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Distribution of Order Statistics - Quiz

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Question 1

1/1 point (graded)

Suppose you have a random sample of size n from a uniform $[0, 50]$ distribution. Which of the following statements about order statistics is true? (Select all that apply)

- ☒ a. the support of the distribution of the k^{th} order statistic for all k , is also $[0, 50]$. ✓
- ☐ b. the support of the distribution of the k^{th} order statistic will be $[0, 1]$ for all k , since these are densities.
- ☒ c. in the limit, as n goes to infinity, there will be a point mass at 0 and a point mass at 50 for the 1^{st} and n^{th} order statistics, respectively. ✓
- ☐ d. in the limit, as n goes to infinity, there will be a point mass at 0 and a point mass at 1 for the 1^{st} and n^{th} order statistics, respectively.



Explanation

Joint, Marginal, and Conditional Distributions

Finger Exercises due Oct 24, 2016
at 05:00 IST

Functions of Random Variables

Finger Exercises due Oct 24, 2016
at 05:00 IST

Module 4: Homework

Homework due Oct 17, 2016 at
05:00 IST

- ▶ Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression
- ▶ Exit Survey

The support of the distribution for the k^{th} order statistic will be the same as the support of the underlying distribution from which you are sampling. Since the underlying distribution we are sampling from is uniform $[0, 50]$, the support of the distribution of any k^{th} order statistic will also have support $[0, 50]$. Furthermore, as Professor Ellison illustrated in class, the n^{th} order statistic will have a probability concentrated near the maximum of the support, and the distribution of the 1^{st} order statistic will have a probability concentrated near 0.

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✓ Correct (1/1 point)

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