



Course > Unit 9: ... > Lec. 22: ... > 5. Exer...

5. Exercise: Poisson models

Exercises due May 13, 2020 05:29 IST **Completed**

Exercise: Poisson models

2/3 points (graded)

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

No

✓ 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

Solution:

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.



Submit

You have used 1 of 1 attempt

i Answers are displayed within the problem


Discussion

Hide Discussion

Topic: Unit 9: Bernoulli and Poisson processes:Lec. 22: The Poisson process / 5. Exercise: Poisson models

Show all posts

by recent activity


 What's the time frame at the airport?
in question 1...

16

 Q3: Order arrivals

Question 3 seems strange to me. In general orders do not arrive at a pizza delivery shop. Orders get deli...

1 new_

 hint: baggage claim Q


Section means belt. Think of arrivals at 1 specific belt. Are the arrivals Poisson? I thought section as the a...

1

 Wow

I managed to get all questions wrong... that hurt. I think I did not get the concepts of the previous 2-3 vid...

1 new_

 Q3: I think the answers should not be based on assumptions not declared in the question
I think Q3 does not have all the assumptions needed to reach the favorable answer. If we can add and a...

2

 Airport baggage handling models


<https://mediatum.ub.tum.de/doc/1232183/1232183.pdf>

1

 Call center and kicking-horse examples from last video? Something is not right

After reading answer for 3 I do not understand example given in last video about the call center. How is t...

5

 Don't read the comments

They will only mislead you.

1

 Do independent assumption and time homogeneity assumption always go together?

I suspect that they go together, i.e, they are both present or none of them is present in a given situation...

1

 Hint: Time homogeneity

Apply this and other characteristics the Poisson process. If you're not sure, watch the next videos and co...

1

 Q1: AAAAAA!!!!

AAAAA!!!!

2



