



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



Bookmarks

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Bookmark

Exercise: Random incidence

(1/1 point)

Consider an arrival process whose interarrival times are independent exponential random variables with mean **2** (and consequently variance equal to **4**), and consider the interarrival interval S seen by an observer who arrives at a fixed time t^* , as in the preceding video. What is the variance of S ?

8



Answer: 8

Answer:


As discussed in the preceding video, such an interval is the sum of two independent exponential random variables. Its variance is the sum of the variances of these two exponentials: $4 + 4 = 8$.

You have used 1 of 2 submissions


- ▶ 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

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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