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Exercise: What kind of people are they

(1/1 point)

As in an earlier exercise, busy people arrive at the park according to a Poisson process with rate $\lambda_1 = 3$/hour. Relaxed people arrive at the park according to an independent Poisson process with rate $\lambda_2 = 2$/hour. Assume that no other people arrive at the park.

During the last 10 minutes, exactly two people arrived at the park. What is the probability that they are both relaxed?

4/25 ✔

Answer: 0.16

Answer:
As discussed in the preceding video, each arrival has probability $2/(3+2) = 2/5$ of being a relaxed person. Furthermore, the types (busy or relaxed) of the different arrivals are independent. Therefore, the probability that both arrivals are relaxed is $(2/5)^2 = 4/25$.

You have used 1 of 2 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