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7. Exercise: Conditional expectation example

Exercises due Mar 25, 2020 05:29 IST Completed

Exercise: Conditional expectation example

1/1 point (graded)

The random variable Q is uniform on [0,1]. Conditioned on Q=q, the random variable X is Bernoulli with parameter q. Then, $\mathbf{E}\left[X\,|\,Q\right]$ is equal to:





$$\bigcirc 1-q$$

$$\bigcirc 1 - Q$$



Solution:

We have $\mathbf{E}\left[X\,|\,Q=q\right]=q$, for all $q\in[0,1]$, which translates into the abstract statement $\mathbf{E}\left[X\,|\,Q\right]=Q$.

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You have used 1 of 1 attempt

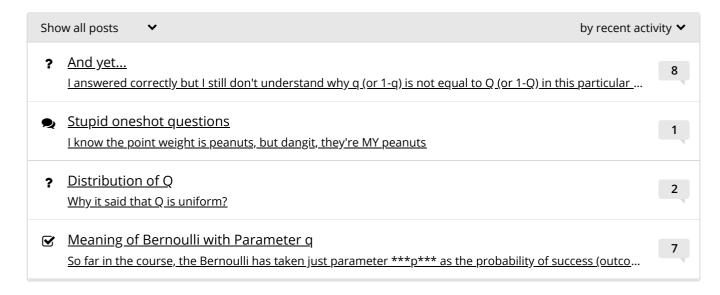
1 Answers are displayed within the problem



Discussion

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Topic: Unit 6: Further topics on random variables:Lec. 13: Conditional expectation and variance revisited; Sum of a random number of independent r.v.'s / 7. Exercise: Conditional expectation example



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