



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



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Exercise: Fresh start

(3/3 points)

Consider a Bernoulli process, with a "1" considered a success and a "0" considered a failure. Determine whether the process starts fresh right after each of the following random times:

1. The time of the k th failure

Yes ▼



Answer: Yes

2. The first time that a failure follows a success

Yes ▼



Answer: Yes

3. The first time at which we have a failure that will be followed by a success

No ▼




Answer: No


- ▶ Unit 6: Further topics on random variables
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- ▼ **Unit 9: Bernoulli and Poisson processes**

Unit overview

Lec. 21: The Bernoulli process

Exercises 21 due May 11, 2016 at 23:59 UTC 

Lec. 22: The Poisson process


Exercises 22 due May 11, 2016 at 23:59 UTC 

Lec. 23: More on the Poisson process

Answer:

In the first two cases, the time of interest is determined causally, by past events, and we have the fresh-start property. In the last case, the time of interest is determined by something that is to happen in the future. In particular, we know that right after the time of interest, the next trial will result in a success.


You have used 1 of 1 submissions

Exercises 23 due May 11, 2016
at 23:59 UTC 

Solved problems

**Additional theoretical
material**

Problem Set 9

Problem Set 9 due May 11,
2016 at 23:59 UTC 

Unit summary

► Unit 10: Markov
chains

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