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5. Exercise: Independence of two events - II

Exercises due Feb 12, 2020 05:29 IST Completed

Exercise: Independence of two events - II

1/1 point (graded)

Let A be an event, a subset of the sample space Ω . Are A and Ω independent?

Yes, they are independent ▾

✓ Answer: Yes, they are independent

Solution:

Yes, because $\mathbf{P}(A \cap \Omega) = \mathbf{P}(A) = \mathbf{P}(A) \cdot 1 = \mathbf{P}(A) \cdot \mathbf{P}(\Omega)$.

Intuitively, $\mathbf{P}(A)$ represents our beliefs about the likelihood that A will occur. If we are told that Ω occurred, this does not give us any new information; we already knew that Ω is certain to occur. For this reason, $\mathbf{P}(A \mid \Omega) = \mathbf{P}(A)$.

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You have used 1 of 1 attempt

i Answers are displayed within the problem

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Doubt

But, if we are told that Ω NOT occurred, we have new information about A can't occur neither.

9 new_ 17

disjoint and independent events



? How could two joint events be independent?

2

? Set notation

How do we enter set notation in discussions?

8

💬 my thought process required modifying

This was a little confusing for me thinking if A is a subset of sample space ω , what is the likelihood...

3

💬 If intuition fails, then one idea is to ...

1

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