ST 501 R Project

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Part I - Convergence in Probability

1.

Consider the "double exponential" or Laplace Distribution. A RV $Y \sim Laplace(\mu, b)$ has the PDF given by

$$f_Y(y) = \frac{1}{2b} e^{-\left(\frac{|y-\mu}{b}\right)}$$

for $-\infty < y < \infty$, $-\infty < \mu < \infty$, and $b > 0$.

We will consider having a random sample of Laplave RVs with $\mu = 0$ and $b = 5$. We'll look at the limiting behavior of $L = \frac{1}{n}\sum_{i=1}^{n} Y_i^2$ using simulation.

a.