.
$$P_{[X_{n+1}=j|X_n=i]} = \begin{cases} \frac{N-i}{N} & si\ j = i+1, \\[2mm] \frac{i}{N} & si\ j = i-1, \\[2mm] 0 & en\,otro\,caso. \end{cases}$$

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

5.
$$V_{R_w}(n,t) = \begin{cases} \binom{n}{0} + \binom{n}{1}(q-1) + \binom{n}{2}(q-1)^2 + \ldots + \binom{n}{t}(q-1)^t & si \quad 0 \le t \le n; \\ q^n & si \quad n \le t. \end{cases}$$