13. Exercise: Erlang r.v.'s

Exercise: Erlang r.v.'s

1/1 point (graded)

Let X and Y be independent Erlang random variables with common parameter λ and of order m and n, respectively. Is the random variable $X+Y$ Erlang? If yes, enter below its order in terms of m and n using standard notation. If not, enter 0.

m+n

✔ **Answer:** m+n

STANDARD NOTATION

Solution:

The random variable X can be viewed as the sum of m i.i.d. exponential random variables. Similarly, Y can be viewed as the sum of n i.i.d. exponential random variables. Furthermore, since X and Y are independent, we take these two collections of random variables to be independent. Thus, $X+Y$ can be interpreted as the sum of $m+n$ i.i.d. exponentials, and is Erlang of order $m+n$.

提交 你已经尝试了2次（总共可以尝试3次）

Answers are displayed within the problem

讨论

主题： Unit 9 / Lec. 22 / 13. Exercise: Erlang r.v.'s

显示讨论