

MITx: 14.310x Data Analysis for Social Scientists

Helj



Bookmarks

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- Module 2: Fundamentals of Probability, Random Variables, Distributions, and Joint Distributions
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- Module 4: Joint,
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Exponential and Uniform Distributions - Quiz

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Question 1

1/1 point (graded)

In the context of the exponential distribution, what is meant by memorylessness?

- a. If x describes the waiting time for some event, then the probability distribution of x at t=0 is the same as the probability distribution of x at time t=1 or t=100 when the event has not occurred, for example.
- b. The occurrence of any event does not depend on other events
- ullet c. If $oldsymbol{x}$ describes the waiting time for some event, then $oldsymbol{p(x)}$ follows a binomial distribution
- ullet d. If $m{x}$ describes the waiting time for some event, the probability the event occurs is unrelated to the amount of time that has elapsed

Explanation

- Module 5: Moments of a Random Variable,
 Applications to Auctions,
 Intro to Regression
- Module 6: Special
 Distributions, the
 Sample Mean, the
 Central Limit Theorem,
 and Estimation

<u>Human Subjects and</u> <u>Special Distributions</u>

Finger Exercises due Nov 07, 2016 at 05:00 IST

The Sample Mean, Central Limit Theorem, and Estimation

Finger Exercises due Nov 07, 2016 at 05:00 IST

Module 6: Homework

Homework due Oct 31, 2016 at 05:00 IST

(A)

▶ Exit Survey

If you think of the variable X as the wait time for some event, the probability that the event occurs at time t=0 is the same as the probability that the event occurs at time t=10 even if the event has not already occurred. Going back to the soccer example, if x is the time between goals, the distribution of x is the same in the 15^{th} minute of the match as it is in the 50^{th} minute. If the match is scoreless in the 15^{th} minute, there is a certain probability distribution for the time until the next goal; if the match is still scoreless in the 50^{th} minute, the probability distribution for the time until the next goal is the same.

Submit

You have used 2 of 2 attempts

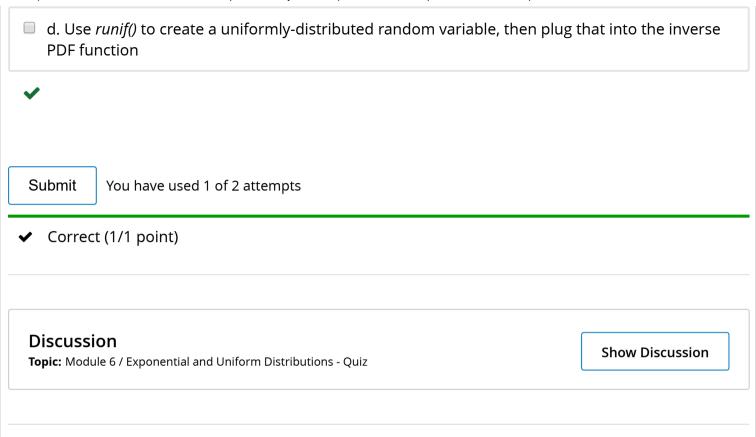
✓ Correct (1/1 point)

Question 2

1 point possible (graded)

Suppose that you want to create a random variable that is exponentially-distributed in R. Which of the following methods could you use? (Select all that apply.)

- a. Use rexp(), which creates an exponentially-distributed random variable for you
- b. Use *runif()*, which creates a uniformly-distributed random variable, and then apply an exponential function
- c. Use *runif()* to create a uniformly-distributed random variable, then plug that into the inverse CDF formula given in class



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