! This class has been made inactive. No posts will be allowed until an instructor reactivates the class.

question @56 stop following 14 views

Actions

Problems 3-4

For problem 3, should we just sample within $0 \leq x \leq 1$, $-\infty \leq x \leq \infty$, or some other interval?

For problem 4, should it be $\alpha = 5$ and $\beta = 3$ (as it is in problem 3) instead of $\alpha = 3$ and $\beta = 5$?

Also, is it asking us to take samples of size $m = 5$, $m = 10$, and $m = 25$ repeatedly, calculate the range for each sample, and then display the histogram of the resulting distribution of ranges? Or are we supposed to take a single sample of size $m = 5$, $m = 10$, and $m = 25$, calculate the range for each sample, and then display the histogram of the sample?

Please let me know if I'm not allowed to ask these here.

3. (20 points) Use the rejection method to sample from a beta distribution with parameters $\alpha = 5$ and $\beta = 3$.
4. (10 points) Perform a simulation study to estimate the distribution of the range (i.e. maximum - minimum value) of m observations from the target beta distribution (i.e. $\alpha = 3$ and $\beta = 5$). Display a histogram for the distribution of the range for $m = 5$, $m = 10$, and $m = 25$?
5. (10 points) What is the expected value of the range when $m = 5$? $m = 10$? $m = 25$?
6. (10 points) Create a plot that has the value of m on the x-axis and your simulated value of the MEAN on the y-axis for values of m from 2 through 100.
7. (10 points) Create a plot that has the value of m on the x-axis and your simulated value of the MEDIAN on the y-axis for values of m from 2 through 100.

exam

Edit good question | 0

Updated 4 years ago by Charles Hwang

the students' answer, *where students collectively construct a single answer*

Actions

I'm not sure exactly what we can discuss with the exam. But I recommend looking up the beta distribution and the parameters that go with it. The range/support is different than the parameters. (I.e a normal distribution is defined -inf<x< inf with parameters mu and sigma.)

I hope that helps, but doesn't say too much.

Edit | thanks! | 0 | Updated 4 years ago by Alex Blohm

followup discussions *for lingering questions and comments*

Resolved Unresolved @56_f1

Gregory J. Matthews 4 years ago

What is the support of a beta distribution? That will answer that first question.

The parameters are correct as written.

good comment | 0

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