



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



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Exercise: Poisson models

(1/3 points)

For each one of the following situations, state whether a Poisson model is a plausible model over the specified time frame.

1. The process of arrivals of passengers to the baggage claim section of an airport

Yes ▼



Answer: No

2. The process of order arrivals at an online retailer between 3:00 and 3:15 pm

Yes ▼



Answer: Yes

3. The process of order arrivals at a local pizza delivery shop over the course of a day

Yes ▼




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:

1. Passengers go to the baggage claim area because their plane has just arrived. If I see that there were 20 arrivals to the baggage claim area over the last minute, I can infer that a plane just arrived, and I can expect a substantial number of arrivals over the next minute. Thus, the independence assumption does not hold.
2. Orders are generated from a large population of potential customers, and these are typically uncoordinated.
3. The rate of order arrivals should be much higher between during lunch and dinner meal hours and much lower at other times of the day, thus violating the time-homogeneity assumption.


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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