8. Exercise: Axioms

Exercises due Feb 5, 2020 05:29 IST *Completed*

Exercise: Axioms

1/1 point (graded)

Let A and B be events on the same sample space, with $\mathbf{P}(A) = 0.6$ and $\mathbf{P}(B) = 0.7$. Can these two events be disjoint?

No ✔ **Answer:** No

Solution:

If the two events were disjoint, the additivity axiom would imply that $\mathbf{P}(A \cup B) = \mathbf{P}(A) + \mathbf{P}(B) = 1.3 > 1$, which would contradict the normalization axiom.

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

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can not submit
Greeting! I am new to this course, joined during the city shutdown period. I am only doing the audit trac... 2

not clear
But the question never said that A and B are the only 2 events in the sample space, there could be other...

☑	Exercises After Answering, submision still shows "You have used 0 of 1 Attempt" is that okay ?	5
☑	What is disjoint probability If two events are mutually exclusivo, si then the probability is 0.	6
?	Can we say Sample space is incorrectly defined? Looking at P(A) & P(B) assuming they both are legitimate outcomes of an experiment, will it be OK to say ...	3
💬	PSA Kolmogorov Axioms Probability axioms 1(non-negativity), 2(normalization), and 3(additivity) were first introduced by Andrey ...	1
💬	The solution should also mention the non-negativity axiom, not only the normalisation axiom The fact that 2 disjoint sets have a cumulative probability >1 does not contradict directly the normalisati...	2