STAT 243 Final Project: ars package

Install from Github: nwadsworth/ars

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The Approach

Our approach

Testing

We performed tests for each of our functions to ensure they each work properly. We also created tests within the main function to test for valid user input, i.e. that the initial starting points make sense and that the distribution is log-concave. To test the overall functionality of our ars function we tested to ensure that the generated sample was indeed coming from the specified distribution using the Kolmogorov-Smirnov Test. We tested the gamma distribution, the exponential distribution, and . . . . Lastly, we tested to ensure the function would give an error for non log-concave functions including the t-distribution, ...

Contributions

All three group members contributed to the code, in particular: Narae created the functions for the initialization step, Lyu created the functions for the sampling step, and Daije created the functions for the updating step. Daije created the overall ars function using all of the aforementioned parts. Testing was created by Lyu and Daije while Narae was responsible for putting together the R package and writing the documentation.