

MITx: 6.041x Introduction to Probability - The Science of Uncertainty

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Unit overview

Lec. 2: **Conditioning and** Bayes' rule

Exercises 2 due Feb 17. 2016 at 23:59 UT

Lec. 3: Independence

Exercises 3 due Feb 17, 2016 at 23:59 UT 🗗

Solved problems

Problem Set 2

Problem Set 2 due Feb 17, 2016 at 23:59 UT 🗗

Exercise: Conditional probabilities (2/2 points)

Are the following statements true of false?

1. If Ω is finite and we have a discrete uniform probability law, and if $B \neq \emptyset$, then the conditional probability law on B, given that Boccurred, is also discrete uniform.



2. If Ω is finite and we have a discrete uniform probability law, and if $B
eq \emptyset$ then the conditional probability law on Ω given that Boccurred, is also discrete uniform.



Answer:

- 1. True, because the outcomes inside B maintain the same relative proportions as in the original probability law.
- 2. False. Outcomes in Ω that are outside B have zero conditional probability, so it cannot be the case that all outcomes in Ω have the same conditional probability.

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