Convergence of the maximum of a sample from a Uniform distribution

**Objective:** The primary purpose is to explore the convergence of for the Uniform distribution as the sample size () increases.

**Task:** Follow the subsequent steps to examine the convergence of :

1. Open the Shiny app given in the URL:

<http://gauss.medellin.unal.edu.co:3838/fhernanb/convergencia1>

1. Using the Shiny app, select the Uniform distribution, the sample size (), the population maximum () and based on the information given in Table 1.
2. In Table 1, fill the gaps by using the results from the Shiny app in order to infer curves on Figure 1 (convergence quickness of ) with their respective colors which are associated to each distinct value of .

Table 1. Assessment of as increases.

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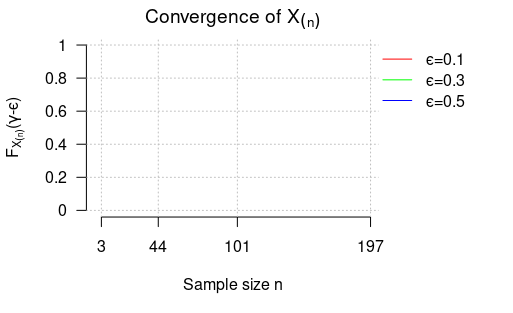


Figure 1. Template to illustrate the convergence swiftness of for each distinct value of .

1. In accordance with Table 1 and Figure 1:

* What can be inferred with regard to the pattern observed?

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* It can be affirmed that is close to with high probability (when is large)?

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* What can be concluded about the convergence quickness of as rises?

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Convergence of the minimum of a sample from a Shifted Exponential distribution

**Objective:** The primary purpose is to explore the convergence of for the Shifted Exponential distribution as the sample size () increases.

**Task:** Follow the subsequent steps to examine the convergence of :

1. Open the Shiny app given in the URL <https://tinyurl.com/shinyconv>.
2. Using the Shiny app, select the Shifted Exponential distribution, the sample size (), the population minimum () and based on the information given in Table 2.
3. In Table 2, fill the gaps by using the results from the Shiny app in order to infer curves on Figure 2 (convergence quickness of ) with their respective colors which are associated to each distinct value of .

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Table 2. Assessment of as increases.

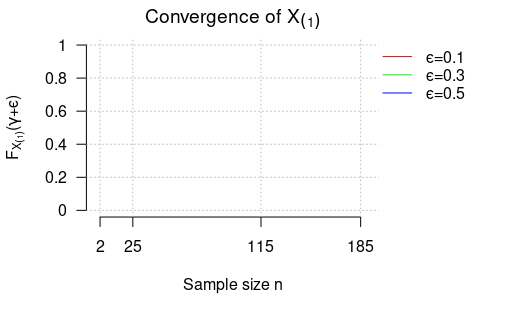


Figure 2. Template to illustrate the convergence swiftness of for each distinct value of

1. In accordance with Table 2 and Figure 2:

* What can be inferred with regard to the pattern observed?

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* It can be affirmed that is close to with high probability (when is large)?

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