Instituto Tecnológico y de Estudios Superiores de Monterrey
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Inteligencia Artificial Avanzada para la Ciencia de Datos (Gpo 101)

Variable Discreta

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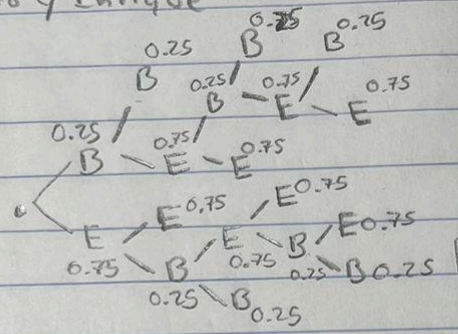
- Beto y Enrique



2 · 0.0625 3 · 0.1406
4 · 0.0117 5 · 0.0263
5 · 0.0087 2 · 0.5625
3 · 0.0468 4 · 0.1054
5 · 0.0087 5 · 0.0263

0.1384	0.8611
Gana Beto	Gana Enrique

B 0.3992
E 2.232

2.6312
Juegos esperados

- Stan dev Deviation

Distribución binomial $(B(n,p))$ $P(X=k) = \binom{4}{k} p^k (1-p)^{4-k}$

Para $k=0$ $\binom{4}{0}(0.1)^0(0.9)^{4-0} = 0.6561$

Para $k=1$ $\binom{4}{1}(0.1)^1(0.9)^{4-1} = 0.2916$ Al menos la mitad (+2)

Para $k=2$ $\binom{4}{2}(0.1)^2(0.9)^{4-2} = 0.0486$

Para $k=3$ $\binom{4}{3}(0.1)^3(0.9)^{4-3} = 0.0036$ → $P_1 = 0.0523$

Para $k=4$ $\binom{4}{4}(0.1)^4(0.9)^{4-4} = 0.0001$

Es mejor la primera ruta

Para $k=0$ $\binom{2}{0}(0.1)^0(0.9)^{2-0} = 0.81$

Para $k=1$ $\binom{2}{1}(0.1)^1(0.9)^{2-1} = 0.18$ → $P_2 = 0.19$

Para $k=2$ $\binom{2}{2}(0.1)^2(0.9)^{2-2} = 0.01$

- Revistas

x	1	2	3	4	5	6	
P(x)	$\frac{1}{15}$	$\frac{2}{15}$	$\frac{3}{15}$	$\frac{4}{15}$	$\frac{3}{15}$	$\frac{2}{15}$	$(-2\cdot\frac{1}{15})+(2\cdot\frac{2}{15})+(6\cdot\frac{3}{15})+(6\cdot\frac{4}{15})+(6\cdot\frac{3}{15})+(6\cdot\frac{2}{15}) = 4.933$
4(3)	-2	2	6	6	6	6	$(-4\cdot\frac{1}{15})+(0\cdot\frac{2}{15})+(4\cdot\frac{3}{15})+(8\cdot\frac{4}{15})+(8\cdot\frac{3}{15})+(8\cdot\frac{2}{15}) = 5.333$
4(4)	-4	0	4	8	8	8	
4(5)	-6	-2	2	6	10	10	$(-6\cdot\frac{1}{15})+(-2\cdot\frac{2}{15})+(2\cdot\frac{3}{15})+(6\cdot\frac{4}{15})+(10\cdot\frac{3}{15})+(10\cdot\frac{2}{15}) = 4.667$
4(6)	-8	-4	0	4	8	12	$(-8\cdot\frac{1}{15})+(-4\cdot\frac{2}{15})+(0\cdot\frac{3}{15})+(4\cdot\frac{4}{15})+(8\cdot\frac{3}{15})+(12\cdot\frac{2}{15}) = 3.2$

Es mejor ordenar 4