11. Exercise: Covariance properties

Exercises due Mar 25, 2020 05:29 IST *Completed*

Exercise: Covariance properties

3/3 points (graded)

a) Is it true that $\text{Cov}(X, Y) = \text{Cov}(Y, X)$?

True ✔

b) Find the value of a in the relation $\text{Cov}(2X, -3Y + 2) = a \cdot \text{Cov}(X, Y)$.

$a =$ -6 ✔

c) Suppose that X, Y, and Z are independent, with a common variance of 5. Then,

$\text{Cov}(2X + Y, 3X - 4Z) =$ 30 ✔

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Discussion

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Topic: Unit 6: Further topics on random variables:Lec. 12: Sums of independent r.v.'s; Covariance and correlation / 11. Exercise: Covariance properties

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? Staff-Request

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? Clarification [staff] 2

undertanding expectation of a product E[XY] 2
In some of these formulas, you sometimes have the expectation of a product. Let's say E[X] = 2 and E...

? solution to part (c) w/o zero means assumption 4 new
I am confused how the solution to part (c) still works out if the variances are specified but nothing is ...

? covariance 2
is convariance(x,y) same as covariance (y,x) for non independent X and Y

c part 3
Hi! Could somebody help. What does it mean "common variance"? I can't figure out how i should use...

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