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, $\mathbf{E}[X \mid Q]$ is equal to:

- ○ q
- ● Q
- ○ $1 - q$
- ○ $1 - Q$

✔

Solution:

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

Submit You have used 1 of 1 attempt

ℹ 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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? And yet...
I answered correctly but I still don't understand why q (or 1-q) is not equal to Q (or 1-Q) in this particular ... 8

Stupid oneshot questions
I know the point weight is peanuts, but dangit, they're MY peanuts 1

? Distribution of Q
Why it said that Q is uniform? 2

Meaning of Bernoulli with Parameter q
So far in the course, the Bernoulli has taken just parameter ***p*** as the probability of success (outco... 7