

$$X = (X_1, X_2)$$

		X_1		
		2	4	6
X_2	1	0.2	0.3	0.3
	3	0.2	0.1	0.1
		0.2	0.4	0.4

$$P(X_1 = 2) = 0.1 + 0.1 = 0.2$$

$$P(X_1 = 4) = 0.3 + 0.1 = 0.4$$

$$P(X_1 = 6) = 0.3 + 0.1 = 0.4$$

$$P(X_2 = 1) = 0.1 + 0.30 + 0.30 = 0.7$$

$$P(X_2 = 3) = 0.1 + 0.1 + 0.1 = 0.3$$

Media

$$E(X_1) = 2 \cdot 0.2 + 4 \cdot 0.4 + 6 \cdot 0.4$$

$$= 0.4 + 1.6 + 2.4$$

$$= 4.4$$

$$E(X_2) = 1 \cdot 0.7 + 3 \cdot 0.3$$

$$= 1.6$$

$$\begin{aligned} E(x_1^2) &= 2^2 \cdot 0.2 + 4^2 \cdot 0.4 + 6^2 \cdot 0.4 \\ &= 0.8 + 6.4 + 14.4 \\ &= 21.6 \end{aligned}$$

$$\begin{aligned} E(x_2^2) &= 1^2 \cdot 0.70 + 3^2 \cdot 0.30 \\ &= 0.70 + 2.70 \\ &= 3.40 \end{aligned}$$

$$\text{Var}(X) = E(X)^2 - (EX)$$

$$\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^2$$

$$P(X_1 = 0) P(X_2 = 1) = 0.2 \cdot 0.7 = 0.14 \quad \text{FACSC}$$

$$P(X_1 = 1) P(X_2 = 1) = 0.4 \cdot 0.7 = 0.28 \quad \text{False}$$

$$P(X_1 = 1) P(X_2 = 2) = 0.2 \cdot 0.3 = 0.06 \quad \text{False}$$

$$P(X_1 = j) P(X_2 = i) = 0.9 \cdot 0.3 = 0.27 \neq 0.12 \quad \text{False}$$

$$P(X_1 = 1) P(X_2 = 1) = 0.9 \cdot 0.3 = 0.27 \text{ Fail}$$

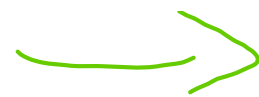
Now

$$f(x_1, x_2) = [f(x_1) \cdot f(x_2)]$$



misura dell
loro dipendenza
1) l'orizzonte

$$Cov = E(x_1, x_2) - [E(x_1) \cdot E(x_2)]$$



LOCO DI PENSARE
IL LOCOVARIANTE

$$E(x_1, x_2) = \sum x_1 \cdot x_2 \cdot (x_1, x_2)$$

$$E(2, 1) = 2 \cdot 1 \cdot 0.1 = 0.2$$

$$E(4, 1) = 4 \cdot 1 \cdot 0.3 = 1.2$$

$$E(6, 1) = 6 \cdot 1 \cdot 0.3 = 1.8$$

$$E(2, 3) = 2 \cdot 3 \cdot 0.1 = 0.6$$

$$E(4, 3) = 4 \cdot 3 \cdot 0.1 = 1.2$$

$$E(6, 3) = 6 \cdot 3 \cdot 0.1 = 1.8$$

$$E(X_1, X_2) = 0.2 + 1.2 + 1.8 + 0.6 + 1.2 + 1.8 \\ = 6.8$$

$$\text{Cov}(X_1, X_2) = 6.8 - (4 \cdot 4 \cdot 16)$$

$$= -0.24$$

$$\frac{-0.29}{\sqrt{2.24 \cdot 0.84}}$$

=

$$\frac{-0.29}{1.37}$$

=

$$-0.17$$

$$-1 \leq p \leq 1$$

$$+ 0.1 = 0.2$$

∩

$$3 + 0.1 = 0.9$$

}

$$= 0.3$$

$$P(1) = 0.1$$

$$= 0.1$$

$$= 0.1 \quad = 0.1$$

$$= 0.3 + 0.1 = 0.4$$

$$= 0.3 + 0.1 = 0.4$$

$$p(g) = 0.1 \quad = 0.1$$